

**SWANCC SUPREME COURT DECISION:
IMPACT ON WETLANDS REGULATIONS**

HEARING

BEFORE THE

SUBCOMMITTEE ON FISHERIES,
WILDLIFE, AND WATER

OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED EIGHTH CONGRESS

FIRST SESSION

TO RECEIVE TESTIMONY ON FEDERAL REGULATION OF WETLANDS
FOLLOWING THE SUPREME COURT'S DECISION IN THE CASE OF
"SOLID WASTE AGENCY OF NORTHERN COOK COUNTY V. THE U.S.
ARMY CORPS OF ENGINEERS" (SWANCC)

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JUNE 10, 2003
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SWANCC SUPREME COURT DECISION: IMPACT ON WETLANDS REGULATIONS

TUESDAY, JUNE 10, 2003

U.S. SENATE,
SUBCOMMITTEE ON FISHERIES, WILDLIFE, AND WATER,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 o'clock a.m. in room 406, Senate Dirksen Building, Hon. Michael D. Crapo [chairman of the subcommittee] presiding.

Present: Senators Crapo, Murkowski, Thomas, Inhofe [ex officio] and Jeffords [ex officio].

OPENING STATEMENT OF HON. MICHAEL D. CRAPO, U.S. SENATOR FROM THE STATE OF IDAHO

Senator CRAPO. The hearing will come to order.

Good morning and welcome to the hearing of the Fisheries, Wildlife and Water Subcommittee. Today, we will be receiving testimony on the wetlands regulation and issues raised by the Supreme Court's SWANCC decision.

In January, 2001, the Supreme Court overturned an Agency interpretation that took broad jurisdictional views of section 404 of the Clean Water Act. In ruling that the Corps and the EPA no longer had jurisdiction over isolated intrastate waters, the Court fundamentally changed section 404 wetlands regulatory programs.

Developers and others in the regulated community often complain about the Corps' red tape, but the same bureau seems to be about as efficient at protecting wetlands as it is at expediting permits. Some of the things that the environmental community has said about the section 404 wetlands provisions are anything less than laudatory.

In the Clean Water Act, Congress expressed a clear choice to recognize, preserve and protect the primary responsibilities of the States to plan the development and use of land and water resources. As a former State water law attorney, I could not agree more strongly. While I believe that the broad jurisdictional view stated is inappropriate and found unlawful in SWANCC, I am going to temporarily set aside those concerns today, and I would like to focus my comments on the Corps of Engineers and their implementation of the section 404 program.

The Corps' regulatory budget is about \$150 million a year. Compare this with the Agency's total budget of \$4.6 billion. There are approximately 1,450 full-time employees in the regulatory program. There are more than 100 million acres of wetlands in the lower 48

States. If Corps employees did nothing but monitor those wetlands, they would each supervise 69,000 acres apiece.

One could argue that the budget and resources that Congress gives the Corps' regulatory program is a reliable indicator of congressional intent, particularly with regard to the scope of the program. Given the structure, level and funding of personnel resources provided for the 404 program, it is not particularly surprising that the 404 program has not been more effective in conserving our Nation's wetlands. In addition, the Corps was not created nor has it evolved as a regulatory agency. Fundamentally, the Corps of Engineers is just that—an engineering agency. Given its history, organization, and available resources, it is unlikely that the Corps will ever be capable of regulating, effectively or otherwise, all of the waters of the United States that could affect commerce.

The benchmark discussion about the Corps' jurisdiction should not begin with the sweeping jurisdiction bestowed upon itself with the Migratory Bird Rule, but it needs to begin with the clear and unambiguous criteria that are commensurate with both the Federal resources and the Federal interest to ensure that the Corps' resources are targeted toward those waters which are the most important to the Federal Government.

It is also important to point out that the Clean Water Act is not the only Federal law standing between wetlands and destruction. There are numerous other Federal programs related to wetlands. For example, SWANCC did not affect the Federal Government's commitment to wetlands protection through the Food Security Act Swampbuster requirements, the Conservation Reserve Program, the Wetlands Reserve Program, the Partners in Wildlife Program, the Coastal Wetlands Restoration Program, the Five Star Restoration Program, the National Estuary Program, and programs under the Migratory Bird Conservation Act.

Clear rules on Federal jurisdiction under Section 404 are also important to ensure that these other Federal programs can properly prioritize their resources. For example, the Agriculture Department's Wetlands Reserve Program, reauthorized by the farm bill, is expected to enroll 250,000 acres this year. In order to ensure that programs such as the Wetlands Reserve Program maximize environmental benefits, they should be designed to be complementary with the 404 program.

Until other Federal agencies understand the scope of jurisdiction under the 404 program, it is going to be difficult if not impossible to effectively prioritize these other programs to ensure maximum wetland protection. The current situation has created confusion and chaos, not only for the regulated community, but also for the States. States have a principal role to play in environmental protection. As the Supreme Court noted in the SWANCC decision, granting the Corps and EPA such sweeping jurisdiction would result in a significant impingement of the States' traditional and primary power over land and water use. At the time of the decision, many States already had robust wetland protection programs. Since then, several other States, notably Ohio and Wisconsin, have also passed legislation to address isolated waters in light of the SWANCC decision.

It is important to note that the confusion that has festered for the last 2 years is not only detrimental to individuals in the regulated community, it is also detrimental to the environment. The longer that the jurisdiction of the Corps remains vague and unresolved, the more likely it is that truly valuable wetlands will elude the protection of all the Federal and State programs designed to protect them.

The key purpose of this hearing is to evaluate what we are doing about wetlands protection and how this Congress should respond to setting the regime in place so that we have an effective Federal approach to protecting wetlands, while still respecting States' rights.

With that, let me turn to our ranking member.

**OPENING STATEMENT OF HON. JAMES M. JEFFORDS,
U.S. SENATOR FROM THE STATE OF VERMONT**

Senator JEFFORDS. Thank you. Good morning, everyone, and thank you for being here. Thank you, Senator Crapo, for holding this hearing this morning. I would also like to welcome Senator Feingold, who has been a strong supporter of the Clean Water Act.

The Supreme Court's decision in the SWANCC case has caused a great deal of confusion and concern. It has many people questioning the intent of Congress when we first passed the Clean Water Act more than 30 years ago. Although I was not here in 1972, I had been here during subsequent consideration of the Clean Water Act legislation. I do not believe that we have ever wanted to protect less of our Nation's waters. However, this decision does just that. It reduces the protection of isolated wetlands under the Clean Water Act.

We are here today to hear varying opinions about the ramifications of the SWANCC decision on the Nation's waterways. Some, like Senator Feingold and myself, believe that the definition of "water" in the Clean Water Act should be changed to make clear the intent of Congress that all waters of the U.S. should be protected. Others feel changes to existing regulations are necessary, and some believe nothing needs to be done in light of the SWANCC decision.

The Administration is pursuing a regulatory solution to the implications of the SWANCC decision. I have serious concerns about EPA and the Corps' guidance and advance notice of proposed rule-making, and the effect they will have on the protection of waters throughout the United States from pollution.

I look forward to hearing from each of our witnesses today on the implications of the SWANCC decision. I am compelled, Mr. Chairman, to bring up the recent troubling news regarding EPA's Clean Water Act Enforcement Program. Two recent articles in the New York Times and the Washington Post document extensive non-compliance with discharge permits, a dramatic decline in enforcement, and an apparent lack of commitment to modernizing the data control system used to verify permit compliance. I ask unanimous consent that these articles be inserted in the record.

Senator CRAPO. Without objection.
[The referenced document follows:]



Association of State and Interstate
Water Pollution Control
Administrators



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U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20460

Attn: Docket ID No. OW-2002-0050

Dear Staff:

COMMENT ON ADVANCED NOTICE OF PROPOSED RULEMAKING ON DEFINITION OF "WATERS OF THE UNITED STATES"

We write in comment to the January 10, 2003, "Advance Notice of Proposed Rulemaking On Definition Of 'Waters Of The United States'" (ANPRM). The ANPRM purports to respond to the 2001 U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*. It solicits comments on whether a water's uses for commerce purposes should continue as bases for Clean Water Act (CWA) jurisdiction and whether the federal regulations should define the term "isolated waters."

We write to express our serious concern that the ANPRM seems to suggest a rollback of federal protection under the CWA. Such an action is not warranted by the *SWANCC* decision. We also urge you to consider that a change in the federal regulations to narrow the scope of federal protection at this time would present the states with dramatic and unjustifiable economic burdens, which will compound our precarious economies during these troubled fiscal times.

With respect to the scope of the ANPRM, we contend that the *SWANCC* decision and the federal regulations are not inconsistent. As the Court noted, Congress had in mind its "commerce power over navigation", but Congress also had in mind its intent "...to restore and maintain the chemical, physical, and biological integrity of the Nation's waters."

While *SWANCC* cast uncertainty upon whether CWA jurisdiction reaches "isolated" waters (however those may be defined), the decision itself contained the very narrow holding that the Migratory Bird Rule, a "clarification" of existing regulations, is not a supportable interpretation of the CWA. Though troubled with the Corps' exercise of jurisdiction over the "abandoned sand and gravel pit" in the *SWANCC* decision, the Court apparently had no quarrel with the federal regulations themselves. The Court conspicuously limited its holding to invalidating the clarification, and did not invalidate any aspect of the regulations, including those relating to commerce bases for federal jurisdiction. "We conclude that the 'Migratory Bird Rule' is not fairly supported by the CWA." Had the Court intended to strike the commerce factors in subdivision (a)(3), it would have done so. We see no basis for the federal agencies to surmise that *SWANCC* compels them to do something the Court intentionally did not do itself.

Congress clearly intended the states to have the primary responsibility over water pollution control (CWA § 101(b)). A narrow interpretation of *SWANCC* is consistent with Congressional intent, because it in no way undermines the states' current authorities over the waters within their jurisdiction. Indeed, the states have chosen the manner of protecting their waters, and to varying degrees, all states directly rely upon the federal CWA for those purposes. This is the essence of the federal-state partnership that embodies the concept of federalism.

A broad interpretation of the *SWANCC* decision, conversely, would undermine the states' ability to fulfill their responsibility to protect their waters. A rollback of federal authority would leave a regulatory void that would be

extremely resource-intensive and costly for the states to fill in an already difficult fiscal time. As a practical matter, thousands of acres of waters would simply not be protected, yielding dramatic environmental and economic impacts across the country. Regulatory confusion would ensue as each state in turn adopts a different set of procedural and substantive requirements.

In conclusion, we urge the federal agencies to abandon the ANPRM. Existing regulations have worked well since 1986. They should not be modified on a pretext that the SWANCC decision compels something it does not. A rollback of federal protection for waters is not in the best interest of the states, the regulated community, or the environment. We believe that failure to continue to exercise broad jurisdiction would result in substantial losses to the quantity and quality of the waters of the United States, with significant attendant ecologic and economic repercussions across the country. If the federal agencies do not follow these recommendations, we urge them to phase in any reduction of federal jurisdiction over a number of years, and consistent with the policy to avoid unfunded mandates, they should provide substantial funding and technical assistance to the states to aide the transition.

Should you have any questions, please contact Roberta (Robbi) Savage, Executive Director, ASIWPCA, 202-896-0917.

Sincerely,



Karen Stalith, Ph.D.
ASIWPCA President

Senator JEFFORDS. I hope that the EPA is taking this issue seriously, and I look forward to hearing your plans to strengthening the enforcement. It is imperative that we do not allow the Clean Water Act to become, or perhaps to remain, a license to pollute. I have several documents that I would like to ask unanimous consent to submit for the record, including a statement from Senator Lieberman, a statement from Senator Gramm, and a statement from the Association of State Water Pollution Control Administrators.

Senator CRAPO. Without objection.

Senator JEFFORDS. I would also like to submit excerpts of comments by several States on the advance notice of proposed rule-making to the committee record.

Senator CRAPO. Without objection.
[The referenced document follows:]

**A Majority of the State Agencies Represented on the EPW Committee
Who Submitted Comments on the SWANCC ANPRM Oppose
Weakening the Jurisdictional Authority of the Clean Water Act**

Excerpts Summarizing Opinion of the Comments

Delaware Department of Natural Resources and Environmental Control (Docket # OW-2002-0050-1352)

"Our comments are enclosed. In summary, we recommend for legal, technical, economic, and programmatic reasons that the federal agencies maintain jurisdiction over the broadest scope of waters consistent with the SWANCC decision. We further recommend that any reduction in federal authorities be phased in over a number of years and that the federal government provides substantial funding and technical assistance to the states to assist in the transition. We believe that failure to do so will result in significant losses to the quantity and quality of waters of the State and waters of the United States, with significant attendant ecologic and economic intra- and interstate repercussions."

Florida Dept. of Environmental Protection (Docket # OW-2002-0050-1728)

As will be discussed below, vitally important isolated wetlands in Florida's panhandle will be at risk if the CWA jurisdiction of isolated waters is significantly narrowed under the proposed rulemaking. Our comments will attempt to describe the magnitude and consequences of that potential impact in Florida. As requested in the ANPR, we will also attempt to describe potential factors that could provide a basis for determining CWA jurisdiction in isolated, intrastate, non-navigable waters, and will provide a recommendation on whether the proposed regulations should define "isolated waters," including the factors for such definition.

As a result, any decision to further reduce the regulatory authority of the USACE in isolated wetlands from that which existed prior to the SWANCC decision has significant potential to reduce the protection of water resources in Florida's panhandle.

Montana Dept. of Environmental Quality (Docket # OW-2002-0050-1383)

"The State of Montana contains hundreds of thousands of acres of water resources including streams, rivers, lakes and wetlands. Water is one of Montana's greatest resources. Therefore, we are very concerned about any possible loss of Clean Water Act jurisdiction over these waters since they provide drinking water, revenue, wildlife habitat and aesthetic beauty for the enjoyment of everyone living in or visiting the "Last Best Place."

New York Attorney General Environment Protection Bureau (Docket # OW-2002-0050-1750)

"In sum, the State urges the agencies to abandon this ill-conceived rulemaking proposal. It is neither based on sound law nor sound science. It is bad for the economy. The short-term benefit a restriction of CWA jurisdiction may provide to a few special interests is dwarfed by the much greater, longer term and broader-based benefits of maintaining CWA jurisdiction over all waters with any physical, chemical, or biological connection to traditional navigable waters."

New York Dept. of Environmental Conservation (Docket # OW-2002-0050-1749)

"Department believes that the Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001) (SWANCC) decision should be interpreted very narrowly, thereby maintaining a high floor of federal regulation."

Oklahoma Dept. of Wildlife Conservation (Docket # OW-2002-0050-1752)

"We have reviewed the comments from Ducks Unlimited, Inc. (DLI) in the letter dated March 4, 2003, and concur with all of their comments. The comments of DU encompass a broad range of issues regarding the implications of the potential change of the definition of "Waters of the United States" which could result in limiting jurisdictional coverage and protection of wetlands under the Clean Water Act (CWA). We strongly believe that DU's recommendations to the Corps and EPA to clarify definitions of adjacency and significant nexus to reflect the actual functional relationships between geographically isolated wetlands and navigable waters should be carefully considered and will be critical to the continued protection of isolated wetlands under the Clean Water Act."

The state of Oklahoma, on behalf of the Department of Environmental Quality, the Department of Agriculture, Food & Forestry, the Corporation Commission Oil & Gas Conservation Division (Docket # OW-2002-0050-3071)

The ANPRM suggests that a reduction in scope of the Clean Water Act is necessary in order to satisfy the ruling made in the U.S. Supreme Court decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) (SWANCC). The State of Oklahoma disagrees with this position. The majority opinion stated that the "Migratory Bird Rule" as currently used cannot be the sole basis for jurisdiction by either the Environmental Protection Agency (EPA) or the Army Corps of Engineers (Corps) for isolated waters under the definition of the "waters of the United States." The federal government, as stated in the ANPRM, has other statutory and regulatory bases for the protection of wetlands. For this reason, the state of Oklahoma suggests that nothing contained in the SWANCC decision warrants any additional rulemaking on the part of the EPA or the Corps limiting the definition of "waters of the United States."

Rhode Island Dept. of Environmental Management (Docket # OW-2002-0050-1348)

"The SWANCC ruling does not justify such changes and accordingly Rhode Island would strenuously object to any reduction in the legal federal protection provided our water resources."

Texas Comm. On Environmental Quality (Docket # OW-2002-0050-1729)

"Additionally, we recommend that the federal agencies recognize and operate within the narrow holding of the *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC) ruling."

"The TCEQ supports continued and consistent federal wetlands jurisdiction and oversight, not specifically precluded by the narrow holding of SWANCC."

Vermont Dept. of Conservation (Docket # OW-2002-0050-1330)

"While VT-DEC believes that CWA jurisdictional clarification is necessary, such clarification need not be done through rule making. The SWANCC decision found no fault with existing EPA and COE rules governing CWA jurisdiction. The migratory bird rule struck down in the SWANCC decision was not a rule -- it was agency guidance. Leaving existing rules in place and providing new guidance to agency staff and the public could more expeditiously resolve jurisdictional doubts than initiating a protracted and contentious round of rule making."

"EPA and COE guidance should not go beyond what the Court has proscribed.

The court has clearly barred the COE from asserting 404 regulatory jurisdiction over a manmade, nonnavigable, isolated, intrastate pond with no wetland characteristics where the sole connection to interstate commerce is the use of the site by migratory birds. This is similar to a ruling in a Vermont wetlands case wherein the state's Water Resources Board held that a gravel pit without wetland characteristics should not be subject to the regulatory jurisdiction of the state's wetlands program just because it had wet soils. The EPA and COE should clearly state that gravel pits and other manmade waters without hydrologic connections to other waters and without wildlife habitat values other than as inter-state migratory bird habitat will not be regulated under the COE's 404 program."

Virginia Dept. of Conservation and Recreation (Docket # OW-2002-0050-1737)

"Due to the number of significant communities identified as "isolated waters" and the associated rare plants and animals they support, DCR-DNH recommends the CWA jurisdiction determination include such factors as habitat for endangered species as defined in the "Migratory Bird Rule" (c.) and the designation of "isolated waters" as a significant community type."

Virginia Dept. of Game and Inland Fisheries (Docket # OW-2002-0050-1760)

"We understand that the Solid Waste Agency of Northern Cook County (SWANCC) decision by the United States Supreme Court removed isolated wetlands from protection based on the Migratory Bird Rule. We strongly feel that protection of isolated wetlands needs to be maintained utilizing 33 CFR 328.3 (a)(3)(i)-(iii)."

Senator JEFFORDS. Interestingly, a majority of the States represented by Senators on this committee have commented in opposition to the scope of the ANPRM.

Senator CRAPO, I want to thank you for holding this hearing and look forward to listening to the witnesses and working with you.

Senator CRAPO. Thank you very much.

Next, we will turn to our full committee Chairman, Senator Inhofe.

**OPENING STATEMENT OF HON. JAMES M. INHOFE,
U.S. SENATOR FROM THE STATE OF OKLAHOMA**

Senator INHOFE. Thank you, Mr. Chairman. I appreciate very much your holding this hearing.

Nearly 2½ years ago the Supreme Court ruled that the Corps and the EPA had exceeded their authority under the Clean Water Act. Up until this case, the Agencies had assumed that the Clean Water Act had granted them jurisdiction over virtually all waters potentially affecting commerce in the Nation. The Supreme Court rejected that claim in the SWANCC case.

Rather than expand Corps and EPA jurisdiction to the very ends of the Commerce Clause, the Court chose to read the statute as it was written. Consequently, the Corps and the EPA have jurisdiction over navigable waters and waters that are, quote, “inseparably bound up with navigable waters.” Whether one agrees or disagrees with the Supreme Court’s decision, the fact remains that it could significantly change the jurisdiction of the Corps to regulate isolated waters.

On the last day of the Clinton Administration, the Corps and the EPA issued a joint memorandum to their regional offices. While this memo was swiftly issued, it appears to have done little to clarify Federal jurisdiction in light of the SWANCC decision. Consequently, Federal jurisdiction over waters should be considered on a case-by-case basis in consultation with legal counsel, the Order read. This case-by-case approach resulted in widely varying interpretations of the scope and jurisdiction by Corps and EPA field offices. Not only is there no consistent definition of what “isolated,” “adjacent,” or “tributary” mean, there are also huge disparities in what type of information or criteria are used for determining jurisdiction. Some offices use maps; some use aerial photography; while others conduct site visits. The guidance issued by the Agencies last January, like the earlier Clinton Administration guidance, did little to clear up the quagmire of nebulous regulations. By providing no detailed or definitive criteria for field staff, Corps and EPA headquarters have simply perpetuated the already intolerable level of confusion in the 404 Program.

The fact that 2½ years after the Supreme Court decision, the Agencies still have not proposed any changes to the regulations is disturbing on two counts: first, that the American public has been subjected to an arbitrary and inconsistent regulatory policy; and second, it casts doubt on the ability of the Corps and the EPA to prioritize their scarce resources in order to maximize protection of the environment. I think, Mr. Chairman, in your opening statement, you talked about the staffing problems that are there and the fact that the capacity just isn’t there.

From their prepared testimony, it appears that the Agencies at least recognize there is a problem. I just hope that they follow through with their pledge of responsible stewardship to ensure that Federal programs effectively and consistently maintain environmental protection.

Senator CRAPO. Thank you very much, Mr. Chairman.
Senator Thomas?

**OPENING STATEMENT OF HON. CRAIG THOMAS, U.S. SENATOR
FROM THE STATE OF WYOMING**

Senator THOMAS. Thank you, Mr. Chairman. I agree with what you said and what has been said here.

I certainly thank you for having this hearing and I want to particularly welcome my friend, the Assistant Attorney General Tom Sansonetti, whom we have worked with in Wyoming for years.

Since the Corps and the EPA have agreed to issue additional clarifying guidance and rulemaking definitions, much confusion has apparently existed and continues to exist. It is impossible, it seems to me, for State and local governments, as well as regulated communities, to comply with the law with this level of uncertainty. So hopefully we can have some clarification to it.

In my opinion, rather than Agencies defining this in such a manner as to result in another barrage of legal challenges, resources could better be spent supporting our State efforts. In my State of Wyoming, the Department of Environmental Quality, the statutes and rules do include wetlands as surface water of the State. We believe the State can oversee and provide protection, and look forward to improving Federal-State cooperation and coordination.

I thank you, sir.

Senator CRAPO. Thank you very much, Senator Thomas.

We will now proceed to our first panel. Today we have three panels and a lot of witnesses. So I would encourage all of the witnesses to remember that we have a 5-minute rule. We want to save plenty of time for questions. I will try to remind you of that as we move along.

Our first panel is one of our members, Senator Russ Feingold, who has some legislation that he wants to present to us and discuss today. Senator Feingold, go ahead please.

**STATEMENT OF HON. RUSSELL D. FEINGOLD, A UNITED
STATES SENATOR FROM THE STATE OF WISCONSIN**

Senator FEINGOLD. Thank you very, very much, Mr. Chairman. I thank you for the opportunity to appear before you today. I would like to acknowledge the very generous and forthright assistance provided to me as I sought an opportunity to testify before the subcommittee on this matter, by both the Chairman of the full committee, Senator Inhofe, who was very courteous, and of course, the ranking member, Senator Jeffords, who is a strong cosponsor of the legislation I have introduced to reaffirm Federal Clean Water Act jurisdiction, S. 473. Of course, I acknowledge the longstanding important leadership that Senator Jeffords has shown on so many of these issues. And I thank you, Mr. Chairman.

I have a longer version of my statement I would like to ask to submit for the hearing record.

Senator CRAPO. Without objection.

Senator FEINGOLD. Mr. Chairman, this is a very important hearing. My experience as the lead sponsor of legislation on this issue in both the 107th and current Congress, I can say that the debate over whether our Federal law should continue to recognize the interconnected nature of our water systems is a growing national discussion. I can also say that I believe it is a debate that is unnecessary and is one that Congress should end. We need to be clear

that Congress intends to erase any lingering ambiguity, to reconfirm the original intent of the Clean Water Act, and to protect our waters, rather than lose them. This hearing I think goes a long way to achieving that goal and I commend you, Mr. Chairman, for being willing to seek confirmation of the state of Federal law on this matter.

In the U.S. Supreme Court's January, 2000 decision, *Solid Waste Agency of Northern Cook County v. the Army Corps of Engineers*, a five to four majority limited the authority of Federal agencies to use what was called the Migratory Bird Rule as the basis for asserting Clean Water Act jurisdiction over non-navigable intra-State isolated wetlands, streams, ponds and other bodies of water. This decision, which the committee knows as the SWANCC decision, means that the Environmental Protection Agency and the Army Corps of Engineers can no longer enforce Federal Clean Water Act protection mechanisms to protect wetlands solely on the basis that they are used as a habitat for migratory birds.

In its discussion of the case, the Court went beyond the issue of the Migratory Bird Rule and questioned whether Congress actually intended the Clean Water Act to provide protection for isolated ponds, streams, wetlands and other waters, as it had been interpreted to provide for most of the last 30 years. While not the legal holding of the case, the Court's discussion, as many of you have pointed out, has resulted in a wide variety of interpretations by Federal, State and local officials that jeopardize protection for wetlands, streams and other waters.

Within days of the SWANCC decision, constituents came to my town hall meeting asking for Congress to respond to this decision immediately. As was pointed out, Wisconsin became the first State to pass legislation to assume regulatory jurisdiction over wetlands left unprotected by the Supreme Court decision. Wisconsin has 15,000 named lakes and ponds, 5.3 million acres of wetlands, and approximately 44,000 miles of streams. Wisconsin estimated that if SWANCC's holding limits jurisdiction over so-called "isolated" wetlands, more than 1.1 million acres of wetlands in Wisconsin would no longer have Federal protection. Our State's legislation has become the model for several States.

But the confusion over the interpretation of the SWANCC decision is growing, not I believe, because of the actual holding in the SWANCC case itself, but because of the manner in which Federal agencies are implementing the decision. On January 15, 2003, the EPA and the Corps published in the Federal Register an advance notice of proposed rulemaking raising questions about the jurisdiction of the Clean Water Act. Simultaneously, they released a guidance memo to their field staff regarding Clean Water Act jurisdiction. The agencies claim these actions are necessary because of the SWANCC case, but both the guidance memo and the proposed rulemaking go far beyond the holding in SWANCC.

The guidance took effect right away and has had an immediate impact. It tells the Corps and the EPA staff to stop asserting jurisdiction over isolated waters without first obtaining permission from headquarters. Waters that the EPA and Corps staff judged to be outside the Clean Water Act, Mr. Chairman, can then be filled, dredged and polluted without a permit or any other longstanding

Clean Water Act safeguard. The rulemaking announces the Administration's intention to consider even broader changes to Clean Water Act coverage for our waters. Specifically, the Agencies are questioning whether there is any basis for asserting Clean Water Act jurisdiction over additional waters, like intermittent streams. The possibility for a redefinition of our waters is troubling because there is only one definition of the term "water" in the Clean Water Act. So any change in the regulatory definition of "water" will affect the entire law—the Wetlands Program, the Point Source Program, which stops the dumping of pollution, and the non-point program governing pollution run-off—all depend on the same definition of "water."

Even while EPA and the Corps consider whether to conduct a rulemaking to rewrite the definition of "water," the U.S. Department of Justice is in Federal court defending the legal validity of the existing regulatory definition. Indeed, in recent briefs filed by the Justice Department, the Administration has argued forcefully that the broad definition of "water" in the current rules is not only valid, but that it is necessary in order for the goal of the Clean Water Act to be met, to make all of the Nation's waters safe for fishing, swimming and other uses.

So Mr. Chairman, in my view, Congress decided this debate over the scope of the Clean Water Act in 1972, and the renewed debate should end now. Congress needs to reaffirm the longstanding understanding of the Clean Water Act's jurisdiction to protect all the waters of the United States. All my legislation does is that. It is very simple. It adopts a statutory definition of, quote, "waters of the United States," unquote, based on the longstanding definition of "water" in the EPA's and the Corps of Engineers' regulation. Second, it deletes the term "navigable" from the Act to clarify that Congress' primary concern in 1972 was to protect the Nation's waters from pollution, rather than just sustain the navigability of waterways and to reinforce that original intent.

Finally, it includes a set of findings that explain the factual basis for Congress to assert its constitutional authority over streams, wetlands, ponds and other waters on all constitutional grounds, including the Commerce Clause, the Property Clause, the Treaty Clause, and the Necessary and Proper Clause.

So Mr. Chairman, as the committee knows, I feel that Congress needs to reconfirm the Clean Water Act's jurisdiction to protect all waters of the United States. I believe the legislation I have introduced does no more and no less than that, and I hope this hearing will provide the committee with a good justification for moving that measure forward. I do thank you for your generous time and the opportunity to share my views and those of my State.

Thank you, Mr. Chairman.

Senator CRAPO. Thank you very much, Senator Feingold. We appreciate your taking the time to present your legislation to the committee and your interest in this issue.

Senator Jeffords?

Senator JEFFORDS. As you mentioned in your statement, the State of Wisconsin passed a new wetlands law after the SWANCC decision. In fact, it was the first State to do so.

If the waters discussed in the advance notice of proposed rule-making were redefined out of Clean Water Act safeguards, what would that mean for wetlands, streams and small ponds in your State?

Senator FEINGOLD. As I indicated in my testimony, if you have this broader, sort of over-arching definition of "water," it could implicate far more bodies of water in Wisconsin than is simply covered by the law that we passed in Wisconsin to make sure that we still had the Migratory Bird Rule in effect. We believe it would endanger many, many important bodies of water in our State and we need the Federal definition to be broad and appropriate in terms of the traditional understanding of the Clean Water Act in order for our waters to be protected.

Senator JEFFORDS. If it is covered by your State, would the waters be fully protected by your State law?

Senator FEINGOLD. As I like to kid around, the birds in Wisconsin are very smart, but they don't know where the State line is. So if they go down to Illinois or over to Minnesota and there isn't this kind of protection, obviously that is not how ecosystems work. And that is why I began my remarks by talking about the interconnectedness of water and waterways. This is what it is all about. We have a great environmental tradition in my State. I was proud that a Republican Governor of our State took the lead in saying, we are not going to go along with the SWANCC decision, but that is not enough to protect the waters of not only Wisconsin, but of the whole country.

Senator JEFFORDS. So Federal action is incredibly important, as far as you are concerned?

Senator FEINGOLD. It is absolutely essential that this confusion, which all the committee members are aware of, be resolved. And it is absolutely essential that it not be resolved in a way that gets away from the classic and traditional understanding over 30 years that there is a significant and broad understanding of what "water" means so that we can get at isolated waters and other types of waters that have to be protected, as well as simply navigable waters.

Senator JEFFORDS. Thank you very much.

Senator CRAPO. Senator Inhofe?

Senator INHOFE. As usual, you are very articulate and succinct in the three things that your legislation does. I have no questions.

Senator CRAPO. Senator Thomas?

Senator THOMAS. I have no questions.

Senator CRAPO. Alright. Thank you, Senator Feingold.

Senator FEINGOLD. You are a very kind committee. Thank you very much.

Senator CRAPO. We appreciate your presenting your legislation to us. Thank you.

Our second panel, and you may come up as I announce your names, is: Tracy Mehan, the Assistant Administrator for Water at the EPA; George Dunlop, Deputy Assistant Secretary for Civil Works, the Department of the Army; and Thomas Sansonetti, Assistant Attorney General for Environment and Natural Resources of the Department of Justice.

Gentlemen, we appreciate your being here. Again, as I indicated at the outset, I would like you to try to pay close attention to the

time limits that we have. We are going to have a lot of questions, I assume, today and we want to spend as much time as we can on them. We do have your written testimony. It has been reviewed. So we would ask you to summarize your testimony in the 5 minutes allotted to you.

With that, let's begin with Mr. Mehan.

STATEMENT OF G. TRACY MEHAN, ASSISTANT ADMINISTRATOR FOR WATER, ENVIRONMENTAL PROTECTION AGENCY

Mr. MEHAN. Good morning, Mr. Chairman and members of the subcommittee. I welcome the opportunity to present testimony to you today regarding the Clean Water Act jurisdictional issues over navigable waters.

In keeping with your kind letter of invitation, my testimony will address issues associated with, I use the colloquial expression, the SWANCC case. The Environmental Protection Agency and the Army Corps of Engineers share responsibility for the Section 404 Program under the Clean Water Act which regulates the discharges of dredged and fill material. Testifying with me today will be George Dunlop to my left, Deputy Assistant Secretary of the Army for Policy and Legislation. As you indicated, we have submitted joint testimony which we would ask to be placed in the record, Mr. Chairman.

Senator CRAPO. Without objection.

Mr. MEHAN. In SWANCC, the Supreme Court held that the Federal Government had exceeded its authority in asserting Clean Water Act jurisdiction pursuant to Section 404(a) over isolated, intra-State, non-navigable waters under the Code of Federal Regulations, based on their use as habitat for migratory birds, pursuant to preamble language commonly referred to as the Migratory Bird Rule. The SWANCC case involved an abandoned sand and gravel pit on which a consortium of municipalities planned to develop a disposal site for solid waste.

"Navigable waters" are designed in Section 502 of the Clean Water Act to mean, quote, "waters of the United States, including territorial seas." After reviewing the jurisdictional scope of the statutory definition of "navigable waters" in Section 502, the Court concluded that neither the text of the statute nor its legislative history supported the assertion of jurisdiction over the waters involved in SWANCC.

At the same time, the Court in SWANCC did not disturb its earlier holding in the United States v. Riverside Bayview Homes, a 1985 case out of Michigan, which found that Congress' concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands, quote, "inseparably bound up with," close quote, jurisdictional waters. As the SWANCC Court noted, it was the significant nexus between the wetlands and the navigable waters that informed their reading of the Clean Water Act in Riverside Bayview Homes.

Now, because the SWANCC decision addressed Federal jurisdiction pursuant to the Clean Water Act, it still does not affect other Federal or State laws, as the Chairman indicated, and I will not enumerate all those laws and programs which are designed to pro-

tect wetlands. However, because the decision did involve the Court's interpretation of navigable waters, as that term is defined in Section 502(7) of the Clean Water Act, it does have implications for other Clean Water Act programs besides Section 404, whose jurisdiction all rest upon the meaning of that term. These include Section 303 of the Water Quality Standards Program; Section 311, the Spill Program, as well as the Oil Pollution Act; Section 401, State Water Quality Certification Program; Section 402, the National Pollutant Discharge Elimination System, or the NPDES Permitting Program.

So we see that EPA considers SWANCC in the context of the entire Clean Water Act and we need to take that into account again, so the ante is much higher for the National Water Program in this regard.

Our written statement for the record addresses in some detail the January 15 advance notice of proposed rulemaking, as well as our joint guidance, which was published in the ANPRM appendix, so I am not going to review all that here, although George may be getting into some of that. I do wish to emphasize, we issued the ANPRM because we recognize the benefit of obtaining public comment on the important issues raised by the SWANCC decision. Issuance of that ANPRM was not a legal requirement under the Administrative Procedures Act, but was an extra measure we undertook to ensure early public input before we determined how best to proceed. It presupposes no particular outcome, nor any preordained result, but rather demonstrates our commitment to public involvement as we consider Clean Water Act jurisdictional issues in light of the SWANCC case.

Following the close of the public comment period in April, we received over 133,000 comments. While many of these comments were the result of e-mail or write-in campaigns, postcards and whatnot, we received approximately 500 individual letters discussing specific issues in some detail, substantive comments. Review and analysis of these comments will be a resource-intensive task which we have already started, and we will be hopefully expeditiously carrying out this job summer with the help of a contractor.

At this stage, we have done a preliminary review of some of the comments and they reflect a spectrum of Tribal, State, and local governments, professional organizations, interest groups, and the general public. Although by numbers alone, a substantial majority of comments support a narrow reading of SWANCC and opposition to reduction in Clean Water Act jurisdiction, there is a wide breadth of opinion and divergence of views contained within the comments. The extent and rigor of the debate resulting from the ANPRM is clearly indicative of the importance which the public attaches to the issues of Clean Water Act jurisdictions.

Comments from the regulated community favored a broad reading of SWANCC and a reduction in Federal jurisdiction under the Clean Water Act, while those from the environmental groups generally urged just the opposite. I would like to call your attention to one body of comments, that is, the State comments from State agencies. The water program is the quintessential Federal environmental program, since 45 States have delegated authority under

the Clean Water Act; 49 States have delegated authority under the Safe Drinking Water Act.

We received comments from 42 States, as well as associations such as the Association of State and Interstate Water Pollution Control Administrators, ASIWPCA, and the Association of State Floodplain Managers. While some certainly expressed the view that limited Federal jurisdiction was preferable and a necessary outcome of the SWANCC decision, more common themes from these commenters were that a substantial reduction in Federal jurisdiction was not warranted, would potentially disrupt the Federal-State partnership built up over the last 30 years of Clean Water Act implementation, and that budget and/or legal constraints would limited or delay their ability to develop local programs.

A significant number of these commenters also provided information and data on the nature and extent of aquatic resources potentially at risk if Federal jurisdiction were to be significantly reduced. Many of these pointed out the important functions provided by these resources, such as floodwater reduction, groundwater recharge, and habitat values.

I note that all these comments are available to any of the members and I believe most of the States of the members did submit comments, not all, but most, and we would be happy to provide those to you at your request.

We recognize the Tribes and States, the regulated community, the public at large and the environment itself would benefit from increased clarity as to the extent of the Federal Clean Water Act jurisdiction in light of SWANCC. Providing for that increased clarity is no simple matter, involving as it does an interplay between complex legal issues, implications for an array of Clean Water Act programs, and consideration of the appropriate role of the Federal Government in the protection of aquatic resources. The issues to be addressed are significant and will help chart the direction for future Clean Water Act implementation, again for the whole Act, not just for Section 404 and not only for EPA and the Department of Army, but also for our Tribal and State partners who actually carry out these laws in many cases.

We are fully committed to protecting all Clean Water Act jurisdictional waters, including jurisdiction of wetlands as was intended by Congress. Our goal in moving forward is to clarify what waters are properly subject to Clean Water Act jurisdiction in light of SWANCC, and afford them full protection through an appropriate focus of Federal and State resources in a manner consistent with the Act. We will carefully consider all the comments we received in response to our ANPRM as we undertake this arduous task.

Thank you for your attention.

Senator CRAPO. Thank you, Mr. Mehan.

Mr. Dunlop?

**STATEMENT OF GEORGE DUNLOP, DEPUTY ASSISTANT
SECRETARY FOR CIVIL WORKS, DEPARTMENT OF THE ARMY**

Mr. DUNLOP. Thank you, Mr. Chairman. I appreciate the opportunity to share the Army's perspective about the current regulatory status of Federal jurisdiction under the Clean Water Act in light of the SWANCC decision.

As you know, indeed as you said, the EPA and the Corps of Engineers share responsibility for the Section 404 Program under the Clean Water Act. Fulfillment of the Corps' day-to-day responsibilities require about 1,200 staff in 46 Division and District Offices nationwide, with an annual budget of about \$140 million. These resources are required each year to process over 80,000 individual and general permit authorizations and appeals, including those associated with jurisdictional determinations.

The SWANCC decision held that the Corps does not have regulatory jurisdiction under the Clean Water Act for non-navigable, isolated, intra-State waters where the basis for asserting that jurisdiction is solely upon the use or the potential use of those waters by migratory birds. On January 10, 2003, following extensive inter-agency coordination with the Department of Justice and the EPA, the Army and the EPA jointly signed post-SWANCC clarifying guidance. This guidance provides that jurisdictional decisions will be based upon, first of all, Supreme Court decisions, including *Riverside Bayview*, which affirmed that adjacent wetlands are jurisdictional under Federal law, and SWANCC of course, as well as other relevant regulations and, of course, on case law where applicable in each jurisdiction.

So with the basis of those guidances, we established four key points. First, as the Supreme Court held, field staff should not assert jurisdiction based on the Migratory Bird Rule. Second, field staff should seek formal project-specific headquarters approval prior to asserting jurisdiction over isolated non-navigable intra-State waters when such jurisdiction would be based on inter-State commerce factors listed in the Corps' regulations. Third, the field staff should continue to assert jurisdiction over traditional navigable waters, including adjacent wetlands and generally speaking, their tributary systems.

This guidance describes "traditional navigable waters" as waters that are subject to the ebb and flow of the tide or waters that are presently used or have been used or may in the future be susceptible to use for transport of inter-State or foreign commerce. And then fourth, the guidance made clear that it supersedes the previous EPA legal memorandum concerning SWANCC issued on January 19, 2001.

The Supreme Court's invalidation of the use of the Migratory Bird Rule as a basis for Federal jurisdiction over certain isolated waters has focused greater attention on jurisdiction generally. Specifically, it has focused attention on Federal jurisdiction over tributaries to jurisdictional waters and over wetlands that are adjacent wetlands for Clean Water Act purposes. The joint guidance does provide useful information on Clean Water Act jurisdiction to the public and to the regulatory staff. However, further information is needed to provide the degree of certainty that Agency personnel and the regulated public deserve, and to ensure fair, effective and predictable administration of the Clean Water Act.

Any ongoing consistencies in jurisdictional determinations made by a Corps official serve to highlight our executive branch responsibility to provide clarity that will arise from the ANPRM process. The ultimate direction of any proposed rulemaking has not been predetermined, and will be influenced significantly by the public

comment to the advance notice. Our general goals will be to provide clarity to the public and to improve consistency in Clean Water Act jurisdictional determinations nationwide.

In conclusion, I would like to emphasize that we remain fully committed to the protection of all Clean Water Act jurisdictional waters, including adjacent wetlands. Safeguarding these waters is a crucial function because it ensures that the chemical, physical and biological integrity of these waters is maintained and preserved for future generations, as was intended by Congress.

Thank you for providing me this opportunity, and I am prepared to answer any questions you may present to me.

Senator CRAPO. Thank you, Mr. Dunlop.

Mr. Sansonetti?

STATEMENT OF THOMAS L. SANSONETTI, ASSISTANT ATTORNEY GENERAL FOR ENVIRONMENT AND NATURAL RESOURCES, DEPARTMENT OF JUSTICE

Mr. SANSONETTI. Chairman Crapo and members of the subcommittee, I am pleased to be here today to discuss the Department of Justice's response to the Supreme Court's decision in SWANCC. In my testimony today, I will describe our work in connection with the Clean Water Act, the interpretation of which was at issue in SWANCC, and the efforts we have made to ensure that the positions that we have taken in litigation are consistent with SWANCC.

I will also briefly touch upon our efforts to improve Federal-State coordination and cooperation in wetlands protection and enforcement. In my written testimony, which I hope you will be able to put into the record in its entirety, I have provided the subcommittee with a perspective on the breadth of our work. My Division has a docket of well over 10,000 pending cases and matters, with cases in each and every judicial district in the Nation. The majority of these cases are defensive. Although some of these defensive cases involve the Clean Water Act, many more do not. In fact, we litigate cases arising from over 70 environmental and natural resource laws. Even if one were to focus only on our enforcement docket, wetlands cases form over a very small subset of our work.

With that background, I will now discuss in more detail our role with regard to implementation of the Clean Water Act. Our primary role with regard to the Clean Water Act is to represent the Environmental Protection Agency and the Army Corps and any other Federal agency that might be involved in Clean Water Act litigation. Again, this litigation can either be defensive or affirmative. In regard to defensive litigation, it takes a variety of forms. For example, affected parties will sometimes bring an action against the Corps of Engineers when it grants or denies a permit. Affected parties may also seek judicial review of any regulations. Finally, Federal agencies can themselves be sued for discharging pollutants into the waters of the United States if they have not complied with the applicable requirements of the Clean Water Act.

We also bring affirmative litigation under the Clean Water Act. CWA civil judicial enforcement actions generally begin with a referral or investigation from EPA or the Corps regarding an alleged

violation. We then conduct our own internal independent inquiry to determine whether we have sufficient evidence to bring the case, and whether it is appropriate for judicial action. If we determine that judicial enforcement is warranted, we also explore possibilities for achieving settlement for the alleged violations as appropriate.

As I have noted in my written testimony, the vast majority of environmental violations are addressed and resolved by State and local governments. In the wetlands area, most Federal enforcement of the Clean Water Act that is carried out by the EPA and the Corps at the administrative level does not involve us. Thus, our work is only a small, albeit important, part of Clean Water Act implementation.

In regard to SWANCC, just as with any other Supreme Court case, we try to ensure that the legal positions taken on behalf of the Federal Government are consistent, in this case obviously we are dealing with SWANCC. So after the SWANCC decision came out in January, 2001, my Division undertook a comprehensive review of our Clean Water Act docket. We scrutinized any case that involved isolated waters, the Migrator Bird Rule, or analogous theories to determine whether SWANCC had undermined geographic jurisdiction in the case. We took action as appropriate. For example, in the Borden Ranch case, we decided not to pursue an enforcement claim in light of SWANCC, even though we had won on that claim at trial.

In addition to reviewing our existing cases for consistency with SWANCC, we have established a process for ensuring that our litigation positions going forward are internally consistent and appropriately coordinated with the Federal Government. Thus, in addition to the review of all of our prospective enforcement cases that I described earlier, we also focused on whether there is a sound factual and legal basis consistent with SWANCC for proceeding in our Clean Water Act cases. We apply a similar process in our defensive CWA-related litigation.

Our careful examination of our cases has paid off with success in the courts. Of the 27 cases in which we have filed SWANCC-related briefs in the Federal courts, 22 of those 27 have resulted in court decisions thus far. Seventeen of those decisions have been in favor of the United States. I would be pleased to make available to the subcommittee, of course, any of our briefs that it may request.

We have also made great strides in improving Federal-State cooperation and coordination in environmental protection generally, and we are redoubling these efforts in connection with SWANCC. Six months ago, we hosted a national wetlands conference designed in cooperation with several State associations, the EPA and the Corps. The conference took place at our South Carolina training facility and attracted government officials from many States, including representatives of the environment and natural resource agencies, attorneys general offices, and even some State legislatures. As the conference's keynote speaker, I stressed the importance of Federal-State collaboration and cooperation in wetlands protection and enforcement, and we look forward to continuing this dialog with our State colleagues.

In closing, I would like to assure the subcommittee that we are working hard to ensure that the positions we take in litigation are consistent and well-coordinated with our client agencies, and I would be happy to answer any questions that you may have about my testimony.

Thank you, sir.

Senator CRAPO. Thank you very much, Mr. Sansonetti.

I am going to use my question time, Mr. Dunlop, just to get a little data from you. First of all, the Federal Government does periodic surveys on the status and trends of wetlands. I would like to have you tell me what these surveys say about the total number of wetlands that are being lost and the total number that are being gained in the United States. Do you have that data with you?

Mr. DUNLOP. No, sir. I would not have that data because the Corps of Engineers does not have authority under law to deal with all the wetlands of the United States. The 404 Program of the Clean Water Act, which is our regulatory jurisdiction, our authority, pertains only to those aquatic resources that might be impacted by dredge and fill material. So the type of data and information that the Corps would collect and I would be party about knowing, would pertain to those types of waters.

As I indicated, we have about 80,000 permit actions a year and jurisdictional decisions. One of the things, the general guidance that pertains that might be useful to the point you are making is that in so far as the Army jurisdiction, the Corps' jurisdiction goes, whenever any person seeks to impact the waters of the United States with dredge and fill material, the law and our regulations provide that first of all, they can only get a permit if there is no other practicable way to avoid adverse impact. Second of all, if it is proven that there is no other practicable way for them to use their property, then they have to come up with options and a plan that would minimize that impact. Then finally, once those impacts meet those tests, if there are unavoidable impacts, then they must be mitigated.

The general rule that operates, it is not a rule, but the rule of thumb that is used because of the effort that they make to have no net loss of wetlands, is that this mitigation usually requires more acreage than is filled or impacted adversely.

Senator CRAPO. Could you tell me how many permits a year the Corps issues?

Mr. DUNLOP. Well, we call them permit actions; approximately 80,000; some years it is more. I have some data that I could submit for the record, of course.

Senator CRAPO. That would be appreciated. And do you have any idea, just ballpark, of how many acres of wetlands that would cover?

Mr. DUNLOP. I don't think I have that data off my the top of my head, but I sure would be pleased to provide it.

Senator CRAPO. If you would, I would appreciate that. What I am getting at is to see what kind of regulatory activity underway at the Corps and what level of wetlands impact that Corps is having through its regulatory process just in terms of numbers of acres.

Mr. DUNLOP. Yes, sir. I have a chart here that I can submit for the record, maybe in the context of the total slide show we have

here. The wetland acreage impact indicates that there were approximately last year in fiscal year 2002, 57,821 acres were mitigated; 24,651 were impacted. So we have got in this case better than two-to-one acres mitigated for every one impacted, but this goes back decades, so I will present this data for the committee.

Senator CRAPO. Alright, thank you very much. I would appreciate that.

I think, Mr. Sansonetti, I will direct this question to you first; any one of you may answer it, probably. Could you describe the legal and practical implications of striking the word "navigable" from the Clean Water Act as Senator Feingold's bill would do?

Mr. SANSONETTI. The Department of Justice has frankly not been asked yet to see Senator Feingold's proposed legislation, and frankly, I have not seen it, so I am not sure if I should be commenting on it before going through our usual review. But just to say that there is a lot of litigation cropping up all over the United States right now because of the SWANCC situation.

At the present time, we have legislation in five different Circuit Courts of Appeal right now, with arguments already having been completed or notices of appeal filed on that very issue. So we are going to be getting a variety of opinions over the next year as to the importance of the word "navigable."

However, it is an adjective that describes the waters of the United States, so I suspect that until either the Congress gets back into the field of better clarifying what was in the 1972 law, then either the decision is going to be made by the courts one by one until another case goes back up to the Supreme Court; the Congress passes additional clarifying legislation; or the executive branch tries to deal with it in the form of a new rulemaking.

Senator CRAPO. Thank you very much.

Mr. DUNLOP OR MR. Mehan, do you have any comment on that question—what the elimination of the word "navigable" would do? I mean, obviously it is going to expand the jurisdiction of the Act. Any observations other than that?

Mr. MEHAN. No, nothing to add to Mr. Sansonetti's words.

Mr. DUNLOP. No, sir.

Mr. CRAPO. All right, thank you very much.

I will hold back my further questions at this point, and will turn to Senator Jeffords.

Senator JEFFORDS. Mr. Mehan, I am deeply concerned about the information in the report recently compiled by the EPA that documents extensive noncompliance and a decline in EPA's enforcement program. When 59 percent of those who violate toxic permit limits do so by more than 100 percent, and 85 percent of major facilities with significant violations do not receive formal enforcement action, there is clearly a problem.

Can you describe the Administration's plans to respond to this report and your level of commitment to the Clean Water Act enforcement?

Mr. MEHAN. I will try, Senator.

As you know, enforcement is handled in a separate office in the Office of Water, the Office of Enforcement and Compliance Assistance. I have had numerous conversations with my colleague J. P. Suarez on his efforts to shore up that program at his end. Looking

at it from the Office of Water perspective and to the extent that I am involved with that, enforcement begins with a permit, the NPDES permit. That is sort of your fundamental charter, if you will, from which inspection and enforcement responsibilities are derived. We are undertaking a permit integrity program right now where we are trying to look at this whole issue of our delegated programs in a very stressful financial environment.

As you know, the National Association of Public Administrators says there is something like a \$700 million, approaching \$1 billion shortfall in terms of managing our clean water programs at the State level, 45 of whom have delegated authority. My own Corps programs, including permits, are down 32 percent over the last five or 6 years. So we are trying to come to grips with how to deal with all these pressing responsibilities. Meanwhile, we have TMDLs coming on line and more responsibilities.

I think information is key; having it there where managers can monitor the facts, say, if you end up with more than 20 percent or 25 percent of your major permits in significant noncompliance; whether the data is good or bad or needs to be ground truth, that ought to set off some alarms and you need to manage the issue. I think some effort at prioritization; if you have an operation that has not really changed its production processes at all, that permit may not be as significant as one where you have had dynamic technological developments in that industry.

If you on a water body that is impaired, i.e. not meeting water quality standards, that is probably a higher priority than one that is unimpaired; if you are near a drinking water source; and on and on.

So we are trying to basically optimize the resources we have to deal with a number of serious issues. Again from our end, it starts with the NPDES permit, and we are trying to pull together the data systems and the guidelines and do a collaborative effort with our State partners to shore that up.

There is also the enforcement component, and I know Mr. Suarez has talked about a watch list. He is engaging his regional staff in a lively dialog on this very matter.

Senator JEFFORDS. Thank you.

Mr. Mehan, you and I exchanged letters earlier this year on the status of Lake Champlain under this rulemaking. I ask unanimous consent that these letters be included in the record.

Senator CRAPO. Without objection.

[The referenced documents follow:]

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ANDREW AMELER, MASSACHUSETTS STATE DIRECTOR
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February 26, 2003

The Honorable Tracy Mehan
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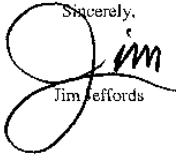
Dear Mr. Mehan:

I am writing to thank you for and to confirm our conversation regarding the scope of the Environmental Protection Agency's Advanced Notice of Proposed Rulemaking (ANPRM) after the Agency's budget hearing this morning. I have been very concerned that the language in section five of your ANPRM indicates that you are considering revisions to the jurisdiction of the Clean Water Act other than those related to isolated waters.

During the hearing, I spoke about the specific example of the Lake Champlain basin. Lake Champlain supports a diverse wildlife population, a large drinking water system, and recreation. The Lake and its tributaries currently fall under the jurisdiction of the Clean Water Act and are, therefore, fully protected from pollution by the provisions of that Act. There are sixty permitted point sources discharging into Lake Champlain and its tributaries in Vermont and twenty-eight in New York.

I have been extremely concerned that your rulemaking will exclude some or all of Lake Champlain's tributaries from protections under the Clean Water Act. If that were to occur, some, potentially all, of these eighty-eight point sources would be allowed to discharge pollutants without reproach into the Lake Champlain basin. This situation is not unique. Around the nation there are innumerable tributaries leading into navigable waters that could be excluded from Clean Water Act jurisdiction as part of your rulemaking.

I was very pleased that you clarified for me today that none of the Lake Champlain basin tributaries will be excluded from the jurisdiction of the Clean Water Act and that no tributaries to navigable waters anywhere in the country will be excluded from the jurisdiction of the Act as a result of your rulemaking. I ask you to respond to this letter and repeat these two specific points. I believe that a clear response from you on this issue will quell at least some of the concerns that have been raised about your ANPRM. Thank you again for your responsiveness today, and I look forward to hearing from you soon.

Sincerely,

 Jim Jeffords



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAR 26 2003

OFFICE OF
WATER

The Honorable James Jeffords
United States Senate
Washington, D.C. 20510

Dear Senator Jeffords:

Thank you for your letter of February 26, 2003, seeking clarification as to the Clean Water Act (CWA) jurisdictional status of the Lake Champlain basin. Your letter also raised a similar question with regard to other tributaries leading into navigable waters in other areas of the country.

Lake Champlain and its tributaries currently are jurisdictional under the CWA. See, International Paper Co v. Ouellette, 479 US 481(1987); see also CWA Section 120, 33 U.S.C. § 1270. We do not anticipate revising CWA jurisdictional regulations to alter that status.

With regard to the jurisdictional status of tributaries to navigable waters in other parts of the country, as our January 10, 2003, guidance provides, "Field staff should continue to assert jurisdiction over traditional navigable waters (and adjacent wetlands) and, generally speaking, their tributary systems (and adjacent wetlands)." 68 Fed. Reg. 1998 (January 15, 2003). As that guidance recognizes, however, there are some judicial decisions which have interpreted the Supreme Court's reasoning in Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, 531 U.S. 159 (2001) (SWANCC) to potentially circumscribe CWA jurisdiction over tributaries by finding CWA jurisdiction attaches only where navigable waters and waters immediately adjacent to navigable waters are involved. These cases include Rice v. Harken, 250 F.3d 264 (5th Cir. 2001) (rehearing denied), which interpreted the scope of "navigable waters" under the Oil Pollution Act (OPA). The Fifth Circuit relied on SWANCC to conclude "it appears that a body of water is subject to regulation under the CWA if the body of water is actually navigable or is adjacent to an open body of navigable water." 250 F.3d at 269.

A few post-SWANCC district court opinions have relied on Harken or reasoning similar to that employed by the Harken court to limit jurisdiction. United States v. Rapanos, 190 F. Supp. 2d 1011 (E.D. Mich. 2002) (government appeal pending) ("the Court finds as a matter of law that the wetlands on Defendant's property were not directly adjacent to navigable waters, and therefore, the government cannot regulate Defendant's property."); United States v. Needham,

No. 6:01-CV-01897, 2002 WL 1162790 (W.D. La. Jan. 23, 2002) (government appeal pending) (district court affirmed finding of no liability by bankruptcy court for debtors under OPA for discharge of oil since drainage ditch into which oil was discharged was found to be neither a navigable water nor adjacent to an open body of navigable water); see also, United States v. Newdunn, 195 F. Supp. 2d 751 (E.D. Va. 2002) (government appeal pending) (wetlands and tributaries not contiguous or adjacent to navigable waters are outside CWA jurisdiction); United States v. RGM Corp., 222 F. Supp. 2d 780 (E.D. Va. 2002) (government appeal pending) (wetlands on property not contiguous to navigable river and, thus, jurisdiction not established based upon adjacency to navigable water).

Prudence dictates that we take these decisions into account when considering jurisdictional issues in those jurisdictions. I also wish to point out, however, that we have routinely appealed such district court decisions to the relevant U.S. Circuit Court of Appeals.

I hope that this letter addresses your concerns. If you have further questions, please contact me or have your staff call Tom Dickerson of EPA's Office of Congressional and Intergovernmental Relations at (202) 564-3638.

Sincerely,



G. Tracy Mehan, III
Assistant Administrator

Senator JEFFORDS. In my letter to you, I asked for and received clarification that the protection status of Lake Champlain and its tributaries will not be affected by the Agency's rulemaking. Is that correct?

Mr. MEHAN. That is correct.

Senator JEFFORDS. I also asked you, and did not receive clarification, that all similar waters will not be affected by the Agency's rulemaking.

Mr. MEHAN. As the guidance that was put out in January says, if you have tributaries to navigable waters, that is not an area of dispute, and that remains jurisdictional. So just by extension of the principle, that is the case with Lake Champlain and it would be the case with watersheds involving navigable waters also.

Senator JEFFORDS. I am puzzled why all waters in this category are not affected by the rulemaking in the same way. Can you explain that?

Mr. MEHAN. I am sorry. Could you repeat the question, Senator?

Senator JEFFORDS. Why all waters in the same category are not affected by the rulemaking in the same way.

Mr. MEHAN. It is sort of a definitional issue. If you have navigable water and you have a body water that is tributary to the navigable water, we do not see a jurisdictional issue there. I think the guidance in January said that.

I guess where you get into disputes is not over the principles of law or regulation; it is the application of the principles of law to factual circumstances. Is something really tributary? Is it in the watershed? What is the hydrology? et cetera, et cetera. But at least as a matter of legal definition, I do not think there is much dispute in the case of a tributary to a navigable waterway.

Senator JEFFORDS. Mr. Sansonetti, the Department of Justice's interpretation of the SWANCC decision is considerably narrower than construed by the EPA and the Army Corps as a justification for changing Clean Water Act rules. Rather than finding that the definition of "waters of the U.S." needs to be changed by a new rulemaking, the DOJ has steadfastly argued in two dozen briefs filed in the Federal courts that Agencies' existing definition of the "waters of the United States" is valid, and indeed required to achieve the purposes of the Clean Water Act. Are these arguments consistent with the advance notice of proposed rulemaking issued by EPA and the Corps?

Mr. SANSONETTI. Certainly they are, because you have to remember the difference in our roles here. The Department of Justice's responsibility is to defend the law as it exists and the rules and regulations supporting that legislation. So the purpose of the ANPRM was to put out an opportunity for people to comment as to what they thought the impacts of the SWANCC decision were, and then to allow the policymakers to decide whether or not the rule or regulation needs to be changed. Now, that responsibility of course falls on the EPA and the Army Corps, but until that rule or regulation changes, the Department of Justice has to deal with the law and the rules and regulations as they are written. That is why you have commented on the consistency with which the Department of Justice has filed briefs in the cases we have litigated at both the District and the Circuit Court levels.

That is also why I think you will find that we are very proud of our enforcement to date because it is almost \$7.95 billion that have been brought in through injunctive relief in the last 2 years, including the largest Clean Water Act fine ever—\$8.2 million in the Allegheny Ludlum case in Pennsylvania.

Senator JEFFORDS. OK, that is all.

Senator CRAPO. Thank you very much.

Senator Inhofe?

Senator INHOFE. Senator Jeffords mentioned the Washington Post article twice, and I just want to make a couple of comments. First of all, that was supposed to be sensitive information that was leaked internally by the EPA and it should not have been leaked. Unfortunately as is often the case when they leak a little bit of in-

formation, they do not give the whole story. In my case of Oklahoma, for example, once an institution is under the administrative orders, we can include those statistically which some other States do not do. So it is really not all that accurate. That always bothers me when something is leaked and it should not have been leaked. To me, the most significant thing about the Washington Post story was that it showed that we did the right thing in our Wastewater Security bill by keeping sensitive information out of the hands of the EPA.

In the opening statement, I talked about in the last day of the Clinton Administration, then again in January, the information really coming down. The guidance was not very accurate. In fact, in reading out of the report, it says, "This memorandum does not discuss the exact factual predicates that are necessary to establish jurisdiction in individual cases. We recognize that the field staff and the public could benefit from additional guidance on how to apply the applicable legal principles to individual cases."

In your testimony, you state that further information is needed to provide the degree of certainty that Agency personnel and the regulated public deserve, and to ensure the fair and effective administration of the Clean Water Act.

So Mr. Mehan, do you anticipate that this additional information will be supplied to the Agency personnel and the regulated public in the form of additional guidance? If so, when?

Mr. MEHAN. As I said in my testimony, Senator, we are not prejudging or pre-ordaining the outcome of our review of the public comments. After we get through the public comments, that is just the beginning of what will be no doubt a very extensive interagency consultation, not just with the Corps of Engineers, not just with the Department of Justice, but with OMB, CEQ, Department of Interior and USDA. So to make any predictions as to outcomes or timelines, I could do that, but I would be lying.

Senator INHOFE. All right.

Mr. Dunlop, last year the Department of Interior published a study of isolated wetlands and included at least one definition of "isolated," and I will read that to you: "Wetlands surrounded by upland may be considered isolated since they are separated from other wetlands by dry land." This is the isolation from a geographic landscape or a geomorphic perspective. Now, if a wetland is separated from another jurisdictional water by dry land, does the Agency consider the wetland to be isolated? Do you consider that to be isolated?

Mr. DUNLOP. Sir, in each of the cases that people have to consider out in the field, they consider a number of criteria. The guidance that we have given, that the Corps Director of Civil Works has given to the field, is, as I outlined in my testimony, those four factors, those four broad guidelines. In the absence of clarity about what "isolated" is, as defined in regulation and law, that of necessity leaves circumstances where there might be what is called "case-specific" judgment. There are issues that have to do with do you use the geographic proximity, as was suggested in your question? Other folks might maintain that you have to use a hydrological connection. These regulations and the guidances and everything that are out there in the field for these 1,200 people—

Senator INHOFE. I think what you are saying, Mr. Dunlop, and I am running out of time here, is that there is no accurate definition of "isolated."

Mr. DUNLOP. Correct.

Senator INHOFE. Let me ask the question of Mr. Sansonetti. From a legal perspective, this is one of the biggest problems we have right now. Can you legally define "isolated"?

Mr. SANSONETTI. That is the subject matter of about nine of these cases, and it is very unclear.

Senator INHOFE. How about "adjacent"?

Mr. SANSONETTI. Same problem.

Senator INHOFE. How about "tributaries"?

Mr. SANSONETTI. Same problem.

Senator INHOFE. That is the problem.

Mr. SANSONETTI. It is going to be litigated through all the courts at the present time.

Senator INHOFE. I appreciate that.

You were asked by the Chairman about some legal problems that could come up. Do you think that the broad definition of "water" like that found in the Feinstein bill could lead to or raise some constitutional questions in the future?

Mr. SANSONETTI. Again, I do not want to comment on a bill I have not read, or that the Administration has not taken a position on as a whole, so I am going to answer it in a more general term. I feel that at the present time, there will be continued litigation over the term "waters of the United States," as you have just proposed it, until there is a brighter line drawn.

Senator INHOFE. Yes, I think that is right. The last question, Mr. Chairman, I would have for Mr. Sansonetti, when you had at the bottom of page seven, you said, "One of the basic teachings of the SWANCC decision is not every wetland or other aquatic area in the country is an appropriate subject of Federal regulations under the Clean Water Act. Since the decision of SWANCC, some states such as," and so forth.

Just what areas, can you define what should be and should not be when you made that statement, when it is not appropriate for the Federal Government, and what would be more appropriate for the States?

Mr. SANSONETTI. I feel that the States always have the right under the principle of federalism to pass their own legislation to protect the waters within their borders. I encourage them to do so. To the degree that there are portions of the waters not included in the legislation and the rules and regulations that protect waters, the States always have that right to go ahead and pass their own. I believe 15 to 18 States already have.

Senator INHOFE. I appreciate that very much and I agree with you.

Thank you, Mr. Chairman.

Senator CRAPO. Thank you.

Senator THOMAS?

Senator THOMAS. Thank you, Mr. Chairman.

Mr. Dunlop, you just walked in here and had not spent a lot of time on this. It doesn't sound like you think there is any problem at all for the Corps.

Mr. DUNLOP. No, sir. I think in my testimony I tried to convey that as related to the issues of jurisdiction, there are a lot of problems because of the line of questioning we just went through. The people who are out there in the field, those 1,200 people we talked about who are the day-to-day regulators, have general guidance, but they don't have specific guidance and information about the definitions of some of these terms. What is a "tributary" really? Does it extend to such things as pipes and ditches? What is the meaning of "adjacency"?

These types of questions and issues that these folks have to deal with every day does create an enormous set of problems for them when it comes to having consistency of approach and predictability. So I hope I have not conveyed that there is no problem whatsoever.

Senator THOMAS. There has been apparently, and particularly in a California water quality board, where the suggestion has been that municipal storm sewers are considered waters of the United States.

So my reaction to both of you is you do not seem to have any solution. What do you want to do? Do you want to be able to expand jurisdiction? Do you want to be able to simply define? I think clearly it could be defined. It could be defined. Or do you want to let the States have more authority, as some of us suggest? I cannot sense that you have any notion where you want to go.

Mr. DUNLOP. Yes, sir. There are three options really that we have from the Federal perspective. Of course, the one about the State perspective is another. But from the Federal perspective, we can continue with the guidances as they now are, which would result with this lack of clarity in the court's playing an increasing role. Option two is to, as is informed by this advance notice of proposed rulemaking, perhaps move to a rule, a proposed rule, and then all of that process that Mr. Mehan has described. The third option is perhaps again through the ANPRM to come up with additional guidance. But one of those three factors or options is going to further inform public policy.

Senator THOMAS. That is true. We have been 3 years getting there, however, and have not done that.

Mr. Mehan, you indicate that you put out in January a proposed rule. The reaction I get is that that rule has not helped to clarify the situation at all.

Mr. MEHAN. Senator, it was not a rule. It was an advance notice of proposed rulemaking.

Senator THOMAS. I understand, but it would be a rule—that is what you put out is a trial rule, exactly, wasn't it?

Mr. MEHAN. It was not.

Senator THOMAS. What did you put out?

Mr. MEHAN. As I said in my testimony, it was basically an invitation for more information, more data, more considered opinion whether it is legal, scientific, policy or economic that would be relevant to the two questions that were framed into it.

Senator THOMAS. You don't have any point of view on that, then? You just asked for everyone else's point of view and then wonder why you don't have a decision?

Mr. MEHAN. I have never been accused of lacking a point of view on anything, but I don't speak for myself as I sit here. I speak for an Agency.

Senator THOMAS. I am not talking about that. Here is an Agency that has a law to work under and they ought to be able to interpret that and put out something that would help clarify it. You put out something that did not help clarify it.

Mr. MEHAN. Let me with great temerity go this far. From an EPA perspective, our inclination would be to follow ecology and hydrology as far as the law will allow us. In other words, look at things on a watershed basis. However, it is entirely possible that Congress intended to not go that far. So I think part of the dialog we are having is, to what extent legislative intent trumps ecology and hydrology.

Senator THOMAS. That is kind of what the court is supposed to do, isn't it?

Mr. MEHAN. Well, there has been a lot of talk about uncertainty in our regulations. I think there is uncertainty in the law; there is uncertainty in the legal decisions by the Court. It was a five-four decision. We are seeing a whole raft of different opinions by the Circuit Courts and the District Courts.

Senator THOMAS. Do you work with court decisions based on what the number of judges were and how they voted?

Mr. MEHAN. No, but as one who practiced law for 15 years, as a practical matter you do wonder whether five-four decisions are going to have staying power.

Senator THOMAS. I understand, but here we are trying to solve a problem. Here we are, you are indicating that there is \$1 billion worth of undone work. Instead of finding a solution, why you just kind of keep asking people what they want to do. It seems to me you have to come to the snubbing post and do something here pretty soon. That is what I hoped you maybe would have some suggestions here as to how we roll along.

Thank you.

Senator CRAPO. Thank you.

Senator Murkowski?

**OPENING STATEMENT OF HON. LISA MURKOWSKI,
U.S. SENATOR FROM THE STATE OF ALASKA**

Senator MURKOWSKI. Thank you. I appreciate the testimony this morning.

We have more than our share of wetlands in Alaska, although we are happy to have them and are taking good care of them. But according to the U.S. Fish and Wildlife Service, Alaska has more wetlands than the remainder of the U.S. combined; over 174 million acres of lands designated as wetlands which is more than 40 percent of the State of Alaska. So in other words, we have more wetlands in Alaska than the entire State of Texas.

It is huge. And we have some pretty interesting wetlands. As you probably know, up in the North Slope we have ice lenses, which is permafrost where the water has melted. These are basically pot-holes all over; 80 percent of the 20 million acres in Alaska's North Slope are classified as wetlands. They are certainly not navigable; you can't put a boat in them.

In the southern part of the State we have another issue. We have mountaintops where we have areas of muskeg where there are little lakes all over; absolutely impossible to get to; absolutely impossible to, if you are talking about navigability, having an implied potential to be used in interstate commerce, it does not exist up there. So our wetlands I think are very distinct and unique.

Mr. DUNLOP. I cannot address that specifically. I would have to inquire of the Alaska Division and to the Corps regulatory people to get a precise answer for you, Senator.

Senator MURKOWSKI. How would the Corps view the example of up in the North Slope where you have these potholes, or the muskeggy lakes up in the tops of the mountains in Southeastern Alaska? How would the Corps view these, when we are talking about isolated or non-isolated waters?

Mr. DUNLOP. Well, of course the direction that we have now from the Supreme Court is to follow the guidance that they have given us, that lands that we cannot use the Migratory Bird Rule; lands that don't involve interstate commerce or foreign commerce would not be involved. That is the first of the four elements that we have that the Corps uses in determining jurisdiction.

Senator MURKOWSKI. So what you are saying, then, is that the State would have jurisdiction?

Mr. DUNLOP. Well, I am not informed of that, Senator. I would have to inquire further and find out. I do not know the specifics of how the guidance is being carried out in each of the Divisions of the Corps.

Senator MURKOWSKI. Wouldn't the guidance be the same within the Divisions of the Corps? I would think that the Corps would treat the States in the same way.

Mr. DUNLOP. Yes, the guidance is general. That is right. What we are trying to achieve is indeed this consistency of approach throughout the United States where it is appropriate. Given the fact, of course, as you are indicating in your question, that in the natural system there are always siting situations in specific circumstances. There never will be a complete set of consistency that one cookie cutter size fits all for everywhere in America. There just cannot be because the resources are too dynamic.

Senator MURKOWSKI. We appreciate that there can't be a perfect standard, but we have to get some legal definition to identify the non-navigable waters. Recognizing that we don't have that set definition, is there some guidance that is coming out of the Department of Justice that you are providing to either EPA or to the Corps?

Mr. SANSONETTI. No. What we supply them with is advice on what they come out with as to what should be guidance. So we were involved primarily in an advisory role leading up to the ANPRM that they issued, which also included an addendum that was dated January 19 or something like that of this year, that is the latest guidance. So there is a relatively new guidance issued by the Corps and the EPA as of January of this year. As I understand it, the Corps is trying to implement that guidance in each of the regions of the country.

Senator MURKOWSKI. So we are no more specific than just advisory at this point in time?

Mr. SANSONETTI. That is correct.

Senator MURKOWSKI. Mr. Mehan, as far as jurisdiction over the isolated non-navigable waters, in the view of EPA do you feel that the States are capable of exercising the authority over these waters in a manner that protects the environment?

Mr. MEHAN. Certainly, my adopted State of Michigan is, because it is one of the two States that assumed that 404 Program, as well as having its own State program. Other States are, because of whatever reasons—economic, policy, political judgments—are not inclined to do that, but all States have the inherent authority to do it if they are so disposed and their political process warrants that undertaking.

Senator MURKOWSKI. Mr. Dunlop, I will go back to you, then, for a second. As I have indicated, the State of Alaska has more than its share of wetlands. What percentage of the Corps budget for wetland permitting supports the activities in Alaska? Is it proportionate to the amount of wetlands that we have?

Mr. DUNLOP. Gosh, Senator, that is a good question. Maybe I will ask my Corps regulatory people if they would have any idea about that.

[Confers with staff.]

The budget that the Corps has is by workload, rather than particular acreage of wetlands.

Senator MURKOWSKI. Thank you, Mr. Chairman.

Senator CRAPO. Thank you.

Senator Clinton?

**OPENING STATEMENT OF HON. HILLARY RODHAM CLINTON,
U.S. SENATOR FROM THE STATE OF NEW YORK**

Senator CLINTON. Thank you for calling this important hearing. I wanted to follow-up on some of the lines of questioning from both Senator Inhofe and Senator Murkowski because I think that there is, in addition to the general concern about not having adequate guidance, questions being raised about the appropriate role of State regulation and Federal regulation going forward.

In its comments on the ANPRM, the New York State Department of Environmental Conservation makes the point that strong nationwide protection ensures that upstream States cannot export pollutants to downstream communities. That is a very big issue for us in New York because the water quality of several of our essential water resources depends on the actions of other neighboring States. We border Lakes Erie and Ontario, Champlain, which I am proud to share with my colleague Senator Jeffords, the Niagara and Allegheny Rivers, Long Island Sound, the New York–New Jersey harbor.

Therefore, it is not just a question of what we can do on our own; what kind of regulations we can pass and enforce in New York. I appreciate Mr. Mehan's comment that EPA would prefer to follow ecology and hydrology as far as possible because, of course, we know that that affects the entire water quality across our country.

So let me ask both Assistant Administrator Mehan and Deputy Assistant Secretary Dunlop, as you go forward in trying to provide clarification, how do you expect to create circumstances in which there will be protection for ecology and hydrology across State

lines? And what ability or recourse would downstream States have to ensure that they are not left cleaning up the pollution of their upstream neighbors? Because although obviously we know States have a right to protect waters under federalism, even non-navigable waters, isolated waters, intermittent streams affect the entire hydrology, which in turn affects those beyond the borders of the States in which the waters are located.

So how do you see going forward we are going to provide that kind of protection for systems that go across State lines?

Mr. MEHAN. Senator, I take your question to really encompass the broader aspects of the Clean Water Act, not just the 404 Program. I can tell you that we very much already do everything we can with the authority we have to think broader, think interstate, think ecologically on watersheds. I think of the Great Lakes Initiative which was a major regulatory effort that I was involved in as a State official, now implementing as a Federal official, to regulate persistent biotoxics for the whole Great Lakes system because these persistent toxics will affect the whole system.

In the new CAFO rule that we recently promulgated, concentrated animal feeding operation, we allow provision there to allow a regional office on an interstate water where the water quality standards are impaired to address the question of whether an AFO should be designated a CAFO and therefore come within the permitting system. When we set water quality standards, we generally look at, and this is a controversial area, what the downstream State is and how protected that is relative to the upstream State. Sometimes we try to do that through a collaborative consensual process. We are trying to work through that on the Arkansas-Oklahoma dispute right now.

So we have many authorities in many areas where we try to carry out, imperfect although it be, a broader watershed approach. That is why I said in my opening remarks that the issue of SWANCC goes beyond 404 for us; that it is a broader issue and we need to look at it in the context of water quality standards, of permitting, of oil spill protection, et cetera.

Senator CLINTON. I very much appreciate that, Mr. Mehan, because I think that all authorities will be impacted. We are acting as though the SWANCC decision and 404 are themselves isolated provisions that have no larger impact. Of course, we know that not to be the case. So I very much am pleased to hear what you said about ecology and hydrology, and the impact across State lines of a lot of these decisions.

Let me just go on to a related question, because it is one that I am also very concerned about. It is more intra-State, but it has the same kind of long-lasting impact. We currently, as you know, in New York City have nine million residents in the city and the surrounding suburbs, about half the population of the entire State, who rely on the New York City watershed as the source of their drinking water. The Cat-Del system which supplies about 90 percent of New York City's water supply meets the filtration avoidance criteria of EPA's surface water treatment rule, and therefore the city was able to demonstrate the source water was adequately protected, would remain so, and as a result EPA has issued a filtration avoidance determination for the watershed.

Now, the New York City Department of Environmental Protection estimates that over 3,700 acres of vegetated wetlands and ponds, 15 percent of those in the New York City watershed, could be affected by the proposals suggested by the Administration's ANPRM. Obviously, that is a very serious issues, as are the fact that we have over 60 wastewater treatment plants that discharge into the intermittent streams in the watershed. Those treatment plants might no longer be required to operate under a Clean Water Act discharge permit if the Administration makes the contemplated changes to the Clean Water Act that are at least suggested in the proposed rule.

So I am looking for assurance from both EPA and the Corps that the residents of New York City and our surrounding communities that now could drink this relatively pure water from our watershed will not be in danger by removing these waters from the Clean Water Act's jurisdiction or adversely affected under any rule-making put forward by the Administration.

Mr. Mehan and then Mr. Dunlop.

Mr. MEHAN. Senator, if I might just demur a bit from your characterization of the ANPRM, there was not a signal there to do any particular substantive rulemaking. I think it was an invitation for a dialog so we could try to explore collectively with the broader community what did SWANCC mean and what were its impacts. So again, as I said in my opening remarks, we have no pre-judged or pre-ordained an outcome here.

I can tell you that again we want to look at the comments, and look at the State of New York's in particular, along with our other State partners. Again, there may be some legitimate confusion here that we can clarify through guidance. It may be that if there is a hydrologic connection that people do not realize through groundwater that you really, again, we have to come to some understanding on this. Some of these things we might be able to come to an agreement without a rulemaking; some things may be presenting more daunting prospects.

It is hard for me to give you a definitive answer, partly as a mid-westerner my New York geography is somewhat deficient, much less understanding the hydrology there, but we intend to look at it to the extent that the law allows us to assure the fullest protection under the Clean Water Act and the Safe Drinking Water Act for what is literally a wonderful program in New York with that filtration avoidance effort.

Senator CLINTON. We would be glad to have you come visit. I would love to show you.

Mr. MEHAN. I look forward to that.

Senator CLINTON. Thank you, Mr. Mehan.

Mr. DUNLOP. Yes, ma'am, from the perspective of the Army and the Corps of Engineers, of course our jurisdiction does not go broadly, as Mr. Mehan was discussing and as you have been elaborating about your concerns and interests there. It goes more specifically to the dredge and fill issues that result. And of course, as I have described earlier, our whole program, the whole 404 regulatory program is designed to fulfill the aspirations of the Clean Water Act to make sure that if any impact is made, that there is

mitigation so that the functionalities that exist are not impaired and all the rest.

So we would certainly be in that same perspective about the watershed concerns that you have expressed, to make sure that if there is any impact from any development or any persons or government's use of their property, that it would be adequately mitigated.

Senator CLINTON. Thank you.

Senator CRAPO. Senator Jeffords, did you have a comment?

Senator JEFFORDS. In the interests of clarifying my comments relating to the recent EPA reports on Clean Water Act enforcement, I ask unanimous consent that the full reports be submitted and be made a part of the record.

Senator CRAPO. Without objection, so ordered.

[The referenced documents follows:]



OIG
OFFICE OF INSPECTOR GENERAL

Gateway for Improving the Environment

Memorandum Report

EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort

Report No. 2003-M-00014

May 20, 2003

Report Contributors: Dan Cox
Ira Brass

Abbreviations

EPA	Environmental Protection Agency
OECA	Office of Enforcement and Compliance Assurance
OIG	Office of Inspector General
NPDES	National Pollutant Discharge Elimination System
PCS	Permit Compliance System



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
INSPECTOR GENERAL

May 20, 2003

MEMORANDUM

SUBJECT: EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort
Memorandum Report No. 2003-M-000014

FROM: Dan Engelberg /si/
Director for Program Evaluation, Water Issues

TO: John Peter Suarez
Assistant Administrator for Enforcement and Compliance Assurance

This is our final report on the subject review conducted by the Office of Inspector General (OIG) of the U.S. Environmental Protection Agency (EPA). This memorandum report contains findings that describe the problems the OIG has identified and corrective actions the OIG recommends. Due to your failure to sufficiently respond to the draft report, the final report we are sending is unchanged from the draft. Changes that have occurred since then (specifically, a worsening of the fiscal situation) are addressed in a separate section at the end of the report. This report represents the opinion of the OIG, and the findings contained in this report do not necessarily represent the final EPA position. Final determinations on matters in this report will be made by EPA managers in accordance with established resolution procedures.

This memorandum report notes significant risks that we have identified regarding your long-standing program to modernize the Permit Compliance System (PCS). It is essential that this system, used by the EPA and many States to administer permits for water discharges and ensure enforcement, be modernized. However, the modernization program is facing a large cost escalation and a consequent funding shortfall and slippage in time frames. In addition, consideration is being given to reducing the intended functionality of the system to save money. As a result, the future viability of PCS may be endangered.

Purpose

The OIG issued an audit report in August 2001, *State Enforcement of Clean Water Act Discharges Can Be More Effective* (Report No. 2001-P-00013), that identified weaknesses in the

PCS modernization effort. We made recommendations and suggestions in that report to improve the modernization effort, and the Office of Enforcement and Compliance Assurance (OECA) generally agreed with them. Among other things, we suggested that OECA complete a systems requirements document, cost benefit analysis, system charter, and system management plan.

Subsequent to our August 2001 report, we have been monitoring the progress of the PCS modernization project, to help ensure it ultimately meets user needs. The purpose of this memorandum is to bring to your attention our concerns regarding funding shortfalls, timeframe slippages, and OECA's failure to complete needed planning documents that might have improved management decisions for this project.

Background

EPA uses PCS, a national data system, to support the National Pollutant Discharge Elimination System (NPDES) program. PCS, which is managed by OECA, is a critical information system for EPA's Office of Water. PCS tracks NPDES permit issuance, permit limits, self monitoring data, and enforcement and inspection activity for more than 64,000 facilities regulated under the Clean Water Act. Eighteen States currently use PCS as their major system for managing the NPDES program and two additional States have expressed an interest in using the modernized system.

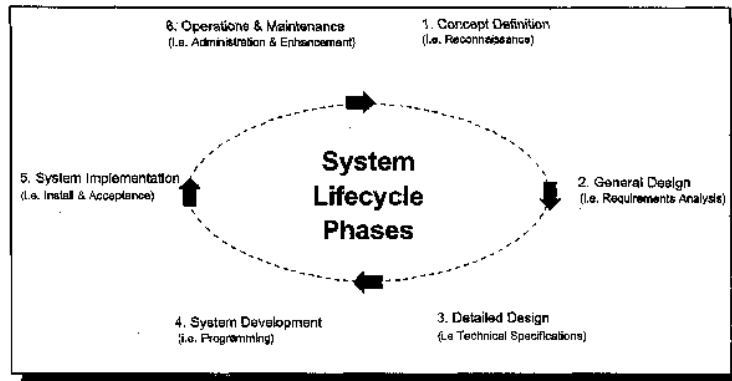
There have been fundamental changes to the NPDES program since the current system was developed in 1982, including new categories of dischargers for storm water, pretreatment, and concentrated animal feeding operations. As a result, the Office of Water is planning to bring large numbers of additional facilities into NPDES, with a consequent need to dramatically expand the capabilities of PCS. The Office of Water also envisions that PCS will play a central role in managing its program of watershed-based source controls.

PCS had its last major revision in 1982. It has been identified as an Agency weakness since 1999. Reasons include its reported unreliability due to missing data and data quality problems. Moreover, compliance data from hundreds of thousands of smaller dischargers are not captured by the system.

To improve PCS's ease of use, as well as allow it to catch up to regulatory changes that have taken place since it was last revised more than 20 years ago, EPA is in the process of modernizing PCS through a contract with a major consulting company. We noted in our August 2001 report that the estimated cost for the entire PCS modernization at that time was \$12 million to \$14 million. The effort started in 1997 and is in the detailed design phase. This phase, which is currently planned to be completed in May 2003,¹ is the third of six phases in the modernization project as shown in the following chart. The detailed design develops the technical

¹The estimated completion date for detailed design has been extended to September 30, 2003. See "Developments Since Issuance of Draft Report" on page 9 for more details.

specifications for the system, and includes developing standards, creating the physical data model, and developing flow charts and screen mock-ups. Detailed design will be followed by the system development phase when contractors will construct the data model and build and test the application software. These two phases are the most resource intensive. After several delays, implementation of the modernized PCS is now planned by the end of fiscal year 2005.²



Source: NPDES Requirements Document, OECA

Scope and Methodology

Findings from OIG's August 2001 report led to a decision to conduct a followup review of the PCS modernization effort's project planning and project and contract management. However, in May 2002, based on a request by OECA, we agreed to monitor the progress of the PCS modernization process rather than conduct a full review. OECA officials had expressed concerns about their tight time schedule. We reserved the option to conduct a full review should we identify material concerns or recognize a situation where the project is in jeopardy.

Our participation consisted of having a representative of our office attend meetings of the PCS Steering Committee and PCS Executive Council, and provide advice. The PCS Steering Committee, composed of branch chiefs or equivalent from EPA Headquarters and regions as well as from States, reviewed the data requirements work groups' recommendations on what data elements were necessary for effectively managing the NPDES program. The Executive Council,

²The implementation date has now been estimated to be September 30, 2006. See "Developments Since Issuance of Draft Report" on page 9 for more details.

OECA has several planned approaches for addressing the shortfall, including:

Requesting Additional Funds: OECA plans on funding some of the shortfall from the Agency's System Modernization Fund. As of February 12, 2003, these funds had not been distributed for fiscal 2003. The funding shortfall is over half the amount available from the fund. Members of the council said it was unlikely PCS would receive enough to fully fund the project. Therefore, the funding level from the fund is uncertain. This is the last year for the fund.⁴

Assessing Software Development Costs: OECA plans on conducting a cost assessment on software development when the detailed design phase is completed in May 2003 to ensure those increased costs are reasonable. We agree such an assessment should be conducted, as well as cost estimates for other phases of the project, such as the remainder of the system development phase and the implementation phase. It is important to conduct a cost assessment for the remainder of the project because we believe it is likely that those costs will rise in the future as they have for fiscal 2003. Accurate cost estimates are needed to signal EPA management of the magnitude of the resources needed as well, so they can make knowledgeable decisions about funding.

Considering Cost Reductions: Although it has not made any decisions, OECA has offered several options for reducing costs, including:

- Eliminating some of the new system's functionality.
- Not moving all historical data from the legacy (current) system to the modernized one.
- Using other contractors to perform some of the work.

We have concerns about reducing the functionality of the modernized system and continue to believe OECA should develop a plan to fully fund the system. Before any functionality, including transferring all historical data, is eliminated, OECA needs to ensure user needs are still being met. This includes information from all of the point sources in a watershed. Information from sources not included in the current system, such as storm water, concentrated animal feeding operations, and biosolids, is needed. The major changes in what is reported in the modernized PCS are from these areas, and if any of these areas are not included user needs may not be met. If these new areas are not included in the modernized system, information for hundreds of thousands of permittees will not be included. OECA needs to be very careful before eliminating these areas. Exercising the cost reduction options may result in a new system that fails to address the basic system requirements that OECA arrived at

*"EPA and the states believe that the original user requirements that were the basis of the PCS need reconsideration in light of fundamental changes to the NPDES program."
-OECA's Fiscal 2002 Integrity Act Report*

⁴EPA distributed the fiscal 2003 System Modernization Fund subsequent to the issuance of the draft report. See "Developments Since Issuance of Draft Report" on page 9 for more details.

through consultation with stakeholders. Therefore, before OECA decides to reduce the functionality of the modernized PCS, it is important that OECA consider the views of the stakeholders. Also, using other contractors for portions of the work could increase the risk of further delay in implementation without providing any assurance that it will significantly reduce costs.

PCS Implementation Date Slips

In addition to the recent cost increases, the PCS implementation date has slipped by about 2 years. OECA's Integrity Act Annual Assurance Letters for fiscal 2000 and 2001 both indicated the implementation date for the modernized PCS was the fourth quarter of fiscal 2003. OECA's fiscal 2002 Assurance Letter changed the implementation date to the first quarter of fiscal 2005, and it is clear based on recent developments that even this date will not be made. OECA officials most recently said they are planning to implement the system sometime in 2005.⁵

OECA needs to determine an implementation date that can be met. The goal should include time to complete cost assessments. OECA should determine different implementation dates for different funding levels, so the officials who make the funding decisions know the effect their decisions will have on completing the system.

Required Documents Not Completed and Contain Inaccurate Information

Our third concern is that OECA has directed insufficient attention to conducting accurate and timely planning and analysis for this project. OECA has not completed certain required planning documents whose preparation might have improved the management of the program. Further, another document appears to present significantly inaccurate information.

In our August 2001 audit, we noted that a cost benefit analysis, system charter, and system management plan for the PCS modernization project had not been prepared. These documents are used to help managers make informed planning and funding decisions, and are important elements of quality control for large system acquisition projects, although we cannot say for certain that completion of these documents would have prevented the funding shortfalls and delays noted. In its response to our August 2001 audit, OECA agreed to complete these documents. However, more than 1.5 years after we completed our audit, OECA has prepared only one of three missing documents – the cost-benefit analysis.

In our prior report, we had identified the following as not being completed:

System Charter and System Management Plan: Although the modernized system was estimated to cost more than \$10 million, the required system charter and system management plan decision papers had not been prepared or approved. EPA's Information

⁵The implementation date has been estimated to be September 30, 2006. See "Developments Since Issuance of Draft Report" on page 9 for more details.

Resources Management Policy indicates the system charter should have been developed during project initiation, and it should have identified life cycle cost estimates and appropriate management levels for approval of decision papers. Further, the decision paper for the system management plan should have been produced at the conclusion of the analysis stage and subsequently updated. The system charter becomes a part of the system management plan. The system management plan includes the items in the system charter and also includes such items as an acquisition strategy, cost-benefit analysis of the technical alternatives, and the system's architecture. OECA had indicated it would establish and approve a system management plan by December 2001, but still has not done so.

Cost-Benefit Analysis: The detailed design phase for PCS system modernization had begun without the life cycle cost-benefit analysis required by Office of Management and Budget Circulars No. A-11 and A-130. Such an analysis is necessary to identify the most cost-effective solution for the new system and expected benefits. OECA had indicated it would complete the analysis by September 2001. OECA completed the cost-benefit analysis almost a year later, in August 2002. Although we did not conduct a thorough review of the analysis, our brief review suggests that this important analysis greatly understated the costs to finish the project. *[Again, the proprietary nature of the current cost estimate means that we are unable to report on the specific amount of the increase in cost.]* Specifically, we noted:

- In September 2002, 1 month after the analysis was completed, OECA developed an internal cost estimate *171 percent higher* than had been published in the analysis.
- In November 2002, 2 months later, OECA prepared another internal cost estimate that projected costs to increase even more. This cost estimate, 3 months after the August estimate, was *255 percent higher* than that contained in the cost-benefit analysis.

Performing the analysis utilizing the November 2002 cost data as an input would have resulted in a very different cost-benefit ratio. As a result, inaccurate information was provided to Agency managers and made available to the public, which may have delayed the enhanced attention and management assistance needed for this project.

Conclusion

Without a modernized PCS, EPA's Office of Water cannot effectively manage its Clean Water NPDES program. Having a modernized system is vital for EPA to effectively manage NPDES permitting and enforcement under current requirements. The current system is incomplete, obsolete, and difficult to use. The glaring weaknesses in the current PCS system have created a presumption in EPA that it will

"We find ourselves in the Age of Information with a dearth of essential, scientifically defensible data and information to manage our programs. It is imperative that we close these information gaps as quickly as possible; they may lead to market and regulatory failures, thwart our ability to document progress, and limit our ability to effectively target our scarce resources."

-Office of Water's Fiscal 2004 Priorities for Regions

be modernized. We agree with EPA's view of the importance of this project, and believe delaying the project's rollout or reducing its functionality will hamper EPA's ability to achieve its goal of managing pollution sources on a watershed basis. The growth, variety, and complexity of the regulated community has greatly outstripped the system's capabilities.

However, costs are dramatically escalating, and timeframes repeatedly pushed back, in part due to the failure to adequately plan, prepare, and manage the work. The critical role of the modernized PCS system does not make project management unimportant. On the contrary, management risks may be greater when a project is perceived as being vital. For this reason, it is imperative that EPA immediately conduct necessary analyses and develop realistic estimates of funding and schedules in order to place this project on a secure footing.

Recommendations

We recommend that the Assistant Administrator for Enforcement and Compliance Assurance:

1. Develop a realistic cost estimate and cost-benefit analysis that includes all of the projected costs for PCS modernization and develop a plan for fully funding PCS within 30 days of the date of this report.
2. Consult with the PCS Steering Committee before eliminating any functionality of modernized PCS and conduct a cost-benefit analysis to determine what is lost, what is still gained through the modernized system, and whether the modernization effort still meets the needs of the users and is worthwhile to continue.
3. Develop realistic implementation dates for different funding levels within 30 days of the date of this report.
4. Complete the system management plan within 30 days of the date of this report.

Agency Comments

We received an interim response to our draft report from OECA. In its response, OECA did not respond directly to our recommendations, but indicated it is beginning to take steps that it believes will begin to address our concerns. OECA stated that it did not have time to fully respond to our draft report, since it is focusing its efforts on completing the draft PCS Modernization Detail Design Document by the end of May 2003. After that, OECA said it will fully respond to our report. OECA stated it has started addressing our recommendations, and provided three examples of how it has started to address the funding shortfall.

OECA's full comments are in Appendix A.

Developments Since Issuance of Draft Report

We are adding this section of the report because actions have taken place since we issued the draft report. OECA did not address them in its interim response and we are not waiting for its final response to issue the report.

EPA has distributed the fiscal 2003 System Modernization Fund, and OECA received significantly less from the fund than anticipated. There was also a significant decrease in fiscal 2003 OECA funding. OECA had hoped that the distribution from the fund would have significantly decreased the 40 percent funding shortfall discussed in the draft report. Instead, it only decreased the shortfall to 33 percent.

A large portion of the planned funding is in EPA's fiscal 2004 budget that was submitted to Congress but has not been approved. If it is not approved, OECA's funding shortfall increases to 62 percent from the 33 percent shortfall discussed in the previous paragraph.

OECA is developing plans to request funds from the fiscal 2005 budget to fund much of the shortfall. If the funding is approved, the new date for implementing the modernized system will slip one additional year to September 30, 2006. This is 3 years after the original implementation date.

Also, the detailed design completion date has slipped from May 31, 2003, to September 30, 2003, a full 2 years after what OECA reported in its fiscal 2000 Integrity Act Annual Assurance Letter.

Required Actions

In accordance with EPA Manual 2750, you are required to provide a written response to this report within 90 calendar days of the date of this report. You should include a corrective actions plan for agreed upon actions, including milestone dates. We have no objections to the further release of this report to the public. For your convenience, this report will be available at <http://www.epa.gov/oig/eroom.htm>.

If you or your staff have any questions, please call me at (202) 566-0830, or Dan Cox, Project Manager, at (916) 498-6592.

Agency's Response



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D. C. 20460

May 8, 2003

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

MEMORANDUM

SUBJECT: EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort
DRAFT: Memorandum Report No. 2003-M-0000XX

FROM: Phyllis P. Harris /s/
Principal Deputy Assistant Administrator

TO: Dan Engelberg
Director for Program Evaluation, Water Issues
Office of the Inspector General

We are working to respond to your April 2, 2003 draft memorandum report titled, "EPA Should Take Further Steps to Address Funding Shortfalls and Time Slippages in Permit Compliance System Modernization Effort." Your office identified three issues of concern regarding PCS modernization and provided four recommendations for addressing those concerns. We intend to fully respond to your draft report, but at this time we are focusing our efforts on completing the draft PCS Modernization Detail Design Document. As you know, the critical path for the PCS modernization effort is to complete the draft Design Document by the end of May 2003. If we took the time now to fully respond to your draft report, we would endanger our ability to deliver the Detail Design.

We have started to address your recommendations. For example, we are developing revised scenarios for implementing a modernized PCS within certain time frames based on different funding levels. We are also reviewing whether the modernized PCS could be phased in over

time, perhaps with two versions, and how this could be done with regards to functionality, schedules and budget. In addition, we are developing plans for obtaining the necessary funding, including developing OECA's FY2005 Integrated Compliance Information System (ICIS) Capital Planning and Investment Control (CPIC) proposal (includes PCS modernization).

We anticipate providing a full response to your concerns and recommendations by mid-June 2003. This will allow staff who are now focused on completing the Design Document to finish that work and then focus on responding fully to your report. Please call me if you have any questions or contact David Hindin, Acting Director, Enforcement Planning, Targeting and Data Division, at (202) 564-1300.

cc: Michael Stahl, OECA/OC
Jim Hanlon, OW/OWM
Mark Lutner, OEI/OIC
David Hindin, OECA/OC
Greg Marion, OECA/ARMSS

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2/20/03

FINAL February 2003

**A Pilot for Performance Analysis of Selected Components of the
National Enforcement and Compliance Assurance Program**

This report provides the results of a pilot OECA Performance Analysis focusing on the NPDES (National Pollutant Discharge Elimination System) "majors"¹ universe, a component of the national enforcement and compliance assurance program. This report was prepared by an ad-hoc team under the direction of the OECA Performance Board and uses the performance-based questions from the OECA "Blue Book."

Workgroup recommendations are in bold type throughout the document, and listed at the end of the document.

Background

The Office of Enforcement and Compliance Assurance (OECA) has begun to implement performance-based management, involving the analysis and use of performance information to improve program management and support decision making. There have been several significant accomplishments to date, including two that relate directly to this analysis. The first is the establishment of the OECA Performance Board. The Board is charged with developing and implementing a performance-based management approach for the national enforcement and compliance assurance program. The Board developed a template for analyzing the performance of selected components of the national enforcement and compliance assurance program, and is overseeing this pilot analysis.

The second accomplishment is the development of *Using Performance Measurement Data as a Management Tool* (Office of Compliance, OECA, June 10, 2002) - referred to as the "Blue Book." The Blue Book provides a framework for an annual comprehensive analysis of the national enforcement and compliance assurance program, which goes beyond the numbers, based on an in-depth evaluation of data, investigation into the story behind the data and focused discussions with headquarters, regional and state experts. It is organized around six key performance-based questions. This pilot analysis addresses the four blue book questions for which data exist for NPDES majors (see questions below).

There are three reasons why the NPDES majors universe was chosen as the first pilot for the performance analysis. First, OECA has more enforcement data for NPDES majors than for other programs/universes. Second, majors represent a very high percent of overall NPDES permitted

¹ The NPDES "majors" universe is composed of municipal, industrial, and federal facilities permitted to discharge waste water directly to surface waters, and are identified by EPA as "major" dischargers based on design flow or a qualifying permit rating score. Identification as a major triggers certain Agency requirements, including: 1) entry of detailed permit, compliance, and enforcement data into the Permit Compliance System (PCS) database (which provides direct monitoring data and automatic violation detection); 2) inclusion in the universe of major facilities whose effluent and reporting violations can result in a designation of significant non-compliance (SNC); and 3) regular reporting and tracking of any reportable non-compliance via the quarterly non-compliance report (QNCR).

direct discharge releases. Third, data from other ongoing efforts indicate that there are noncompliance issues.

Purpose

The purpose of this analysis is to provide senior managers of the enforcement and compliance assurance program with a tool for managing the NPDES majors program based on performance data. The analysis is intended to address key questions and highlight major issues about the NPDES majors program. The development of future analyses on other program areas over time will provide a broader perspective on the significance of the NPDES majors' noncompliance and resulting contribution to environmental degradation. Such a perspective can inform and support management decisions on major issues such as the redirection of resources across programs. Individual program analyses such as this one, however, are more likely to generate focused management discussions within the individual program area such as specific dialogues with regional and state partners on: whether or not increased enforcement or compliance assistance in certain parts of the regulated universe is warranted, how to improve data quality to better inform decisions concerning program direction, and exploration of the root causes of noncompliance in particular regions or states.

Scope

This report presents an analysis of national, regional, and state enforcement and compliance assurance measurement data for NPDES majors. The analysis focuses largely on enforcement activity because of the lack of measurement data for majors on compliance incentives, compliance assistance, capacity building, responses to citizen complaints, and outcomes from compliance monitoring. The enforcement data used in this analysis were pulled from EPA databases between May and September 2002.

This analysis addresses the following four areas of performance:

1. Contributing to the Goal of Protecting Human Health and the Environment Through Our Actions and Strategies
2. Achieving Appropriate Levels of Compliance in Key Populations
3. Achieving Appropriate Levels of Enforcement and Compliance Assurance Activity in the Regulated Community
4. Changing the Behavior of the Regulated Community in Ways That Lead to Improved Environmental Performance

Appendix A contains the compliance data used in the analysis, Appendix B contains the enforcement activity data used in the analysis, and Appendix C contains the environmental indicators data used in the analysis. Data used to support the analyses are summarized under each question.

Limitations

There are a number of reasons why an analysis of NPDES majors alone has limitations. Some of the limitations are explained below.

Limited Definitions

Significant parts of the NPDES regulated universe are not included in the majors definition. The guidance defining NPDES "major" and SNC for the NPDES program was developed over 10 years ago and does not address a universe of discharging facilities that EPA presently has identified as its enforcement priority - wet weather flows. Therefore, an analysis of NPDES majors does not cover some of the most environmentally significant noncompliance components of the water program.

Comparison to Other Programs

For a variety of technical and regulatory reasons, more data are available for CWA majors than for other programs (e.g. Clean Air and RCRA). EPA has extensive effluent monitoring information for NPDES major permittees. Due to the amount and completeness of the available data, NPDES majors are one of the few discrete regulated universes for which EPA can calculate noncompliance rates.

Data Quality and Availability

Despite the fact that there are a lot of data for NPDES majors, data quantity and quality are still limiting factors. Limited data exist for NPDES majors for compliance incentives, assistance, or outcomes from compliance monitoring. Data on outputs and outcomes from compliance incentives and assistance, and outputs from compliance monitoring, are not broken out for NPDES majors, but are reported only by media and MOA priority area. The workgroup believes that data on these compliance activities for NPDES majors would improve our ability to analyse the performance of the program, but recognizes the associated reporting burden to states. **The workgroup recommends that senior managers evaluate the need for data on these compliance activities for NPDES majors given the resource implications for states.**

The data that we have for enforcement is relatively plentiful, but there are known problems with the data, and undoubtedly other unknown problems. For example, states are not required to report some of the data that would be ideal for answering certain key questions (e.g. data on penalties, injunctive relief, and pounds of pollutants reduced). There is a commitment through the PCS modernization effort for states to submit penalty data, but the effective date of this data system has been postponed. **The workgroup recommends accelerating the schedule requiring that states submit penalty data to PCS.**

Additionally, EPA has determined that there are particularly significant data entry problems in Wisconsin, Nevada, Hawaii, and Arizona. These states do not show enforcement action data in PCS. Data regarding inspections performed by California do not appear to be entered into PCS. More information on known data problems can be found on the ECHO website at the following URL: www.epa.gov/idea/echo

Table 1 - State and Regional DMR Entry Rates for FY 2001

Shaded boxes are regions and states with DMR entry rates below the national goal of 95%. States and percentages in bold are those below the national average (91%).

Region	Regional DMR Entry Rate	States with DMR Entry Rate below 95%
1	98 %	
2	98 %	

Region	Regional DMR Entry Rate	States with DMR Entry Rate below 95%
1	93 %	DC - 72 %
4	98 %	AL - 94 %
5	96 %	OH - 92 % WI - 87 %
6	97 %	NM - 93 % TX - 94 %
7	92 %	MO - 85 % NE - 85 %
8	97 %	WV - 89 %
9	48 %	AZ - 47 % CA - 41 % HI - 87 % NY - 16 %
10	72 %	AK - 93 % ID - 78 %
National	91 %	

Averages are based on State data only -territories not included.

A recent audit of FY 2001 data showed that 87% of the inspection information entered by EPA and the states to PCS is accurate.

Data from 3rd quarter 2002 showed a national permit limit entry rate of 91%. Regional rates ranged from 90% - 98% for Regions 1 - 8. Regions 9 and 10 had rates of 46% and 72% respectively.

Compliance Acronyms and Definitions

DMR - Discharge Monitoring Report

CWA SNC - Clean Water Act Significant Noncompliance. Most SNC designations are based on an analysis of Discharge Monitoring Reports (DMRs) that facilities with NPDES permits are required to submit on a monthly basis. The compliance designation of a facility in the PCS database is done using a mathematical formula that takes into account the amount, duration, and frequency of discharges in comparison with permit levels. In some instances, facilities may be manually designated as SNC, even if the PCS data system does not automatically designate them as such. Examples of events that could result in the manual generation of a SNC code for a facility include: unauthorized discharges; failure to meet a construction deadline; failure of a POTW to enforce its approved pretreatment program; failure to meet a construction deadline; failure to file a DMR; filing a DMR more than 30 days late; or violating any judicial or administrative order.

Repeat SNC - Facilities that are in SNC for two or more quarters in a two year period.

Perpetual SNC - Facilities that are in SNC for eight out of eight quarters in a two year period.

Recidivist - Facilities that were previously in SNC that are in SNC again within two years.

RNC - Reportable Noncompliance

◆ 1. Contributing to the Goal of Protecting Human Health and the Environment Through Our Actions and Strategies

The analysis for #1 primarily draws from the environmental indicators data from Appendix C. This analysis also utilizes enforcement and compliance assurance activity data from Appendix B. Regional and state breakdowns of the data in the summary table below can be found in the appendices.

Summary of Data

Table 2 - Summary of Environmental and Human Health Indicators

Shaded boxes are levels or trends of concern.

Indicators	Comments on Levels FY 1999 - 2001	Trends FY 1999 - 2001
*Percent of Eff. Actions that Result in Reduction, Elimination, or Treatment of Pollutants	29%, 35% and 46%	17 percentage point increase
Effluent Violations for Toxic Parameters (FY 2001)	14% are <25% exceeded 35% are 20%-99% exceeded 36% are 100%-999% exceeded 13% are >1,000% exceeded	Trend data not available.
Effluent Violations for Conventional Parameters (FY 2001)	25% are <25% exceeded 43% are 20%-99% exceeded 28% are 100%-999% exceeded 5% are >1,000% exceeded	Trend data not available.
Percent of SNCs in 303(d) Listed Waters with a Formal Action in last 2 Years (FY 2001)	23% (compared to 24 % in non-303(d) listed waters)	Trend data not available.
Percent of Repeat SNCs in 303(d) Listed Waters with a Formal Action in last 2 Years (FY 2001)	30% (compared to 27 % in non-303(d) listed waters)	Trend data not available.
Percent of Perpetual SNCs in 303(d) Listed Waters with a Formal Action in last 2 Years (FY 2001)	38% (compared to 32 % in non-303(d) listed waters)	Trend data not available.
Percent of Effluent Violations causing SNC (FY 2001)	25%	Trend data not available.

* These data are reported to docket but there is no way to distinguish which cases are for majors, except where a link can be made to a permit number in PCS. A total of 364 cases were linked to a major permit number in PCS (out of 577 majors with enforcement actions). Therefore, this data represents only a 63% of cases with pollutant reductions for 2001. Additionally, data quality is low because of poor reporting. These data are not reliable for meaningful analysis.

Analysis and Conclusions

There is a lack of data available to determine how enforcement efforts quantitatively contribute to the goal of protecting human health and the environment. There is also a lack of data available to determine what relative quantitative impact violations at major facilities have on

human health and the environment when compared to the NPDES wet weather priority areas. The guidance defining NPDES major and SNC for the NPDES program was developed over ten years ago and does not address the universe of discharging facilities that EPA presently has identified as its enforcement priority - wet weather flows. Therefore, this analysis may not cover some of the most environmentally significant components of the water program. **The workgroup recommends that the definition of SNC for majors be revisited (as Phase II after the current SNC definition for wet weather is complete.)**

To address this performance area, we use data on outputs and outcomes from enforcement (compliance rates, pollutant reductions and permit exceedances) as surrogates for environmental and human health protection. The regulations which define compliance and establish the limits are intended to be protective of human health and the environment, therefore we believe that enforcing them ensures the appropriate level of protection is achieved. We operate under the assumption that our enforcement and compliance assurance activities have a positive impact on human health and the environment, and that more enforcement activity and increased compliance results in more environmental and human health protection.

Cases Resulting in Reduction, Elimination and Treatment of Pollutants

Data on the number and percent of enforcement actions that result in reduction, elimination and treatment of pollutants (pollutant reduction data) is an important tool for estimating the amount of pollution that will not be released into the environment due to enforcement actions.

Pollutant reduction data are not reported to EPA by states. The quality of data for pollutant reductions from EPA actions has been gradually improving but continues to need improvement in accuracy, consistency, and completeness. Recent training efforts on pollutant reduction calculations is expected to have a positive impact on the quality and consistency of the data. FY 2002 data show an increase of 20 percentage points for the percentage of cases with pollutant reductions. This is likely due to increased reporting.

Pollutant reduction data are reported to docket for all CWA enforcement cases and there is no way to distinguish which cases involved majors except where a link can be made to a permit number in PCS. The Information Utilization and Targeting Branch was able to link 364 cases (or 63%) to a major facility permit number in PCS. These data show that between 1999 - 2001 there was a steady increase in the percentage of NPDES enforcement actions against majors that result in pollutant reductions, elimination, or treatment, from 29 % in 1999, to 35% in 2000 and 46 % in 2001. Because these data represent only 63% of the universe of majors with an action, and because the data quality is questionable, it is difficult to draw conclusions. It is likely that data quality has improved over time and this has created the apparent upward trend.

Permit Exceedances and Effluent Violations

Data for 2001 show that 49% of NPDES permit toxic effluent limit exceedances were greater than 100% over permitted levels, and 13% of exceedances were greater than 1,000% over permitted levels. Exceedances are higher for toxic pollutants than for conventional pollutants. Data for FY 2001 show that 33% of conventional exceedances were greater than 100% over permitted levels, and 5% of conventional exceedances were greater than 1,000% over permitted levels. Toxic water quality-based permit limits are often very stringent, increasing the likelihood of high exceedances. Some EPA staff believe that some portion of the most extreme exceedances may be the result of un-achievable water quality based limits, due to technological limitations or cost. While such limitations may be real, the workgroup recognizes that the limits are set to be protective of human health and the environment. **The workgroup recommends an OECA/OW**

(Office of Water) dialogue on the issue of un-achievable permit limits.

In response to the data above, some regions suggested that some pollutants such as copper and chlorine that have low limits are likely to drive the exceedance numbers. An examination of the loadings list shows that chlorine is the second largest contributor, copper (as CU) is the 11th largest contributor, and copper (total recoverable) is the 16th largest contributor. (The largest single contributor is total suspended solids, a conventional pollutant.)

Enforcement in Priority Watersheds

Data show that we (EPA and states) are no more likely to take action at SNC facilities in 303(d) listed waters than at facilities in non-303(d) listed waters. We are *slightly* (but not significantly) more likely to take action at repeat SNC and perpetual SNC facilities in 303(d) listed waters - three and six percentage points higher than the national average for each, respectively. [NOTE: Repeat SNCs are facilities in SNC two out of eight quarters and perpetual SNCs are facilities in SNC eight out of eight quarters.] Thirty percent of repeat SNCs in 303(d) listed waters had an enforcement action in the last two years, compared to 27% in non-303(d) listed waters. Thirty eight percent of perpetual SNCs in 303(d) listed waters had an enforcement action in the last two years, compared to 32% in non-303(d) listed waters.

There is no EPA policy or guidance which suggests that NPDES major facilities in 303(d) listed waters should be targeted. When the workgroup asked regions about targeting efforts, they overwhelmingly said that majors are not thought to be significant contributors to impairment and so majors in impaired waters, such as 303(d) listed waters, are not preferentially targeted. There are no data available on the extent to which majors contribute to impairment. **The workgroup recommends further research on how discharges from major facilities may contribute to water impairment or significant pollutant loadings in non-impaired/non-assessed waters, which could help determine the impact of majors on environmental conditions, as well as aid in future targeting efforts.** (See discussion of previous efforts under Data Gaps, below.)

Data Gaps:

The following information would be helpful in determining the extent to which we are protecting human health and the environment:

- Better pollutant reduction data from enforcement actions against NPDES majors.
- Pollutant loadings from permit exceedances. To date, there is no reliable methodology for pulling these data from EPA databases. Data pulled in September 2002 show that pollutant loadings from permit exceedances decreased 94% between 1999 - 2001, from 128.9 billion pounds in 1999, to 42.7 billion pounds in 2000, to 7.6 billion pounds in 2001. This drastic decrease raises questions about the reliability of the data.
- Correlation between major permittees which have received a state or EPA inspection or enforcement action and reductions in permit exceedances.
- Trends in compliance monitoring and enforcement activity levels by EPA regions and states in each of the following sensitive areas:
 - fish/shellfish bed and beach closure
 - endangered species habitat
 - sources of drinking water

outstanding natural resources
wetlands
epidemiological data showing cancer clusters, high levels of gastroenteritis occurrences

With contractor assistance, the NPDES Performance Analysis Workgroup explored correlating impairments in a watershed in Massachusetts and Rhode Island back to the facilities discharging into it. While it did produce a list of facilities in SNC for the same pollutant for which the water was impaired, more refinement would be needed to make the analysis useful. For example, it would be helpful to determine if the impairment is actually downstream of the discharge. Additionally, it would be helpful to determine the relationship between current loadings, permitted discharges, and exceedances.

There are no data available on environmental or human health indicators for NPDES majors from compliance incentives, compliance assistance, or compliance monitoring. All of these data are reported for Clean Water Act as a whole, but not required or reported for majors only. The workgroup believes that data on these compliance activities for NPDES majors would improve our ability to analyze the performance of the program, but recognizes the associated reporting burden to states. The workgroup recommends that senior managers evaluate the need for data on these compliance activities for NPDES majors given the resource implications for states.

◆ 2. Achieving Appropriate Levels of Compliance in Key Populations

The analysis for #2 primarily draws from the compliance data found in Appendix A. These data are summarized in tables 3, 4 and 5 below. This analysis also utilizes enforcement and compliance assurance activity data from Appendix B and environmental indicators data from Appendix C. Regional and state breakdowns of the data in the summary table below can be found in the appendices.

Summary of Data

Table 3 - Summary of National Compliance Levels and Trends
Shaded boxes are rates that may be considered high or increasing noncompliance.

Compliance	Comments on FY 1999 - 2001 Compliance Levels	Trends FY 1999-2001
Percent of majors in SNC (in any quarter during the FY)	16% - 24% 1994 - 2001	8 percentage point increase FY '94 - '01
Percent of SNCs that are repeat SNCs (for 2 quarters out of 8)	83% in 2002	Trend data not available
Percent of SNCs that are perpetual SNCs (for 8 quarters out of 8)	6% in 2002	Trend data not available
Percent of prior year SNCs still in SNC	50% - 57%	7 percentage point increase
Percent of SNCs Returned to Compliance in Less Than 2 Years	71 % - 84 %	13 percentage point increase
SNC Recidivism Rate	56 % - 59 %	6 percentage point decrease
Percent in SNC or RNC	50 % - 51 %	2 percentage point increase '99 - '00 and 1 percentage point decrease '00 - '01
Percent of majors with any violation anytime during the FY	79 % - 83 %	4 percentage point increase
Percent of SNCs that are effluent related	50% of SNCs are effluent related. (FY2001 data)	Trend data not available
Percent of federal facility majors in: 1) SNC, 2) SNC or RNC or 3) with any violation	15, 11, and 2 percentage points above national avg.	SNC rates: 4 percentage point increase 1999-2001. 26 percentage point increase 1993-2000. ²
Percent of municipal majors in: 1) SNC, 2) SNC or RNC or 3) with any violation	3, 3, and 2 percentage points above national avg.	Trend data not available
Percent of industrial majors in: 1) SNC, 2) SNC or RNC or 3) with any violation	3, 7 and 5 percentage points below the national avg.	Trend data not available
Percent of all perpetual SNCs and 2 quarter repeat SNCs that are federal facilities	3% and 2% in 2002 (federal facilities make up 1.5% of majors)	Trend data not available

² The State of Federal Facilities: An Overview of Environmental Compliance at Federal Facilities FY 1999-2000.

Compliance	Comments on FY 1999 - 2001 Compliance Levels	Trends FY 1999-2001
Percent of all perpetual SNCs and 2 quarter repeat SNCs that are that are municipal facilities	77% and 67% in 2002 (municipals make up 62% of majors)	Trend data not available
Percent of all perpetual SNCs and 2 quarter repeat SNCs that are that are industrial facilities	19% and 30% in 2002 (industrials make up 36% of majors)	Trend data not available
Percent of majors with average exceedances above 100 %, 500 % and 1,000 % for toxic pollutants	50 %, 21 %, and 13 %	Trend data not available
Percent of majors with average exceedances above 100 %, 500 % and 1,000 % for conventional pollutants	33 %, 9 %, and 5 %	Trend data not available

Analysis and Conclusions

"Levels of compliance" are currently measured by compliance rates, permit exceedances, and pollutant loadings from, or amount and percent of, permit exceedances. It is assumed here that compliance rates are surrogates for environmental and human health protection.

National Noncompliance

Data show that significant non-compliance (SNC) has *effectively* remained steady since FY 1994. Data show an increase in the SNC rate of eight percentage points between FYs 1994 and 1997 (from 16% to 24%), but this is explained by changes in the SNC definition which added non-monthly averages, including total residual chlorine, to the SNC universe. The definition change was announced in 1996 and took effect in 1997. Prior to 1996, the data show 0% of SNCs due to non-monthly averages. In 1996 20.3% of SNCs were due to non-monthly averages and in 1997 and 1998 it rose to 53.4% and 52.0% respectively. Data show that rates have remained steady between FYs 1997 and 2001 (24% - 26%).

Recidivism rates are improving but data show that facilities that have received an EPA or state formal action have higher recidivism rates than facilities that have not. Some workgroup members note that this might be because we tend to focus on "problem facilities" that are more likely to violate, or it might be that formal actions are not creating a sufficient deterrent effect.

Data for FY 2001 show that approximately 25% of major facilities were in SNC, 16% - 29% remained in that status for 2 years (and many for even longer) and of those that were returned to compliance there is a 50/50 probability that they will return to SNC again within two years. In FY 2002, 83% of SNCs were repeat SNCs, and 6% were perpetual SNCs. The toxic and conventional pollutant effluent violations by these facilities tend to be substantially above permitted limits, with 13% exceeding permitted levels for toxic pollutants by over 1,000%.

I An "appropriate" level of compliance, or goals for compliance, have not been established for this program, making it difficult to determine if the existing rates of compliance are appropriate. Regions indicated that they do not believe that the SNC rates are unacceptably high for majors but do not have any information to support this belief. Regions also said they review every SNC and if they do not take action it is for a reason they believe is justified. The exceptions list is the

existing tool for evaluating whether or not appropriate action is being taken at facilities meeting certain criteria. OECA is also launching a "watchlist" effort to establish criteria for facilities to be monitored for appropriate action. **The workgroup recommends incorporating the exceptions list into the watchlist as a way to ensure that the appropriate actions are being consistently evaluated at appropriate high risk facilities.**

Regions also said they do not believe that permit limit exceedance data are an appropriate environmental indicator because some toxic water-quality based permit limits are set very low making high exceedances likely. However, the workgroup believes strongly that permit limit exceedances are important indicators because the limits are established to be protective of human health and the environment. **The workgroup recommends an OECA/Office of Water dialogue on the issue of un-achievable permit limits.** The proposed further study on the contribution of majors to impairment should shed light on the relationship between exceedances (noncompliance) and impairment. If the study shows a positive relationship between exceedances and impairment, this may suggest that exceedance data can be used as an acceptable proxy for direct measurement of impairment.

Federal Facilities

Federal facilities, which make up 1.5% of the universe of majors, have had SNC rates ranging from 5-15 percentage points above the national average since 1997. (Municipal and industrial facilities make up 62% and 36% respectively and both have SNC rates within three percentage points of the national average.) Federal facility SNC rates increased ten percentage points between 1997 and 2001 with declining inspections and fairly steady formal and informal actions.

High and increasing noncompliance at federal facilities may be due in part to the lack of federal authority to penalize federal facility violations under the Clean Water Act. The Clean Water Act does not provide statutory authority for EPA to issue penalties for NPDES violations at federal facilities. (Citizens and states under the citizens suit provision can obtain "coercive" penalties against federal facilities. Data are not readily available on the extent to which states utilize this provision.)

The 1999 - 2000 State of Federal Facilities compliance report indicates that federal facilities infrastructure funding has been steadily declining and suggests that there is little motivation to spend limited resources on facility upgrades when there is no likelihood of a penalty associated with noncompliance. It also may be that deteriorating infrastructure is making it more difficult for federal facilities to comply, regardless of their intentions. **The workgroup recommends an OC/ORE/FFEO dialogue to discuss causes of noncompliance at federal facilities and use of appropriate tools to improve compliance in the absence of penalties.**

Regional and State Compliance Levels

The output scorecards below summarize regional and state patterns of compliance levels and depict regions and states which contribute most to national noncompliance. This information may be useful for management to identify areas with the most potential for program improvement. A breakdown of the data used to compile this summary is found in Appendix A.

The workgroup recommends that management consider this scorecard format as a convenient way to portray key metrics by region and state, and to identify the outliers. If this format is used for future analyses, the workgroup recommends taking Region 9 out of the national averages because their PCS data quality is so poor.

Table 4 - NPDES Majors Outcome Scorecard - by Region
 Shaded boxes are regions with ≥ the median number of hits (4,5).
 A hit is given for regions meeting the criteria for each measure.
 Data are from FY 2001, unless otherwise specified.

Region	# and % of All Majors	# and % of All Majors in SNC	SNC Rate ≥ Need Avg.	SNC Rate for 3 or 4 Years (1998-2001)	SNC Rate Increasing Trend	Highest % of All SNCs with 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, 31st, 32nd, 33rd, 34th, 35th, 36th, 37th, 38th, 39th, 40th, 41st, 42nd, 43rd, 44th, 45th, 46th, 47th, 48th, 49th, 50th, 51st, 52nd, 53rd, 54th, 55th, 56th, 57th, 58th, 59th, 60th, 61st, 62nd, 63rd, 64th, 65th, 66th, 67th, 68th, 69th, 70th, 71st, 72nd, 73rd, 74th, 75th, 76th, 77th, 78th, 79th, 80th, 81st, 82nd, 83rd, 84th, 85th, 86th, 87th, 88th, 89th, 90th, 91st, 92nd, 93rd, 94th, 95th, 96th, 97th, 98th, 99th, 100th	% of SNCs with 6th FY 2002	Recidivism Rates ± 50%	Recidivism Rates > Avg. Year FY 1998-2001	Higher % of Toxic Effluent than % of SNC Universe	Higher % of Conventional Effluent than % of SNC Universe	Higher % of Copper Effluent than % of SNC Universe	# Hits out of 10 Possible
1	456 (7%)	156 (9%)	x	x (4 yrs)	x			x	x	x	x	x	8
2	605 (9%)	99 (6%)	x	x (1 yrs)					x	x	x	x	5
3	739 (11%)	124 (7%)							x				2
4	1,393 (21%)	349 (21%)	x	x (3 yrs)		x	x						5
5	1,161 (18%)	348 (22%)	x	x (4 yrs)	x	x	x	x					7
6	1,024 (15%)	349 (21%)	x	x (4 yrs)	x	x	x	x					5
7	390 (6%)	120 (7%)	x	x (4 yrs)									4
8	269 (4%)	50 (3%)						x					1
9	326 (5%)	30 (2%)					x						2
10	389 (6%)	25 (1%)							x				2
Total	6,652	1,670	6	6	4	3	3	4	2	4	5	4	...

Data from Regions 3, 7 and 10 are poor. Data from Region 9 are very poor and unreliable.

Table 5 - NPDES Majors Outcome Scorecard - by State

This table includes only the 24 states with more than the median number of hits (1).

A hit is given for states meeting the criteria for each measure.

Data are from FY 2001, unless otherwise specified.

Shaded states have poor data (below 95% DMR entry rate).

"U" in first column indicates states unauthorized in FY 2001.

State	# and % of All Majors	# and % of All Majors in SNC	SNC Rate > Natl Avg.	SNC Rates Above Natl Avg. for 3 or 4 Years 1998 - 2001	States with Perpetual SNCs 2002	Recidivism Rates Above 50%	Recidivism Rates > Natl Avg. for Each Year 1999-2001	100% Recidivism Rates in 1999, 2000, or 2001	# Hits out of 6 Possible
CT	1.3(1.7%)	33 (1.9%)	x	x (4 yrs)		x			3
MA (U)	138 (7%)	53 (3.1%)	x		x	x			3
ME	87 (1.3%)	23 (1.5%)	x			x			2
NH (U)	60 (1%)	20 (1.1%)	x		x	x			3
RI	25 (.4%)	11 (.7%)	x	x (4 yrs)		x	x		4
VT	33 (.5%)	16 (1%)	x	x (4 yrs)			x	x	4
NY	355 (5.3%)	82 (4.9%)			x	x	x		5
DC (U)	4 (<1%)	3 (.2%)	x					x	2
AL	194 (2.9%)	73 (4.3%)	x		x	x	x		4
MS	98 (1.5%)	31 (1.8%)	x		x	x			3
NC	231 (3.5%)	68 (4.1%)	x		x	x			3
TN	156 (2.3%)	65 (3.9%)	x	x (4 yrs)	x	x	x		5
IN	185 (2.8%)	68 (4%)	x	x (4 yrs)	x	x			4
MI	184 (2.8%)	66 (3.9%)	x	x (4 yrs)	x				3
OH	294 (4.4%)	108(6.4%)	x	x (4 yrs)	x	x	x		5
WI	134 (2%)	84 (5%)	x					x	2
LA	246 (3.7%)	57 (3.4%)		x (3 yrs)	x	x	x		4
OK	93 (1.4%)	24 (1.4%)		x (4 yrs)		x	x		3
TX	542 (8.1%)	238 (14.3%)		x (3 yrs)	x	x			3
KS	58 (.9%)	21 (1.3%)	x	x (4 yrs)					2
NE	55 (.8%)	23 (1.3%)	x	x (4 yrs)	x	x			4
UT	33 (.5%)	10 (.6%)	x	x (4 yrs)		x	x	x	5
AZ (U)	45 (.6%)	10 (.6%)				x		x	2
AK (U)	74 (1.1%)	9 (.5%)				x	x		2
Total			18	13	13	19	10	5	—

◆ 3. Achieving the Appropriate Levels of Enforcement and Compliance Assurance Activity in the Regulated Community

The analysis for #3 primarily draws from the enforcement and compliance assurance activity data from Appendix B. These data are summarized in tables 6, 7 and 8 below. This analysis also utilizes compliance data from Appendix A, and environmental indicators data from Appendix C. Regional and state breakdowns of the data in the summary table below can be found in the appendices.

Summary of Data

EPA and State Enforcement Activity Levels and Trends

Table 6 - Summary of National Enforcement Activity Levels and Trends

Data used to support these findings are from Appendix B, tables B1 - B4.

Shaded boxes are those with low activity or downward trends.

Enforcement Activity	Comments on FY 1999 - 2001 Activity Levels	Trends FY 1999 - 2001 (unless otherwise specified)
Number of Inspections	--	8 % decrease
Inspection Coverage (Percent of facilities inspected)	Coverage is high with 91% of facilities inspected in last 2 years and 97% inspected in the last 5 years.	6 percentage point decrease
Number of Informal Actions	--	50 % decrease
Total EPA and State Formal Actions	--	11% decrease
State Formal Actions	--	9 % increase
EPA Formal Actions	--	45 % decrease
Percent of SNC Facilities with One or More Formal Actions (by State and EPA) within 2 years	2% %	Trend data not available
Percent of SNC Facilities Addressed by Formal Action within 90 Days - (Timely and Appropriate Action)	13% - 9%	4 percentage point decrease
Percent of Repeat SNC Facilities with One or More Formal Actions (by State and EPA) within 2 years	27% and 33% for 2 and 4 quarter repeat SNCs, respectively	Trend data not available
Percent of Perpetual SNC Facilities with One or More Formal Actions (by State and EPA) within 2 years	33% in 2001	Trend data not available
Percent of Enforcement Actions Resulting in Improvements in Environmental Management (Non-physical Complying Actions)	82%-60% Data is questionable (but improving) so real figures may actually be higher.	22 percentage point decrease
Initiations: ACOs	--	31 % decrease
Initiations: APO Complaints	--	28 % decrease
Initiations: DOJ Referrals	--	36 % increase
Settlements: ACOs	--	31 % decrease

Enforcement Activity	Comments on FY 1999 - 2001 Activity Levels	Trends FY 1999 - 2001 (unless otherwise specified)
Settlements: APO Settlements	--	42% increase '99-'00 and 42% decrease '00-'01
Settlements: Judicial Settlements	--	12% increase
* Judicial Penalties - Average Penalty Size per Formal Action for Majors FY 1999 - 2001	EPA \$ 4,996 State \$ 5,637	
* Administrative Penalties - Average Penalty Size per Formal Action for Majors FY 1999 - 2001	EPA \$ 6,205 State \$ 5,455	
**Percent of EPA & State Formal Actions with Monetary Penalty (All Majors) (OTIS)	40%, 44%, 39%	1% decrease
**Total Value of SEPs	--	72% decrease
**Total Value of Injunctive Relief	--	63% decrease
Inspections at Federal Facilities as a Percentage of All Inspections	3% and 2% for '99 & '00 (Note: Federal Facilities make up 2% of majors)	33% decrease between 1995 and 2000
Formal Actions at Federal Facilities as a Percentage of All Formal Actions	1% and 2% for '99 and 2000	1 percentage point increase
Penalties at Federal Facilities	\$ 0	Has always been \$0 - there is no penalty authority for Federal Facilities under the CWA
Percent of SNCs, Perennial SNCs and 4 Quarter Repeat SNCs Addressed by Formal Action at Federal Facilities	0.1%, 1%, 0.3%	Trend data not available.

* Average penalties are calculated for *all* facilities but federal facilities do not yield penalties.

**States are not required to report these data, therefore these data are not reliable.

The percent of enforcement actions (nationally and in four out of ten regions) that result in non-physical complying actions decreased steadily over FYs 1999, 2000 and 2001, from 82% to 68% to 60% respectively.

Analysis and Conclusions

Having high levels of enforcement activity is one key means for assuring compliance, but it is not the only way. Even low or declining enforcement activity levels may be "appropriate" if compliance rates are being maintained at (or increased) an appropriate level. This might be accomplished by improving effectiveness through increased focus on areas of greatest risk, increased penalties, and/or more and better compliance assistance. Therefore, to address this, we must look at the output levels in the context of the deterrent effect we are creating and the impact on compliance and environmental and/or human health.

Data show that significant non-compliance (SNC) has *effectively* remained steady since 1994. (Data show an increase in the SNC rate of eight percentage points between FY 1994 and 1997 (from 16% to 24%), but this is explained by changes in the SNC definition which added non-monthly averages, including total residual chlorine, to the SNC universe.) Data show that rates have remained steady between FY 1997 and 2001 (24% - 26%).

Inspections:

The likelihood of a major facility being the subject of an inspection is high (97% coverage in the last five years) but decreased eight percentage points between FY 1999 and 2001.

Penalties:

Average penalties and percent of actions resulting in penalties for majors are low, which suggests that escalation may not be occurring. States are not required to report penalty data to EPA so the data may not be reliable. However, data show that average EPA penalties are \$4,996 and \$6,205 for judicial and administrative actions respectively. State data are unreliable, but show penalties in the same range for both judicial and administrative actions (\$5,637 and \$6,455 respectively.) Between 39% - 44% of EPA and state formal actions result in penalties.

Formal and Informal Actions:

Data show that 24% of SNCs, 27% of repeat SNCs, and 32% of perpetual SNCs received a formal action in the last two years. (Live data September 2002.) Data show an overall 11% decrease in total EPA and state formal actions, with a 9% increase for states and 45% decrease for EPA.

Total EPA and State informal actions decreased 50%.

Between 9% - 13% of EPA and State combined SNCs were addressed timely and appropriately.

Federal Facilities:

A look at output levels for federal facilities shows declining inspections and fluctuating but fairly steady overall informal and formal enforcement activity levels since FY 1995, and no penalties. (See #2 for a discussion on the lack of EPA penalty authority for federal facilities under the CWA.) Federal facilities have higher noncompliance rates than the national average for all facility types. This might suggest that penalties do create a deterrent effect and have a positive impact on compliance rates.

The 1999 - 2000 State of Federal Facilities compliance report indicates that federal facilities infrastructure funding has been steadily declining and suggests that there is little motivation to spend limited resources on facility upgrades when there is no likelihood of penalty associated with noncompliance. It also may be that deteriorating infrastructure is making it more difficult for federal facilities to comply, regardless of their intentions. **The workgroup recommends an OC/ORE/FFEO dialogue to discuss causes of noncompliance at federal facilities and use of appropriate tools to improve compliance in the absence of penalties.**

Enforcement Management System (EMS)

The NPDES EMS is national enforcement response policy, or guidance, for encouraging timely and "appropriate" enforcement. We do not have any data that directly show whether or not, or to what extent, the EMS is being followed. However, levels of timely and appropriate response, as well as small, infrequent penalties show that "escalation" and recovery of economic benefit may not be occurring as often as it should and this might have a negative impact on deterrence. The EMS is probably not being well utilized in its current condition. **The workgroup recommends that the EMS be revisited, particularly regarding policies on when to issue penalties, clarification of escalation, and timely and appropriate policies, as well as its format and user-friendliness.**

Deterrence

Low enforcement activity levels may compromise the deterrent effect of our actions. The workgroup is putting forth a number of recommendations which are intended to strengthen deterrence, including updating the EMS (Enforcement Management System) and the SNC definition for NPDES. Other recommendations include having senior management focus attention on quality of enforcement actions (escalation) and penalty amounts and further study of the effects of enforcement on deterrence.

Addressing Majors in Special Populations/Areas

Data show that EPA and states are no more likely to take action at NPDES major SNC facilities in 303(d) listed waters than at facilities in non-303(d) listed waters. We are *slightly* (but not significantly) more likely to take action at repeat SNC and perpetual SNC facilities in 303(d) listed waters - three and six percentage points higher than the national average for each, respectively. [NOTE: Repeat SNCs are facilities in SNC two out of eight quarters and perpetual SNCs are facilities in SNC eight out of eight quarters.] Thirty percent of repeat SNCs in 303(d) listed waters had an enforcement action in the last two years, compared to 27% in non-303(d) listed waters. Thirty eight percent of perpetual SNCs in 303(d) listed waters had an enforcement action in the last two years, compared to 32% in non-303(d) listed waters.

There is no EPA policy or guidance which suggests that NPDES major facilities in 303(d) listed waters should be targeted. When the workgroup asked regions about targeting efforts, they overwhelmingly said that majors are not thought to be contributors to impairment and so majors in impaired waters, such as 303(d) listed waters, are not preferentially targeted. There are no data available on the extent to which majors contribute to impairment. The workgroup recommends further research on how discharges from major facilities may contribute to water impairment or significant pollutant loadings in non-impaired/non-assessed waters, which could help determine the impact of majors on environmental conditions, as well as aid in future targeting efforts. (See discussion of previous efforts under #2, Data Gaps.)

Data show that we take more actions in areas with high percentages (>25%) of minorities. Fifty nine percent of repeat SNC facilities in EJ sensitive areas receive no formal action compared to 70% in non-EJ areas.

Data Gaps:

States are not currently required to report penalty data to PCS, which limits our ability to draw conclusions about the effect of penalties on compliance and deterrence. There is a commitment through the PCS modernization effort for states to submit penalty data, but the effective date of this system has been postponed. The workgroup recommends accelerating the schedule for states to submit penalty data to EPA.

Data are not available for NPDES majors on compliance incentives, compliance assistance, capacity building, responses to citizen complaints, or outcomes from compliance monitoring. All of these data are reported by EPA for the Clean Water Act as a whole, but are not required or reported for majors only. The workgroup believes that data on these compliance activities for NPDES majors would improve our ability to analyse the performance of the program, but recognizes the associated reporting burden to states. The workgroup recommends that senior managers evaluate the need for data on these compliance activities for NPDES majors given the resource implications for states.

Regarding compliance assistance, the overall number and "reach" of OECA's compliance

assistance activities to both the regulated community and to other assistance providers has steadily increased, and we might assume that there has been a proportional increase to NPDES majors.

Regional and State Enforcement Activity Levels

The output scorecards below summarize regional and state patterns of enforcement activity. This information may be useful for management to identify areas with the most potential for program improvement. A breakdown of the data used to compile this summary is found in Appendix B.

The workgroup recommends that management consider this scorecard format as a convenient way to portray key metrics by region and state, and to identify the outliers. If this format is used for future analyses, the workgroup recommends taking Region 9 out of the national averages because their data quality is so poor.

Table 7 - NPDES Majors Output Scorecard - by Region

Shaded boxes are Regions with \geq the median number of hits (2.5). A hit is given for regions meeting the criteria for each measure.

Data are from 1999-2001 unless otherwise specified.

Region	# and % of All Majors	# and % of All Majors in SNC	Low Percent of All Formal Actions Relative to SNC Universe	Low Percent of All Formal & Informal Actions (Relative to % of all Majors)	Below National Avg for % of SNCs Addressed with Formal Actions AND Timely & Appropriately	\leq 50% of Perpetual SNCs w/Formal Action in Last 2 Years	# Hits out of 4 Possible
1	456 (7%)	156 (9%)	x	x		x	3
2	605 (9%)	99 (6%)			x	x	2
3	739 (11%)	124 (7%)				x	1
4	1,393 (21%)	349 (21%)	x		x	x	3
5	1,161 (18%)	368 (22%)	x	x	x	x	4
6	1,024 (15%)	349 (21%)					0
7	390 (6%)	120 (7%)	x	x	x	x	4
8	269 (4%)	50 (3%)	x	x	x	x	4
9	326 (5%)	30 (2%)				x	1
10	289 (4%)	25 (1%)				x	1
Total	6,652	1,670	5	4	5	9	--

Data from Regions 3, 7 and 10 are poor. Data from Region 9 are very poor and unreliable.

Table 8 - NPDES Majors Output Scorecard - by State

This table only includes the 23 states with \geq the median number of hits (2).

A hit is given for states meeting the criteria for each measure.

Data are from 1999-2001 unless otherwise specified.

Shaded states have poor data (below 95% DMR entry rate).

"U" in first column indicates states unauthorized in 2001.

State	# and % of All Majors	# and % of All Majors in SNC	Low Percent of All Formal Actions Relative to SNC Universe	Low Percent of All Formal & Informal Actions FY 1999-2001 (Relative to % of all Majors)	Below National Avg for % of SNCs Addressed with Formal Actions	Below National Avg for % of SNCs with Formal Actions Addressed Timely and Appropriately	Less than 100% of Perpetual SNCs with Formal Action FY 2002	# Hits out of 5 Possible
CT	115 (1.7%)	33 (1.9%)	x	x	x			3
MA (U)	138 (2%)	53 (3.1%)	x	x	x	x	x	5
NH (U)	60 (1%)	20 (1.1%)	x	x			x	3
RI	25 (.4%)	11 (.7%)	x	x				2
NY	355 (5.3%)	82 (4.9%)	x	x			x	3
DC (U)	4 (<1%)	3 (.2%)	x	x	x			3
PA	382 (5.7%)	48 (2.8%)	x	x			x	3
AL	194 (2.9%)	73 (4.3%)	x	x	x		x	4
KY	130 (1.9%)	25 (1.5%)	x				x	2
TN	156 (2.3%)	65 (3.9%)	x	x	x		x	4
IN	185 (2.8%)	68 (4%)	x	x	x		x	4
MI	184 (2.8%)	66 (3.9%)	x	x	x		x	4
MN	86 (1.3%)	13 (.7%)	x	x				2
OH	294 (4.4%)	108 (6.4%)	x	x	x	x	x	5
WI	134 (2%)	84 (5%)	x	x	x		x	4
KS	58 (.9%)	21 (1.2%)	x	x	x			3
MO	148 (2.2%)	43 (2.5%)	x	x	x			4
NE	55 (.8%)	23 (1.3%)	x	x			x	3
CO	112 (1.7%)	13 (.7%)	x	x	x		x	4
MT	43 (.6%)	9 (.5%)	x	x	x			3
SD	29 (.43%)	4 (.2%)	x	x	x			3
UT	33 (.5%)	10 (.6%)	x	x	x			3
AZ (U)	45 (.6%)	10 (.6%)	x	x		x		3
Total	--	--	23	22	15	3	13	--

◆ 4. Changing the Behavior of the Regulated Community in Ways That Lead to Improved Environmental Performance

The analysis for #4 draws from the compliance data found in Appendix A, the activity data from Appendix B and environmental indicators data from Appendix C. These data are summarized above in text and in tables 1-8.

Analysis and Conclusions

Data that show a direct cause and effect relationship between our activities and a change in the behavior of the regulated community are the most ideal for determining the extent to which our activities change the behavior of the regulated community. Such data for the NPDES majors enforcement program are limited to data on the percent of enforcement actions that result in reduction, elimination or treatment of pollutants (pollutant reduction data) and percent of enforcement actions requiring improvements in environmental management (non-physical complying actions). These data presently are very incomplete and therefore unreliable for purposes of meaningful analysis. Data on the outcomes from compliance assistance, compliance monitoring and compliance incentives would also be useful in addressing this question, but these data are reported only for CWA and no distinction is made for majors. The workgroup believes that data on these compliance activities for NPDES majors would improve our ability to analyse the performance of the program, but recognizes the associated reporting burden to states. **The workgroup recommends that senior managers evaluate the need for data on these compliance activities for NPDES majors given the resource implications for states.**

no data here...

Another way to address the question is to compare trends in activity levels to trends in environmental performance, or in this case, compliance rates. This is a comparison of *outputs* to *outcomes*. While many variables might affect the compliance rates, we operate under the assumption that our enforcement and compliance activities at least influence performance and behavior changes, including compliance rates.

The regulations which define compliance and establish permit limits are intended to be protective of human health and the environment, therefore we believe that enforcing them ensures the appropriate level of protection is achieved. We operate under the assumption that our enforcement and compliance assurance activities have a positive impact on human health and the environment, and that more enforcement activity and increased compliance results in more environmental and human health protection.

Protecting Human Health and the Environment

There is a lack of quantitative data available to directly determine how enforcement efforts contribute to the goal of protecting human health and the environment. Pollutant reduction data from enforcement and assistance is not yet adequate for analysis, but it is improving.

Data on enforcement actions in 303(d) listed waters are also available. We are unable to determine at this time whether or not our enforcement actions are directly addressing pollutants of concern in 303(d) listed waters. **The workgroup recommends further research on how discharges from major facilities may contribute to water impairment or significant pollutant loadings in non-impaired/non-assessed waters, which could help determine the impact of majors on environmental conditions, as well as aid in future targeting efforts.** Ultimately this information can be used to estimate the environmental impacts of enforcement activity.

Toxic water quality-based permit limits are often exceeded by high percentages. Some EPA staff believe that some of the most extreme exceedances may be the result of un-achievable limits due to technology availability and/or cost. Regions believe that majors are not significant contributors to impairment but there are no data available to support this. Further study of pollutant loadings from majors to impaired waters can be linked to permit limit exceedances which will ultimately inform estimations of the environmental impacts from enforcement activity.

Enforcement Activity

Data show that enforcement activity (EPA and state informal, and EPA formal actions) has been declining. Data for EPA and the states for FY 1999-2001 show that a low percentage (9% - 13%) of enforcement actions are taken timely and appropriately, only 39% - 40% of formal actions result in penalties, penalties are low (about \$5,000 per action), and escalation may not be occurring. EPA can not impose penalties on federal facilities where the SNC rates are highest. Likelihood of inspections is high but decreased eight percentage points in three years. (See #3 for more detail on enforcement activity levels.)

Deterrence

Our enforcement activity levels may be impacting the deterrent effect of our actions. The workgroup is putting forth a number of recommendations which are intended to improve deterrence, including updating the EMS (Enforcement Management System) for NPDES and the SNC definition for majors. The EMS is probably not being well utilized in its current condition. The EMS should be revisited, particularly regarding policies on when to issue penalties, clarification of escalation, and timely and appropriate policies, as well as format and user friendliness. Other recommendations include having senior management focus attention on quality of enforcement actions (escalation) and penalty amounts and further study of the effects of enforcement on deterrence.

Our Impact on Levels of Compliance

Data show that significant non-compliance (SNC) has *effectively* remained steady since 1994. Data show an increase in the SNC rate of eight percentage points between FY 1994 and 1997 (from 16% to 24%), but this is explained by changes in the SNC definition which added non-monthly averages, including total residual chlorine, to the SNC universe. The definition change was announced in 1996 and took effect in 1997. Prior to 1996, the data show 0% of SNCs due to non-monthly averages. In 1996 20.3% of SNCs were due to non-monthly averages and in 1997 and 1998 it rose to 53.4% and 52.0% respectively. Data show that rates have remained steady between FY 1997 and 2001 (24% - 26%).

The fact that enforcement activity levels have decreased while SNC rates have remained steady and recidivism rates are improving *might* suggest that we are operating more efficiently or effectively by maintaining compliance levels with diminishing resources and activity levels. It may also mean that enforcement actions are not the most significant drivers for compliance. Data are not adequate to discern which of these is the case.

A closer look at regional data shows that three of the five regions with the worst "overall" compliance records also had the lowest relative activity levels, while two of the five regions with the lowest activity levels also had the worst compliance records. State data show that 14 out of 24 (58%) states with the worst overall compliance records also had the lowest activity levels and 14 out of 23 (61%) states with the lowest activity levels also had the worst overall compliance records (see Output and Outcome Scorecards, tables 4, 5, 7 and 8). These data suggest a positive relationship between EPA/state enforcement activity and compliance. Conversely, data show that facilities which have been subject to a formal action from either EPA or a state have

higher rates of recidivism than those that have not had any formal action. This may be because we tend to focus on "problem facilities" or those more likely to violate, or it might be that formal actions are not creating a sufficient deterrent effect. Regions suggested that recidivism rates are driven by violation of interim limits, but data from 2002 show that only 2% of SNC violations are for violation of interim limits.

Data show that 49% of facilities recover from SNC status without formal enforcement action. Regions believe that compliance assistance and the deterrent effect from informal actions may be helping facilities recover from SNC, but there are no data to support this. **The workgroup recommends further study on the deterrent impact of CWA enforcement including the impact of enforcement on recidivism.** Additionally, further understanding of recidivism may be gained through careful examination of past exceptions lists.

Federal facilities make up 1.5 % of the majors universe and have had SNC rates ranging from 5 - 15 percentage points above the national average since 1997. High and increasing SNC rates at federal facilities may be due in part to the lack of penalty authority to address federal facility violations under the Clean Water Act. Other factors may include deteriorating infrastructure and infrastructure funding. If lack of penalties is a significant factor, this might suggest that penalties do create a deterrent effect and have a positive impact on compliance rates. **The workgroup recommends an OC/ORE/FFEO dialogue to discuss causes of noncompliance at federal facilities and use of appropriate tools to improve compliance in the absence of penalties.**

Recommendations

1. Revisit EMS and SNC. Include a policy on when to issue penalties, clarification of escalation policy and timely and appropriate policy, and how and when to establish interim limits. Track who is following it before and after revision.
2. Further study the contribution of majors to impairment in 303(d) listed waters, or significant pollutant loadings in non-impaired/non-assessed waters, and link to permit limit exceedances.
3. Have senior management focus attention on quality of enforcement actions (escalation), penalty amounts, and data quality issues (especially Region 9) during Regional visits.
4. Accelerate the deadline for state reporting of penalty data to EPA.
5. Harmonize overlapping efforts such as this analysis, Federal Facilities Enforcement Office efforts, and Office of Water study on NPDES Program Health.
6. Incorporate the exceptions list concept into the watchlist concept.
7. Target SNCs with the worst compliance records and without effective enforcement (use watchlist criteria once established).
8. Utilize scorecard concept to identify regions/states of concern (do not include Region 9 data).
9. Initiate a dialogue with Office of Wastewater Management regarding un-achievable permit limits.
10. Consult with the FFEO to explore root causes of noncompliance and ways to reduce noncompliance at federal facilities, e.g. through dialogue with federal facilities or an increase in enforcement or compliance assurance activities.
11. Evaluate the need for data to be reported for NPDES majors for compliance incentives,

compliance assistance, capacity building, responses to citizen complaints, and results from compliance monitoring given the resource implications for states.

12. Further study the deterrent impact of CWA enforcement including the impact of enforcement on recidivism.

13. Initiate subsequent (consecutive) performance analyses for other parts of the water program such as minors and wet weather.

Next Steps

OECA and Regional management should decide which recommendations to implement based on their potential for improving the program as well as the associated resource considerations.

The workgroup recommends that subsequent (consecutive) analyses be done for other parts of the water program.

February 2003

Compliance Data
NPDES Majors Performance Analysis

Appendix A

NATIONAL DATA

Regions 9 and 10 have very poor data quality and the data are unreliable.

A.1 Compliance - 3 year Trend 1999 - 2001 (Except for SNC which shows 8 year trend.)

	1994	1995	1996	1997	1998	1999	2000	2001
Percent of majors in SNC in any quarter during the FY	16%	15%	17%	25%	26%	25%	26%	24%
Percent of prior year SNCs still in SNC						50%	53%	57%
Percent of SNCs returned to compliance in less than 2 Years						71%	71%	84%
SNC recidivism rate						56%	54%	50%
Percent in SNC or RNC						50%	52%	51%
Percent of majors with any violation anytime during the FY						79%	81%	83%
Percent of SNCs that are effluent related						--	--	50%
Percent of federal facilities in SNC						35%	32%	39%

The average number of effluent violations per major facility in 2001 was 11.2. The average number of SNC effluent violations per major facility in 2001 was 6.4.

Perpetual and Repeat SNCs - FY 2001

Perpetual SNCs are those majors which have been in SNC 8 out of 8 quarters in the last 2 years. Four quarter Repeat SNCs are those which have been in SNC 4 out of 8 quarters in the last 2 years. Two quarter Repeat SNCs are those which have been in SNC 2 out of 8 quarters in the last 2 years.

The following list is based on data pulled from OTIS in 7/02. Regions have since been asked to verify the number of perpetual SNCs but at the time of this writing no determination has been made as to what, if any, adjustments will be made to the numbers.

A.2 Perpetual and Repeat SNCs (OTIS 9/30/02)

	Number of Facilities	Percent of the Total Universe of Majors	Percent of All NPDES Majors in SNC
Perpetual SNC	93	1%	6%
4Quarter Repeat SNCs	560	8%	35%
2 Quarter Repeat SNCs	1,334	20%	83%

Perpetual SNCs are also captured in counts for two and four quarter repeat SNCs, and two

quarter repeat SNCs are also captured in four quarter repeat SNCs.

Note: Examination of exceptions list shows many are SNC for much longer than 2 years.

A.3 Compliance Rates by Facility Type 1997 - 2001

Shaded boxes are those higher than the national average.

	# and % of all majors	1997	1998	1999	2000	2001
National	6,652	25%	26%	25%	26%	24%
Industrial	2,420 (36%)					21%
Municipal	4,118 (62%)					27%
Federal	102 (1.5%)	30%	39%	35%	33%	39%

A.4 Compliance Rates by Facility Type - 2001

Shaded boxes are those higher than the national average.

	National Avg.	Industrial	Municipal	Federal
Percent SNC	24%	21%	27%	39%
Percent SNC or RNC	51%	44%	54%	62%
Percent with any violation	83%	78%	85%	85%
Percent SNC noncompliance with BOD permit limits (Statistically Valid)	--	--	16% (up from 12% in 2000)	--
Percent in SNC noncompliance with TSS permit limits (Statistically Valid)	--	--	16% (up from 13% in 2000)	--

Industrial and municipal major facilities have 2001 SNC rates 3% below and 3% above, respectively, the national average for all NPDES majors. However, data show that 69% of repeat SNCs are municipal sewer systems.

A.5 Perpetual and Repeat SNCs by Facility Type (OTIS 9/30/02)

Facility Type	Percent of all Majors	# SNCs and % of total	# Perpetual SNCs and % of total	# 4 Quarter Repeat SNCs and % of total	2 Quarter Repeat SNCs and % of total
Federal Facilities	2%	43 (2%)	3 (3%)	13 (2%)	30 (2%)
Municipal Facilities	62%	1,547 (66%)	72 (77%)	393 (70%)	899 (67%)

Industrial Facilities	35%	744 (32%)	18 (19%)	154 (28%)	404 (30%)
All Facility Types	100%	100%	93 (100%)	560 (100%)	1,334 (100%)

Federal facilities have a national average SNC rate of 39%, or 15% above the national average for all majors.

Exceedances

2001 Effluent Violations and Percent Over Limit

A.6 Percent of Majors with Average Exceedances over 100% , 500%, and 1,000 %

	Percent of majors with average exceedances above 100%	Percent of majors with average exceedances above 500%	Percent of majors with average exceedances above 1000%
Toxic Limits	50%	21%	13% (832 facilities)
Conventional Limits	33%	9%	5% (580 facilities)

A.7 Number of Majors with Exceedances

	<20 %	20 % to 39 %	40 % to 59 %	60 % to 79 %	80 % to 99 %	100 % to 199 %	200% to 499 %	500 % to 999 %	>1,000 %	Unk.
Toxic Limits	845	798	515	374	485	817	994	454	832	107
Conventional Limits	2,918	2,073	1,263	879	687	1,536	1,234	487	580	57

Recidivism Rates and Formal Actions 2001

The national recidivism rate for all NPDES majors in 2001 was 50%. The recidivism rate for majors who received an EPA formal action was 59%, for those with a state formal action it was 50% and for those with no action it was 49%. Four regions had highest recidivism rates among facilities with an EPA action, and five regions had highest rates where the state took an action. Only one region had a higher recidivism rate among facilities with no action than facilities with an EPA or state action.

REGIONAL AND STATE DATA

Three key metrics of compliance were chosen for examination at the Regional and State Level:

- ◆SNC Rates
- ◆Perpetual and Repeat SNCs
- ◆Recidivism Rates

REGIONAL DATA

Note: Regions 3, 7, 9 and 10 have DMR entry rates below 95% (the national target). Region 9 has a DMR entry rate of 48%. (2001)

Regional SNC Rates**A.8 SNC Rates - 4 year Trend**

(Shaded boxes are at or above national average)

Region	1997	1998	1999	2000	2001	Comments
1	--	31%	28%	36%	35%	consistently above average and increasing
2	--	34%	33%	17%	28%	slightly above average and declining
3	--	18%	16%	13%	17%	
4	--	32%	28%	24%	25%	declining
5	--	31%	29%	37%	36%	consistently above average and increasing
6	--	26%	28%	39%	34%	consistently above average and increasing
7	--	28%	25%	27%	31%	consistently above average and increasing
8	--	18%	17%	19%	19%	
9	--	8%	8%	7%	9%	
10	--	15%	11%	11%	9%	
National Avg.	25%	26%	25%	26%	25%	

The national SNC rate has remained fairly consistent between 1997 and 2001 (Regional breakout of SNC rates is not available for 1997). Regions 1, 5, 6, & 7 have rates consistently above the national average *and* increasing. Regions 9 and 10 have SNC rates far below the national average but their data is unreliable. This may mean that the national average is actually higher than these data indicate.

A.9 Regional SNC Rates By Type of Facility - 2001

Shaded boxes are those at or above national average.

Regions	Industrial	Municipal	Federal
1	26%	38%	50%
2	14%	17%	50%
3	20%	14%	36%
4	21%	27%	50%
5	31%	33%	0%
6	24%	41%	40%
7	28%	31%	67%
8	23%	17%	14%
9	4%	9%	44%
10	5%	13%	0%
National Avg.	21%	27%	39%

The highest and lowest SNC rates and the most variation across regions occurs in rates for federal facilities.

A.10 Regional Percentage of All SNCs 1999 - 2001

Shaded boxes are those with 3 highest percentages of all SNCs.

Region	1999	2000	2001
1	8%	10%	9%
2	9%	5%	6%
3	8%	6%	7%
4 3 rd Highest	22%	18%	20%
5 2 nd Highest	21%	26%	23%
6 1 st Highest	17%	23%	21%
7	8%	6%	7%
8	3%	3%	3%
9 Lowest	2%	1%	2%
10 Lowest	2%	2%	1%
Total	100%	100%	100%

Regional Perpetual and Repeat SNC Rates

A.11 Percent of Region's majors that are in SNC and Percent of SNCs that are Perpetual or Repeat SNCs - 2001. Shaded boxes are at or above national average.

Region	Percent of NPDES Majors Facilities in SNC	Percent of SNCs that are Perpetual SNCs	Percent of SNCs that are Perpetual or Repeat SNCs
1	34.2 %	4.5 %	93 %
2	16.4 %	1 %	95 %
3	16.8 %	1.6 %	69 %
4	25.1 %	8 %	82 %
5	31.7 %	6.8 %	91 %
6	34.1 %	3.2 %	89 %
7	30.8 %	2.5 %	82 %
8	18.6 %	2 %	86 %
9	9.2 %	10 %	77 %
10	8.7 %	4 %	84 %
National	25 %	5%	86 %

Regional Recidivism Rates

A.12 Regional Recidivism Rates - 3 Year Trend

Shaded boxes are those at or above national average.

Region	1999	2000	2001
1	62%	59%	68%
2	56%	54%	34%
3	47%	43%	44%
4	65%	54%	48%
5	56%	56%	57%
6	55%	57%	57%
7	49%	52%	40%
8	63%	45%	53%
9	27%	31%	29%
10	39%	44%	44%
National Avg	56%	54%	50%

A.13 Number of Majors with Exceedances by Region 2001

Shaded boxes are regions with high percent of exceedances relative to universe of majors in SNC.

Region	# of Majors	Percent of All Majors in SNC	# Total Toxic Limit Exceedances	% of all Toxic Limit Exceedances	# Total Conventional Limit Exceedances	% of all Conventional Limit Exceedances	# Total "Other" Limit Exceedances	% of all "Other" Exceedances
1	456	9 %	788	13 %	1,249	11 %	1,568	15%
2	605	6 %	1,349	22 %	2,127	18 %	1,717	17%
3	739	7 %	797	13 %	710	6 %	866	8%
4	1,393	21 %	810	13 %	2,465	21 %	2,567	25%
5	1,161	22 %	1,009	16 %	1,868	16 %	1,544	15%
6	1,024	21 %	642	10 %	1,618	14 %	1,027	10%
7	390	7 %	167	3 %	873	7 %	360	3%
8	269	3 %	64	1 %	179	2 %	272	3%
9	326	2 %	531	8 %	421	4 %	274	3%
10	289	1 %	64	1 %	204	2 %	166	2%
Total	6,652	100%	6,221	100 %	11,714	100 %	10,361	100%

STATE DATA

Note: The following states have DMR entry rates below 95%: DC, AL, OH, WI, NM, TX, MO, NE, WY, AZ, HI, CA, NV, AK, ID. The following states have DMR entry rates below 91%: DC, WI, MO, NE, WY, AZ, HI, CA, NV, ID. (FY 2001)

State SNC Rates (Unauthorized States are asterisked.)

A.14 States with SNC rates in the following ranges for 2001:
2001 National average = 25.1%

SNC Rate	Number of States	States
0 - 25 %	32	NJ, NY, *PR, VI, DE, PA, VA, WV, FL, GA, KY, SC, IL, MN, AK, LA, *NM, OK, TX, IA, CO, MT, ND, SD, *AZ, CA, HI, *NV, *AK, *ID, OR, WA
26 - 50 %	19	CT, *MA, ME, *NH, RI, VT, MD, AL, MS, NC, TN, IN, MI, OH, KS, MO, NE, UT, WY
50 - 75 %	2	*DC, WI

A.15 States with SNC Rates Above National Average Each Year 1998 - 2001

CT, RI, VT, VI, TN, IN, MI, OH, OK, KS, NE, UT
(TX and LA were above for 3 of the 4 years.)

A.16 Distribution of SNC Rates Across States for Industrial, Municipal, and Federal Facilities - 2001

The highest SNC rates occur at federal facilities. Fifteen states have federal facility SNC rates of 50% or higher. Of those, 6 six states have 100% SNC rates. They are CT, FL, SC, AR, TX, LA.

A.17 States with Perpetual SNCs - 2002

NC, IL, TX, LA, KY, MS, WV, IN, TN, AL, FL, NE, MI, OH, MN, CA, *MA, *NH, PA, HI, NY, OR, CO

A.18 State Recidivism Rates 2001

2001 National average = 50%

Recidivism Rates	Number of States	States
0-25 %	6	NJ, *PR, GA, *NM, ND, CA
26-50 %	19	MD, PA, VA, FL, KY, SC, IL, MI, MN, AR, IA, KS, MO, CO, MT, SD, *ID, OR, WA
51-75 %	20	CT, *MA, ME, *NH, RI, NY, AL, MS, NC, TN, IN, OH, LA, OK, TX, NE, UT, WY, *AZ, *AK
76-100 %	4	VT, *DC, WV, WI

No data: *VI, DE, HI, *NV

States with Recidivism Rates Above National Average Each Year 1999 - 2001

RI, VT, NY, AL, TN, OH, LA, OK, UT, *AK

A.19 States with a 100% or 0% Recidivism Rate in FY 1999, 2000, or 2001

	100%	0%
FY99	MT	*DC, DE, ND, SD, HI, *NV
FY00	VT, *PR, VI, UT, *AZ	ND, *NV
FY01	VT, *DC, WI	ND

In each of the three fiscal years examined, the range among the states was from 100% recidivism to 0% recidivism. The list of states with 100% or 0% recidivism changes substantially year by year.

February 2003

Appendix B

**Enforcement Activity:
NPDES Majors Performance Analysis**

NATIONAL DATA**EPA and State Enforcement Activity for NPDES Majors- 3 Year Trend**

Regions 9 and 10 have very poor data quality and the data are unreliable.

B.1 Inspections

Inspections	1999	2000	2001
Number of Inspections	5,178	5,178	4,780
Inspection Coverage (Percent of major facilities inspected)	78%	78%	72%
Number of Inspections at Federal Facilities	140	126	
Percent of all Inspections at Federal Facilities (Note: Federal Facilities make up 2% of majors)	3 %	2 %	

B.2 Informal and Formal Actions

Informal and Formal Actions	1999	2000	2001
Number of Informal Actions	530	386	269
Total Number of Formal Actions:	645	689	577
- State Formal Actions	410	527	447
- EPA Formal Actions	235	162	130
Percent of SNC Facilities Addressed by Formal Action	15%	14%	12%
Percent of SNC Facilities Addressed by Formal Action within 90 Days - (Timely and Appropriate Action)	13%	9%	9%
Percent of Perpetual SNC Facilities with One or More Formal Actions (by State and EPA) within 2 years	--	--	33%
Percent of Enforcement Actions Resulting in Improvements in Environmental Management (Non-physical Complying Actions)	82 %	68 %	60 %
Number of Formal Actions at Federal Facilities	9	12	
Percent of all Formal Actions at Federal Facilities (Note: Federal facilities make up 2% of majors)	1 %	2 %	

B.3 Case Initiations and Settlements

Case Initiations and Settlements	1999	2000	2001
Total Case Initiations:	762	905	564
- ACOs	547	587	380
- APO Complaints	181	291	131
- DOJ Referrals	34	27	53
Total Case Settlements:	712	887	557
- ACOs	518	573	359
- APO Settlements	172	295	173
- Judicial Settlements	22	19	25

B.4 Penalties, SEPS, and Injunctive Relief

Penalties and SEPs and Injunctive Relief	1999	2000	2001
Total EPA Penalties:(DOCKET)			\$4,468,636
- EPA Judicial Penalties			\$ 199,847
- EPA Administrative Penalties			\$4,268,789
*Percent of EPA and State Formal Actions with Monetary Penalty (All Majors) (OTIS)	40%	44%	39%
Average Administrative Penalty Size per Formal Action for Majors			EPA \$ 6,205 State \$ 6,455
Average Civil Judicial Penalty Size per Formal Action for Majors			EPA \$ 4,996 State \$ 5,637
*Total Value of SEPs	\$8,840,340	\$10,043,653	\$2,482,540
*Total Value of Injunctive Relief	\$574,811,491	\$657,094,386	\$213,594,314
Penalties at Federal Facilities	\$ 0	\$ 0	\$0

*States are not required to report these data , therefore these data are not reliable for meaningful analysis.

Formal actions include administrative penalty complaints.
Criminal cases are not included.

B.5 Perpetual and Repeat SNCs with Actions (OTIS 9/30/02)

	Number of Major Facilities	Percent of the Majors Universe (6,637)	Percent of All Majors in SNC (1,608)	Percent with Formal Action in Last 2 Years
Perpetual SNC	93	1%	6%	32 %
4 Quarter Repeat SNCs	560	8%	35%	33 %
2 Quarter Repeat SNCs	1,334	20%	83%	27 %

Note: Perpetual SNCs are captured in counts for two and four quarter repeat SNCs, and two quarter repeat SNCs are captured in counts for four quarter repeat SNCs.

Sixty eight percent (68%) of perpetual SNCs have not had a formal action in 2 years.

B.6 Perpetual and Repeat SNCs with Actions by Facility Type (OTIS 9/30/02)

Facility Type	Percent of all Majors	# SNCs	% Formal Action in Last 2 Years	# Perpetual SNCs	% Formal Action in Last 2 Years	# 4 Quarter Repeat SNCs	% Formal Action in Last 2 Years	# 2 Quarter Repeat SNCs	% Formal Action in Last 2 Years
% Federal Facilities	2%	43	0.1%	3	1%	13	0.3%	30	0.2%
% Municipal Facilities	62%	1,547	18%	72	28%	393	26%	899	21%
% Industrial Facilities	36%	744	6%	18	3%	154	6%	404	6%
All Facility Types	100%	2,337	24%	93	32%	560	33%	1,334	27%

Other 2001 Data

States inspect 60% - 90% of the population and EPA inspects less than 20% of the population.

We are more likely to take actions in areas with high percentage (>25%) of minorities. (59% of repeat SNC facilities in EJ sensitive areas receive no formal action compared to 70% in non-EJ)

Data Gaps

Data are not available on the following areas for NPDES Majors:

- capacity building

- compliance assistance activity counts and outcomes
- incentives and outcomes from incentives
- responses to citizen complaints

REGIONAL DATA

Inspections

Ninety seven percent of majors have been inspected nationally between 1997 and 2001, with the Regional rates ranging from 92% and 100%. Ninety one percent of majors have been inspected in either 2000 or 2001, with the Regional rates ranging from 75% to 98%. Region 10 has inspected 75% - the other regions range from 85% to 98%.

Informal and Formal Actions

B.7 EPA and State Formal Actions - 3 Year Trends

Shaded boxes are regions with a low percentage of actions relative to their universe of SNCs.

Region	# and % of All Majors	# and % of All Major SNCs	Percent of all 1999 Formal Actions	Percent of all 2000 Formal Actions	Percent of all 2001 Formal Actions
1	456 (7%)	156 (9%)	4 %	3 %	3 %
2	605 (9%)	99 (6%)	15 %	17 %	18 %
3	739 (11%)	124 (7%)	5 %	12 %	8 %
4	1,393 (21%)	349 (21%)	8 %	11 %	15 %
5	1,161 (18%)	368 (22%)	6 %	2 %	6 %
6	1,024 (15%)	349 (21%)	52 %	42 %	35 %
7	390 (6%)	120 (7%)	2 %	2 %	2 %
8	269 (4%)	50 (3%)	1 %	1 %	1 %
9	326 (5%)	30 (2%)	3 %	4 %	4 %
10	289 (4%)	25 (1%)	5 %	4 %	6 %

B.8 EPA and State Formal and Informal Actions at Majors- 3 Year Totals 1999-2001
 Shaded boxes are regions with a low percentage of actions relative to their universe of SNCs.

Region	# and % of All Majors	# and % of All Major SNCs	Percent of SNC Universe	Percent of all Formal Actions 1999 - 2001	Percent of all Informal Actions 1999 - 2001 (EPA and State)
1	456 (7%)	156 (9%)	9%	3%	4%
2	605 (9%)	99 (6%)	6%	17%	1.9%
3	739 (11%)	124 (7%)	7%	9%	3.8%
4	1,393 (21%)	349 (21%)	21%	11%	22%
5	1,161 (18%)	368 (22%)	22%	5%	6.9%
6	1,024 (15%)	349 (21%)	21%	44%	56.7%
7	390 (6%)	120 (7%)	7%	2%	6.1%
8	269 (4%)	56 (3%)	3%	2%	.2%
9	326 (5%)	30 (2%)	2%	4%	0
10	289 (4%)	25 (1%)	1%	5%	1.4%

B.9 Addressing SNCs with Formal Actions (State and EPA Actions) - 3 Year Trends
 Shaded boxes represent those equal to or less than the national average.

Region	Percent of SNCs Addressed					
	1999		2000		2001	
	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately
1	21%	14%	18%	6%	19%	14%
2	3%	7%	7%	8%	8%	9%
3	24%	14%	14%	5%	22%	11%
4	5%	6%	8%	6%	7%	5%
5	9%	13%	8%	7%	6%	7%
6	37%	24%	31%	17%	24%	14%
7	5%	6%	11%	9%	8%	2%
8	3%	2%	2%	2%	2%	0%
9	20%	15%	19%	9%	23%	0%
10	37%	22%	18%	14%	17%	7%
National	15%	13%	14%	9%	13%	9%

Timely & appropriate applies to those new SNCs with an action OR returned to compliance on their own.

Nationally and by Region, the percentage of SNCs addressed has been consistent, but at low percentages (15%, 14%, 13%). Regions 2, 4, 5, and to a lesser degree, 7 have consistently addressed a low percentage of their SNCs, and Region 8 has only addressed 3%, 2% and 2% for the 3 years considered.

B.10 Perpetual SNCs with Actions 2001

Shaded boxes represent those with less than $\leq 50\%$ addressed with formal action.

Region	Number of Perpetual SNCs	Percent of All Perpetual SNCs (93)	Percent of Perpetual SNCs with Formal Action in Last 2 Years
1	9	10 %	11 %
2	1	1 %	0 %
3	4	4 %	50 %
4	34	37 %	41 %
5	25	27 %	16 %
6	11	12 %	66 %
7	6	6 %	17 %
8	2	2 %	50 %
9	1	1 %	0 %
10	0	0 %	0 %
National	93	100 %	33 %

Data show that 49% of facilities nationally recover from SNC status on their own, without an action from EPA or state.

B.11 Regional Percent of All Penalties, SEPS and Injunctive Relief 1999 - 2001 (DOCKET)

Shaded boxes are regions with low percentages relative to their percent of the SNC universe. This table refers to dollar amounts - not number of cases with SEPs or penalties.

Region	Percent of All Majors in SNC	% of All Penalties for Majors	% of All SEPs for Majors	% of All Penalties and SEPs Combined for Majors	% of All Injunctive Relief for Majors
1	9 %	5 %	34 %	16 %	15 %
2	6 %	10 %	8 %	9 %	1 %
3	7 %	15 %	10 %	13 %	10 %
4	21 %	23 %	1 %	15 %	50 %

Region	Percent of All Majors in SNC	% of All Penalties for Majors	% of All SEPs for Majors	% of All Penalties and SEPs Combined for Majors	% of All Injunctive Relief for Majors
5	22 %	17 %	13 %	15 %	<1%
6	21 %	16 %	7 %	13 %	22%
7	7 %	1 %	<1 %	1 %	<1%
8	3 %	1 %	4 %	2 %	0%
9	2 %	7 %	14 %	9 %	0%
10	1 %	5 %	8 %	6 %	3%

B.12 Average Penalty Per Action 1999 - 2001

These data are from IDEA which includes Docket and PCS.

Shaded boxes are those with average penalties below the national average.

Region	Average Penalty per Action	Percent of Actions with Penalties
1	\$ 1,415	6 %
2	\$ 5,888	21 %
3	\$ 976	17 %
4	\$ 4,441	80 %
5	\$ 1,231	5 %
6	\$ 2,009	17 %
7	\$ 2,906	34 %
8	\$ 19,085	32 %
9	\$ 176	3 %
10	\$ 7,934	39 %
National	\$ 3,552	41 %

A Note About Penalty Data

Penalty data are required in DOCKET. While there are some penalty data available in PCS, states are not required to enter it. Data from DOCKET shows national penalties at \$35,828,059 for 1999-2001. For the same time period, PCS shows national penalties at \$12,784,708. PCS shows average penalty at \$14,065 and an OTIS management report for the same time period (all data sources) shows average penalty size of \$3,486.

B.13 Percent of Actions Requiring *Non-Physical Compliance ActionsShaded boxes have ≤ 50 % of actions requiring non-physical compliance actions.

Region	1999	2000	2001	1999-2001
1	73%	13%	14%	43%
2	98%	73%	68%	84%
3	83%	50%	80%	77%
4	63%	100%	100%	82%
5	50%	0%	100%	50%
6	81%	76%	57%	75%
7	67%	50%	100%	63%
8				
9	0%	100%	43%	40%
10	67%	0%	50%	44%
Total	82%	68%	60%	73%

* Non-physical compliance actions include: ACC (Provide Site Access), AUD (Auditing), INF (Information Letter Request), LAB (Labeling/Manifesting), MTS (Monitoring/Sampling), OTH (Other (Please Describe)), PER (Permit Application), REC (Record Keeping), REP (Reporting), SAS (Site Assessment), RIF (RI/FS), TES (Testing), TRN (Training), or EMS (Environmental Management Review).

STATE DATA

Note: The following states have DMR entry rates below 95%: DC, AL, OH, WI, NM, TX, MO, NE, WY, AZ, HI, CA, NV, AK, ID. The following states have DMR entry rates below 91%: DC, WI, MO, NE, WY, AZ, HI, CA, NV, ID. (FY 2001)

Inspections

Percent of facilities inspected between 1997 and 2001 is 97% nationally. All but 3 states inspected 90% or more. MN, AZ and WA inspected 88%, 84% and 80% respectively.

Formal and Informal Actions

The following table highlights states with lower percentage of formal and informal actions than their percent of the SNC universe. *Most* states have a low percentage of actions relative to their percent of the SNC universe, implying that few states are responsible for a disproportionately large percent of the actions.

B.14 Percent of EPA and State, Informal and Formal Actions, 1999-2001

Shaded boxes are states with percent of actions lower than their percent of the SNC universe.

State	% of SNC Universe	# of informal actions	% of informal actions	# formal actions	% of formal actions
CT	1.9	0	0	13	1
MA	3.1	0	0	20	.6
ME	1.3	0	0	12	.4
NH	1.1	0	0	10	.3
NJ	.7	19	.4%	15	.5
VT	1	0	0	3	.1
NY	.5	89	.9%	275	9
NY	4.9	0	0	115	4
DC	.2	0	0	2	.06
DE	no data	0	0	no data	--
MD	1.5	2	<.1%	35	1
PA	2.8	3	<.1%	39	1
VA	1.3	172	3.6%	31	1.
WV	1.3	2	<.1%	59	2
AL	4.3	7	.1%	48	2
FL	2.8	89	1.9%	97	3
GA	1.1	110	2.3%	184	6
KY	1.3	83	1.7%	42	1
MS	1.8	211	4.5%	30	1
NC	4.1	3	<.1%	371	12
SC	1.2	529	11.3%	158	5
TN	3.9	2	<.1%	22	.7
IL	1.7	169	3.6%	182	6
IN	4.0	39	.8%	36	1.2
MI	3.9	0	0	32	.1
MN	1.7	0	0	29	.1
OH	6.4	117	2.5%	27	.9
WI	5.0	0	0	6	.2
AR	1.3	591	12.6%	62	2
LA	3.4	312	6.6%	97	3
NM	.5	98	2%	16	5.3

State	% of SNC Universe	# of informal actions	% of informal actions	# formal actions	% of formal actions
OK	1.4	215	4.6%	142	.6
TX	14.3	1,434	30.7%	262	.9
IA	1.9	288	6.1%	29	.9
KS	1.3	0	0	10	.5
MO	2.5	0	0	28	.9
NE	1.3	0	0	21	.7
CO	.7	3	<.1%	6	.2
MT	.5	2	<.1%	2	.1
ND	.1	0	0	3	.1
SD	.2	2	<.1%	3	.1
UT	.6	5	.1%	15	.5
WY	.7	1	<.1%		--
AZ	.6	0	0	4	.1
CA	1	0	0	178	6
HI	.1	0	0	4	.1
AK	.5	2	<.1%	18	.6
NV	.1	0	0		--
ID	.3	7	.1%	4	.1
OR	.2	55	1.1%	31	1
WA	.4	6	.1%	33	1
Total	100%	4,667	100%	2,996	86%

B.15 Addressing SNCs with Formal Actions (State and EPA Actions) - 3 Year Trends
 Shaded boxes represent those equal to or less than the national average.

Percent of SNCs Addressed						
State	1999		2000		2001	
	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately
CT	3%	59%	7%	57%	5%	63%
MA	13%	47%	4%	42%	8%	41%
ME	7%	59%	15%	63%	15%	60%
NH	10%	70%	15%	63%	20%	47%
RI	20%	60%	0%	50%	13%	75%
VT	39%	78%	0%	0%	50%	100%
NJ	21%	100%	50%	75%	7%	18%
NY	6%	60%	6%	72%	13%	67%
DC	0%	0%	0%	50%	0%	50%
DE	--	--	0%	0%	--	--
MD	30%	90%	0%	63%	25%	100%
PA	10%	53%	0%	51%	10%	61%
VA	5%	75%	0%	10%	0%	56%
WV	25%	70%	20%	65%	19%	57%
AL	3%	64%	9%	48%	2%	57%
FL	7%	67%	8%	32%	11%	58%
GA	13%	55%	17%	58%	14%	57%
KY	0%	82%	13%	43%	8%	38%
MS	18%	59%	5%	55%	4%	48%
NC	14%	35%	0%	57%	0%	49%
SC	14%	43%	16%	42%	15%	80%
TN	0%	64%	0%	53%	2%	64%
IL	77%	84%	48%	73%	71%	86%
IN	5%	46%	3%	52%	2%	42%
MI	9%	64%	0%	42%	0%	53%
MN	5%	52%	13%	38%	10%	80%

Percent of SNCs Addressed						
State	1999		2000		2001	
	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately	Addressed with Formal Actions	Addressed Timely and Appropriately
OH	2 %	39 %	4 %	43 %	1 %	58 %
WI	0 %	39 %	0 %	0 %	0 %	79 %
AR	25 %	50 %	13 %	40 %	22 %	43 %
LA	24 %	46 %	33 %	61 %	17 %	60 %
NM	13 %	100 %	11 %	33 %	13 %	63 %
OK	45 %	76 %	30 %	70 %	47 %	68 %
TX	21 %	71 %	11 %	57 %	10 %	64 %
IA	3 %	90 %	26 %	79 %	7 %	44 %
KS	0 %	40 %	0 %	65 %	0 %	56 %
MO	13 %	53 %	3 %	67 %	0 %	63 %
NE	0 %	74 %	14 %	57 %	0 %	25 %
CO	0 %	100 %	0 %	58 %	0 %	75 %
MT	0 %	100 %	0 %	100 %	0 %	44 %
ND	0 %	100 %	0 %	100 %	0 %	100 %
SD	0 %	67 %	0 %	100 %	0 %	50 %
UT	5 %	50 %	8 %	54 %	0 %	91 %
WY	0 %	75 %	0 %	38 %	0 %	33 %
AZ	14 %	57 %	0 %	43 %	0 %	33 %
CA	15 %	65 %	13 %	30 %	0 %	64 %
HI	--	--	--	--	0 %	0 %
AK	0 %	43 %	0 %	22 %	0 %	40 %
NV	--	--	--	--	0 %	100 %
ID	29 %	71 %	0 %	43 %	0 %	20 %
OR	50 %	75 %	50 %	100 %	50 %	50 %
WA	14 %	36 %	14 %	71 %	20 %	60 %
National	13 %	59 %	9 %	49 %	9 %	58 %

Timely & appropriate applies to those new SNCs with an action OR returned to compliance on their own.

Penalties

While there are some penalty data available in PCS, states are not required to enter it. State penalty data therefore incomplete and unreliable for purposes of meaningful analysis.

B.16 Perpetual SNCs (OTIS 9/26/02)

Shaded boxes are those with $\geq 65\%$ of Perpetual SNCs addressed with formal action in last 2 years.

State	# Perpetual SNCs	% of al. perpetual SNCs	# Perpetual SNCs with action in last 2 years	% Perpetual SNCs with formal action in last 2 years
MA	7	8 %	0	0 %
NH	2	2 %	1	50 %
NY	1	1 %	0	0 %
PA	2	2 %	0	0 %
MD	1	1 %	1	100 %
WV	1	1 %	1	100 %
AL	6	6 %	2	33 %
FL	6	6 %	1	17 %
KY	5	5 %	1	20 %
MS	10	11 %	5	60 %
NC	4	4 %	3	75 %
TN	3	3 %	1	33 %
IL	1	1 %	1	100 %
IN	6	6 %	0	0 %
MI	10	11 %	1	10 %
OH	7	8 %	2	29 %
WI	1	1 %	0	0 %
LA	3	3 %	1	33 %
OK	1	1 %	1	100 %
TX	7	8 %	5	71 %
NE	6	6 %	1	17 %
CO	1	1 %	0	0 %
SD	1	1 %	1	100 %
HI	1	1 %	0	0 %

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Appendix C

Environmental Indicators
NPDES Majors Performance Analysis

NATIONAL DATA

Regions 9 and 10 have very poor data quality and the data are unreliable.

C.1 Environmental Indicator Data FY 1999-2001

	1999	2000	2001
*Percent of Enforcement Actions that Result in the Reduction, Elimination or Treatment of Pollutants	29 %	35 %	46 %
Percent of Effluent Limit Violations Causing SNC	--	--	25%
Percent of SNCs that are Effluent Related	--	--	50%

* These data are reported to docket but there is no way to distinguish which cases are for majors, except where a link can be made to a permit number in PCS. A total of 364 cases were linked to a major permit number in PCS (out of 577 majors with enforcement actions). Therefore, this data represents only a 63 % of cases with pollutant reductions for 2001. Additionally, data quality is low because of poor reporting. These data are not reliable for meaningful analysis.

C.2 FY 2001 Effluent Violations for Conventional Parameters and Percent Over Limit
Shaded boxes are the 4 highest number of exceedances per category.

Percent Over Limit	<20%	20% - 39%	40% - 59%	60% - 79%	80% - 99%	100% - 199%	200% - 499%	500% - 999%	>1,000%	Unk	Total
Number of Violations	2,918	2,073	1,263	879	687	1,536	1,234	487	580	57	11,714
Percent of All Violations	25%	18%	11%	8%	6%	13%	11%	4%	5%	<1%	100 %

C.3 2001 Effluent Violations for Toxic Parameters and Percent Over Limit
Shaded boxes are the 4 highest number of exceedances per category.

Percent Over Limit	<20%	20% - 39% (SNC limit)	40% - 59%	60% - 79%	80% - 99%	100% - 199%	200% - 499%	500% - 999%	>1,000%	Unk	Total
Number of Violations	845	798	515	374	485	817	994	454	832	107	6,221
Percent of All Violations	14%	13%	8%	6%	8%	13%	16%	7%	13%	2%	100 %

Note: There are an additional 28,286 effluent limit violations that are for neither conventional or toxic pollutants. Total effluent limit violations = 46,231

C.4 FY 2001 Inspection Coverage and Formal Actions at SNCs in 303(d) Listed Water Segments

	# in 303(d) listed water segments	# in 303(d) listed water segments that were inspected in last 2 years	# in 303(d) listed water segments that had a formal action in last 2 years	Percent of SNCs in 303(d) listed waters that had a formal action in last 2 years	Percent of SNCs in NON 303(d) listed waters that had a formal action
SNCs	498	473	114	23 %	24 %
Repeat SNCs	100	96	30	30 %	27 %
Perpetual SNCs	8	8	3	38 %	32 %

Many segments have not yet been characterized, so this probably undercounts facilities in priority water segments.

REGIONAL DATA

Note: Regions 3, 7, 9 and 10 have DMR entry rates below 95% (the national target). Region 9 has a DMR entry rate of 48%. (FY 2001)

C.5 Percent of Actions Requiring Pollutant Reductions, Elimination or Treatment (Federal Actions Only)

Shaded boxes have \leq 50 % of actions requiring pollutant reductions, elimination, or treatment.

Region	1999	2000	2001	1999-2001
1	33%	25%	100%	47%
2	18%	19%	36%	23%
3	17%	50%	0%	15%
4	0%	30%	67%	29%
5	50%	50%	100%	60%
6	14%	38%	39%	36%
7	67%	25%	100%	50%
8	0%	0%	0%	0%
9	50%	100%	43%	50%
10	67%	100%	75%	78%
Total	29%	35%	46%	35%

C.6 Effluent Violations for Toxic Parameters and Percent Over Limit 2001

Shaded boxes are regions with higher percent of total toxic exceedances than percent of all SNCs. Diagonal bars are regions with $\geq 13\%$ of toxic exceedances over 1,000%.

Region	% of all major SNCs	Total # of Toxic Exceedances	# Toxic Exceedances Over 1,000%	% of Region's Toxic Exceedances over 1,000%	% of All Toxic Exceedances
1	9%	788	56	11%	13%
2	6%	1,349	203	18%	22%
3	7%	797	50	6%	13%
4	21%	810	113	14%	13%
5	22%	1,005	127	13%	16%
6	21%	642	73	11%	10%
7	7%	167	27	16%	3%
8	3%	64	8	13%	1%
9	2%	531	141	27%	9%
10	1%	64	4	6%	1%
Total	100%	6,221	832	13%	100%

C.7 Effluent Violations for Conventional Parameters and Percent Over Limit 2001

Shaded boxes are regions with higher percent of total conventional exceedances than percent of SNCs.

Region	% of all major SNCs	Total # Conventional Exceedances	% of Total Conventional Exceedances
1	9%	1,249	11%
2	6%	2,127	18%
3	7%	710	6%
4	21%	2,465	21%
5	22%	1,868	16%
6	21%	1,618	14%
7	7%	873	7%
8	3%	179	2%
9	2%	421	4%
10	1%	204	2%
Natl.	100%	11,714	100%

STATE DATA

Note: The following states have DMR entry rates below 95%: DC, AL, OH, WI, NM, TX, MO, NE, WY, AZ, HI, CA, NV, AK, ID. The following states have DMR entry rates below 91%: DC, WI, MO, NE, WY, AZ, HI, CA, NV, ID. (FY 2001)

Percent of Actions Requiring Pollutant Reductions

This information is not currently tracked or reported by state.

C.8 Number of Effluent Violations for Toxic Parameters and Percent Over Limit 2001

Shaded boxes are states with higher percent of total toxic exceedances than percent of all SNCs.

Diagonal bars are states with $\geq 13\%$ of toxic exceedances over 1,000%.

% Over Limit	% of All Major SNCs	Total # of Toxic Exceedances	# Toxic Exceedances Over 1,000%	% of State's Toxic Exceedances over 1,000%	% of All Toxic Exceedances
CT	1.9	211	11	5.2%	3.4 %
MA	3.1	349	42	12%	5.6 %
ME	1.3	69	8	12 %	1.1 %
NH	1.1	93	15	16%	1.5 %
RI	.7	55	7	13%	1 %
VT	1	11	3	27%	.2 %
NJ	.5	17	2	12%	.3 %
NY	4.9	295	11	4%	4.7 %
PR	--	1,037	190	18%	17 %
DC	.2	0	0	0%	0
DE	--	5	0	0%	<1%
MD	1.5	24	3	13%	.4 %
PA	2.8	222	15	7%	3.6 %
VA	1.5	416	15	4%	6.7 %
WV	1.3	130	17	13%	2.1 %
AL	4.3	85	9	11%	1.4 %
FL	2.8	233	38	16%	3.7 %
GA	1.1	93	11	12%	1.5 %
KY	1.5	37	3	8%	.6 %
MS	1.8	119	19	16%	2 %

% Over Limit	% of All Major SNCs	Total # of Toxic Exceedances	# Toxic Exceedances Over 1,000%	% of State's Toxic Exceedances over 1,000%	% of All Toxic Exceedances
NC	4.1	117	16	14%	2 %
SC	1.2	39	3	8%	.6 %
TN	3.9	87	14	16%	1.4 %
IL	1.7	146	15	10%	2.3 %
IN	4.0	209	11	5%	3.4 %
MI	3.9	82	13	16%	1.3 %
MN	1.7	12	2	16%	.2 %
OH	6.4	491	80	16%	8 %
WI	5.0	69	6	9%	1.1 %
AR	1.3	34	10	29%	.5 %
LA	3.4	169	26	15%	2.7 %
NM	.5	12	0	0%	.2 %
OK	1.4	62	7	11%	.1 %
TX	14.3	365	30	8%	5.8 %
IA	1.9	53	3	6%	.9 %
KS	1.3	3	3	100%	<.1 %
MO	2.5	87	14	16%	1.4 %
NE	1.3	24	7	29%	.4 %
CO	.7	37	6	16%	.6 %
MT	.5	6	0	0%	<.1 %
ND	.1	0	0	0%	0
SD	.2	11	2	18%	.2 %
UT	.6	10	0	0%	.2 %
WY	.7	0	0	0%	0
AZ	.6	50	5	10%	.8 %
CA	1	440	136	31%	7%
HI	.1	40	0	0%	.6 %
NV	.5	1	0	0%	<.1 %

% Over Limit	% of All Major SNCs	Total # of Toxic Exceedances	# Toxic Exceedances Over 1,000%	% of State's Toxic Exceedances over 1,000%	% of All Toxic Exceedances
AK	.1	14	0	0%	.2 %
ID	.3	8	0	0%	<.1 %
OR	.2	13	0	0%	.2 %
WA	.4	29	4	14%	.5 %
Total	100%	6,221	892	13%	100 %

C.9 Distribution of Exceedances 2001

Shaded boxes are 3 categories with the most exceedances (by state)

% Over Limit	<20%	20%-39% (SNC limit)	40%-59%	60%-79%	80%-99%	100%-199%	200%-499%	500%-999%	>1,000 %	Unk.
Number of States with 1 st or 2 nd most exceedances in this category.	22	12	2	2	2	11	18	7	12	0

Senator CRAPO. I should announce to the folks here that we have been informed that we are going to have a vote at 11:30 a.m., which means in about 5 or 6 minutes, if it occurs as they have projected it. So what I am going to do is continue the questioning of this panel for that five or 6 minutes, and then we will come back after the vote and begin the third panel. If there are no senators here to switch off, then what we will probably do is just recess for a short time. I think it is only one vote, and go over and vote and come back, and then resume the panel.

In the few minutes that I have to go back into questioning, I would like to talk for a moment about some of the difficulty we are facing with regard to getting a handle on what is coming out from the Agencies as to how we are administering the wetlands program. Mr. Dunlop, I have a copy of a Powerpoint presentation that the Jacksonville District of the Corps is giving on the SWANCC decision and the advance notice of proposed rulemaking. Are you familiar with that document?

Mr. DUNLOP. No, sir, I am not.

Senator CRAPO. Basically what it does is go through a number of the issues to try to explain to folks. I assume it is a presentation to try to help people who are dealing with the issue to understand where we are today.

Mr. DUNLOP. Yes, sir.

Senator CRAPO. Just to give you a couple of examples, on the section entitled "adjacent waters," it has a little duck talking to explain the circumstances. It is talking about the fact that the Supreme Court has not defined the term "adjacent" or whether the basis for adjacency is geographic proximity or hydrology. Then it goes on to talk about the fact that wetlands are jurisdictional only if they are adjacent to navigable waters, and describes the fact that the Corps defines "adjacent" as bordering, contiguous or neighboring, and has a little map showing that this could be many different things. In fact, it says that there is no fixed distance that may be required.

The ultimate conclusion of the section on adjacency is that there isn't even a definition of where the measuring point starts, so we don't know where the measuring point starts for what is adjacent; we don't know what distance we are talking about in terms of bordering, contiguous or neighboring. And the little duck says, "Adjacent is what I say it is." It seems to me that that is about the kind of clarity that we have in the advance notice of rulemaking and the status of where we are right now. I just wanted to ask you if you feel that this is the way that we should be approaching the definition of what it is that we are getting at under Section 404 of the Clean Water Act?

Mr. DUNLOP. Well, sir, I think that the process that we have is the appropriate process. As we discussed earlier, another option would be just to not do anything and let the courts litigate these matters and come up with all these disparate decisions, and maybe that would provide enough guidance. That could take years and be totally unsatisfactory.

The other approach could be that maybe a bunch of smart guys like us could sit around in our various agencies and we could think up very specific definitions for all these matters and send them forth top-down from Washington and decree all these things under the authorities we have. The third option is to go out to the public and say, gosh, there are a lot of things to think about here, just as you have described. Can you, Mr. and Mrs. America and people who have a demonstrated interest in these things, inform the policy process?

That is what the ANPRM asked them to do, Would you inform this process? Then ultimately, the obligation does reside, if we go through a rulemaking, for those people in the executive branch in

effect to legislate through rulemaking, or there may be other ways that legislation entails through the legislative branch. The point is that this process of collecting information and data and comments from a broad range of the American people seems to us to be the most prudent and best way to bring all these matters to conclusion.

Senator CRAPO. So you are telling me that as the matter does come to conclusion, we should seek to get some clarity on matters as to the definition, for example, of what "adjacent waters" means?

Mr. DUNLOP. Yes, sir.

Senator CRAPO. And that when we are at that point of the conclusion, we should have clarity in these definitions?

Mr. DUNLOP. Yes, sir. I think that is fundamental to the rule of law.

Senator CRAPO. I would certainly agree. One of the reasons that we are having this hearing is to try to figure out whether and if so and in what way Congress needs to weigh in on this issue. Obviously, there already has been a piece of legislation introduced to deal with it in one context. I am sure there are a lot of ideas about how that should be done.

Do you have any idea, or can you give me a projection as to when the rule would be proposed and be made available?

Mr. DUNLOP. The reason that it is very complicated to give a reasonable projection is because of the enormous number of comments that have arrived, as Mr. Mehan was describing, and our sincere interest in parsing these comments in a way that will have legitimacy in terms of fully considering all these matters. I think we tend to be biased to action at the Army, and we would like to move sooner than later.

Senator CRAPO. So maybe next week?

Mr. DUNLOP. No.

[Laughter.]

Mr. DUNLOP. But I don't know that we have even done more than open all those 133,000 envelopes yet. But as we delve into these matters, we will move with dispatch. It is certainly our intent to move with dispatch.

Senator CRAPO. You do not have a projected time line?

Mr. DUNLOP. No.

Senator CRAPO. I just want to conclude with one further observation, and if any of you would like to comment on what I am going to go through here, you are certainly welcome to. Just to show an example of the breadth of what we seem to be dealing with here in terms of the previous interpretation of the Clean Water Act, I have a copy of a water discharge permit for the San Diego area. In this document, it defines what are the waters of the United States. This as previously, and I realize we are in kind of a confused state right now as to what we are talking about. But in here, it says, as has been stated previously in some of the testimony and some of the questions, that a municipal separate storm sewer system is considered to be a part of the waters of the United States.

Then when you look at the definition of what that storm system is, I mean, a municipal separate storm sewer system includes a whole bunch of things. It is a lot of small print here. But one of the things it includes is everything, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches,

natural drainage features or channels, modified natural channels, manmade channels, or storm drains. We are talking about regulating under Section 404, if it were done the previous way we were approaching it, regulating gutters in streets.

The question I have as I approach all of this is, as we try to make sense out of the SWANCC decision and where we go from here, is whether we intended that under the Clean Water Act in the first place, and regardless of whether we intended it then or not, what the sensible approach to regulating the wetlands of the United States should be.

It seems to me that we are getting pretty far out there as we start talking about regulating gutters in streets, as opposed to truly focusing on the wetlands with a regulatory regime. I go back to my earlier comments about the number of other Federal statutes that are at play here.

I realize that I am just making a statement, but if any of you would like to comment on that before we wrap up, I assume those bells were the votes. Before I toss it to the panel, maybe I should see if the Chairman or anyone else does.

I will tell you what. Let's do this. The Chairman wants to ask one question of one of the panelists on the next panel.

Senator INHOFE. They can go ahead and respond to this, because we have 10 more minutes; 15 probably.

Senator CRAPO. OK. If any of the members of this panel would like to respond to my comments, very briefly, you may.

Mr. MEHAN. Just again, I think your question is evidence of the difficulty of sorting out the 404 issues from the whole Clean Water Act, since stormwater is regulated in fact in many circumstances as a point source under the Clean Water Act. We have hundreds of thousands of general permits regulating those, and CSOs.

Senator CRAPO. So it is not as though it is not already regulated.

Mr. MEHAN. Yes, and it is, and then the watersheds. So in other words, there may be cases where 404 jurisdiction has been extended beyond what the science or the law allows. I don't think that the stormwater example is a posit, because you are essentially talking about things all within the same watershed and that have a hydrological connection.

Senator CRAPO. Good point.

We would like to thank this panel for your attention to this issue and for coming here today. You are excused.

Mr. DUNLOP. Thank you for all your courtesy, Senator.

Senator CRAPO. Thank you.

We would like to invite the next panel to come up. What we are going to do is get you seated. We are not even going to let you make your opening statements yet. Senator Inhofe is going to ask a question or two of one witness, and then we will recess.

Senator INHOFE. Thank you. I appreciate that.

Senator CRAPO. While the next panel is coming up, I will introduce them. First is Michael Bogert, who is Counsel for the Governor of Idaho, a good friend of mine. Michael, welcome here. Next is Richard Hamann, Associate in Law at the University of Florida; Robert J. Pierce, President of Wetlands Science Application, Inc.; and Scott Yaich, who is the Director of Conservation Programs at Ducks Unlimited.

Scott, you are the lucky guy that the Chairman wants to ask a question or two of before we break and run to the vote.

Senator INHOFE. Mr. Chairman, I appreciate that. That is very accommodating. As you know, we have some commitments where I won't be able to come back.

Mr. Yaich, I just want to get this thing on the record and get clarified in my own mind the position Ducks Unlimited. I was in shock when I saw you were going to be here testifying in the testimony that you had. Apparently, Ducks Unlimited has changed considerably in the last few years since my son has been president of a local chapter and all my kids are very active members. I have also been. I did not realize you are taking the positions that you are taking.

Now, in the case of let's just say my neighboring State of Arkansas, where a lot of us go over there and hunt. We have very cooperative farmers over there. They are rice farmers and they flood their fields, which they have to do. But in order to accommodate the hunters, they leave the fields flooded so they can come in and hunt on their fields.

Now, I would have to ask the question, and maybe the question should go to Mr. Hamann, if the drainage ditches on rice farms were considered jurisdictional, would the farmer need a permit before discharging any water containing pollutants? Let's see, let's do that for Mr. Hamann. Would you have any thoughts on that?

Mr. HAMANN. If they were jurisdictional, yes, it would require permits. But there is an exclusion for prior converted cropland, and there is an interpretation of wetlands that excludes areas that are allowed to go fallow for some period of time, or that are used in the production process. I think rice fields fall within that exclusion.

Senator INHOFE. Of course, when they have to come and drain them after this period of time, whatever that is, after the season is over, and there are pollutants at that point that go in, which could come from waste from ducks or from any number of things, could that put at risk a farmer in terms of what he might have of any types of remedies?

Mr. HAMANN. Well, actually Congress has created an exclusion from the discharge definition for irrigation return flows and drainage from agricultural lands, which has actually caused quite a few problems, for example, in Florida, where drainage from sugar cane fields is polluting the Everglades and it is not regulated under the Clean Water Act. So the rice farmers are basically exempt.

Senator INHOFE. Except that that regulation is for the purpose of irrigation. If they leave it irrigated for the other purposes, are you certain that that would not be considered a problem or exposure for that farmer?

Mr. HAMANN. The 11th Circuit recently held that there was no jurisdiction over those discharges in the case of drainage from sugar cane areas, which is not irrigation water either. The case is *Fisherman Against Destruction of the Environment v. Closter Farms*, 300 F. 3d 1294 (11th Cir. 2002).

Senator INHOFE. Mr. Yaich, then you don't think there would be any reluctance on behalf of some of the farmers with this interpretation to allow people to come in and use that property? Is that your feeling?

Mr. YAICH. Yes, there has not been that reluctance.

Senator INHOFE. I am sorry?

Mr. YAICH. There has not been that reluctance.

Senator INHOFE. Well, but this is all fairly new. I mean, we are talking about now with the changes that we are contemplating and that are contemplated under some pending legislation. But you have answered my question and I appreciate it very much. Thank you.

And Mr. Chairman, thank you for allowing me to ask those questions before the next vote.

Senator CRAPO. Thank you.

Now that you have gotten seated and we have had a little bit of questioning, we will go vote and go into recess. We will be back as soon as we can. Thank you.

[Recess.]

Senator CRAPO. The hearing will come to order. I appreciate everybody's patience. I have been informed that they are going to call another vote at 12:15 p.m., which is 20 minutes from now. So if you guys all stick to your 5 minutes, we might make it at least through your testimony.

Let's start out. Mr. Bogert?

STATEMENT OF L. MICHAEL BOGERT, COUNSEL, GOVERNOR OF IDAHO

Mr. BOGERT. Mr. Chairman, thank you for the invitation to speak to the committee today. My name is Michael Bogert. I am Counsel to Governor Kempthorne. Unfortunately, the Governor could not join the committee today, but he asked me to extend his warmest regards to yourself and the other members of the committee.

Mr. Chairman and members, I appreciate the opportunity to give you and the distinguished Senators Governor Kempthorne's perspective on the SWANCC decision and what it means to our great State of Idaho.

As an initial matter, Idaho is mindful that Section 101 of the Clean Water Act declares that it is the policy of Congress to recognize, preserve and protect the primary responsibilities and rights of States to prevent, reduce and eliminate pollution and to plan the development and use of land and water resources.

Mr. Chairman, we are very comforted that Congress has enacted a statute that has the words "rights of States" in them, and that is the context by which we view the discussion this morning. This statutory declaration for Idaho is the ideological lens by which we will view any attention by Congress to the Clean Water Act in the aftermath of SWANCC.

However, we would be remiss if we did not acknowledge how much we appreciate the chance to even offer the State's perspective on this important decision by the Supreme Court to the committee today, as well as to the Federal executive branch agencies wrestling with this complex issue.

Through the advance notice of proposed rulemaking, or the ANPRM, which has been of much discussion this morning, we believe the President has signaled he is approaching this problem from a decidedly different direction. Through the ANPRM, the

Bush Administration has stated that it does not have all the answers up front, but it wants to be sure to ask all the right questions early. Mr. Chairman, a little bit of humility from the Federal Government in this regard is greatly appreciated by our State.

The Administration is also saying that it is keenly aware that the SWANCC decision will have an impact on key partners such as the States in Clean Water Act implementation, and that even before a proposed rule is in order, the Federal agencies want an idea of what looms on the horizons for its administrative decision-making. Governor Kempthorne appreciates this approach taken by the President. I have submitted the Governor's very brief comments on the ANPRM for purposes of today's record.

To provide the committee with some very brief background, and as noted in our comments, Idaho does not presently administer a delegated Clean Water Act program under Section 402 for NPDES permits. We are presently exploring whether an NPDES program makes sense for our State and if so, as of this moment, Idaho is not a participant in this familiar model of cooperative federalism. But that does not mean that we are not accomplished practitioners in Idaho of both cooperation and federalism.

Addressing cooperation, just last week the Governor forged a second agreement in 3 years with the region's Governors on salmon recovery, and in this past legislative session in Boise, we paved the way under our law for Federal-State wolf management. So Mr. Chairman, as you are well aware, Governor Kempthorne's model very much is cooperation with the Federal Government.

We are also pleased to hear today from the Assistant Attorney General that the Justice Department shares the values of partnering with the States to advance our mutual interests on environmental protection. Of course, on the federalism side, you will have no greater champion for States' rights than Governor Kempthorne.

Indeed, one of the core values we bring to this debate is that the best achievable results in environmental regulation occur where the Federal Government not just joins, but partners with State and local decisionmakers to avoid the consequences of top-down regulation.

Mr. Chairman, as the committee and Congress deliberate over its response to the SWANCC decision, we think that it is important to have a better understanding of the backdrop of the case, and I will briefly describe why the Supreme Court ended up granting certiorari in the first place.

As has been discussed, the petitioner was a coalition of municipalities and they had been trying to secure a permit for a hazardous landfill during a time period beginning from the mid-1980's. They purchased a 533-acre site which once accommodated gravel and strip mining. They worked on this process, and they had received all the State and local zoning permits, in addition to a landfill development permit from the Illinois EPA, as well as passing review by the appropriate State Department of Conservation.

Mr. Chairman, in the brief that the petitioners filed in the Supreme Court, they describe at length the mitigation process and the negotiations that they entered into. I commend this brief to the

members of the committee and the Chair as an important component of this statement.

Senator CRAPO. Mr. Bogert, could you make a copy of that brief available for the record?

Mr. BOGERT. I would be pleased to do so, Mr. Chairman.xxx

Senator CRAPO. Thank you.

Mr. BOGERT. The petitioners asked the Army Corps of Engineers not once but on two separate occasions within a year's period whether the court had jurisdiction over this site. Each time, in successive occasions, the court responded it did not have jurisdiction over the landfill.

But after being alerted by an environmental organization that the site may have been briefly home to some migratory birds, the Corps changed its mind, and as we all know, it invoked the Migratory Bird Rule, which by the way is neither a rule and barely deals with migratory birds, but that is for another moment, Mr. Chairman.

Along the way, in addition to making its 404 permit applications, SWANCC obtains two separate water quality permits under Section 401 of the Clean Water Act, and then submitted their permit twice on two separate occasions, and both times the court ended up denying the permit. Probably believing that this was too much government, SWANCC decided to take their case all the way to the Supreme Court. There is no question that that fact circumstance was probably influential in the Court hearing the case in the first instance.

Mr. Chairman and distinguished Senators, as you consider this issue it is vitally important that the past sins of the Federal Government in this context that I have just described not be borne on your progeny. The Governor would advise that the Congress exercise its Commerce Clause authority carefully, and ask if the answer really is extending the jurisdiction of the Federal Government to the curbs and gutters of our streets, as we have just described in the city of San Diego. We in Idaho do not think that is necessarily the best path forward.

The other question also that lingers in our mind is if the Army Corps has the appropriate resources to deal with streets and gutters and ponds with birds in them. But it is vitally important that Congress consider what the Supreme Court actually said in SWANCC.

One argument that we have heard today is that SWANCC was merely a regulatory interpretation case and that it is holding should be narrowly construed by the Agencies and Congress. But Mr. Chairman, the Supreme Court went out of its way in SWANCC to dust off its two major Commerce Clause cases, Lopez and Morrison, and indicated that by a hair's breadth, this decision could have very well gone in that direction as well.

As Congress looks at how to deal with SWANCC, we would ask that the members be mindful of the Court's current Commerce Clause jurisprudence that lurks just closely nearby. From our vantage point in the Governor's office in Boise, the lessons of Lopez, Morrison and SWANCC are not that Congress necessarily cares more than the States do about guns in school, violence against women, or water pollution in general.

Rather, Governor Kempthorne would submit to his former colleagues that real achievement in addressing these noble policy goals should include those in the framework of our Federal system of government who bring the most promise to achieving results. In our view, Mr. Chairman as you well know, those achievers are States such as Idaho.

Thank you, Mr. Chairman, for my time this morning. I appreciate being here.

Senator CRAPO. Thank you very much, Mr. Bogert. As I mentioned briefly before, but I should have introduced you a little better. Mr. Bogert is a good friend of mine, a good friend and supporter of Idaho and our great Governor, Governor Kempthorne, and we thank you for being here.

Mr. Hamann?

**STATEMENT OF RICHARD HAMANN, ASSOCIATE IN LAW,
UNIVERSITY OF FLORIDA**

Mr. HAMANN. Thank you, Chairman Crapo. I thank you for the opportunity to speak with you today about the decision in SWANCC and how it can be reconciled with the goals of the Clean Water Act. I have submitted written testimony and would ask that that be accepted into the record.

Senator CRAPO. The testimony of all witnesses will be accepted in the record.

Mr. HAMANN. SWANCC was a significant setback to the progress we have made as a Nation in protecting and restoring our water. It affects not only the protection of wetlands from dredging and filling, but the discharge of oil, toxics and conventional pollutants. It is critically important in a State like Florida where many of our most important wetlands and surface waters are not directly connected to navigable waters. Although Florida does regulate these so-called isolated waters, Federal regulation is an important backstop and supplement. I think that has been the opinion of most of the other States that apparently have commented on this issue. Furthermore, the rivers in North Florida come from Georgia and Alabama, where there are no protections for isolated waters, and much of our wildlife travels across State lines.

The value of wetlands and the vulnerability of our waters are not defined by the traditional concepts of navigability. I believe that is why, although Congress used the term "navigable waters," it defined it as "waters of the United States". I believe the majority opinion in SWANCC gave inadequate weight to that definition, to the intent of the Clean Water Act, to its legislative history and its structure. I think it failed to give deference to the views of the expert Federal agencies, their ecological judgment, and it suggests the possibility at least of extreme new limits on Federal authority to regulate our Nation's waters based on concepts of limitations of the Commerce Clause and federalism. But it didn't do it. The actual holding of the case is much more limited. It held that the rule, as clarified and applied to the site, pursuant to the Migratory Bird Rule, exceeds the authority granted to respondents under the Clean Water Act.

So the issue before the agencies and Congress is how to respond. The initial response of the agencies was to confine the case to its

specific holding. Most of the lower courts have been doing that also, and the Department of Justice has been consistently arguing that position in litigation. This has significant advantages. There is at least the possibility that the Supreme Court will not extend this case beyond its specific holding.

In that case, the regulatory definition of "waters" will have been weakened, but not critically. It will have been reduced, but not as significantly as it could be. I think it is important to retain that definition and related definitions such as "adjacent" because they have been tested and sustained and applied and used by people in the field for many years. On that basis, for those reasons I think it is premature to substantially revise it administratively.

Congress could settle the issue relatively easily by simply removing this term "navigable" from the statute, and clarifying what the intent was. I think that would probably be the ideal solution. The constitutional issues would remain, of course, but it seems clear to me that the record would support the conclusion that the discharge of pollutants is an economic activity, and that interstate commerce depends on clean water, controlling floodwaters, the existence of wildlife, and other resource values that can be affected by the discharge of pollutants.

There is at least the possibility of the agencies modifying the definitions to strengthen Clean Water Act jurisdiction. They could eliminate, for example, the need to show that the degradation of a particular water affects interstate commerce, and base their jurisdiction on the fact that dredging and filling is an economic activity that in the aggregate substantially affects interstate commerce. The current definition draws this need into the definition of those other waters which are subject to regulation.

The agencies could clarify that tributaries include any system of artificial or natural streams, ditches, drains, swales, arroyos, aquifers, or other drainage features that are reasonably likely to convey water to navigable waters. Senator Crapo, you raised the issue earlier of the storm drains. There is a case from Florida that I cited in my written testimony, Eidsen, where a gentleman was dumping toxic sludge into storm drains that were then flowing into other waters. There was no jurisdiction under the Clean Water Act except for the fact that he was discharging to "navigable waters". They were able to bring an enforcement action against him based upon those definitions.

The agencies could expand or clarify the definition of "navigable waters." It should include waters that are used or susceptible of being used for recreational purposes. Perhaps there is an opportunity to defer to States, many of which utilize a broader definition of what "navigable waters" means than you see in the Federal definition. They could define the concept of "adjacency" to ensure that any waters that bear a significant ecological relationship to navigable waters are regulated. The case law and the developing jurisprudence supports these definitions, and it may be better to let that play out a little bit further, and then go into a regulatory mode.

Thank you, Mr. Chairman.
Senator CRAPO. Thank you, Mr. Hamann.
Dr. Yaich?

STATEMENT OF SCOTT YAICH, DIRECTOR OF CONSERVATION PROGRAMS, DUCKS UNLIMITED

Mr. YAICH. Thank you, Mr. Chairman.

My name is Scott Yaich and I am the Director of Conservation Programs at Ducks Unlimited's national headquarters in Memphis.

I appreciate the opportunity to speak with you today on behalf of DU and our more than one million supporters. Our mission is to conserve, restore and manage wetland and associated habitats for North America's waterfowl and for the benefit they provide other wildlife and the people who enjoy and value them. We are a science-based conservation organization, so our perspectives on the issue of this hearing are grounded in the water-related sciences that we believe provide useful insights.

Of the original 221 million acres of wetlands in the U.S., 53 percent were lost by 1997. DU has long worked with voluntary incentive-based conservation programs such as those provided through the farm bill's conservation titles, and the North American Wetlands Conservation Act. With our many private and public partners, we have conserved almost 11 million acres.

Despite our successes and those of many others, the Nation still loses over 100,000 acres of wetlands annually, which has a cumulative negative impact on waterfowl and on the Nation's water quality and related Federal interests.

I can use the wetlands of the Prairie Pothole Region, which you see in this photograph here, the prototypical geographically isolated wetland, to illustrate our concerns. Of the 20 million potholes that once existed in the northern U.S., only about 7 million remain. Almost all of these wetlands are small, but the region is the most important duck breeding area in North America. One analysis suggested that duck production would decline by over 70 percent if all wetlands less than one acre were lost. Waterfowl are a valuable interstate resource and wetland losses far less than this would greatly impact waterfowl numbers and could result in closed waterfowl seasons with related impacts on the almost 3 million duck and migratory bird hunters who in 2001 spent \$1.4 billion for hunting-related goods and services. Thus, DU and other sportsmen's organizations are very concerned about the potential impacts of any change that would lessen jurisdictional coverage of wetlands such as these.

The Supreme Court's SWANCC decision invalidated one facet of the so-called Migratory Bird Rule as the sole basis for determining jurisdictional wetlands. This has led to uncertainty regarding Clean Water Act jurisdiction. However, in their SWANCC decision, the Court explicitly reaffirmed jurisdiction over navigable waters, their tributaries, and adjacent wetlands, and re-stated their observation in the U.S. v. Riverside Bayview Homes decision that, quote, "Congress' concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands inseparably bound up with the waters of the U.S.," further clarifying that, "It was the significant nexus between the wetlands and navigable waters that informed our reading of the Clean Water Act in Riverside Bayview Homes." With these statements, the Court clearly viewed connection between wetlands and navigable waters as a critical determinant for Federal jurisdiction.

In light of SWANCC, focus must be placed on the definitions of “adjacent” and “significant nexus” for assessing the relationship between geographically isolated wetlands and navigable waters. The Court implicitly recognized wetland function as an essential element of proximity in Federal jurisdiction, and accepted that adjacency presumes functional connections between wetlands and navigable waters.

In light of the Court’s use of these terms, it could be so to integrate them into the single concept of functional adjacency. Adjacency from a scientific standpoint cannot be viewed as being limited to physical proximity. To fulfill the Clean Water Act, there should be recognition of the direct functional connections of water and wetlands, groundwater, and flowing navigable waters.

Well-known wetland functions such as surface water storage and flood abatement, groundwater recharge, and water quality maintenance have significant values. For example, New York City initiated a \$250 million program to protect up to 350,000 acres of wetlands in the Catskills to protect the quality of its water supply as an alternative to spending \$6 billion to \$8 billion constructing water treatment plants. Boston is acquiring 5,000 acres of wetlands in the Charles River watershed, rather than constructing a \$100 million flood control dam. The Corps of Engineers determined that flood damages there would increase by \$17 million per year if the 8,400 acres of wetlands in the Charles River basin were drained, a wetland functional relationship was vividly illustrated in the Midwest floods of the 1990’s.

If functional linkages between wetlands and navigable waters are recognized when defining “adjacency” and “significant nexus,” the Clean Water Act could contribute to achieving President Bush’s goal of no net loss. However, if these terms are not defined in the hydrologic context, there will be significant negative impacts to wetlands and waterfowl populations. While DU strongly supports the use of incentive-based programs for wetland conservation, they are unlikely to be funded at levels sufficient to offset potential wetland losses.

We agree that clarification of jurisdictional wetlands and waters is important and overdue, and we believe that it should be rooted in science that can be expeditiously provided through administrative guidance processes. This could at least restore the level of wetlands protection that existed prior to SWANCC. In any case, any changes to the Act or its administration should only be undertaken if they strengthen protection of the Nation’s wetlands.

We appreciate this opportunity to present our views on an issue that is so central to our mission.

Senator CRAPO. Thank you, Dr. Yaich.

Mr. Pierce?

**STATEMENT OF ROBERT J. PIERCE, PRESIDENT, WETLANDS
SCIENCE APPLICATIONS INC.**

Mr. PIERCE. Thank you, Mr. Chairman.

With the concept that a picture is worth 1,000 words, what I would like to do, and I believe you have a set of color copies of these up there, is run through a quick slide presentation.

For 30 years now, the Federal Government has been educating the public on what are wetlands and waters of the U.S., why they should be protected, and their value to society. Normally, they depict areas with standing water on them, lush vegetation, waterfowl, and wading birds. From the time of our earliest youth, in fact, people are indoctrinated that they should view wetlands as being in many cases exotic vegetation such as bald cypress, beavers, ducks, and plenty of standing water.

If we go to the Corps' web sites today, we will find pictures like this of what the Corps considers to be wetlands. If we go to the regulated public, though, what we see is a vastly different thing. This is a shot from Maryland of a regulated wetland. This is a shot from New Mexico of a regulated wetland. This is a shot from California that the Department of Justice says is a regulated wetland. It is loaded with non-wetland plants; does not have hydric soils. It is loaded with ground squirrel burrows and, if you are wondering, ground squirrels do not have webbed feet.

This is what the Corps shows on its Web site as being the waters of the U.S. that need to be regulated, the navigable waters. Here is another shot from a Corps web site. These are the things that are actually being regulated today. This is right over in Potomac, Maryland. On the left you can see the headwaters of this navigable water. It is Glenn Road, about 60 feet up above that culvert. If we look downstream toward the natural stream, there is a ditch that flows on through.

This was about 2 weeks after a 24-inch snowfall, and you can see that there is no water, even with snow melt occurring in this picture. But that is a navigable water regulated by the Corps of Engineers.

These, too, are regulated ponds. They are actually constructed animal waste ponds that have been abandoned. They are in California. The one on the top has no vegetation. It is still considered a wetland by the Corps. The reason they are regulated is because they are approximately 100 feet from, not connected to, but 100 feet from this navigable water, which is a ditch. That navigable water in fact has been terminated down-slope of the property because the Corps in another case said it was not regulated, and it was filled. So there is no actual connection, and yet those two ponds are jurisdictional today under the Clean Water Act.

Here is the Estrella Fan in Maricopa County, Arizona. This is a regulated navigable water. In the last 9 years, there has only been a total of 9.5 hours of flow in Estrella Fan. That is .4 events per year. In fact, there has only been four times that it has flowed in the last 4 years; 99.9 percent of the time it is dry. The four events that did occur never reached the Gila River, let alone the Colorado River which is a navigable water, which gets to the point of water crossing States. There are many systems where the water will never reach another State. There are systems where it will, but that is something that needs to be taken into account and is not.

Here is a regulated navigable water in Hemet, California. No gutters on this road, but we have roadside ditches. The ditches are considered navigable because the Corps says that they will intercept water that would otherwise be regulated. So the ditches become regulated.

Here is a regulated navigable water in Washington, DC. It was 70-feet long. The headwaters of that is a parking lot, and it was composed of rubble. It was the drainage from that parking lot. It took the Corps of Engineers' headquarters to come out and convince the Baltimore District that that it should not be regulated as a navigable water.

Here is a navigable water in Nogales, Arizona. The difference between this and many of the roads that occur in the desert part of the U.S. is infinitesimal.

Now, one of the issues that needs to be addressed is the concept of ordinary high water mark. Here are three shots, one from Maryland, California and Idaho. The definition that the Corps now uses for "ordinary high water mark," part of it says, "a clear natural line impressed on the bank." If you notice in each of these, there are multiple lines clearly impressed by water on the bank. Which is the natural one? The Corps would regulate to the maximum extent out at the bank in each of those cases. The courts have said, however, that the ordinary high water mark is defined by something less than a 1-year flow.

Another statement in the Corps' regulations, "in the absence of wetlands, the upstream limit of Corps jurisdiction also stops when the ordinary high water mark is no longer perceptible." In California, the South Pacific Division ruled that, "I conclude that a District's policy position that a tributary connection can exist in the absence of a continuous ordinary high water mark is reasonable."

This is a navigable water in Eastern California, another shot of a regulated water in Eastern California. The deposition of the mud is what makes it constitute an ordinary high-water mark—no bed and bank—simply a little bit of mud from a 10-year flood event.

The question then, is, how far does adjacency go? Here is a shot of vernal pools in Northern California. We see a stream going down through the center of this. The question is, is it connected? By groundwater, probably not; there is not enough rainfall to flood these things and have it connected by groundwater.

Here is a situation in Galveston, Texas. In the south-central part of the United States, many Corps' districts regulate everything within the 100-year flood plain. The two areas marked in "A" are 100-year flood plains, so any isolated water body would be regulated there.

This is sheet flow in Maryland. The Migratory Bird Rule has may have been vacated by SWANCC, but it has been replaced by the "Migratory Molecule Rule." The Corps is now regulating when they say, "follow the drop of water." If it is theoretically possible for a drop of water to reach an area, a navigable water, then it should be regulated.

Why only stop at something that has certain plants? This is a wheat field. The water is going to get there and potentially pollute.

This slide is from that same set that you referred to earlier. I think it sums it all up. That is a Corps of Engineers slide, and they have as many questions as the public does on what is jurisdictional.

In conclusion, inconsistencies abound within the Corps Districts themselves and between different Corps Districts. Many definitions are not codified. They are simply put into the nationwide permit

program. Ditches, ephemeral drains, waste ponds, ephemeral wet spots are not navigable waters. The Corps determined that in 1974 and issued a legal opinion on that. Chief Justice Rehnquist reiterated that in his opinion, and rulemaking is essential to clarify this for both the Corps regulators and the public.

Senator CRAPO. Thank you very much, Mr. Pierce.

As you may have heard, a vote has been called. It is beginning to look like this may not be just a single vote, but we may be in a series of this kind of thing. So what I am going to do is to wrap up with a couple of conclusions. I am not even going to ask any of you any questions because I just don't have time.

I apologize for that, because anybody who listened to the testimony here could tell there are a lot of interesting and important things we need to get into. I am going to submit and give other members of the committee opportunities to submit to you written questions which we would have asked had we had time. And I do want to invite you respond fully to those questions, and encourage you to give us further submissions in this context.

It seems to me from the evidence and the testimony that we have taken today that we are very clearly at a point when we need to make a policy decision here in Congress. That policy decision I don't believe is whether we will seek to protect the wetlands of the United States. At least for myself, I am fully committed to that, and I think that every member of the Congress is fully committed to that, as are the American people.

I happen to serve as the Chairman of the Forestry, Conservation and Rural Development Committee in the Agriculture Committee, where we put together a lot of the incentive programs that we have, like the Wetlands Reserve Program, the CRP Program and the like. As a result of that, I am very committed and aware of the different approaches that we have to protecting our wetlands. I can't remember if it was Mr. Hamann or Dr. Yaich who said that the incentive approach was great, but maybe not necessarily sufficient to accomplish the protection of our wetlands, which I agree with.

The point I am getting at here is that we need to determine how we are going to approach the broad policy decision of how we will protect wetlands in the United States, both in terms of what types of and what correlations of Federal statutes are needed, and what relationship we have with the States in terms of the partnership that we need, in terms of protecting and managing the waters of the United States.

To me, any further comments that you might be interested in making in that context in your written submissions would be deeply appreciated. As I said, we will be issuing you written questions, which I encourage you to respond to fully as well.

I again want to apologize to you for the fact that because of the voting schedule, we are not going to be get into the usual give and take of the question and answer period. But I do want to assure you that your written testimony is going to be very carefully evaluated, as will be your answers to these questions. This committee is going to very carefully focus on these issues.

Senator Jeffords, I have not voted yet, so I am going to have to wrap this up pretty fast. Did you want to make any final comments before we proceed?

Senator JEFFORDS. I would like a few. I think we can make the vote.

Senator CRAPO. You haven't voted either?

Senator JEFFORDS. No.

Senator CRAPO. Oh, good. We are in the same boat.

Senator JEFFORDS. Don't worry about it. I will be very fast.

On behalf of Senator Graham, who was necessarily absent today, I would like to extend my special welcome to Dr. Richard Hamann, who is here today from the University of Florida in Gainesville. I am pleased to have you here.

Mr. Hamann, I would like to ask you a question I asked the earlier panel regarding the Migratory Bird Rule. Is there any mention in the SWANCC decision of the other prongs of the Migratory Bird Rule, or any statement that supports the legal interpretation made by EPA and the Corps in their guidance?

Mr. HAMANN. In terms of the application of the Migratory Bird Rule in the sense that it would allow jurisdiction over isolated wetlands simply because they are used as habitat by migratory birds, I think the SWANCC court ruled that out on that basis. But beyond that, they did not address the other issues. They did raise questions, but I believe that they could not get a majority to answer those questions as perhaps the Chief Justice would have desired in his opinion. So they only ruled that the Migratory Bird Rule for that site, as it involved the use by migratory birds, was invalid.

Senator JEFFORDS. Mr. Yaich, so much of the focus of the discussion has been on the term "isolated wetland." However, aren't some of these wetlands connected to groundwater? And could you please elaborate on how isolated wetlands interact with groundwater?

Mr. YAICH. Yes, that is the gist of the issue in many ways. "Isolated" in the SWANCC decision was usually preceded by "geographically isolated." But as I indicate in my full testimony and the comments to the ANPRM, there is abundant evidence that shows linkages between geographically isolated wetlands such as those that were illustrated in that photograph, and groundwater. And then there is a connection also documented between many of those connections, between groundwater and clearly navigable flowing waters. So for purposes of the Clean Water Act and dealing with water quality, there is a direct connection between many of the geographically isolated wetland, groundwater, and then the flowing navigable waters.

Senator JEFFORDS. Isn't it true that impacts on most isolated wetlands can have impacts downstream on navigable waters, like rivers and lakes?

Mr. YAICH. Yes, absolutely, because of the connections I just indicated, any pollutants that are in that water can be carried through there. A good local example might be the category of wetland called Delmarva Bays here on the peninsula shared by three States. Those isolated wetlands are connected to groundwater and there have been studies that show Delmarva Bay serves to reduce nitro-

gen that goes into Chesapeake Bay, which of course is one of the major issues with regard to Chesapeake Bay water quality.

Senator JEFFORDS. I would like to defer my other questions.

Senator CRAPO. Before you came in, I indicated that we would submit written questions to the panel. So anything that you do not have time to ask now, we can submit.

Senator JEFFORDS. I think our time is up. We have 4 minutes.

Senator CRAPO. Four minutes to get over and vote. So again, I apologize to the panel. I wanted to get into some really lively discussion here, but we will continue this discussion in writing. I encourage you to continue to give us information as we proceed with this, because I do believe it is time for Congress to give a serious look to the overall paradigm within which we approach these issues.

This hearing is adjourned.

[Whereupon, at 12:30 p.m. the committee was adjourned, to reconvene at the call of the Chair.]

[Additional statements submitted for the record follow:]

STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

Mr. Chairman and Senator Graham, thank you for holding this hearing. To me and to the overwhelming majority of Americans, protecting the nation's waters is of critical importance. That's the case for a very simple reason. Fresh, clean water is a basic need for people and for the planet. Without it, ecosystems are threatened. Those who use our waters for recreation or business purposes are put in harm's way. And ultimately, the public health of all Americans is endangered.

The importance of clean water is what forged a bipartisan consensus for more than three decades in support of vigorous enforcement of the Federal Clean Water Act. And in my view, President Bush's plan to eliminate Federal Clean Water Act protections for the nation's isolated waters is just the latest in a series of assaults on this country's environment, including its water.

It is certainly no secret that I am a vocal critic of this Administration's poisonous policies toward the environment. Over the last 2 years, we have seen President Bush launch an unprecedented effort to eliminate numerous environmental, health, and safety protections. We've been at the mercy of a rising tide of anti-environmental policy: to allow drilling in the Arctic Refuge; weaken Clean Air Act new source review requirements for old, dirty power plants; weakly manage waste from large-scale concentrated animal feeding operations; exempt the Defense Department from complying with environmental rules and regulations; resist higher fuel economy standards and readily available technology that would reduce America's dependence on oil; thwart efforts to curb global warming; cut the budgets of Agencies responsible for administering the nation's environmental and natural resource protection laws; and throw out the core American tenet of "polluter pays"—to name just a few.

Just last week, we learned of an internal report, prepared by the Environmental Protection Agency (EPA) in February 2003, that provides irrefutable evidence of the Agency's abject failure to enforce the Clean Water Act. The report details extensive, repeated noncompliance by large industrial facilities, publicly owned treatment works, and Federal facilities—noncompliance that puts our nation's waters and public health at risk—and next to no Federal action to curb those rampant violations. According to the report, in fiscal year 2001, these large industrial, municipal, and Federal facilities discharged more than double their allowed amounts of toxic pollutants about half of the time. Rather than taking action, in the face of these abuses, government sat on its hands. The Federal Government took formal enforcement action in fiscal years 1999–2001 against fewer than a quarter of those deemed to be in serious violation on various grounds (the term of art is "significant noncompliance"). And when the Federal Government did get around to enforcing the law, it was toothlessly fewer than half of its enforcement actions even resulted in a fine, and the fines that were levied averaged less than \$6,000.00. Shockingly, EPA formal enforcement actions declined by 45 percent between fiscal years 1999 and 2001.

Mr. Chairman, that is a murky record indeed—one that shows Washington relaxing in a polluted riverbed rather than fighting the current and trying to clean our

waterways. If the Bush Administration continues at this rate, I fear that before long we will be back to where we started at the beginning of the environmental movement, with our rivers and streams catching fire from pollution, as they did in the 1960's, before the Federal Government wakes up to the danger caused by its neglect.

When we look closely at the subject of today's hearing, we see more disturbing tactics and tendencies on the part of the Bush Administration. In the case of *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers*, the United States Supreme Court ruled that the Federal Clean Water Act does not protect isolated waters that are intrastate and non-navigable, where the only basis asserted for such jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross State lines. This is the specific holding in the case—that the EPA and the Army Corps of Engineers could no longer protect such waterways under the Clean Water Act solely because they are used as a habitat for migratory birds. The court held that the agencies' reliance on migratory bird usage was contrary to congressional intent in the Clean Water Act. At the same time, it's important to note that the court's legal decision does not invalidate any longstanding regulatory or Constitutional basis for Federal protection of non-navigable, isolated, intrastate waters (isolated waters).

An Administration committed to vigorously protecting our environment would read the ruling narrowly and continue to aggressively enforce our environmental laws. But this Administration, predictably, has used the ruling as an excuse. On January 15, 2003, EPA and the Army Corps of Engineers published guidance to their field staff and an advanced notice of proposed rulemaking in response to the SWANCC decision. And not surprisingly, the Bush Administration is considering using the decision as a rationale to push through a much more radical anti-environment agenda than the court decision required.

The guidance, which was effective immediately, directed EPA and Corps staff to stop asserting Federal jurisdiction over any isolated waters on any basis without first obtaining EPA Headquarters' approval to do so. Likewise, the rulemaking sought public comment on what factors should provide a basis for asserting jurisdiction over any isolated waters. In other words, EPA decided to read the court's ruling in the broadest possible terms—which, conveniently, would require the EPA and the Corps to take as passive a role as possible toward these bodies of water.

Mr. Chairman, I am not a pessimist for looking at this set of facts and thinking that the glass is half empty. With the environmental record of this Administration—with its penchant for bending over backward to protect industry but lifting little more than a finger to protect the environment and public health—that is simply a realistic response.

Fortunately, the American people are wise to this backhanded and, shall we say, backwater attempt to open our waterways to pollution. The Federal Government has received more than 130,000 comments in response to the rulemaking notice—many, many of which, we understand, object to the Agency's plans to cutoff Federal Clean Water Act protections for these waterways. Opposition to the expansive rulemaking comes from citizens, public interest groups, environmental organizations, and such key State organizations as the Environmental Council of the States (Resolution Number 03-6 April 10, 2003) and the Association of State and Interstate Water Pollution Control Administrators (Letter Comment in EPA's Docket for the Rulemaking).

What is at stake if the Clean Water Act does not protect these waters? A lapse in Federal authority could create a void in environmental protection that many States would find difficult to fill in these historically tight budgetary times. This could leave thousands of acres of isolated waters—including what has been estimated to include 30 percent to 60 percent of this nation's remaining wetlands—at risk. Wetlands perform crucial functions for watershed and ecosystem health across the country, including flood risk reduction, water quality improvement, and filtration and recharge of surface and subsurface drinking water supplies.

Also, as I believe we will hear more about in today's hearing, it is clear that so-called "isolated" waters, including wetlands, are rarely truly isolated because water moves in hydrologic cycles. This means that failure to protect isolated waters may have a significant adverse impact on the overall health of the watershed and ecosystem.

In short, if these waters are left unprotected, the floodgates of pollution could, so to speak, open wide, and that could threaten public health in communities throughout America.

I am keenly interested in the Bush Administration's rulemaking plans and response to the many public comments urging it to abandon these efforts to narrow the protections of the Clean Water Act. I urge the Administration to withdraw the

current guidance and drop these rulemaking plans. Given its shameful record on environmental protection, however, I don't anticipate that this will happen.

Congress therefore must reestablish the common and commonsense understanding of the Clean Water Act's scope to protect all the nation's waters. Earlier this year, I was pleased to join Senator Feingold, along with Senators Jeffords and Boxer, as an original cosponsor of S. 473, the Clean Water Authority Restoration Act. I look forward to working with members of the Senate on a bipartisan basis to enact this bill to restore the integrity of the Clean Water Act if and when it is necessary.

Thank you, Mr. Chairman and Senator Graham.

STATEMENT OF HON. BOB GRAHAM, U.S. SENATOR FROM THE STATE OF FLORIDA

Mr. Chairman, today this subcommittee is holding a hearing of special significance. First, it is the first wetlands hearing in our subcommittee since we have unified Clean Water Act issues under our jurisdiction. Second, the issue of wetlands under the Clean Water Act is one of national importance.

Wetlands, come in many forms, including swamps, fens, marshes, bogs, sandflats, sloughs, prairie potholes, playa lakes, to name a few. These areas are priceless resources because each of them performs irreplaceable services for the environment, and they do it for free. All we have to do is leave them alone and they do their job flawlessly, 24-7. They neither ask for a vacation or call in sick. They just work. Mankind, with all of our advanced science, cannot build workable substitutes for most wetlands, not at any cost.

Today's hearing focuses on a particular type of wetland known as isolated, intra-state, nonnavigable waters, sometimes referred to as "isolated waters." Although they can look insignificant, isolated wetlands perform numerous functions. They provide habitat for aquatic species of plants and animals and drinking water for many others, they help recharge aquifers, and they provide stopover points for migratory birds in transit.

The question before us is whether Federal authority under the Clean Water Act, as interpreted by Corps of Engineers in the Migratory Bird Rule, protects these isolated waters from destruction. The Supreme Court has said it does not. Therefore, it is up to us to either help the Environmental Protection Agency and the Corps of Engineers interpret their authority correctly, or to provide them with the authority they need.

The Supreme Court does not deny that isolated waters perform a variety of important functions—that migratory birds travel interstate, that the loss of isolated waters could imperil the survival of certain species of migratory birds, or that significant economic factors rely on migratory birds. The only thing the Supreme Court has said is that the Migratory Bird Rule goes beyond the authority created by the Clean Water Act.

I would suggest the reason the Clean Water Act was limited to "navigable waters" is a function of earlier statutes, and the early Supreme Court rulings on the limitation of the commerce clause of the constitution. As legal historians will tell you, the first Federal statute dealing with water pollution was the Rivers and Harbors Act. The principal goal of that statute was ensure that commerce was not hindered by floating debris in the nation's rivers and harbors. In the years since the Rivers and Harbors Act, many new laws have been enacted.

The original Clean Water Act was enacted in 1948 and became the basis for broad new efforts to address water pollution. That Act has been broadened repeatedly as additional needs and problems have been identified.

Over the years the Supreme Court's interpretation of the commerce clause has also evolved. Of particular importance to this hearing is the concept of "aggregation"—the idea that acts which are individually immune to Federal authority may become susceptible to such authority when considered "in the aggregate." And I would suggest that the destruction of isolated waters is just such an issue. Individual isolated waters are typically intra-state, and destroying any one of them is unlikely to have a noticeable impact on interstate trade. So, when viewed individually, isolated waters do not seem to fall under Federal authority under the Commerce Clause. However, if enough of them are destroyed it is indisputable migratory birds will be devastated, and that would damage interstate commerce. For this reason, when viewed "in the aggregate", isolated waters do seem to be subject to Federal authority.

I think that we are presented with a significant problem related wetlands protection in the Clean Water Act—one that this hearing should investigate fully and seek to remedy. During his election campaign, President Bush promised that there would

be no net loss of wetlands under his administration. A majority of the States are in favor of restoring the previous or abiding by the narrower definition enunciated by the Supreme Court. Very few States are looking for further erosion of wetlands protection. I look forward to working with the subcommittee to help keep the President's promise.

STATEMENT OF HON. RUSSELL D. FEINGOLD, U.S. SENATOR FROM THE STATE OF WISCONSIN

Mr. Chairman, I thank you for the opportunity to appear before you today, and I want to acknowledge the very generous and forthright assistance provided to me as I sought an opportunity to testify before the subcommittee on this matter by both the Chairman of the full committee, Senator Inhofe and the ranking member, Senator Jeffords, who is a cosponsor of legislation I have introduced to reaffirm Federal Clean Water Act jurisdiction, S. 473.

I am pleased to be testifying on the topic of Federal jurisdiction over water under the Clean Water Act, Mr. Chairman, because, this is one of the most fundamental, most successful, and most popular environmental protection laws in our nation's history. In my experience as the lead sponsor of legislation on this issue in both the 107th and the current Congress, I can say that the debate over whether our Federal law should continue to recognize the interconnected nature of our water systems is a growing national discussion. I can also say that I believe it is a debate that is unnecessary, and it is one that Congress should end. We need to be clear that Congress intends to erase any lingering ambiguity; we intend to reconfirm the original intent of the Clean Water Act and protect our waters, rather than lose them. This hearing goes a long way to achieving that goal, and I commend you, Mr. Chairman, for being willing to seek confirmation of the state of Federal law on this matter.

In the U.S. Supreme Court's January 2001 decision, *Solid Waste Agency of Northern Cook County versus the Army Corps of Engineers*, a 5 to 4 majority limited the authority of Federal agencies to use what was called the migratory bird rule as the basis for asserting Clean Water Act jurisdiction over non-navigable, intrastate, isolated wetlands, streams, ponds, and other bodies of water.

This decision, which the committee knows as the SWANCC decision, means that the Environmental Protection Agency and Army Corps of Engineers can no longer enforce Federal Clean Water Act protection mechanisms to protect wetlands solely on the basis that they are used as habitat for migratory birds.

In its discussion of the case, as you will hear from other witnesses, the Court went beyond the issue of the migratory bird rule and questioned whether Congress intended the Clean Water Act to provide protection for isolated ponds, streams, wetlands and other waters, as it had been interpreted to provide for most of the last 30 years. While not the legal holding of the case, the Court's discussion has resulted in a wide variety of interpretations by Federal, State and local officials that jeopardize protection for wetlands, streams, and other waters. Wisconsin is fortunate in that, for regulatory matters, it falls entirely within the jurisdiction of the St. Paul District Corps of Engineers though we have three Corps districts: St. Paul, Detroit, and Rock Island, Il, that service our State. Other States aren't as lucky, and I have heard anecdotally that different Districts are giving different answers to questions about Clean Water Act jurisdiction after SWANCC. I hope the subcommittee will pursue that issue with the Corps today.

Confusion about the proper scope of the Clean Water Act also exists within EPA. I noted with interest that, in March of this year, Senator Jeffords received a letter from EPA in response to a letter he had written asking whether Lake Champlain and its tributaries are still considered jurisdictional or not under the Clean Water Act. While EPA replied that Lake Champlain and all of its tributaries would continue to fall under the Clean Water Act's jurisdiction, the Agency's letter raises questions about whether EPA would assert jurisdiction over streams and other tributaries of major water bodies as well as over so-called isolated, intrastate, non-navigable wetlands. The letter suggests that EPA's determination of Clean Water Act jurisdiction in those cases might not be uniform nationwide, but instead would be dependent upon the holdings of individual courts within a particular region.

The regulated community is also concerned, Mr. Chairman. As you know, when a developer gets a permit from the Federal Government to destroy wetlands, they are required to mitigate them elsewhere. National Association of Mitigation Bankers is an association of businesses that constructs wetlands to meet the mitigation requirements of Corps of Engineers and EPA 404 wetlands permits. Many of the wetlands mitigation bankers create, though not all, are isolated, non-navigable wetlands. Ironically, the Federal agency response to the SWANCC decision no longer

provides Federal protection for some of the wetlands that Federal Government mandates required developers to construct.

Within days of the SWANCC decision, constituents came to my town hall meetings asking for Congress to respond this decision immediately. Wisconsin became the first State to pass legislation to assume regulatory jurisdiction over wetlands left unprotected by the Supreme Court's decision. Wisconsin has 15,000 named lakes and ponds, 5.3 million acres of wetlands and approximately 44,000 miles of streams. Wisconsin estimated that if SWANCC's holding limits jurisdiction over so-called isolated wetlands, more than 1.1 million acres of wetlands in Wisconsin would no longer have Federal protection. Our State's legislation has become the model for several States.

The confusion over the interpretation of the SWANCC decision is growing, but not, I believe, because of the holding SWANCC case itself, but because of the manner in which Federal agencies are implementing the decision. On January 15, 2003, the EPA and Army Corps of Engineers published in the Federal Register an Advanced Notice of Proposed Rulemaking raising questions about the jurisdiction of the Clean Water Act. Simultaneously, they released a guidance memo to their field staff regarding Clean Water Act jurisdiction.

The agencies claim these actions are necessary because of the SWANCC case. But both the guidance memo and the proposed rulemaking go far beyond the holding in SWANCC. The guidance took effect right away and has had an immediate impact. It tells the Corps and EPA staff to stop asserting jurisdiction over isolated waters without first obtaining permission from headquarters. Based on this guidance memorandum, waters that the EPA and Corps staff judge to be outside the Clean Water Act can be filled, dredged, and polluted without a permit or any other long-standing Clean Water Act safeguard.

The rulemaking announces the Administration's intention to consider even broader changes to Clean Water Act coverage for our waters. Specifically, the agencies are questioning whether there is any basis for asserting Clean Water Act jurisdiction over additional waters, like intermittent streams. The possibility for a redefinition of our waters is troubling because there is only one definition of the term "water" in the Clean Water Act, so any change in the regulatory definition of "water" will effect the entire law. The wetlands program, the point source program which stops the dumping of pollution, and the non-point program governing polluted runoff all depend on the same definition.

If certain wetlands or other categories of water are treated as no longer protected under Section 404, then the law will fail to protect those same waters from having toxic waste, trash or raw sewage dumped in them under Section 402, or be protected against oil spills under Section 311, or be cleaned up under Section 303, or be protected from other activities that violate the Clean Water Act conducted in them as well.

Using administrative action to eliminate a category of waters from Clean Water Act jurisdiction is contrary to the law and the purpose of the Act. The Clean Water Act was adopted over thirty years ago to address widespread and severe water pollution problems across the country. Congress determined that it could not be left solely to the States to ensure that every community in the nation had access to clean, safe waters. While the Act prohibited discharges of pollutants into "navigable" waters, Congress defined this term broadly as "waters of the United States." This broad definition was referred to repeatedly on the floor and in the relevant committees and on the floor of the House and Senate. The U.S. Senate reconfirmed the broad scope of the law again in 1977 when it rejected, by a strong bipartisan vote, a proposal to remove Federal protections over a smaller category of wetlands and waters than are included in the Administration's Advanced Notice of Proposed Rulemaking.

Even while EPA and the Corps consider whether to conduct a rulemaking to rewrite the definition of waters, the U.S. Department of Justice is in Federal court defending the legal validity of the existing regulatory definition. Indeed, in recent briefs filed by the Justice Department, the Administration has argued forcefully that the broad definition of "waters" in the current rules is not only valid, it is necessary in order for the goal of the Clean Water Act to be met to make all of the nation's waters safe for fishing, swimming and other uses.

In my view, Congress decided this debate over the scope of the Clean Water Act in 1972, and the renewed debate should end now. Congress needs to re-affirm the longstanding understanding of the Clean Water Act's jurisdiction to protect all waters of the U.S.—the understanding that Congress held when the Act was adopted in 1972—as reflected in the law, legislative history, and the regulations, practice, and judicial interpretations that existed for many years prior to the SWANCC decision.

My proposed legislation does that, and it is a very simple bill. It adopts a statutory definition of "waters of the United States" based on the longstanding definition of waters in the EPA and Corps of Engineers' regulations. Second, it deletes the term navigable from the Act to clarify that Congress's primary concern in 1972 was to protect the nation's waters from pollution, rather than just sustain the navigability of waterways, and to reinforce that original intent. Finally, it includes a set of findings that explain the factual basis for Congress to assert its constitutional authority over streams, wetlands, ponds and other waters on all relevant Constitutional grounds, including the Commerce Clause, the Property Clause, the Treaty Clause, and Necessary and Proper Clause.

As the committee knows, I feel that Congress needs to re-confirm the Clean Water Act's jurisdiction to protect all waters of the United States. I believe the legislation I have introduced does no more and no less than that, and I hope this hearing will provide the committee with justification for moving that measure forward. I thank you for the opportunity to share my views and those of my State.

STATEMENT OF HON. G. TRACY MEHAN, ASSISTANT ADMINISTRATOR FOR WATER, ENVIRONMENTAL PROTECTION AGENCY AND HON. GEORGE S. DUNLOP, DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR POLICY AND LEGISLATION, DEPARTMENT OF THE ARMY

Good morning, Mr. Chairman and members of the subcommittee. We welcome the opportunity to present joint testimony to you today on issues concerning Clean Water Act (CWA) jurisdiction over navigable waters. In keeping with your May 29, 2003, letter of invitation, our testimony will address the current regulatory and legal status of Federal jurisdiction in light of the issues raised by the Supreme Court ruling in *Solid Waste Agency of Northern Cook County v. the U.S. Army Corps of Engineers*, 531 U.S. 159 (2001) ("SWANCC"). In particular, our testimony will provide background information on our agencies' roles and responsibilities under the CWA, summarize the SWANCC decision, discuss our recently issued joint guidance in response to the SWANCC decision as well as our Advance Notice of Proposed Rulemaking (ANPRM), and then address some of the jurisdictional issues relating to the '404 regulatory program.

Overview of EPA and Corps of Engineers Clean Water Act Responsibilities

The Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers ("Corps") share responsibility for the §404 program under the CWA, which regulates discharges of dredged or fill material, helping to protect wetlands and other aquatic resources and maintain the environmental and economic benefits provided by these valuable natural resources. In addition, EPA administers or oversees implementation of numerous other provisions of the CWA. For example, EPA and approved Tribes or States issue permits under §402 for discharges of pollutants other than dredged and fill material, and EPA reviews and approves water quality standards developed by approved Tribes or States under §303.

The §404 responsibilities are extensive. Fulfillment of the Corps day to day responsibilities in its regulatory program requires a staff of greater than 1200 and a budget in fiscal year 2003 of \$137 million. These resources are required each year to process more than 80,000 individual and general permit authorizations, including any associated jurisdictional determinations.

Under §404 of the CWA, any person planning to discharge dredged or fill material to "navigable waters" must first obtain authorization from the Corps (or a Tribe or State approved to administer the §404 program), through issuance of an individual permit, or must be authorized to undertake that activity under a general permit. Although the Corps is responsible for the day-to-day administration of the §404 program, including reviewing permit applications and deciding whether to issue or deny permits, EPA has a number of important §404 responsibilities. In consultation with the Corps, EPA develops the §404(b)(1) Guidelines, which are the environmental criteria that the Corps must apply when deciding whether to issue permits. Under those Guidelines, a discharge is allowable only when there is no practicable alternative with less adverse effect on the aquatic ecosystem, and appropriate steps must be taken to minimize potential adverse effects to the aquatic ecosystem and mitigate for unavoidable impacts.

EPA and the Corps have a long history of working together closely and cooperatively in order to fulfill our important statutory duties on behalf of the public. In this regard, the Army and EPA have concluded a number of written agreements to further these cooperative efforts in a manner that promotes efficiency, consistency, and environmental protection. For example, in 1989 the agencies entered into a

Memorandum of Agreement (MOA) setting forth an appropriate allocation of responsibilities between the EPA and the Corps for determining the geographic jurisdiction of the §404 program. That MOA was entered into in light of a 1979 U.S. Attorney General opinion (43 Op. Att’y Gen. 197) determining that EPA has the ultimate authority under the CWA to determine the geographic jurisdictional scope of the Act. The MOA provides that the Corps will perform the majority of the geographic jurisdictional determinations in the §404 program using guidance developed by EPA with input from the Corps. Typically such guidance at the national level has been jointly issued by our agencies.

SWANCC Decision

SWANCC involved a challenge to CWA jurisdiction over certain isolated, intrastate, non-navigable ponds in Illinois that formerly had been gravel mine pits, but which, over time, attracted migratory birds. Although these ponds served as migratory bird habitat, they were non-navigable and isolated from other waters regulated under the CWA.

In SWANCC, the Supreme Court held that the Army Corps of Engineers had exceeded its authority in asserting CWA jurisdiction pursuant to §404(a) over isolated, intrastate, non-navigable waters under 33 C.F.R. §328.3(a)(3), based on their use as habitat for migratory birds pursuant to preamble language commonly referred to as the “Migratory Bird Rule,” 51 Fed. Reg. 41217 (1986). At the same time, the Court in SWANCC did not disturb its earlier holding in *United States v. Riverside Bayview Homes*, 474 U.S. 121 (1985) which found that “Congress’ concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands ‘inseparably bound up with’ ‘jurisdictional waters.’ 474 U.S. at 134.

“Navigable waters” are defined in §502 of the CWA to mean “waters of the United States, including the territorial seas.” In SWANCC, the Court determined that the term “navigable” had significance in indicating the authority Congress intended to exercise in asserting CWA jurisdiction. After reviewing the jurisdictional scope of the statutory definition of “navigable waters” in §502, the Court concluded that neither the text of the statute nor its legislative history supported the Corps’ assertion of jurisdiction over the waters involved in SWANCC.

In SWANCC, the Supreme Court recognized that “Congress passed the CWA for the stated purpose of ‘restoring and maintaining the chemical, physical, and biological integrity of the Nation’s waters’ “ and noted that “Congress chose to ‘recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources.’” Expressing “serious constitutional and federalism questions” raised by the Corps’ interpretation of the CWA, the Court stated that “where an administrative interpretation of a statute invokes the outer limits of Congress’ power, we expect a clear indication that Congress intended that result.” Finding “nothing approaching a clear statement from Congress that it intended §404(a) to reach an abandoned sand and gravel pit,” the Court held that the “Migratory Bird Rule”, as applied to petitioners’ property, exceeded the agencies’ authority under §404(a).

Apart from §404, the jurisdiction of many other CWA programs also is dependent upon the meaning of “navigable waters” as defined in CWA §502. Thus, although the SWANCC case itself specifically involves §404 of the CWA, the Court’s decision may also affect the scope of regulatory jurisdiction under other provisions of the CWA, including programs under §303 (water quality standards program), 311 (spill program, as well as the Oil Pollution Act), 401 (State water-quality certification program), and 402 (National Pollutant Discharge Elimination System (NPDES) permitting program). For example, two significant U.S. Circuit Court of Appeals opinions interpreting SWANCC involved such other programs. *Headwaters v. Talent Irrigation Dist.*, 243 F.3d 526, 534 (9th Cir. 2001) (§402); *Rice v. Harken*, 250 F.3d 264 (5th Cir. 2001) (rehearing denied) (Oil Pollution Act).

Joint Guidance and Advance Notice of Proposed Rulemaking

On January 10, 2003, following coordination with the Department of Justice, General Counsel from EPA and Army jointly signed clarifying guidance regarding the Supreme Court’s decision in SWANCC. The guidance states that jurisdictional decisions will be based on Supreme Court cases, including *Riverside Bayview Homes* and SWANCC, relevant regulations, and applicable case law in each jurisdiction. Because it is guidance, it does not impose legally binding requirements on EPA, the Corps, or the regulated community, and its applicability depends on the circumstances. The guidance was provided to our field offices and also published as Appendix A to the Agencies’ ANPRM in order to ensure its availability to interested persons and to help better inform public comment on the ANPRM.

The guidance makes a number of key points with regard to assertion of CWA jurisdiction, providing that:

- Field staff should not assert jurisdiction over isolated wetlands and other isolated waters that are both intrastate and non-navigable where the sole basis for asserting jurisdiction is based on the factors in the preamble language known as the “Migratory Bird Rule“:

- Use as habitat by birds subject to Migratory Bird Treaties or which cross State lines;

- Use as habitat for endangered species; or
- Use to irrigate crops sold in commerce.
- Field staff should seek formal project-specific headquarters approval prior to asserting jurisdiction over isolated non-navigable intrastate waters based on factors listed in 33 C.F.R. §328.3(a)(3):

- Use by interstate or foreign travelers for recreational or other purposes;
- Production of fish or shellfish sold in interstate or foreign commerce; or
- Use for industrial purposes by industries in interstate commerce.
- Field staff should continue to assert jurisdiction over traditional navigable waters (and adjacent wetlands) and, generally speaking, their tributary systems (and adjacent wetlands).

- The guidance describes traditional navigable waters as waters that are subject to the ebb and flow of the tide, or waters that are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Finally, because case law interpreting SWANCC is still developing, the guidance supersedes the previous EPA/Corps (January 19, 2001) legal memorandum concerning SWANCC..

In addition to the guidance, we published a joint ANPRM soliciting public comment, information and data on issues associated with the definition of “waters of the U.S.” in light of SWANCC. 68 Fed. Reg. 1991 (January 15, 2003). Issuance of the ANPRM was an extra measure, not required by the Administrative Procedure Act, to provide an early opportunity for public comment on this important issue before the agencies decide how to proceed. It does not pre-suppose any particular substantive or procedural outcome.

The ANPRM comment period ran for 90 days, closing on April 16th. It sought public input on the following regulatory issues:

- Whether factors listed in §328.3(a)(3)(i)–(iii) of the regulations (i.e., use of the water by interstate or foreign travelers for recreational or other purposes, the presence of fish or shellfish that could be taken and sold in interstate commerce, the use of the water for industrial purposes by industries in interstate commerce) or any other factors, provide a basis for CWA jurisdiction over isolated, non-navigable, intrastate waters;

- Whether the agencies should define “isolated waters,” and if so, what factors should be taken into account in the definition.

The ANPRM also sought information on the effectiveness of other Federal or non-Federal programs for the protection of aquatic resources, as well as on the functions and values of wetlands and other waters that may be affected by SWANCC. In addition, it sought data and comments on the effect of no longer asserting jurisdiction over some of the waters (and discharges to those waters) in a watershed on the implementation of Total Maximum Daily Loads (TMDLs) and attainment of water quality standards. Finally, as is often the case with ANPRMs, we did not seek to limit comment only to the specific questions raised, but also solicited views as to whether any other revisions are needed to the existing regulations regarding which waters are jurisdictional under the CWA.

Public Response to Advance Notice of Proposed Rulemaking

We received over 133,000 comments on the ANPRM by the close of the April 16th comment period. As we are still early in the process of reviewing and analyzing the comments received, the information that follows is at this point of a preliminary nature. Approximately 128,000 of the comments appear to be the result of e-mail or write-in campaigns producing identical or substantially similar letters. Of the apparent 5,000 unique or individual letters received, approximately 500 letters raise or discuss specific issues in some detail. The commenters included a number of different types of stakeholder groupings, including Tribes/States and related associations, local governments, academic, research and scientific associations, industry and the regulated public, non-profit organizations, and private citizens.

The comments reflect a wide breadth of opinion, ranging from assertions that SWANCC affects only jurisdiction based solely on use by migratory birds that cross State lines to assertions that SWANCC limits CWA jurisdiction to navigable-in-fact

waters and those tributaries and wetlands shown to have an actual effect on navigable capacity. Some commenters supported further rulemaking to clarify CWA jurisdiction, some favored clarification through use of guidance instead, while others supported no action at all or withdrawal of the current guidance. Some commenters expressed the view that the nature and extent of aquatic resource impacts was irrelevant to determining CWA jurisdiction, while others expressed concern for such impacts and the need to consider this when determining how to proceed. We also received comments from 4 Tribes and 42 different States on the ANPRM. A large number of these commenters provided information and data regarding the ecological value of various aquatic resources, including wetlands and ephemeral and intermittent streams.

Regulatory Status of Federal Jurisdiction Under §404 of the CWA

Although the SWANCC decision did not invalidate any part of the CWA or of the regulations (the so-called “Migratory Bird Rule” as previously indicated is actually an excerpt from the preamble to the Corps 1986 regulations), it did have important implications for the Corps administration of the §404 CWA regulatory program, as well as implications for other CWA programs whose jurisdiction depends upon the meaning of “navigable waters.” This is because the Agencies have applied the “Migratory Bird Rule” criteria since 1986 as a basis of jurisdiction over aquatic area that were not readily identifiable as jurisdictional on some other basis.

The Supreme Court’s invalidation of the use of the Migratory Bird Rule as a basis for CWA jurisdiction over certain isolated waters has focused greater attention on CWA jurisdiction generally, and specifically over tributaries to jurisdictional waters and over wetlands that are “adjacent wetlands” for CWA purposes as we explained in testimony before the Subcommittee on Energy Policy, Natural Resources and Regulatory Affairs of the U.S. House Committee on Government Reform on September 19, 2002. The ANPRM, which solicited input from the public on the nature of, and necessity for, any change in the existing regulations, is the first step in the process of addressing the jurisdictional issues arising from the SWANCC decision.

The Joint Guidance that was published as Appendix A of the ANPRM provided useful information on CWA jurisdiction to the public and regulatory staff, but further information is needed to provide the degree of certainty that Agency personnel and the regulated public deserve, and to ensure the fair and effective administration of the CWA. Any inconsistencies in §404 jurisdictional determinations highlight our executive branch responsibility to provide this clarity. Responsible stewardship requires that we ensure that Federal resources are applied effectively and consistently to maximize environmental protection in a manner consistent with the CWA.

As was previously indicated, the ultimate direction of any proposed rulemaking has not been predetermined, and will be influenced significantly by the public comment on the ANPRM. Our general goals will be to provide clarity for the public and to ensure consistency among CWA jurisdictional determinations nationwide.

Conclusion

We wish to emphasize that the agencies remain fully committed to protecting all CWA jurisdictional waters, including adjacent wetlands, as was intended by Congress. Safeguarding these waters is a critical Federal function because it ensures that the chemical, physical, and biological integrity of these waters is maintained and preserved for future generations. We will carefully consider all the comments and information received in response to the ANPRM. Our goal in moving forward is to clarify what waters are properly subject to CWA jurisdiction in light of SWANCC and afford them full protection through an appropriate focus of Federal and State resources in a manner consistent with the Act.

We also wish to emphasize that although the SWANCC decision and our testimony today focus on Federal jurisdiction pursuant to the CWA, other Federal or State laws and programs may still protect a water and related ecosystem even if that water is no longer jurisdictional under the CWA following SWANCC. SWANCC did not affect the Federal Government’s commitment to wetlands protection through the Food Security Act’s Swampbuster requirements and Federal agricultural program benefits and restoration through such Federal programs as the Wetlands Reserve Program (administered by the U.S. Department of Agriculture) grant making programs such as Partners in Wildlife (administered by the Fish and Wildlife Service), the Coastal Wetlands Restoration Program (administered by the National Marine Fisheries Service), the Five Star Restoration and National Estuary Program (administered by EPA), and the Migratory Bird Conservation Commission (composed of the Secretaries of Interior and Agriculture, the Administrator of EPA and Members of Congress). In addition, some States have authority under State law to regulate activities in waters that are beyond the jurisdiction of the CWA. About 15

States have had for a number of years programs to protect at least some of these waters, and Wisconsin and Ohio have expanded their programs since the SWANCC decision. The President has requested an increase in funding for Wetlands Programs Grants in the Fiscal Year 2004 budget, which will provide a financial incentive for other Tribes and States to provide broader and more effective protection for their waters.

Thank you for providing us with this opportunity to present this testimony to you. We appreciate your interest in these important national issues that are of mutual concern.

STATEMENT OF HON. THOMAS L. SANSONETTI, ASSISTANT ATTORNEY GENERAL, U.S.
DEPARTMENT OF JUSTICE

INTRODUCTION

Chairman Inhofe, Senator Jeffords, and members of the subcommittee, I am pleased to be here today to discuss the Department of Justice's response to the Supreme Court's decision in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers*, 531 U.S. 159 (2001), colloquially known as "SWANCC." In my testimony today, I will describe our work in connection with the Clean Water Act ("CWA"), the interpretation of which was at issue in SWANCC, and the efforts that we have made to ensure that the positions that we have taken in litigation are consistent with SWANCC. I will also highlight some of the work that we are doing with the States to improve State-Federal coordination and cooperation in wetlands protection and enforcement.

At the outset, I would like to provide the subcommittee with a perspective on the breadth of our work. The Environment and Natural Resources Division has a docket of well over 10,000 pending cases and matters, with cases in every judicial district in the Nation. The majority of our cases are defensive, i.e., where we are defending the United States or particular Federal agencies when they have been sued. Although some of these defensive cases involve the CWA, many more do not. In fact, we litigate cases arising from well over 70 different environmental and natural resource statutes, including the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), the National Environmental Policy Act, the National Forest Management Act, the Coastal Zone Management Act, and the National Historic Preservation Act.

Even if one were to focus only on the affirmative enforcement part of our docket, wetlands cases form only a very small subset of those cases. We have many other enforcement actions focusing on violations of other provisions of the CWA, not to mention of the Clean Air Act, the Safe Drinking Water Act, the hazardous waste laws and a variety of other environmental laws. This enforcement work has resulted in significant gains for public health and the environment across the United States.

However, I will focus my testimony today on our CWA cases, in particular those involving wetlands.

AN OVERVIEW OF OUR CLEAN WATER ACT DOCKET

The Department of Justice's primary role with regard to the CWA is to represent the Environmental Protection Agency ("EPA"), the Army Corps of Engineers ("Corps"), and any other Federal agency that might be involved in litigation that arises pursuant to the CWA. This litigation can be either defensive or affirmative.

As the word suggests, in defensive litigation we defend Federal agencies that are being sued in connection with the CWA. Such actions can take a variety of forms. For example, affected parties will sometimes bring an action against the Corps when it makes a case-specific decision, such as the grant or denial of a CWA permit. Regulated entities, environmental interests, and public entities such as municipalities will also seek judicial review when the Corps and EPA make broader policy decisions such as those embodied in a rulemaking. Parties may also sue EPA for failure to perform a non-discretionary duty under the CWA. Finally, Federal agencies can also be sued for discharging pollutants into waters of the United States if they have not complied with the applicable requirements of the CWA. In my Division, which is the Environment and Natural Resources Division, we have an Environmental Defense Section that specializes in defending the actions of Federal agencies, including EPA and the Corps, when they are challenged in court in connection with the CWA.

We also bring affirmative litigation under the CWA. By "affirmative litigation," I am referring to enforcement cases, which can be either civil or criminal. Three sections in the Division handle CWA enforcement actions. Civil enforcement cases are

generally handled by our Environmental Enforcement Section, with the exception of cases brought pursuant to CWA section 404, which are handled by our Environmental Defense Section or by U.S. Attorney's Offices. Criminal enforcement of the CWA is handled by our Environmental Crimes Section, usually in conjunction with local U.S. Attorney's Offices.

CWA civil judicial enforcement actions generally begin with a referral or investigation from another Federal agency, whether it is EPA or the Corps, regarding alleged violations of the CWA. Often by the time we receive a referral, the agency in question has exhausted all avenues for resolving the dispute administratively, and has carefully considered whether judicial enforcement is the appropriate course of action. Upon receiving the agency's recommendation, we conduct our own internal, independent inquiry and analysis to determine whether there is sufficient evidence to support the elements of the offense and whether the case is otherwise appropriate for judicial action. If we determine that judicial enforcement is warranted, we also explore possibilities for achieving settlement of the alleged violations without litigation as appropriate.

I refer to "judicial enforcement" for a reason. The vast majority of environmental violations, including CWA-type violations, are addressed and resolved by State and local governments. In the wetlands area, most Federal enforcement of the CWA occurs at the administrative level and is carried out by the EPA and the Corps, and does not involve the Department of Justice. In this regard, I commend the Corps for implementing an administrative appeals process that allows landowners to seek further review of jurisdictional determinations. This process helps to ensure nationwide consistency in the implementation of the CWA and is yet another means by which disputes over CWA jurisdiction may be resolved before a matter gets to the point of potential litigation, which is when the Department of Justice would get involved.

In sum, the Division's work is only a small, albeit important, part of CWA implementation and enforcement more generally. For instance, in the last 5 years, the United States has filed on average 14 new wetland civil enforcement cases each year, with half of those cases being settled at the time of filing.

OUR RESPONSE TO SWANCC

SWANCC was an example of defensive litigation. In that case, the Corps of Engineers had asserted jurisdiction over a series of small ponds in Illinois, which the record indicated were isolated, intrastate, and non-navigable, and determined that the CWA required that the petitioner in that case, the Solid Waste Agency of Northern Cook County, needed to obtain a permit for construction of a solid waste landfill. The basis for the Corps' assertion of jurisdiction over the isolated ponds was evidence that the ponds provided habitat for a large number of migratory bird species that cross interstate lines. However, the Supreme Court ruled that the Corps had exceeded its statutory authority by requiring a permit for the filling of those ponds. In particular, the Court held that the Corps' practice of relying on the so-called "Migratory Bird Rule" (which is really not a rule but a preamble) to assert jurisdiction over such non-navigable, intrastate, isolated waters was contrary to Congress' intent in the Clean Water Act.

Just as with any other Supreme Court case, we have sought to ensure that the legal positions taken on behalf of the Federal Government in litigation are consistent with SWANCC, regardless of where a case arises or which agency is involved in a particular case. Accordingly, after SWANCC was decided, the Division conducted a comprehensive review of its entire docket of Clean Water Act litigation. We carefully scrutinized any case that involved isolated waters, the Migratory Bird Rule, or any theory analogous to the Migratory Bird Rule, to determine whether SWANCC had undermined the basis for asserting Clean Water Act jurisdiction in that case. If we determined that the basis for jurisdiction in a particular case was undermined by SWANCC, we took appropriate action. For example, in *Borden Ranch Partnership v. U.S. Army Corps of Engineers*, in conjunction with EPA and the Corps, we re-examined the basis for jurisdiction over the one isolated vernal pool which had been destroyed and over which the court had determined that there was jurisdiction, and notified the Ninth Circuit that we were withdrawing our enforcement claim regarding that particular vernal pool.

In addition to taking the necessary steps to ensure that our existing cases were consistent with SWANCC, we established a process for ensuring that the positions we take in all SWANCC-related litigation going forward are internally consistent and appropriately coordinated within the Federal Government. Thus, in addition to the probing review of all of our prospective enforcement cases that I described earlier, we devote particular attention in our Clean Water Act enforcement cases to

whether there is a factually and legally sound basis, consistent with SWANCC, for asserting jurisdiction over the aquatic resources in question before deciding to proceed. We carefully review such referrals or investigations to determine whether to proceed with judicial enforcement. We have similarly applied careful scrutiny to SWANCC-related arguments that we make in our defensive litigation.

Since SWANCC was decided in January 2001, the United States has filed briefs in at least 27 cases in which the scope of geographic jurisdiction under the Clean Water Act was a significant issue. These cases involve issues arising under the Section 402 pollution discharge permit program, the Section 311 program addressing oil discharges and the Oil Pollution Act, as well as the Section 404 program. We have made considerable efforts to review and coordinate each and every one of the briefs filed in those cases. In particular, we have assigned a team of attorneys with expertise in wetlands issues and the Clean Water Act to review all briefs addressing important SWANCC-related issues that are filed by the various trial and appellate sections within the Division. In addition to ensuring that the basic positions taken in the those briefs are internally consistent, our attorneys have also made great efforts to coordinate our positions with the appropriate agencies, primarily EPA and the Army Corps of Engineers. Moreover, our attorneys have worked proactively and cooperatively with U.S. Attorney's Offices, to share our experiences and expertise, and to ensure that the United States is speaking with one voice in the Federal courts around the country.

As I mentioned before, the SWANCC decision clearly precludes reliance on use by migratory birds as the sole basis for CWA jurisdiction over isolated, non-navigable, intrastate waters and calls into question whether any of the other factors in the Migratory Bird Rule is a valid basis for asserting jurisdiction. In addition, the reasoning of that decision raised uncertainty as to whether there remains any basis for jurisdiction under the other rationales in the "(a)(3)" provision in the agencies' regulation defining "waters of the United States," particularly the extent to which the agencies may rely upon the "(a)(3)" factors for purposes of regulating non-navigable, intrastate, isolated waters. Indeed, the effect of SWANCC on this aspect of the regulations is one of the subjects of the Advance Notice of Proposed Rulemaking and associated guidance issued by the Department of the Army and EPA on January 15, 2003. My colleagues from the Army and EPA will be addressing their work on this rulemaking in their testimony. But I can tell you that in none of our post-SWANCC cases have we relied upon the Migratory Bird Rule or any analogous theory under the "(a)(3)" provision as a basis for defending CWA jurisdiction over a particular site. To the extent that SWANCC raised serious doubts about any claims that we were making in litigation that was pending at the time SWANCC was decided, we withdrew or modified those claims accordingly, as I noted above.

Our careful examination of our cases has paid off with success in the courts. Of the 27 cases referred to earlier in my testimony in which we have filed SWANCC-related briefs, 22 have resulted in judicial decisions, and 17 of those decisions have been in favor of the United States. However, the post-SWANCC case law remains unsettled as we are involved in at least nine SWANCC-related cases in the Courts of Appeals for the Fourth, Fifth, Sixth, Seventh, and Ninth Circuits. With regard to these cases, I would be pleased to make available to the subcommittee any brief of the United States that it requests.

I would like to mention another facet of our post-SWANCC activities: working cooperatively with the States. One of the basic teachings of SWANCC is that not every wetland or other aquatic area in the country is an appropriate subject of Federal regulation under the Clean Water Act. Since the decision in SWANCC, some States, such as Wisconsin and Ohio, have enacted legislation providing authority to address aquatic resources not subject to Federal regulatory jurisdiction under the CWA. Other States are considering such legislation or are exploring ways to use existing regulatory and non-regulatory authorities and programs to address these aquatic resources. We have made great strides to improve Federal-State cooperation and coordination in environmental protection generally, and in connection with SWANCC, we are redoubling our efforts in this regard.

In particular, in December 2002, we hosted a national conference and training course on wetlands protection and enforcement, designed in cooperation with several State associations, EPA and the Corps, to facilitate Federal-State partnerships in this important area. The conference, which took place in the Department of Justice training facility, attracted government officials from approximately two-thirds of the States, including representatives of State environment and natural resources agencies, State attorneys general offices, and even some State legislatures. As the conference's keynote speaker, I stressed the importance of Federal-State collaboration and cooperation in wetlands protection and enforcement in a time of dwindling government resources at both the Federal and State levels. One of the primary pur-

poses of the conference was to encourage States to take a hard look at their existing State-law authorities that may be used to protect wetlands not subject to Federal jurisdiction following SWANCC and other Federal court decisions, and to facilitate the exchange of information regarding new and innovative methods of addressing wetlands protection at the State level. We look forward to continuing this dialog with our State colleagues, and to continue to explore ways that we can work together to protect this Nation's wetlands.

CONCLUSION

In closing, I would like to assure the subcommittee that the Department of Justice takes seriously its obligation to protect public health and the environment and to enforce and defend the existing laws. As I have described in greater detail above, we work hard to ensure that the positions we take in litigation with respect to SWANCC are consistent and coordinated with our client agencies, which is our practice with all our litigation. I would be happy to answer any questions that you may have about my testimony.

RESPONSES OF ATTORNEY GENERAL THOMAS SANSONETTI TO ADDITIONAL QUESTIONS FROM SENATOR INHOFE

Question 1. In the SWANCC decision the Supreme Court stated, "It was the significant nexus between the wetlands and "navigable waters" that informed our reading of the CWA in Riverside Bayview Homes. Indeed, we did not "express any opinion" on the "question of the authority of the Corps to regulate discharges of fill material into wetlands that are not adjacent to bodies of open water. . . ." *Id.*, at 131-132, n. 8. In order to rule for respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. But we conclude that the text of the statute will not allow this."

In your testimony you state, "Just as with any other Supreme Court case, we have sought to ensure that the legal positions taken on behalf of the Federal Government in litigation are consistent with SWANCC, regardless of where a case arises or which agency is involved in a particular case."

Since the Supreme Court's decision in SWANCC, has the Justice Department in any enforcement or defensive litigation asserted that a Federal agency has jurisdiction over waters or wetlands which are not adjacent to open water?

Response. The relevant regulations of the Environmental Protection Agency (EPA) and the Army Corps of Engineers (ACE) define "waters of the United States" for purposes of the Clean Water Act (CWA) to mean (1) navigable-in-fact waters; (2) interstate waters; (3) all other waters, the use, degradation, or destruction of which could affect interstate or foreign commerce; (4) impoundments of waters of the United States; (5) tributaries of any of the above; (6) the territorial seas; and (7) wetlands adjacent to any of the above. See, e.g., 33 C.F.R. 328.3(a). Only subpart (3) of this regulatory definition was involved in SWANCC. None of the affirmative or defensive cases that the Department of Justice has litigated since SWANCC, with the exception of the matters listed below in response to the last question, have involved subpart (3) waters. Rather, the cases have involved navigable-in-fact waters, tributaries of navigable-in-fact waters, and wetlands adjacent to each.

Question 2. Traditionally, open waters have meant waters that are free from physical obstruction and hence open to navigation by the public. In addition to the use of the term open waters, the Court also emphasized the original interpretation by the Corps that "[i]t is the water body's capability of use by the public for purposes of transportation or commerce which is the determinative factor." Moreover, the Court explicitly stated, "The term "navigable" has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." Such statements appear to limit Federal regulatory jurisdiction to the same waters which are subject to Federal navigational servitude.

Does the Justice Department believe that the SWANCC decision limits Federal jurisdiction under Section 404 to waters subject to Federal navigational servitude?

Response. The question before the Court in SWANCC was whether the Corps of Engineers had exceeded its statutory authority under the Clean Water Act by asserting jurisdiction over isolated, non-navigable, intrastate waters based on the use of those waters as habitat by migratory birds. As discussed above, the Supreme Court addressed only the "other waters" subpart of the regulatory definition of "waters of the United States." See 33 C.F.R. 328.3(a)(3). Moreover, the Court did not overrule its prior decision in Riverside Bayview Homes, in which the Court held

that Clean Water jurisdiction extends to wetlands adjacent to other waters. Non-tidal wetlands, of course, are not typically subject to the navigational servitude.

Question 3. In your testimony you stated that, “in none of our post-SWANCC cases have we relied upon the Migratory Bird Rule or any analogous theory under the “(a)(3)” provision as a basis for defending CWA jurisdiction over a particular site.” This statement coupled with your previous statement regarding the Justice Department’s role in ensuring that the Federal Government’s legal positions are consistent with SWANCC would suggest that the regulations found in 33 CFR § 328.1(a)(3) [sic] are inconsistent with the SWANCC decision.

Does the Justice Department believe that in order to be fully consistent with the SWANCC decision that Corps regulations defining waters for purposes of jurisdiction under Section 404 must be revised?

Response. What, if any, revisions to the regulations are necessary or appropriate is a determination for EPA and the Army Corps of Engineers to make in the first instance. Those agencies issued an advance notice of a proposed rulemaking on that issue on January 15, 2003, and a decision not to proceed with rulemaking on December 16, 2003.

RESPONSES OF ATTORNEY GENERAL THOMAS SANSONETTI TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. In the SWANCC Guidance, the Corps and the EPA direct field staff not to assert jurisdiction over “isolated, intrastate, non-navigable waters” based upon any of the factors of the migratory bird rule. Your testimony indicates that the Department of Justice, since the SWANCC case, has not relied upon the Migratory Bird Rule or any analogous theory under the “(a)(3)” provision as a basis for defending CWA jurisdiction over a particular site. The SWANCC decision only rejected one part of the migratory bird rule, and did not discuss the other elements, including the use of a water by endangered or threatened species or the use of a water for irrigation of crops to be sold in interstate commerce. On which elements of the SWANCC decision is the Department of Justice basing its rejection of all elements of the Migratory Bird Rule and the “(a)(3)” provision? Where in the SWANCC decision is there is any mention of the other prongs of the migratory bird rule, or any statement that supports that legal interpretation?

Response. In none of our post-SWANCC cases have we relied upon the Migratory Bird Rule, or any analogous theory under the “(a)(3)” provision, as a basis for defending CWA jurisdiction over a particular site. The continued viability of the other prongs of the Migratory Bird Rule and the elements of (a)(3) following SWANCC are issues that are appropriately considered by EPA and the Corps of Engineers in the first instance.

Question 2. In your testimony, you indicate that the Department of Justice conducted a comprehensive review of the entire docket of Clean Water Act litigation in response to SWANCC. If you determined that the basis for jurisdiction in a particular case was undermined by SWANCC, you “took appropriate action.” In your testimony, you provided the Borden Ranch Partnership v. U.S. Army Corps of Engineers example in which you withdrew an enforcement claim regarding a particular vernal pool. Please provide the committee with a complete list of all other actions the Department took regarding your docket of Clean Water Act litigation after conducting the comprehensive review described in your testimony.

Response. *SWANCC v. Corps of Engineers* (7th Cir. and Northern District of Illinois)—On remand to the 7th Circuit, the United States filed a statement that because the only asserted basis for regulatory jurisdiction was the Migratory Bird Rule, the Court of Appeals should remand the matter to the District Court for the entry of judgment in favor of plaintiff. Instead, however, the Court of Appeals accepted intervenor’s request that the District Court be ordered to consider whether alternative bases for regulating plaintiff’s landfill under the CWA exist. We then took the position in District Court that the Corps did not intend to assert jurisdiction over the SWANCC landfill and that judgment should be entered in favor of plaintiff. However, the District Court instead ordered the parties to file briefs regarding any remaining bases for CWA jurisdiction. The parties subsequently agreed to a stipulated dismissal of the lawsuit, and no such briefs were filed.

United States v. Angelo Tsakopoulos (also known as *Borden Ranch v. Corps of Engineers*) (9th Circuit)—This CWA 404 civil enforcement action involved the “deep-ripping” of wetlands. After trial, the District Court imposed a \$500,000 civil penalty and required mitigation with respect to a number of CWA violations. One set of violations identified by the District Court involved an isolated vernal pool that served

as habitat for the vernal pool fairy shrimp, a threatened species. Upon appeal, after SWANCC was decided, we withdrew the portion of our enforcement action involving that vernal pool. Subsequently, upon remand, the District Court revised the civil penalty down to \$486,040 to account for the withdrawal of that vernal pool claim.

United States v. Portrait Homes Construction Co. (District of South Carolina)—Prior to SWANCC, the parties in this CWA 404 civil enforcement action had lodged a consent decree requiring the defendant to pay a \$10,000 civil penalty, and to conduct restoration with respect to the filling of 0.63 acres of isolated wetlands. After SWANCC, the United States withdrew the consent decree and voluntarily dismissed the complaint.

Forest Guardians v. United States Army (District of New Mexico)—This CWA citizen suit alleged that the Army violated section 402 by not having an NPDES permit for discharges of treated sewage into an isolated playa on the White Sands Missile Range. After SWANCC, the parties stipulated to the dismissal of the complaint with prejudice.

United States v. Cargill, Inc. (Northern District of California)—This CWA 402 civil enforcement action involved the disposal of salt-processing wastes in a bermed non-wetland area located near Mowry Slough and the San Francisco Bay. After SWANCC, the United States voluntarily dismissed its enforcement action.

STATEMENT OF L. MICHAEL BOGERT, COUNSEL TO IDAHO GOVERNOR DIRK
KEMPTHORNE

Mr. Chairman and distinguished members of the of the committee: My name is Michael Bogert, and I am Counsel to Idaho Governor Dirk Kempthorne.

Unfortunately, the Governor could not join the committee today, but he asked me to extend his warmest regards to his good friends in the Senate.

Mr. Chairman and members, I appreciate the opportunity to give you and the distinguished Senators on the committee Governor Kempthorne's perspective on the SWANCC decision and what it means to the State of Idaho.

As an initial matter, Idaho is generally comforted by that section 101 of the Clean Water Act declares that "it is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution [and] to plan the development and use of land and water resources."

This statutory declaration, for Idaho, is the ideological lens by which we will view any attention by Congress to the Clean Water Act in the aftermath of the SWANCC decision.

However, we would be remiss if we did not acknowledge how much we appreciate the chance to even offer our perspective on this important decision by the Supreme Court to the committee today, as well as to the Federal executive branch agencies wrestling with this complex issue.

Through the advance notice of proposed rulemaking—or ANPR—the President has signaled he is approaching this problem from a decidedly different direction.

Through the ANPR, the Bush Administration has stated that it does not have all the answers up front, but it wants to sure to ask all of the right questions. And Mr. Chairman, a little humility by the Federal Government on this is a good thing.

The Administration is also saying that it is keenly aware that the SWANCC decision will have an impact on key partners such as the States in Clean Water Act implementation, and that even before a proposed rule is in order, the Federal agencies want an idea of what looms on the horizon for its administrative decision-making.

Governor Kempthorne appreciates this approach taken by the President.

I have submitted the Governor's very brief comments on the ANPR for purposes of today's record.

To provide the committee with some very brief background, Idaho does not presently administer a delegated Clean Water Act program under section 402 for National Pollutant Discharge Elimination System (NPDES) permits.

We are presently exploring whether an NPDES program makes sense for our State, so, as of this moment, Idaho is not a participant in this familiar model of "cooperative federalism."

But that doesn't mean we are not accomplished practitioners of both cooperation and federalism.

Addressing cooperation, just last week we forged a second agreement in 3 years with the region's Governors on salmon recovery, and this past legislative session we paved the way under our law for Federal/State wolf management.

We are pleased to hear today from the Assistant Attorney General that the Justice Department shares the value of partnering with the States to advance our mutual interest on environmental protection.

On the federalism side, you will hear no greater champion for State's rights than Governor Kempthorne.

Indeed, one of the core values we bring to this debate is that the best achievable results in environmental regulation occur where the Federal Government not just joins, but partners with State and local decisionmakers to avoid the consequences of top-down regulation.

Our experience in Idaho is that the best results are achieved from the ground up.

Accordingly, our first inclination is to reject the notion that in Idaho, there is suddenly a regulatory "void" that must be filled by the Federal Government in light of the SWANCC decision.

We have often found in discussions with some constituencies that when the topic of State control over environmental programs is mentioned, there is a fundamental distrust of putting States in the driver's seat.

Governor Kempthorne categorically rejects that premise, and if there is any doubt about the commitment of the Great State of Idaho to controlling water pollution, let me provide the committee with the following legislative prose from our State water quality control statute:

"The legislature, recognizing that surface water is one of the State's most valuable natural resources, has approved the adoption of water quality standards and authorized the director of the department of environmental quality to implement these standards. [I]t is the purpose of this chapter to enhance and preserve the quality and value of the surface water resources of the State of Idaho .

In consequence of the benefits to the public health, welfare, and economy, it is hereby declared to be the policy of the State of Idaho to protect this natural resource by monitoring and controlling water pollution."

Governor Kempthorne signed this legislation in 2001, and I doubt a stronger commitment to preventing water pollution can be found in any State statute.

But as the committee and Congress deliberate over its response to the SWANCC decision, it is important to have a better understanding of the backdrop of the case and why the Supreme Court ended up taking the case in the first place.

The petitioner, a coalition of municipalities, had been trying to secure a non-hazardous landfill site during the mid-1980's. They purchased a 533-acre site which once accommodated gravel and strip mining.

In the decade plus long process of working on the project, the coalition, known as SWANCC, received all the necessary State and local zoning permits, in addition to a land fill development permit from the Illinois EPA, as well as passing a review by the Illinois Department of Conservation, who approved their mitigation plan for certain bird species.

The petitioners asked the Army Corps of Engineers not once, but on two separate occasions within a year's period whether they needed permits under section 404 of the Clean Water Act. Each time the Corps responded that they had no jurisdiction over the landfill site.

Then, when alerted by an environmental organization that the site may have briefly been home to some migratory birds, the Corps changed its mind and asserted that under the "migratory bird rule," the landfill site included "waters of the United States" and that a section 404 permit was necessary.

SWANCC then applied for the section 404 permit and was denied on two separate occasions. Along the way, the coalition obtained two separate water quality permits under section 401 of the Clean Water Act from the State agencies with responsibility over those programs.

Nonetheless, the Corps twice denied the section 404 permit even though several years earlier they believed they had no jurisdiction whatsoever over the land fill.

Those were the facts the Supreme Court had before them when they considered the migratory bird rule, and the rest is now history in the Supreme Court Reporter.

Mr. Chairman and Distinguished Senators, as you consider this issue, it is vitally important that the past sins of the Federal Government I have just described not be born on your progeny.

Exercise your Commerce Clause authority carefully, and ask if the answer is really extending the jurisdiction of the Federal Government to the curbs and gutters of our streets, as is apparently occurring in San Diego? We don't think this is necessarily the part forward.

Also, does the Corps have the resources necessary to implement such a program?

However, it is vitally important that Congress consider what the Supreme Court said in SWANCC.

One argument is that SWANCC was merely a regulatory interpretation case and that its holding should be narrowly construed by the agencies and Congress.

However, the Supreme Court went out of its way to dust off its two major Commerce Clause cases, Lopez and Morrison, and indicated that this decision also could have gone in that direction.

As you formulate a response to the SWANCC decision, you should be mindful that the Court's current Commerce Clause jurisprudence lurks nearby.

From our vantage point in the Governor's Office in Boise, Idaho, the lessons of Lopez, Morrison and SWANCC are not that Congress cares more than States about guns in school, violence against women, or water pollution.

Rather, Governor Kempthorne would submit to his former colleagues that real achievement in addressing those noble policy goals should include those in the framework of our Federal system of government who bring the most promise to achieving results.

In our view, those achievers are States such as Idaho.

Thank you Mr. Chairman and members.

ATTACHMENT

DIRK KEMPTHORNE, GOVERNOR

April 16, 2003

The Honorable CHRISTINE TODD WHITMAN, *Administrator*
Environmental Protection Agency
c/o Water Docket
Mailcode 4101T
1200 Pennsylvania Ave., NW
Washington, DC 20460

Re: Docket ID No. OW-2002-0050—Advance Notice of Proposed Rule Making on the Clean Water Act Definition of “Waters of the United States”

68 Fed. Reg. 1991 (Jan. 15, 2003) and 68 Fed. Reg. 9613 (Feb. 28, 2003)

DEAR ADMINISTRATOR WHITMAN: The State of Idaho¹ hereby submits the following comments on the Advance Notice of Proposed Rule Making (ANPRM), 68 Fed. Reg. 1991 (Jan 15, 2003), and 68 Fed. Reg. 9613 (Feb. 28, 2003)(extension of comment deadline to April 16, 2003), on the following issues as posed by the United States Environmental Protection Agency and the United States Army Corps of Engineers:

1. Whether, and, if so, under what circumstances, the factors listed in 33 CFR [§]328.3(a)(3)(i)–(iii) (i.e., use of the water by interstate or foreign travelers for recreational or other purposes, the presence of fish or shellfish that could be taken and sold in interstate commerce, the use of the water for industrial purposes by industries in interstate commerce) or any other factors provide a basis for determining CWA jurisdiction over isolated, intrastate, non-navigable waters?

2. Whether the regulations should define “isolated waters,” and if so, what factors should be considered in determining whether a water is or is not isolated for jurisdictional purposes?

I. Introduction

A. Overview of Regulatory Infrastructure

1. Brief Overview of the Clean Water Act

The Clean Water Act (CWA or Act), was intended to “restore and maintain the chemical, physical and biological integrity of the Nation’s waters.” 33 U.S.C. §1251(a). Federal authority to regulate waters of the United States under the CWA stems from the Commerce Clause of the Constitution and extends to “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce.” See 33 C.F.R. §328.3(a)(1).

Section 404 of the CWA defines “waters of the United States” in detail, based primarily on interstate or foreign commerce connections (which can include use by interstate or foreign travelers for recreation, among other things). Existing section 404 regulations include as waters of the United States “all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural

¹ For purposes of these comments, the “State of Idaho” consists of Governor Dirk Kempthorne, the Governor’s Office of Species Conservation (OSC), the Idaho Department of Fish and Game (IDFG), the Idaho Department of Water Resources (IDWR), and the Idaho Department of Environmental Quality (IDEQ).

ponds, the use, degradation or destruction of which could affect interstate or foreign commerce.” 33 C.F.R. §328.3(a)(3).

B. Overview of the SWANCC Decision

1. Facts

In *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*, 531 U.S. 159 (2001), (SWANCC), a consortium of 23 suburban Chicago cities and villages developed plans for a disposal site for baled nonhazardous solid waste. The location for the site was an abandoned sand and gravel pit operation between Cook and Kane counties in Illinois.

Before operations could begin, the consortium, SWANCC, had to secure numerous county and State permits. During this process, SWANCC contacted the Corps to determine whether a Federal landfill permit was necessary since the operation included filling some permanent and seasonal ponds. The Corps initially determined that it lacked jurisdiction under §404(a) of the Clean Water Act, which grants the Corps “the authority to issue permits for the discharge of dredge or fill material into navigable waters at specified disposal sites.” 33 U.S.C. §1344(a).

The Northern Illinois Nature Preserves Commission informed the Corps that a number of migratory birds frequently occupied the site. The Corps reversed its previous jurisdiction decision and asserted jurisdiction under the “Migratory Bird Rule” (MBR)² an attempt by the Corps to clarify the actual reach of 404(a) jurisdiction to include waters that “are or would be used as habitat by other migratory birds which cross State lines.” The formal decision by the Corps determined that the seasonally ponded, abandoned gravel mining depressions located on the project site, while not wetlands, did qualify as “waters of the United States.”

The Corps refused to issue a section 404(a) permit, after determining jurisdiction, despite the fact that SWANCC secured the required water quality certification from the Illinois Environmental Protection Agency. The Corps maintained that SWANCC had not established its proposal as the least environmentally damaging, most practicable alternative for disposal of nonhazardous solid waste; that SWANCC’s failure to set aside sufficient funds to remediate leaks posed an unacceptable risk to the public’s drinking water supply; and that the impact of the project upon area-sensitive species was unmitigatable since a landfill surface cannot be redeveloped into a forested habitat.

On appeal, the Seventh Circuit Court of Appeals analyzed the constitutional question, holding that Congress has the authority to regulate such waters based upon “the cumulative impact doctrine, under which a single activity that itself has no discernible effect on interstate commerce may still be regulated if the aggregate effect of that class of activity has a substantial impact on interstate commerce.” 191 F.3d 845, 850 (7th Cir. 1999).

The Court of Appeals then turned to the regulatory question and held that the CWA reaches as many waters as the Commerce Clause allows and, relying on an earlier Commerce Clause ruling, it therefore followed that respondents’ “Migratory Bird Rule” was a reasonable interpretation of the Act. See *id.* at 851–52.

2. *The Decision in SWANCC*

The Supreme Court, in granting certiorari, discussed the contours of the CWA, including the Corps’ expansive jurisdictional view that section 404(a) extends to waters that “are or would be used as habitat by other migratory birds which cross State lines” under the MBR. The Court concluded that the Migratory Bird Rule was not fairly supported by the CWA.

The Supreme Court refused to follow the Corps expansive interpretation of its jurisdiction under section 404(a) the Clean Water Act. The articulated issue before the Court was “whether the provisions of section 404(a) may be fairly extended to [an abandoned sand and gravel pit in Northern Illinois which provided habitat for migratory birds], and, if so, whether Congress could exercise such authority consistent with the Commerce Clause.” *Id.* at 162. The Supreme Court answered that the Clean Water Act could not be so expanded.

The SWANCC decision thus eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross state lines in their migration patterns.

²See 51 Fed. Reg. 41206, 41217 (Nov. 13, 1986). The MBR states that §404(a) jurisdiction extends to intrastate waters: “a. [w]hich are or would be used as habitat by birds protected by Migratory Bird Treaties; or b. [w]hich are or would be used as habitat by other migratory birds which cross state lines”

II. Comments

A. The Importance of Isolated Waters

1. Why Are Isolated Waters Important?

In arid and semi-arid regions, isolated waters provide fresh water oases for wildlife and function as stepping stones for migrating waterfowl, shorebirds and song birds. Isolated waters are found throughout Idaho from small desert pools and springs to forest ponds and wet meadows to subalpine lakes.

Isolated waters are important for the same reasons that other wetlands are important—because they provide crucial habitat for many fishes, wildlife and plant species. Wetlands are important for water quality renovation, flood water storage, shoreline stabilization, sediment retention, and as vital habitat for numerous fish, wildlife and plant species. Some isolated waters are especially important breeding habitats for amphibians and continental waterfowl populations.

2. What is a “Jurisdictional Wetland?”

Currently, for purposes of jurisdiction under section 404 of the CWA, an area must meet all three parameters used to define a wetland to be considered a wetland. These include (1) presence of wetland vegetation, (2) presence of wetland soils, and (3) wetland hydrology. 33 C.F.R. §328.3(b). There is no official lower size threshold for jurisdiction (i.e., all wetlands that meet the three parameters may be considered). For practical purposes, the Corps in Idaho uses 20 feet in diameter as a minimum size if the wetland is surrounded by upland or agricultural lands.

If a number of smaller wetlands were found in a mosaic with other types of land (upland or agricultural land, for example) then the mosaic could be considered for jurisdictional purposes even if the individual wetlands were smaller than 20 feet in diameter. Under current guidelines (post-SWANCC), recommendations from the Corps field offices go to the District office for review before the Corps asserts jurisdiction over isolated wetlands.

B. The Idaho Perspective on the SWANCC Issues

1. The Idaho Department of Environmental Quality

The Idaho Legislature has provided to the Idaho Department of Environmental Quality (IDEQ) broad authority to develop a system to safeguard the quality of the waters of the State, including authority to adopt and enforce rules relating to the discharge of effluent into the waters of the State, and to adopt and enforce State water quality standards that designate uses and provide criteria to protect those uses. Idaho Code §39-105(e); §§39-3601—39-3624.

In providing this authority to the IDEQ, the State legislature very broadly defined “waters or water body” to mean “all accumulations of surface water, natural and artificial, public and private, or parts thereof which are wholly or partially within, flow through or border upon this State.” Idaho Code §39-3602(28). See also Idaho Code §39-103(16) (defining “water” almost identically).

While providing IDEQ authority to regulate water quality with respect to a very broad definition of waters of the State, the Legislature also expressed the intent for IDEQ to fully meet the goals and requirements of the Federal Clean Water Act, but through rules not impose requirements beyond those of the Federal Clean Water Act. It is unclear, in light of the legislative definition of “waters,” whether this provision in State law limits IDEQ to regulating only those waters that are regulated under the CWA.

If this provision does limit IDEQ to regulating only within the limits of Federal jurisdiction under the CWA, the SWANCC decision and its progeny, as well as any Federal rulemaking that defines CWA jurisdiction, will control the scope of Idaho’s water quality authority.

2. The Idaho Department of Fish and Game

The Idaho Department of Fish and Game (IDFG) has no statutory authority to regulate wetlands or the CWA.

However, IDFG personnel review stream alteration permits and section 404 permit applications, including field inspections, and provide recommendations to the regulatory agency on permit terms and conditions. Although IDFG’s recommendations are not binding, they often result in reduced impacts to wetlands and water quality. The SWANCC decision will not directly impact IDFG programs other than reducing the number of permit applications reviewed and may reduce some benefits to wildlife in Idaho.

3. The Idaho Department of Water Resources

Any resulting modifications to the Clean Water Act jurisdiction resulting from the U.S. Supreme Court’s decision in SWANCC will not directly impact any of IDWR’s programs.

Under Idaho's Stream Channel Alteration Act, Idaho Code §§42-3801—42-3813, IDWR's jurisdiction is limited by the definition of "stream channel" which means "a natural watercourse of perceptible extent, with definite bed and banks, which confines and conducts continuously flowing water." Idaho Code §42-3802(d). This definition would not be affected by a change in the definition of "waters of the United States" under the CWA.

The Waste Disposal and Injection Well program, Idaho Code §§42-3901—42-3919, administered by IDWR, requires the issuance of a permit to authorize the construction or use of any waste disposal and injection well. The act defines "aquifer" to mean "any geologic formation that will yield water to a well in sufficient quantities to make production of water from the formation feasible for beneficial use, except when the water in such formation results solely from injection through a waste disposal and injection well." Idaho Code §42-3902(1). This program would not be affected by a change in the definition of "waters of the United States" under the CWA.

C. Question One:

Whether, and, if so, under what circumstances, the factors listed in 33 CFR 328.3(a)(3)(i)–(iii) (i.e., use of the water by interstate or foreign travelers for recreational or other purposes, the presence of fish or shellfish that could be taken and sold in interstate commerce, the use of the water for industrial purposes by industries in interstate commerce) or any other factors provide a basis for determining CWA jurisdiction over isolated, intrastate, non-navigable waters?

Some isolated waters provide important habitat and water sources for some species of fish and wildlife and associated recreation.

Migratory birds, particularly shorebirds and waterfowl, use isolated wetlands such as playa lakes as resting and feeding locations during migrations. Some isolated wetlands in Idaho are streams and contain sensitive species of fish, amphibians and in one case bull trout, a fish listed as threatened.

The factors contained in 33 CFR §§328.3(a)(3)(i)–(iii) could be an important indicator of appropriate Federal jurisdiction under the Clean Water Act. The factors described in the present configuration cannot be summarily dismissed, but, as noted by one Federal judge reviewing a CWA case who echoed the theme of SWANCC, "[t]he Commerce power as construed by the courts is indeed expansive, but not so expansive as to authorize regulation of puddles merely because a bird traveling interstate might decide to stop for a drink." *Hoffman Homes, Inc. v. U.S. Env'tl. Prot. Agency*, 999 F.2d 256, 263 (7th Cir. 1993) (Manion, J., concurring).

D. Question Two:

Whether the regulations should define "isolated waters," and if so, what factors should be considered in determining whether a water is or is not isolated for jurisdictional purposes?

The determination as to whether the regulations should define "isolated waters," and if so, the factors to be considered should be guided by the fact that Congress in enacting the CWA recognized "the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources ." 33 U.S.C. §1251(b).

In light of Idaho's current regulatory mechanisms, Idaho recommends that the EPA and Corps adopt an appropriate regulatory interpretation of the SWANCC decision in determining jurisdictional wetlands. A definition of "isolated waters" is important because it will provide certainty to the public regarding what conduct is appropriate under the Clean Water Act.

The SWANCC decision dealt with placing of fill in an abandoned gravel and sand pit, a wetland that was clearly created as a result of mans' activities. Any regulatory gloss to SWANCC should exclude from the CWA those isolated wetlands that result from mans purposeful or inadvertent activities, for example, gravel pits, constructed ponds, leakage from irrigation ditches or canals, water storage facilities or irrigation ditches, and aquifer recharge sites and wetlands created for treating irrigation return water. All naturally occurring isolated wetlands, streams, wet meadows and riparian areas should continue to receive protection and should be accommodated in the definition.

III. Conclusion

The U.S. Supreme Court decision in SWANCC specifically eliminated Clean Water Act jurisdiction over isolated, intrastate, non-navigable waters where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds that cross State lines.

While SWANCC and the subsequent Federal court decisions raise significant issues regarding Federal CWA jurisdiction, the CWA clearly recognizes the tradi-

tional authority of States to control sources of pollution and to plan the use and development of State land and water resources. 33 U.S.C. §101(b).

Therefore, the CWA preserves to States the authority to adopt or enforce standards and limitations respecting discharges of pollutants or requirements respecting the control or abatement of pollution, as long as State effluent limitations or other limitations are no less stringent than those effective under the CWA. 33 U.S.C. §1370. See also 33 USCA §1344(t) (preserving to States the authority to control the discharge of dredged or fill material in any portion of navigable waters within the jurisdiction of the State).

As discussed above, Idaho law arguably prohibits Idaho from regulating waters not regulated under the CWA.

If the Federal agencies eliminate or narrow jurisdiction over certain water bodies or wetlands, Idaho may be unable to step in and control water quality issues relating to all of these bodies or wetlands without an additional grant of authority from the Idaho Legislature.

Sincerely,

DIRK KEMPTHORNE, *Governor*

RESPONSES OF L. MICHAEL BOGERT TO ADDITIONAL QUESTIONS FROM SENATOR
JEFFORDS

Question 1. How many miles of streams in Idaho are considered “traditionally navigable?” What percentage of the waters in Idaho does this comprise?

Response. There are approximately 18,116 miles of streams in Idaho considered “traditionally navigable” by the State. These streams are estimated to comprise 19.7 percent of the waters in Idaho.

Question 2. What role do fishing, hunting, and wildlife watching play in the Idaho economy in terms of dollars and jobs contributed?

Response. Idaho’s fish and wildlife heritage, present and future, cannot be entirely summed up in a discussion of financial facts alone.

However, participation by hunters and anglers (not counting citizens whose interest in wildlife is strictly as observers) is among the highest in the Nation. More than one in every three Idahoans actively hunts or fishes.

Based on the latest reliable information from the Idaho Department of Commerce, about 197,000 residents and non-residents hunt and 416,000 Idahoans and visitors fish in Idaho annually. The total is more than the combined populations of Boise, Pocatello, Idaho Falls, Nampa, and Moscow, Idaho (486,000 vs. 361,141).

Spending by this group adds up to \$754 million a year. Wildlife watchers spend an additional \$356 million a year. When combined, the spending on wildlife related recreation in Idaho exceeds \$1.1 billion annually. For the purpose of perspective, this was almost twice the cash receipts for Idaho’s potato crop in the most recent year studied—\$1 billion vs. \$551 million.

State revenue from hunting and fishing alone (sales tax, fuel tax, and income taxes on related jobs) amounted to \$51.5 million, and is the equivalent of 1,511 teachers’ salaries or 9,532 students’ annual education expenses in Idaho. Economists calculate this “ripple effect” on Idaho’s economy at \$1.22 billion annually.

In the management of fish and wildlife, hunters and anglers pay for their own programs. The Idaho Department of Fish and Game is funded almost entirely by licenses and fees and through Federal funds which are derived from taxes on the sales of selected sporting goods. (A small percentage of the Department’s budget comes from contracts with Federal agencies.) No State general funds are appropriated to the Department Fish and Game.

Nonconsumptive use—wildlife watching—also contributes considerably to the economy of Idaho. About 333,000 Idahoans and 451,000 visitors are estimated to spend a total of more than \$356 million in their pursuits. Many of those visitors are, of course, also hunters and anglers.

Fish and wildlife contribute to the Idaho economy in another way, although it is more difficult to quantify. Highly skilled professionals and high tech industry employees—the kind of citizen most able to choose where they wish to make a living (and pay taxes)—often cite Idaho’s outdoor lifestyle as the deciding factor in their choice to live here. I have enclosed additional materials that should provide a deeper perspective into this answer.

Question 3. As I understand it, Idaho does not have any State level protections that prevent discharges of pollution or dredging and filling activities in waters not protected by the Clean Water Act and actually has a law that prevents it from developing regulations to do so. If this is true, is the State concerned with the potential impacts to drinking water supplies, and devastation of recreational hunting and

fishing if many or most of Idaho's waters lose protection under the Clean Water Act?

Response. The State of Idaho is deeply committed to protecting its waters.

Our State's dedication to controlling water pollution is embodied in the following legislative prose from the State's water quality control statute:

The legislature, recognizing that surface water is one of the State's most valuable natural resources, has approved the adoption of water quality standards and authorized the director of the department of environmental quality . . . to implement these standards. . . . [I]t is the purpose of this chapter to *enhance and preserve the quality and value of the surface water resources of the State of Idaho*. . . . In consequence of *the benefits to the public health, welfare, and economy*, it is hereby declared to be the policy of the State of Idaho to protect this natural resource by monitoring and controlling water pollution. [Idaho Code §39-3601 (Michie 2002) (emphasis added).] A brief overview of the State's water management infrastructure will provide an appropriate context to answer this question.

A. Idaho's Water Quality and Water Management Framework

In Idaho, the use and management of water is protected within the framework of the State constitution. For example, appropriated water in Idaho is declared subject to regulation by the State as a public use, [Idaho Const. art. XV, § 1]; the right to divert and appropriate unappropriated waters "shall never be denied," [Idaho Const. art. XV, § 3]; and the State water resource agency has its organic genesis in the State constitution. [Idaho Const. art. XV, § 7].

The Idaho Departments of Environmental Quality (IDEQ) and Water Resources (IDWR) jointly govern water quality and management through IDEQ's development and implementation of State water quality standards and Total Maximum Daily Load allowances (TMDLs), as well as IDWR's water transfer authority.

The Idaho Legislature has provided to the IDEQ broad authority to develop a system to safeguard the quality of the waters of the State, including authority to adopt and enforce rules relating to the discharge of effluent into the waters of the State, and to adopt and enforce State water quality standards that designate uses and provide criteria to protect those uses. See generally [Idaho Code §39-105(e) (Michie 2002); §§39-3601-to-3624 (Michie 2002 and Supp. 2003)].

In providing this authority to the IDEQ, the State legislature very broadly defined "waters or water body" to mean "all accumulations of surface water, natural and artificial, public and private, or parts thereof which are wholly or partially within, flow through or border upon this State." [Idaho Code §39-3602(28) (Michie 2002)]. [See also Idaho Code §39-103(16) (Michie 2002) (defining "water" almost identically)].

While providing IDEQ authority to regulate water quality with respect to a very broad definition of waters of the State, the Idaho Legislature also intended "that the State of Idaho fully meet the goals and requirements of the Federal clean water act and that rules promulgated under this chapter not impose requirements beyond those of the Federal clean water act." [Idaho Code §39-3601 (Michie 2002)]. This is commonly referred to as the "stringency" requirement under State law, but it does not limit other State agency authority on activity protecting water quality.

As authorized by Congress through the Clean Water Act, Idaho has developed water quality standards and Total Maximum Daily Loads (TMDL). [See Idaho Code §§39-3601 to-3612 (Michie 2002 and Supp. 2003)]. Under State law, "and *as required by the Federal Clean Water Act*," the IDEQ is required to develop a total maximum daily load to control point source and non-point sources of pollution. [Idaho Code § 39-3611 (Michie 2003) (emphasis added)].

Inherent within this authority is the power to identify pollutants impacting the water body; [Idaho Code §39-3611(1) (Michie 2003)]; to inventory all point and non-point sources of the identified pollutant, [Idaho Code §39-3611(2) (Michie 2003)]; and to develop pollution control strategies for both point sources and non-point sources for reducing those sources of pollution, [Idaho Code §39-3611(5) (Michie 2003)].

After the TMDL process provided by State law is completed, the Director of IDEQ shall "integrate such processes into the State's water quality management plan developed pursuant to the Federal Clean Water Act." [Idaho Code §39-3612 (Michie Supp. 2003)].

Accordingly, Idaho's authority to analyze, adopt, and implement water quality standards and TMDLs—activities which complement the goals of the Federal Clean Water Act—are vigorously pursued within the State's statutory construct. All of these activities may be undertaken in areas where Idaho's environmental values have its highest levels of interest by our State's outdoor recreationalists.

B. An Additional Tool to Aid Water Quality: House Bill 284

During the 2003 legislative session, Idaho enacted House Bill 284, which was signed into law by Governor Kempthorne. H.B. 284, 57th Leg. 1st Sess., 2003 Idaho Sess. Laws 806 (enclosed).

House Bill 284 amended the definition of the “local public interest” criterion used to evaluate certain administrative decisions, including basin water transfers, within Idaho’s statutory water management infrastructure. The “local public interest” is “the interests that the people in the area directly affected by a proposed water use have in the effects of such use on the public water resource.” [Idaho Code §42–202B(3) (Michie 2003)].

House Bill 284 also added a new separate “economic effects” criterion intended to apply in the event of an out of-basin transfer of water from one watershed or local area to another. Under Idaho law, such movement of water may not “adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates, in the case where the place of use is outside of the watershed or local area where the source of water originates.” [Idaho Code §42–202B (Michie 2003)].

The Director of IDWR may consider trans-basin transfers if it will not adversely affect the local economy of the original source of the transfer, which is a new element enacted as a part of House Bill 284.¹

Accordingly, even in Idaho’s water management infrastructure, protection of the types of recreational values identified in the question above is appropriately considered under State law.

Question 4. If the jurisdiction of the Clean Water Act is narrowed, mining companies, heavy industries and others, could discharge pollution directly into wetlands and streams that will flow into groundwater or downstream surface waters. What will Idaho do to combat this pollution?

Response. Any narrowing of Federal Clean Water Act authority will not affect State laws and rules that are not derived from the CWA.

The State Legislature has provided IDEQ and other State agencies with broad authority to maintain and protect the quality of the State’s groundwater. [See, e.g. Idaho Code §§39–102(2), (3); 39–120 to 39–127].

The State regulates mining and other specific activities in the State to ensure protection of natural resources and will continue to use these laws and its CWA authority to combat water pollution. The State has great confidence that it has ample authority to protect the environment from the activities set forth in the question.

¹That part of the statute provides in pertinent part that: “The director of the department of water resources shall examine all the evidence and available information and shall approve the change in whole, or in part, or upon conditions, provided no other water rights are injured thereby, the change does not constitute an enlargement in use of the original right, the change is consistent with the conservation of water resources within the State of Idaho and *is in the local public interest as defined in section 42–202B, Idaho Code, the change will not adversely affect the local economy of the watershed or local area within which the source of water for the proposed use originates, in the case where the place of use is outside of the watershed or local area where the source of water originates, and the new use is a beneficial use*, which in the case of a municipal provider shall be satisfied if the water right is necessary to serve reasonably anticipated future needs as provided in this chapter.” [Idaho Code §42–222(1) (Michie 2003) (emphasis added).]

HOUSE BILL NO. 284

View Daily Data Tracking History
 View Bill Text
 View Statement of Purpose / Fiscal Impact

Text to be added within a bill has been marked with Bold and Underline. Text to be removed has been marked with Strikethrough and Italic. How these codes are actually displayed will vary based on the browser software you are using. **This sentence is marked with bold and underline to show added text.**
This sentence is marked with strikethrough and italic, indicating text to be removed.

Daily Data Tracking History

H0284.....by WAYS AND MEANS
 WATER RIGHTS - Amends existing law to revise criteria to be considered by the director of the Department of Water Resources associated with the determination of applications for appropriation of water, change in point of diversion, place of use, period of use or nature of use of water under established rights, certain exchanges of water and proposed rentals of water from the water supply bank; and to clarify the manner in which minimum stream flow water rights may be established.

02/20 House intro - 1st rdg - to printing
 02/21 Rpt prt - to Res/Con
 03/04 Rpt out - rec d/p - to 2nd rdg
 03/05 2nd rdg - to 3rd rdg
 03/07 3rd rdg - PASSED - 53-15-2

AYES -- Barraclough, Barrett, Bauer, Bedke, Bell, Black, Block, Bolz, Bradford, Campbell, Cannon, Clark, Collins, Crow, Cuddy, Denney, Eberle, Edmunson, Ellsworth, Eskridge, Field(18), Field(23), Gagner, Garrett, Harwood, Kellogg, Kulczyk, Lake, Langford, McGeachin, McKague, Meyer, Miller, Moyle, Nielsen, Raybould, Ridinger, Ring, Roberts, Rydalch, Sall, Schaefer, Shepherd, Shirley, Skippen, Smith(24), Smylie, Snodgrass, Stevenson, Tilman, Wills, Wood, Mr. Speaker
 NAYS -- Andersen, Bieter, Boe, Deal, Douglas, Henbest, Jaquet, Jones, Langhorst, Martinez, Ringo, Robison, Saylor, Smith(30), Trail
 Absent and excused -- Mitchell, Naccarato
 Floor Sponsor - Stevenson
 Title apvd - to Senate

03/10 Senate intro - 1st rdg - to Res/Env
 04/03 Rpt out - rec d/p - to 2nd rdg
 04/04 2nd rdg - to 3rd rdg
 04/07 3rd rdg - PASSED - 28-7-0

AYES -- Andreason, Bailey, Brandt, Bunderson, Burtenshaw, Cameron, Compton, Darrington, Davis, Gannon, Geddes, Goedde, Hill, Ingram, Keough, Little, Lodge, Marley, McKenzie, McWilliams, Noble, Noh, Pearce, Richardson, Sorensen, Stegner, Sweet, Williams
 NAYS -- Burkett, Calabretta, Kennedy, Malepeal(Kumm), Schroeder, Stennett, Werk
 Absent and excused -- None
 Floor Sponsor - Noh
 Title apvd - to House

04/08 To enrol
 04/09 Rpt enrol - Sp signed - Pres signed
 04/10 To Governor
 04/15 Governor signed
 Session Law Chapter 298
 Effective: 07/01/03

Bill Text

|||| LEGISLATURE OF THE STATE OF IDAHO ||||
Fifty-seventh Legislature First Regular Session - 2003

IN THE HOUSE OF REPRESENTATIVES

HOUSE BILL NO. 284

BY WAYS AND MEANS COMMITTEE

1 AN ACT
2 RELATING TO WATER RIGHTS; AMENDING SECTION 42-202B, IDAHO CODE, TO PROVIDE FOR
3 CERTAIN APPLICATION OF DEFINITIONS AND TO DEFINE A TERM; AMENDING SECTION
4 42-203A, IDAHO CODE, TO REVISE CRITERIA TO BE CONSIDERED BY THE DIRECTOR
5 OF THE DEPARTMENT OF WATER RESOURCES ASSOCIATED WITH THE DETERMINATION OF
6 APPLICATIONS FOR THE APPROPRIATION OF WATER AND TO CLARIFY THE MANNER IN
7 WHICH MINIMUM STREAM FLOW WATER RIGHTS MAY BE ESTABLISHED AND TO MAKE
8 TECHNICAL CORRECTIONS; AMENDING SECTION 42-222, IDAHO CODE, TO REVISE CRI-
9 TERIA TO BE CONSIDERED BY THE DIRECTOR ASSOCIATED WITH THE DETERMINATION
10 OF APPLICATIONS TO CHANGE THE POINT OF DIVERSION, PLACE OF USE, PERIOD OF
11 USE OR NATURE OF USE OF WATER UNDER ESTABLISHED RIGHTS AND TO CLARIFY THE
12 MANNER IN WHICH MINIMUM STREAM FLOW WATER RIGHTS MAY BE ESTABLISHED;
13 AMENDING SECTION 42-240, IDAHO CODE, TO REVISE CRITERIA TO BE CONSIDERED
14 BY THE DIRECTOR ASSOCIATED WITH THE DETERMINATION OF APPLICATIONS TO MAKE
15 CERTAIN EXCHANGES OF WATER; AND AMENDING SECTION 42-1763, IDAHO CODE, TO
16 REVISE CRITERIA TO BE CONSIDERED BY THE DIRECTOR ASSOCIATED WITH THE
17 DETERMINATION OF PROPOSED RENTALS OF WATER FROM THE WATER SUPPLY BANK.

18 Be It Enacted by the Legislature of the State of Idaho:

19 SECTION 1. That Section 42-202B, Idaho Code, be, and the same is hereby
20 amended to read as follows:

- 21 42-202B. DEFINITIONS. Whenever used in this ~~chapter title~~, the term:
22 (1) "Consumptive use" means that portion of the annual volume of water
23 diverted under a water right that is transpired by growing vegetation, evapo-
24 rated from soils, converted to nonrecoverable water vapor, incorporated into
25 products, or otherwise does not return to the waters of the state. Consumptive
26 use does not include any water that falls as precipitation directly on the
27 place of use unless the precipitation is captured, controlled and used under
28 an appurtenant water right.
29 (2) "Digital boundary" means the boundary encompassing and defining an
30 area consisting of or incorporating the place of use or permissible place of
31 use for a water right prepared and maintained by the department of water
32 resources using a geographic information system in conformance with the
33 national standard for spatial data accuracy or succeeding standard.
34 (3) "Local public interest" is defined as the interests that the people
35 in the area directly affected by a proposed water use have in the effects of
36 such use on the public water resource.
37 (4) "Municipality" means a city incorporated under section 50-102, Idaho
38 Code, a county, or the state of Idaho acting through a department or institu-
39 tion.
40 (45) "Municipal provider" means:
41 (a) A municipality that provides water for municipal purposes to its res-
42 idents and other users within its service area;
43 (b) Any corporation or association holding a franchise to supply water

1 for municipal purposes, or a political subdivision of the state of Idaho
2 authorized to supply water for municipal purposes, and which does supply

3 water, for municipal purposes to users within its service area; or
 4 (c) A corporation or association which supplies water for municipal pur-
 5 poses through a water system regulated by the state of Idaho as a "public
 6 water supply" as described in section 39-103(10), Idaho Code.

7 ~~(56)~~ "Municipal purposes" refers to water for residential, commercial,
 8 industrial, irrigation of parks and open space, and related purposes, exclud-
 9 ing use of water from geothermal sources for heating, which a municipal pro-
 10 vider is entitled or obligated to supply to all those users within a service
 11 area, including those located outside the boundaries of a municipality served
 12 by a municipal provider.

13 ~~(47)~~ "Planning horizon" refers to the length of time that the department
 14 determines is reasonable for a municipal provider to hold water rights to meet
 15 reasonably anticipated future needs. The length of the planning horizon may
 16 vary according to the needs of the particular municipal provider.

17 ~~(48)~~ "Reasonably anticipated future needs" refers to future uses of water
 18 by a municipal provider for municipal purposes within a service area which, on
 19 the basis of population and other planning data, are reasonably expected to be
 20 required within the planning horizon of each municipality within the service
 21 area not inconsistent with comprehensive land use plans approved by each
 22 municipality. Reasonably anticipated future needs shall not include uses of
 23 water within areas overlapped by conflicting comprehensive land use plans.

24 ~~(49)~~ "Service area" means that area within which a municipal provider is
 25 or becomes entitled or obligated to provide water for municipal purposes. For
 26 a municipality, the service area shall correspond to its corporate limits, or
 27 other recognized boundaries, including changes therein after the permit or
 28 license is issued. The service area for a municipality may also include areas
 29 outside its corporate limits, or other recognized boundaries, that are within
 30 the municipality's established planning area if the constructed delivery sys-
 31 tem for the area shares a common water distribution system with lands located
 32 within the corporate limits. For a municipal provider that is not a municipali-
 33 ty, the service area shall correspond to the area that it is authorized or
 34 obligated to serve, including changes therein after the permit or license is
 35 issued.

36 SECTION 2. That Section 42-203A, Idaho Code, be, and the same is hereby
 37 amended to read as follows:

38 42-203A. NOTICE UPON RECEIPT OF APPLICATION -- PROTEST -- HEARING AND
 39 FINDINGS -- APPEALS. (1) Upon receipt of an application to appropriate the
 40 waters of this state, the department of water resources, shall prepare a
 41 notice in such form as the department may prescribe, specifying: (a) the num-
 42 ber of the application; (b) the date of filing thereof; (c) the name and post-
 43 office address of the applicant; (d) the source of the water supply; (e) the
 44 amount of water to be appropriated; (f) in general the nature of the proposed
 45 use; (g) the approximate location of the point of diversion; and (h) ~~and~~ the
 46 point of use. The department shall also state in said notice that any protest
 47 against the approval of such application, in form prescribed by the depart-
 48 ment, shall be filed with the department within ten (10) days from the last
 49 date of publication of such notice.

50 (2) The director of the department of water resources shall cause the
 51 notice to be published in a newspaper printed within the county wherein the
 52 point of diversion lies, or, in the event no newspaper is printed in said
 53 county, then in a newspaper of general circulation therein. When the applica-

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1 tion proposes a diversion in excess of ten (10) c.f.s. or one thousand (1,000)
 2 acre feet, the director shall cause the notice to be published in a newspaper
 3 or newspapers sufficient to achieve statewide circulation. Any notice shall be
 4 published at least once each week for two (2) successive weeks.

5 (3) The director of the department shall cause a copy of the notice of
 6 application to be sent by ordinary mail to any person who requests in writing
 7 to receive any class of notices of application and who pays an annual mailing
 8 fee as established by departmental regulation.

9 (4) Any person, firm, association or corporation concerned in any such
 10 application may, within the time allowed in the notice of application, file
 11 with said director of the department of water resources a written protest,

12 together with the statutory filing fee as provided in section 42-221, Idaho
 13 Code, against the approval of such application, which protest shall state the
 14 name and address of protestant and shall be signed by him or by his agent or
 15 attorney and shall clearly set forth his objections to the approval of such
 16 application. Hearing upon the protest so filed shall be held within sixty (60)
 17 days from the date such protest is received. Notice of this hearing shall be
 18 given by mailing notice not less than ten (10) days before the date of hearing
 19 and shall be forwarded to both the applicant and the protestant, or
 20 protestants, by certified mail. Such notice shall state the names of the
 21 applicant and protestant, or protestants, the time and place fixed for the
 22 hearing and such other information as the director of the department of water
 23 resources may deem advisable. In the event that no protest is filed, then the
 24 director of the department of water resources may forthwith approve the appli-
 25 cation, providing the same in all respects conforms with the requirements of
 26 this chapter, and with the regulations of the department of water resources.

27 (5) Such hearing shall be conducted in accordance with the provisions of
 28 section 42-1701A(1) and (2), Idaho Code. The director of the department of
 29 water resources shall find and determine from the evidence presented to what
 30 use or uses the water sought to be appropriated can be and are intended to be
 31 applied. In all applications whether protested or not protested, where the
 32 proposed use is such (a) that it will reduce the quantity of water under
 33 existing water rights, or (b) that the water supply itself is insufficient for
 34 the purpose for which it is sought to be appropriated, or (c) where it appears
 35 to the satisfaction of the director that such application is not made in good
 36 faith, is made for delay or speculative purposes, or (d) that the applicant
 37 has not sufficient financial resources with which to complete the work
 38 involved therein, or (e) that it will conflict with the local public interest,
 39 ~~where the local public interest is as defined as the affairs of the people in~~
 40 ~~the area directly affected by the proposed use in section 42-202B, Idaho Code,~~
 41 or (f) that it is contrary to conservation of water resources within the state
 42 of Idaho, or (g) that it will adversely affect the local economy of the water-
 43 shed or local area within which the source of water for the proposed use orig-
 44 inates, in the case where the place of use is outside of the watershed or
 45 local area where the source of water originates; the director of the depart-
 46 ment of water resources may reject such application and refuse issuance of a
 47 permit therefor, or may partially approve and grant a permit for a smaller
 48 quantity of water than applied for, or may grant a permit upon conditions.
 49 Provided however, that minimum stream flow water rights may not be established
 50 under the local public interest criterion, and may only be established pursu-
 51 ant to chapter 15, title 42, Idaho Code. The provisions of this section shall
 52 apply to any boundary stream between this and any other state in all cases
 53 where the water sought to be appropriated has its source largely within the
 54 state, irrespective of the location of any proposed power generating plant.

55 (6) Any person or corporation who has formally appeared at the hearing,

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1 aggrieved by the judgment of the director of the department of water
 2 resources, may seek judicial review thereof in accordance with section
 3 42-1701A(4), Idaho Code.

4 SECTION 3. That Section 42-222, Idaho Code, be, and the same is hereby
 5 amended to read as follows:

6 42-222. CHANGE IN POINT OF DIVERSION, PLACE OF USE, PERIOD OF USE, OR
 7 NATURE OF USE OF WATER UNDER ESTABLISHED RIGHTS -- FORFEITURE AND EXTENSION --
 8 APPEALS. (1) Any person, entitled to the use of water whether represented by
 9 license issued by the department of water resources, by claims to water rights
 10 by reason of diversion and application to a beneficial use as filed under the
 11 provisions of this chapter, or by decree of the court, who shall desire to
 12 change the point of diversion, place of use, period of use or nature of use of
 13 all or part of the water, under the right shall first make application to the
 14 department of water resources for approval of such change. Such application
 15 shall be upon forms furnished by the department and shall describe the right
 16 licensed, claimed or decreed which is to be changed and the changes which are
 17 proposed, and shall be accompanied by the statutory filing fee as in this
 18 chapter provided. Upon receipt of such application it shall be the duty of the

19 director of the department of water resources to examine same, obtain any con-
 20 sent required in section 42-108, Idaho Code, and if otherwise proper to pro-
 21 vide notice of the proposed change in the same manner as applications under
 22 section 42-203A, Idaho Code. Such notice shall advise that anyone who desires
 23 to protest the proposed change shall file notice of protests with the depart-
 24 ment within ten (10) days of the last date of publication. Upon the receipt of
 25 any protest, accompanied by the statutory filing fee as provided in section
 26 42-221, Idaho Code, it shall be the duty of the director of the department of
 27 water resources to investigate the same and to conduct a hearing thereon. He
 28 shall also advise the watermaster of the district in which such water is used
 29 of the proposed change and the watermaster shall notify the director of the
 30 department of water resources of his recommendation on the application, and
 31 the director of the department of water resources shall not finally determine
 32 the action on the application for change until he has received from such
 33 watermaster his recommendation thereof, which action of the watermaster shall
 34 be received and considered as other evidence.

35 When the nature of use of the water right is to be changed to municipal
 36 purposes and some or all of the right will be held by a municipal provider to
 37 serve reasonably anticipated future needs, the municipal provider shall pro-
 38 vide to the department sufficient information and documentation to establish
 39 that the applicant qualifies as a municipal provider and that the reasonably
 40 anticipated future needs, the service area and the planning horizon are con-
 41 sistent with the definitions and requirements specified in this chapter. The
 42 service area need not be described by legal description nor by description of
 43 every intended use in detail, but the area must be described with sufficient
 44 information to identify the general location where the water under the water
 45 right is to be used and the types and quantity of uses that generally will be
 46 made.

47 When a water right or a portion thereof to be changed is held by a munici-
 48 pal provider for municipal purposes, as defined in section 42-202B, Idaho
 49 Code, that portion of the right held for reasonably anticipated future needs
 50 at the time of the change shall not be changed to a place of use outside the
 51 service area, as defined in section 42-202B, Idaho Code, or to a new nature of
 52 use.

53 The director of the department of water resources shall examine all the

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1 evidence and available information and shall approve the change in whole, or
 2 in part, or upon conditions, provided no other water rights are injured
 3 thereby, the change does not constitute an enlargement in use of the original
 4 right, the change is consistent with the conservation of water resources
 5 within the state of Idaho and is in the local public interest as defined in
 6 section ~~42-203A(4)~~ 42-202B, Idaho Code, **the change will not adversely affect**
 7 **the local economy of the watershed or local area within which the source of**
 8 **water for the proposed use originates, in the case where the place of use is**
 9 **outside of the watershed or local area where the source of water originates,**
 10 and the new use is a beneficial use, which in the case of a municipal provider
 11 shall be satisfied if the water right is necessary to serve reasonably antici-
 12 pated future needs as provided in this chapter. The director may consider con-
 13 sumptive use, as defined in section 42-202B, Idaho Code, as a factor in deter-
 14 mining whether a proposed change would constitute an enlargement in use of the
 15 original water right. The director shall not approve a change in the nature of
 16 use from agricultural use where such change would significantly affect the
 17 agricultural base of the local area. The transfer of the right to the use of
 18 stored water for irrigation purposes shall not constitute an enlargement in
 19 use of the original right even though more acres may be irrigated, if no other
 20 water rights are injured thereby. A copy of the approved application for
 21 change shall be returned to the applicant and he shall be authorized upon
 22 receipt thereof to make the change and the original water right shall be pre-
 23 sumed to have been amended by reason of such authorized change. In the event
 24 the director of the department of water resources determines that a proposed
 25 change shall not be approved as provided in this section, he shall deny the
 26 same and forward notice of such action to the applicant by certified mail,
 27 which decision shall be subject to judicial review as hereafter ~~provided set~~
 28 **forth. Provided however, minimum stream flow water rights may not be estab-**
 29 **lished under the local public interest criterion, and may only be established**

30 pursuant to chapter 15, title 42, Idaho Code.

31 (2) All rights to the use of water acquired under this chapter or other-
 32 wise shall be lost and forfeited by a failure for the term of five (5) years
 33 to apply it to the beneficial use for which it was appropriated and when any
 34 right to the use of water shall be lost through nonuse or forfeiture such
 35 rights to such water shall revert to the state and be again subject to appro-
 36 priation under this chapter; except that any right to the use of water shall
 37 not be lost through forfeiture by the failure to apply the water to beneficial
 38 use under certain circumstances as specified in section 42-223, Idaho Code.

39 (3) Upon proper showing before the director of the department of water
 40 resources of good and sufficient reason for nonapplication to beneficial use
 41 of such water for such term of five (5) years, the director of the department
 42 of water resources is hereby authorized to grant an extension of time extend-
 43 ing the time for forfeiture of title for nonuse thereof, to such waters for a
 44 period of not to exceed five (5) additional years.

45 (4) Application for an extension shall be made before the end of the five
 46 (5) year period upon forms to be furnished by the department of water
 47 resources and shall fully describe the right on which an extension of time to
 48 resume the use is requested and the reasons for such nonuse and shall be
 49 accompanied by the statutory filing fee; provided that water rights protected
 50 from forfeiture under the provisions of section 42-223, Idaho Code, are exempt
 51 from this requirement.

52 (a) Upon the receipt of such application it shall be the duty of the
 53 director of the department of water resources to examine the same and to
 54 provide notice of the application for an extension in the same manner as
 55 applications under section 42-203A, Idaho Code. The notice shall fully

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1 describe the right, the extension which is requested and the reason for
 2 such nonuse and shall state that any person desiring to object to the
 3 requested extension may submit a protest, accompanied by the statutory
 4 filing fee as provided in section 42-221, Idaho Code, to the director of
 5 the department of water resources within ten (10) days of the last date of
 6 publication.

7 (b) Upon receipt of a protest it shall be the duty of the director of the
 8 department of water resources to investigate and conduct a hearing thereon
 9 as in this chapter provided.

10 (c) The director of the department of water resources shall find from the
 11 evidence presented in any hearing, or from information available to the
 12 department, the reasons for such nonuse of water and where it appears to
 13 the satisfaction of the director of the department of water resources that
 14 other rights will not be impaired by granting an extension of time within
 15 which to resume the use of the water and good cause appearing for such
 16 nonuse, he may grant one (1) extension of five (5) years within which to
 17 resume such use.

18 (d) In his approval of the application for an extension of time under
 19 this section the director of the department of water resources shall set
 20 the date when the use of water is to be resumed. Sixty (60) days before
 21 such date the director of the department of water resources shall forward
 22 to the applicant at his address of record a notice by certified mail set-
 23 ting forth the date on which the use of water is to be resumed and a form
 24 for reporting the resumption of the use of the water right. If the use of
 25 the water has not been resumed and report thereon made on or before the
 26 date set for resumption of use such right shall revert to the state and
 27 again be subject to appropriation, as provided in this section.

28 (e) In the event the director of the department of water resources deter-
 29 mines that a proposed extension of time within which to resume use of a
 30 water right shall not be approved as provided in this section, he shall
 31 deny same and forward notice of such action to the applicant by certified
 32 mail, which decision shall be subject to judicial review as hereafter pro-
 33 vided.

34 (5) Any person or persons feeling themselves aggrieved by the determina-
 35 tion of the department of water resources in approving or rejecting an appli-
 36 cation to change the point of diversion, place, period of use or nature of use
 37 of water under an established right or an application for an extension of time
 38 within which to resume the use of water as provided in this section, may, if a

39 protest was filed and a hearing held thereon, seek judicial review pursuant to
 40 section 42-1701A(4), Idaho Code. If no protest was filed and no hearing held,
 41 the applicant may request a hearing pursuant to section 42-1701A(3), Idaho
 42 Code, for the purpose of contesting the action of the director and may seek
 43 judicial review of the final order of the director following the hearing pur-
 44 suant to section 42-1701A(4), Idaho Code.

45 SECTION 4. That Section 42-240, Idaho Code, be, and the same is hereby
 46 amended to read as follows:

47 42-240. APPLICATION FOR RIGHT TO EXCHANGE WATER -- FILING FEE -- NOTICE
 48 -- PROTEST -- HEARING -- APPROVAL OR DENIAL -- APPEAL. (1) Any person holding
 49 a right for the use of surface water may make application to the director of
 50 the department of water resources to exchange water authorized to be diverted
 51 under the right with the same or a different source, or with water authorized
 52 to be diverted under one (1) or more other rights from the same source or
 53 another surface water source. If the application proposes an exchange with

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1 water under another water right, the application shall be accompanied by an
 2 agreement in writing subscribed by the person proposing the exchange and each
 3 person or organization owning rights to water with whom the exchange is pro-
 4 posed to be made.

5 (2) The application shall be upon forms furnished by the department and
 6 shall contain such information as shall enable the director to determine the
 7 nature of the proposed exchange, and shall be accompanied by the statutory
 8 filing fee provided under section 42-221, Idaho Code, for an application to
 9 change a vested water right.

10 (3) Upon receipt of the application, it shall be the duty of the director
 11 to examine the same and, if otherwise proper, to cause notice of the proposed
 12 exchange to be published in the same manner as applications under section
 13 42-203A, Idaho Code. The notice shall fully describe the nature of the pro-
 14 posed exchange of water and shall advise that anyone who wishes to protest
 15 shall file notice of protest in accordance with the provisions of section
 16 42-203A, Idaho Code.

17 (4) Upon the receipt of any protest it shall be the duty of the director
 18 to investigate the same and to conduct a hearing thereon. The director shall
 19 also advise the watermaster of the district in which the exchange is proposed,
 20 if a district exists, and the watermaster shall notify the director of the
 21 watermaster's recommendations on the application. The director shall not take
 22 final action on the application or exchange until the director has received
 23 the recommendations of the watermaster, including recommended conditions nec-
 24 essary for the exchange of water to be properly administered and regulated.

25 (5) The director shall examine all the evidence and available information
 26 and shall approve the exchange in whole, or in part, or upon conditions, pro-
 27 vided no other water rights are injured thereby, the exchange does not consti-
 28 tute an enlargement in use of the original right or rights, the exchange is
 29 consistent with the conservation of water resources within the state of Idaho,
 30 ~~and~~ the exchange is in the local public interest as defined in section ~~42-203A~~
 31 ~~42-202B~~, Idaho Code, and the exchange will not adversely affect the local
 32 economy of the watershed or local area within which the source of water for
 33 the proposed use originates, in the case where the place of use is outside of
 34 the watershed or local area where the source of water originates. Unless
 35 otherwise provided in a written agreement between the applicant and other
 36 right holders, the director shall condition approval of an exchange so that
 37 the exchange will not be operative during times when water is not available to
 38 satisfy the exchange, and that during these times the right to use water auto-
 39 matically reverts to the place of use authorized under the water rights. A
 40 copy of the approved application for exchange shall be provided to the appli-
 41 cant and the watermaster, and the applicant shall be authorized upon receipt
 42 thereof to make the exchange in accordance with the conditions set forth by
 43 the director. Should an approved exchange thereafter be discontinued, the
 44 applicant or the applicant's successor in interest must so notify the director
 45 and the district watermaster.

46 (6) In the absence of a contrary agreement by the parties to an exchange,
 47 when the director has approved a right to exchange storage water for the natu-

48 ral flow of a stream or other water supply, the storage water shall be deliv-
 49 ered in preference to any exchange rights subsequently approved using the same
 50 storage water right.

51 (7) Any person or persons feeling themselves aggrieved by a final order
 52 or final action of the director under this section may, if a protest was filed
 53 and hearing held thereon, seek judicial review pursuant to section
 54 42-1701A(4), Idaho Code. If no protest was filed and no hearing held, the
 55 applicant may request a hearing pursuant to section 42-1701A(3), Idaho Code,

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1 for the purpose of contesting the action of the director and may seek judicial
 2 review of the final order of the director following the hearing pursuant to
 3 section 42-1701A(4), Idaho Code.

4 SECTION 5. That Section 42-1763, Idaho Code, be, and the same is hereby
 5 amended to read as follows:

6 42-1763. RENTALS FROM BANK -- APPROVAL BY DIRECTOR. The terms and condi-
 7 tions of any rental of water from the water supply bank must be approved by
 8 the director of the department of water resources. The director of the depart-
 9 ment of water resources may reject and refuse approval for or may partially
 10 approve for a less quantity of water or may approve upon conditions any pro-
 11 posed rental of water from the water supply bank where the proposed use is
 12 such that it will reduce the quantity of water available under other existing
 13 water rights, the water supply involved is insufficient for the purpose for
 14 which it is sought, the rental would cause the use of water to be enlarged
 15 beyond that authorized under the water right to be rented, ~~or if the rental~~
 16 ~~will conflict with the local public interest where the local public interest~~
 17 ~~is as defined as the affairs of the people in the area directly affected by~~
 18 ~~the proposed use in section 42-202B, Idaho Code, or the rental will adversely~~
 19 ~~affect the local economy of the watershed or local area within which the~~
 20 ~~source of water for the proposed use originates, in the case where the place~~
 21 ~~of use is outside of the watershed or local area where the source of water~~
 22 ~~originates. The director shall consider in determining whether to approve a~~
 23 rental of water for use outside of the state of Idaho those factors enumerated
 24 in subsection (3) of section 42-401, Idaho Code.

Statement of Purpose / Fiscal Impact

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 STATEMENT OF PURPOSE
 RS 13046

This legislation clarifies the scope of the "local public interest" review in water right applications, transfers and water supply bank transactions. This legislation is intended to ensure that the Department of Water Resources has adequate authority to require that diversions, transfers and other actions affecting water resources do not frustrate the public's interest in the effective utilization of its water resources. The "local public interest" should be construed to ensure the greatest possible benefit from the public waters is achieved; however, it should not be construed to require the Department to consider secondary effects of an activity simply because that activity happens to use water. For example, the effect of a new manufacturing plant on water quality, resident fish and wildlife and the availability of water for other beneficial uses is appropriately considered under the local public interest criteria. On the other hand, the effect of the manufacturing plant on the air quality is not within the local public interest criteria because it is not an effect of the diversion of water but rather a secondary effect of the proposed plant. While the impact of the manufacturing plant on air quality is important, this effect should be evaluated by DEQ under the E P H A. As noted by the Idaho Supreme Court in *Shokal v. Dunn*, 109 Idaho 330 (1985), "[i]t is not the primary

job of Water Resources to protect the health and welfare of Idaho's citizens and visitors that role is vested" in other agencies.

Water Resources role under the "local public interest" is to ensure that proposed water uses are consistent with securing "the greatest possible benefit from [the public waters] for the public." Thus, within the confines of this legislation, Water Resources should consider all locally important factors affecting the public water resources, including but not limited to fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, transportation, navigation, water quality and the effect of such use on the availability of water for alternative uses of water that might be made within a reasonable time. This legislation contemplates that "[t]he relevant impacts and their relative weights will vary with local needs, circumstances, and interests." "The determination of what elements of the public interest are impacted, and what the public interest requires, is committee to Water Resources' sound discretion."

In recent years, some transactions have been delayed by protests based on a broad range of social, economic and environmental policy issues having nothing to do with the impact of the proposed action on the public's water resource. Applicants have experienced costly delays and have been required to hire experts to respond to issues at an agency whose propose has nothing to do with those issues.

This legislation also clarifies that the effect on the local economy of a watershed or local area that is the source of a proposed use of water but not the place of use for the proposed use shall be considered. The purpose of this criteria is to ensure that out of basin transfers do not deprive a local area of use of the available water supply.

FISCAL IMPACT

This legislation should remove significant financial burdens on the Department of Water Resources and on private parties. This legislation should impose no fiscal burden on any agency or unit of government.
Contact
Name: Rep. John A. "Bert" Stevenson
Phone: (208) 332-1000
Sen. Laird Noh

STATEMENT OF PURPOSE/FISCAL NOTE

Bill No. 284

STATEMENT OF RICHARD HAMANN, ASSOCIATE IN LAW, CENTER FOR GOVERNMENTAL RESPONSIBILITY, LEVIN COLLEGE OF LAW, UNIVERSITY OF FLORIDA

RECONCILING SWANCC WITH THE CLEAN WATER ACT

Chairman Crapo, Senator Graham and members of the committee, thank you for the opportunity to speak to you today about how the decision of the Supreme Court in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*¹, can be reconciled with the goals of the Clean Water Act. I have studied

¹531 U.S. 159 (2001).

and taught the law and policy of wetlands regulation for over 20 years and am honored to be here.

So-called isolated wetlands and waters are seldom truly isolated. As Congress correctly recognized in 1972, water moves in hydrologic cycles, pollution must be addressed at the source and pollution is more than adding chemicals to water². Degrading the physical or biological integrity of water is pollution³. Discharging pollutants, whether they are oil, sewage or clean fill dirt, into bodies of water that are not navigable in the traditional sense can have severe adverse impacts on human health and aquatic ecosystems.

A substantial part of the State of Florida, like many other States, is covered by streams, lakes, ponds, swamps and marshes that do not meet the traditional tests of navigability⁴ and are not tributary to waters that meet those tests. Even the Everglades, often characterized as a "River of Grass,"⁵ has many areas of wetlands and shallow, seasonal waterbodies that are geographically remote from traditional navigable waters and may be hydrologically connected only during high water conditions. Nevertheless, these areas are essential to the conservation of the larger aquatic ecosystem and to the quality and availability of the water on which the Everglades and everyone in South Florida depend. In the part of Florida where I live, we have numerous lakes and streams that sustain abundant fish and wildlife resources and provide recreational opportunities for residents and visitors from throughout the world. They are also resources of national importance and are vulnerable to every kind of pollution. In many cases they discharge to groundwater through sinkholes. Streams and lakes simply flow into the ground carrying pollutants and become part of our drinking water supply and the source of our springs. In many cases they are not navigable or directly connected to traditional navigable waters and under some interpretations of SWANCC would not receive the protections of the Clean Water Act or other Federal environmental legislation. Florida illustrates why Congress defined "navigable waters" as "waters of the United States".

Prior to 2001, there had been strong judicial support for comprehensive water pollution control including restrictions on the discharge of dredged or fill material to wetlands. The term "waters of the United States" had been given the expansive interpretation necessary to implement the intent of Congress.⁶

The decision in SWANCC was a setback to the protection of water quality, not only from dredged or fill materials, but also from oil, toxics and conventional pollutants. SWANCC has been soundly criticized as an example of conservative judicial activism.⁷ Those of us who study and implement the Clean Water Act have struggled to interpret the opinion and to reconcile it with previous decisions that were not overturned and with the language, structure and intent of the Clean Water Act. The lower Federal courts have diverged in their interpretations. Most courts have interpreted SWANCC as being of very limited application, eliminating Federal jurisdiction only over those waters that are hydrologically isolated and subject to Federal regulation only through use by migratory birds.⁸ That is the interpretation originally favored by the Federal agencies⁹ and consistently advocated by the Department of Justice in the briefs filed in appeals of many of the lower court rulings.¹⁰ Other courts have gone beyond the specific holding in SWANCC and ruled that the

²S. Rep. No. 92-414, p.77 (1972), U.S. Code Cong. & Admin. News 1972, pp. 3668, 3742.

³The goal of the Clean Water Act is "to restore and maintain the chemical, physical and biological integrity of the Nation's waters." Clean Water Act §101, 33 U.S.C. §1251. According to the House Report, "the word 'integrity' . . . refers to a condition in which the natural structure and function of ecosystems is maintained." H.R. Rep. No. 92-911, p. 76 (1972).

⁴The 11th Circuit has redefined navigability in the narrowest possible terms, holding that Fisheating Creek was not navigable for regulatory purposes because it was not part of a continuous, interstate highway for waterborne commerce. *Lykes Bros. v. U.S. Army Corps of Engineers*, 64 F.3d 630 (11th Cir. 1996).

⁵*Marjory Stoneman Douglas, THE EVERGLADES: RIVER OF GRASS* (1947).

⁶*U.S. v. Eidson*, 108 F.3d 1336 (11th Cir. 1997); *U.S. v. Holland*, 373 F. Supp. 665 (M.D. Fla. 1974).

⁷See e.g., Richard J. Lazarus, *Environmental Law and the Supreme Court: Three Years Later*, 19 *Pace Envtl. L. Rev.* 653 (2002).

⁸See e.g., *U.S. v. Krilich*, 303 F.3d 784 (7th Cir. 2002), cert. denied 123 S. Ct. 1782 (2003); *Headwaters v. Talent Irrigation District*, 243 F.3d 526 (9th Cir. 2001); *U.S. v. Interstate General Co.*, 152 F. Supp. 2d 843 (D. Md. 2001), aff'd 2002 U.S. App. WL 1421411 (4th Cir. 2002); *U.S. v. Buday*, 138 F. Supp. 2d 1282 (D. Mont. 2001).

⁹Gary S. Guzy, General Counsel, U.S. Environmental Protection Agency and Robert M. Anderson, Chief Counsel, U.S. Army Corps of Engineers, Memorandum: Supreme Court Ruling Concerning CWA Jurisdiction over Isolated Waters (January 19, 2001).

¹⁰See e.g., United States Brief in Response to Defendant's Motion for Reconsideration and in Preparation for Site Visit, p.7, *United States of America v. James S. Deaton*, Civil No. MSJ-95-2140, U.S. District Court, Maryland.

Clean Water Act does not regulate the discharge of pollutants in areas that are not directly and closely connected to traditional navigable waters.¹¹ Most of these rulings are by lower courts and on appeal by the Department of Justice. The Corps of Engineers and Environmental Protection Agency have issued new guidance on the interpretation of SWANCC and initiated rulemaking on the definition of navigable waters.¹² Some development interests believe rulemaking is warranted to restrict Clean Water Act jurisdiction.¹³

Conservation organizations are concerned that the notice of rulemaking implies too broad an interpretation of SWANCC and that the guidance memorandum is more restrictive of jurisdiction than is warranted.¹⁴ Because the guidance memorandum only requires referral to headquarters when asserting jurisdiction, they fear that decisions to refrain from regulation are encouraged. Because there is no process to document the decision not to regulate an area, there is no way to know how many acres of wetlands are being lost through Federal inaction, by what rationales, and with what ecological consequences.

The Court in SWANCC said navigable waters cannot be read completely out of the Act. It supported regulating those waters that have a “significant nexus” to navigable waters and wetlands that are “inseparably bound up with waters of the United States.” It did not specify, however, how close the connection to navigable waters must be. In *U.S. v. Riverside Bayview Homes*¹⁵, the Court indicated a willingness to defer to the “ecological judgment” of the Federal agencies in assessing the importance of specific areas to the overall integrity of aquatic ecosystems¹⁶.

Rather than overreacting to SWANCC and adopting the most expansive interpretation of the case, the Federal agencies should continue to argue for a narrow interpretation of SWANCC. The Supreme Court has demonstrated a willingness to retreat from the language in opinions authored by some of its more extreme members. For example, in *Palazzolo v. Rhode Island*¹⁷, the Court resurrected long-standing tests for determining regulatory “takings” that had seemingly been rejected in the earlier opinion authored by Justice Scalia in *Lucas v. South Carolina Coastal Council*.¹⁸ The limitations on citizen suits of *Steel Co. v. Citizens for a Better Environment*¹⁹, were subsequently retracted in *Friends of the Earth v. Laidlaw Environmental Services*²⁰.

Rather than unnecessarily accepting unwarranted limits on the jurisdiction of the Clean Water Act, the agencies should develop the case to protect waters that are vital to the integrity of aquatic ecosystems and defend it in the Federal courts. That process is, to some degree, now occurring, and should not be preempted by premature regulatory action.

The “ecological judgment” of the agencies must be well-grounded in science. Numerous studies have supported the ecological value of “isolated” waters and wetlands. Congress should support the agencies in continuing to develop sound science and apply it making regulatory decisions.

Florida is better able than many States to withstand a curtailment of Federal wetlands jurisdiction. Most States have no authority for regulating isolated wetland and all States depend on the Federal programs. Wetlands are best protected when State and Federal agencies support each other²¹. Florida regulates most so-called isolated waters and wetlands under State law, but there are significant adverse con-

¹¹See e.g., *Rice v. Harken Exploration Co.*, 250 F.3d 264 (5th Cir. 2001); *U.S. v. Rapanos*, 190 F. Supp 2d 1011 (E.D. MI, 2002), appeal pending No. 02-1377 (6th Cir.); *U.S. v. Newdunn Assoc.*, 195 F. Supp 2d 751 (E.D. Va. 2002), appeal pending, No. 02-1594 and 02-1480 (4th Cir.).

¹²Corps of Engineers and Environmental Protection Agency, Advance Notice of Proposed Rulemaking on the Clean Water Act Regulatory Definition of “Waters of the United States”, 68 Fed. Reg. 1991, January 15, 2003. Appendix A of the ANPR is a guidance document for interpreting SWANCC issued by Robert E. Fabricant, General Counsel, Environmental Protection Agency and Steven J. Morello, General Counsel, Department of the Army.

¹³For the view that SWANCC is based on a correct interpretation of congressional intent, see Virginia S. Albrecht and Stephen M. Nickelsburg, *Could SWANCC Be Right? A New Look at the Legislative History of the Clean Water Act*, 32 ELR 11042-11058 (Sept. 2002).

¹⁴See National Wildlife Federation et. al, Comments for the EPA Water Docket, OW-2002-0050, Advance Notice of Proposed Rulemaking on the Clean Water Act Regulatory Definition of “Waters of the United States”, April 16, 2003; Jay Austin, *No Need for EPA to Act After Court Ruling*, *The Environmental Forum* 52-53 (May/June 2003).

¹⁵474 U.S. 121 (1985).

¹⁶474 U.S. at 134-135.

¹⁷533 U.S. 606 (2001).

¹⁸505 U.S. 1003 (1992).

¹⁹523 U.S. 83 (1998).

²⁰528 U.S. 167 (2000).

²¹Jon Kusler, “Impinging on the States”? We Don’t Think So, *The Environmental Forum*, 55-56 (May/June 2003).

sequences to losing the Federal participation in protecting all of our nation's waters. Florida has failed to implement a wetlands regulatory program in the Panhandle, where promoters have begun hyping the "Great Northwest" and development is booming. Many thousands of acres of our rarest wetlands in that area have no protection without Federal regulation. In other parts of the State, Federal regulation is a critical supplement and backstop to the system of State wetland protections. The protection provided under Florida law to the wetlands habitat of endangered and threatened species is much less than that of the Endangered Species Act. Florida has nothing similar to the National Environmental Policy Act (NEPA) and therefore no requirements to comprehensively consider and disclose the direct, indirect and cumulative impacts of development decisions. Florida has weaker requirements for the use of practicable alternatives and is in the process of adopting a rule to weaken wetland mitigation requirements.

Finally, Florida's natural resources are affected by the decisions made in other States. Much of our wildlife migrates between Florida and other States and depends on the integrity of wetlands outside our borders. Many of Florida's rivers flow from Georgia and Alabama. The Suwannee and the St. Marys, for example, have their origins in the Okeefeenokee Swamp. A company is proposing to mine 300 acres of "isolated" wetlands adjacent to that National Wildlife Refuge that are not regulated under State law and will not be regulated by the Corps of Engineers. If the Okeefeenokee is degraded²², two of Florida's most famous rivers are at risk.

Congress could act to clarify the extent of Clean Water Act jurisdiction. Simply deleting any reference to navigability as a jurisdictional constraint would resolve the issue of statutory interpretation. Indeed, S. 473, The Clean Water Authority Restoration Act, introduced in February 2003, would accomplish this result and is the ideal solution.

Even without new legislation, the Environmental Protection Agency and the Corps of Engineers could clarify the definition of "waters of the United States" in several important respects. They could eliminate, for example, the need to show that the degradation of a particular water affects interstate commerce. Dredging and filling are economic activities with substantial effects on interstate commerce and should be regulated as such. The agencies could clarify that tributaries include any system of artificial or natural streams, ditches, drains, swales, arroyos, aquifers or other drainage features that is reasonably likely to convey water to navigable waters. They could define navigable waters to include waters that used or susceptible of use for recreational purposes. They could define the concept of adjacency to ensure that any waters or wetlands that bear a significant ecological relationship to navigable waters are regulated.

Substantially revising a regulatory definition that has worked effectively and withstood many legal challenges, however, seems premature, especially if the effect is to reduce the geographic scope of the Clean Water Act beyond that specifically required by the narrow holding of SWANCC. The importance of the nation's waters is not defined by navigability. That fact was clearly recognized by Congress in 1972 and again in 1977. The discharge of oil, toxic substances or untreated sewage into an "isolated" wetland or body of water, or a remote stream, can have devastating consequences for human health and the environment. When the Supreme Court is presented with a case involving more ecologically compelling facts than an abandoned gravel pit, it may recognize the importance of upholding the intent of Congress to protect the integrity of all of the nation's waters. It may also choose to further curtail Federal authority, but it has not done so yet and we should not assume that it will do so in the future.

RESPONSES OF RICHARD HAMANN TO ADDITIONAL QUESTIONS FROM SENATOR GRAHAM

Question 1. In your opinion, do we adequately recognize the value of our wetlands?

Response. I believe the public recognizes the great value of wetlands for water quality enhancement, water storage and flood attenuation, groundwater recharge, fish and wildlife habitat, aesthetics and recreation. Some interests see them primarily as obstacles to land development. In my opinion, our political institutions do not adequately recognize the value of our wetlands. If they did, the debate in Congress would be about how to strengthen and improve the protection of wetlands by encouraging the development of watershed plans and clearly regulating drainage ac-

²²The Department of Interior has expressed significant concern over the hydrologic impact of mining adjacent to the Okeefeenokee National Wildlife Refuge.

tivities; we would not be losing on average 58,000 acres of wetlands every year to dredging, filling and drainage.

Question 2. In your testimony you said Congress could clarify the intended scope of the Clean Water Act by simply removing the word “navigable” from the statute. If Congress did that, what would prevent the Corps from asserting jurisdiction over every puddle, or every crease in the ground that catches rainwater during a storm?

Response. By removing the word “navigable” from the statute Congress would be simply restating the congressional intent that it expressed in 1972 by defining “navigable waters” as “waters of the United States”, a definition that excluded any reference to navigability. 33 U.S.C. §1362(7). In applying that definition, the Corps of Engineers (Corps) and Environmental Protection Agency (EPA) have carefully delineated those kinds of waters that would be subject to regulation, including all navigable and tidal waters, their tributaries and adjacent wetlands. They have asserted jurisdiction over “other waters “ whose use, degradation or destruction could affect interstate or foreign commerce. 33 C.F.R. §328.3(a). Jurisdiction is limited by the commerce clause and the purposes of the Clean Water Act (CWA).

In some cases the agencies have attempted to regulate ponds and wetlands that are seasonally wet or streams that flow only intermittently. They have sometimes regulated streams and waterbodies that are not directly and continuously connected to navigable waters. The reason they have done so is that in many cases these kinds of waters are critically important parts of the aquatic ecosystem. They may serve as wildlife habitat during critical portions of a species life cycle. Many waterfowl and amphibians, for example, breed in isolated or seasonal ponds and wetlands. Wading birds, such as the endangered wood stork feed in such areas. In other cases, seasonal or intermittent waters are vital to maintaining the quality of larger waters that receive drainage from those areas. EPA and the Corps consider the specific facts relative to a specific body of water before determining whether there is jurisdiction over that particular place as provided for in the agency rules. They have never asserted jurisdiction over “every puddle, or every crease in the ground”. In the event they did, there is an administrative process for reviewing the jurisdictional determination and having it reversed. 33 C.F.R. Part 331.

Question 3. Could you please explain what aspects of the CWA will be affected by the SWANCC decision, and what those effects might be?

Response. The decision in Solid Waste Authority of Northern Cook County vs. United States, 531 U.S. 159 (2001) (SWANCC) limits the jurisdictional reach of the CWA. Although there is some debate over the extent of the limitation, the geographic extent of regulatory jurisdiction is not as extensive as it was before the Supreme Court’s decision. To the extent that SWANCC limits the extent of CWA jurisdiction, it does not do so only for the Section 404 wetlands regulatory program. It also limits CWA jurisdiction over the discharge of toxic chemicals, feedlot wastes, stormwater runoff and other kinds of pollutants. It limits the authority of EPA to require States to develop and implement water quality standards and Total Maximum Daily Loads for point and nonpoint sources of pollutants. Because many State programs are dependent on Federal definitions or are implemented through Section 401 certifications, State wetlands and water quality programs are limited. Because jurisdiction under the Oil Pollution Act (OPA) is the same as that under the Clean Water Act, discharges of oil to surface waters may not be remedied or punished. The unregulated discharge of pollutants may now occur in new areas.

Question 4. Are there currently CWA exemptions covering normal agricultural practice, and would those exemptions be affected by the Clean Water Authority Restoration Act, as proposed?

Response. The CWA currently contains extensive agricultural exemptions. For the purposes of Section 404, normal farming practices have a very broad exemption, provided they do not have the affect of reducing the reach of navigable waters. 33 U.S.C. §1344(f). Return flows from irrigated agriculture and agricultural stormwater drainage are exempt from the same kinds of regulation as are other discharges of pollutants. 33 U.S.C. §§402(i), 502(14).

The proposed Clean Water Authority Restoration Act of 2003 (S. 473) would have no affect whatsoever on any of the agricultural exemptions. It merely codifies the regulatory definition of waters of the United States that EPA and the Corps have been using for many years.

Question 5. During the hearing, Mr. Pierce presented photographs of what he said were instances where the Corps asserted Sec. 404 jurisdiction. Those photos generally depicted water management structures related to working farmland, or arid areas. Could you help us understand why it might have been reasonable for the Corps to assert jurisdiction in the cases such as those presented by Mr. Pierce?

Response. It is often possible to portray regulation as unreasonable by presenting images or other information that fails to convey an accurate impression of the circumstances. It would be necessary to objectively review the case studies presented to determine whether they were accurately portrayed and to understand the rationale for asserting jurisdiction. Several images, however, raised questions in my mind. There was one image of a forested area over which the agencies had asserted jurisdiction. It appeared very dry. One could clearly see, however, the distinctive water lines on the trunks of the trees that indicate the site is regularly inundated for extensive periods of time. It appeared that a misleading impression was created by showing dry season conditions. There was at least one image of a dry wash in a desert area. It appeared bone dry at the time the photograph was taken but one could plainly see the effects of flowing water in the distribution of sand in the channel, the cutting of banks etc. An experienced person would understand how water flowing in that channel, however intermittently, could transport pollutants, threaten flood damage, and otherwise affect the interests of the Nation in the waters of the U.S. Because they tend to retain moisture, such areas are often among the most important areas of wildlife habitat in the desert environment.

There were also views of farmland over which the agencies had allegedly asserted jurisdiction. Approximately 80 percent of our wetland losses have occurred due to agricultural conversions, so these areas may have been more functional and recognizable as wetlands before farming practices began. In addition, farmers sometimes plant areas that are infrequently wet, hoping for a dry year or to harvest before the water returns. Such practices can damage wetlands that are valuable wildlife habitat and cause pollution of other waters. In other cases, unregulated drainage activities may have degraded wetlands. A closer examination of the facts is needed.

Question 6. During the hearing, panel members mentioned three ways to resolve the confusion about CWA jurisdiction: 1) Leave it to the courts; 2) EPA/Corps rule-making; and 3) legislation. Could you summarize the pros and cons of these three options? Which of these options makes the most sense?

Response. Congressional or administrative action would, presumably, be intended to resolve any uncertainty or regulatory gaps created by the SWANCC decision. Leaving the issue to the courts would reduce the chances of premature and unnecessary legislative or administrative action premised on incorrectly predicting the course of judicial interpretation. By allowing the courts to further define the issues, the real scope of the problem to be addressed would be more apparent. However, there would be uncertainties and litigation expenses for both resource protection and development interests for some period. Rulemaking by EPA and the Corps could alleviate some of the uncertainty, but seems certain to introduce additional confusion over the meaning of new rules. Rulemaking also risks overreacting to the SWANCC decision and administratively eliminating jurisdiction over important areas based on reading the case too broadly and going beyond what is required by the courts. Because SWANCC was decided on legislative interpretation, legislation is the easiest way to correct a mistaken interpretation. If Congress cannot act simply and directly, however, the issue is likely to become further confused.

Enacting the Clean Water Authority Restoration Act of 2003 (S. 473) would make the most sense for those interested in maintaining pre-SWANCC jurisdiction. Rule-making makes the most sense for those interested in limiting jurisdiction because they have the opportunity to adopt rules that extend the ruling in SWANCC. To those who are concerned with maintaining wetlands protection, continued interpretation and application of the existing rules make the most sense, assuming they have little confidence in the commitment of Congress or the administration to strengthen or maintain existing levels of environmental regulation.

Question 7. Under the Corps' current policy, field offices must consult with HQ before asserting Sec. 404 jurisdiction under certain circumstances, but not when they choose not to assert jurisdiction. What are the possible impacts of that policy?

Response. That policy creates an obvious bias against asserting jurisdiction. The staff who make these determinations in the field are generally overworked, underpaid and subject to intense political pressure. By asserting jurisdiction, the staff member instantly creates the additional work of compiling whatever information is required to justify the decision, writing a report to that effect, and responding to questions and requests for additional information. By making it more difficult to assert regulatory jurisdiction than not, the agency is effectively discouraging staff from fully implementing the authority of the CWA. Perhaps more importantly, the staff member may be subtly pressured to "back down" on jurisdictional determinations due to concerns about job tenure or advancement. The informal decision of a staff member to not assert jurisdiction does not carry similar penalties.

Question 8. During your testimony you mentioned that when the Corps declines jurisdiction there is no record of an action taken, and therefore no record of the effects of those decisions. Could you elaborate on what this means?

Response. When jurisdiction is asserted a file is created and the agencies collect data about the acreage and locations of wetlands, the specific areas where discharges may be allowed and any mitigation that is required. It is thus possible to gain some understanding of whether the goal of "no net loss" is being achieved in the regulatory process. If an agency staff member learns about an activity occurring in wetlands through observation, citizen complaints or reports from other agencies and informally determines that there is no jurisdiction, that decision is not similarly documented and reported. Therefore, there is no way to review the agency files to determine how many thousands of acres of wetlands are being lost, with what consequences and on what basis. There is no record of a final agency action for review by Congress, citizens groups or anyone else who may be concerned the agencies are not fully implementing the statutes.

Question 9. With respect to the protection of our nations waters, could you compare CWA protections prior to the SWANCC decision, what may occur under the a narrow interpretation of SWANCC and a broad interpretation of SWANCC?

Response. The most extensive protection of our nation's water existed prior to the SWANCC decision. Relying on Riverside Bayview and numerous decisions by lower courts, the EPA and Corps of Engineers regulated tidal waters, navigable waters, tributaries to those waters and adjacent wetlands. Generally, groundwater was not regulated. Relying on the intent of Congress to regulate to the extent permitted by the Commerce Clause, the agencies also regulated "other waters" whose use or destruction could affect interstate commerce. The class of "other waters" included:

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) Which are used or could be used for industrial purpose by industries in interstate commerce. 33 C.F.R. §§328.3(a)(3)

In the preamble to a major rulemaking in 1986, the Corps also stated its intent to include within the list of examples of "other waters", waters

a. Which are or would be used as habitat by birds protected by Migratory Bird Treaties; or

b. Which are or would be used as habitat by other migratory birds which cross State lines; or

c. Which are or would be used as habitat for endangered species; or

d. Used to irrigate crops sold in interstate commerce. 51 Fed. Reg. 41206 (Nov. 13, 1986).

The jurisdictional determination that was overturned in SWANCC specifically relied on the use of hydrologically isolated, abandoned gravel pits by migratory birds as the basis for regulation i.e. parts a and b of the so-called "Migratory Bird Rule". The Supreme Court specifically stated,

We hold that 33 CFR §328.3(a)(3) (1999), as clarified and applied to petitioner's balefill site pursuant to the "Migratory Bird Rule," 51 Fed. Reg. 41217 (1986), exceeds the authority granted to respondents under §404(a) of the CWA. 531 U.S. at 174.

The narrow reading of SWANCC would apply that holding literally and, under that interpretation, only jurisdictional determinations based on the use of "other waters" by migratory birds would be invalid. Given the importance of prairie potholes, playa lakes, vernal pools and other "isolated" waters to waterfowl, migratory birds and other protected birds, even the narrowest interpretation of SWANCC will result in a significant curtailment of regulatory protection. Jurisdiction could still be based on use by endangered species, use for irrigation of crops sold in interstate commerce, or any of the other factors listed as examples of how a waterbody affects interstate commerce. A slightly broader reading would eliminate jurisdiction based on any of the examples given in the 1996 regulatory preamble. The elimination of jurisdiction for "other waters" used as habitat for endangered species could have severe adverse effects on the protection of habitat for many species.

An even broader interpretation would eliminate jurisdiction over any of the "other waters" based on effects on interstate commerce. This interpretation is based on language in the majority opinion emphasizing use of the term "navigable". For exam-

ple, the Court noted there was a “significant nexus” between the wetlands at issue in *Riverside Bayview* and navigable waters. 531 U.S. at 167–168. Although it declared that the term “navigable” might have “limited effect”, the Court stated concern for “reading the term ‘navigable waters’ out of the statute.” 531 U.S. at 172. It thus might be argued that unless some connection can be shown to “navigable waters” as traditionally defined, the CWA does not provide jurisdiction. An impact on interstate commerce would not suffice. An even larger class of wetlands and waterbodies that are not contiguous, adjacent or tributary to traditional navigable waters would thus be excluded from the regulatory reach of the CWA. In this connection it should be noted that waters that are useful for navigation may not be considered “navigable” by certain Federal courts. *Lykes Bros. v. U.S. Army Corps of Engineers*, 64 F. 3d 630 (11th Cir. 1996).

The impact of eliminating jurisdiction over so-called isolated, non-navigable waters would be extremely severe. The State of Florida has estimated that 806,728 acres of wetlands in the Panhandle would be eliminated from regulatory jurisdiction through application of that interpretation. Other States report similar effects. *The Public Speaks Out: Comments from the Federal Docket*, 25 NATIONAL WETLANDS NEWSLETTER 13 (July August 2003).

The broadest and most limiting interpretations are based on the notion that there must be a “significant nexus” between the regulated area and navigable waters. They specifically reject the regulation of wetlands, ponds or streams that are not adjacent to open, navigable waters or directly, naturally and continuously connected to navigable waters. Connections by intermittent streams or other seasonal waters would not suffice. See e.g. *Rice v. Harken*, 250 F.3d 264 (5th Cir. 2001) (no jurisdiction over discharge of oil to a small, seasonal tributary to navigable waters); *U.S. v. Newdunn Assoc.*, 195 F. Supp. 751 (E.D. Va. 2002), rev’d *Treacy v. Newdunn Assoc.*, 344 F.3d 407 (8th Cir. 2003) (wetlands connected to navigable waters by intermittent flow through 2.4 miles of natural streams and manmade ditches held nonjurisdictional by District Court).

The implications of such interpretations are staggering. The only jurisdiction that would be left is over navigable and tidal waters and their perennial, natural tributaries, and wetlands that are contiguous to those bodies of water where they are “open”. EPA Region III has reportedly concluded that such an interpretation would threaten over one million acres of wetlands in just five mid-Atlantic States. *BNA, U.S. Law Week*, Vol 72, No. 9, p 2138 (Sept. 16, 2003). Ephemeral or intermittent streams are of vital importance to the functioning of larger river networks. *Judith L. Meyer, Small Streams Are Indispensable Waters*, 25 NATIONAL WETLANDS NEWSLETTER 7 (July August 2003).

STATEMENT OF ROBERT J. PIERCE, PH.D., WETLAND TRAINING INSTITUTE, INC.

Mr. Chairman and members of the subcommittee, thank you for this opportunity to speak today on this very important topic. In January, 1989, after 14 years with the Corps of Engineers (Corps), the last seven in the Regulatory Branch at Corps Headquarters, I and a group of other wetland resource professionals and a former Department of Justice attorney left Federal service and formed the Wetland Training Institute, Inc. (WTI) to provide both the public and private sector with water resource training and reference tools.

While with the Corps, I was principal technical monitor for the Wetlands Research Program and two research programs dealing with contaminated dredged material, was proponent for two wetland training courses, routinely taught in two other courses on regulatory policy, was responsible for the continued development of the Corps’ wetland delineation procedure and was one of the three Corps representatives on the committee which developed the 1989 Manual for Identifying and Delineating Jurisdictional Wetlands (1989 Manual). In addition, I drafted many policy documents, provided technical and policy guidance to its districts and divisions and represented the Corps at numerous meetings within the government, professional societies and the general public.

During the last dozen years, I have taught wetland delineation and jurisdictional policy to thousands of individuals in both the public and private sectors. In addition, as a consultant with Wetland Science Applications, I have applied the delineation and permitting process to real life projects proposed by the regulated public. I am a Professional Wetland Scientist and Certified Wetland Delineator. I have conducted wetland work in 37 States and the Territory of Guam. I have seen the wide variety of areas that technically qualify as true wetlands as well as the types of areas which often are regulated as wetlands but that differ little functionally from uplands of similar habitat type and, in my opinion, do not actually satisfy the 1987 Delineation

Manual. Increasingly in recent years, I have been called upon to provide expert witness testimony for citizens being prosecuted under the Clean Water Act (CWA). I have spent my entire professional career working with the Federal wetland permitting program.

The Section 404 program has become more draconian as time has matured it. Previous Congresses have been unwilling to make meaningful changes and the executive branch has continuously expanded its jurisdiction onto private lands and at the same time reduced the effectiveness of the permitting program by making it so convoluted and complex that it is a full-time job to sort it out. Until the recent Supreme Court Ruling on SWANCC and the DC Circuit Ruling on Tulloch, the Judicial Branch has most often “given deference” to the executive branch and furthered tightened the noose around the public’s collective neck.

As the SWANCC decision has correctly pointed out, under the CWA and the Constitution, there are limits to what the Federal Government can regulate. Ours is a three-branch government. It is not for the executive branch to write laws or ignore judicial rulings. Yet for years, the executive branch has continuously and inconsistently altered its jurisdictional limits and regulation of private lands without any change in mandate from Congress. The Judicial took the Executive to task in its decision on the “Tulloch Rule.”

In a press release accompanying the adoption of the Tulloch Rule, the White House announced: “Congress should amend the Clean Water Act to make it consistent with the agencies’ rulemaking.” White House Office on Environmental Policy, *Protecting America’s Wetlands: A Fair, Flexible, and Effective Approach* 23 (Aug. 24, 1993). While remarkable in its candor, the announcement contained a kernel of truth. If the agencies and NWF believe that the Clean Water Act inadequately protects wetlands and other natural resources by insisting upon the presence of an “addition” to trigger permit requirements, the appropriate body to turn to is Congress. [*American Mining Congress v. United States Army Corps of Engineers*, 951 F.Supp. 267 (D.D.C. 1997); *aff’d sub nom, National Mining Association v. United States Army Corps of Engineers*, 145 F.3d 1339 (D.C. Cir. 1998)].

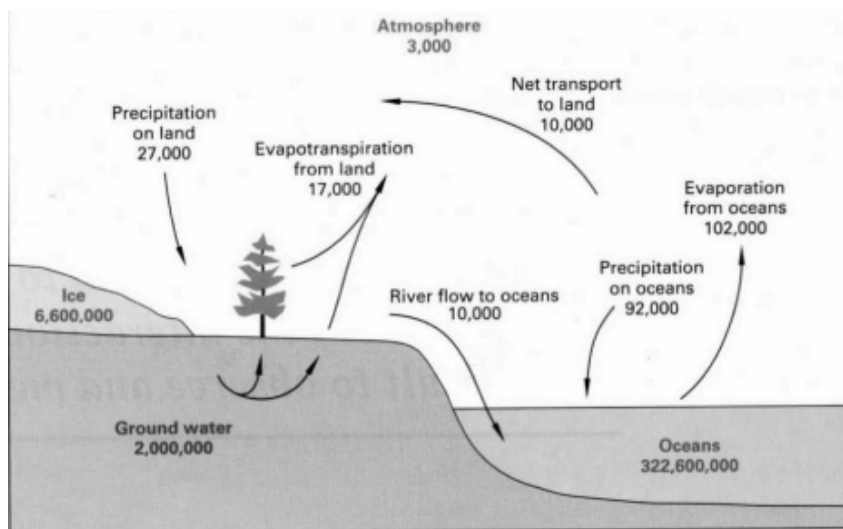
Since the “migratory bird rule” was shot down by the Supreme Court, the “migratory molecule rule” has risen to take its place. The new mantra for many Corps districts is “follow the drop of water.” If the ordinary high water mark (OHWM) is no longer perceptible—follow the drop of water. If sheet flow might occur over upland areas—follow the drop of water. If water flows through a roadside ditch—follow the drop of water. If the water flows through a stormwater system (or what EPA might euphemistically call an “underground ditch”)—follow the drop of water. If an old aerial photograph or topographic map gives the slightest hint that a natural channel might have been located anywhere in the vicinity—follow the drop of water.

There are those that argue that there are virtually no isolated wetlands—most are connected either by infrequent sheet flow across the surface or by groundwater. The technically correct statement, however, is that there are virtually no isolated “lands,” whether wet or not. Technically, it is well-established that all water is interconnected on the earth. The “hydrologic cycle” has been recognized by hydrologists for decades and constitutes the starting point for every published general discussion of hydrology (e.g., Dunn and Leopold 1978, Heath 1982, and Leopold 1994). Winter et al. (1999) provides a simplified diagram (Figure 1) and discussion of the interactions of the various “pools” of water that comprise the cycle. They state:

The hydrologic cycle describes the continuous movement of water above, on, and below the surface of the Earth. The water on the Earth’s surface—surface water—occurs as streams, lakes, and wetlands, as well as bays and oceans. Surface water also includes the solid forms of water—snow and ice. The water below the surface of the Earth primarily is groundwater, but it also includes soil water.

The hydrologic cycle commonly is portrayed by a very simplified diagram that shows only major transfers of water between continents and oceans, as in Figure 1. However, for understanding hydrologic processes and managing water resources, the hydrologic cycle needs to be viewed at a wide range of scales and as having a great deal of variability in time and space. Precipitation, which is the source of virtually all freshwater in the hydrologic cycle, falls nearly everywhere, but its distribution is highly variable. Similarly, evaporation and transpiration return water to the atmosphere nearly everywhere, but evaporation and transpiration rates vary considerably according to climatic conditions. As a result, much of the precipitation never reaches the oceans as surface and subsurface runoff before the water is returned to the atmosphere. The relative magnitudes of the individual components of the hydrologic cycle, such as evapotranspiration, may differ significantly even at small scales, as between an agricultural field and a nearby woodland.

At the Federal level, groundwater is regulated through the Safe Drinking Water Act. The Corps has consistently and correctly taken the position that it does not regulate groundwater. Since sheet flow can occasionally occur over almost every land surface (slide 24 attached), and water flowing over any surface can accumulate sediment which can then be carried into channels and on to navigable waters. If the Corps is trying to regulate all surface flows of sediment into waterbodies, then it should not only regulate those areas called “wetlands” that are connected by sheet flow. If we call all areas where water may occasionally sit or flow on the surface of the land “navigable waters” then Section 404 should apply uniformly across virtually every square foot of the United States and its territories. This would be far more logical than regulating some ditches but not others and some plant communities but not others.



Pools are in cubic miles
Fluxes are in cubic miles per year

Figure 1. Hydrologic cycle from Winter et al. (1999).

EXAMPLES OF INCONSISTENT OR ERRONEOUS APPLICATIONS OF CORPS POLICY

There are two sources of concrete examples of the inconsistency that abounds in the Corps regulatory program that I have tapped: decisions in cases that have been finalized under the Administrative Appeal process codified at 33 CFR 331 and other cases that may not have been appealed formally, but which were the subject of strong debate between property owners, their consultants and local Corps districts.

I reviewed all (50) of the jurisdictional decision (JD) Administrative Appeal (AA) decisions that were posted on the Corps web sites as of the date of the Advanced Notice of Proposed Rulemaking (ANPRM). The Corps AA review officers' (RO) decision documents demonstrate “in their own words” the inconsistencies of interpretation of the regulations from district to district that have resulted from the lack of sound foundation and structure related to jurisdiction. Tables 1 is a list of the location and nature of the AA examples. Table 2 is a list of other cases that I have compiled. The following are some examples of the numerous inconsistencies that are common within the 404 Program.

Adjacent vs. Isolated Wetlands

The most obvious issue arising from SWANCC and one of the most common reasons for jurisdictional AAs is the argument whether a morphologically disconnected landscape feature is isolated or adjacent. Long distances, sheet flow and proximity to subsurface drain tiles have all been used to claim that a wetland is adjacent to a tributary water of the U.S.

A very disturbing trend is seen in a number of AA related to the issue of what constitutes a connection to a tributary—connection by sheet flow. In Continental 127 Fund, LLC (Table 1, AA19) and Baccarat Fremont Developers (Table 1, AA8), the Corps used sheet flow from disconnected wetlands to claim jurisdiction even though

the Corps recognized that there was neither an OHWM or continuous wetland connection.

Similarly, in CS 7 and CS 8 (Table 2), the only connection to a tributary was by sheet flow into a ditch. In CS 8 (Table 2) the Corps went on to say that the hydrologically disconnected wetland was “contiguous . . . irrespective of any past or existing permanent man-made changes in landscape features . . .” based on the presence of hydric soils. The Corps did not care that the hydric soils may have been naturally relict, whether the soils actually supported wetlands within the life or the CWA and whether 33 CFR 328.5 had any meaning. “Once 404, always 404,” seems to be the current motto of the COE in many locations.

The distance separating “adjacent wetlands” from tributaries varies greatly, but in many cases goes beyond the fundamental concepts encompassed in the definition of “adjacent” at 33 CFR 328.3 (c), which was intended to capture those wetlands separated from tributaries by narrow features. Several districts have over the years established local policies on separation. Wilmington and Buffalo Districts considered 200–300 ft and 200 ft, respectively, as the inclusion zone for adjacency. The then New England Division (1991) established an 800-ft inclusion zone.

Many of the Corps districts operating in the lower Mississippi Valley utilize the entire width of the 100-year floodplain as the inclusion zone for adjacency. Galveston District, as clarification after the U.S. v Wilson decision, issued guidance on February 13, 2001, stating that on the mainland, the 100-yr floodplain generally constitutes the inclusion zone, although they also have a “two-barrier” policy which states that a wetland is isolated even within the floodplain if there are two barriers separating it from a tributary.

Galveston District employed the “two-barrier rule” in the Reaves Administrative Appeal (Table 1, AA44). The RO upheld the use of the “rule” when he decided that the appeal did not have merit in part because the property was separated from Galveston Bay by only one barrier—a road.

Jacksonville District has recently taken the position that a wetland is jurisdictional if it will overflow from storm of 10-year recurrence frequency; it is connected if no more than one foot of relief exists between wetlands; or if it is within 500 ft of a tributary. Jacksonville District is still undecided about an isolated wetland that is more than 1000 ft from the Atlantic Ocean, 8 months after a request for a “no permit required” verification (Table 2, CS 10).

Jacksonville District, in a public presentation entitled “SWANCC Update and Aftermath,” redefined the term “isolated” to be “Those wetlands whereby the waters could not reach navigable waters via surface flow or are not in close physical proximity to other waters of the United States.” It clarified that adjacent waters which only can be wetlands and explained that “adjacency is a physical relationship, near, bordering, neighboring that needs to be relatively close to ‘parent’ water of the US.”

In Golden State Developers (Table 1, AA6) two “adjacent wetlands” one, 1950 feet and other 3,400 feet distant from an intermittent stream were jurisdictional although the Corps did not assert jurisdiction over 100-ft wide, concrete-lined water supply canal. The RO found that the appeal had merit because of insufficient documentation. The Corps claimed jurisdiction over one wetland which was 3400 feet upstream on a nonjurisdictional drainage because flow could travel down the nonjurisdictional tributary to a jurisdictional tributary. A second wetland was determined to be close enough at 1950 feet distance and “with sufficient precipitation Wetland EW-2 could form a continuous surface water connection with Stream W-1” to claim jurisdiction. After the AA decision, the District modified JD, however, the details are not on the Web.

In Baccarat Fremont Developers (Table 1, AA8), the San Francisco District based its jurisdictional call in part on the fact some wetlands were adjacent to other wetlands not tributaries. The district argued that sheet flow ties the wetlands together. The Administrative Appeal RO determined that the appeal had merit since the District decision was not supported by substantial evidence and that only wetlands that form a “wetland continuum or complex” can be considered adjacent to the major waterbody. The RO cited the preamble discussion from the 1991 NWP publication (56 FR 59113, 1991). The District subsequently supplemented its documentation but the substance of which was not provided on the Web.

In Leavell/Grey (Table 1, AA9), Sacramento District claimed jurisdiction over two physically separated wetlands that were in proximity to two ditches. The RO determined that the appeal had merit and directed the District to reconsider and document if the wetlands are adjacent to any jurisdictional water body. Corps decided that a 13.79 A wetlands was adjacent to a ditch that had replaced a historical tributary even though the ditch had been filled downslope and their remained no

connectivity. A similar scenario existed at Sun City Lincoln Hills in California (Table 2, CS2).

Tributary

The issue of “what is adjacent” cannot be separated from the concept of “what is tributary.” Natural tributaries that currently exist on the landscape in more or less unaltered form (that is not radically channelized) generally can be readily recognized. The decision related to such natural tributaries is whether the stream channel is jurisdictional to the full longitudinal extent of a perceptible OHWM or whether Federal jurisdiction stops at some point short of the channel head. While the answer to this question is a legal issue, there are technical rationales explaining why the answer to the question should be that in many inland cases it stops short the full length of a perceptible OHWM as currently defined. They are discussed in a technical report provided electronically.

There are a number of concepts that must be addressed related to the issue of what is tributary. These concepts occur as recurring themes within the universe of the case studies that I have reviewed and within the realm of the Administrative Appeal decisions that have been finalized. Heading the list is the term OHWM. I have prepared a report on the science relative to the concept and made it available electronically.

What, if anything, constitutes a tributary in a less-than-natural form is the subject of numerous disagreements between land-owners and the Corps. Both cases that have been submitted to the AA process (Table 1) and those that have not (Table 2), reveal much about the lengths to which some Corps districts will go to claim jurisdiction. These cases are just the tip of the iceberg.

Jacksonville District, in a public presentation entitled “SWANCC Update and Aftermath,” summarized the practicable application of Corps policy as “follow the drop of water.” Contiguous wetlands are those which are physically connected to navigable waters by a surface water connection with an OHWM or a continuum of wetlands. If there is evidence of a former stream, now in culverts, then a feature is tributary, not isolated.

Ordinary High Water Mark

One of the most fundamental problems with determining jurisdiction is the use of the term ordinary high water and OHWM to define the upstream or longitudinal limit of 404 jurisdiction. The term OHWM was “borrowed” from the Section 10 program where it was only used to define the lateral limits of a traditionally navigable waterway—the longitudinal limit under Section 10 is defined by the limit of navigation. There is no independently defined, longitudinal limit for the Section 404 Program. The term OHWM may be an acceptable lateral limit in waters that are otherwise found to be jurisdictional if it is redefined to be quantitatively determinable and consistent with court rulings, but it is not an appropriate concept for defining the upstream limit of Section 404 jurisdiction.

33 CFR Part 328.3 (e) defines the OHWM as:

(e) The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

In Molycorp (Table 1, AA7), the Los Angeles District determined that a desert wash that discharges into an isolated, ephemeral lake was jurisdictional because the wash was “hydrologically connected but not morphologically connected.” The District said that it considered the OHWM in a “watershed context.” The District did not describe the size or timing of the annual or seasonal surface flow representing the hydrologic connection that it asserted was present. The primary evidence of this surface water connection provided by the District in the Administrative Record and at the appeal conference is that the Molycorp Inc. property is at a higher elevation than Ivanpah Lake, and that the water must flow down gradient and therefore must reach the lake. The AA Review Officer determined that the District in determining if an OHWM existed must consider:

. . . concentrated surface and subsurface flow (not groundwater) and biological responses of plants and animals to concentrated flow..

But “subsurface flow” is groundwater and groundwater is regulated under the Safe Drinking Water Act. Furthermore, plants/animal response has no bearing on jurisdiction. The fact that plants grow better in a riparian zone is not determinative with regards to jurisdiction.

Most disturbingly, the Review Officer concluded that an OHWM was not necessary to continue jurisdiction through a 1000–1500 ft distance to capture the desert wash upstream of the isolated dry lake. The RO opined:

However, in this specific instance, I conclude that the District's policy position that a tributary connection can exist in the absence of a continuous ordinary high water mark is reasonable.

How can it be reasonable when the regulations at 33 CFR 328.4, unambiguously state:

In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high water mark [51 FR 41251, November 13, 1986].

Even more explicit is the statement in the Preamble to 33 CFR 328.4:

Section 328.4(c)(1) defines the lateral limit of jurisdiction in non-tidal waters as the ordinary high water mark provided the jurisdiction is not extended by the presence of wetlands. Therefore, it should be concluded that in the absence of wetlands the upstream limit of Corps jurisdiction also stops when the ordinary high water mark is no longer perceptible [51 FR 41217, November 13, 1986].

Furthermore, the Corps used the presence of surface water that extended 20 feet into Nevada after a storm event with a 10-year recurrence frequency to conclude that the morphologically isolated dry lake bed was subject to interstate commerce and, thus, Section 404.

The OHWM should be described as that elevation on the bank where water flows during the wetter part of the year but not during storm or flood flows—certainly not a storm with a 10 year recurrence frequency. This harkens back to the 1972 definition that the Corps promulgated. Thus it would describe the channel in which water flows after a storm surge has passed and the water has receded and is flowing clear. The Corps Regulatory Guidance Letter (RGL) 88–06, issued June 27, 1988 (now expired but still applicable), discussed the ordinary high water mark (OHWM) as follows:

OHWM: The OHWM is the physical evidence (shelving, debris lines, etc.) established by normal fluctuations of water level. For rivers and streams, the OHWM is meant to mark the within-channel high flows, *not the average annual flood elevation* that generally extends beyond the channel [emphasis added].

This concept is elucidated in the ruling in *U.S. v. Pend Oreille Public Utility Dist. No. 1*, 926 F.2d 1502 (9th Cir. 1991) which held that the ordinary high water line marked the boundary between riparian land and riverbed, and that the line corresponded with the highest level normally reached each year, excluding the annual spring rise:

In calculating ordinary high water line, both Federal and Washington State law mandate *exclusion of annual spring floods* and; “High water line” for a river *did not include annual spring flood*; right of State to riverbed was limited to line of ordinary high water level and not line of highest water that could be proved [emphasis added].

The ruling in *Pend Oreille* also cited back to *U.S. v. Claridge*, 416 F.2d 933, 934 (9th Cir. 1969) and followed the *Howard v. Ingersoll*, 54 U.S. (13 How.) 409, 14 L.Ed. 189 (1851) Supreme Court ruling rejecting:

the *mistaken assumption that the annual spring floods* of the river determined the ordinary high water line [emphasis added].

The ruling in *U.S. v. Harrell*, 926 F.2d 1036 (11th Cir. 1991) found that:

Evidence failed to establish that tributary of navigable river was below “ordinary high water mark,” for purposes of determining whether tributary was within “bed” of river and subject to Government's navigational servitude . . . and

Debris and litter left from temporary and unpredictable floodwaters, unlike that left from ordinary high water, was not evidence of ordinary high water mark of navigable river, for purposes of determining whether tributary was subject to Government's navigable servitude . . .

Thus, a history exists in both regulation and case law, which can be used to quantifiably define OHWM. Unfortunately, since 1977, the Corps has never revised the definition of OHWM to reflect these legal positions that can in fact be measured empirically in the field. To this day it relies upon subjective language to implement the concept.

The flow, which most accurately depicts what the courts have expressed conceptually as the OHWM, is the width of the channel that carries the mean annual discharge (or flow). As Leopold (1994) points out, “the mean annual flow of a river is equaled or exceeded 25 to 30 percent of the time, or about 91 to 109 days a year, so about 265 days a year the discharge is less than the average value. In other

words, the average discharge is a rather large flow.” The mean annual flow is routinely computed for all gaged streams in the United States and can be derived from regression equations that the USGS has developed over the last several decades for ungaged streams. The term OHWM should be redefined to specify the width of the channel, which carries the mean annual flow.

In dryland landscapes that lack the dense vegetative cover characteristic of the humid climes, debris lines and small orientations of soil particles resulting from water movement are more readily obvious than where dense vegetation prevails. Furthermore, many dryland channels do not have flow on an annual basis. Therefore, regulation (which has increased dramatically in recent years) of small rills and other ephemeral manifestations of overland flow in the dryland southwest is an inequitable and arbitrary extension of jurisdiction based upon climatic conditions that are dramatically different between east and west. From a regulatory standpoint, a landowner would be unable to complete any project in this desert landscape without authorization from the Corps—this though it is virtually certain that little if any of the precipitation that does fall will ever reach a navigable water hundreds of miles away. Neglecting to consider these differences in trying to reach a consistent, defensible policy on jurisdictional limits for the 404 program will doom the effort to assured failure.

In the King Ranch AA (Table 1, AA1), the appellant argued just the point made in all of the legal decisions, i.e., that jurisdiction should be based on “ordinary or annual flow” not on an OHWM based on water flows during floods or extreme conditions. The RO dismissed the appeal as having no merit and ruled:

The USACE recently addressed using an “ordinary flow” to establish jurisdiction in place of an ordinary high water mark in the response to public comments in the preamble to the “Final Notice of Issuance and Modification of nationwide Permits,” Federal Register Vol. 65, No. 47, March 9, 2000, page 12823. Public commenters had asserted that ephemeral waters lacked sufficient flows to establish an ordinary high water mark and that using peak flows and/or flood stages in lieu of ordinary flows, or using cut banks, shelving, or debris that was influenced only by peak flows or flooding, was inappropriate. *The USACE rejected using an “ordinary flow” to establish jurisdiction in place of an ordinary high water mark* (FR Vol 65, No. 47, page 12823) and stated that ephemeral streams are waters of the United States, provided they have an ordinary high water mark meeting the definition in 33 CFR 328.3(e). The USACE stated that the frequency and duration at which water must be present to develop an ordinary high water mark has not been established for the USACE regulatory program. The USACE further stated that district engineers are to use their judgment on a case-by-case basis to determine whether an ordinary high water mark is present [emphasis added].

In Sunrise Office Park AA (Table 1, AA3) near Tuscan, Arizona, a situation similar to Molycorp, the Los Angeles District claimed jurisdiction of an ephemeral wash that empties into a water detention basin of a new residential housing development. This 200 feet long by 60 to 120 feet wide basin is drained by a 60 foot long, 6 inch diameter underground culvert. The 6 inch culvert then connects to an approximately 1 foot wide channel. This 1 foot wide channel connects to a concrete channel, which then reconnects to a natural channel with an ordinary high water mark, which meanders southwest through several single-family home residential areas to Magee Road. The ordinary high water mark becomes indistinct at several locations between the project site and Magee Road where the desert wash follows or crosses paved surfaces. These road crossings act as conduits of the water and maintain the tributary connection. There was no indication that the Corps even attempted to find out the frequency and duration that the roads had to be closed to traffic because of flowing water?

The Appeal was found to have no merit and the RO citing 33 CFR 328.4 (c)(1), concluded that:

[t]he evidence in the administrative record as clarified by the site visit and appeal conference clearly support the District’s conclusion that there is a tributary connection between the desert wash on the Appellant’s project site and waters of the United States.

In the Valley Vista AA (Table 1, AA5) in Arizona, the owner argued that a wash and man-made impoundment lack current jurisdiction because there was no OHWM downstream of impoundment. The Corps claimed that prior to 1952 there was a 2-mile long wash with an OHWM that connected it. The RO found the appeal had merit and ruled that the impoundment could not be ruled jurisdictional based upon a connection that only existed prior to the CWA. The final action of the District is still pending.

Highly permeable soils and high evapotranspiration (ETo) in dryland environments means that many channels which display a morphologically continuous OHWM, may not be connected except during very infrequent, high-flow events. Thus, “marks” are not necessarily “ordinary.”

Constructed Drainage/Irrigation Ditches

In the preamble to the 1986 Corps regulations, the Corps stated that:

. . . we generally do not consider the following waters to be “Waters of the United States.” However, the Corps reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a water of the United States. EPA also has the right to determine on a case-by-case basis if any of these waters are “waters of the United States.”(a) Non-tidal drainage and irrigation ditches excavated on dry land. (b) Artificially irrigated areas which would revert to upland if the irrigation ceased [51 FR 41217, November 13, 1986].

In the 2000 Notice on NWP (FR) the Corps amended that policy (without benefit of the APA process) to indicate that “ditches cut entirely in upland. . . .” Furthermore, the Corps stated that ditches that connect one water of the U.S. to another water of the U.S. may be jurisdictional.

Ever since the SWANNC decision there has been an ever increasing reliance upon ditches excavated in upland conditions to be the tributary that results in a determination of jurisdiction. In some cases, the districts have determined that the ditches themselves are not jurisdictional, but the wetlands that are either connected to them or only adjacent are. In the Krejci AA (Table 1, AA38), the Omaha district permitted the State highway department to divert a stream into a roadside ditch and then several years later, the district found that a nonconnected wetland on another property was adjacent to the roadside ditch which was now a “tributary” and therefore, jurisdictional. In this case the Corps approved one action that increased the jurisdictional limits on another property.

The fact that the Corps regulates some ditches and not others, immediately forms a venue for arbitrary and capricious behavior from individual regulator to regulator and from district to district across the Nation. The arbitrary application of ill-defined policies and definitions feeds the “it’s jurisdictional because I say it’s jurisdictional” syndrome. The fact that the Corps does not regulate all ditches denigrates any argument that it must regulate some to prevent pollution of navigable waters.

In the Leavell/Grey AA (Table 1, AA9), Sacramento District claimed historic connection by a natural tributary that was replaced by two ditches. In doing so, the District reversed its own jurisdictional determination that it had taken on one of the ditches on an adjoining piece of property. Because the ditch had been determined nonjurisdictional for the earlier project on the adjoining property, it had been filled, removing all connectivity with any natural waterbody. The RO determined that the appeal had merit and directed the District to reconsider why regulation of these two ditches is an exception to the general rule that ditches aren’t regulated. The Corps decided one ditch and 1.196 acre wetland were not jurisdictional, but the other ditch, the one with severed connectivity, was jurisdictional and the 13.79 acre wetland near it was adjacent and jurisdictional.

In the Kukal AA (Table 1, AA10), the Sacramento District determined that an irrigation channel that also served as a drainage channel during storm events was a tributary. The District agreed that much of the runoff in the watershed above the ditch had been diverted but that it did not alter its jurisdictional status. The RO determined that the appeal did not have merit.

Piped Flow

Districts have taken the concept of piped flow of a natural stream to the extreme. In the Pal Group AA (Table 1, AA15), the Chicago District found that drain tiles under a farm field where sufficient connection to make an adjacent property jurisdictional because the Corps found a blue line channel indicated on a 1923 topographic map in the vicinity of the project. Chicago District reasoned that the sub-surface drain tiles replaced the blue line stream. The AA Review Officer determined that the appeal had merit because the District’s administrative record was inadequate.

In the Lundstrom AA (Table 1, AA18), the Chicago District used 1925 and 1940 USGS topographic maps to determine that a blue line channel was in the vicinity of the project and had been replaced by drain tiles. Since the appellant had not provided evidence that the underground pipes did not replace the stream, the Review Officer determined that appeal did not have merit. Furthermore, because present day topography might be expected to differ from past, the Review Officer did not find merit with the argument that there is a two-ft topographic rise between the wetland and the tributary isolating it.

Use of Historic Maps and Photographs

It is very evident from a review of cases, that districts are basing an ever increasing number of questionable decisions on what they perceive to be present after reviewing very old topographic maps and in some cases old aerial photographs. This trend is subverting the concept of normal circumstances. In regulatory Guidance Letter 86-9, the Corps stated:

. . . it is our intent under Section 404 to regulate discharges of dredged or fill material into the aquatic system as it exists and not as it may have existed over a record period of time.

Districts, in their quest for maximum land use authority, assume that there is jurisdiction even if there is no factual basis to support it. In a case in Ohio that I worked on, the tributary status of a roadside ditch was called into question. The Corps regulator indicated that he would check early topographic maps and aerial photographs to determine if an historic channel existed in the vicinity of the ditch. When asked what his default position would be if he found no evidence of an historic channel, he indicated that he would assume that there was one. I told him not to bother looking at old documents? It was clear that he would conclude that the ditch was jurisdictional irrespective of what could be seen on the old aerial photographs.

Old topographic maps do not need to depict a channel or even contour lines to be sufficient "proof" that an historic channel existed. In CS 5 (Table 2), the Sacramento District relied upon a 1909 USGS Quadrangle to decide that a natural ephemeral channel existed for an additional half mile up to the property under consideration prior to the excavation of an ephemeral irrigation/drainage ditch. The Quadrangle depicted neither contours nor a channel to support their contention. Even after the connection through the ditch had been severed on a downslope neighboring property, Sacramento District asserted that the animal waste holding ponds physically isolated but adjacent to this ditch were jurisdictional. To take jurisdiction over two constructed, animal waste treatment ponds even though they are 100-feet away from and not connected to an excavated ditch because the ditch might have replaced a hypothetical ephemeral channel that has not if ever existed for decades and which had since been partially filled, severing all connectivity, is an arbitrary and absurd abuse of Federal authority.

Two fundamental flaws exist with the Corps's propensity to justify all jurisdiction as a tributary. First, blue lines on USGS Quads are unreliable. Leopold (1994), Emeritus Professor of Geology at UC Berkley and former Chief Hydrologist for the USGS writes:

I tried to devise a way of defining hydrologic criteria for the channels shown on topographic maps and developed some promising procedures. None were acceptable to the topographers, however. I learned that the blue lines on a map are drawn by nonprofessional, low-salaried personnel. In actual fact, they are drawn to fit a rather personalized aesthetic.

Thus, the Corps should not be giving great weight to old maps, which used far-less accurate mapping procedures than are currently available today and personalized aesthetics to depict stream courses, to assert Federal jurisdiction over private property.

Second, even if an historic channel existed, the principle of "once navigable, always navigable" does not apply to nonnavigable waters under Section 404 of the CWA. Corps regulations at 33 CFR 328.5 states:

Permanent changes of the shoreline configuration result in similar alterations of the boundaries of waters of the United States. Gradual changes which are due to natural causes and are perceptible only over some period of time constitute changes in the bed of a waterway which also change the boundaries of the waters of the United States. For example, changing sea levels or subsidence of land may cause some areas to become waters of the United States while siltation or a change in drainage may remove an area from waters of the United States. Man-made changes may affect the limits of waters of the United States; however, permanent changes should not be presumed until the particular circumstances have been examined and verified by the district engineer. Verification of changes to the lateral limits of jurisdiction may be obtained from the district engineer.

In CS 5 (Table 2), Sacramento District decided that a permit was not needed to fill a ditch, presumably because it had already been legally filled downslope and, thus, disconnected from any natural waterbody. Defying all logic, however, Sacramento District determined that a permit would be needed to fill the animal waste ponds that were 100 feet distant from a nonjurisdictional, isolated, excavated ditch.

Ephemeral Channels

Ephemeral channels in all climates generally form under the same landscape conditions—sparse or no vegetative cover. The presence of a dense cover of vegetation on the land surface, softens the impact of raindrops (the initiator of erosion) and binds the soil in place through the network of roots and generally prevents the formation of channels. When the vegetative cover is sparse as naturally occurs in dryland conditions (e.g., the southwest) or on sites that have been filled with subsoils low in organic matter and nutrients, or bare soils resulting from clear-cutting of mature forests or scraping or rutting of the land surface, erosion can occur at a rapid rate. The channels that form generally are deeply incised and carry runoff water only during and immediately after rain events or snowmelt.

Under dryland climatic conditions, and absent any other perturbation, the vegetation cover remains sparse and erosion continues at rates determined by such factors as intensity of storm event, soil characteristics and slope. Channels that form under dryland conditions may not be in response to surface erosion, but may actually result from the collapse of subsurface tunnels and debris slides among other causes. Once formed, however, such ephemeral channels will continue to carry water (and high loads of eroded sediment) during and shortly after storm events until obliterated by some more catastrophic event.

In the more humid climates, in most cases, a depauperate land cover is usually transient. Unless chemical contamination or very steep slopes are present, weed species rapidly colonize the bare soil and the landscape passes through a well-documented progression of serial stages until a climax forest (100-years or more distant from the bare soil condition) results in a stable plant community. Generally, it is only during the very early stages of such succession, that ephemeral channels that formed during bare-soil conditions actually carry water except under the most severe events.

CS1, CS6, CS8 and CS13 (Table 2) and AA7 (Table 1), identify situations where barely definable flow-paths have been regulated by the Corps. In CS13, two channels were regulated that exist only because channelized runoff from a road has been directed across private property. Natural drainage ways would not have existed except for the “artificial” source of water.

Impoundments

Impoundments usually are formed by constructing a dam across a channel, constructing a berm across a swale or valley and/or excavating a depression. The Corps has long held that constructing a dam across a water of the U.S. expands jurisdiction to the entire impoundment [33 CFR 328.3 (a)(4)]. On the other hand, the Corps also holds that:

. . . we generally do not consider the following waters to be “Waters of the United States.” However, the Corps reserves the right on a case-by-case basis to determine that a particular waterbody within these categories of waters is a water of the United States. EPA also has the right to determine on a case-by-case basis if any of these waters are “waters of the United States.”

(c) Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.

(d) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating and/or diking dry land to retain water for primarily aesthetic reasons.

(e) Water-filled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States (see 33 CFR 328.3(a) [51 FR 41217, November 13, 1986])

With regards to (e) above, the Corps, in its 2000 Notice (65 FR 12860) on NWP, indicated that with regards to mining activities, a 10-year period was an appropriate length of time until a wet, mined feature is considered abandoned and thus, jurisdictional. This raises the legal issue of whether the Corps has any authority to regulate any body of water or wetland that arises from intentional or incidental human activities that alter the landscape.

The manner in which Corps districts treat impoundments varies through a wide spectrum of actions. In Valley Vista (Table 1, AA5), the AA RO found that a stock pond appeared to be constructed in the upland and was connected by a ditch cut in the upland and, therefore, lacking a special reason, the impoundment should not be regulated. Conversely, in CS 3 (Table 2), the Jacksonville district determined that a borrow pit dug in uplands that drains through an upland outfall ditch, to

roadside ditch, to second roadside ditch, to third roadside ditch and finally to San Carlos Bay (a distance of ? one mile) was jurisdictional, presumably because a drop of water entering the borrow pit could reach navigable waters.

In Memphis Stone & Gravel (Table 1, AA36), the Review Officer concluded that the purpose of ponds (in this case erosion control and livestock watering) was immaterial. The pond that had an OHWM was jurisdictional and the one that did not was not. Vicksburg District adjusted the JD to conform with the ruling.

Similarly, in both Laycom, Inc. (Table 1, AA13) and Desert Moon Shadow Estates (Table 1, AA4), the AA RO upheld the Chicago and Los Angeles Districts' determinations, respectively, that the presence of an OHWM, whether the result of historical or current conditions, was adequate that both an intentionally constructed flood retention pond and a bermed impoundment were part of a tributary system and as such the appeal had no merit.

In CS 5 (Table 2), the Sacramento District determined that two constructed, animal-waste impoundments were jurisdictional because they were located within 100-ft of a ditch that may have been an ephemeral drain (based upon a 1909 topographic map that showed neither contours nor a blue-line channel) that they concluded was tributary to a jurisdictional water. The ditch was determined to lack jurisdiction under current conditions because a legal fill severed connectivity slope from the ponds. Nevertheless, the waste ponds remained jurisdictional.

In CS 6 (Table 2), the Los Angeles District, originally asserted jurisdiction over two completely isolated, constructed in upland stormwater ponds whose drainage basins consisted of 20 acres of abandoned airfield runways and whose inflow was regulated by a valved inlet structure. After considerable negotiation on the legality of the JD determination, the Corps decided to only regulate vegetated patches in one of the basins and authorized the discharge of fill into the vegetated patches under a NWP.

In Jacksonville District, the Corps has found that stormwater ponds are jurisdictional, or in the case where the ponds were constructed in uplands, that jurisdiction can pass from the outfall ditch, through the ponds and through upslope ditches to wetlands. Thus, even if the pond itself is not regulated, the Corps will capture isolated wetland if a ditch is constructed from the wetland to the pond.

New Theories and/or New Terminology

A review of jurisdictional determination, indicates that since the U.S. v. Wilson decision and subsequent guidance (May 29, 1998) distributed by EPA and Corps headquarters, many Corps districts have become much more "creative" in the reasons that they use for asserting jurisdiction under Section 404. The trend is to find connection through any means possible. If connectivity is the key to Corps jurisdiction, then scientifically a reasonable argument can be made that 100 percent of the landscape is jurisdictional because all water is connected. For a program where the rules have not been overhauled in 17 years, it is amazing the number of new theories or terms that continuously creep into Corps decisions. Here are a few new concepts that were prominent in my review.

In Molycorp Inc. (Table 1, AA7), the Los Angeles District considered the OHWM in a "watershed context." The RO directed the District to consider OHWM in terms of annual and seasonal flow, concentrated surface and subsurface flow (not groundwater) and biological responses of plants and animals to concentrated flow.

In Baccarat Fremont Developers (Table 1, AA8), the San Francisco District based its jurisdictional call in part on the fact some wetlands were adjacent to other wetlands not tributaries. The district argued that sheet flow ties the wetlands together. The Administrative Appeal RO determined that the appeal had merit since the District decision was not supported by substantial evidence and that only wetlands that form a "wetland continuum or complex" can be considered adjacent to the major waterbody. The RO cited the preamble discussion from the 1991 NWP publication (56 FR 59113, 1991).

The insertion of the word "complex" into the consideration of adjacency is inappropriate, NOT consistent with the 1991 NWP publication and contravenes the language of 33 CFR 328.3(a)(7). The context of the 1991 Federal Register discussion was related to whether a continuous wetland should be subdivided from the major waterbody to attempt to determine where the flow is less than 5 cfs and thus, headwaters. The pertinent passage is:

In systems where there is a broad continuum of wetlands, all are considered adjacent to the major waterbody to which it is contiguous. This type of broad system should not be dissected for purposes of determining where the 5 cfs point does or does not exist as it is hydrologically and ecologically part of the same system and should be treated as a whole [56 FR 59113, 1991].

The use of the term “continuum” was simply an attempt to change the accusative form of the word “contiguous” to the nominative case. Perhaps the grammatically better choice of terms would have been “contiguity,” however, “continuum” is the more common expression of the concept. A “complex,” however, as commonly used ecologically and in the context of landscapes, means a grouping of different but related features. An area that is a mix of intermingled wetlands and uplands could be referred to as a “complex” or more correctly a “wetland/upland complex.” Thus, the justification for regulating a wetland that is adjacent to another wetland that is separated by upland because it is a “complex” is totally inconsistent with the meaning and I believe the intent of the Federal Register statement.

The “complex” theory also was the basis in part for the Buffalo District’s decision in NEC Transit/Williams, LLC (Table 1, AA41) which was upheld by the Administrative Appeal RO. The RO’s decision was based in part on:

The District observed that Wetland F had no discernible outlet for water flow and no evidence that water ever flows from the wetland. However, Wetland F is in close proximity to Wetland A and the other wetlands, and contains similar vegetation and soils. Wetland F is determined to be in the same ecosystem and adjacent to other wetland areas.

The non-hydric soil area between Wetland A and B was disturbed before the July 5, 2001 site visit. The brush and trees had been cut and removed by large equipment. The earth and soils were partially disturbed, tracked, and scuffed by the activity. However, coupled with past site visit reports and maps there was enough of the area remaining undisturbed to determine the soils were not hydric. Wetland A has a location where water flowed from the lowest point in its rim but had no discernible channel or wetland soils in the area where water overflows. Water overflows rarely or with such low velocities that it leaves no evidence of flow through erosive forces. The length of time the flow occurs is so short that no saturated soils are created. However, since the Corps representatives and others observed water flowing at that location, the district determined that wetland A is not isolated but a tributary to the wetland complex. Also Wetland A is a closely related part of the same ecosystem complex. The character and relationship of Wetlands A and F with the other wetland areas is strongly influenced by the geomorphology and climate of the area. The area is relatively flat with a land type that contains similar wetlands, some functioning continuously as feeder streams and some nearly isolated so that they flow only in heavy rainfall events where water accumulates and overflows to lower areas. From an ecological standpoint, there is no separation of any of the wetland areas on the project site. As noted above, the Corps’ ecological judgment about the relationship between waters and their adjacent wetlands is a sufficient basis for making a jurisdictional determination regarding adjacency.

Ecologically, ground and surface-water form a “continuum” throughout the landscape. The “complex” theory taken to an ecological limit justifies regulating the entire watershed of each jurisdictional tributary. The regulatory program, however, is not an ecological study, but the implementation of policy based on law and supported by science. Regulation of private property is not based upon ecology but upon the police powers of the State granted by the constitution and balanced by socio-economic considerations. The jurisdictional limit expressed at 33 CFR 328.3(a)(7) is based upon policy considerations and any alteration of it should be based upon APA rulemaking.

In Hemet, California (Table 2, CS7), the Corps claimed jurisdiction over roadside ditches because they “intercept water that otherwise would be jurisdictional.”

In Desert Moon Shadow Estates (Table 1, AA4), the Corps used the “vitality of plants in the vicinity” to assert jurisdiction over ephemeral desert washes.

In Golden State Developers (Table 1, AA6) the Corps determined that a wetland, which was 3400 feet upstream on a nonjurisdictional drainage, was jurisdictional because flow could travel down this nonjurisdictional tributary to a jurisdictional tributary.

Interstate, Intrastate and Commerce Clause Connections

The nature of commerce is discussed at 33 CFR 329.6. What constitutes interstate commerce is a legal issue that is addressed by the Corps at 33 CFR 328.3(a)(3) and the preamble to this part at 51 FR 41217. It is in essence, the fundamental issue that has driven this Advanced Proposed Rulemaking. The Supreme Court in SWANCC has told us that at least the use by migratory birds is NOT interstate commerce. The issue of what constitutes interstate commerce was the subject of several administrative appeals.

In the Potlach Corp. AA (Table 1, AA11), Walla Walla District ruled that a wetland that had grown up in an abandoned, isolated, intrastate, nonnavigable pond

used in the past to hold logs at a mill was sufficient nexus to interstate commerce to be jurisdictional even though, the process currently used in the mill did not permit logs to be held in a pond. The RO ruled that the appeal had merit because the District provided no reasonable evidence that the wetland could be used in the future for holding logs related to interstate commerce.

What constitutes interstate waters is the subject of several of the cases evaluated for this report. At 33 CFR 328.3(a)(2), the Corps simply states that “All interstate waters including interstate wetlands” are waters of the U.S. The Corps discusses the extent of its jurisdiction under Section 10 of the RHA relative to crossing State lines at 33 CFR 329.7:

A waterbody may be entirely within a State, yet still be capable of carrying interstate commerce. This is especially clear when it physically connects with a generally acknowledged avenue of interstate commerce, such as the ocean or one of the Great Lakes, and is yet wholly within one State. Nor is it necessary that there be a physically navigable connection across a State boundary. Where a waterbody extends through one or more States, but substantial portions, which are capable of bearing interstate commerce, are located in only one of the States, the entirety of the waterway up to the head (upper limit) of navigation is subject to Federal jurisdiction.

Three important facts arise from this statement: first there must be the capability of navigation in the waterbody, second there must be interstate commerce conducted and third, that Federal jurisdiction stops at the head of navigation.

In *Molycorps Inc.* (Table 1, AA7), the Los Angeles District ruled that Ivanpah Lake, an ephemeral waterbody and all washes flowing into it was jurisdictional because water from it extended 20–30 feet into Nevada from California at one point. The entire basis for jurisdiction of this physically isolated feature was that the landscape features consistent with the current definition of OHWM extended across a State boundary. However, it is unknown what the recurrence frequency of inundation is in this desert playa lake associated with the landscape features attributed to the OHWM.

More fundamental, however, in *Molycorps, Inc.* is the lack of any actual commerce attributed to navigation on Ivanpah Lake in any portion, in either State. Interstate commerce was determined to exist solely on the basis of the OHWM crossing the State boundary.

In CS1 (Table 2) the Santa Cruz River in Arizona was determined to be an interstate waterbody because its headwaters which originate in southeastern Arizona flow south into Mexico for a short distance and then turn back north and continue flowing only in Arizona. Topographically, the defined channel of the Santa Cruz River ends on the large alluvial plain known as the Santa Cruz Flats. The Corps maintains that water can continue to flow from the Santa Cruz River, into the Gila River (an intrastate waterbody) and then to the Colorado which flows south through Mexico and discharges into the Gulf of California.

The nature of the interstate connection on the Colorado River and the upper reach of the Santa Cruz River is very different from that on the lower reach of the Santa Cruz River. In the case of the Colorado River and the upper reach of the Santa Cruz River, a very reasonable case can be made that pollutants that are discharged in the United States could cross an international boundary and adversely affect the waters of another country. In the case of the lower Santa Cruz River, i.e., from the point at which the River reenters the United States, there can be no effect on another country of a pollutant discharged into it, since the flow remains entirely within Arizona. Absent any effect on interstate commerce, can the lower Santa Cruz River be legitimately defined as an interstate water or is their an upper limit to the commerce connection similar to the head of navigation under Section 10 of the RHA.

Compounding the issues associated with the lower Santa Cruz River is the fact that after the River reenters the United States, it flows through the Tohono O’odham Indian Reservation prior to reaching the Tucson metropolitan area. This raises the issue of whether water that flows entirely within one State but through tribal lands can legally be deemed to be interstate waters with an effect on interstate commerce.

Conflicting Determinations

As discussed above, in *Molycorps Inc.* (Table 1, AA7), the Los Angeles District maintained that washes which don’t have a continuous OHWM for the last 1000–1500 feet before reaching the ephemeral Ivanpah Lake were jurisdictionally connected. However, in the same time period at Moorpark, California (Table 2, CS8), the same reviewer for the Corps found that “Nearly all of these ephemeral drainage courses exhibit an ordinary high water mark (OHWM) at higher elevations, but the

OHWM for each disappears at lower elevation, presumably because of insufficient hydrology in light of the porous substrate, onsite vegetation, and reduced slopes” and declined to take jurisdiction. In the Molycorp Inc. project, the Corps would have lost control over a large tract of land, whereas in the Moorpark project, where the owner wanted the Corps to assert jurisdiction, the District avoided having to deal with the Endangered Species Act (ESA) by declining jurisdiction and left the owner having to go through the more arduous ESA Section 10 permit process, than Section 7 consultation.

Wetlands

The single-most debated issue throughout the long and often-volatile history of deciding what is a “wetland” for regulatory purposes, is the issue of the frequency, duration and proximity to the land surface of water. In 1991, when Congress prohibited expenditure of funds (through the Water Resources Appropriation Bill of 1992) in reliance upon the 1989 wetland delineation manual, the Corps reverted to its 1987 delineation manual. Since only wetlands (not open water bodies) that are simply neighboring (i.e., no surface connection through a wetland or a channel) can be regulated as “adjacent” (33 CFR 328.3), it is also crucial to a reasoned interpretation of SWANCC to specify the frequency, duration and proximity to the land surface of water necessary to constitute a jurisdictional wetland.

The “official” requirement on paper that is in effect today is elucidated in the 1987 manual and in the guidance questions and answers published by the Corps headquarters in 1991 and 1992. In pertinent part they provide the following:

For an area to accurately be characterized as having wetlands hydrology, it must be frequently inundated or saturated to the surface for long duration. The requirement that a site be inundated or saturated to the surface either permanently or periodically is stated in Part I: Technical Guidelines of the 1987 Manual:

The following definition, diagnostic environmental characteristics, and technical approach comprise a guideline for the identification and delineation of wetlands: Diagnostic environmental characteristics:

Hydrology. The area is inundated or saturated either permanently or periodically at mean water depths < 6.6 ft. or the soil is saturated to the surface at some time during the growing season of the prevalent vegetation [p.9].

The 1987 Manual defines the term “saturated soil conditions,” a term which is taken directly from the definition of wetland (33 CFR 328.3b), as:

A condition in which all easily drained voids (pores) between soil particles in the root zone are temporarily or permanently filled with water to the soil surface at pressures greater than atmospheric [page A11].

Thus, saturated soil conditions only exist from the water table down. The capillary fringe above the water table, being caused by surface tension, i.e., negative pressure, does not meet the definition. The water table is defined in the 1987 Manual as:

The upper surface of groundwater or that level below which the soil is saturated with water. It is at least 6 in. thick and persists in the soil for *more than a few weeks* [p. A14, emphasis added].

The 1987 Manual contains numerous other statements clarifying what constitutes wetland hydrology including:

The term “wetland hydrology” encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. . . . Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic soil conditions” [p.34].

Although the length of time that an area must be inundated or saturated to the surface can vary according to the hydrological/soil moisture regime, the 1987 Manual provides guidance as to the duration of saturation required for a site to have wetlands hydrology at Table 5 [p. 30]. In summary, Table 5 indicates that areas that are saturated more than 12.5 percent of the growing season have wetland hydrology while those that are saturated for less than 5 percent of the growing season do not. It further states that many areas that are saturated between 5 and 12.5 percent of the growing season are not wetlands [emphasis added].

The term ‘Duration (inundation/soil saturation)’ is defined as:

The length of time during which water stands at or above the soil surface (inundation), or during which the soil is saturated. As used herein, duration refers to a period during the growing season [p. A4].

On October 7, 1991, Corps headquarters issued Questions and Answers on 1987 Corps of Engineers Manual (Studdt 1991) to further clarify the concept. The answer to Question 8 in pertinent part states:

Generally speaking, areas which are seasonally inundated and/or saturated to the surface for more than 12.5 percent of the growing season are wetlands. Areas saturated to the surface between 5 percent and 12.5 percent of the growing season are sometimes wetlands and sometimes uplands. Areas saturated to the surface for less than 5 percent of the growing season are nonwetlands. . . . If an area is only saturated to the surface for a period of between 5 percent and 12.5 percent of the growing season and no clear indicators of wetland hydrology exist (i.e., recorded or field data; also see answer #7 above), then the vegetation test should be critically reviewed. . . . The actual number of days an area is inundated and/or saturated to the surface for an area to be called a wetland varies [p. 4].

The presence of surface water or near-surface groundwater for short duration at frequent intervals or at infrequent intervals for long duration during the growing season, does not constitute wetland hydrology. In fact, the definition of nonwetlands in the 1987 Manual specifically addresses this point:

Nonwetlands include uplands and lowland areas that are neither deepwater aquatic habitat, wetlands, nor other special aquatic sites. They are seldom or never inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season [p.15].

The 1987 Manual defines "Frequency" (inundation or soil saturation) as:

The periodicity of coverage of an area by surface water or soil saturation. It is usually expressed as the number of years (e.g., 50 years) the soil is inundated or saturated at least once each during part of the growing season per 100 years or as a 1-, 2-, 5-year, etc., inundation frequency [p. A5].

Thus, the three "official" documents that specify the hydrology requirements for a jurisdictional wetland can be stated as on average, an area must be inundated or the soils saturated to the surface in more than half the years (1 out of 2, 5 out of 10, or 50 out of 100) for more than 12.5 percent of the growing season to conclude with reasonable certainty that the area has wetland hydrology.

Unfortunately, when the Waterways Experiment Station placed an electronic version of the 1987 manual on the World Wide Web in the late 1990's which purportedly included the 1991 and 1992 question and answer guidance, it subverted the hydrology "criterion." In an apparent effort to retain as much of the philosophy that engendered the 1989 Manual's inclusiveness, the hydrology "criterion" was summarized as and government-sponsored training courses are based upon the following statement:

. . . an area has wetland hydrology if it is inundated or saturated to the surface continuously for at least 5 percent of the growing season in most years (50 percent probability of recurrence).

In practice today, many Corps regulators in routine matters and EPA and DOJ in enforcement matters maintain that all that is required for an area to be deemed to have wetland hydrology (and thus, almost invariably be called a wetland) is that saturation be present anywhere within the top 12 inches of the soil for 5 percent of the growing season every other year—concepts very similar to those set forth in the 1989 Manual. For example, Lichvar et al. (2002) incorrectly attributes a 1–2 week duration (5 percent of the growing season) to Corps headquarter's guidance from March 1992. (See also Administrative Appeal Decisions: Mr. Allen Gordon, Table 1, AA48; Tammany Holdings, Table 1, AA28.)

It defies credulity to believe that an area that is saturated at say 11 inches below the surface for 7 days out of 730 days (every other year) will function in any manner different than the surrounding landscape that is nonwetland. Certainly no credible research has ever shown such to be the case. The practical application of these mythical "thresholds" subverts the provision of the 1992 Water Appropriations Act which prohibited the Corps from spending any of its regulatory budget in reliance upon the 1989 Manual until it had been subjected to the APA process—which has never occurred. While it can be debated whether water present every other year is consistent with the judicial rulings in *Pend Oreille* and *Howard v. Ingersoll*, at least such a "criteria," in theory, is quantifiable, although in practice, the vagaries of annual precipitation patterns often require a complicated analysis.

DISINGENUOUS PROMISES AND LACK OF RESPONSIVENESS

While the Corps and EPA are very quick to propose rulemaking that has an expansive impact on Section 404 jurisdiction, they continuously make then disregard promises made to the public as well as actions mandated by the Congress that

would have a limiting effect on jurisdiction. On January 24, 1990, the Corps disseminated a joint EPA/Corps memorandum entitled Clean Water Act Section 404 Jurisdiction over Isolated Waters in Light of Tabb Lakes v. United States. In it they stated:

“Instead, the EPA and Corps intend to undertake as soon as possible an APA rulemaking process regarding jurisdiction over isolated waters.”

They never did.

On May 29, 1998, in a memorandum entitled Guidance for Corps and EPA Field Offices Regarding Clean Water Act Section 404 Jurisdiction Over Isolated Waters in Light of United States v. James J. Wilson they stated:

In the near future, EPA and the Corps intend to promulgate a rule addressing the jurisdictional issues discussed in this guidance, with full opportunity for public review and comment.

They never did.

The Water Resources Appropriations Act of 2001 provided over \$125 million dollars for the Corps Regulatory program. Expenditure of that money required eight specific tasks of the Corps:

For expenses necessary for administration of laws pertaining to regulation of navigable waters and wetlands, \$125,060,000, to remain available until expended: Provided, That the Secretary of the Army, acting through the Chief of Engineers, is directed to use funds appropriated herein to:

- (1) by March 1, 2001, supplement the report, Cost Analysis For the 1999 Proposal to Issue and Modify nationwide Permits, to reflect the nationwide Permits actually issued on March 9, 2000, including changes in the acreage limits, preconstruction notification requirements and general conditions between the rule proposed on July 21, 1999, and the rule promulgated and published in the Federal Register;
- (2) after consideration of the cost analysis for the 1999 proposal to issue and modify nationwide permits and the supplement prepared pursuant to this Act and by September 30, 2001, prepare, submit to Congress and publish in the Federal Register a Permit Processing Management Plan by which the Corps of Engineers will handle the additional work associated with all projected increases in the number of individual permit applications and preconstruction notifications related to the new and replacement permits and general conditions. The Permit Processing Management Plan shall include specific objective goals and criteria by which the Corps of Engineers' progress toward reducing any permit backlog can be measured;
- (3) beginning on December 31, 2001, and on a biannual basis thereafter, report to Congress and publish in the Federal Register, an analysis of the performance of its program as measured against the criteria set out in the Permit Processing Management Plan;
- (4) implement a 1-year pilot program to publish quarterly on the U.S. Army Corps of Engineer's Regulatory Program website all Regulatory Analysis and Management Systems (RAMS) data for the South Pacific Division and North Atlantic Division beginning within 30 days of the enactment of this Act; and
- (5) publish in Division Office websites all findings, rulings, and decisions rendered under the administrative appeals process for the Corps of Engineers Regulatory Program as established in Public Law 106-60;
- (6) Provided further, That, through the period ending on September 30, 2003, the Corps of Engineers shall allow any appellant to keep a verbatim record of the proceedings of the appeals conference under the aforementioned administrative appeals process;
- (7) Provided further, That within 30 days of the enactment of this Act, the Secretary of the Army, acting through the Chief of Engineers, shall require all U.S. Army Corps of Engineers Divisions and Districts to record the date on which a section 404 individual permit application or nationwide permit notification is filed with the Corps of Engineers; and
- (8) Provided further, That the Corps of Engineers, when reporting permit processing times, shall track both the date a permit application is first received and the date the application is considered complete, as well as the reason that the application is not considered complete upon first submission.

To the best of my knowledge the Corps has complied with only three of the eight requirements and has otherwise not complied with the deadlines established in the 2001 Appropriations Act for Cost Analysis Supplement (1), Permit Processing Management Plan (2), Report to Congress (3), Publish Data Pilot (4), and Complete Application Determination (8). Item 2, the Permit Processing Management Plan, would

contain guidance on interpretations that would bring some consistency to the Section 404 Program.

As of this Hearing, we still do not have an APA rule that defines clear and concise policies with regard to isolated waterbodies or for that matter any of the other jurisdictional issues that I have raised above. The Corps and EPA simply make promises and then procrastinate with the hope that no one will ever call them to task. The best we have to date is an "Advanced Notice of Proposed Rulemaking" published in the Federal Register on January 15, 2003. We have already had at least two advanced notices—one in 1990 and one in 1998. Now the agencies are hoping that they can again procrastinate and not actually go forward with rulemaking.

In the May 29, 1998 joint memorandum, the Corps and EPA also wrote:

Although *Tabb Lakes, Ltd. v. United States*, (715 F. Supp. 726, aff'd without opinion, 885 F.2d 866 (4th Cir., 1989)), concluded that EPA/Corps guidance could not be cited as the legal basis for interstate commerce nexus using migratory birds because that guidance had been issued without notice and comment, the decision did not prohibit the use of migratory birds to establish a connection to interstate commerce under the Clean Water Act. Consequently, notwithstanding the Fourth Circuit's decision in *Tabb Lakes*, Corps and EPA field offices should continue to assert CWA jurisdiction over all isolated, intrastate water bodies that serve as habitat for migratory birds.

The agencies were put on notice as early as in 1989 that the use of migratory birds as a test for interstate commerce was illegal. They chose to ignore it. While the SWANCC decision has eliminated the future use of the "migratory bird rule," to my knowledge no one has addressed the millions of dollars that the public spent during the period from 1984 to 2001 when it was implemented, and the Corps illegally regulated isolated, intrastate, non navigable waterbodies. Moneys spent to work through the complex permit process. Moneys lost because of time delays in projects. Money spent to defend against alleged violations. Moneys spent for mitigation, restoration and as penalties. How many people were incarcerated because of violation of the CWA jurisdiction based upon the "migratory bird rule?" All of which occurred as the result of an uncodified "rule" instituted by the EPA, ignoring the APA and with the power to compel the Corps to adopt it. The agencies have run rough-shod over the public with no real accountability.

CONCLUSIONS

The Corps and EPA, indeed the entire body of Federal water-resource agencies, for years has been telling the public what wetlands and waterways are, why they are important and why they must be regulated and protected by the Federal Government. Yet there is a duplicity in what the public is being led to believe are the landscape features for which ever-increasing, millions of dollars in tax revenues and private funds are expended each year to regulate.

Slides 1-5 and 9-10 in the attached presentation convey the images that the agencies portray to the public as regulated wetlands: lush and often exotic vegetation, plenty of water and colorful waterfowl, wading birds and wildlife. How could anyone but the most callous despoiler of the environment not agree that protection and regulation is important. Yet, few of such landscape features, are impacted anymore. The regulated public has recognized their value and generally, except for occasional transportation crossings, avoids impacting them.

The battles today between landowners and the Federal Government generally are waged over the type of landscape features depicted in slides 6-8, 11-17, 20 and 21. They are the roadside ditches, the stormwater ditches, the drainage ditches and irrigation ditches excavated in dry land. They are the borrow pits, the stormwater management ponds, the sewage treatment lagoons and animal feed lot waste holding ponds that are no longer actively used for the original purpose for which they were constructed. They are natural landscapes that may have near-surface groundwater during the winter until leaf-buds open and then the plants rapidly dewater the landscape early in the spring and for the rest of the year. They are the meadows and woods where the water table need only reach to within 12 inches of the surface for as little as 7 days every other year, i.e., 7 out of 730 days.

Section 101(b) of the CWA states in pertinent part:

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce and eliminate pollution, to plan the development and use (including restoration, preservation and enhancement) of land and water resources . . .

It is my experience, that many individuals in EPA and the Corps, see Section 404 as the best game in town when it comes to side-stepping the rights of the States

as specified in our Constitution and implementing land management decisions by the Federal Government. The 404 Program as currently implemented is in many cases abusive to the public and decisions rendered are often arbitrary and capricious. Because the jurisdictional limits of the 404 Program are so poorly defined, there are as many different concepts of what constitutes waters of the United States as there are regulators.

Probably the single most important reason, that confusion and inconsistencies exist in the Section 404 Program is the fact, that there are two Executive agencies attempting to implement it. Each has its own views and perspectives. Each has a view of the correct role of the Federal Government in what, Constitutionally, should be the primary responsibility of the respective States.

While the Corps is supposed to implement the permit program, since 1979, when Attorney General Civiletti determined that EPA has the ultimate authority to determine what is jurisdictional under all Sections of the CWA including Section 404, there have been major disagreements, often very acrimonious, between the staff of the two agencies. It is quite possible that the full extent of the animosity that has existed is not even known to the representatives of the agencies that are testifying at this hearing.

The public has suffered with inconsistent and often arbitrary and capricious decisions that have had dramatic effects on their lives and the use of their private property because the lead agencies, the Corps and EPA, have differing perspectives as do the review agencies, FWS and NMFS. To compound the inconsistencies, the Corps boasts that its decentralized management style is a benefit to the public. What it fails to recognize is that there is a vast difference between decentralized and inconsistent management.

It is inconsistent management that pervades the 404 Program and plagues the Nation. A year ago, a colleague of mine and I decided that there was a need to provide a training course on the limits of Corps jurisdiction. We saw that this was especially needed in the dryland West. Despite the fact that we are both highly versed in Corps regulatory policy, we came to the conclusion that we could not offer such a course because there was no consistent policy being implemented. What the public is told by the Corps in one part of the Nation is not necessarily what can be found in its regulations or what it is likely to be told in another.

It is crucial that all of the terms, which the Corps uses to specify the limits of its jurisdiction, be accurately and unambiguously defined. They must be promulgated, to the extent that the limits specified are consistent with the CWA and the Constitution, through the formal procedures developed for implementation of the Administrative Procedures Act (APA). Many of the Corps definitions related to jurisdiction have not been promulgated through the APA process.

The most fundamental technical issue that must be addressed through rule-making in light of SWANCC is what is the necessary frequency, duration and relation to the land surface of water to constitute a "navigable water" consistent with the language of Section 404 of the CWA. It is the same issue that has needed to be addressed for decades. This issue applies to how far from traditionally navigable waters, natural streams should be regulate, which and how far distant drainage and irrigation ditches should be regulated and what areas should be called wetland navigable waters.

The longitudinal limit of Corps jurisdiction under Section 404 must be defined in relation to the effect that the discharge of dredged or fill material may have on interstate and/or foreign, commercial navigation in traditionally navigable waters.

Other definitions need to be addressed as well. The "neighboring" part of the definition of the term "adjacent" must be redefined to specify that it includes those morphologically disconnected wetlands that receive surface flow from a jurisdictional tributary (what ever that is) on a predictably, frequent basis. Today, districts of the Corps, might determine that wetlands miles from a stream in the 100-year floodplain are adjacent. Others have found that 200—3500 feet defines the limit. Each regulator seems to make it up on the fly.

For a wetland to be deemed "adjacent" and, thus, jurisdictional under Section 404, the wetland should be dependent for its existence, at least in part, upon water received from the tributary. Thus, the predictably regular inundation from the tributary should have a recurrence frequency of no less than every 2 years, and perhaps more in keeping with court rulings on OHWM, it should be at less than a 1-year recurrence frequency, i.e., ordinarily occur.

Water movement by sheet flow or as groundwater TO a jurisdictional tributary should NOT be determinant. Water on virtually all landscapes moves toward stream channels either as overland flow or as ground-water discharge. There is no scientific or legal basis to separate-out morphologically disconnected wetlands from the rest of the nonwetland landscape and regulate them. It has been a long-standing failing

of the 404 Program by its fixated emphasis on wetlands, to suggest that they are inherently more valuable or have greater function than the nonwetland landscape. By so doing, many acres of nonwetlands have been destroyed that have had higher overall ecological function and more value to society than the wetlands that were avoided.

There is no definition of the term “tributary” within the context of Section 404, this despite its central role in the definition of “waters of the United States.” It must be defined and its upper limits determined by factoring frequency and duration of flow and distance to a traditionally navigable water, such that there can be a demonstrated effect on navigation from a discharge of dredged or fill material. Not by the mere presence of an OHWM. The public should not have to rely upon discussions of the limits of jurisdiction found only in uncodified preambles to Corps regulations to determine what is and is not a water of the U.S. For almost two decades the public was subjected to the uncodified agency whim concerning migratory birds until the Supreme Court struck it down. The Corps and EPA Memorandum of Agreement on mitigation, contains similarly illegal concepts that have not been promulgated in accordance with the Administrative Procedures Act (APA). Mandatory compensatory mitigation is now spoken of as a codified rule (much as the migratory bird rule was) as opposed to a concept without basis in the CFR.

The terms “perennial”, “intermittent” and “ephemeral” are defined in the Corps nationwide Permit Notice from 2000, but are not codified. All definitions related to jurisdiction must be defined and/or redefined through application of the Administrative Procedures Act and codified, not simply instated through a permit notice. The Corps should redefine these terms so that they can be determined using flow data. The USGS has standard definitions of each that have been in place since 1923 (Meizner, O.E. 1923). These should be adopted.

The term “isolated” is defined in the Corps nationwide Permit Notice from 2000 but not codified. All definitions related to jurisdiction must be defined and/or redefined through application of the APA and codified, not simply instated through a permit notice. As currently defined, isolated is simply the absence of direct connection or the absence of adjacency. If the Corps would produce an adequate definition of the limits of its jurisdiction under Section 404, then there would be no need for any definition of the term isolated.

Many of the landscape features that the Federal Government regulates today do not meet the definition of wetlands promoted by the National Research Council (1995) in *Wetlands: Characteristics and Boundaries*, and in fact, do not meet an honest reading of the 1987 *Wetland Delineation Manual* (Environmental Laboratory 1987). My reading of the NRC report is that it would not classify as wetlands most areas where the water table infrequently or never reaches closer to the surface than 12 inches for 7 days during the spring.

As for “tributaries,” cases across the country reveal that every roadside ditch, culvert and storm sewer is likely as not to be called tributary. The Corps should not regulate any constructed ditches that are excavated in upland landscapes, nor should it regulate storm drains, sewers, pipes, agricultural drain tiles, gutters and other artificial conveyances, whether they potentially carry water to a traditionally navigable water or not. Ditches and other such conveyances are point sources and any pollutant arising from them that reaches a traditionally navigable waterbody should be regulated under the NPDES program. The Corps jurisdiction under Section 404 is limited. The Corps recognized this in 1974 and Chief Justice reaffirmed it in the SWANCC decision.

In a recent addition to the Corps Headquarters’ Regulatory Branch Web site entitled *Information on West Nile Virus*, the discusses the question Should wetlands be drained to control mosquitoes? The Corps answer was:

Because the Culex mosquito can breed in very small amounts of water, eliminating temporary standing water in plastic containers, discarded tires, or other water-holding containers around one’s property can greatly reduce breeding areas. Any stagnant water in rain barrels, irrigation ditches, clogged gutters, backyard home septic systems, and road-side ditches can serve as breeding sites. The difference between these water-holding places and wetlands is the presence of mosquito-eating predators. Wetlands are home to a host of mosquito-eating beetles, backswimmers, water striders, dragonfly larvae, etc. making them significantly less ideal breeding sites for Culex mosquitoes.

Thus, on the one hand the Corps defends natural wetlands by condemning ditches, etc., while across the Nation, ditch after roadside ditch is being identified as wetlands and other navigable waters under Section 404 and gives the regulatory protection afforded natural waterbodies through the requirements to obtain permits to fill them and to compensate for their loss.

There are many thousands of miles of conveyance that transport sediments into natural waters including traditionally navigable waters, that the Corps chooses not to regulate. They do not regulate all roadside ditches—only selective ones. The do not regulate all culverts and piped conveyances—only selective ones. This emphasizes the point that water pollution cannot be prevented by simply calling some channeled conveyances “waters of the U.S.” as has been the trend in the last several years. Which channels are regulated and which are not, generally are not based upon technically defensible criteria, but more often upon the personal aesthetic of the individual regulator.

The fact that so many administrative appeals result in a decision that districts did not adequately document their position supports our contention that “it’s jurisdictional because I say it’s jurisdictional” is frequently used by Corps regulators. The fact that in many cases, after an appeal is found to have merit, districts simply bolster their records and make the same decision again points to the ineffectiveness of the appeal process itself. The rules governing appeals eviscerate the role of Review Officer (RO). In many of the Administrative Appeal (AA) decisions, the RO appeared to make reasonable and fair decisions. However, as written, the rules allow the districts to amend case files and in many instances retain the same dubious jurisdictional determinations.

With regards to technical points of jurisdiction, too often the RO indicates that the rules do not allow for the RO to independently make judgment decisions. In such cases, it would be more appropriate for the RO to seek technical advice from an “independent” third party [the logical choice is the Environmental Laboratory staff in Vicksburg, Mississippi through the Wetland Research Assistance Program (WRAP) [although the independence might be questioned] rather than simply giving deference to the districts opinion.

In the final analysis, Congress must dictate that an APA rulemaking proceed promptly and encompass the full breadth of jurisdictional issues that exist. Congress must follow-up on the agencies’ performances. The Corps and EPA must not be allowed to slide for another decade without clarifying the limits of Federal jurisdiction. Furthermore, Congress would serve the needs of the public if it would state clearly and concisely in the law, the maximum extent of jurisdiction through amendment of the Clean Water Act.

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Table 1: Summary of Administrative Appeals Published by the Corps¹

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
Arizona						
AA1	King Ranch 1999-16526-EHB	Los Angeles	8/31/2000	O, PE, T Jurisdiction should be based on "ordinary or annual flow" not on an OHWM based on water flows during floods or extreme conditions.	No Merit The district, citing the 2000 nationwide permit preamble stated, "The USACE recently addressed using an 'ordinary flow' to establish jurisdiction in place of the presence of an OHWM. The USACE rejected 'ordinary flow' in place of an OHWM." Accordingly, annual flow immaterial where characteristics of an OHWM exist, such as "water-borne accumulations of vegetative debris and soil" and a bank line.	No Action Required
AA2	Turner Property 2000-00554-RJD	Los Angeles	4/2/2001	A, E, I, T Two Arizona washes are non-navigable, not adjacent, not tributary, and actually isolated.	No Merit Washes are linked by tributary connection to jurisdictional water. Indicators of periodic flow and OHWM exist.	No Action Required

¹ The Administrative Appeals found in this chart are accessible through the Army Corps of Engineers Headquarters' website at <http://www.usace.army.mil/inet/functions/cwr/cecco/rsq/>

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA3	Sunrise Office Park 2001-00379-RJD	Los Angeles	9/7/2001	D, E, I, PE, T Arizona desert wash runs in urban detention basin then thru 6-inch culvert to 1-ft wide channel to concrete channel to natural channel through several washes to Rillito River. Desert wash isolated by upstream and downstream urban development.	No Merit The RRO found a clear tributary connection despite the fact that the OHWM "becomes indistinct at several locations . . . where the desert wash follows or crosses paved surfaces. . . The road surfaces act as conduits of the water and maintain the tributary connection."	No Action Required
AA4	Desert Moon Shadow Estates 2001-01675-AP	Los Angeles	7/11/2002	D, E, I, O, T Arizona desert wash with constructed flood retention impoundment. OHWM is historical -- not current conditions. Corps used coarse bed material, shelving, and vitality of plants in vicinity and some debris to establish OHWM.	No Merit Administrative Record does not clearly show that the desert wash has a tributary connection. But, the berm is acting to impound the waters of the desert wash that otherwise would flow. Therefore, the wash is regulated either as a tributary or as an impoundment, "or possibly both." The fact that the AR does not clearly differentiate between the two is a "harmless procedural deficiency."	No Action Required
AA5	Valley Vista	Los Angeles	1/31/2003	E, I, O, T Arizona wash and man-made impoundment lack current jurisdiction. Historical. No OHWM downstream of impoundment. Corps said prior to 1952 there was a 2-mile long wash with OHWM that created an historic tributary connection.	Has Merit Man-made impoundment cannot be defined as a water of the United States within CWA jurisdiction based upon a tributary connection that existed only prior to enactment of the CWA. The district must document that a tributary connection, including an OHWM, existed between the impoundment and the wash after the CWA became law.	Pending

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
California						
AA6	Golden State Developers 200100023	Sacramento	10/25/2001	A, T Two "adjacent wetlands" -- one 1950 feet and other 3,400 feet distant from intermittent stream. Corps did not assert jurisdiction over 100-ft wide, concrete-lined water supply canal.	Not Sufficient Documentation	District modified jurisdictional determination. Details not on internet.
AA7	Molycorp Inc. 200001678-AJS	Los Angeles	8/16/2001	A, IC, O, S, T Lake is intrastate and all desert washes that are tributary to it are not tributary to interstate waters. Lake near border with Nevada. Washes don't have continuous OHWM to lake. OHWM for 10 miles to another wash and OHWM disappears 1000 to 1500 ft from lake. Corps held "hydrologically connected but not morphologically connected." Corps says it considers OHWM in a "watershed context."	Has Merit Insufficiently documented. Determine if OHWM or tributary crosses state line or if urban development has affected OHWM. Corps must consider OHWM, annual and seasonal flow, concentrated surface and subsurface flow (not groundwater), and biological responses of plants and animals to concentrated flow. But, also finding that "District's policy position that a tributary connection can exist in the absence of a continuous OHWM is reasonable."	Supplemented record and reached the same conclusion -- jurisdictional.
AA8	Baccarat Fremont Developers 232055	San Francisco	10/25/2001	A, O, PE, S, T Wetlands are isolated not adjacent. Wetlands within 250 ft of flood control channels. Some wetlands adjacent to other wetlands, not channels. Corps argued sheet flow ties wetlands together.	Has Merit Decision not supported by substantial evidence. Presence of man-made barrier does not establish adjacency, nor defeat it. Wetlands adjacent to other wetlands not jurisdictional.	Supplemented jurisdictional determination document. Substance not provided on internet.

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA9	Leavell/Grey Sun City, Lincoln Hills 199700375	Sacramento	4/24/2002	A, D, T Man-made ditches in uplands not tributary. Corps claims historic connection. Wetlands isolated. Corps reversed the position that it had taken on one of the ditches on an adjoining piece of property.	Has Merit The "Corps does not generally regulate drainage and irrigation ditches constructed in uplands." Therefore, the district must reconsider why regulation of these two ditches is an exception to the general rule that ditches are not regulated. Corps must reconsider and document if wetlands are adjacent to any jurisdictional water body.	Corps decided one ditch and 1.196 acres wetlands not jurisdictional. Other ditch is jurisdictional and 13.79 acres wetlands are adjacent and jurisdictional.
Colorado						
AA10	Kukal 200275125	Sacramento	9/25/2002	A, D, T Irrigation/drainage channel is not subject to CWA jurisdiction because it conveys only irrigation and irrigation drainage water. Much of watershed diverted. Adjacent wetland also present. No evidence that natural channel actually existed.	No Merit Corps found that ditch is located at the lowest elevation, "where natural channel would be expected." Because owner could not prove that a natural channel did not exist before the irrigation ditch, district's conclusion is reasonable.	No Action Required

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
Idaho						
AA11	Fotlach Corp.	Walla Walla	11/12/2002	A, IC Corps claims wetland used as a log holding area in the past and could be in future. Actually area was log holding pond and became wetland after end of log holding use. Improperly applied "industrial purpose" rule. Unconstitutional based upon SWANCC.	Has Merit--No reasonable evidence that it could be used in future. No Merit on industrial purpose because wetlands included as "other waters." No Merit on "unconstitutional issue," but Corps must evaluate ruling on SWANCC in its reassessment of first issue.	Pending
Illinois						
AA12	Northbrook Sports Club 200100288	Chicago	7/26/2001	A Wetland is isolated, non-jurisdictional, intrastate wetland, not adjacent to waters of the U.S.	No Merit Wetland is separated from rest of wetland only by a road, and there are culverts connecting the two.	No Action Required
AA13	Laycom, Inc. 200100426	Chicago	11/28/2001	D, I, T Wetland drains through manmade drainage swale into a retention pond on hydric soils and then through a pipe to a natural stream channel.	No Merit SWANCC is narrow ruling only related to migratory birds. Ditch replaces tributary that existed "in the area" prior to 1942. Wetland adjacent to ditch.	No Action Required
AA14	Village of Hoffman Estates 200101161	Chicago	1/10/02	Unknown.	Withdrawn	No Action Required

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA15	Pal Group 200100602	Chicago	2/5/2002	A, DT, T Isolated wetland. Corps found no jurisdiction on adjacent property, but claimed drain tiles under adjacent property caused jurisdiction of subject property. Corps jurisdiction based upon intermittent stream depicted on a 1923 blue-line USGS map.	Has Merit The wetlands were determined to be the result of broken agricultural drain tiles, with no surface outlet, and isolated. It was unclear whether jurisdiction had been asserted because of the tiles or based upon an historic stream. Therefore, inadequate administrative record. Jurisdictional determination checklist inadequate.	District maintained jurisdiction.
AA16	Schwartz or Northbrooke Pointe 200100391	Chicago	3/29/2002	A, D, T Off-site ditch is not jurisdictional, and wetland is not hydrologically connected to the ditch.	Has Merit The district shall document its jurisdictional determination to address how the ditch is jurisdictional, i.e., how it connects the wetland to jurisdictional waters and the frequency of flow to downstream waters. Therefore, administrative record inadequate, and rules do not allow independent review of record.	District changed and found no jurisdiction.
AA17	Muetze 199800898	Chicago	9/4/02	Unknown.	Not Accepted	No Action Required

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impediment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA18	Lundstrom 200101163	Chicago	10/4/2002	A, DT, PE, T Neither bordering, neighboring, nor contiguous with jurisdictional waters. Wetland is isolated, and drain tiles do not form surface water connection no matter what they replace. Historical connection predates CWA and is not applicable. Use of historical not supported by policy. River not interstate nor navigable.	Some Have Merit, Some No Merit Historical connection acceptable. Drain tiles might have replaced an historic stream. <i>SHANCC</i> narrowly confined to migratory birds.	District maintained jurisdiction.
AA19	Continental 127 Fund, LLC 200200333	Chicago	11/8/2002	A, DT, O, S, T Wetland is not adjacent or contiguous to navigable water or tributary. Corps used 1901 quad but ignored many other maps. Corps used agricultural drain tile with surface inlets and outlets as connection. Corps used overland flow.	Has Merit District's conclusions not supported by the administrative record. The record does not support conclusion that wetland had an historic stream connection, despite the fact that the district pointed to a storm water drain outlet located next to the south end of the wetland as evidence of a historic tributary connection.	District maintained jurisdiction.
AA20	Village of Tinley Park 200200187	Chicago	1/27/03	Unknown.	Withdrawn	No Action Required
Kentucky						
AA21	Escue/Beard 200100524	Louisville	12/28/01	Unknown.	Withdrawn	No Action Required
AA22	Wal Mart Corp. 200200675	Louisville	8/27/02	Unknown.	Withdrawn	No Action Required

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AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA23	Bullitt Farm 200100892	Louisville	8/23/2002	D, E, T Channel is farm ditch and ephemeral.	No Merit Corps file documents that it is a channelized portion of an intermittent stream. Ephemeral streams are regulated.	No Action Required
AA24	Curtis 200101268	Louisville	9/3/2002	W Vegetation and hydrology support that wetlands are present.	No Merit Documentation supports that it is a wetland.	No Action Required
Louisiana						
AA25	Maynard 20-000-3496	New Orleans	12/20/2000	PE, W Several procedural errors. Should not have used old RGLs. 1980 jurisdictional determination said no wetlands and should have been used. Did not properly use 1987 Manual for man-induced wetland.	No Merit Record showed that Corps followed proper procedure. RGL guidance lives on beyond expiration unless specifically changed. 1980 jurisdictional determination expired in 1997. Corps properly applied procedures. The entire site had been wetlands until modified by man, and some wetlands remain.	No Action Required

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA26	Daniel 20-010-0562	New Orleans District	6/20/2001	A, D, S, T, W Property is in FEMA 100-year floodplain and cannot be frequently flooded. Not adjacent to navigable water, and the canal is man-made irrigation ditch and not a water of U.S. Any wetlands that might exist are "derelict."	No Merit, Has Merit, No Merit FEMA floodplain designations do not necessarily coincide with nor dictate Corps jurisdiction. Corps claims continuous connection in 100-year floodplain. Corps did not document how canal was a tributary (surface water from Canal via another canal to natural drain to Calcasieu River). Corps maintains that wetlands are part of a broader wetland system with a hydraulic component that forms a net or lace-like pattern connecting through and draining to the Calcasieu River. Corps must document hydraulic connection. Corps record documents all three parameters.	Supplemented jurisdictional determination document. Substance not provided on internet.
AA27	Easley 20-020-3030	New Orleans	2/11/2003	A, T Isolated wetlands that do not drain into jurisdictional waters. Evidence based upon topography.	No Merit The hydrological connection is only one consideration of adjacency. Proximity is also a relevant factor. Wetlands part of a historic wetlands complex. Therefore, the Corps found that wetlands are adjacent by virtue of 2 culverts under the road that separates property from the historic larger wetland.	No Action Required

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AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA28	Tanmany Holding Corporation 20-020-1717	New Orleans	3/6/2003	A, D, PE, T Wetlands are isolated, and the Corps misapplied the law and regulations. Man-made conveyances like impounded drainage ditches and drainage canals are not tributary.	No Merit, Partial Merit Law applied correctly. Wetlands exist and are adjacent. "Two factors are considered when determining adjacency: actual proximity of the wetlands to the waterway, and hydrologic connections between the wetland and the waterway." "SWANCC and other court rulings have created a lexicon of terms with specific relating meanings to Corps provide additional documentation that canals and drainage ditches are tributaries.	Pending
Maryland						
AA29	Deale-Churchton Road Partnership 01-61506-3	Baltimore	7/2/2002	W Vegetation and hydrology not met in one portion of property.	No Merit Corps and owner disagree on presence of all three parameters. Cannot substitute technical judgment. Corps record good enough to support jurisdictional determination.	Not documented on internet.
AA30	Intercostal Industrial Park Assoc., Inc 00-66420-16	Baltimore	7/31/2002	P, T, W Wetland hydrology not present in part of site. Owner says no hydric soils or hydrology; Corps says both. 2 piped watercourses should not be jurisdictional.	No Merit Differences in technical judgment can not be adjudicated. Piped flow in location where blue-line channels existed on old USGS. Fill over pipes not regulated, but installation of pipes needs permit.	Not documented on internet.

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AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
Michigan						
AA31	Evangelisa 00-010-030-0	Detroit	8/25/2000	A, D, PE, T Wetlands are not adjacent. Not timely jurisdictional determination.	Has Merit Corps alleges that wetland continues off site and is connected to Salt River by a ditch, as well as being within 100 feet of river, but they did not document the fact. No support for unfriendly allegation.	District maintained jurisdiction.
AA32	Bayha 00-034-005	Detroit	5/22/01	Unknown.	Not Accepted	No Action Required
AA33	Mead 02-016-119	Detroit	1/9/03	Unknown.	Not Accepted	No Action Required
AA34	Viede 01-0160305	Detroit	1/9/03	Unknown.	Not Accepted	No Action Required
AA35	McAulay 02-016-152	Detroit	1/27/03	Unknown.	Withdrawn	No Action Required
Mississippi						
AA36	Memphis Stone & Gravel 200113910	Vicksburg	7/19/2002	D, I, O, PE, T Two ditches and a pond on the ditch. Ponds constructed for erosion control and livestock watering should not be regulated.	Has Merit One ditch and pond did not have OHWM, however, other did. OHWM established based upon shelving, debris.	Corps removed one ditch and pond from jurisdiction but retained other ditch and pond as jurisdictional.
Nebraska						
AA37	Wolfe	Omaha	8/17/2000	Unknown.	Criteria Not Met	No Change

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AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA38	Krejci 2000-11140	Omaha	9/27/2001	A, D, T Roadside ditch became tributary after Corps permitted diversion of stream into it, then Corps called an otherwise isolated wetland adjacent.	No Merit Wetland is "next to" ditch. Therefore, the wetland is adjacent to the ditch which is considered to be a "tributary."	No Action Required
AA39	Gottsch Feeding Corp. NE02-10076	Omaha	7/25/2002	E, O No jurisdiction because creek is farmed and not distinctive on the property (no bed and bank). Flow is ephemeral. Main source is from feed-lot drinking water.	No Merit Characteristics of an OHWM exists although it had been modified under a Corps permit in 1989. Ephemeral drainages are regulated. Other water comes from channel upstream of property.	No Action Required
New York						
AA40	Guidone Farms	Buffalo	(3/8/2000)	Unknown.	No Merit letter with no AA decision document provided.	No Action Required
AA41	NEC Transiti/ William, LLC 2000-00325(2)	Buffalo	8/30/2001	A, P, S, T Wetlands isolated. Wetland connects with other wetlands by sheet flow, not channel or wetland characteristics. "Historic tributaries" existed. Water flows through more than mile of storm drain.	No Merit Water flows from Wetland A to B even though not through a discernable channel or wetland. "Wetland A is not isolated but a tributary to the wetland complex." "Wetland F is ever flows from it, BUT it is only a few feet from Wetland A "and clearly part of the same ecosystem. ... it is adjacent to Wetland A and also under Corps jurisdiction."	No Action Required

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; S = sheet flow; T = tributary; W = technical issue on wetland delineation

AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
AA42	Meehan 2002-00023-YN	New York	11/19/2002	A, D, IC, O, T Wetland not adjacent to navigable water and, therefore, isolated. Artificial drainage way is not jurisdictional because excavated and no OHWM.	Has Merit Inadequate administrative record. SWANCC very narrow and only deals with migratory birds.	Not documented on internet.
Oregon						
AA43	Owen Develop. 2000-00637	Portland	02/28/03	A, NC, PE, W Corps failed to follow 1987 Manual. Did not consider new normal circumstances. Should have used "major portion of the root zone" which is 3 to 6 inches. Squeeze test no good. Inappropriate use of aeriels without proper verification. Did not meet saturated soil conditions. Did not support finding of adjacent.	Has Merit, No Merit Neither Corps' nor owners' delineation meets Manual. Must consider normal circumstances. Acceptable to use saturation within 12 inches. Did not use squeeze test inappropriately. Corps must use on the ground to get final delineation, not simply aeriels. Corps did not provide adequate evidence of hydrology for all areas. Adjacent to unnamed tributary that cross site. Properly used the user notes.	Pending
Texas						
AA44	Reaves D-6193/1	Galveston	5/30/2001	A, NC Wetland consequence of man-made depression resulting from apartment building that was destroyed during a hurricane in 1983. Tract separated from bay and no tidal exchange.	No Merit "Normal circumstances is that adjacent wetlands exist and have existed for several years." Only one barrier separating land from bay.	Further documented but unchanged.
AA45	Kazaleh 14298	Galveston	7/12/01	Unknown.	Not Accepted	No Action Required

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AA Number	Case	District	Decision Date	Issue(s)	AA Decision	District Response
Utah						
AA46	Peterson 200050067	Sacramento	8/28/2002	D, T No tributary connection to Great Salt Lake. Even if surface connection, downstream channels are man-made and therefore not jurisdictional.	No Merit EPA had resolved an enforcement action in October 2001 and said features were jurisdictional, and this was conclusive.	No Action Required
Virginia						
AA47	Kunfer 00-R2533	Norfolk	1/25/2002	A, T, W Isolated, depressional wetland has no connection, nor can Corps prove that there was an historical connection.	Has Merit "There is insufficient demonstration that a connection of adjacency existed in the past." Therefore, insufficient record to demonstrate adjacency. Soil maps alone insufficient, need all three parameters.	Not documented on internet.
AA48	Gordon 01-R0173	Norfolk	1/25/2002	W No wetland hydrology present	No Merit District record supports JD	No Action Required
Washington						
AA49	Millcreek, Ltd 2000-4-00449	Seattle	3/21/2002	Unknown.	Withdrawn	No Action Required
AA50	Rome Ventura and Lake Union Crew	Seattle	11/19/2001	Moorage of two vessels needs a permit.	Not Accepted Requirement of a permit is not appealable. Determination of navigable water predated AA process.	No Action Required

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Table 2: Case-Study Summary

Case Number	Case Name and Location	Issue	Disposition
CS1	Continental Reserve Marana, Arizona	E, IC, O, T Whether hydrological connection exists to navigable waters based upon presence of an OHWM. 4.9 acres of ephemeral desert washes "that flow only in response to rainfall events."	Corps claimed jurisdiction over all ephemeral washes based upon evidence of a hydrological connection to the Santa Cruz River based upon an OHWM indicated by change in channel substrate, debris line, and presence of vegetation.
CS2	Sun City Lincoln Hills Lincoln, California Administrative Appeals Process (See Exhibit 2, AA 9)	A, D, T Whether wetlands and two man-made irrigation ditches are jurisdictional. Whether wetlands are "neighboring," and whether ditches are part of a "tributary system." Whether surface water versus subsurface linkage is required. Whether jurisdiction can be based upon presumed historic conditions.	Administrative Appeal RO found that the appeal had merit and remanded to district. District decided one ditch not jurisdictional as well as some isolated wetlands totaling 1.196 acres. District concluded without any evidence that second ditch was a channelized natural stream and jurisdictional. Thus, 13.79 acres wetlands were also adjacent and jurisdictional. Fact that Corps did not regulate ditch downstream and it was filled under separate action did not affect jurisdictional state of ditch for the current project.
CS3	Franklin Meadows Subdivision Elk Grove, California	A, D, E, I, O, T Whether an ephemeral irrigation/drainage ditch is jurisdictional. Whether two abandoned cattle waste ponds (0.98 acre) with no overflow at a 10 year recurrence frequency are adjacent to the ditch. Property was historically leveled and irrigated primarily for forage crop production.	Original delineation found no jurisdiction over ponds or ditch. Corps required ponds be added and verified with no jurisdiction over ditch in August 24, 2000. Owner request that ponds be excluded in light of SW/ANCC. Corps, on August 13, 2001, decided ditch is a tributary and ponds are adjacent to the ditch, even though the same ditch on adjacent property was filled prior to August 13, 2001 without Corps permit.

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; ES = Endangered Species Act; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; PU = pumping; S = sheet flow; T = tributary; W = technical issue on wetland delineation

Case Number	Case Name and Location	Issue	Disposition
CS4	Brown Field Olay Mesa, San Diego County, California	A, I Whether jurisdiction existed over two isolated storm water basins (total 2.55 acres) constructed by order of the CRWQCB with no outlets. All water enters into basins via pipes and valves. Hydrology completely controlled by valve. The watershed for the basins consists of abandoned concrete runways constructed in 1942-43. Also whether jurisdiction existed over road-rutted, marginal vernal pools.	Corps originally asserted jurisdiction over entirety of two basins based upon connection to interstate commerce. After lengthy negotiations, the district engineer ultimately "compromised," asserted jurisdiction over just vegetated patches in one basin and authorized work under NWP so that district did not set a precedent.
CS5	Dana Point, California	D, P, T Whether 175-ft long (1-3-ft wide) urban storm water ditch constructed to connect one existing storm drain outlet to another existing storm drain inlet is jurisdictional. Whether "historic channel" existed in vicinity. Whether connection through ~ 2000 ft of underground storm sewer that discharges into a ditch to Pacific Ocean is a tributary connection.	Corps asserted jurisdiction based on pre-CWA aerial photos that purportedly depicted drainage feature, in vicinity of the project, and, therefore, the ditch was a "realigned water of the United States." Corps found storm water ditch is "tributary to Pacific Ocean." Corps required mitigation for its removal.
CS6	Wheaton Wash/ Ivanpah Playa Lake California-Nevada line (See Exhibit 2, AA 7)	E, IC, NC, O, S, T Whether 3- to 20-ft wide desert washes that drains in the direction of Wheaton Wash but dissipates on alluvial fan 1 to 2 miles from Ivanpah Lake on CA-NV border are jurisdictional tributaries. Whether sheet flow for hundreds of yards with no OHWM establishes jurisdiction.	District found that "[a]lthough Wheaton Wash becomes more diffuse on the shallow slopes surrounding the lake, it is clear that surface flows do eventually reach the lake." RO found that Corps must consider OHWM, annual and seasonal flow, concentrated surface and subsurface flow (not groundwater), and biological responses of plants and animals to concentrated flow. But that "District's policy position that a tributary connection can exist in the absence of a continuous OHWM [through sheet flow] is reasonable."

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; ES = Endangered Species Act; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary, high water mark; P = piped flow; PE = procedural error; PU = pumping; S = sheet flow; T = tributary; W = technical issue on wetland delineation

Case Number	Case Name and Location	Issue	Disposition
CS7	City of Hemet, California	A, D, I, S, T, W Whether 3-6-ft wide roadside ditches cut in uplands are tributaries. Ditches parallel roads and are blocked by road crossings, aqueducts, and other features. Some are flooded by 100-year storm event. Whether depressions, including tire cuts, are adjacent.	Corps has regulated since 1990s and continues after SWA/VCC. Ditches "intercept water that otherwise would have flowed to jurisdictional waters and therefore, these drainage ditches are diversions of waters of the United States." Water from ditches fills depressions, therefore, depressions are adjacent. Since farm fields probably historically supported vernal pools, the fields are atypical wetland situations.
CS8	Moorpark, California	E, ES, D, O, T Whether ephemeral drainage is jurisdictional. According to 1969 USGS map, the ephemeral drainage ends 200 ft from an historic impoundment, although now a box culvert, housing development, and freeway are located there. Nearly identical to CS6.	Corps declined jurisdiction because OHWM dissipated. "Nearly all of these ephemeral drainage courses exhibit an ordinary high water mark (OHWM) at higher elevations, but the OHWM for each disappears at lower elevation, presumably because of insufficient hydrology in light of the porous substrate, on-site vegetation, and reduced slopes."
CS9	Washington, D.C.	D, E, O, T Whether 1-ft wide, 6-inch deep, 70-ft long erosion feature on well-drained slope was a "tributary." Feature is located 4.5 miles from nearest navigable water.	Corps says "ravine contains waters of the U.S. of an unnamed tributary of Rock Creek," based on the establishment of "... characteristics that resemble an ordinary high water mark and a bed and bank." Corps and EPA headquarters' staff visited site and determined it not a water of U.S., as "we do not regulate upland drainage features."
CS10	Kelly Cove City of Fort Myers, Lee County, Florida	A, T Whether borrow pit dug in uplands that drains through upland outfall ditch, to roadside ditch, to second roadside ditch, to third roadside ditch to tidal waters is a "tributary."	Corps called borrow pit and outfall ditch "waters of U.S.," presumably because of potential hydrological connection.

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; ES = Endangered Species Act; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; PU = pumping; S = sheet flow; T = tributary; W = technical issue on wetland delineation

Case Number	Case Name and Location	Issue	Disposition
CS11	Town of Jupiter, Palm Beach County, Florida	A, D, T Whether isolated, 9-acre wetland is jurisdictional because it is connected to an isolated upland cut ditch by an upland/wetland swale. Nearest navigable water is a tidal portion of a regional drainage canal 900 ft away. Also 475 ft from upland, cut roadside drainage ditch.	Corps asserted jurisdiction because wetland is in "proximity to navigable waters." The Corps indicated that the swale connecting the wetlands to the upland ditch fell within 200 ft of jurisdictional waters (the ditch), which ultimately connected to a tidal SFWMD drainage canal. SFWMD/State regulators determined wetland is isolated.
CS12	Summer Beach Golfside Amenities Nassau County, Florida	A Whether isolated wet depression > 1000 ft from Atlantic Ocean is adjacent. Request for "no permit required" letter on July 31, 2002. No final determination yet. Initial letter indicated no connection to any tributary.	Corps left phone message November 13, 2002, saying needed total plan of development. Plan submitted November 14. A December 6 Corps letter said it needed soil survey map sheet, portion of USGS 7.5 minute Quadrangle and statement of why it was isolated.
CS13	Potomac, Maryland	D, E, O, T Whether three ephemeral channels, one of which had no defined bed and bank but showed evidence that water from a recent storm had parred the leaves (debris line) are "tributaries." The other two had a defined bed and bank but only existed because of runoff from a nearby road.	Corps took jurisdiction over the two road runoff drains and also extended jurisdiction for ~300 ft with no bed and bank because evidence that water had run over the land surface.
CS14	Northern Jackson County, Mississippi	A, D, S, T Whether 10-acre pine savanna with 3.5-acre wetland is an adjacent wetland. Water can flow by sheet flow to a road ditch then into another wetland and then more than a mile to a navigable waterway. Except for road ditch, the wetland would not be connected to any other waterbody or wetland.	Corps claimed that the wetlands are contiguous to a nearby navigable waterway; the ditch, and are therefore, jurisdictional. Existing residential development does not preclude "contiguity." 1960 Soil Survey of Jackson County indicated "historical intermittent (pass) drainage" to other wetlands that drain into jurisdictional waters.

Issues: A = adjacency; D = ditch; DT = drain tiles; E = ephemeral; ES = Endangered Species Act; I = impoundment; IC = interstate commerce; NC = normal circumstances; O = ordinary high water mark; P = piped flow; PE = procedural error; PU = pumping; S = sheet flow; T = tributary; W = technical issue on wetland delineation

Case Number	Case Name and Location	Issue	Disposition
CS15	Southwestern Jackson County, Mississippi	A, D, NC, P, S, T Whether 2 acre pine savanna wetland with sheet flow into small ditch then into an enclosed storm drain along a street, then into an open, man-made ditch and into Biloxi Bay ~0.25 miles from property is an adjacent wetland. Landscape permanently altered in past by fill. Corps ignored change in normal circumstances.	Corps claims wetlands are "jurisdictional, contiguous wetlands irrespective of any past or existing permanent man-made changes in landscape features." Based on determination on hydric soils along entire route. The wetlands were considered to be "contiguous" "irrespective of any past or existing man-made changes, storm drains, commercial, residential development" in the area.
CS16	Tammany Holdings St. Tammany Parish, Slidell, Louisiana See Tammany Holdings Administrative Appeal	A, D, PU, T, W Leveed and pumped area adjacent to Lake Pontchartrain disputed. No at- or below-grade connection. Water pumped out of area. Corps insists more data need to be collected, including well data for a "normal" precipitation year. Corps uses 5% of growing season as hydrology duration.	Corps (WES) considers more of site wetland. WES disagrees with consultants' soils interpretation. WES claims NTCHS field indicators "should" have been used. Using field indicators, all soils hydric. Consultant member of NTCHS that developed indicators and disagrees. Corps say water table 4 to 32 inches below surface in April, but saturated "at the surface" in most boreholes.
CS17	Acquest Dev. Co. Amherst, New York	A, D, NC, O, P, PE, T, W Corps determined in writing that the wetland was non-jurisdictional, isolated, intrastate, non-navigable. EPA changed jurisdiction determination, enlarged wetland determination by finding a connection through a storm drain. EPA also established "new evidence" of a water course based upon "existence of OHWM."	EPA asked court to vacate Corps jurisdictional determination. EPA declared site a "special case" under Jurisdiction MOU. EPA found jurisdiction based on historical connection and current connection through ditch with OHWM to "underground ditch," through culvert under road into the town ditch and then into creek. EPA found more wetlands than previous delineations.

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Case Number	Case Name and Location	Issue	Disposition
CS18	Letter regarding mitigation	A, I, S, T Wetlands jurisdictional if overflow from storm of 10-year recurrence frequency. Wetlands connected if no more than 1 ft of relief between wetlands. Corps determines storm water ponds jurisdictional. Indicated that mitigation for any isolated wetland impacts will be required as "secondary impacts" if a permit is required for impacts to a jurisdictional wetland on the same property. Adjacent can be as much as 500 ft away.	Supporting information -- a letter for a project in Jacksonville, Florida.

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RESPONSES OF ROBERT J. PIERCE TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. In Your testimony, you state, "Congress would serve the needs of the public if it would state clearly and concisely in the law, the maximum extent of jurisdiction through amendment of the Clean Water Act." In your oral testimony, you state, ". . . rulemaking is essential to clarify this [whether ditches, ephemeral drains, waste ponds, ephemeral wet spots are navigable waters.]" Can you describe this apparent contradiction?

Response. I see no contradiction in the two statements. First, and in general terms, the executive branch must always comply with the Administrative Proce-

dures Act (APA) and conduct rulemaking to implement any new or changed legislation.

At a more practical level, however, the history of Section 404 of the CWA makes it clear that the public cannot count on any, one branch of the Federal Government to make reasoned reforms. In fact, without any change in legislation since 1977, and with only minor APA changes in the Code of Federal Regulations (CFR) since 1986, the Environmental Protection Agency (EPA) and the Corps of Engineers (COE) have continuously increased the geographic extent of Section 404 navigable waters jurisdiction while at the same time reducing the utility of nationwide Permits (NWPs) which are the only mechanisms that provide the public with a rapid permit response. The result is that the public spends ever-increasing time and money to crawl through a permit process that is protecting roadside ditches, animal waste ponds and so-called "wetlands" that need only have water within 12 inches of the surface for as little as 7 days (five percent of the growing season) out of 730 days (frequency of one out of 2 years).

Indeed, the EPA and COE response to Solid Waste Agency of Northern Cook County. v. Army Corps of Engineers (SWANCC) has not been to retract jurisdiction as would be expected by the plain reading of the decision, but to ignore their own written policies and to construct any and all "connections" to navigable waters to retain jurisdiction over isolated waterbodies and to further extend Federal jurisdiction. Thus, today we see "tributary" status assigned to roadside ditches excavated in uplands, "underground ditches" or storm sewers, irrigation ditches, and agricultural drain tiles and connectivity established by sheet flow over nonjurisdictional lands and water flowing below ground and through nonjurisdictional, stormwater ponds. Some district and circuit courts have upheld these jurisdictional extensions while others have not. Judicial resolution of the issues apparently must await Supreme Court rulings.

While I believe that Congress is ultimately responsible for the ambiguous nature of the 404 Program and should take the initiative to correct inconsistencies, Congress apparently lacks the will to do this as witnessed by its failure to act on numerous efforts since 1977 to reform Section 404 of the CWA. Indeed, it is my opinion that for Congress to redraft Section 404 consistent with the Constitution, it would have to limit jurisdiction to the "navigable waters" defined under the Rivers and Harbors Act (RHA) of 1899. Section 9 of the RHA of 1899 establishes the full scope of Federal jurisdiction under the Commerce Clause of the Constitution by prohibiting certain activities in the first sentence of the Section and then limiting that prohibition in the last sentence:

That it shall not be lawful to construct or commence the construction of any bridge, dam, dike, or causeway over or in any port, roadstead, haven, harbor, canal, navigable river, or other navigable water of the United States until the consent of Congress to the building of such structures shall have been obtained and until the plans for the same shall have been submitted to and approved by the Chief of Engineers and by the Secretary of Army: Provided, That such structures may be built under authority of the legislature of a State across rivers and other waterways the navigable portions of which lie wholly within the limits of a single State, provided the location and plans thereof are submitted to and approved by the Chief of Engineers and by the Secretary of Army before construction is commenced: And provided further, That when plans for any bridge or other structure have been approved by the Chief of Engineers and by the Secretary of Army; it shall not be lawful to deviate from such plans either before or after completion of the structure unless the modification of said plans has previously been submitted to and received the approval of the Chief of Engineers and of the Secretary of Army. The approval required by this section of the location and plans or any modification of plans of any bridge or causeway does not apply to any bridge or causeway over waters that are not subject to the ebb and flow of the tide and that are not used and are not susceptible to use in their natural condition or by reasonable improvements as a means to transport interstate or foreign commerce. [Emphasis added].

By extension, such Constitutional limitation on jurisdiction applies to all subsequent sections of the RHA including Section 10. Apparently, the 56th Congress was more concerned about usurping State's rights under the Constitution than have been those since the 95th Congress last amended the CWA and stated:

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources . . . [Section 101(b), CWA]

The COE reached the conclusion that Section 404 "navigable waters" coincided with RHA "navigable waters" in 1974. On April 3, 1974, the COE published final

regulations after review of comments received on the May 10, 1973 proposal. In the Preamble to the final regulation, the following statements were made:

Section 209.120(d)(1). Several comments and questions were received concerning the different definitions which were assigned to the terms “navigable waters of the United States” and “navigable waters”. In this regard, it is noted that the Corps regulatory authority under the River and Harbors Act of 1899 (33 U.S.C. 401 et seq.) speaks in terms of “navigable waters of the United States”. This term has received the benefit of over 100 years of judicial definition and interpretation which has largely been based on the constitutional extent to which the authority of the United States can extend over the nation’s waterways. Recognizing that the extent of Federal authority over the nation’s waterways has been an evolutionary one and that recent judicial decisions have provided additional guidance and direction as to the scope and extent of this jurisdiction, the Corps recently undertook an extensive review of all of the judicial decisions in this area, and substantially revised and refined its administrative definition of this term to more accurately reflect and incorporate this judicial guidance. This revised definition, which was published in the Federal Register on September 9, 1972 (37 FR 18289) and has been subsequently included in the Code of Federal Regulations (33 CFR 209.260) asserts regulatory authority over many heretofore unregulated waterways, as well as establishing the geographical limits of this jurisdiction.

Section 404 of the FWPCA uses the term “navigable waters” which is later defined in the Act as “the waters of the United States.” The Conference Report, in discussing this term, advises that this term is to be given the “broadest possible Constitutional interpretation unencumbered by agency determinations which have been made or may be made for administrative purposes.” We feel that the guidance in interpreting the meaning of this term which has been offered by this Conference Report—to give it the broadest possible Constitutional interpretation—is the same as the basic premise from which the aforementioned judicial precedents have evolved. The extent of Federal regulatory jurisdiction must be limited to that which is Constitutionally permissible, and in this regard, we feel that we must adopt an administrative definition of this term which is soundly based on this premise and the judicial precedents which have reinforced it. Accordingly, we feel that in the administration of this regulatory program both terms should be treated synonymously.

In the final regulation (April 3, 1974), one definition of Navigable waters appears and reads:

(1) The term “navigable waters of the United States” and “navigable waters” as used herein mean those waters of the United States which are subject to the ebb and flow of the tide, and/or are presently, or have been in the past, or may be in the future susceptible for use for purposes of interstate or foreign commerce [See 33 CFR 209.260 for a more complete definition of these terms].

In support of and as a means of further clarification, the COE simultaneously (April 3, 1974) released a Legal Review of Corps Regulatory Permit Laws which originated in the Office of Counsel at COE Headquarters.

In the majority opinion for the Supreme Court ruling in SWANCC, Chief Justice Rehnquist wrote:

(a) In *United States v. Riverside Bayview Homes, Inc.*, 474 U. S. 121, this Court held that the Corps had §404(a) jurisdiction over wetlands adjacent to a navigable waterway, noting that the term “navigable” is of “limited import” and that Congress evidenced its intent to “regulate at least some waters that would not be deemed ‘navigable’ under [that term’s] classical understanding,” [*Id.*, at 133]. But that holding was based in large measure upon Congress’ unequivocal acquiescence to, and approval of, the Corps’ regulations interpreting the CWA to cover wetlands adjacent to navigable waters. [See *Id.*, at 135-139]. The Court expressed no opinion on the question of the Corps’ authority to regulate wetlands not adjacent to open water, and the statute’s text will not allow extension of the Corps’ jurisdiction to such wetlands here.

(b) The Corps’ original interpretation of the CWA in its 1974 regulations—which emphasized that a water body’s capability of use by the public for transportation or commerce determines whether it is navigable—is inconsistent with that which it espouses here, yet respondents present no persuasive evidence that the Corps mistook Congress’ intent in 1974.

Chief Justice Rehnquist makes two important points. First, the COE conclusion (which was based at least in part on interpretations of the Commerce Clause) that Section 404 of the CWA and Section 10 of the RHA have identical limits of jurisdiction (with the exception that 404 extends to adjacent wetlands), was and is the cor-

rect interpretation. Second, that the language of the CWA will not allow the COE to assert jurisdiction over wetlands that are not adjacent to open water. In using the term "open water", I assume that the Chief Justice was referring to "open navigable water" as is used in the previous sentence of the opinion and in other Supreme Court rulings.

In conclusion, it is my view that the public cannot rely upon any one branch of government to rectify the inconsistencies and erroneous interpretations of law and regulation that currently plague the Section 404 Program. It must seek remedies from all three branches. Thus, Congress should state clearly and concisely in the law, the maximum extent of jurisdiction through amendment of the CWA and rule-making is essential to clarify whether ditches, ephemeral drains, waste ponds, ephemeral wet spots are navigable waters.

**Technical Principles Related To Establishing the
Limits of Jurisdiction for
Section 404 of the Clean Water Act**

April 2003

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Technical Principles Related To Establishing the Limits of Jurisdiction for Section 404 of the Clean Water Act

1 Introduction

The Corps of Engineers (COE) uses a number of definitions and policies to define its jurisdictional limits under Section 404 of the Clean Water Act (CWA). Key to all inland determinations is the term “ordinary high water mark” (OHWM), which is used to define the “limit of jurisdiction,” suggesting that if a waterbody has an OHWM it is a “tributary” to navigable waters, and therefore, subject to CWA jurisdiction. The COE defines the term as:

...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas [33 CFR 328.3(e)].

The purposes of this study are to: a) identify and evaluate the reliability of the use of the term “OHWM” and other terms that the COE uses to determine the limits of its jurisdiction in inland landscapes; and b) identify any possible technically-based alternative concepts that would be more appropriate and defensible.

The Corps of Engineers (COE) has been regulating activities in the Nation’s waterways for more than a century. Initially, its authorized oversight was confined to navigable waters pursuant to Sections 9 and 10 of the Rivers and Harbors Act (RHA) of 1899. The COE has had many decades to refine its jurisdictional limits through thoughtful process and periodic intervention by the courts. Thus, the jurisdictional limits under the RHA are seldom challenged - they are clearly defined and readily identified by logical means.

In 1972, Congress passed the Federal Water Pollution Control Act Amendments which in 1977 became known as the Clean Water Act (CWA). In 1974, the COE adopted regulations to define its jurisdiction under the CWA. Those regulations were challenged by environmental groups (*NRDC v. Callaway*) and in 1975 the district court for the District of Columbia held that the regulations defined Section 404 of the CWA too narrowly and ordered the COE to adopt new regulations. The *Callaway* decision was rejected by the Supreme Court in 2001 in *SWANCC*, but in the intervening 26-year period, the COE followed *Callaway* and other court decisions that adopted the same expansive definition of CWA jurisdiction.

Being forced to expand, the COE simply utilized existing definitions, without careful consideration of the consequences. In particular, the term ordinary high water mark (OHWM), which previously had been used simply to identify the lateral extent of jurisdiction in nontidal, navigable waters, was employed to determine, in the absence of wetlands, both the lateral and longitudinal reach of tributaries under section 404. The COE itself in various situations has acknowledged the inadequacies of

the definition. For example in 1975, the COE, apparently in an attempt to be more quantitative, defined OHWM in its interim final regulations as: "... the point on the shore that is inundated 25% of the time and is derived by a flow-duration curve for the particular water body that is based on available water stage data. (40 FR 31325, July 25, 1975). Unfortunately, that attempt at a quantifiable definition was short-lived, and to date, never repeated.

The COE did set a quantitative hydrology threshold which it applies both in tidal and nontidal wetlands. Specifically, the documents that specify the hydrology requirements for a wetland can be stated as on average, an area must be inundated or the soils saturated to the surface in more than half the years (1 out of 2, 5 out of 10, or 50 out of 100) for more than 12.5 percent of the growing season to conclude with reasonable certainty that the area has wetland hydrology (Environmental Laboratory 1987, Studt 1991, Williams 1992). While often difficult to determine in practice, the limit of jurisdiction can be empirically identified. Unfortunately, the COE has not applied scientific process to define either the lateral or longitudinal limits to inland channel networks. The further from traditionally navigable waters that the term OHWM is applied to identifying the jurisdictional limits of the COE, the less technically valid, the more open to inept and capricious interpretation and the more subject to rancorous dispute with landowners those limits have become.

2 Background

2.1 Hydrologic Cycle

Technically, it is well-established that all water is interconnected on the earth. The "hydrologic cycle" has been recognized by hydrologists for decades and constitutes the starting point for every published general discussion of hydrology (e.g., Dunn and Leopold 1978, Heath 1982, and Leopold 1994). Winter et al. (1999) provides a simplified diagram (Figure 1) and discussion of the interactions of the various "pools" of water that comprise the cycle. They state:

The hydrologic cycle describes the continuous movement of water above, on, and below the surface of the Earth. The water on the Earth's surface-surface water-occurs as streams, lakes, and wetlands, as well as bays and oceans. Surface water also includes the solid forms of water - snow and ice. The water below the surface of the Earth primarily is ground water, but it also includes soil water.

The hydrologic cycle commonly is portrayed by a very simplified diagram

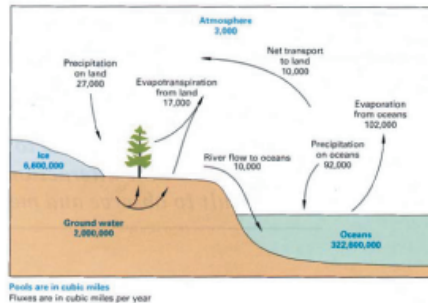


Figure 1. Ground water is the second smallest of the four, main pools of water on Earth, and river flow to the oceans is one of the smallest fluxes, yet ground water and surface water are the components of the hydrologic system that humans use most (From Winter et al. 1999, modified from Schelesinger, W.H., Biogeochemistry - An analysis of global change: Academic Press, San Diego, California.)

that shows only major transfers of water between continents and oceans, as in Figure 1. However, for understanding hydrologic processes and managing water resources, the hydrologic cycle needs to be viewed at a wide range of scales and as having a great deal of variability in time and space. Precipitation, which is the source of virtually all freshwater in the hydrologic cycle, falls nearly everywhere, but its distribution is highly variable. Similarly, evaporation and transpiration return water to the atmosphere nearly everywhere, but evaporation and transpiration rates vary considerably according to climatic conditions. As a result, much of the precipitation never reaches the oceans as surface and subsurface runoff before the water is returned to the atmosphere. The relative magnitudes of the individual components of the hydrologic cycle, such as evapotranspiration, may differ significantly even at small scales, as between an agricultural field and a nearby woodland.

According to Leopold (1994) when precipitation falls on land, it separates into that which infiltrates the ground, that which immediately evaporates, and that which runs off the ground surface. The average amount of water that falls as precipitation over the United States annually is 30 inches. Of this total, 21 inches are returned to the atmosphere in the form of water vapor through the processes of evaporation and transpiration from plants. The excess of precipitation over evapotranspiration (ET_o) loss to the atmosphere is a small percentage of the average precipitation. The balance of 9 inches contributes to the maintenance of groundwater and the flow of rivers. The terms "groundwater" and "surface water" refer merely to the location of water at a given moment.

Water on the land surface will either infiltrate at a rate determined by physical features of the soil and water or run off. Runoff has been described as three forms: Horton overland flow, subsurface stormflow and saturation overland flow (Dunne and Leopold 1978). When the rate of precipitation exceeds the rate of infiltration, runoff occurs as Horton overland flow. Infiltrated water during a storm can raise the level of the water table near streams and, thus, increase subsurface stormflow. If this subsurface stormflow interdicts the land surface, then, return flow results. Finally, direct precipitation onto saturated surface results in saturation overland flow. Surface runoff will continue down slope until it encounters the first defined rill (Dunne and Leopold 1978). Carter (1996) recognizes such flows from headwater wetlands as a contributing factor to downstream flood flows.

The rate of transmission of the fraction of the precipitation that infiltrates the soil surface through the soil is called hydraulic conductivity. Hydraulic conductivity is determined by the physical properties of both the soil or materials below the soil and the water that is moving through the soil. Thus, in the same soil, the hydraulic conductivity of water is much slower when the water is cold than when it is warm. The rate of movement of water through the soil is determined by Darcy's Law.

The average precipitation amount is simply an arithmetic mean of the extremes that often differentiate the various climatic regions that can be found within the United States. The National Oceanic and Atmospheric Administration (NOAA), through its National Climatic Data Center (NCDC), has established nine broad climatic regions based upon the scheme used by the Bureau of Census. The states included in each of the nine regions are specified in Table 1. Graphic depictions of the annual precipitation fluctuations by region are provided in Exhibit 1 for data collected between January 1931 and December 1987.

Table 1. NOAA Regions based upon Bureau of Census.

Region 1 New England	Region 2 Middle Atlantic	Region 3 East North Central	Region 4 West North Central	Region 5 South Atlantic	Region 6 East South Central	Region 7 West South Central	Region 8 Mountain	Region 9 Pacific
Conn.	NJ	Illinois	Iowa	Delaware	Alabama	Arkansas	Arizona	California
Maine	NY	Indiana	Kansas	Florida	Kentucky	Louisiana	Colorado	Oregon
Mass.	Penn.	Mich.	Minn.	Georgia	Miss.	Oklahoma	Idaho	Wash.
NH		Ohio	Missouri	MD & DC	Tenn.	Texas	Montana	
RI		Wisconsin	Nebraska	NC			Nevada	
Vermont			ND	SC			NM	
			SD	Virginia			Utah	
				WV			Wyoming	

At a more refined level, NOAA has divided each state into regions that are considered to be climatically homogeneous (NCDC 1988). Figure 2 depicts the climatic divisions that exists just within the contiguous United States. The numbered polygons in each state identify recognized regions (Exhibit 1) that are considered to be climatically homogeneous.

Region 6 has the highest mean annual precipitation at ~53 inches per year as well as the greatest intra regional fluctuation in annual precipitation from year to year (Exhibit 1, NCDC 1988). Region 8, on the other hand, has the lowest mean annual precipitation at ~12.5 inches per year as well as the lowest intra regional fluctuations in annual precipitation from year to year (Exhibit 1, NCDC 1988). In other words, Alabama, Kentucky, Mississippi and Tennessee all have predictably high levels of

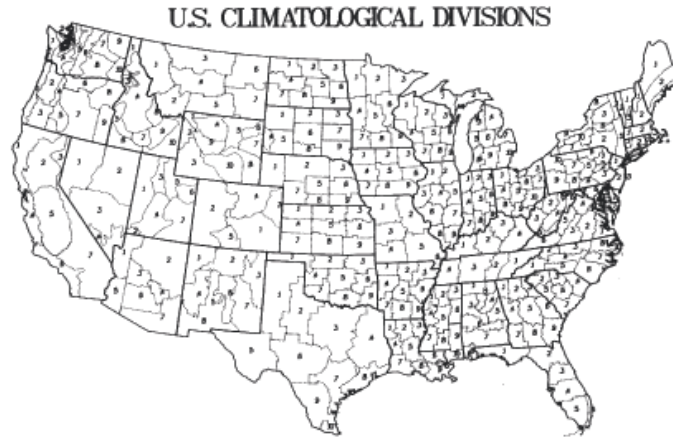


Figure 2. State-by-state climatic divisions as defined by NCDC (1988)

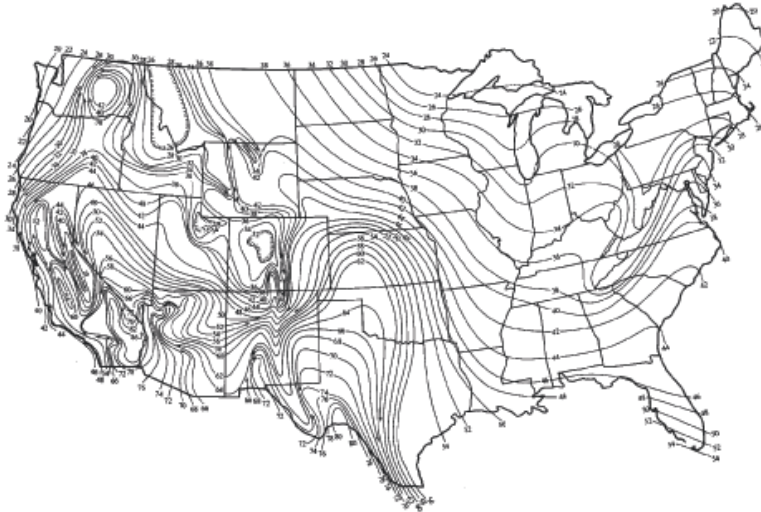


Figure 3. Lake evaporation for the period 1946-1955. Numbered isopleths indicate the mean annual evaporation in inches of water. (From Kohler et al. 1959)

precipitation with some years being much wetter than others, while Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah and Wyoming have consistently low levels of precipitation every year.

The large regional differences in the input (precipitation) side of a water balance equation is further exacerbated by the single largest output factor – evapotranspiration (ET_o). While ET_o values in practice can be difficult to measure, the national trend in values is similar to the evaporation from lake surfaces that has been measured across the contiguous United States. Dunne and Leopold (1978) present a graphic representation of lake evaporation taken from Kohler, et al. (1959) which is presented as Figure 3.

Not only does Region 8 consistently have low levels of precipitation, but it generally has the highest levels of evaporation and ET_o. In fact, the distinguishing factor that identifies arid, semiarid and subhumid drylands, is the fact that ET_o exceeds precipitation (Bull and Kirkby 2002).

Bull and Kirkby (2002) provide a clear explanation of the characteristics of dryland environments such as are found in the southwestern U.S.:

The essence of a warm dryland environment is its sparse vegetation cover resulting from aridity. Vegetation cover shows dryland adaptations when the rainfall is less than the

potential evapotranspiration for all or part of the year, creating a permanent or seasonal soil moisture deficit. Many dryland areas show a strong seasonal variation in moisture deficit, or a seasonal alternation between deficit and surplus. One important seasonal dryland regime is the Mediterranean environment. Its definition follows that of the 'Mediterranean climate' adopted by the Study Group on Erosion and Desertification in Regions of Mediterranean-type Climate (MED) from the International Geographical Union (established 1994) and discussed in Conacher and Sala (1998). Summer drought is taken as the distinguishing characteristic of mediterranean type environments, but regions tend to have similar climates, vegetation and landscape forms (Conacher and Sala, 1998). Climates are characterized by hot, dry summers and cool, wet seasons although variability results in periods of seasonal drought and torrential rains. Relief, aspect and altitude modify local climates. Drylands as a whole include arid, semi-arid and dry subhumid regions... Warm drylands, which share aridity and sparse and unevenly distributed vegetation are most widespread around 30 North and South latitudes, but can occur locally elsewhere in rain shadow areas.

Arid and semi-arid climates produce a characteristic balance of hillslope and channel processes which give dryland rivers their special features. Many arid climates are associated with intense rainstorms which, over sparsely vegetated surfaces, generate locally high rates of overland flow runoff that lead to hillslope erosion by wash processes. Runoff tends to be patchy however, and much of it re-infiltrates before reaching a channel. Little subsurface flow is available for solute removal, so that soils tend to weather only slowly, and younger dryland areas are characteristically coarse grained with little formation of clay minerals [Bull and Kirkby, p. 3].

Few landscapes have such highly permeable soils that runoff never occurs. Sand dunes or landscapes that have formed over sand dunes are a notable exception. In most landscapes, however, periodic, high intensity precipitation events do occur that discharge rain at rates that will exceed the infiltration rate of the soils. When infiltration rate is exceeded in both humid and arid climates, water will flow if there is any slope to the landscape. In the characteristically densely-vegetated, humid landscapes, examination on hands and knees would reveal the "flows among the grass roots" discussed by Tarboton *et al.* (1988). However, in dryland climates, where vegetative cover is typically sparse, water can flow over the surface with less resistance than in humid climates where the vegetative cover is typically greater.

As velocity increases in overland flow (which will occur when less resistance is met), shear stress will also increase. All other factors (e.g., soil permeability, slope and intensity of rainfall) being equal, the likelihood of sediment loading of overland flow will be greater in dryland landscapes than in more humid, densely-vegetated landscapes. Rills and debris lines are more evident and surface changes that are caused by the processes that act in overland erosion formation of channel heads are more likely to be manifested in drylands than in humid lands.

A good deal of the water that appears as river flow is not transmitted into the river channels immediately after falling as precipitation. A large percentage is infiltrated into the ground and flows underground to the river channels. Water often moves between surface and subsurface depending on local conditions (Winter *et al.* 1999). This process provides, then, a form of storage and thus,

through subsequent, slow discharge, sustains the flow of streams during nonstorm or dry periods of bright, sunny weather. The discharge represents water that has fallen during previous storm periods and has been stored in the rocks and the soils of the drainage basin (Leopold 1994).

2.2 Stream Ordination

Horton (1945) was the first to formally describe an ordering system for stream networks. In his scheme, the lowest order streams (1, 2 etc) are the most minor tributaries and the highest order (9, 10, etc) are the main trunk rivers – synonymous with the COE definition of a primary tributary. Strahler (1952) refined the Horton method so that stream segments became the order unit. Today, many hydrologists refer to and utilize the Horton-Strahler ordering method which increases the order by combining two or more segments of the lower order to form a segment of the next higher order (Figure 4). For example, where two first-order segments join they form a second-order segment; where two second order segments join they form a third order, and so on. The Shreve Magnitude (1966, 1967) ordering scheme sums the number of 1st order streams above a given point. Thus, at a point where there are three 1st order streams upstream, the segment is labeled with a 3. When the next 1st order stream is added it becomes a 4 and so on.

This report will use the Horton-Strahler ordering method. Some COE districts use a similar ordination method (e.g., Charleston District's Regulatory Division - Standard Operating Procedure 02-01, Issued September 19, 2002). The size of the segments defined as the 1st order is normally dependent upon the scale of the map being used by the investigator with large-scale maps depicting smaller 1st order streams. As discussed later in this report, the further the distance that low order streams (1st, 2nd, 3rd, etc) are from a navigable water, the less likely that water that flowed in them will ever reach

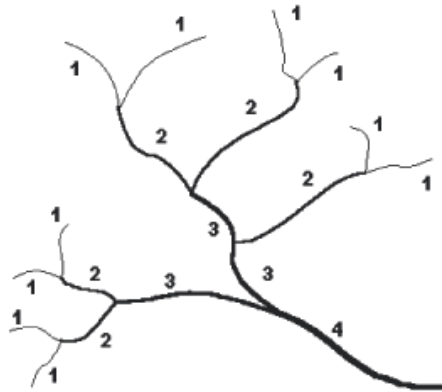


Figure 4. Horton-Strahler stream ordering system.

the navigable water and even less likely that sand, rock or cellar dirt that might arise from a discharge of dredged or fill material into a low-order stream will be present in detectable quantities in the navigable waterbody at the high-order end of the channel network.

2.3 COE Definition of Stream Types

The definition of waters of the United States at 33 CFR 328.3(a), uses the term "tributary." The COE has never defined the term "tributary," although in 1975 it did define, for purposes of the three-phase expansion of Section 404 jurisdiction in response to *Callaway*, the term "primary tributary:"

(e) "Primary tributaries" means the main stems of tributaries directly connecting to navigable waters of the United States up to their headwaters and **does not include any additional tributaries extending off of the main stems of these tributaries.** [p. 31325, July 25, 1975, emphasis added]

On March 9, 2000, in the Nationwide Permit Notice (65 FR 12818-12899), the COE defined three stream types:

Ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow;

Intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow; and

Perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

2.4 Channel Formation

Dietrich and Dunne (1993) define a channel head as the upstream boundary of concentrated water flow and sediment transport *between definable banks*. The bank must be recognizable as a morphological feature independent of flow. The edge of overland flow conveyed in a broad swale is not a bank. Nor is the edge of overland flow between micro topographic high-spots. Such flow may leave physical manifestations that flow has occurred (e.g., debris or oriented sediment lines or surface deposits). Upstream of the channel head, one may observe ephemeral concentrations of sediment and oriented or trapped organic debris stranded by the declining runoff, but as the flow becomes confined between banks, the vegetation cover (if any) of the hillslope or swale is breached and the upstream end of the channel bed can usually be recognized from the presence of wash marks, small bedforms, an armored surface, or other signs of concentrated sediment transport. In sum, the Dietrich and Dunne definition of a channel head is a morphological one, which is useful to identify

the upstream limit of a channel, even in the absence of flow. The Dietrich and Dunne formulation agrees with that of Calver (1978, p. 233), who defined a fluvial channel as “an incision into the ground surface such that, if water ceased to flow, morphological evidence of its former course would, at least initially, remain apparent.”

The “channel head” is not synonymous with the “stream head” which simply indicates the upstream extent of concentrated surface runoff at a particular time (Dietrich and Dunne 1993). A stream fed by overland flow may occasionally extend up an unchanneled swale above a channel head during precipitation events. Conversely, in dry weather, the onset of streamflow may shift progressively down channel as the discharge point of the water table shrinks (Hewlett and Hibbert, 1967; Gregory and Walling, 1968; Blyth and Rodda, 1973; Day, 1978; Dunne, 1978; Wilson and Dietrich, 1987). Regardless of these fluctuations in streamflow, the channel head persists as a morphological feature, whereas the stream head varies from day to day depending upon the hydrologic conditions. As Tarboton *et al.* (1988) has noted, “if we regard a channel network as paths where water flows, it is possible to imagine ... with higher and higher resolution, getting lower and lower orders of streams until we are literally looking at flows among the grass roots.”

Many ephemeral drains have micro bed-and-bank features. Some arid systems have literally thousands of small rills that can be identified as carrying water during infrequent storms. They can blanket a landscape. But such micro-features are not “channels.” Schumm’s (1956) work on drainage-network evolution on badland slopes demonstrated that channels are permanent features having recognizable drainage areas lying within visually distinct valleys. Rills, distinct troughs incised in a smooth, planar surface with straight contours, were shown to be short-lived features, removed each winter by frost action and formed again - not necessarily in the same location - by summer runoff.

While a defined, morphological channel-head concept is a technically defensible measure of the upslope start of a definable stream network, the fact is that channel heads can form for a variety of reasons other than surface-water flow and thus, may not be indicative of the existence of a jurisdictional stream. The question is, what happens to flow and sediment transport in the vicinity of the channel head to create an incision with well-defined banks that will persist and convey the water and sediment downstream (Dietrich and Dunne 1993). Three problems demand a quantitative understanding of the processes which form channel heads: first, what controls the location of channel heads within hollows or valleys; second, what controls the upslope advance and downslope retreat of the channel head; and third what controls the size and shape of the channel head. This last issue gets to the heart of the problem with using the OHWM as defined by the COE even for the lateral extent of Section 404 jurisdiction in inland stream systems.

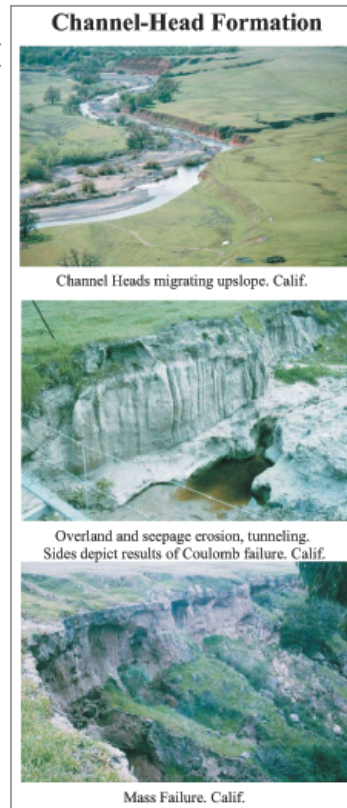
Dietrich and Dunne (1993) point out that on a qualitative level it is easy to describe the processes that act to erode the channel head and therefore control form and location. A distinction can be made between erosion from runoff caused by Horton overland flow and runoff due entirely to subsurface flow. Overland flow causes erosion either by net transport due to the shallow surface flow or by plunge-pool activity undermining the base of steps and headcuts leading to their mass failure. Subsurface flow, frequently concentrated by root, rodent and insect tunnels or other macropores, causes erosion by seepage forces that cause soil and water to mix and become fluid (liquefaction) or shear-off in slabs (Coulomb failure), or by scouring particles from the insides of

macropores, or by lowering effective strength to trigger mass failure. Dissolution and a number of physico-chemical processes termed “slaking” may contribute to these processes. In some environments, overland flow and subsurface flow combine to erode channel heads. Erosion of the step and head cut is also partly accomplished through raveling and sloughing associated with drying. The following categories of channel-head formation have been identified by Dietrich and Dunne (1993) and are graphically depicted in Figure 5 :

- Channel-head formation by overland flow - overland flow can cause a shear stress field

that when perturbed can alter the local sediment transport field and cause incision and channel formation. Leopold (1994) discusses the concept of overland flow as it relates to the formation of identifiable rills or channels: i.e., if you start at a minor watershed divide, how far downslope do you need to go before you reach a definable rill or rivulet. The distance from headwater divide to the upper end of the first rill may be great or small. The hydraulic conditions that lead to rill formation involve raindrop impact, erosion by raindrop splash, and depth of the overland flow. Rainfall impact on a film of water flowing overland splashes up sediment, which tends to fill and obliterate incipient rills or channels, a concept developed and measured by Thomas Dunne. Downslope, where the depth of overland flow is sufficient to shield the soil surface from the direct impact of falling rain, and where the intensity of sediment transport in the flow may be high, rills or small channels begin.

- Erosion by Horton Overland Flow [Figure 5(a)-(e)] - when sediment transport increases at a rate greater than overland flow, the surface becomes susceptible to lateral perturbations and as the water converges on the head of an incision, the local gradient causes the head to migrate up slope.
- Erosion by Saturation Overland Flow [Figure 5(f)-(g) and (h)-(j)] - when sediment-poor flow, (usually) over a densely vegetated surface, has a total shear stress high enough to disrupt the root mat, or to incise bare areas between plants, especially where ground-water interdicts the surface because of decreased transmissivity, incision can begin or accelerate.



- Channel-head formation by Seepage Erosion [Figure 5(c), (f) & (g)] - water flowing through and emerging from a porous soil entrains soil or rock causing local increases in flow rate which trigger seepage erosion and channel initiation through liquefaction and/or Coulomb failure. The channel head can retreat up-valley as seepage erosion undermines the headcut and triggers toppling, slab failure and water erosion of the steepened margins of the channel.
- Channel-head Formation by Mass Failure - on steep slopes the axes of unchanneled valleys (called hollows) may be unstable because colluvium is continuously transported to the hollow until it reaches a critical mass. Narrow debris landslides occur when subsurface, storm-generated pore pressures exceed the cohesive strength of the unstable colluvium. Once the landslide occurs then erosion and gullying of the channel may continue.
- Channel-head Formation by Tunnel Failure [Figure 5(i)] - In locations where a substantial portion of subsurface flow travels in cracks, large root holes, animal burrows (Figure 6) and similar conduits, surface channels can result from high soil pore pressures

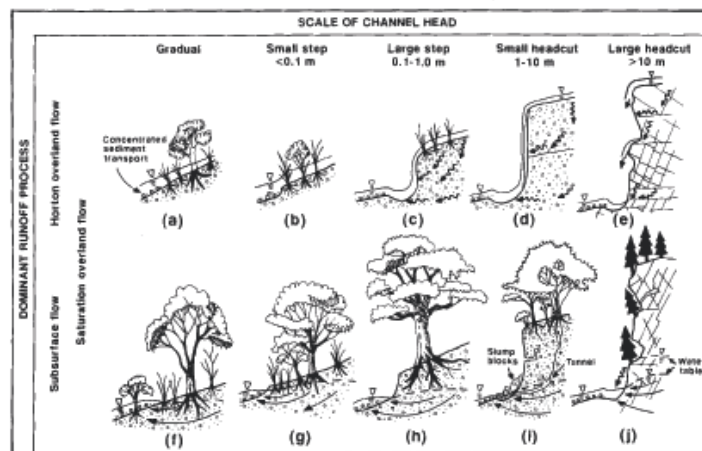


Figure 5. Typology of channel heads on the basis of incision depth and dominant runoff process. Sketches illustrate flow paths for Horton overland flow and subsurface flow. The smooth arrows indicate saturated flow, and the wiggly arrows [e.g. in (c)] indicate unsaturated percolation, including flow through macropores. Even in areas with significant Horton overland flow, the deep face of a large step or headcut can allow the emergence of erosive seepage. Saturation-overland flow drives erosion that incorporates features from both of the other runoff types. Plunge-pool erosion and slope-stability constraints become more important as the height of the feature increases (From Dietrich and Dunne 1993).

Figure 6. Rodent burrows may funnel water during heavy downpours and flood events. These not only increase the rate at which the soil dries, but can lead to channel-head formation with time. Note the water "mark" leading from the burrow, down slope to the stream channel.



which result in colluvium landslides and/or by the erosion of the sides and roof of the conduit to the point of collapse. Enlargement of the tunnels and thinning of the roof lead to lines of pits where collapse has occurred and eventually a continuous channel. Channels heads formed in this manner tend to be vertical with steep sides, sharp edges and some overhangs. Channels generally are straight for long reaches and have low gradients. They may also have steps in the beds, sinkholes, hanging tributaries and natural bridges.

Thus, channel formation may occur in some landscape settings even in the absence of surface flows sufficient to produce a channel. A well-defined channel network with classical bed and bank appearance may exist on the landscape where flows are too infrequent to constitute an annual recurrence.

A few data are available elucidating the frequency of formation of definable networks from some areas of mixed grass and trees, including oak-grassland associations in the San Francisco Bay region, pinon-juniper woodland in New Mexico and grass areas in west central Wyoming (Leopold 1994). They are shown in Table 2.

A review of Tables 2 and 3 reveals that for typical, small, western drainage basins with a variety of slopes and typical ranges of annual precipitation, the distance from the top of the divide to the tip of a definable rill is very short: generally ranging from tens to a few hundreds of feet. Examination of the topography in the Santa Fe, NM area (Figure 7) for the Arroyo del los Frijoles drainage basin listed in Table 2, reveals the high density of mapped stream channels. Each mapped channel further subdivides into smaller and smaller ordered segments until the smallest rills remain evident on the landscape and approach close to the divide in each subbasin. As evidenced from Table 2, little of the sloped hillside remains free of a definable "channel."

Table 2. Distance from upstream divide to tip of identifiable channel (Leopold 1994).

Location	Distance to closest divide (ft)	Drainage area (sq mi)	Mean slope from rill head to divide
Contra Costa and Marin Counties, California			
Briones No. 1	400	0.00074	0.20
Olema No. 1	65	0.00003	1.00
Olema No. 2	50	0.00033	0.27
Olema No. 3	90	0.00033	0.27
Sublette County, Wyoming			
Cora Hill A1	70	0.00017	0.17
Cora Hill A2	115	0.00030	0.16
Cora Hill A3	200	0.00045	0.12
Cora Hill A4	275	0.00056	0.11
Cora Hill A5	365	0.00064	0.08
Cora Hill BI	200	0.00012	0.09
Cora Hill CI	200	0.00018	0.11
Arroyo del los Frijoles, Santa Fe, New Mexico			
Caliente Arroyo	N.A.	0.00006	0.14 (approx)
Big Sweat	30	0.0057	0.045
Big Sweat	200	0.0057	0.045
Big Sweat	190	0.0057	0.045
Big Sweat	60	0.0057	0.045
Little Sweat	220	0.0013	0.045

Table 3. Precipitation Normals (1970-2000) for counties identified in Table 2.													
Loc	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Σ
Ca1	4.76	4.49	3.83	1.46	.85	.15	.05	.08	.36	1.31	3.27	3.35	23.96
Ca2	5.41	5.31	3.85	1.40	.62	.15	.05	.08	.29	1.37	3.52	3.80	25.85
Wy	.77	.68	.86	.71	1.56	1.03	1.11	1.11	1.49	.67	.66	.63	11.28
NM	.60	.50	.84	.72	1.27	1.24	2.25	2.13	1.67	1.30	1.05	.65	14.22

Ca1: Contra Costa County, Ca., Mount Diablo Junction
 Ca2: Marin County, Ca., Petaluma Fire Sta 2
 Wy: Sublette County, Wy., Daniel Fish Hatchery
 NM: Santa Fe, NM, Santa Fe 2

Another example of the density of ephemeral channels can be seen in Figure 8 which is an aerial photograph of desert terrain 10 km from Peach Spring, Arizona. The normal annual precipitation for Peach Spring is only 10.53 inches (Table 4). Because such arid conditions prevail over the terrain, the density of ground cover is low and channels form readily. The vast network of channels visible from the air represents only a small fraction of the minor rill features that can be observed on the ground.

Table 4. Precipitation Normals (1970-2000) for Peach Springs, AZ.													
Loc	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Σ
PS	.87	1.06	1.21	.55	.44	.25	1.42	1.67	.85	.74	.69	.78	10.53

Thus, it can be expected that in many western landscapes that are not completely flat, "marks" will be discernable on the landscape. Such marks extend through virtually the entire length and breadth of the catchment.

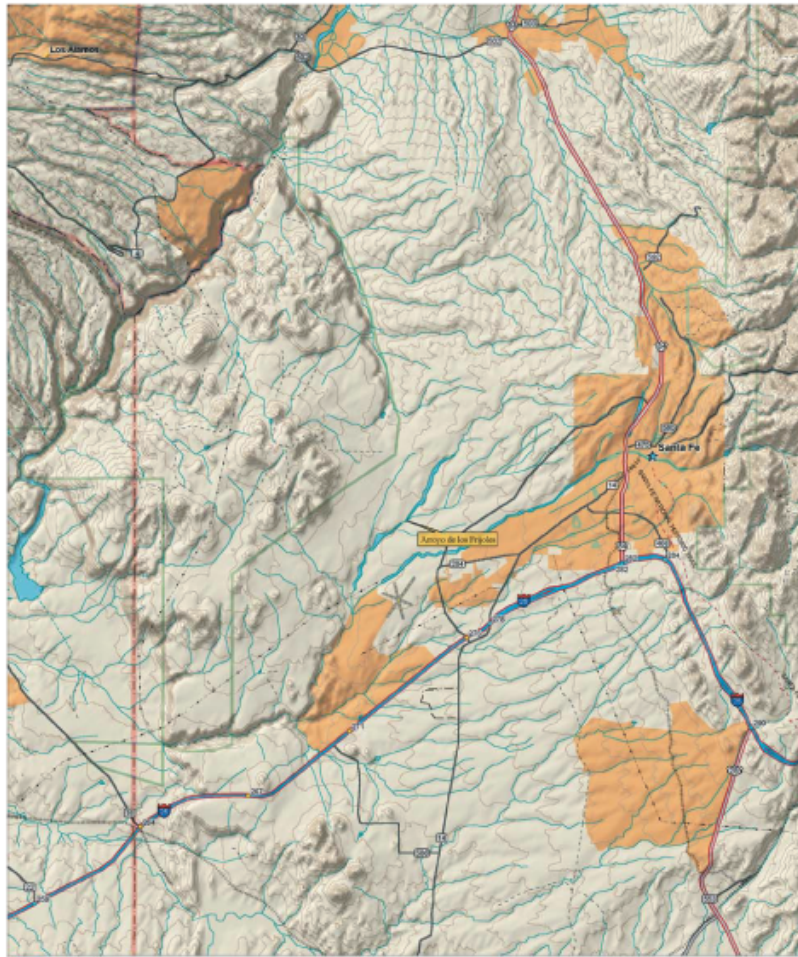


Figure 7. Topography of Arroyo del los Frijoles in the Santa Fe, NM, area.

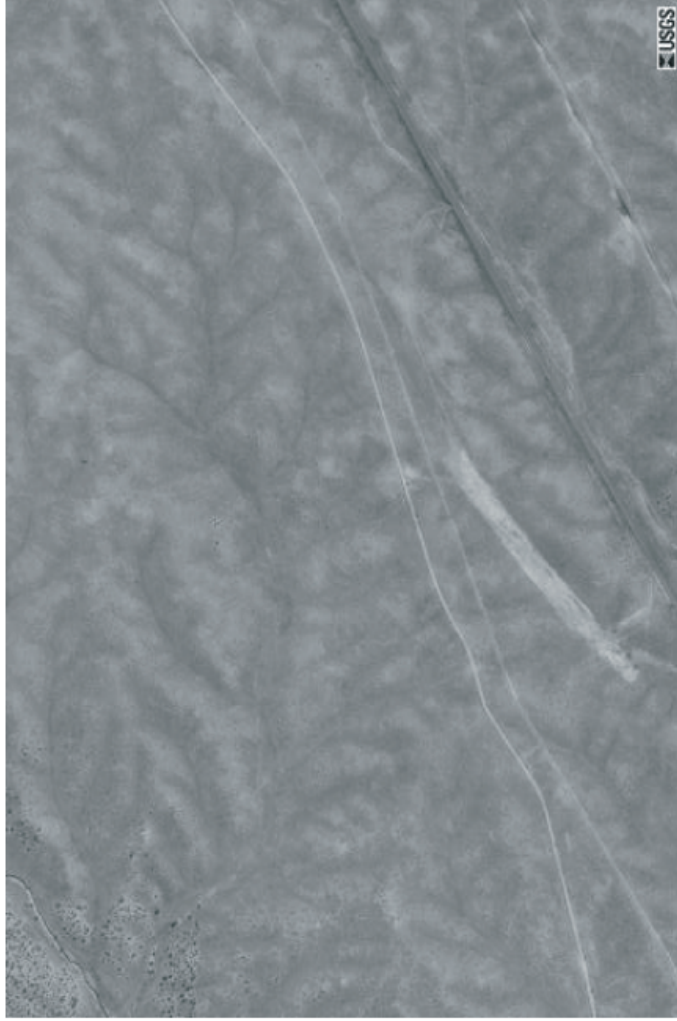


Figure 8. August 28, 1992, aerial photograph of a portion of Mohave County, Arizona, 10 km west of Peach Springs, AZ (PS). The whitish patch in the lower center of the photograph is approximately 185 ft wide and 2244 ft long. The 1971-2000 Normal Precipitation levels from the Peach Spring recording station are provided below the image.

2.5 Data Availability

A wealth of hydrologic technical information is available at the touch of ones fingertips on the World Wide Web. The United States Geological Survey (USGS) maintains a web-site from which one can download historic and in many cases real-time stream gage data from all over the United States (<http://water.usgs.gov/>).

The National Climatic Data Center (NCDC) (<http://lwf.ncdc.noaa.gov/oa/ncdc.html>) as well as the Regional Climatic Data Centers (http://met-www.cit.cornell.edu/other_rec.html) have web-sites from which climatic data including precipitation and in many cases ETo can be downloaded . Many states have their own network of climatic data stations that are also available on the internet.

Allen and Malanchuk (2001) opine that:

In studying rainfall and runoff patterns in dryland fluvial systems, the paucity of available data presents substantial problems. In addition, the high spatial and temporal variability in rainfall and runoff requires an especially long period of record for observations, which is not available for many dryland areas (Allen 1999; Graf 1988a). Typically, reliable climate stations are widely separated and observations usually only cover a small fraction of existing arid regions. Due to the high spatial variability in rainfall patterns in arid areas, extrapolation of rainfall data even a short distance from a rainfall gage can result in substantial error (Graf 1988a). Similar problems with data availability also complicate studies of discharge and water yield in dryland fluvial systems.

While this may be true if one considers the southwest in its entirety, it does not recognize that there are notable regional exceptions that are sufficiently common that very good general extrapolations could be established if the effort was made to do so. The California Data Exchange Center (CDEC) currently has over one hundred and sixty (160) agencies provide data to it. The CDEC cooperative database contains information collected by:

- One hundred and twelve (112) remote data stations that have seven hundred and forty-three (743) sensors transmitting over the California State microwave system. Real-time data include river stages, precipitation amounts, snow water content, temperature, and water quality;
- Seven hundred and twenty-eight (728) remote data stations that have 3,886 sensors transmitting via the GOES satellite; and
- Three hundred and ten stations (310) that have 1,041 sensors which are transmitted via network from Federal and State agencies via an automated data exchange program.

Similar systems are established in Reno and Las Vegas, Nevada, and in Maricopa, Pima and Yavapai Counties in Arizona. As an example of the level of detail and scope of information and conclusions that could be reached if the COE expended the effort to derive a technically-based and defensible approach to its determination of the jurisdictional limits under Section 404, we have ex-

amined data from Maricopa County, Arizona which has an extensive network of stream and rain gage stations.

3 Does Flow Reach Navigable Waters?

If we assume that there must be a reasonable likelihood that a pollutant will affect a navigable water in order for the CWA to be applicable to a discharge, then there are two issues that must be factored into the consideration of the longitudinal limit of Section 404 jurisdiction: transmission losses and pollutant dilution. To the best of my knowledge, these have never been considered or at least discussed publicly by the agencies in reaching decisions on the longitudinal limits of Section 404 of the CWA. The issue is whether water originating in a distant, ephemeral stream actually would reach a navigable water in the former and whether rock, sand and/or cellar dirt will reach a navigable water either in a concentration that exceeds a water quality standard or even is detectable in the latter.

3.1 Flow Data for Ephemeral Waters in Central Arizona - an Example

The Flood Control District of Maricopa County (FCDMC) has been collecting rainfall and runoff data for many washes within this central Arizona county. It started the ALERT system in 1980 after the late 1970's floods. Gages were first placed to monitor the major rivers; later they were installed on FCDMC dams and flood control structures. After the 1993 floods, the FCDMC started placing more gages in washes. Currently, the FCDMC has 275 automatic rain gages, 118 automatic stream gages, and 19 automatic weather stations throughout Maricopa and neighboring counties (see Figures 9-11).

The stream gages have been placed on natural washes as well as on man-made channels with watersheds that range from one half square mile to hundreds of square miles. The watersheds for the gages can be natural undisturbed desert, urbanized, or agricultural. Most of these washes are ephemeral and are, therefore, dry the vast majority of the time (Table 5). These washes typically flow for a very brief period only once or twice a year and only in direct response to a substantial rainfall event.

Each stream gage has a rain gage station associated with it (Table 6). Small rainfall events can and often

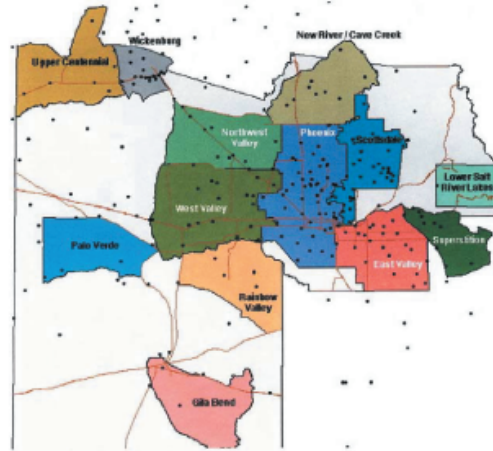


Figure 9. Gage locations in Maricopa County, Az.

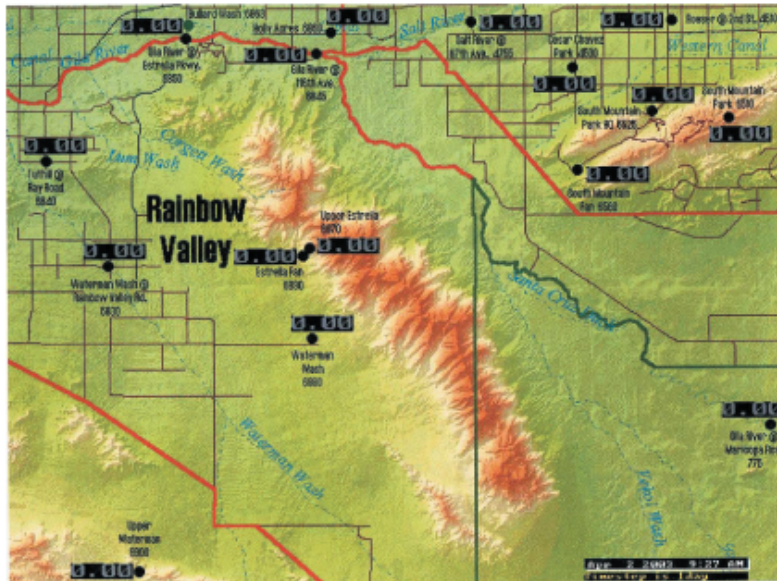


Figure 10. Locations of Estrella Fan and South Mountain Fan Washes.

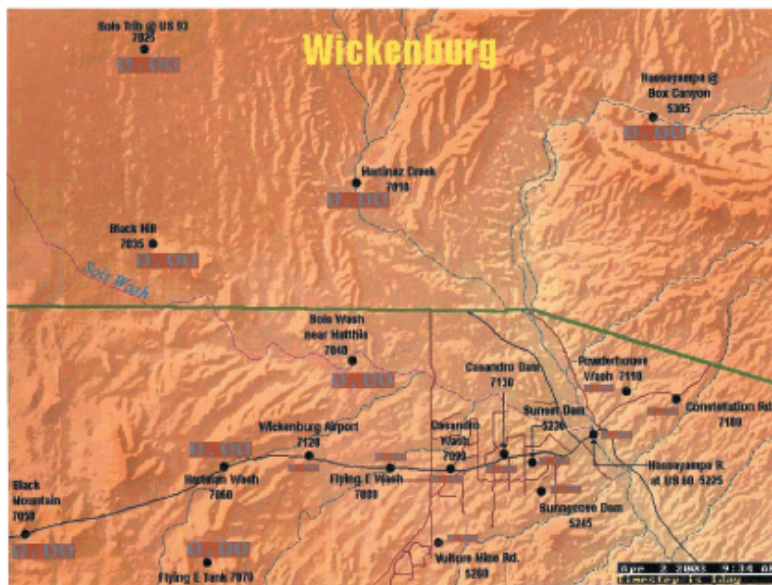


Figure 11. Locations of Casandro, Hartman , and Powderhouse Washes

Table 5. Ephemeral wash flow based on data supplied by the Flood Control District of Maricopa County. "Years in Service" refers to the number of years from before April, 2003, that data have been collected. "Total Time of Flow" is the summation during the entire period of the Years in Service.

Wash Name	FCDMC Gage ID	Drainage Area (Sq. MI.)	Years In Service	No. Of Flow Events	Average number of Flow Events Per Year
Estrella Fan Wash	6893	1.0	9	4	0.4
South Mountain Fan Wash	6563	2.0	9.67	8	0.8
Hartman Wash	7063	5.4	8.75	14	1.6
Powderhouse Wash	7113	1.8	7.75	16	2.1
Casandro Wash	7093	0.6	8.58	17	2.0

do occur that do not produce any wash flow. A rainfall event that produces a wash flow will often infiltrate through the bed of the wash before reaching a large wash or river.

Table 6. Precipitation records for stations associated with each stream gage.					
Year	Estrella Fan	South Mountain Fan	Hartman	Powderhouse	Casandro
2002	3.11	3.90	2.17	3.94	3.74
2001	8.70	9.09	13.27	9.41	10.51
2000	3.94	4.29	6.34	6.06	5.43
1999	7.68	9.41	9.17	9.49	9.57
1998	10.00	8.27	14.41	13.27	13.78
1997	4.25	3.74	9.61	6.77	9.88
1996	6.42	3.86	4.84	4.88	6.14
1995	8.74	8.03	12.64	Incomplete	12.72
1994	6.10	8.58	Incomplete		Incomplete
1993	10.75	Incomplete			
Mean	6.97	6.57	9.06	7.69	8.97

Five gages on small, natural watersheds with at least seven years of data were selected as representative examples. Two of the gages are at lower elevations, less than 1500' above mean sea level (msl) in central Maricopa County, south of the Phoenix area. The average annual precipitation in this area is less than seven inches (Table 6). These gages are on the Estrella Fan Wash (ID #6893) and the South Mountain Fan Wash (ID #6563) (see Figure 10). The other three washes are at higher elevations above 2500' msl. They are located in the Northwest portion of Maricopa County, near the Town of Wickenburg. The average annual precipitation in this area is approximately nine inches or less (Table 6). These gages are on Casandro Wash (ID #7093), Hartman Wash (ID #7063), and Powderhouse Wash (ID #7113) (Figure 11).

The statistics for all five washes studied are shown in Table 5. The washes in the lower elevations average less than one flow event per year. The Estrella Fan Wash had the fewest number with four flow events in the nine years of record. This 40-foot wide wash (Figure 12) carried water for a total of 9.5 hours in the nine years of record. This equates to the wash flowing approximately one one-hundredths of one percent (0.01%) of the time. Conversely, the wash was dry 99.99% of the time. This is far less than the frequency of occurrence of surface puddles and sheet-flows in the yards of people that live and work in and around Washington, DC, following the frequent, high-intensity rain events that occur in the eastern United States.

The washes in the higher elevations averaged flow events approximately two times per year. Powderhouse Wash had the greatest frequency of flow events with 16 events in seven years, 9 months. This equates to 2.1 flow events per year. The wash flowed for a total of 106.5 hours over the seven year, 9 month period. This means the wash flowed for slightly more than one tenth of one percent of the time (0.12%). Conversely, the wash was dry for 99.88% of the time.

These channels all exhibit the typical characteristics of washes that are claimed to be "Waters of the U.S." and taken under jurisdiction by the Corps. The washes generally range in widths from 20 feet to 50 feet (Figures 13 - 16). However, the Corps frequently takes jurisdiction over washes as narrow as three feet wide (Figure 17) or less.

Observations by FCDMC employees showed that the water in the four events on the Estrella Fan Wash never reached the Gila River (Waters 2003), let alone the Colorado River at the point that it becomes navigable. In fact, there is no indication that water from Estrella Fan Wash has ever reached the Gila River. Data on peak discharge and total annual flow volume are presented in Table 7. For Estrella Fan Wash, the total volume from the two events that occurred in 1998 was only 41 ac-ft of water.

Three of the five washes had similarly low (less than 50 ac-ft/year) volumes of discharge (Table 7). Only Hartman and Powderhouse Washes had annual flows that exceeded 100 ac-ft/year and those were based on the cumulative total flows of more frequent events (Table 6). Despite the morphological presence of what the COE would characterize as an OHWM and the theoretical possibilities of a surface water connection from these and other similar ephemeral streams, it is unlikely that the infrequent, low-volume flows in these small washes will reach the nearest navigable waterbody - the Colorado River, approximately 200 miles away. The COE needs to assess what a reasonable level of flow is necessary to have an effect on a navigable waterbody before it concludes that any particular landscape feature that exhibits an OHWM is jurisdictional.

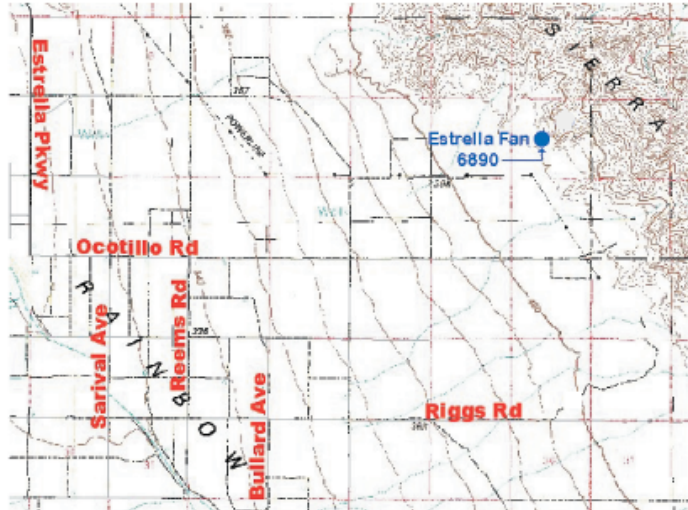


Figure 12. Estrella Fan Wash.



Figure 13. South Mountain Fan Wash.

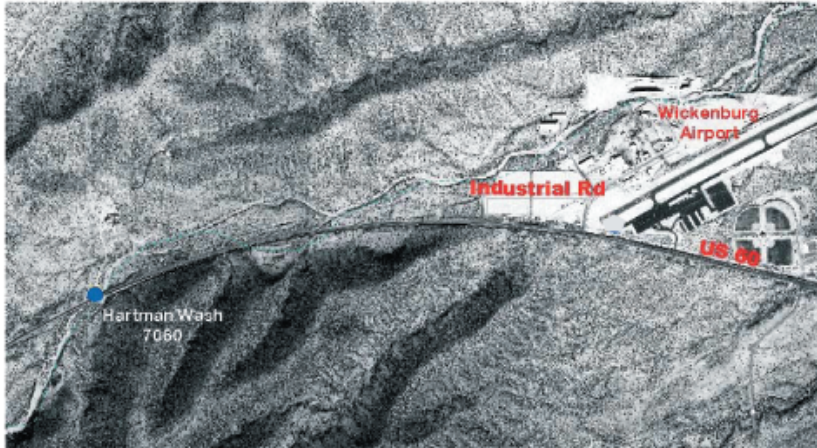


Figure 14. Hartman Wash.

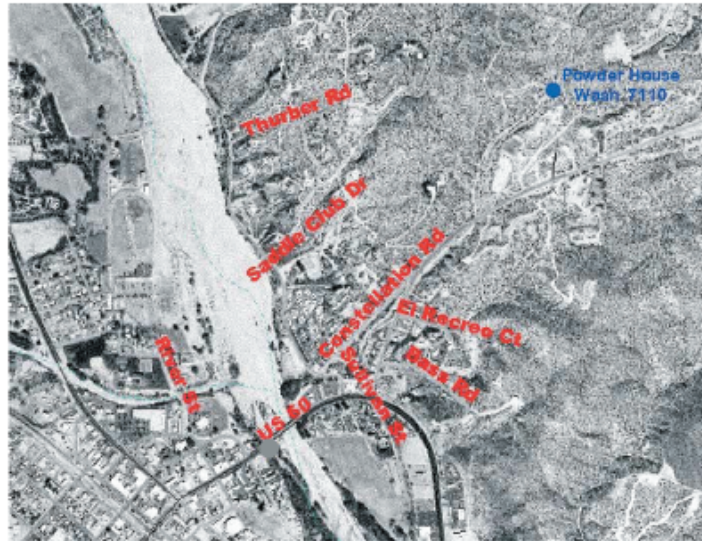


Figure 15. Powderhouse Wash.

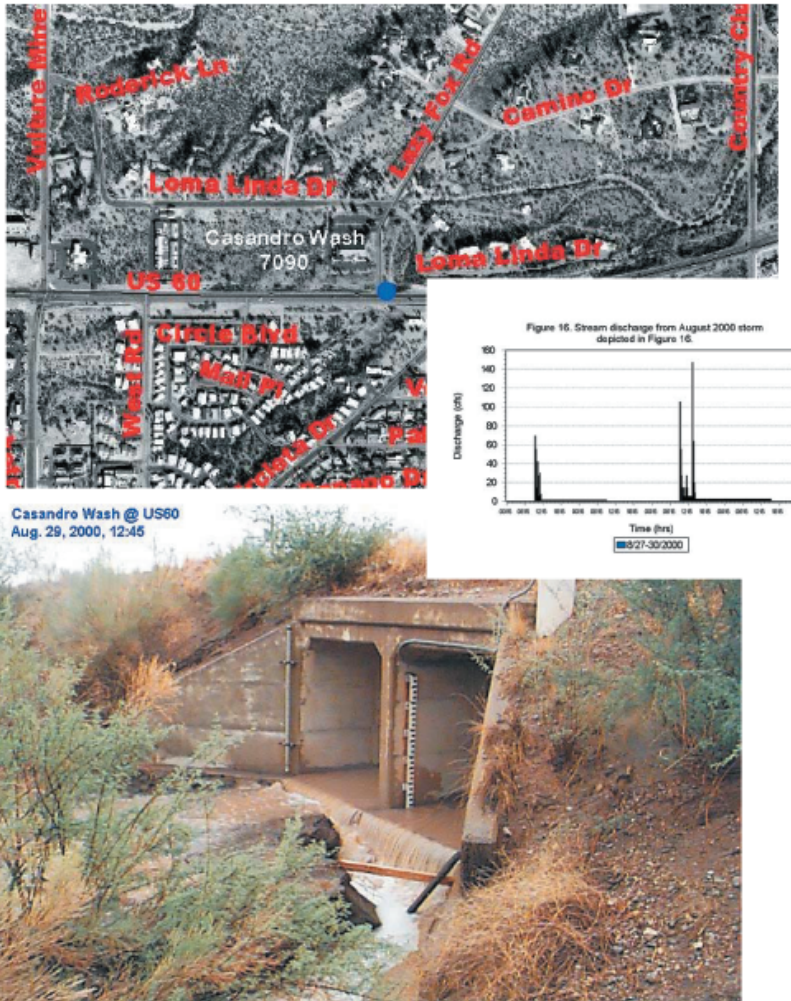


Figure 16. Casandro Wash. At the time of the photo, water was flowing at 5 cfs (Figure 16 insert). The 9-day event generated only 39 ac-ft of water through the gage. Note that it had rained 1.38" on 8/27 and 1.30" on 8/29, 49 % of the entire rainfall for 2000 (see Table 6).

Table 7. Maximum discharge (cfs) and total annual volume (Ac-ft) for each of the example washes.

Year	Estrella Fan		South Mountain Fan		Hartman		Powderhouse		Casandro	
	Max cfs	Ac-ft	Max cfs	Ac-ft	Max cfs	Ac-ft	Max cfs	Ac-ft	Max cfs	Ac-ft
2002	0	0	155	6	0	0	232	19	30	1
2001	0	0	14	7	1547	200	761	181	118	13
2000	0	0	0	0	313	16	514	21	147	39
1999	0	0	749	36	97	12	40	2	66	1
1998	82	41	0	0	1120	69	258	147	151	5
1997	0	0	0	0	1253	138	1425	570	177	32
1996	10	0	349	12	46	2	0	0	35	2
1995	34	1	121	2	110	34	25	1	19	2
1994	0	0	0	0	0	0			0	0
1993	0	0	0	0						

The stream/precipitation network data for Maricopa County can be found on the World Wide Web at <http://www.fcd.maricopa.gov/>.



Figure 17. Regulated ephemeral stream in Nogales, Az.

3.2 Transmission Losses

Water is lost through three natural mechanisms as it travels down stream: (1) evapotranspiration (ET_o) (in streams, most of which lack vegetation, evaporation plays a greater role than transpiration, with the opposite being true in wetlands); (2) surface storage in depressions in the channel and/or floodplain; and (3) ground storage of water that infiltrates into the channel, its banks and/or the floodplain.

Streams or stream segments can be described as a “losing stream” or a “gaining stream” depending on whether they “lose” water into the ground as the flow passes downstream or “gain” water from ground-water discharge (Heath 1989). The gains and losses of water in a stream channel are often depicted by flow nets which show lines of equal ground-water potential and directional flow lines. Equipotential lines are formed by connecting all the points where the various pressures acting on ground water bring it to the same altitude below the ground surface. Flow lines indicate the direction of movement of ground water and are generally perpendicular to the equipotential lines. Figure 18 from Heath (1989) depicts the flow lines in the vicinity of a stream that gains water in the headwaters and loses water as it flows downstream.

Water that infiltrates into the bed and banks of a channel is known as “transmission loss.” In dryland channels, flow is rarely continuous throughout the whole catchment. Thorne (1977) described three flow regimes that commonly occur in dryland fluvial networks: (1) asynchronous flow, i.e., low order segments flow but the higher-order, main channel remains dry due to transmission losses; (2) axial flow, i.e., the higher-order channel flows but the low-order segments do not; and (3) fully integrated flow, i.e., all segments in the catchment flow.

Allen and Malanchuk (2001) summarized some of the literature related to loss of water from dryland channels. In part the report stated:

Due to high air temperatures and characteristically coarse bed material, surface water in dryland fluvial systems is lost through both evapotranspiration and infiltration into the stream banks and channel bed. During flood events on small and medium sized dryland basins, flow duration is

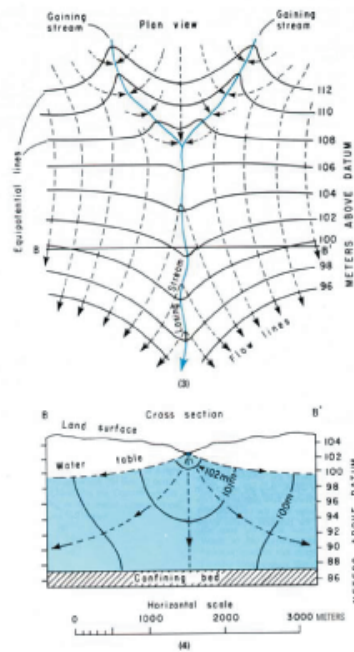


Figure 18. Flow lines and equipotential lines as stream reach changes from gaining to losing (Heath 1989).

rarely long enough for evapotranspiration to result in substantial reduction in surface water; however, in larger through-flowing rivers, evapotranspiration can result in a downstream reduction in discharge (Graf 1988a). In ephemeral streams, transmission losses through seepage cause flood peaks and total discharge values to decline in the downstream direction. **These losses are so large that eventually most surface flows decline to zero** (Graf 1988a). The presence of large amounts of alluvium beneath the majority of dryland rivers results in the loss of runoff volumes at the surface, but does contribute to substantial groundwater recharge. In the Salt River in central Arizona, a peak flow of $1,900 \text{ m}^3 \text{ s}^{-1}$ flowed over a period of several weeks in its previously dry channel. Based on an analysis of discharge records, approximately 29% of the surface flow that entered the basin ended up as groundwater due to transmission losses (Graf 1988a). Because of the large amounts of flow involved in transmission losses, accounting for seepage is an important requirement for predicting flood flows and water yield in dryland fluvial systems (Graf 1988a) [emphasis added].

Transmission losses in any segment of a stream are influenced by a complex of physical features related to the soils, the underlying geologic base, groundwater movement, surface water hydraulics and temperature. The movement of water into soil is known as infiltration. The rate at which water can enter the soil at a given set of temperature and soil moisture conditions is known as infiltration capacity. When this maximum rate is greater than the rate at which rain falls, all of the rainfall will enter the soil. When the rate of rainfall or stream flow exceeds the infiltration capacity, runoff will occur or, in the case of a stream, the stream will flow.

Water that infiltrates is available for use by plants. Depending on the season, soil, and vegetation, a portion of the infiltrating water is returned to the atmosphere by transpiration. Water that is present on the surfaces of plants, debris, the soil surface, and open water returns to the atmosphere by evaporation. The combination of these two processes is known as evapotranspiration. Because the viscosity and surface tension of water are temperature-dependent, to some degree, the rate at which evaporation and transpiration takes place is related to wind speed, humidity, soil temperature and water temperature. Most people are aware water evaporates more rapidly at higher temperatures, and that plants consume water in greater volume and at a more rapid rate during daylight hours. Yet, few of us are aware that warm water infiltrates more rapidly into warm soils than cold water into cold soils. As water is warmed, its surface tension and viscosity decreases, it becomes more fluid, and its tendency to adhere to (stick to) soil particles is diminished. Because of these changes the infiltration rate is greater for warm water than for cold. In addition, for the movement of water through a given soil, the rate of flow is as much as three (3) times as rapid when the soil is fully saturated as it is when the same soil contains both air and water (Dingman 1994, p. 220-226).

The size of the openings between pores, the pore throats, governs the rate at which water flows through a porous medium. These openings connect the voids formed between adjacent soil particles, or grains of sand. The percentage of a given volume of soil, e.g., a cubic foot, that is void space commonly ranges from 25 to 70 percent (Freeze and Cherry, Table 2.4, p. 37, 1979). The size and shape of individual voids and the pore throats that connect them in a soil are mainly controlled by the size and shape of the particles that form the soil. The pores or voids in a sandy or gravelly soil (e.g. Figure 19) are much easier to visualize than those in soils composed of platy-grained particles, and are commonly much larger. Soils composed dominantly of sand generally have larger,

and better connected voids than soils composed of smaller particles such as silt grains or clay particles. All other factors being the same, water will infiltrate soils with large pores such as those in sand and sandy soils more rapidly than those with small openings.

Accumulations of sand grains that are all about the same size tend to have more pore space than soils in which sand grains are mixed with silt and/or clay. Consequently, materials that have accumulated in the bottoms of streams, on sloping soil surfaces, or as sand dunes composed almost entirely of sand grains commonly have an abundance of large, well-connected pores.



Figure 19. Coarse-grained substrate in ephemeral stream bed in Nogales, Az.

Although infiltration rates at the beginning of a rain can be up to six times greater than the saturated hydraulic conductivity (the rate at which water moves through a porous material at unit head and at 25 degrees centigrade), the rate generally stabilizes after approximately the first 5 minutes that the soil is at or just below the saturation point. Thus the saturated hydraulic conductivity rate is also referred to as the *minimum* infiltration rate (Dingman 1994, p. 235). Although values of hydraulic conductivity are sometimes equated to permeability, the latter term applies *only* to properties of the porous media such as soil or the bed material of a stream, and does not take into account changes in water viscosity because of changes in temperature.

Infiltration of water into a soil or the substrate of a stream is driven by gravity, and in the initial phases, by capillary attraction. After a soil or other material is saturated, water movement is driven solely by gravity. Water flow through porous material such as sand can be explained by Darcy's Law, which states that flow is proportional to the hydraulic conductivity of the fluid and the gradient or slope between the point where flow begins and the point where the water exits the porous material.

Darcy's Law can be stated in equation form as:

$$V = Ki$$

Where:

V is the velocity of flow expressed as length per time, for example in feet per hour;

K is the hydraulic conductivity of the water, again in units of length per time, and

i is the gradient. Which can be stated as h/l , where h is the height of fluid, and l is the distance through which flow occurs. Because both “ h ” and “ l ” have the same units of length, this parameter is “unitless.”

To determine the volume of transmission losses using Darcy’s Law, one need only add the area through which flow occurs, as follows:

$$Q = (Kh/l)A$$

Q being the “discharge” measured in units of volume per time, as in cubic feet per second or gallons per minute.

K has the unit length per time,

$h/l = i$ which is unitless, and

A or area has the units of length squared, as in square feet or acres.

As a consequence, Q has units of: length cubed per time, or as an example, cubic feet per second.

Darcy’s Law describes water movement in any environment - dryland or humid. Since precipitation is a major force in erosion processes, drylands soils generally tend to be less finely eroded than in more humid climates. This coarseness of texture often leads to very high rates of hydraulic conductivity and accordingly, high rates of transmission losses.

Chapter 19 of Part 630 of the National Engineering Handbook (Lane 1983) is devoted to describing a method for estimating transmission losses in ephemeral streams in drylands. More recently Rao and Maurer (1996) developed a method for estimating transmission losses for low and average flow conditions by development of a seepage function based on measured flow data only. Both methods have the potential to be used to extrapolate from gaged streams to ungaged streams.

Lane (1983) and Shannon et al., (2002) present data for dryland streams aggregated from a variety of sources. Lane employed the data to develop regression relations while Shannon et al. present the data as generalized examples. The data from both compilers are presented in Table 8. While the transmission loss per mile of stream varies, it is clear that a great deal of water can be lost through infiltration. Using the average loss (3.74 ac-ft/mile) for Walnut Gulch in Arizona, the highest volume of water (41 ac-ft in Aug-Sept, 1998) recorded during the last 10 years in Estrella Fan Wash (Table 7) would have completely dissipated within 11 miles of the gage (~190 miles short of the Colorado River). Even if the total annual volume (570 ac-ft) for Powderhouse Creek in 1997 had all occurred in one event, the water would have dissipated based on the average transmission loss rate in 152 miles - still short of the Colorado River.

Table 8. Transmission loss data compiled from various authors as presented by Lane (1983) and Shannon, et al. (2002).							
Location	Length (miles)	Width (feet)	Number of Events	Loss (ac-ft)	Loss (%)	Loss (ac-ft/mi)	Reference
Walnut Gulch, Az	4.1	38	11	7.8	47.3	1.90	1
Walnut Glch	0.9	–	3	2.3	16.8	2.56	1
Walnut Glch	7.8	–	3	14.7	90.2	1.88	1
Walnut Glch	2.7	107	30	15.2	20.2	5.63	1
Walnut Glch	6.9	121	19	31.2	64.6	4.52	1
Walnut Glch	4.2	132	32	24.9	50.1	5.93	1
Queen Cr Az	20.0	277	10	1625	37.9	81.25	2
Elm Fork Trinity R. Tx	9.6	–	3	13	2.9	1.35	3
Elm Fork	21.3	–	3	17	3.8	0.80	3
Elm Fork	30.9	120	3	30	6.6	0.97	3
Kansas-Nebraska							
Prairie Dog	26.0	17	5	550	29.1	21.15	4
Beaver	39.0	14	7	936	42.5	24	4
Sappa	35.0	23	6	2338	37.8	66.8	4
Smokey Hill	47.0	72	4	569	46.8	12.1	4
1 - Lane et al. 1980; 2 - Babcock and Cushing 1941; 3 - Texas Bd. Of Water Eng. 1960; 4. Jordan 1977							

4 Do Pollutants Reach Navigable Waters?

4.1 Natural Soils and Sediments

Sediment as a pollutant (e.g., suspended sediment) is discharged into water bodies through conveyances such as storm sewers which are not regulated as waters of the U.S., although the discharge is regulated under the National Pollution Discharge Elimination System (NPDES) when it reaches navigable waters. The Environmental Protection Agency (EPA), Office of Water, April 1999, National Recommended Water Quality Criteria (EPA 822-Z-99-001) contain the standards for suspended sediments.

For example, in Washington, DC, there are over 600 miles of storm sewers with 8200 catch basins and 400 separate storm sewer discharges - many directly into the Potomac River. The stormwater system captures urban runoff from all the streets, paved driveways and parking lots and impervious roof surfaces, carrying high loads of soils and sediments eroded during storm events, accumulated from wind-blown dust off of bare soil and washed from vehicles as they pass through the city, not to mention petroleum products, cadmium from brake linings and assorted other pollutants, directly into traditionally navigable waters.

Furthermore, in one-third of the city (the older parts of DC), there are miles of combined sewers which carry both sanitary and storm water. During normal flows, the combined flow travels to the Blue Plains Wastewater Treatment Plant. However, during storm events, the flow exceeds the capacity of Blue Plains and the combined effluent discharges directly into traditionally navigable waters through 60 combined sewer outfalls. As little as 0.3 inches of rain will cause bypass flow of combined sewage directly into the Potomac River and as little as 0.2 inches of rain will cause bypass flow of combined sewage directly into the Anacostia River (<http://www.dcwasa.com/education/css/default.cfm>, 2003).

Neither the storm sewers nor the combined sewers are considered waters of the U.S., although both discharge sediments directly into navigable waters. Ditches are simply the open (unenclosed) equivalent of a storm sewer. Ditches are the precursor and "poor country cousin" version of what society has advanced to in the management of storm water in an urban environment. EPA has established a two-phased NPDES Storm Water Program. The Phase II Final Rule, published in the Federal Register on December 8, 1999, requires NPDES permit coverage for storm water discharges from: (1) Certain regulated small municipal separate storm sewer systems (MS4s); and (2) Construction activity disturbing between 1 and 5 acres of land (i.e., small construction activities). Thus, Phase II covers sediment discharges that might eventually enter navigable waters.

4.1.1 Nature of Dredged and Fill Material

The idea that the discharge of dredged or fill material into isolated waters, ephemeral drains or non-tidal ditches will pollute navigable waters located any appreciable distance from them lacks credibility. The discharge of fill material as has been classically regulated by the COE, results in the "discharge" of a "pollutant" that is far different from any other regulated by the CWA. Congress recognized the difference in the nature of discharges of dredged and fill material when it specifically carved-out Section 404 and named the Secretary of the Army to administer it.

The CWA [Sec 502 (6)] defines “rock, sand and cellar dirt” as pollutants. Being of natural origin, these materials rarely contain toxic substances in toxic amounts. The COE by its own policies requires that the fill material normally be from a clean, upland source, that it may not consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc), that it be free from toxic pollutants in toxic amounts (65 FR 12896) that it be maintained in good condition (33 CFR 325 Appendix A, General Condition 2; 65 FR 12893) and that appropriate soil erosion and sediment controls be maintained in effective working order during construction (65 FR 12893). That is, the material is put in place to stay, not as a form of waste to be carried away.

Citizens who typically have the need to discharge fill material do so with the intent that the material will remain in place in perpetuity. Furthermore, in many locations throughout the nation, land use controls, a responsibility of state, not federal government, typically have requirements to minimize erosion and sediment runoff during and after construction as well as requiring the control of both quantity and quality of runoff from constructed facilities. Thus, the likelihood that a discharge of fill material will result in the addition of a pollutant to navigable waters located at any appreciable distance from the discharge is highly unlikely.

Furthermore, because of the sparse vegetative cover, drylands may naturally produce very high concentrations of suspended sediment loads (Bull and Kirkby 2002, Reid 2002). Concentrations as high as 68 percent solids have been documented in flash flood flows in ephemeral channels (Reid 2002). Record levels of bedload flux during in-bank flows that exert only moderate levels of boundary shear stress occur because of the lack of an armor layer on the stream bed which is common in the sediment poor conditions typical of the vegetated terrain in humid regions. These levels may be six orders of magnitude greater than streams of similar size in humid environments and at least an order of magnitude higher than that in perennial streams of similar size (Reid 2002). This being the case, the likelihood of a detectable quantity of suspended sediment being eroded from an intentionally placed and protected fill in an ephemeral channel in drylands is exceedingly small.

Assume, for argument’s sake, however, that we could detect suspended sediment originating from an intentional fill above the natural background levees. The fate of suspended sediment that was discharged into an ephemeral channel will depend upon the physical characteristics of the channel and the storm event that has initiated the flow as well as the distance from origin to final disposition.

4.2 Transport of Pollutants

It has been said that “the solution to pollution is dilution.” In fact, if the volume of pollutant is small enough in comparison to the volume of dilutant, this is true. We can pick as the threshold for a determination of pollutant conveyance to a navigable water, either the water quality standard for that pollutant or the level of detectability. To avoid debate, the threshold to select is detectability. In general, most known pollutants can be detected by modern instrumentation at levels below those set for water quality standards.

Construction practices virtually never entail discharges of fill material into flowing waters. The discharges are either timed to coincide with dry periods in the year, or cofferdams are constructed to dewater the receiving area before the fill is placed. Even if there were minor flows in an ephemeral drain or non-tidal ditch when the fill was discharged, the idea that clean earthen material (and espe-

cially gravel and rock that is normally the base for construction in wetter environments) that is protected from erosion and used as the foundation for some facility could travel in detectable amounts the tens and in many cases hundreds of miles from ephemeral channels to navigable waters is technically indefensible.

As the size of a particle increases, so does the velocity of water necessary to initially shear it and then transport it downstream (Leopold 1994). Materials travel as either suspended load or bedload. Because of their size, neither rock nor sand will be transported any appreciable distance in ordinary flow conditions. Under flood events of high enough magnitude, these coarse particles can be moved, but likely as bedload which will settle-out as soon as velocities decrease which typically happens when a stream widens or when small streams connect to larger ones and on the inside of bends on streams typically forming bars or shoals. Thus, bedload normally does not transport great distances and is unlikely to reach a traditionally navigable water if it is far distant from the origin.

The finer fractions of the sediment remain suspended with a lower velocity and, thus, can travel further. Of the pollutants listed in the CWA, rock, sand and cellar dirt are the three likely to be involved in a Section 404 fill activity. The finer fraction, i.e., the silts and clays which may be a part of cellar dirt, have the potential for being transported the greatest distance. Yet as discussed above, the simple fact that transmission losses are often extremely high in low-order streams especially in drylands, means that even the fine fractions of the soils will settle-out long before they can reach a navigable water if it is far distant from the origin.

The situation where the water-borne, suspended sediments would never reach a navigable water because of transmission losses is discussed above. However, there are some situations where water may not completely infiltrate through transmission losses but be so diluted by inflow from other tributaries by the time it reaches a traditionally navigable water, that it would be undetectable. The Potomac River network is an example.

The COE considers the Potomac River to be navigable upstream to Wills Creek in Cumberland, Maryland. The USGS maintains a gage station (01603000) on the North Branch Potomac River a short distance downstream from its confluence with Wills Creek (Figure 20). USGS has been collecting peak stream-flow data at the station since 1889 and daily flow data since 1929. Between 1906 and 1994, USGS also collected water quality data at varying intervals.

The mean annual flow at the North Potomac station is approximately 1,293 cfs. The forth highest peak discharge since 1889 (59,200 cfs) occurred on January 19, 1996. The mean daily flow for this event was 29,400 cfs.

Since 1980, the USGS has maintained gage 01594936 (Figure 21) on the North Fork Sand Run (a small, perennial stream) near Wilson, Maryland. Sand Run is located approximately 75 miles upstream of navigable waters (Figure 22). The mean annual flow on Sand Run is approximately 4.51 cfs. The highest recorded flow (400 cfs) occurred on January 19, 1996.

For my example, I postulate that a developer, constructing a residential subdivision in January 1996, graded 100 ft of an ephemeral stream at the upstream end of the North Fork Sand Run. The

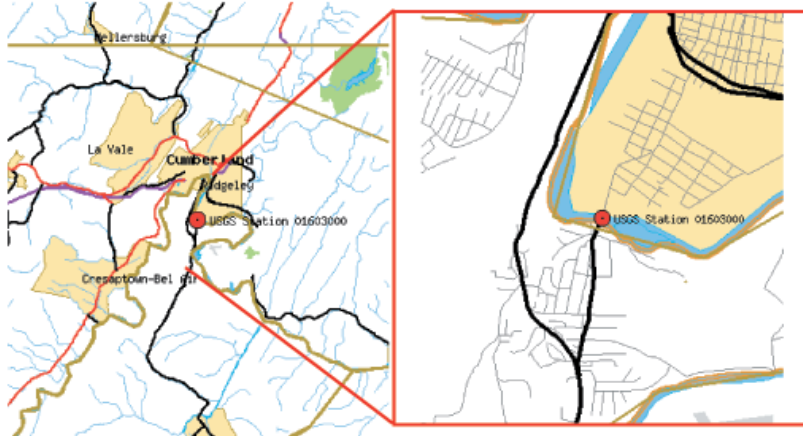


Figure 20. North Branch Potomac River USGS stream gage station 01603000.

ephemeral channel averaged 3 feet wide and 0.5 feet deep. Thus, a total of 150 ft³ of soil filled the channel.

The following "worst case" assumptions are made:

1. During the storm on January 19, 1996, all of the 150 ft³ of soil was washed downstream and flowed through the gage and into the North Fork Potomac River;
2. The water from Sand Run can flow unimpeded to navigable waters at Cumberland, Maryland;
3. All of the fill material will remain suspended for the entire 75-mile trip to Cumberland

The mean daily flow in Sand Run on January 19, 1996, was 140 cfs which equates to a volume of 12,096,000 cf (277.69 acre-ft) during the entire day. The concentration of the suspended solids originating from the fill in the ephemeral channel would have averaged 12.4 ppm. The average daily flow in the Potomac River at Cumberland, Maryland on January 19, 1996, was 2,540,160,000 cf (58,314.05 acre-ft). Based on the above assumptions, the concentration reaching navigable waters would be 0.06 ppm. Thus, even under a worst case scenario, the concentration would be below detection limits for instruments routinely used to measure suspended sediment.

To place concentrations into perspective, historic data relating suspended sediment concentrations to discharge at USGS gage station 01603000 can be reviewed. From 1966 to 1993, 61 suspended solids measurements were made during a range of flow conditions. The data are presented as Figure

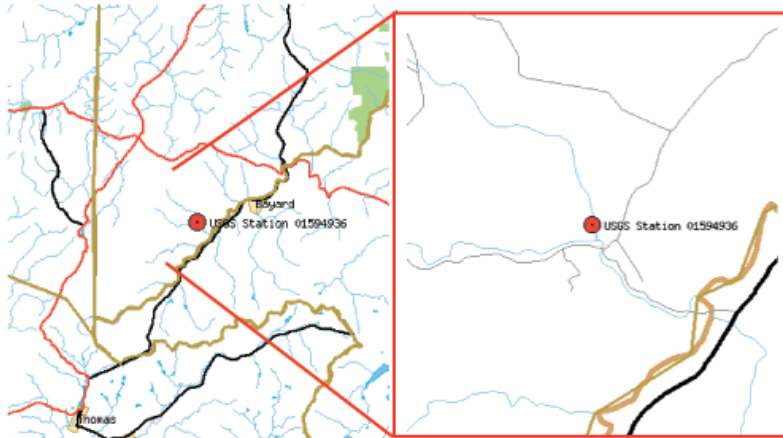


Figure 21. North Fork Sand Run USGS stream gage 01594936.



Figure 22. Locations of Sand Run 75 miles upstream of navigable waters at Cumberland, Md. Jennings Randolph Lake is an impoundment of the Potomac River located between the two.

23. While no measurements were made in mean daily discharges exceeding 18,000 cfs, the maximum observed concentration of suspended sediment was 1,980 ppm. Assuming that this or a higher concentration of suspended sediment occurred in 1996 when the mean daily discharge was 29,400 cfs, then the concentration of suspended sediment that reached navigable waters was no more than 0.0003 percent of what was in the water from other sources.

While the extremely low concentration that I have described might theoretically reach navigable waters under the assumptions I have made, albeit in undetectable concentrations, an assessment of the validity of the assumptions is important.

1. It is highly improbable that all of the material would have washed downstream because of state and NPDES requirements for construction erosion control and best management practices routinely employed in Maryland.
2. Water from Sand Run does not flow unimpeded to navigable waters in Cumberland. In actuality, the Jennings Randolph Lake is located between Sand Run and Cumberland (Figure 22). Because of the stilling action of the reservoir, it is highly unlikely that any suspended sediments that might have originated in the ephemeral stream at the upstream end of Sand Run and remained in suspension to the reservoir would have passed through the dam and reached navigable waters at Cumberland, Maryland.

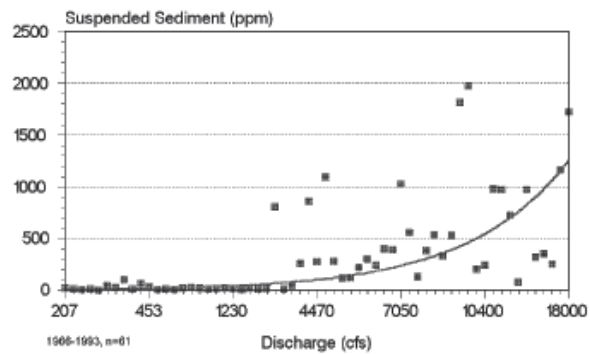


Figure 23. A comparison of suspended sediment concentrations to stream flow at the North Branch Potomac River USGS stream gage station measured during the period from 1966 to 1993.

3. It is highly improbable that all of the soil in the ephemeral stream would have been of small-enough particle size that it would have remained suspended. Based upon the decrease in velocity when the flow from Sand Run met the flow in the North Branch, a large amount of the sediment would have been deposited immediately. Even if the river was free-flowing, there are numerous eddies and backwaters in any river that would have caused much of the sediment to settle-out of the water as it flowed downstream and before it reached navigable waters.

This example demonstrates that in many small streams that are ephemeral, intermittent and even perennial, discharges of dredged or fill material, even if unprotected and subject to total erosion, reasonably may never reach navigable waters in detectable amounts. This fact increases in likelihood in direct proportion to the distance from the navigable water. The likelihood of detectable concentrations reaching navigable waters if an impoundment structure exists between the source and the navigable reach of the river in most cases becomes essentially zero.

5 Problems with Existing Terms and Science-Based Alternatives

5.1 Adjacent and Isolated

As currently defined the term “adjacent” means:

bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands” [33 CFR 328.3 (c)];

and the term “isolated” means:

those non-tidal waters of the United States that are: (1) Not part of a surface tributary system to interstate or navigable waters of the United States; and (2) Not adjacent to such tributary waterbodies [33 CFR 330.2 (e)].

Thus, the definition of isolated is simply a double negative - not adjacent and not tributary. In fact, if the limits of COE jurisdiction in terms of what is a tributary and what is adjacent to a tributary were based upon technically defensible premises, there would be no need to define isolated. Clearly, anything that is not jurisdictional, is not jurisdictional, irrespective of its landscape characteristics.

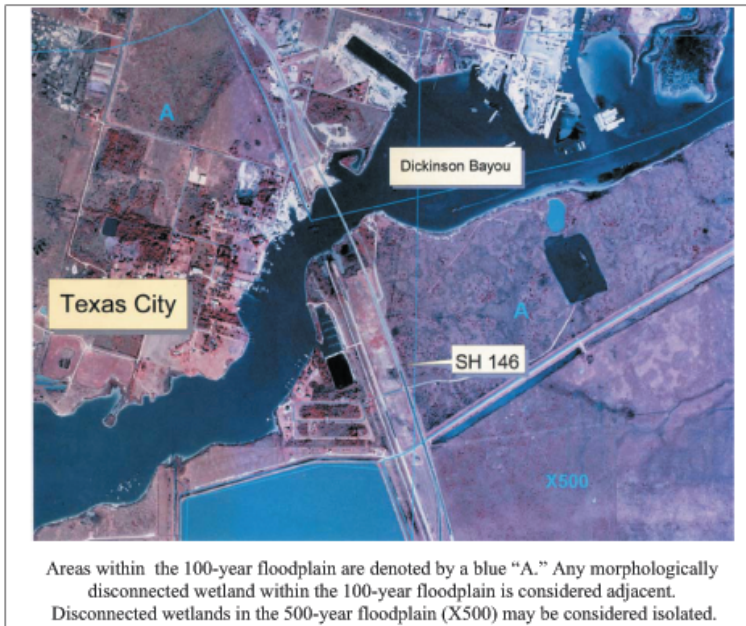
The issue of “what is adjacent” cannot be separated from the concept of “what is a tributary.” Natural tributaries that currently exist on the landscape in more or less unaltered form (that is not radically channelized) generally can be readily recognized. The decision related to such natural tributaries is whether the stream channel is jurisdictional to the full longitudinal extent of a perceptible “mark,” or whether federal jurisdiction stops at some point short of the channel head (or beyond) excluding many low-order streams. Furthermore, what constitutes a tributary in a less-than-natural form is the subject of numerous disagreements between landowners and the COE. Both natural and modified channels will be discussed separately below.

The term adjacent has three elements. Bordering and contiguous, by their plain meaning involve a direct connection to a tributary and can be considered simple extensions of the tributary concept. Thus, if a defined channel is otherwise jurisdictional, bordering and contiguous wetlands are simply extensions of that channel. The technical issue associated with bordering and contiguous wetlands center on whether the landscape is actually a wetland. At the center of the technical debate on what constitutes a wetland is the issues of frequency, duration and proximity to the land surface of water. For the purposes of this study, I will simply note that there is a vast difference between the guidance that is contained in the original 1987 Manual (Environmental Laboratory 1987) and the guidance questions and answers (Studt 1991 and Williams 1992) and what today is commonly practiced by many COE districts and the EPA.

Where the definition of adjacent must be more clearly elucidated is with regard to the concept of "neighboring", i.e., nearby but not physically connected on the land surface. On February 13, 2001, the COE Galveston district issued a memorandum entitled *Adjacent/Isolated Criteria, Galveston District Policy Number 01-001* (attached as Exhibit 2). That document provided that:

- **PROXIMITY:** The actual physical closeness of a wetland to a navigable water, or water that is a part of a surface tributary system, is the overriding factor in determining adjacency.
- Proximity should not be used alone, but in consideration with a hydrological connection. For example, it is possible, but not common; to have a water situated close to navigable water, and be isolated if it is "perched" and has no hydrologic connection.
- **HYDROLOGICAL CONNECTIONS:** Relationships between navigable water, or a surface tributary system, must exist to be considered adjacent. Examples of hydrologic connections include surface tributary systems, surface water connections such as a stream, continuous wetland system, ditch, or watercourse that carries water from a water body to navigable waters, or waters that are a part of a surface tributary system, during normal expected flows or predictable flood events.
- It is reasonable to consider wetlands/waters that lie within the 100-year floodplain as adjacent.
- Sheet flow over land, outside a flood plain is not considered a sufficient hydrologic connection.
- Groundwater connections ... have not been relied upon in making determinations of whether an area is adjacent/isolated.
- **TWO-BARRIER RULE:** When at least two natural or man-made upland barriers or berms separate a wetlands/water from other waters of the U.S. it is isolated, not adjacent, even within floodplain situations.

Galveston's guidance makes several good points but also raises some questions about its jurisdictional decisions.



Most importantly, Galveston recognizes that "[R]elationships between navigable water, or a surface tributary system, must exist to be considered adjacent." Furthermore, Galveston acknowledges that "it is possible, but not common; to have a water situated close to a navigable water, and be isolated if it is 'perched' and has no hydrologic connection." In other words, a wetland, that is horizontally in close proximity to a jurisdictional network channel but is vertically elevated sufficiently that water from the tributary never or only on extreme occasions reaches the wetland, is not adjacent.

Thus, proximity alone is not sufficient to determine that a wetland is adjacent. Instead, water must frequently and predictably flow from the jurisdictional network channel **TO** the morphologically isolated waterbody to make it adjacent. A recurrence frequency of once in 100 years is not frequent enough. Galveston's jurisdictional determination specified above (and adopted by some other COE Districts), that a wetland within the 100-year floodplain (unless separated



How far distant from a channel is adjacent?
California

by two barriers), can in many cases encompass miles of land laterally from a jurisdictional channel. While the 100-year floodplain can be specified technically with some degree of accuracy, considering such a recurrence frequency as sufficient to constitute a sufficient, direct connection to cause a wetland within it to be considered adjacent is not technically defensible.

The frequency of interaction between a jurisdictional channel and a morphologically isolated wetland should be such that the existence of the wetland, at least in part, should be dependent upon flow from the channel. A 100-year recurrence frequency will have no ecologically identifiable influence on the continued existence of the wetland. Furthermore, the mere presence of grey soils with bright splotches and the presence of vegetation with an equal probability of growing in the uplands or a wetlands (Facultative), is often the determinant on whether a feature is called wetlands. Many such morphologically isolated features have little technical difference from the surrounding floodplain.

Frequent, periodic flow must be from a jurisdictional channel **TO** the morphologically isolated wetland for it to become adjacent. Flow in the opposite direction, i.e., from the morphologically isolated to the jurisdictional channel by sheet flow should **NOT** be a determinant in the decision on adjacency. This is in keeping with the original intent of the term which was to capture those features that were an integral part of the tributary system and would have direct and regular interaction with it. Since overland runoff from all landscapes may ultimately flow into a network channel, sheet-flow in the direction from a morphologically isolated wetland to the channel is no different than sheet-flow from any other part of the landscape and should have no bearing on adjacency.

As is documented in many of the case studies discussed in these comments on the Advance Notice of Proposed Rulemaking, the distances that COE regulators specify that may separate a wetland from a jurisdictional channel and remain adjacent vary greatly. The COE needs to more explicitly define with a technically sound rationale what constitutes an adjacent wetland in the context of neighboring.

5.1.1 Ephemeral Streams

Perhaps most crucial of the three stream types to evaluate in this current rule-making process is the concept of "ephemeral stream." The definition that was noticed with the NWP's in 2000 (65 FR 12818-12899) is deficient in several respects. First, there is no quantification of frequency or duration; second, it does not address snow-melt at all; and third, it has an absolute restriction against ground-water inflow. It is physically impossible to have any channel that is depressed below the surrounding land surface that does not act to some extent as a line sink for water percolating through the vadose zone.



Spring sheet flow in a wheat field.
Maryland

In the December 13, 1996, Federal Register, the Corps published its final notice of issuance, reissuance, and modifications of nationwide permits. Within this notice, the first national, written discussion of "ephemeral streams" was presented to the public. In the context of a linear footage limitation recommended by a few commenters for NWP 26, Corps headquarters provided the following statement.

One commenter suggested ... that it may be appropriate to raise the acreage limitations for projects that affect only ephemeral drainage areas. A few other commenter similarly recommended that the term "headwaters" include all naturally ephemeral streams regardless of their mean annual flow, in that they only exceed the average annual flow criteria because of high peak flows during the winter months, which artificially skew the average flow rates. We believe the existing definition for headwaters, as currently written in 33 CFR 330.2(b), adequately provides for the consideration of ephemeral tributary systems and accommodates this comment. In addition, headwaters whether vegetated or not provide important flood storage and water quality values to the overall aquatic system. If some ephemeral drainage areas are truly low value, the districts can develop and issue regional general permits to expand coverage. [61 FR 65894]

The 61 FR 65894 discussion of the ecological value of ephemeral drains for the most part is simply erroneous. Ephemeral drains come in all sizes but they increase the speed at which water reaches real streams thereby exacerbating flooding problems, often carry high sediment loads and generally decrease the available water for recharge into the ground. They generally do not provide flood storage or beneficial water quality values as stated by Corps headquarters in December, 1996.

As discussed above, ephemeral channels in all climates generally form under the same landscape conditions - sparse or no vegetative cover because the presence of a dense cover of vegetation on the land surface softens the impact of raindrops (the initiator of erosion) and binds the soil in place through the network of roots and generally prevents the formation of channels. When the vegetative cover is sparse as naturally occurs in dryland conditions (*e.g.*, the southwest) or on sites that have been filled with subsoils low in organic matter and nutrients, or bare soils resulting from clear-cutting of mature forests or scraping or rutting of the land surface, erosion can occur at a rapid rate. The channels that form may be shallow or deeply incised but carry runoff water only during and immediately after rain events or snowmelt.

In the more humid climates, in most cases, a depauperate land cover is usually transient. Unless chemical contamination or very steep slopes are present, weed species rapidly colonize the bare soil and the landscape passes through a well-documented progression of serial stages until a climax forest (100-years or more distant from the bare soil condition) results in a stable plant community. Generally, it is only during the very early stages of such succession, that ephemeral channels that formed during bare-soil conditions actually carry water except under the most severe events.

Under dryland climatic conditions, and absent any other perturbation, the vegetation cover remains sparse and erosion continues at rates determined by such factors as intensity of storm event, soil characteristics and slope. Channels that form under dryland conditions may not be in response to surface erosion, but may actually result from the collapse of subsurface tunnels and debris slides among other causes. Once formed, however, such ephemeral channels will carry water (and high

loads of eroded sediment) during and shortly after storm events until obliterated by some more catastrophic event.

Prunuske (1999) in a letter to the San Francisco District of the COE stated:

Most of the ephemeral channels we find in Marin and Sonoma Counties were created by human-induced disturbances, particularly grazing. Ranch road drainage, or soil compaction combined with the conversion to annual grasses have focused flow into channels in the upper watersheds, instead of allowing it to slowly sheet or flow below the surface into established streams. Many of these recent channels are actively eroding. By draining the surrounding soil, they significantly reduce the ecological function of the rangeland. In addition, they deliver rainfall and sediment to downstream channels at an accelerated rate which contributes to the degradation of habitat in the main stem and in critical tributaries. The San Francisco District's current interpretation of the regulations discourages landowners from eliminating such drainages and thereby restoring upper watershed areas. Protecting these channels just doesn't make ecological sense, and it creates a tremendous burden on landowners and Corps staff.

Jurisdictional definitions need to be as specific and as quantifiable as possible. They need to be promulgated through proper rulemaking procedures and not be adopted simply as part of a permit noticing process. COE Districts and others have attempted to use science-based factors to distinguish between ephemeral and other types of streams for many years. Baltimore District Branch Guidance Letter 95-01 specified features that indicated that a stream was intermittent:

5. The following criteria are suitable for identifying intermittent streams. The presence of at least one of these criteria is adequate to make an intermittent stream determination and establish Federal regulatory jurisdiction. Although this information is for regulatory purposes only, an attempt has been made to base the criteria on current scientific knowledge.

- a. An ordinary high water mark as defined in item #3 above.
- b. Designation on official maps, such as USGS, SCS and county' topographic maps. Clearly, the fact that a stream is not shown on one or all of these maps is not conclusive evidence that the channel is not an intermittent stream. However, if the channel is not designated on at least one of these maps, the presence of one of the other criteria is necessary to make an intermittent stream determination.
- c. Sediments which exhibit some hydric soil characteristics, such as evidence of oxidation/reduction reactions (e.g. redoximorphic features). Obviously, if the channel substrate is not sediment/soil (e.g. gravel, cobble, bedrock), hydric soil characteristics will not develop and the presence of one of the other criteria will be needed to make an intermittent stream determination.
- d. Evidence of aquatic life, such as insects, bivalves, crustaceans, etc. The types of aquatic life present may be dependent on the channel substrate [e.g., mayflies

(*Ephemeroptera*) with bedrock, fingernail clams (*Psidium*) with rubble, snails (*Physa*) with cobble-gravel, snails (*Lymnea*) with sand, crayfish (*Procambarus*) with mud, and oligochaete worms with organic material]. The species present may also be influenced by water quality, and for at least some species, their presence may be seasonal and periodic.

e. Data from monitoring wells to determine whether the stream receives at least seasonal contributions from groundwater. However, monitoring wells should be used ONLY in the most extreme circumstances.

In 1998, Wilmington District developed the *Intermittent Channel Evaluation Form* with science-based criteria similar to those developed by the Baltimore District. The North Carolina Division of Water Quality has developed *Perennial Stream Reconnaissance Protocols* (2000, Version 2.0) and Fairfax County, Virginia has built upon all of these to develop its *Perennial Stream Field Identification Protocol* (2002).



Crayfish may burrow 3 meters deep to find water (Pennack1989).

The definitions of perennial, intermittent and ephemeral streams that were first identified by Meizner (1923) and subsequently adopted with modification by Hedman and Osterkamp (1982) and others in the scientific community are technically-based and have withstood the test of time. They could serve as suitable replacements for those put forth in the NWP Notice. These definitions read as follows:

A perennial stream or stream reach, has measurable surface discharge more than 80 percent of the time. Discharge is at times partly to totally the result of spring-flow or ground-water seepage because the streambed is lower than surrounding ground-water levels.

An intermittent stream or stream reach, has surface discharge generally between 10 and 80 percent of the time. Because an intermittent stream channel is at or near the water-table surface, discharge can be the result of a discontinuous supply from springs or ground-water seepage, a discontinuous supply from surface sources, including runoff of rainfall and seasonal snowmelt, or both. If a channel has sustained periods of no streamflow interrupted by a seasonal period of continuous streamflow, at least 1 month in length, the stream or streams is intermittent.

An ephemeral stream or stream reach, is one that flows only in direct response to precipitation; measurable discharge generally occurs less than 10 percent of the time. It receives no long-continued supply from melting snow or other surface sources. Because

an ephemeral stream channel is at all times above the water table, it also receives no water from springs or sustained ground-water seepage.

Each definition specifies a duration that is quantifiable based upon stream gage data or that can be extrapolated regionally to ungaged streams based upon climatic conditions and the size of the catchment necessary to support a flow of specified duration. Each also provides a conceptual framework based upon the origin of flow. Setting a specified, quantitative definition for each will allow the field observation-based methods of Baltimore and Wilmington Districts to be refined.

Of course, characterizing streams as perennial, intermittent or ephemeral should not be the indicator of whether they are subject to Section 404 jurisdiction. A jurisdictional determination should be independently derived and based upon the distance to navigable waters and whether water or pollutants in detectable concentrations would actually reach navigable waters and the frequency and duration of such occurrences.

5.2 Ordinary High Water Mark (OHWM)

As discussed in the Channel Formation section of this study, a “mark” on the landscape may form from other than surface water processes. In dryland fluvial systems, channel geometry is more likely to be influenced strongly by a large event of low recurrence frequency. Utilizing the characteristics which currently define OHWM, in dryland systems is likely to yield lateral jurisdictional decisions that extend well beyond a recurrence frequency identified by the courts as appropriate.

Lichvar *et al.*, (2002), research scientists with the Waterways Experiment Station (WES) of the COE, observed that the criteria for frequency and duration for OHW have not been defined under the CWA or any guidance from the Corps for field delineators¹. Lichvar *et al.*, note that in an effort to provide background information concerning physical characteristics of xeric fluvial systems, Corps Districts in the southwestern United States have provided guidelines for making jurisdictional determinations for waters of the United States but have not provided any guidance for the requirements of frequency or duration of ponding or flowing waters. Specifically, they refer to guidance issued by the U.S. Army Engineer Division, South Pacific and authored by Allen and Malanchuk (2001). Allen and Malanchuk summarized some of the



Is the OHWM where the water is or behind the tree?
(Arizona)

¹ Being researchers, it is understandable that they were probably unaware that the courts have addressed the frequency issue.

literature related to the formation of OHWM in the drier climates of the southwest.

Due to the general lack of soil development and vegetation coverage in arid areas, peak discharges for very high magnitude storm events are larger for dryland basins than similar sized humid basins; however, this generalization is usually only valid for basins that are less than 2,600 km². In basins larger than 2,600 km², increased precipitation results in higher magnitude flood events in humid areas (Graf 1988a). The general lack of developed soils and vegetation also results in reduced lag times between precipitation and surface flow in dryland river channels (Graf 1988a). These dryland channels can be several hundred feet in width and, in many cases, there are portions of the year in which they may be completely dry. However, in years with above average precipitation, the entire channel width is often inundated with flow (Bull, 1991; Cooke 1984). To illustrate the dramatic variations in surface flow, for the Gila River in Arizona the peak discharge for a 50-year flood event is 280 times the annual flood. In contrast, the 50-year flood for a watershed in Pennsylvania is only two and one-half times as large as the annual flood (Graf 1988b). Because braided rivers are subject to very wide fluctuations in discharges over a short period of time, their channels frequently change configuration to accommodate these large variations in surface flow. Since sporadic large flow events characterize braided channels, dryland fluvial systems usually exhibit long periods of little morphologic change interspersed with short-term dramatic changes in channel configuration (Allen 1999; Graf 1988a; Lustig 1965).

Horizontal instability, resulting from changes in discharge, sediment load and riparian vegetation, is often present in dryland braided river systems. On large alluvial fans, the plugging of channels with sediment and debris results in dramatic changes in the location of active channels (Cooke *et al.* 1993; Graf 1988a; Mount 1995). Rates of channel migration are highly variable and depend on the magnitude of storm flows and the resistance of channel substrate.

Allen and Malanchuk (2001) identify the fundamental problem with attempting to use the concept of OHWM as currently defined in dryland networks - channels are generally formed by large, infrequent events and do not represent the "ordinary" events that the courts have said are subject to regulation. They continue:

Large alluvial fans are also a typical landscape feature in dryland watersheds (Graf 1988a). Alluvial fans serve as transfer systems for materials eroded from mountain masses and destined for deposition in adjacent basins. Individual alluvial fans are variable in size depending on their age and the supply of sediment available for their construction (Graf 1988a). The location of fans in arid regions is influenced by several factors including the lack of vegetation that results in the position of drainage channels being unfixed, the distinctive topography in the transition area between mountain slopes and the valley floor and areas where the percentage of highland is greater than the bordering lowland area. Fans in drylands tend to be larger than those in humid regions, probably because continually flowing streams typical of humid areas remove materials relatively quickly from distal parts of the fans. Alluvial fans originate where confined streams issue from mountain fronts onto open basin floors. In general, alluvial fan development can be

linked to a combination of stream channel widening and channel migration (Graf 1988a). As a result, alluvial fans are characterized by braided channels with many threads that reduce flow velocity and increase deposition on the alluvial fan surface (Graf 1988a). The form of fans has three basic elements consisting of the channels, elevated or old fan surfaces and recent depositional areas down slope of the channels. The overall shape of a fan system includes a catchment area, the feeder channel and the fan. The feeder channel connects the catchment area to the fan and is usually constricted as a result of confinement within a tight valley. The channels below the feeder channel are the distributaries and the local braided discharges on the fan itself (Cook *et al.* 1993). Based on the above physical characteristics, alluvial fans in arid areas will include some channels subject to Section 404 of the Clean Water Act. However, due to channel migration, alluvial fans will also support numerous historic channels, which only convey flow during extremely large storm events. Based on the above, Corps jurisdiction over channels occurring on alluvial fans will usually be confined to the feeder channel, the current main distributary channels for the alluvial fan and their direct tributaries.

Alluvial Fans



Upslope channel disappears on this alluvial fan. Calif.



Small alluvial fan in lower left at base of small channel. Water flows by sheet flow to channel on the right. Does jurisdiction continue in absence of continuous OHWM?

On alluvial fans, a common landscape feature where mountains transition to plains, Allen and Malanchuk (2001) identify that there are many channels that are historic and should not be regulated under Section 404. Furthermore, and depending upon the size of the catchment, there are numerous ephemeral channels in drylands which completely terminate on alluvial fans due to small volumes discharged and high rates of transmission losses. Such channels do not form a conduit to navigable waters and, thus, should not be jurisdictional. They continue:

... Since jurisdictional determinations in dryland river systems will, by necessity, emphasize "ordinary" storm events, a relatively large climatic data set is required to capture an adequate number of flood events to analyze changes in discharge over time. As part of any jurisdictional determination for dryland river systems, limitations of the available climatic data must be recognized and extrapolation of recorded data should be minimized.

Allen and Malanchuk (2001) almost hit the nail on the head when they observe that the key to jurisdictional determinations is "ordinary" storm events. Had they omitted the word "storm," they

would have been consistent with the courts. In practice, the COE headquarters, at least, generally describes the OHWM as that elevation on the bank where water flows during the wetter part of the year but not during storm or flood flows. Thus, it would describe the channel in which water flows after a storm surge has passed and the water has receded and is flowing clear. This concept is elucidated in the ruling in *U.S. v. Pend Oreille Public Utility Dist. No. 1*, 926 F.2d 1502 (9th Cir. 1991) which held that:

In calculating ordinary high water line, both federal and Washington state law mandate **exclusion of annual spring floods.**

“High water line” for a river **did not include annual spring flood**; right of state to riverbed was limited to line of ordinary high water level and not line of highest water that could be proved.

The ruling in *Pend Oreille* also cited back to *U.S. v. Claridge*, 416 F.2d 933, 934 (9th Cir. 1969) and followed the *Howard v. Ingersoll*, 54 U.S. (13 How.) 409, 14 L.Ed. 189 (1851) Supreme Court ruling rejecting:

the **mistaken assumption that the annual spring floods** of the river determined the ordinary high water line.

I have discussed their statements concerning the availability of data above. In general, there are far more data available than anyone has ever examined in an attempt to define OHWM from scientifically valid standpoint. Allen and Malanchuk (2001) continue:

In general, the OHWM for a stream is usually determined through an examination of the recent physical evidence of surface flow in the stream channel. In dryland fluvial systems typical of the desert areas, the most common physical characteristics indicating the OHWM for a channel usually include, but are not limited to: a clear natural scour line impressed on the bank; recent bank erosion; destruction of native

Which Mark is Ordinary High?

Is it where the water is?
Is it the first clear, natural line?
Is it the second clear, natural line?
Is it where the vegetation starts?



Idaho



California



Maryland

terrestrial vegetation; and the presence of litter and debris. For many small desert wash systems, the presence of continuous well-developed upland vegetation in the stream channel is a good indicator that it only conveys surface flow during extremely large storm events and, as a result, would not usually constitute a jurisdictional water of the United States. However, the presence of native riparian species in a dry wash is usually a good indicator that the stream channel usually exhibits surface flow during both small and moderate storm events.

In their analysis of jurisdictional waters of the United States at Edwards AFB [Air Force Base] in southern California, WES also utilized the following indicators as physical evidence of an ordinary highwater mark: the type and shape of mud cracking, surface staining (faint to dark reddish-brown stains from ponded water), algal crusts and algal flakes [cyanophytes (blue green algae), *Oscillatoria* sp. and *Microcoleus* sp. and other types of bacteria undergo ecological succession in response to variations in moisture]. By identifying the species of algae/bacteria present in a low-lying area, WES was able to determine the amount of surface moisture that was ordinarily present in the given water body. In addition to the standard indicators for the ordinary highwater mark, the above physical indicators were used to delineate the extent of waters of the United States for playas, clay pan complexes and dry washes at Edwards AFB in Los Angeles County, California (U.S. Army Corps of Engineers 1996).

The above discussion by Allen and Malanchuk (2001) could lead one to believe that a whole host of indicators is now available to determine OHW in dryland lentic systems. This is not the case. The "indicators" of OHWM attributed to the study conducted by WES at Edwards AFB as well as at other locations and those derived from the general literature were reviewed by Brostoff et al. (2001). They concluded:

A review of the technical literature on playas has identified unambiguous morphological features

"Ordinary" Surface Cracks



California



California



Idaho

associated with inundation and/or shallow saturation. However, none of this material addresses sequential episodes of inundation for use in establishing the duration or frequency of flooding needed to establish OHW. Further, the longevity of these features is questionable; there are no data to suggest that the absence of such features may be used as evidence for the absence of inundation or saturation, and some features may be greatly confounded by factors such as soil chemistry. Consequently the delineation of playas is currently based on a mixture of meager technical data, best professional judgement, and site-specific inferential study. While some site-specific work will probably always be required because of the inherent variability among playas, productive lines of research that would contribute greatly to the consistency and cost effectiveness of playa delineation do exist. Laboratory work on playa sediments specifically investigating the relation between hydrology and (1) surface crack formation, (2) crust formation (both biotic and abiotic), and (3) possible layering phenomena, would produce readily usable information for playa delineation in the field. Further laboratory work on the chemical and microstructural responses of playa sediment to inundation and saturation would yield tools for instances in which other indicators were unreliable. Studies on the effect on vegetation of the relationship between salt accumulation and hydrology would also produce useful indicators.

While some of the concepts may hold promise, a great deal more research must be conducted before the more esoteric of these indicators should be adopted as COE policy. What can and should be done immediately, however, is a thorough analysis of readily available precipitation data correlated to satellite imagery along the lines of study by Lichvar et al. (2002). However, as identified by Lichvar et al., a firm policy decision must be made concerning duration and frequency of events that establish an OHWM before any meaningful analyses can be completed.

Allen and Malanchuk (2001) continue:

Because braided rivers are subject to very wide fluctuations in discharges over a short period of time, their channels frequently change configuration to accommodate these extremely large variations in surface flow. As a result, dryland fluvial systems usually exhibit long periods of little morphologic change interspersed with short-term dramatic changes in channel configuration (Allen 1999; Graf 1988a; Lustig 1965). When conducting jurisdictional determinations in arid areas, Regulators and environmental consultants should be cognizant of the above physical characteristics of dryland fluvial systems and insure that the horizontal extent of our jurisdiction includes small to moderate storm events, but is not so expansive that it incorporates field evidence from the 25-year, 50-year or 100-year storm event. In addition, braided streams can exhibit a small low flow channel from short-term recessional flows; however, any jurisdictional determination for waters of the United States should incorporate physical evidence associated with small to moderate storm events not evidence from recessional flows. Based on the above, the horizontal extent of Section 404 jurisdiction will usually include the active stream channel(s) and flood terraces immediately adjacent to these active braids. However, flood terraces that are several feet higher than the active stream channel may not be inundated by small or moderate storm events and, as a result, may not be regulated as waters of the United States. Alluvial fans in arid areas will also include channels subject to Section 404


of the Clean Water Act. However, due to channel migration, alluvial fans will also support numerous historic channels, which only convey flow during extremely large storm events. As a result, Corps jurisdiction over channels occurring on alluvial fans will usually be confined to the feeder channel, the current main distributary channels for the alluvial fan and their direct tributaries.

While the Allen and Malanchuk (2001) review of dryland fluvial conditions highlights many of the important issues associated with the extent of COE jurisdiction in such climes, the end result of its effort - a Jurisdictional Checklist - essentially negates the technical discussion by reverting back to the physical manifestations of an OHWM as defined in COE regulations including "litter, debris, a natural scour line impressed on the bank, absence of native vegetation and eroded stream banks." Thus, the frequency and duration of an event play no part in the determination of COE jurisdiction. This fact becomes clear in the guidance for use of the Jurisdictional Checklist which provides that:

For the purposes of this document, factors for determining waters of the United States in arid and semi-arid regions were grouped into three general categories including flow regime, geomorphic feature and general indicators of surface flow. For the flow regime category, valid indicators of waters of the United States include intermittent or ephemeral surface flow with channel vegetation, intermittent or ephemeral surface flow with no channel vegetation or adjacent vegetation, intermittent or ephemeral surface flow with surrounding vegetation, but no channel vegetation, perennial surface flow and perennial, intermittent or ephemeral standing water. For the geomorphic feature category, various types of water bodies were included from lakes and depression wetlands to arroyos and desert washes. The purpose of this category is to identify the general type of water body present and to ensure that the selected flow regime and geomorphic feature are consistent. Furthermore, this category also allows delineators to characterize the general channel morphology present and indicate the general geomorphic setting for the water body. Indicators of surface flow include litter, debris, a natural scour line impressed on the bank, absence of native vegetation and eroded stream banks. The above three categories form a 5 by 10 matrix and, for a water body to be considered jurisdictional, it must match one of the indicators for flow regime, geomorphic feature and surface flow (e.g. you must be able to check at least one of the boxes in the matrix). The greater the number of boxes that can be marked in the attached matrix, the more physical evidence that is present to support taking jurisdiction over the given water body. When utilizing the attached matrix, users should be aware that the flow regime and geomorphic features opposite from each other in the matrix are roughly representative of each other. Although perennial streams are included in the attached matrix, this methodology assumes that these types of stream systems will be relatively rare in arid areas and, without the presence of adjacent wetlands, exhibit much clearer evidence of an ordinary highwater mark when compared to braided ephemeral and intermittent stream channels.

As part of the above methodology, there are a number of assumptions that the user must consider when utilizing the attached matrix. First, a basic assumption for the above methodology is that accurate jurisdictional determinations can be made in arid regions utilizing the physical manifestations of flow regime, geomorphic features and/or general indicators of surface flow. Furthermore, given a similar set of physical data, this

Debris Line - Broadwell Lake, California



Two weather stations are near the Lake. The 30-year normal precipitation is:

Station	J	F	M	A	M	J	J	A	S	O	N	D	Σ
Baker	.53	.55	.66	.18	.13	.07	.19	.48	.25	.18	.24	.25	3.71
Barstow Fire	.92	.82	.61	.14	.07	.05	.23	.22	.25	.18	.37	.47	4.33
Mean	.72	.68	.63	.16	.10	.06	.21	.35	.25	.18	.30	.36	4.02
ETo Barstow	2.24	3.01	5.18	6.44	8.26	9.20	9.52	8.16	6.37	4.69	2.83	2.08	67.98

Any precipitation falling in this arid climate would evaporate almost immediately. Annually, ETo exceeds precipitation by more than 15 times. In January and February, ETo exceeds precipitation by 3 times. Even if the average rainfall for any month fell in one event, there likely would not be any surface water that did not soak into the soil. It is only an infrequent cloudburst that can cause water to pond on the surface even for a brief period. Yet a debris line can “mark” the edge and last for months to be misinterpreted as “ordinary.”

methodology assumes that experienced delineators would reach similar conclusions regarding the presence or absence of waters of the United States and the location of the ordinary highwater mark. Another basic assumption of this methodology is that the greater the number of boxes checked in the matrix, the more physical evidence available to justify the presence of a water of the United States. Given that dryland fluvial systems are dominated by dynamic flow events, the physical evidence in stream channels is subject to large-scale changes over a short period of time. As a result, jurisdictional determinations based on the above methodology have a finite life span and may need to be updated after very large storm events. Furthermore, since the Regulatory Program is based on federal regulations that can be modified both by Congress and case law, any jurisdictional determination based on the above methodology may need to be modified to be consistent with the current definition for waters of the United States.

Even in the absence of wetlands, some COE districts have concluded that an OHWM is not always necessary to assert jurisdiction over channels and morphologically isolated wetlands. Numerous cases that have been subjected to the Administrative Appeals Process and others that have not are discussed in the comments responding to this rulemaking and indicate that the COE policy expressed at 51 FR 41217 (1986) -- "... that in the absence of wetlands, the upstream limit of Corps jurisdiction also stops when the ordinary high water mark is no longer perceptible"-- is no longer true, but subject to local interpretation and modification.

The U.S. Army Engineer Division, South Pacific, through the work of Allen and Malanchuk (2001), has recognized the need for a science-based determination of jurisdiction under Section 404:

To improve the consistency of jurisdictional determinations in arid and semi-arid areas, Regulators and environmental consultants should try to utilize available hydrologic information for the given water body, including estimates of runoff associated with the 1-year through 100-year storm events. The SCS Direct Runoff Method is a relatively simple technique that has been developed to estimate the volume of runoff associated with a given precipitation event in a watershed (Ward and Elliot 1995). The SCS Direct Runoff Method only requires data for the depth of rainfall, runoff potential for the soils, estimates of antecedent soil moisture and a land use description. The Rational Method is a common equation that is used to estimate the peak flows associated with various storm events in a watershed and its sub-basins (Dunn and Leopold 1978 and Ward and Elliot 1995). The Rational Method requires estimates for the average rainfall intensity for the given magnitude of the storm event (e.g. 1-year, 5-year or 100-year), the catchment area and the longest flow path in the basin (hydraulic length). Using Manning's Equation, the velocity of flow in a given stream channel (feet per second), based on the channel bed slope, the hydraulic radius of the stream channel and the roughness of the channel, can be calculated. With basic information concerning the channel geometry, Manning's Equation can be used to estimate the area of a stream channel that is inundated by a variety of storm events, including the 2-year or 5-year storm event (Ward and Elliot 1995). Detailed information concerning the above methods for estimating discharge in stream channels is available in most hydrology text-books (Dunn and Leopold 1978 and Ward and Elliot 1995). Using available hydrologic information and reliable estimates for storm flows, Regulators and environmental consultants should ensure that the horizontal extent of Corps jurisdiction is consistent with reliable discharge data and/or estimated storm flows for the given fluvial system.

While this statement suggests that a storm-event flow should define jurisdiction, it is clear that the flow must be more "ordinary" than even a storm event with a 1-year recurrence frequency. Nevertheless, the general approach described above is moving in the correct direction for the establishment of a technically defensible means of defining COE jurisdictional limits. Rather than utilizing the vast amount of data available to determine peak flows or storm event of 1, 5 or 10-year recurrence frequencies, the COE should utilize the data to examine frequency and duration of flow and the mean annual flow record.

The Federal Register Notice reissuing NWP's in 2000 discussed some aspects of the technical basis for determining points on streams with specific flow regimes:

One of these commenters recommended using drainage area as a substitute. Another commenter suggested that the guidance in the preamble to the final rule for the NWP regulations (33 CFR part 330) published in the November 22, 1991, Federal Register (56 FR 59112) should be used to establish where the 1 cfs point of a stream is located. That guidance described how to determine the geographic location of the limit of headwaters for perennial, intermittent, and ephemeral streams. District engineers will utilize the best methods available to identify where the average annual flow of a stream is 1 cfs. Although the guidance published in the November 22, 1991, Federal Register was intended to assist district engineers and the regulated public in identifying the geographic location of headwaters (i.e., where the average annual flow is less than 5 cfs), this guidance can also be used to locate the 1 cfs point on a stream. District engineers can utilize the median flow, rather than the average flow, to establish where the 1 cfs point on a stream is located. This approach recognizes that streams with highly irregular flows, such as those occurring in the western portion of the United States, could be dry at the 1 cfs point for most of the year and still average, on an annual basis, a flow of 1 cfs because of high volume, flash flood type flows which greatly distort the average. Furthermore, we recognize that using the median flow for an entire year in streams that have no stream flow for over half the year but with flows greater than 1 cfs for several months would also distort the average. It should also be noted that precision is not required in establishing the 1 cfs point. The definition allows the district engineer to use approximate means to compute it. The drainage area that will contribute an average annual flow of 1 cfs can be estimated by approximating the proportion of average annual precipitation that is expected to find its way into the stream. Knowing the amount of area that will produce this flow in a particular region, the 1 cfs point can be approximated from drainage area maps. For example, in most areas of the eastern United States (i.e., east of the Mississippi River), one square mile of drainage area produces 1 cfs of stream flow annually [65 FR 12829, March 9, 2000].

There are other well-established, technically-based methods for estimating flow regimes. The Soil Conservation Service (now NRCS) has for decades reported on methods to predict runoff and various flow regimes based upon such factors as the size of the drainage basin (or catchment), the slope of the land, the nature of the soils and the vegetative cover, the climate, and the morphology of the channels. In 1975, the Soil Conservation Service (SCS) first issued its Technical Release 55 (TR-55) Urban Hydrology for Small Watersheds (SCS 1975) to calculate, among other elements, storm runoff. In June 1986, Major revisions were made to TR-55. In 1998, Tr-55 was again revised and the computer software was updated. The fundamental concept of the process is found in Part 630 of the National Engineering Handbook (NRCS). SCS also explains the calculations in Agricultural Handbook Number 590 (SCS 1982).

Fundamental in the computation of runoff is the development of runoff curve numbers. These numbers are dependent upon two natural landscape features: the infiltration and transmissivity of water into and through soils and the type of surface covering the soils (NRCS 2002).

Soils are classified into Hydrologic Soil Groups (HSG) to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting as well as the transmission rate - the rate at which water moves in the soil (SCS 1986). The four soil groups are defined as follows:

Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sand or gravels and have a high rate of water transmission (greater than 0.30 in/hr).

Group B soils have moderate infiltration rates when thoroughly wetted: chiefly soils that are moderately deep to deep, moderately well drained to well drained, with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (0.15-0.30 in/hr).

Group C soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05-0.15 in/hr).

Group D soils have high runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high shrink-swell potential, soils with a permanent high water table, soils that have a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (0-0.05 in/hr).

The USGS has been collecting stream gage data for almost a century in some locations and has a broad network of gaging stations throughout the United States. The USGS produces annual reports for all of its gaging stations providing not only daily (and in many cases 15-minute and real-time) data, but summary statistics for various metrics.

As a general concept according to Leopold (1994), it is the mean annual flow that inundates a channel 25 to 30 percent of the time (91 to 109 days). Mean annual flow is routinely reported for all gaged stations in the United States. Since about 265 days a year the flow will be less, the mean annual flow represents a rather large flow. This discharge will typically fill the channel to approximately 1/3 bank full. Generally, bankfull discharge will occur only one or two days a year and has a recurrence interval that averages 1.5 years (Leopold 1994).

Mean annual flow is routinely estimated on ungaged streams by using the relationship of drainage basin size to discharge characteristics of gaged streams in the same region; *i.e.*, the number of square miles of catchment necessary to produce a certain mean annual flow. The mean annual flow (or runoff) can then be related to the duration of flow and thus, channels can be classified as perennial, intermittent or ephemeral.

Various authors have taken the process even further through directed research on gaged streams with various flow durations. Hedman (1970) studied channel geometry of 48 gaged streams in California and found that the average annual runoff in ungaged streams can be estimated from replicate field measurements of the width and average depth of cross sections between bars or berms in the channel by application of equations developed using regression analyses of physical characteristics

for gaged streams. Separate equations are necessary for perennial and ephemeral streams and the accuracy of estimates is greater for ephemeral streams (SE = 29%) than for perennial streams (SE=38%).

Hedman et al. (1972) related mean annual runoff and peak discharges with selected recurrence intervals to width and average depth of cross sections between channel and point bars on perennial streams in the mountains of Colorado. Using regression analyses, they developed formulae that could be used to estimate streamflow on ungaged streams in Colorado.

Hedman and Osterkamp (1982) continuing this line of research, collected data on width of active channel, active-channel depth and sediment characteristics of the bed and channel in association with 151 gage stations located throughout the western U.S. (All states from North Dakota to Texas and west). Using regression analyses, they determined a series of equations for determining mean annual runoff (as well as flood frequency) from simple field measurements in various climatic regimes.

Thomas and Benson (1975) developed similar regression equations to estimate streamflow in four regions of the United States: eastern, central, southern and western. They found that medium flows can be estimated with the greatest accuracy and that estimates were more accurate in the humid eastern and southern regions than in the more arid western and central regions.

Hayes (1991) used 715 gaged sites in Virginia to calculate regression equations to predict low-flow characteristics at ungaged stations. He found that a simple drainage-area proration can be satisfactorily used to estimate flows on ungaged streams if there are no major tributaries between gaged and ungaged sites. A more complex transfer method must be used when major tributaries intervene.

Lichvar *et al.*, (2002) at the request of the COE in the southwest, conducted a pilot study to identify the OHWM in a closed, nonflowing system (lentic). In an effort to provide supporting evidence for the frequency and duration of surface hydrology of playas in the arid Southwest, case studies were performed for several playas in the western Mojave Desert, California. The purpose of their study was to estimate the frequency of playa inundation lasting 16 days (typical Landsat frequency) or more by coupling available Landsat images from the past 21 years with precipitation data from the last 50 years.

The playas are contained within the boundary of the Pleistocene Lake Thompson. They observed that the majority of the vegetation located on the Pleistocene lakebed is composed of members of the chenopod family with several phases of saltbush plant communities, however, the playa surfaces are devoid of vegetation. Being devoid of vegetation (thus, not wetlands), the jurisdictional test is the OHWM. However, as they correctly observed, there is no quantitative threshold defining the OHWM.

Using satellite imagery, Lichvar, *et al.*, demonstrated a correlation between precipitation and inundation. Lacking a quantitative standard for OHWM, they conceptually compared frequency and duration to the requirements for wetland hydrology. They found that the frequency of inundation was 0.51, *i.e.*, more frequently than every other year and concluded that duration satisfied the wetland hydrology requirement of 5 percent duration (note that 5 % does not correctly identify wetland hy-

drology duration especially in the absence of hydrophytic plants) but could not say whether it represented an OHWM.

Despite the fact that Lichvar, et al. (2002) used the wrong duration for wetland hydrology, did not present error coefficients for their statistics and only found it necessary that “some part of the playa surface was inundated for at least 14 days during the growing season,” they did demonstrate that there are technologically advanced methods that can be used to determine jurisdictional limits. They also demonstrate the need for well-defined, quantitative definitions and rules, but such do not exist today. The needed rules must be based upon frequency and duration - concepts that are used on a daily basis in the COE Section 404 regulatory program.

5.3 Specifying Frequency and Duration - An Example

To elucidate this concept, consider the situation where a hypothetical wetland in Virginia borders the traditionally navigable Potomac River as it passes Washington, DC. The National Ocean Services maintains tide gage 8594900 located at the Washington Boat Lines facility at Pier 4 in a 10-foot by 10-foot room located in the interior of the maintenance area near the south end of the pier (Figure 24). The daily range in tides averages 3.18 ft. The COE will likely terminate its Section 10 jurisdiction at the mean high water line which can be calculated accurately because of the existence of records from November 10, 1924. Under Section 404, the COE would likely extend its jurisdiction to the high tide line (which can also be accurately identified) and beyond if the landscape qualifies as wetland. Jurisdiction over this wetland would be fully consistent with the situation addressed by the Supreme Court in *Riverside Bayview*. At some point on the landscape, however, the COE will determine that there is no longer water present frequently for sufficient duration and in proximity to the surface to call that point “wetland.” The COE’s jurisdiction will completely terminate at that point.

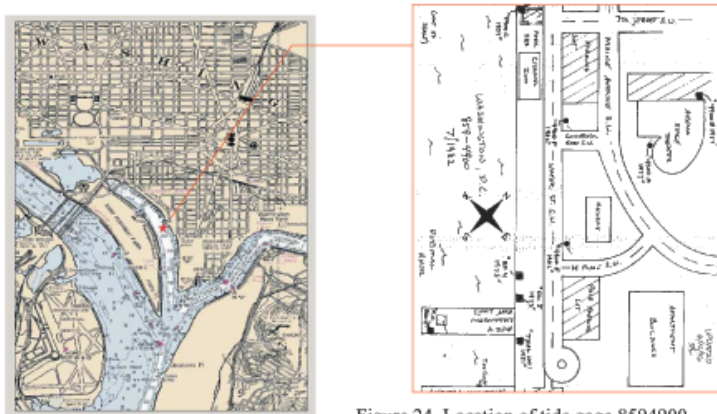


Figure 24. Location of tide gage 8594900.

If an entity proposed to fill a portion of the wetland landward of the mean high water to build a restaurant, it would need a permit from the COE under Section 404 of the CWA. The COE would evaluate the effect of the fill on the wetland and the Potomac River and decide if a permit should be granted. If the same entity, however, decided rather than placing any fill into the wetland, it would use the soils to fill the nonwetland immediately upslope of the wetland boundary to construct its restaurant, the COE would have absolutely no authority to regulate the action.

The likelihood of sand, rock or cellar dirt eroding from the stabilized fill, entering the wetland and the navigable Potomac River and "polluting" in either case is low and essentially the same whether the fill is placed in the wetland or immediately upslope of the jurisdictional limit. In the latter case, however, the COE would have no jurisdiction over the discharge of the fill and no ability to evaluate or regulate any potential pollution.

5.4 Frequency, Duration and Distance

The discussion above, highlights the fact that the upslope termination of COE jurisdiction at a point based upon insufficient hydrology is, in fact, a daily-practice and something that can and should be determined empirically. The concept can as easily and appropriately be applied to the longitudinal limits of jurisdiction. However, unambiguous, logical standards must be established. It is far more logical and less arbitrary to apply quantitative thresholds to determine the upper limits of jurisdiction in a tributary system than to rely upon the parting of leaves or presence of wrack lines.

Frequency and duration of flow must be assessed in relation to distance from a navigable water in determining the upstream extent of COE jurisdiction on channel networks. A criteria established upon a combination of these factors would be a reasonable, technically-defensible metric for defining the longitudinal limits of Section 404 waters. A 1st order stream that is close to a navigable water body (e.g., the D River in Oregon) could logically be regulated since a discharge of a pollutant into the stream could very reasonably be expected to pollute a navigable water - in this case the Pacific Ocean. On the other hand, a pollutant discharged into a low-order, ephemeral stream in the deserts of Arizona which has a very low frequency of flow and a discharge (when it does flow) that lasts for such brief duration that the flow dissipates because of transmission losses, can not reasonably be expected to ever reach a navigable water body which would be hundreds of miles distant. Regulation as water of the U.S. of such an ephemeral stream technically can not be justified.

Once the longitudinal limit of a Section 404 stream is defined, then the lateral limits must be established as well. In perennial streams, as in traditionally navigable waters, using the



Mean annual flow can be determined by application of known regression equations to simple stream measurements.

current definition of OHWM can provide an acceptable "eyeball" estimate. However, the actual lateral limits should be specified by a technically defensible method. One such approach that appears to be consistent with the courts' view of OHW, can be readily established in the field by simple measurements and can be computed through application of established formulae and methods, is the portion of the channel that is sufficient to carry the mean annual flow.

Thus, defining the OHWM based upon the mean annual flow, which is routinely determined on all gaged streams and which can be extrapolated to ungaged streams, is both logical and utilitarian, *i.e.*, there are quantitative data readily available to make the determination. It is a reasonable approach to defining the lateral limits of COE jurisdiction. These and other quantitative and logical metrics provide a technically sounder basis than the current policy which allows essentially any manifestation of flowing water of unknown frequency and duration to invoke jurisdiction.

6 Findings, Conclusions and Recommendations

6.1 Findings

1. All water on earth is interconnected at some level or in some time frame.
2. In the arid regions of the country, particularly the southwest, evapotranspiration exceeds precipitation. Many arid climates are associated with intense rainstorms which, over sparsely vegetated surfaces, generated locally high rates of overland flow runoff that lead to hillslope erosion by wash processes. Runoff tends to be patchy, however, and much of it infiltrates before reaching a channel or as it progresses down channel to a higher-order stream segment.
3. The existence of a mark on the ground is not necessarily indicative of the presence of a stream; a mark may form from other processes. Sheet flow may leave traces of oriented debris or soil particles from minor rivulets that are difficult to observe in densely vegetated landscapes but may be more readily apparent in arid climates with sparse vegetation. On a larger scale, tunnel collapse and mass failure may result in channels that are not derived from surface flow. A defined, morphological channel head, however, may indicate the existence of a stream.
4. There is a wealth of hard data on flow regimes throughout the Nation, and particularly in the southwest where local governments have supplemented USGS and NCDC stations with dense networks of gages to provide early warning of potential flood events.
5. As it travels downstream, water is lost to evapotranspiration, infiltration, and, surface storage in depressions in the channel and/or floodplain. Nationwide on average, only 30 % of the rainfall is not returned to the atmosphere through ETo and is available to replenish ground water and streams. In the arid and semiarid southwest, only high intensity, low frequency events provide any recharge to ground water or surface flow in stream courses because ETo exceeds precipitation.
6. Transmission losses are often extremely high in low-order channels, especially in drylands, which means that even the fine fractions of the soils will settle out long before they can reach a navigable water that is any distance away. Depending upon the volume of water and the duration of discharge, ordinary flows may completely dissipate in hundreds to thousands of feet as they travel over coarse-grained alluvium. Both the presence of surface water in a channel and the transport of suspended sediments in it can be modeled to determine how far it is likely to travel in a given rain event.
7. Many small channels in drylands only receive adequate runoff to flow on less than an annual basis. By definition, they do not flow ordinarily.
8. Many small channels that do flow on an annual basis do not carry sufficient discharge that the flow can reach traditionally navigable waters or deliver detectable levels of pollutants. In factoring in distance, the COE must account for transmission losses from remote channels, and dilution factors that will occur as pollutants flow through intrastate waterbodies before they can possibly reach a traditionally navigable waterbody.

9. The mere fact that a morphological connection exists in a channel network does not mean that any ordinary flow is connected to navigable waters.

6.2 Conclusions and Recommendations

1. The COE definition of OHWM, which arose in relation to traditionally navigable waters and was conscripted into the Section 404 program as a readily available rule, is based on subjective features and lacks technical reliability to determine whether the mark is the product of "ordinary" flow. The inclusion of such nebulous factors as "the presence of litter and debris" might be acceptable laterally in a traditionally navigable water, but is not scientifically supported for the longitudinal limit of an inland stream network.

2. The COE needs to redefine the longitudinal limit of Section 404 jurisdiction. The longitudinal limit of COE jurisdiction over a channel network should be based upon three factors: Frequency of inundation, duration of flow and distance to a traditionally navigable waterbody.

3. In factoring in distance, the COE must account for transmission losses from remote channels, and dilution factors that will occur as pollutants flow through intrastate waterbodies before they can possibly reach a traditionally navigable waterbody.

4. The mere fact that a morphological connection exists in a channel network does not mean that any ordinary flow is connected to navigable waters. Many channel features arise from infrequent, high intensity storm events and should not be used to determine jurisdiction.

5. Conversely, the lack of a morphological connection is strong evidence that ordinary flows dissipate and do not reach a downslope, disconnected channel.

6. The COE should not be regulating morphologically isolated wetlands simply because water could sheet-flow to a channel. Sheet flow over the landscape occurs at some point in time in almost all environmental settings.

7. The Corps needs to redefine the concept of adjacency as it relates to "neighboring" wetlands. It must define reasonable distances and frequencies (100-year recurrence frequency is not reasonable) and specify that the hydrologic connection must be **FROM** a jurisdictional channel **TO** the wetland and not be based on sheet flow from the wetland to the channel. The COE should not be regulating morphologically isolated wetlands simply because they are physically near a constructed ditch.

8. The COE should not regulate constructed ditches that are excavated in upland landscapes, nor should it regulate storm drains, sewers, pipes, agricultural drain tiles, gutters and other artificial conveyances, whether they potentially carry water to a traditionally navigable water or not. There are other legal mechanisms to control pollution from such sources. Consistent with 51 FR 41217, it should be the rare exception that an artificial conveyance is determined to be a water of the United States.

9. The sciences of hydrology and hydraulics have advanced greatly since the concept of OHWM was first coined in 1972. Today, there are computer models that allow prediction of flow events to a great degree of accuracy. In addition, there is a wealth of data available on flow regimes throughout the Nation and particularly in the arid West. The COE Hydrologic Engineering Center is a world leader in developing computer models for making predictions of flow regimes. The COE must utilize this capability to develop a technically defensible means of designating both the lateral and longitudinal extent of its jurisdiction under Section 404 of the CWA.

7 Acknowledgments

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STATEMENT OF DR. SCOTT YAICH, DUCKS UNLIMITED, INC.

Mr. Chairman, members of the committee, my name is Dr. Scott Yaich. I am the Director of Conservation Programs at Ducks Unlimited, Inc.'s (DU) National Headquarters in Memphis, Tennessee. I am certified as a Professional Wetland Scientist and Certified Wildlife Biologist by the Society of Wetland Scientists and The Wildlife Society, the professional organizations of these respective scientific disciplines. I have worked for DU since 2001, and previously served as Wetlands Program Coor-

dinator and Assistant Director for the Arkansas Game and Fish Commission for 13 years. My current duties include responsibility for overseeing DU's scientific review and response to issues related to the Clean Water Act.

I appreciate the opportunity to speak with you today on behalf of Ducks Unlimited. Our organization was founded in 1937 by concerned and farsighted sportsmen and conservationists. Our mission is to conserve, restore, and manage wetlands and associated habitats for North America's waterfowl, and for the benefits these resources provide other wildlife and the people who enjoy and value them. DU has grown from a handful of people to an organization of over 1,000,000 supporters who now make up the largest wetlands and waterfowl conservation organization in the world. With our many private and public partners we have conserved almost 11 million acres of habitat for waterfowl and associated wildlife in the U.S., Canada, and Mexico. Importantly, Ducks Unlimited is a science-based conservation organization. Every aspect of our habitat conservation activity is rooted in the fundamental principles of scientific disciplines such as wetland ecology, waterfowl biology, and landscape ecology. Thus, our perspectives on the Clean Water Act and related issues are based on our extensive grounding in these scientific disciplines, and we believe that wetland and water quality science can help bring insights to these complex issues.

WETLAND STATUS AND TRENDS

Of the estimated 221 million acres of wetlands originally present in the United States, 53 percent (115.5 million acres) had been lost by 1997. (Citations in support of statements of fact in this testimony are included in the accompanying report ["The SWANCC Decision: Implications for Wetlands and Waterfowl," Ducks Unlimited, 2001] and/or in DU's comments in response to the Environmental Protection Agency's Advance Notice of Proposed Rulemaking [ANPRM], Docket ID No.OW-2002-0050.) The Clean Water Act (CWA), initially passed in 1972, is believed by many to have been an important factor in slowing the rate of wetland loss from 458,000 acres/year during the 1950's-70's. However, wetland loss still exceeds 100,000 acres/year, even in the face of CWA protections and the implementation of important voluntary, incentive-based restoration programs such as those provided through the Farm Bill's conservation titles and the North American Wetlands Conservation Act.

As a nongovernmental waterfowl habitat conservation organization, DU has a long, productive history in working with voluntary, incentive-based wetland conservation programs, both public and private. Virtually all of our habitat accomplishments have been achieved through partnerships, a large percentage with private landowners. Nevertheless, despite the successes of DU and of many other organizations and programs, the country is still experiencing a net loss of wetlands each year. These losses not only have a cumulative negative impact on the waterfowl that our million members and supporters care so passionately about and contribute so much toward, but also on the nation's water quality and related Federal interests.

The wetlands of the prairie pothole region are often considered the prototypical "geographically isolated wetland." Of the approximately 20 million potholes that once existed in the northern U.S., only about 7 million remain. While most of these wetlands are small they are critically important, and this region is the most important breeding area for ducks in North America. An estimated 50 percent of the average total annual production of ducks comes from the potholes, and in wet years 70 percent or more of the continent's duck production can originate in this region. One analysis suggested that duck production in the pothole region of the U.S. northern prairies would decline by over 70 percent if all wetlands less than 1 acre were lost. However, wetland losses far less than this would significantly impact waterfowl numbers, and could result in closed waterfowl seasons with related impacts. Wetlands in other areas of the country are also vital for providing the breeding, migration and wintering habitat necessary to support continental waterfowl populations.

Waterfowl are a tremendously valuable interstate and international economic resource. Almost 3 million duck and migratory bird hunters expended approximately \$1.4 billion in 2001 for hunting related goods and services, with 14 percent of that hunting taking place in a State other than the one in which the participant resided. For example, in North Dakota, 47 percent of the State's waterfowl hunters in 2001 were non-residents, and in Arkansas over 42 percent of their 89,000 waterfowl hunters in 2002 traveled there from other States. Furthermore, commerce tied to the waterfowl resource and other wetland-associated fish and wildlife is not restricted to hunting. In 2001, 14.4 million people participated in watching waterfowl, with associated expenditures and values also measured in the billions of dollars.

FEDERAL JURISDICTION: WHY IS THE ISSUE SO IMPORTANT TO DU?

The Clean Water Act (CWA) has been an important component of the national framework of wetland conservation for over 30 years. It has been one of the more successful environmental programs in the nation's history. Many aspects of the country's water quality have improved measurably since 1972, and wetland loss rates have declined. Much of the progress in cleaning up the nation's water supplies has come in association with establishment of Federal jurisdiction over waters and wetlands that directly affect the nation's water quality, including those occurring on private lands. However, due to the regulatory elements of the Act, the exertion of this authority has generated considerable regulatory and legal debate. Understanding of the relationships between wetland and water science, the purposes of the CWA, and the evolution of the Act's legislative and judicial history can help bring insights to some of the existing confusion and passions.

DU is very concerned about the potential impacts of any change in the definition of "waters of the United States" that could have the effect of lessening jurisdictional coverage of important wetlands important to waterfowl under the CWA. Such changes could rapidly negate many of the conservation benefits that our volunteers and members have worked so hard for over the last 66 years.

LEGISLATIVE AND JUDICIAL STATUS AND TRENDS

As a result of actions by the agencies, decisions by the courts, and amendments to the CWA by Congress, there has been a steady evolution of what wetlands have fallen within CWA jurisdiction over the last 30 years. Then, in 2001, the Supreme Court's decision in the Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (henceforth SWANCC) invalidated one facet of the so-called Migratory Bird Rule as a sole basis for determining jurisdictional wetlands. This had the effect of confusing the scope of Federal jurisdiction over which waters and wetlands are subject to Section 404 of the CWA. However, while retaining navigable waters, their tributaries, adjacent wetlands, and wetlands which cross State lines within the definition of "waters of the United States," their decision did not make clear the new jurisdictional limits. This resulted in regulatory uncertainty, which the agencies, the regulated community, including Ducks Unlimited, and other interested parties are still trying to understand.

Nevertheless, in their SWANCC decision the Supreme Court explicitly acknowledged that "Congress passed the CWA for the stated purpose of 'restor[ing] and maintain[ing] the chemical, physical, and biological integrity of the Nation's waters.'" Their decision also reaffirmed Federal jurisdiction over navigable waters, their tributaries, and adjacent wetlands. They further stated that "we recognized that Congress intended the phrase 'navigable waters' to include 'at least some waters that would not be deemed navigable' under the classical understanding of that term." They also re-stated the observation in their United States v. Riverside Bayview Homes decision that "Congress's concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands 'inseparably bound up with the 'waters of the United States.'" The Court went on to clarify in their SWANCC decision that "It was the significant nexus between the wetlands and 'navigable waters' that informed our reading of the CWA in Riverside Bayview Homes."

With these statements the Supreme Court seemed to clearly view the connection between wetlands and "navigable waters" as a critical determinant for exercising Federal CWA jurisdiction over wetlands. Ultimately, however, their decision called into question the status of waters and wetlands that are non-navigable, geographically isolated, or intrastate, i.e., those lacking an apparent significant nexus to navigable waters.

CLARIFYING JURISDICTION: KEY DEFINITIONS

To shed light on the question of waters and wetlands that are jurisdictional in view of SWANCC, focus should be placed on the definitions of "tributary," "adjacent," and "significant nexus" as they relate to the interrelationships between geographically isolated wetlands and navigable waters. The regulatory definition of "tributary" seems to have achieved somewhat of a consensus in the courts over the last few decades. However, explicit clarification of this definition would be beneficial.

The previously cited recent assertions of the Supreme Court carry an implicit, but clear recognition that water quality of navigable waters is directly related to water quality in "adjacent" wetlands. The Court thus recognized wetland function as being an essential element of proximity and determination of Federal jurisdiction, and accepted that adjacency carries with it the presumption of a functional relationship,

i.e., a "significant nexus," between the wetlands and navigable waters. Thus, "adjacent" is another key term requiring definition.

In light of the acknowledged interrelationship of the Court's use of the terms "adjacent" and "significant nexus," we suggest that clarity might be advanced in practice by replacement of these two terms with a single one, "functionally adjacent." The central issue here would be the recognition that adjacency, from the standpoint of water quality maintenance, should not be viewed as being simply limited by physical proximity, but rather viewed in terms of functional relationships. Thus, functionally adjacent wetlands could be physically distant from a navigable water (just as a surface tributary deemed jurisdictional may be located many miles upstream of a navigable water), yet its direct functional linkage to (i.e., its significant nexus with) the navigable water for purposes of maintaining water quality as directed by the CWA would remain as the central element of a jurisdictional decision.

WETLAND HYDROLOGIC FUNCTIONS AND RELATED VALUES

Wetlands provide a broad array of ecosystem functions, all carrying some measure of societal value, but those most relevant to the CWA and Federal jurisdiction are the hydrologic and biogeochemical functions. Our appended complete comments on the ANPRM provide many literature citations and examples for the functions of "surface water storage and flood abatement," "groundwater relationships," and "water quality maintenance" performed by wetlands, thereby providing a significant nexus with navigable waters.

Virtually all wetlands improve the quality of water that they receive and then discharge. Evidence of the societal value of those water quality services is demonstrated by the actions of New York City to initiate a \$250 million program to acquire and protect up to 350,000 acres of wetlands and riparian lands in the Catskills. The city is taking this action to protect the quality of its water supply as an alternative to constructing water treatment plants which could cost as much as \$6–8 billion. In South Carolina, the wetland services provided by the Congaree Swamp negated the need for a \$5 million wastewater treatment plant.

All wetlands provide surface water storage and flood abatement functions, and the cumulative impacts of wetland loss have recently been seen in prominent examples of flooding on the Red, Missouri and Mississippi rivers. As another example, small pothole basins in the Devil's Lake watershed in North Dakota could store 72 percent of the total runoff from a 2-year frequency flood and approximately 41 percent of the total runoff from a 100-year frequency flood. To illustrate the recognition of the societal values associated with this flood abatement function, the city of Boston is acquiring 5,000 acres of wetlands in the Charles River watershed to avoid the necessity of constructing a \$100 million dam for flood control. In a related study, the U.S. Army Corps of Engineers determined that flood damages would increase by \$17 million per year if the 8,400 acres of wetlands in the Charles River basin were drained. Thus, apparently geographically isolated wetlands are often in fact functionally adjacent to navigable waters that are clearly jurisdictional from the perspective of the CWA and other Federal interests, such as flood control.

Finally, there are many examples of the direct functional linkages via groundwater connections between water in wetlands with that of navigable waters. Isolated and other wetlands very often contribute to groundwater recharge, and this groundwater then continues to move downslope toward intermittent or flowing streams ultimately terminating in navigable waters. For example, 20–30 percent of the water loss from prairie wetlands can be seepage to groundwater. Subsequent groundwater discharge into flowing streams over 16 miles away from these isolated wetlands has been documented. The sandhill wetlands of Nebraska have direct linkages to the High Plains (Ogallala) aquifer and rivers such as the Platte and Missouri through groundwater recharge from the surface and subsequent discharge to the rivers. Thus, the demonstrated linkages between geographically isolated wetlands, groundwater, and navigable waters supports the contention that adjacency and significant nexus for determining jurisdictional wetlands should be interpreted from a functional perspective if water quality is to be protected as intended by the CWA.

IMPLICATIONS OF REDUCING JURISDICTIONAL WETLANDS

There would be significant implications to the status of wetlands, and waterfowl and other associated resources, if Clean Water Act protections are removed from a broad spectrum of wetlands. If hydrologic links between wetlands and navigable waters are recognized when defining "adjacency," "tributary," and "significant nexus," then the CWA might continue being a factor in stemming wetland loss. However, if these terms are not defined in a hydrologic context, the number of wetlands af-

forded Section 404 protection will unquestionably decrease and have a significant negative effect on waterfowl populations. For example, the appended DU 2001 report estimated that 96 percent of the wetlands and 86 percent of the wetland acreage in the prairie pothole region might no longer be considered jurisdictional under the CWA. Even a very small increase in the annual rate of wetland loss could elevate loss rates to the high levels of the 1950's to 1970's, approximately 450,000 acres/year, and move the Nation even farther away from achieving President Bush's goal of no-net-wetland loss.

CONCLUSION

Rule-making decisions hinging on the definitions of "isolated wetland," "adjacent" and "significant nexus" have the potential to reverse 3 decades of progress in slowing the rate of net wetland loss and degradation. While DU strongly supports the use and expansion of an incentive-based approach to wetlands conservation, State, Federal and non-governmental conservation programs are unlikely to be funded at levels sufficient to offset these losses. Ducks Unlimited agrees with much of the rest of the regulated community that, in light of the uncertainty and confusion introduced by the SWANCC decision, clarification of jurisdictional wetlands and waters is important and overdue. However, we believe that this clarification can be expeditiously provided through administrative guidance processes of the agencies. We believe that administrative definition of the terms important to determining "waters of the U.S." should be strongly based on the related wetland and water quality science to address the existing scope of the Clean Water Act. This would at least restore the level of certainty and stability in the regulatory process and the level of wetlands protection that existed prior to SWANCC. In any case, changes to the administration of the Act, proposal of a rule, or amendments to the Act should only be undertaken if they strengthen protection of the Nation's wetlands.

Thank you for this opportunity to present our views on this issue, one that is central to the mission of our organization and the commitment of our million members, volunteers and supporters. Please do not hesitate to call upon us for any reason regarding these important issues. I would be happy to try to answer any questions you might have.

RESPONSES OF SCOTT C. YAICH TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. What is the mission of Ducks Unlimited?

Response. Our organization's mission statement is: "Ducks Unlimited conserves, restores, and manages wetlands and associated habitats for North America's waterfowl. These habitats also benefit other wildlife and people."

Question 2. You indicated in your testimony that duck and migratory bird hunters spent \$1.4 billion for hunting-related goods and services. Can you break that number down by State or region? Can you break that number down by sector?

Response. Please see Table 21, page 76 in the attached file, "USFWS 2001 Hunting Survey," for a complete break down of the \$1.4 billion migratory bird-related expenditures by sector (i.e., category of expenditure). This report, "2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation," is produced by the U.S. Fish and Wildlife Service and is available at: www.census.gov/prod/2003pubs/fhw01-us.pdf. Expenditures by type of hunting (e.g., migratory bird, big game, etc.) are not broken down by State in this report. However, to address your request we have used the report's estimate of the number of migratory bird hunters for each State (Table 56, page 104) to calculate an estimate of expenditures by State (see appended Table 1) based on the \$1.4 billion national total. Although these State-specific estimates are imprecise because of small statistical sample sizes and assumptions such as equivalent expenditures for migratory bird hunters among States, they nevertheless provide useful perspective of the economic importance of migratory bird hunting in each State.

Question 3. Are wetlands that aren't connected to other waterbodies any less important for wildlife than connected wetlands?

Response. I will assume that by "wetlands that aren't connected to other waterbodies" you have the phrase "geographically isolated wetlands" in mind and are referring to the distinction between wetlands connected by surface waters to flowing waters versus those lacking such a surface water connection. From that perspective, wetlands lacking a surface connection to clearly jurisdictional waters are no less important for wildlife than wetlands with such a linkage. All of the many diverse types of wetlands found across the Nation, e.g., large versus small, connected versus unconnected, permanent versus seasonal, are all important in their

own way for fish and wildlife. Wetlands with a surface linkage to flowing waters can be essential spawning habitat for many species of fish. For instance, some recreationally important species such as crappie are dependent upon seasonally flooded wetlands that may be dry for most of the year. On the other hand, geographically isolated wetlands can be critically important habitat for other wildlife such as waterfowl. For example, the prairie potholes of the northern great plains are largely considered geographically isolated but they constitute the wetland foundation for the most important breeding area on the continent for the most economically important species of ducks. An estimated 50 percent of the average total annual production of ducks comes from the pothole region, and in wet years 70 percent or more of the continent's duck production can originate in this region. The lack of a surface water connection to these wetlands and their often less than permanent inundation helps prevent fish from surviving in these wetlands. In this case, the absence of fish leads to a high productivity of invertebrates which are a critical source of food for waterfowl on the breeding grounds. Wetlands with even small fish in them are far less valuable for waterfowl in production areas than are wetlands with a surface water connection.

Wetlands lacking a surface water connection to jurisdictional waters are also often smaller than those with such connections. Small wetlands are not only at a disproportionately higher risk of being lost, but they also tend to provide different functions than large wetlands. They are typically shallower than large wetlands, warm more quickly, have a larger ratio of vegetated area to surface acreage, dry more frequently, and possess a greater perimeter: size ratio. These characteristics are typically associated with functional attributes such as increased productivity of vegetation and invertebrates, and contributions to groundwater. For example, one analysis by the U.S. Fish and Wildlife Service suggested that waterfowl production in the pothole region of the U.S. northern prairies would decline by over 70 percent if all wetlands less than 1 acre were lost.

While we have only included a few examples here, all types of wetlands are important to wildlife and fish, each in their own ways. Geographically isolated wetlands are no less important than geographically connected wetlands, and in many cases are more important to many species of wildlife, some which are tremendously important and economically valuable. However, as discussed below in our response to question 4, recognition that most of our nation's wetlands are indeed connected to jurisdictional waters, even though the connections may not be via surface water, is an even more important issue.

Question 4. Please elaborate on the concept of "functional adjacency" referred to in your testimony.

Response. One of Ducks Unlimited's primary objectives with our 27-page response to the January 2003 Advance Notice of Proposed Rulemaking was to help promote an understanding that while many wetlands may have the appearance of being "geographically isolated," the overwhelming majority of all wetlands in the U.S. are in fact not hydrologically or functionally isolated. Thus, there exists a hydrologic linkage that, consistent with the stated purpose and intent of the Clean Water Act (CWA) and important subsequent case law, constitutes a "significant nexus" between these wetlands and other jurisdictional waters. In other words, most so-called "isolated" wetlands are, in fact, functionally adjacent to navigable waters. Because of the functional linkages between wetlands and other waters, wetland science and classification does not and cannot separate out so-called "isolated" wetlands. Thus, in all but some very narrow instances of wetland types, the phrase "isolated wetland" is a legal or regulatory construct lacking a scientific basis.

There is a sound basis in the CWA and related judicial decisions for interpreting wetland connections to traditionally navigable waters from the science-based functional perspective. Citing the Supreme Court's earlier decision in *United States v. Riverside Bayview Homes* (474 U.S. 121, 1985) in their SWANCC decision, the majority stated that "we recognized that Congress intended the phrase 'navigable waters' to include 'at least some waters that would not be deemed navigable' under the classical understanding of that term" (Id., at 133). They also re-stated their *Riverside Bayview* observation that "Congress's concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands 'inseparably bound up with the 'waters of the United States'" (Id., at 134). They go on to clarify in their SWANCC decision that "It was the significant nexus between the wetlands and 'navigable waters' that informed our reading of the CWA in *Riverside Bayview Homes*" (U.S. Case No. 99-1178, para. 12).

With these statements the Supreme Court clearly viewed the connection between wetlands and "navigable waters" as a critical determinant for exercising Federal CWA jurisdiction over wetlands. Ultimately, however, their decision resulted in questions regarding the status of waters and wetlands that are non-navigable, geo-

graphically isolated, or intrastate, i.e., those lacking an apparent significant nexus to navigable waters. Therefore, to address the issue of waters and wetlands that are jurisdictional in view of SWANCC, the focus has been placed on the definitions of "tributary," "adjacent," and "significant nexus" as they relate to the interrelationships between geographically isolated wetlands and navigable waters.

Past court interpretations, at all levels, of what constitutes a tributary seem to overwhelmingly support a broad definition. Because of the obvious ability of any pollutant or fill material to flow downhill through a tributary watercourse, even intermittently, and ultimately degrade water quality of a downstream navigable water, the courts have consistently recognized the functional connections of tributary water to navigable waters. This has generally been the case for even altered or artificial connections such as channelized streams and drainage ditches. The surface water relationships between tributaries and navigable waters are apparent and easily observed, and the effect of this perspective has been to responsibly provide CWA protections to waters with clear surface connections to navigable waters.

In SWANCC, the Supreme Court's view of wetlands with respect to the issue of jurisdiction seemed to search for a similarly obvious physical connection to navigable waters. Their discussion placed an emphasis on isolation and adjacency, terms usually used within the context of physical proximity. Although the seeming importance of proximity may appear intuitive if one looks only at surface water connections between wetlands and navigable waters, this limited perspective fails to recognize the functional relationships that generally exist between these waters, even in the absence of surface connections. Nevertheless, these functional linkages have a direct impact on Federal interests such as water quality, flood storage and damage abatement, and navigation, and thus a direct bearing on the issue of jurisdiction. Therefore, the regulatory definitions of adjacency and significant nexus are critical to resolving the limits of Federal jurisdiction in addressing Congress' intent with the CWA "to restore and maintain the . . . integrity" of the Nation's waters. We believe that these regulatory definitions should be accurate and science-based, and functional adjacency more accurately represents the genuine, physical connections between wetlands and other jurisdictional waters than does mere geographic adjacency and connection via surface flow.

Riverside Bayview and other Section 404-related cases in which adjacency was central to evaluating jurisdiction have tended to interpret the term from within a strictly geographic context. However, the Supreme Court's ruling in Riverside Bayview was at the same time based on an implied connection between wetlands and the navigable waters to which they were adjacent but not necessarily connected via surface waters. The Court's previously cited and other assertions carried an implicit but clear recognition that water quality of navigable waters is directly related to water quality in wetlands located in close physical proximity even if not directly connected. The Supreme Court thereby implicitly acknowledged wetland function as being an essential element of proximity and determination of Federal jurisdiction. In SWANCC, the Court re-stated that "It was the significant nexus between the wetlands and 'navigable waters' that informed our reading of the CWA in Riverside Bayview Homes" (U.S. Case No. 99-1178, para. 12). Therefore, the Court accepted that adjacency carries with it the presumption of a functional relationship, i.e., the significant nexus, between the wetlands and navigable waters.

A functional foundation for jurisdictional decisions related to wetlands, whether geographically isolated or not, would help advance the discussion beyond having to attempt to base jurisdictional decisions on what could otherwise be an arbitrary delineation of what constitutes adjacency. In addition, this approach is lent support by the recent report on "Compensating for Wetland Losses Under the Clean Water Act" (National Research Council 2001). Recognizing the advancements in wetland science over the last 30 years, that report places some emphasis on the use of wetland functional assessment to provide an avenue for improving wetland mitigation within the CWA. In addition, the U.S. Army Corps of Engineers' December 24, 2002 Regulatory Guidance Letter No. 02-2 (p.3) on ". . . Compensatory Mitigation Projects . . . Pursuant to Section 404 of the Clean Water Act . . .," positively acknowledged the recommendations of the National Research Council's report and placed a special emphasis on "one-to-one functional replacement" of wetlands.

Therefore, in light of the acknowledged interrelationship and existing judicial precedence involving these terms (i.e., "adjacent" and "significant nexus"), we suggest that conceptual clarity and a scientific basis for Federal jurisdiction would be advanced by replacement of these two terms with a single one, "functional adjacency." The central issue here would be the recognition that adjacency, from the standpoint of water quality maintenance as the primary purpose of the CWA, cannot be viewed as being simply limited by physical proximity, but rather must be viewed in terms of functional linkages. Thus, functionally adjacent wetlands might

be physically distant from a navigable water (just as a surface tributary deemed jurisdictional may be located miles upstream of a navigable water), yet its direct functional linkage to (i.e., its significant nexus with) the navigable water for purposes of maintaining water quality as directed by the CWA would remain as the central element of a jurisdictional decision.

Question 5. Ducks Unlimited does extensive wetlands restoration work. In your comments regarding the ANPRM you make clear that the benefits of your work and that of programs like the Wetlands Reserve Program, and the U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program aren't sufficient to ensure habitat for ducks.

Response. The statement above is an accurate reflection of a portion of our comments. If there is a question related to this point, or an issue upon which you would like us to elaborate, we stand prepared to provide that at any time.

Question 6. How important is duck hunting and other wildlife-related recreation to the economy?

Response. The report, "2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation," referenced in our response to Question 1 and attached as an electronic file, contains a wealth of information related to the importance of duck hunting and other wildlife-related recreation to the U.S. economy. Over 82 million U.S. residents 16 years old and older participated in wildlife-related recreation in 2001. Their expenditures totaled \$108 billion. The nation's 37.8 million hunters and anglers expended \$70.0 billion in 2001, including \$35.6 billion on fishing, \$20.6 billion on hunting, and \$13.8 billion on items used for both. In addition, other economic studies have indicated that total economic impacts are three or more times larger than direct expenditures. For example, a similar survey in 1991 estimated that with their expenditures of \$1.3 billion, waterfowl hunters had a total economic multiplier effect of \$3.9 billion considering the 46,000 additional jobs and \$176 million in sales and income tax revenues produced. In 2001, the 3.0 million migratory bird hunters devoted 29 million days on 24 million trips for hunting these birds, with much of this activity being dependent upon wetland habitats. The 2001 survey found that 14 percent of this migratory bird hunting activity was interstate in nature, with this commerce being particularly significant in particular regions. For example, in North Dakota, with its large number of prairie pothole wetlands and associated waterfowl resources, 47 percent of the State's approximately 64,000 waterfowl hunters in 2001 were non-residents. In Arkansas, there were approximately 89,000 waterfowl hunters in 2002 and over 42 percent traveled there from other States. Almost all of the waterfowl harvested in mid-and southern latitude States such as Arkansas migrate there from northern production areas that contain abundant wetlands, most of which would be considered "geographically isolated."

In addition to the economics associated with hunting and fishing, the 2001 survey estimated that there were 66.1 million wildlife watchers in the U.S. who spent \$38.4 billion annually. This activity was most common among citizens over 35 years old, peaking with 39 percent of 55–64 year-olds participating in wildlife-observation at their residences. A relatively high percentage of the U.S. population with 4 years of college (34 percent) or more (41 percent) actively participated in this form of residential wildlife-related recreation. Nearly all wildlife observers (e.g., 96 percent of residential observers) watch birds. The majority of wildlife watching done away from the home by almost 22 million people was in association with wetlands and other water bodies. Furthermore, waterfowl were observed or photographed more than any other group of wildlife by those who took trips away from their home to watch wildlife.

The statistics cited here highlight only a few of the results reported in the complete U.S. Fish and Wildlife Service's "2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation." The report contains many other data which underscore the importance of hunting and wildlife-related recreation to the U.S. economy, highlight the breadth and magnitude of the U.S. population involved in this personal activity, and documents the dependence of a high percentage of this activity on the nation's wetland and water resources.

Estimated expenditures on migratory bird hunting

State	Estimated expenditures
Alabama	\$41,184,888
Alaska	*\$6,069,352
Arizona	\$26,878,558
Arkansas	\$74,132,798

Estimated expenditures on migratory bird hunting—Continued

State	Estimated expenditures
California	*\$49,855,390
Colorado	*\$23,843,882
Connecticut	¹
Delaware	*\$3,468,201
Florida	*27,745,608
Georgia	*\$37,283,161
Hawaii	¹
Idaho	*\$16,473,955
Illinois	*26,011,508
Indiana	*13,005,754
Iowa	*\$24,277,407
Kansas	\$34,248,485
Kentucky	*\$24,710,933
Louisiana	\$63,728,195
Maine	¹
Maryland	*\$20,375,681
Massachusetts	*\$8,236,978
Michigan	*\$23,843,882
Minnesota	\$79,768,624
Mississippi	\$33,814,960
Missouri	*\$29,913,234
Montana	*\$9,971,078
Nebraska	\$20,809,206
Nevada	\$12,572,229
New Hampshire	*\$2,601,151
New Jersey	¹
New Mexico	*\$14,739,855
New York	*\$43,786,038
North Carolina	\$44,219,564
North Dakota	\$26,445,033
Ohio	*\$30,346,759
Oklahoma	\$35,115,536
Oregon	*\$18,208,056
Pennsylvania	*\$36,849,636
Rhode Island	¹
South Carolina	\$30,780,284
South Dakota	\$22,109,782
Tennessee	\$43,352,513
Texas	\$216,762,566
Utah	\$22,543,307
Vermont	¹
Virginia	*\$19,075,106
Washington	*\$21,676,257
West Virginia	¹
Wisconsin	*\$23,843,882
Wyoming	*\$3,901,726

* Estimate based on small sample size.

¹Sample size too small to report data reliably

STATEMENT OF THE AMERICAN FARM BUREAU FEDERATION

The American Farm Bureau Federation wishes to submit the following statement for the hearing record.

The American Farm Bureau Federation's farmer and rancher members produce virtually every agricultural commodity grown or raised commercially in the United States. They own or lease significant amounts of land on which they depend for their livelihoods and upon which all Americans rely for food and other basic necessities. In recent years farmers and ranchers have become increasingly subjected to restrictive laws and regulations that impair their ability to farm efficiently, and, in some instances, have eliminated their ability to farm altogether. The protection of wetlands under Section 404 of the Clean Water Act (CWA) poses one of the more onerous regulatory problems production agriculture faces today.

While American farmers and ranchers have the highest production rates in the world, multiple layers of restrictive regulations at the local, State and national lev-

els have impaired their ability to farm and ranch efficiently in an increasingly competitive global market. The type of land-use restriction placed on farmers and ranchers by such an expansive regulatory interpretation of the CWA is far beyond what Congress intended, at best creating uncertainties about permissible conduct and at worst exposing farmers and ranchers pursuing routine farming activities to substantial penalties.

Section 404 of the CWA, 33 U.S.C. § 1344, regulates “the discharge of dredged or fill material into the navigable waters at specified disposal sites.” From its inception in 1972, the Section 404 permit program has been a very controversial, complex and contentious program. Its application and misapplication to farms and farming have played a key role in its evolution.

While Congress has rejected Federal land-use controls, the Section 404 wetlands program has, unfortunately proven an effective mechanism to control portions of the nation’s farming and ranching landscape. Federal agencies, especially the Environmental Protection Agency, the Army Corps of Engineers (Corps) and the Fish and Wildlife Service have expanded the reach of the Section 404 wetlands program far beyond “navigable waters” and wetlands immediately adjacent to “navigable waters.” Section 404 has become “a symbol to many Americans of how a well-intentioned legislative initiative can turn into a quagmire of disruption, frustration, and bureaucratic entanglement for ranchers, farmers, foresters, and average citizens of this country.”¹

The Clean Water Act authorizes the U.S. Army Corps of Engineers to exercise limited jurisdiction over navigable waters. Farm Bureau does not question the power of Federal agencies to regulate the discharge of a pollutant into “navigable” interstate waterways or adjacent wetlands. Proximity to “navigable” waters is very important and clearly helps define the outer limits of Federal CWA authority. In *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers* ET AL. 531 U.S. 159 (2001) (SWANCC), the Court limited Federal jurisdiction to “navigable waters” and to wetlands immediately adjacent to “navigable waters.”

The majority and minority opinions both held that mere hydrological connection is not enough to claim Federal jurisdiction and emphasized that there must be a clear and compelling connection between traditional navigability and the wetlands or waters to be regulated by Federal agencies. The SWANCC decision emphasized that “navigable waters” define the limits of the Clean Water Act jurisdiction and that . . .

“The term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.”

The Court also stated that the Corps’ . . .

“interpretation of the CWA, promulgated 2 years after its enactment, is inconsistent with that which it espouses here. Its 1974 regulations defined Section 404(a)s ‘navigable waters’ to mean “those waters of the United States which are subject to the ebb and flow of the tide, and/or are presently, or have been in the past, or may be in the future susceptible for the use for purposes of interstate or foreign commerce.” 33 CFR Section 209.120(d)(1). The Corps emphasized that it is the water body’s capability of use by the public for purposes of transportation or commerce which is the determinative factor.” Section 209.260(e)(1).

Importantly, while the Supreme Court decided SWANCC on statutory grounds, it stated that the government’s expansive interpretation of its jurisdiction under the CWA in the “migratory bird rule” raised “serious constitutional questions.” First, there is a “significant constitutional question” whether birds supply a sufficient connection to commerce to bring all land and water used by birds within the Federal Government’s “commerce power.” Second, asserting such broad Federal authority “would result in a significant infringement of the States’ traditional and primary power over land and water use”—power reserved to the States by the U.S. Constitution’s Tenth Amendment.

The U.S. Supreme Court in the SWANCC case clearly rejected the Corps of Engineers’ claim of Clean Water Act jurisdiction over non-navigable, isolated, intrastate waters under the Migratory Bird Rule. Of critical importance to the Court’s conclusion was the plain text of the CWA, which grants jurisdiction over only “navigable waters.” The Court found that “[t]he term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the Clean

¹A Legislative History of the Clean Water Act of 1977: A Continuation of the Legislative History of the Water Pollution Control Act (“Legislative History”) 902 (1978) (statement of Sen. Bentsen, (D-TX))

Water Act: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.” SWANCC, 531 U.S. at 172. Because the Migratory Bird Rule was based on Congress’ broader power to regulate activities substantially affecting interstate commerce—not on Congress’ “commerce power over navigation”—the Migratory Bird Rule exceeded the scope of the CWA. As the Court observed, “this is a far cry, indeed from the ‘navigable waters’ and ‘waters of the United States’ to which the statute by its terms extends.”

SWANCC clearly eliminates CWA jurisdiction over isolated waters that are intrastate and non-navigable, where the sole basis for asserting CWA jurisdiction is the actual or potential use of the waters as habitat for migratory birds. Similarly, jurisdiction cannot be based on other affecting commerce clause rationales in the Corps’ existing regulations at 328.3(a)(3)(i)-(iii) (use of the water by interstate or foreign travelers for recreational or other purposes; the presence of fish or shellfish that could be taken and sold in interstate commerce; use of the water for industrial purposes by industries in interstate commerce.) These factors, like the Migratory Bird Rule, are founded on an “affecting interstate commerce” theory of jurisdiction, not on Congress’ commerce power over navigation. Therefore, these other factors are impermissible in light of SWANCC and cannot be used as a basis for jurisdiction.

Prior to the SWANCC decision, the Migratory Bird Rule had allowed the Corps and EPA to essentially assert jurisdiction over any water, anywhere under the “affecting commerce” theory of jurisdiction. Under such a theory, field regulators did not have to determine whether something was a “tributary,” whether something was “adjacent,” or whether something qualified as an “impoundment.” Now that the Migratory Bird Rule is gone, however, the meaning of these other regulatory terms is critical. In fact, the Corps’ existing nationwide permit regulations already define the term “isolated waters” as something that is not a tributary and not adjacent, thus calling into question the meaning of these other terms. See 33 C.F.R. § 330.2(e).

The Army Corps of Engineers and the Environmental Protection Agency must conduct a rulemaking not only to define the term “isolated” but more importantly to establish clear definitions of the specific terms on which the agencies are relying to establish jurisdiction: “tributary,” “adjacent,” “impoundment,” and “ordinary high water mark.” All these terms are either vague or undefined under the existing regulations. In the absence of a rulemaking to define these terms, field regulators have unbridled discretion to make up meaning (and thereby jurisdiction) on an ad-hoc, arbitrary, and inconsistent basis.

Fundamental principles of due process and good government require the regulatory agencies to clearly and uniformly set forth the scope of Federal jurisdiction. The regulated public must be given fair notice as to what conduct is prohibited under the CWA. Vague and ambiguous regulatory requirements lead to lengthy, costly and often unnecessary permitting requirements for critical public infrastructure and private projects.

AFBF believes the SWANCC decision clearly limited the scope of Federal CWA jurisdiction to “navigable waters” and wetlands and other waters that abut “those waters of the United States which are subject to the ebb and flow of the tide, and/or are presently, or have been in the past, or may be in the future susceptible for use for purposes of interstate or foreign commerce.” 33 CFR Section 209.120(d)(1). In 1974, the Corps’ intent was to “emphasize that it is the water body’s capability of use by the public for purposes of transportation or commerce which is the determinative factor.” Section 209.260(e)(1). We encourage the agencies to reaffirm this position. The fact that this intent was so clearly stated so soon after enactment of the CWA reflects most accurately the intent of Congress when it enacted the CWA.

We look forward to working with you on this important issue.

STATEMENT OF P. SCOTT HASSETT, SECRETARY, WISCONSIN DEPARTMENT OF
NATURAL RESOURCES

Thank you for the opportunity to present the following comments on the need to protect the nation’s so-called “isolated” wetlands and their benefits for people and wildlife across America.

Wisconsin has a well-founded reputation and tradition of environmental protection and has strongly supported the Clean Water Act. We believe that the Clean Water Act and its section 404 program complements our State program and provides comprehensive protection of Wisconsin’s valuable water resources.

When the Supreme Court restricted protection of isolated waters in its 2001 decision, *Solid Waste Agency of Northern Cook County v. U. S. Army Corps of Engineers*, Wisconsin found itself without the authority to regulate “isolated” wetlands. We were not alone—along with 35 other States we did not have stand-alone wetland

regulations that would automatically fill the gap in the loss of Federal jurisdiction. Rather, our wetland program piggybacked on Federal jurisdiction and wetland protection depended on the Corps' regulatory jurisdiction under the Clean Water Act.

Nearly 30 percent of Wisconsin's wetlands (over 1 million acres) are "isolated" and suddenly lost regulatory protection. Wetlands determined to be no longer protected by the Federal Government included some of the State's most sensitive wetlands—prairie potholes, glacial kettles, coastal swales, bogs, calcareous fens and other basin wetlands. These are wetlands that the public often don't recognize as wetlands, yet they provide crucial functions, especially as critical habitat for Wisconsin plants, fish and wildlife. Of Wisconsin's 370 species of birds, 39 percent live in or use wetlands. Many important game birds, mammals and fish are associated with wetlands, among them waterfowl, white-tailed deer, ring-necked pheasants, northern pike and walleye. Fully one-third of the plants and animals on Wisconsin's State endangered and threatened list depend on wetlands. The proportion is even higher (43 percent) for plant and animal species in Wisconsin that are on the Federal endangered and threatened species list. Wisconsin wetlands protect water quality by filtering out polluted runoff, prevent flooding by storing water and provide recreation for boaters, hunters, canoeists, wildlife watchers and others. In addition, Wisconsin wetlands are intimately associated with other major community types in the State—lakes, rivers, prairies, forests—and they play a critical role in maintaining the overall health and functioning of these communities. Similar impacts have reported by most States and in numerous reports and studies since the SWANCC decision.

Legislative response was swift in Wisconsin. Then Governor Scott McCallum issued a strong statement that the Supreme Court ruling, "will not result in a retreat from our long-standing commitment to protect Wisconsin wetlands". Almost 4 months to the day after the Supreme Court decision, the Wisconsin legislature unanimously passed legislation giving the Department of Natural Resources the authority to protect isolated waters.

While Wisconsin has taken action to protect its own wetlands, we remain concerned about the fate of isolated wetlands in other States. A large percentage of Wisconsin's wildlife migrates and spends some portion of their life in other States and countries. If the wetlands are lost along migration routes on wintering or summering grounds, Wisconsin will suffer enormously. The recent reintroduction of whooping cranes to Wisconsin is a prime example—not only do the birds winter and summer in isolated wetlands, they use isolated exclusively as stopovers in their migration to and from their wintering grounds.

Wisconsin believes that the nation's isolated wetlands are extremely critical to the nation's environmental health and must be protected. While State protection of wetlands is very important, national action is needed to restore protection to the nation's "isolated" waters. The move from Federal to State control over isolated wetlands has proven to be extremely difficult for most States (only two other States have successfully passed legislation or rules). Inaction (or reliance on State action) will guarantee irreversible loss of precious water resources and the benefits they provide to this Nation.

This concern is shared by other States. Over 60 State agencies from 40 States responded to the recent Advance Notice of Proposed Rulemaking on the Definition of Waters of the U.S. By an overwhelming majority States supported maintaining the pre-SWANCC definition of Waters of the U.S. and opposed rulemaking that would make significant changes. Many of the States documented significant threats to isolated as well as other waters in the State that could result from changes in CWA jurisdiction. States support stronger State participation in protecting and managing the Nation's waters, but these need to be achieved by sharing responsibilities and strengthening partnerships, not through an abdication of Federal responsibility for these important resources.

In summary, Wisconsin strongly believes that national legislation is needed to return protection to the nation's so-called "isolated" wetlands and the benefits they supply to this Nation. We urge you to support and take quick action on the Clean Water Authority Restoration Act introduced by Senator Feingold and Representatives Oberstar and Dingell.

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Green-backed herons live near fresh and salt water lakes, streams, shores, swamps, marshes, rivers and ponds. Curiously, they are known to use bait (frogs, insects, frogs, mice, etc.) to lure fish.

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INTRODUCTION

AMERICA'S WETLANDS ARE IN DANGER. THIRTY YEARS AFTER PASSAGE OF THE CLEAN WATER ACT, WETLANDS CONTINUE TO BE DRAINED, FILLED AND POLLUTED AT AN ALARMING RATE. SO-CALLED "ISOLATED WETLANDS" ARE IN PARTICULAR PERIL, DUE IN GREAT MEASURE TO A RECENT SUPREME COURT DECISION POTENTIALLY JEOPARDIZING FEDERAL CLEAN WATER ACT PROTECTIONS FOR MILLIONS OF ACRES OF WATERS AND WETLANDS.



Smartweed

Wetlands perform several vital functions in the environment. Among other things, they filter pollutants from water, provide critical habitat for a variety of species and mitigate flood damage. Recognizing these important functions, Congress included protections for wetlands in the 1972 Clean Water Act. But in January 2001, the U.S. Supreme Court issued a ruling, *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers*, that could significantly narrow the scope of the Act's protection of wetlands. Although the scope of the Court's ruling is not completely clear, it has been read by some to

exclude waters determined to be "isolated" from protection under the Clean Water Act.

In application, the ruling has created both confusion and environmental peril because it leaves open to interpretation the question of which wetlands are in fact "isolated."

The issue is a matter of considerable debate, in part because the term "isolated" has no real grounding in science. Researchers and scientists recognize the complex web of connections between seemingly separate or "isolated" wetlands and other waters: they are often connected by water overflow or by groundwater; and they frequently support the same species but during different stages of their life cycles. In addition, so-called "isolated" wetlands, such as prairie potholes, absorb floodwaters and filter pesticides and other pollutants, protecting downstream tributaries, rivers, and wetlands. In short, seemingly "isolated" wetlands are critically necessary to the healthy functioning of the overall ecosystem.

In the public policy arena, however, as much as 20 to 30 percent of America's wetlands might eventually be deemed "isolated" by the executive branch or by the courts because they will apply an unscientific standard: the absence of a direct surface connection to other bodies of water.

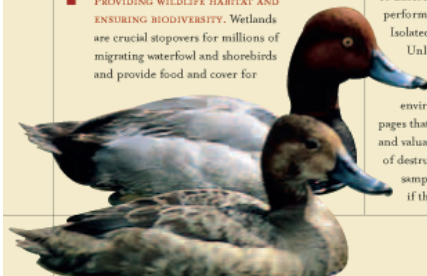
Unless Congress takes action to reassert federal protection, or until individual states take action, decisions about which wetlands are to be protected will be made by the Environmental Protection Agency, the Army Corps of Engineers and the courts, attempting to interpret the Supreme Court's decision. The predictable result is that vast wetland areas will be destroyed, potentially devastating plant and animal life, including a range of migratory birds, increasing the risk of flood damage for populated communities, diminishing wetland-filtration of polluted waters and more. Indeed, in the short time since the SWANCC decision, this wetland loss has already begun to occur.



THE SWANCC DECISION

As the pages that follow illustrate, "isolated" wetlands encompass a rich variety of marshland and small pools. They may be permanent or temporary, reappearing from season to season or year to year, depending on precipitation. Because many are small or exist only for a short period each year, their importance is often not appreciated by policymakers and the public. Indeed, developers frequently target isolated wetlands for commercial projects, despite their environmental importance. The truth is that isolated wetlands play the same vital roles in the environment as other wetlands:

- **CURBING DAMAGE FROM FLOODS.** Every year in the United States, floods cause approximately 200 deaths and some \$3 billion in property damage.¹ Wetlands help curb this loss by absorbing flood waters and impeding the rush of storm runoff, allowing for a slower discharge of water flow.
- **REPLENISHING WATER SUPPLIES.** Wetlands help replenish the drinking water supplies on which communities depend. For example, in west Texas, the Ogallala aquifer is recharged by thousands of scattered wetlands called "playa lakes."
- **IMPROVING WATER QUALITY.** Dubbed the "kidneys" of the landscape, wetlands remove excess nutrients, toxic materials and sediments from the water that flows through them. "Restoring just one percent of a watershed's area to appropriately located wetlands has the potential to reduce polluted runoff of nitrates and herbicides by up to 50 percent....[S]mall wetlands are at least as effective as the same acreage in a larger wetland," according to one expert.²
- **PROVIDING WILDLIFE HABITAT AND ENSURING BIODIVERSITY.** Wetlands are crucial stopovers for millions of migrating waterfowl and shorebirds and provide food and cover for



In the past, under the Clean Water Act, property owners had to apply for a permit from the Army Corps of Engineers before destroying isolated wetlands. This federal jurisdiction was based in part on the Migratory Bird Rule, which protects habitat used by migrating birds. But on January 9, 2001, in *Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers*, the Supreme Court ruled that the Migratory Bird Rule could not be used as the sole basis for federal regulation of "isolated" waters.

breeding and nesting. Without prairie potholes, the majority of ducks in the mid-continental United States would be at risk. According to the U.S. Environmental Protection Agency, 43 percent of federally threatened and endangered species, such as the whooping crane, rely on wetlands for their survival.

Temporary or seasonal isolated wetlands are critical to the survival of vulnerable amphibian populations. Juvenile frogs, toads and salamanders depend on small wetlands as a haven from fish predation. The loss of small wetlands can wipe out whole populations of amphibians.

Small wetlands also host diverse and unusual plant communities that could prove important to efforts to develop new medicines and other botanical products. But the plants are disappearing before even being studied.

- **RECREATION, FOOD AND AESTHETIC ENJOYMENT.** Each year, millions of Americans visit wetland areas to hunt, canoe and birdwatch. Moreover, wetlands are living laboratories for students of all ages.

Researchers have found that ecological well-being depends not only on preserving the total acreage of wetlands, but on maintaining a mosaic of different types and sizes of wetlands that together perform these complex and critical functions.

Isolated wetlands are crucial pieces of this mosaic. Unless political leaders act quickly to protect them, however, they may be lost forever.

Wetlands play a vital role in the environment in all regions of the nation. The pages that follow offer a survey of many of the unique and valuable types of wetlands that are at greater risk of destruction due to the SWANCC decision and a sampling of the plant and animal life put at risk if these wetlands are lost.

above: Yellow-headed blackbird
below: Red eared turtles
left: Red head ducks



SOUTHEAST



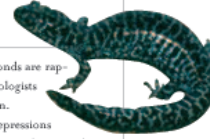
THE SOUTHEASTERN UNITED STATES OFFERS THE RICHEST VARIETY OF ISOLATED WETLANDS IN THE NATION INCLUDING *Carolina bays* and *pocosins*, *gum ponds*, *Citronelle ponds*, *mountain bogs*, *cypress domes*, *oxbows*, *limesinks* AND *dunal swales*.

many isolated wetlands in the southeast are critical to the health and survival of frogs, toads, newts and salamanders—amphibians whose populations are in precipitous decline around the globe. The causes of this decline are not fully understood, but habitat destruction is a prime culprit. Seventy-four native species of amphibians live in the coastal plain of the Southeast, including many that are threatened or endangered, such as the flatwoods salamander and gopher frog.

CAROLINA BAYS are home to dozens of amphibian species. Oval-shaped depressions of unknown

origin, Carolina bays are often too small or temporary to sustain fish, making them a safe haven for breeding amphibians and development of tadpoles. Indeed, some Carolina bays fill only in heavy rains and are sometimes mistaken for puddles. But these small wetlands are crucial for maintaining regional biodiversity. In a 16-year monitoring study of one-acre Rainbow Bay in South Carolina, for example, researchers identified 27 species of frogs, toads and salamanders and recorded breeding activity of nearly 42,000 female amphibians and the production of more than 200,000 metamorphosing juveniles.³

Pleurodeles waltmani, a federally-endangered species, has suffered serious declines due to destruction of its pine flatwoods and seasonally-flooded wetland habitats.



southeast

A small wetland's value as breeding habitat is partly a function of its proximity to other wetlands. "There used to be a whole suite of ponds that amphibians could go to—if some were flooded, others were dry," says Fish and Wildlife biologist Linda LaClaire who has studied "perched" isolated wetlands in upland areas of Mississippi. "Recent court cases have pretty much removed [Clean Water Act] protection, so they're continuing to be lost. There is no federal or state protection here in Mississippi for this type of wetland."

POCOSINS—bogs formed in clay or peat soil—are another vanishing resource. Pocosins, which take their name from the Algonquin word for "swamp on a hill," once covered more than half-a-million acres from Virginia to Alabama. Today less than one-third of this acreage remains. Remaining pocosins are home to a wealth of threatened and endangered plants, including the venus flytrap, sweet pitcher and spring-flowering goldenrod. If this habitat is lost, many plants may face extinction.

Pocosins also support a rich array of rare fauna, including Hessel's hairstreak butterfly, the endangered red-cockaded woodpecker, the American alligator, black bears, bobcats, marsh rabbits, and 65 species of migratory birds.

Pocosins also help control the movement of fresh water to nursery beds for shellfish by holding rainfall and diluting runoff across wide regions of the coastal plain. The loss of pocosins and other wetlands on the coastal plain threatens these nursery beds, which require the proper salinity in estuaries to thrive.

Pocosins, like all peat-accumulating wetlands, play an especially valuable role in the global environment, storing large amounts of organic matter that would otherwise decay and release carbon dioxide into the atmosphere, contributing to global warming.

Wetlands such as **CYPRESS DOMES** and **CITRONELLE PONDS** (also called **GRADY PONDS**) help protect coastal areas from flooding. Found along the Gulf Coast from Mississippi to the

Florida panhandle, Citronelle ponds are rapidly disappearing, even before biologists learn their full value and function. Researchers believe these small depressions help prevent flooding, recharge groundwater and maintain water quality. "Action to preserve Citronelle ponds is urgently needed," according to Auburn University wetlands specialist George Folkerts. The vast tapestry of wetlands in the Southeast is in jeopardy. Three-quarters of the Carolina bays in South Carolina, for example, have already been disturbed or destroyed by agriculture and timber harvest, according to the U.S. Fish and Wildlife Service. Other wetlands are polluted by lawn, golf course and agricultural runoff, or are being filled for development.

In Barnwell, South Carolina, 76 acres of wetlands on a parcel of land had been federally protected. But the Army Corps of Engineers recently decided that the SWANCC ruling left it with jurisdiction over just 1.7 of those acres. The site has been proposed as a technology park, and the wetlands will likely be destroyed. Similar decisions have been made by the Corps for at least three dozen other sites in the Charleston district alone.

SPECIES SPOTLIGHT | Pine Barrens Treefrog (*Hyla andersoni*)

The tiny and elusive Pine Barrens treefrogs are one of nature's most colorful amphibians, with a bright green back accented by purple stripes and yellow-orange legs underneath. The frogs' toes have sticky pads suitable for clinging to bark. Hiding under cover and measuring in at just one and a half inches, the frogs can be difficult to find, but they are part of the "hidden biodiversity of the natural world," say biologists at the Savannah River Ecology Lab.

Pine Barrens treefrogs are found in only a few places: the pocosins and sandhills of the Carolinas, shrub habitat in the Florida panhandle and a small area of bogs in Alabama and New Jersey. They use even the smallest of ponds for breeding, because they are safe there from predation by fish.

Scientists are studying Pine Barrens treefrogs to learn more about the important role amphibians play in wetland ecosystems. To learn where the treefrogs breed, researchers use special tape recorders called "frogloggers."



A report by the National Wildlife Federation and Natural Resources Defense Council

NORTHEAST/
MID-ATLANTIC



THE NORTHEASTERN REGION OF THE UNITED STATES IS HOME TO A MIX OF northern bogs, woodland vernal pools AND forested wetlands.

a 1990 study of American black ducks demonstrated the importance of preserving a variety of wetland types. University of Maine researchers found that the ducks thrived in large **MARSHES** of dense vegetation near a complex of diverse wetlands.⁴ Together, this diversity offers young ducks the diet they need, including bulrush, burreed and sedge, as well as seeds from water lilies and pond weeds. During the breeding season, American black ducks depend on **FORESTED WETLANDS**—swamps of red

maple, ash, cedar, spruce and larch; as well as **SCRUB-SHRUB HABITATS**—bogs and swamps dominated by shrubs and stunted trees. These wetlands offer seclusion and an abundant source of insects and other food critical for hens to produce large clutches of eggs.

WOODLAND VERNAL POOLS and other small, temporary wetlands are scattered throughout the region. Because of their temporary nature—reappearing and disappearing from year to year or season to season—it is important to have many such wetlands in close proximity so that wildlife will consistently have available habitat. “If you really were to lose most of the isolated wetlands, you’re talking about major implications for our amphibians,” says conservation biologist James Gibbs of the State University of New York in Syracuse.

"Small wetlands actually serve a whole different segment of the biota."

In a study of a single, one-acre pond in eastern Massachusetts, 14,000 adult amphibians were counted. In addition to amphibians, various species of dragonflies, damselflies and many rare turtles inhabit these temporary, isolated pools. Another unusual species, intricate fairy shrimp, exist only in ten small pools in Massachusetts, according to the U.S. Fish and Wildlife Service.

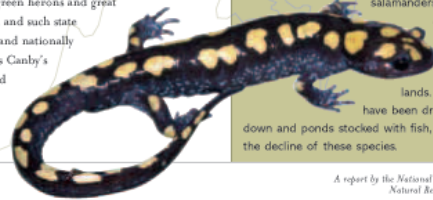
KETTLE HOLES and **BOGS**, found from New Jersey's pine barrens through New England, are another feature typical of this region. Fed by groundwater and rain, these small bowls house many rare species of plants, including a wide variety of orchids.

To the south, some 40 percent of the Delmarva Peninsula is covered by forested wetlands, many of them isolated. The sandy soil of the region is heavily farmed, and the leaching of agricultural chemicals, notably nitrates, poses a serious threat to groundwater. Forested wetlands help alleviate this problem by trapping and removing nitrates.

According to a study of three regions on the Delmarva Peninsula by the U.S. Geological Survey, forested wetlands are among the most important factors affecting water quality there.¹

Also in Delaware and Maryland are unusual wetlands known as **DELMARVA BAYS** (sometimes called potholes, kettles, sinkholes, round ponds, black bottoms, loblollies and whale wallows). Like their southern cousin, the Carolina bay, Delmarva bays are elliptical depressions with distinct sandy rims that are flooded in late winter and spring. Over the years, many Delmarva bays have been destroyed for farming; however, Maryland law now affords them special protection. Among the biological treasures dependent upon these small wetlands are nesting colonies of green herons and great blue herons, and such state endangered and nationally rare plants as Canby's dropwort and Harper's sedge.

Amphibian



residents include spring peepers and rare Eastern tiger salamanders.

While the New England states and Maryland have some of the strongest wetland protections in the nation, gaps in those legal protections leave small, isolated wetlands at risk. In other states in the region, many wetlands are in jeopardy.

New York, for example, regulates only those wetlands 12.4 acres or larger or of "unusual local importance." As of January 2002, the Buffalo District of the Corps, citing the SWANCC decision, had renounced its authority over more than 80 acres of wetlands.

In Delaware, such isolated wetlands as vernal pools, **SEA LEVEL FENS** and Delmarva bays currently have no protection.

SPECIES SPOTLIGHT

Spotted Salamander (Ambystoma maculatum)

As the snow melts in spring, spotted salamanders emerge from their underground burrows and migrate to vernal pools or larger ponds. There, for a few nights each year, the salamanders breed, the males rubbing the females with their nose as part of the courtship. The females lay a mass of eggs that hatch in just a few days. As the larvae metamorphose into juvenile salamanders, small pools, free of fish, offer them a safe environment. For the next few years, the young salamanders live on land before reaching sexual maturity and migrating to their natal pond, if possible, for breeding. Some live as long as 30 years, spending most of their lives in the forest, except for their annual breeding migration.

Scientists stress that the spotted salamanders and other amphibians depend on forested areas and small wetlands. Yet, wetlands have been drained, forests cut down and ponds stocked with fish, contributing to the decline of these species.



northeast/mid-atlantic

above: Great Blue heron and Calico pennant dragonfly
opposite page: New England bog

GREAT LAKES/
UPPER MISSISSIPPI



MILLIONS OF ACRES OF WETLANDS ARE AT RISK IN THE GREAT LAKES REGION OF THE MIDWEST, INCLUDING *glacial kettle holes, coastal swales, northern peat bogs, prairie potholes, AND ephemeral wetlands*. THE REGION PROVIDES IMPORTANT HABITAT FOR WATERFOWL, PARTICULARLY FOR MALLARD DUCKS. BECAUSE OF THIS, DUCKS UNLIMITED FINDS THE POTENTIAL LOSS OF ISOLATED WETLANDS IN THE REGION TO BE ESPECIALLY TROUBLING.⁷

along the Missouri River, researchers found that a mix of wetlands was essential as habitat for map and slider turtles. In warmer months, turtles seek out **SCOURED WETLANDS** (formed as isolated ponds when river levees fail) and **TEMPORARY WETLANDS** in forests and agricultural lands. "Seasonal floodplain wetlands

are some of the most productive freshwater habitats; hence it is likely that turtles move en masse to these habitats from March through August to take advantage of the seasonal flush of productivity," note University of Missouri biologists.⁸

NORTHERN PEATLANDS, such as the Lake Agassiz peatlands of northern Minnesota, are an

Ephemeral wetland



SPECIES SPOTLIGHT | Pitcher Plant (*Sarracenia purpurea*)

inhospitable environment for many plants and animals, with few nutrients, acidic waters and extreme temperatures. But highly specialized plants, such as sphagnum moss and wild cranberry, have adapted to these conditions. Peatlands are thus a key ecosystem for conservation of biodiversity. They are also habitat for migrating birds and for mammals, from the masked shrew, to beavers, lynx and moose.

EPHEMERAL WETLANDS are another valuable feature of the Midwestern landscape. Rainwater in these shallow depressions warms quickly in early spring, producing an abundance of food for wood ducks and other wildlife before other wetlands begin to thaw.

More than 40 percent of Ohio's wetlands might be classified as isolated. One species at risk is the mole salamander, whose prime breeding habitat is **VERNAL POOLS**. Also at risk are the wood frog and chorus frog, and plants such as the Cypress knee sedge.

In Indiana, the Department of Environmental Management estimates that more than one-third of the state's 800,000 acres of wetlands may be classified as isolated. Wetlands at risk include globally rare **DUNE AND SWALE WETLAND COMPLEXES**. These low depressions along beaches and sand dunes are rich aquatic habitats, home to such unique plant species as Houghton's goldenrod, Lapland buttercup and round-leaved orchid.

The Wisconsin Wetlands Association called the SWANCC decision "the worst threat to our state's precious wetland resources for more than 20 years." Before the state legislature had time to pass a new law to protect isolated wetlands, 23 acres had

The pitcher plant, an intriguing carnivorous plant, dines on insects and spiders, and even the occasional small frog. To lure their prey, the plants have a beautiful, seductive exterior. Unsuspecting organisms land on the pitcher's red lip and are drawn downward by nectar-laced veins and fine hairs into a deadly brew of dew, rainwater and digestive enzymes. Despite their propensity for devouring bugs, pitcher-plants actually have a benign relationship with ants, bees and butterflies who savor the nectar without succumbing to the plant's fatal charms.



According to the International Carnivorous Plant Society, 95 percent of wetland habitat for pitcher-plants and other carnivorous plants in the United States has been irretrievably lost. Adding to the problem is the "mining" of peat moss from bogs by the nursery trade and overzealous collecting by plant lovers. Protecting the small portion of remaining habitat is critical to ensuring these unique plants will survive for future generations to enjoy.

already been filled for a new truck stop. But most other states have far less protection. In Illinois, where the SWANCC case originated, Don Hey, of the Wetlands Initiative, says, "We're in a major crisis. I see the effects of [SWANCC] all over the place. In Chicago they're draining and filling wetlands as fast as they can."

missi

The Upper Mississippi Valley region offers a prime example of the role wetlands play in flood control. According to specialists with the Wetlands Initiative in Chicago, writing in the journal *Restoration Ecology*, "It was the rampant drainage of wetlands in the 19th century that gave rise to many of today's water resources management problems."¹⁰ Rivers are now increasingly constrained between levees, and during storms, they become ever deeper, faster-moving torrents. The article notes that the extensive historical drainage of wetlands in the Upper Mississippi basin contributed greatly to the devastating floods of 1993 that caused \$16 billion in damage. Rather than continuing to drain wetlands and construct ever higher levees in the region, many scientists urge restoration of a vast network of wetlands. This strategy is far less expensive than paying the annual cost of flood damage.



THE GREAT PLAINS



SCATTERED THROUGH THE ROLLING GRASSLANDS OF THE GREAT PLAINS IN THE UNITED STATES AND CANADA ARE MILLIONS OF SHALLOW BASINS KNOWN AS *prairie potholes*.



the prairie pothole region provides essential habitat for North America's waterfowl. **PRAIRIE POTHOLE**s offer birds shelter for breeding, as well as a rich diet of insects and other invertebrates, a major source of protein for nesting hens. The region is the primary breeding ground for 40 percent of North America's dabbling ducks, including mallards, northern pintails, American widgeons, gadwall, northern shoveler and teal, as well as such diving ducks as the canvasback and ring-necked duck. In addition, prairie potholes are a major refueling station for 36 species of migrating shorebirds, including 13 species that breed there.

In addition to birds, prairie wetlands support such furbearers as mink and muskrat, as well as game animals and many species of non-game wildlife. The economic value of hunting, fur harvest and live bait production provided by these wetlands is substantial.

Historically, however, prairie potholes have been regarded as nuisance areas—obstacles to agricultural production. As a result, more than 95 percent of Iowa's wetlands have been drained, as have 53 percent of wetlands in Minnesota, 35 percent in South Dakota, and 60 percent in North Dakota. Now this precious resource faces a new threat from the SWANCC decision.

According to the U.S. Fish and Wildlife Service, temporary or small potholes, less than one acre in size, represent 87 percent of the 2.7 million potholes remaining in the Dakotas and north-eastern Montana. If these small wetlands were drained, the breeding duck population would decline by an alarming 72 percent, according to projections. Populations of shorebirds and marsh birds would also be severely affected if these isolated wetlands were destroyed.

Loss of wetland protection in the prairie pothole region is especially troublesome given the role of this area in the recent recovery of North American duck populations, according to a recent report by Ducks Unlimited.⁹

Prairie potholes are not the only isolated wetlands at risk in the Great Plains. So too are **GRASSED WATERWAYS, EPHEMERAL STREAMS, CUTOFF OXBOWS FROM RIVERS, SALINE SEEPS and MUDFLATS**.

Of particular concern in the southern Great Plains is the loss of **RAINWATER BASINS, SALINE WETLANDS and SANDHILLS WETLANDS** in Nebraska. Nebraska alone has nearly 829,000 acres of wetlands that might be considered isolated, according to the state Game and Parks Commission. These unusual wetlands are being replaced with car dealerships, condominiums, roads and houses.

Rainwater basins, clay-bottom depressions that catch and hold precipitation, attract 5 to 7 million ducks and geese annually, including 90 percent of the mid-continent population of greater white-fronted geese and 50 percent of mallards.¹⁰ As with prairie potholes, hundreds of thousands of shorebirds pass through in the spring on their migrations between points as distant as Tierra del Fuego at the southern tip of South America and the



SPECIES SPOTLIGHT *Pintail Duck (Anas Acuta)*

Pintail ducks are frequent visitors to the Prairie Pothole region. The bird is named for the male's pointed tail, which can grow as long as ten inches. Described as "supreme table fare," pintails have long been prized by hunters. Their harvest is now strictly limited by most of the states over which they fly.

Birdwatchers are also long-time admirers of pintails, as this account from a May 1898 issue of *Birds & Nature* describes: "They move about with a graceful motion of the head, and with tail partially erect, and upon the land step off with a dignity of carriage as if impressed with the thought that they are no common Duck."¹³



Canadian and Alaskan arctic. Rainwater basins are especially important habitat for the endangered whooping crane.

Only one-quarter of Nebraska's original 100,000 rainwater basins remain. Many more may soon be lost, according to biologists with state and federal agencies. In the first year after the SWANCC ruling, property owners were permitted to destroy 40 wetlands in Nebraska, because the Army Corps of Engineers no longer claimed jurisdiction. In addition, an untold number are being drained or filled

without owners even bothering to seek permits. "Any that we lose are important because there are just a few left," says Corps biologist Mike Rabbe. Eastern saline wetlands, considered critically imperiled in Nebraska, are also being destroyed. These wetlands, containing salt deposits from an ancient sea, are home to many rare plants and invertebrates, including the endangered tiger beetle. "A lot of our work is pretty much down the tubes," says Rabbe. The SWANCC decision "was a major loss for wetlands."

the great plains



Sandhill wetlands, Nebraska

SOUTHWEST



PERHAPS NOWHERE ARE WETLANDS MORE CRITICAL THAN IN THE ARID SOUTHWEST AND SOUTHERN PLAINS OF TEXAS. ALONG THE VAST SOUTHERN HIGH PLAINS OR *Llano Estacado* PLATEAU OF TEXAS AND NEW MEXICO ARE SOME 22,000 SHALLOW ROUND BASINS, KNOWN AS PLAYAS. "WHEN INUNDATED, THE [PLAYA] BASINS FORM SHALLOW LAKES AND WETLANDS THAT SIGNIFICANTLY INCREASE PLANT AND ANIMAL DIVERSITY IN AN INTENSIVELY CULTIVATED LANDSCAPE."¹¹

pLAYAS serve a number of critical functions for people and for wildlife. Dry much of the year, they fill during rainstorms in May through September. This dynamic change between dry and wet enables playas to capture more rainwater, helping to control flooding.

Playas also replenish the Ogallala Aquifer, the only source of water on Llano Estacado.

The aquifer is critical to human settlement in the area, but its recharge rate is lower than the amount of water extracted for public use and agriculture. If playas are depleted, the water shortage will become critical.

The playa lake region also offers critical habitat for waterfowl, shorebirds, raptors and other migratory birds. Some 2 million ducks winter in the region. An estimated 400,000 to 500,000 sandhill

cranes and similar numbers of geese do the same. Between 12 and 15 million migrating birds are estimated to rest and refuel around playas.

According to one team of researchers, "Playas are clearly responsible for the abundance and presence of wildlife in an intensively cultivated region four times the area of Massachusetts."¹¹

In the absence of playas, amphibians could not survive in the region. Playas are also one of the last refuges for native plants, which have been sharply reduced by agricultural applications of insecticides, herbicides and fertilizer.

The playas themselves are seriously threatened by pollution as well. According to John Horning of the nonprofit group Forest Guardians, "Industries, the military and even cities have been treating the playa lakes of southern New Mexico like private dumping grounds." The result is that many playa lakes have become so toxic that thousands of migratory birds have died on their shores. Forest Guardians initiated legal action in 2000 against four of the area's worst polluters, but the SWANCC decision has undercut the litigation, because the lakes are now considered isolated and thus exempt from the Clean Water Act.

Despite their importance, playas have not been protected by state statute either. Texas and New Mexico do little to regulate activities that have an impact on playas.

Other isolated wetlands in the region are important to the ecosystem as well. The Cimarron Terrace of North Central Oklahoma has POTHOLE-TYPE WETLANDS used by migratory birds, including waterfowl. And along the Texas coast,

DEPRESSIONS have been formed between wind-swept dunes. As the depressions fill with water, a variety of sedges take hold, creating habitat for shorebirds, ducks and raptors.

These wetlands play a significant role in bringing hunters, ecotourists and birdwatchers to coastal Texas, generating hundreds of millions of dollars for the state's economy. According to statistics cited in a 1997 study by the U.S. Fish

and Wildlife Service regional office in New Mexico. "In 1991, the economic impact of waterfowl hunting and nonconsumptive waterfowl use in Texas was about \$96 million and \$240 million respectively...

In the spring of 1992, about 6,000 birdwatchers poured into tiny High Island in eastern Galveston county," generating \$4 to \$6 million over a two-month period. These activities and revenue will suffer if isolated wetlands are lost.

Wetland losses are already occurring in the wake of SWANCC. In Bayport, Texas, all but 2.5 acres of a 100-acre wetland site were recently classified by the Corps as isolated—and thus not protected—even though the wetlands are connected by a series of ditches to a tidal creek. The site, along the shoreline of Galveston Bay, is now being developed as a port. Conservationists are challenging the classification.



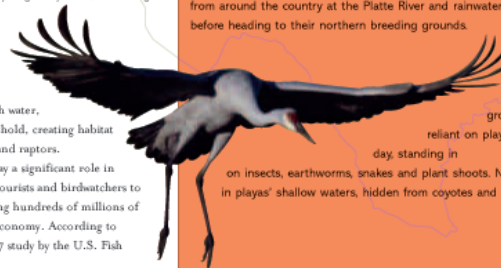
Sandhill cranes on the Llano Estacado.

southwest

SPECIES SPOTLIGHT Sandhill Crane (*Grus canadensis*)

An ancient species, the sandhill crane stands nearly four feet tall, with a six-foot wingspread. Its trumpeting call, heard for a mile, often announces its arrival. The cranes are a welcome sight in the Southwest, with many farmers leaving corn standing in the fields to encourage these gangly visitors. The cranes are best known for their bizarre dancing rituals. The birds choreograph a complex minuet, circling, bowing, hopping in the air, pirouetting and fluttering their wings. At times, a pair may both throw back their heads and "sing" a lusty duet. So strong is the dance instinct that a five-day-old chick will leap up and down and go through the motions.

In the spring, sandhill cranes fly hundreds of miles, converging with flocks from around the country at the Platte River and rainwater basins in Nebraska, before heading to their northern breeding grounds.



As marshland disappears, the cranes have grown increasingly reliant on playa lakes. During the day, standing in they gorge on insects, earthworms, snakes and plant shoots. Nightfall finds them in playas' shallow waters, hidden from coyotes and bobcats.

A report by the National Wildlife Federation and Natural Resources Defense Council

WEST/GREAT BASIN



A KEY WETLAND ECOSYSTEM THAT SUPPORTS GREAT BIODIVERSITY IS THE *California vernal pool*. THESE SEASONAL WETLANDS FILL WITH SPRING RAINS, REMAINING SOGGY FOR A SHORT PERIOD OF TIME, BEFORE DRYING OUT IN THE SUMMER.

DURING THE SPRING GROWING SEASON, THE POOLS BURST WITH CONCENTRIC RINGS OF WILDFLOWERS IN A VIRTUAL RAINBOW OF COLORS. BOTANISTS HAVE IDENTIFIED 200 SPECIES OF PLANTS IN CALIFORNIA VERNAL POOLS, INCLUDING 70 THAT CAN BE FOUND NOWHERE ELSE. VERNAL POOLS ALSO SUPPORT THE CALIFORNIA TIGER SALAMANDER AND SUCH TINY CRUSTACEANS AS THE RED-TAILED FAIRY SHRIMP.



opposite page, top: Desert pupfish in a Nevada desert spring save alongside exotic fish that threaten their survival.

opposite page, bottom: Vernal pool goldfields is a member of the sunflower family that is native to the vernal pools of California.

California's Great Central Valley was once filled with millions of such vernal pools. A scant ten percent remain. In San Diego County, just three percent are left. Their loss affects the ecology of the region in ways scientists are only beginning to understand.

Whether California vernal pools will be classified as isolated and lose federal protection remains in question. Conservationists argue that most vernal pools—like many other types of wetlands that are considered isolated—are connected hydrologically to other waters. Spring rains flow from the vernal pool complexes into swales, channels, streams and tributaries, eventually reaching interstate navigable waters.

But the future of these vernal pools is in doubt. After years of being drained for agriculture, they are now threatened by urban and industrial development. Concerns have been raised about how a new University of California campus to be built in Merced and a retired air base in Sacramento slated for development will harm vernal pools in the region.

At the close of the last Great Ice Age, catastrophic floods scoured out an area from what is now Montana to the Washington coastline. Among the remarkable land formations that were carved in the black basaltic rock were the Channeled Scablands of southeastern Washington. This unique ecosystem

contains myriad wetlands, supporting a host of species, many of which can be found nowhere else.

In the spring, the shallow waters of **SEASONAL WETLANDS** are prime feeding grounds for migrating waterfowl and shelter for bonding pairs of resident mallard and pintail ducks. Every August, hundreds of thousands of shorebirds including sandpipers, dunlins and avocets arrive. Because of the unusual topography and wildlife, the area draws tourists, hunters, birdwatchers and nature lovers.

The most important role of Channeled Scablands, though, is to support biodiversity,



SPECIES SPOTLIGHT *Howellia*
(*Howellia aquatilis*)

Howellia is one of many lovely flowering plants that can survive only in small seasonal wetlands with fluctuating dry-wet conditions. In the fall, Howellia seeds, which must be exposed to air to germinate, lie on the dry pond bed before over-wintering as seedlings. In spring, as the pond fills up, the plant flowers appear as closed buds underwater. In late spring, when the plant reaches the water's surface, it produces a showy display of delicate white blossoms. Howellia, found only in small wetlands in California, Montana, Idaho and Washington, is listed by state and federal governments as a threatened species. Among the threats to its survival: loss of wetland habitat, invasion by noxious weeds, livestock grazing and timber harvest on adjacent uplands.

particularly in the many small vernal pools. Among the plants are rare species of monkey-flower, downingia and the threatened inch-high rush. The unique Great Basin spadefoot toad also depends on these wetlands. The only amphibian adapted to a desert environment, the toad lives in burrows, emerging during rainy periods to eat and breed in temporary pools.

Isolated wetlands in this region also serve as habitat for bats, which feed on swarms of mosquitoes, stoneflies and mayflies.

This important network of wetlands is threatened by development along the basalt hillsides. Development in isolated wetlands can have consequences in addition to loss of wildlife habitat: in Spokane, homes built on top of vernal wetland systems are now plagued with flooding problems.

Another unusual mix of Western wetlands can be found in the Great Basin region. The arid area gets fewer than ten inches of rain a year, but for short periods in the winter and spring, a network of small wetlands hold water. **LAKES, FLATS** (also called **PANS**), **BASINS AND MARSHES** are especially critical for a few key species of migrating birds. For example, Wilson's phalarope, a shorebird, doubles its body weight feeding along alkaline flats before making a three-day, 3,000 mile nonstop flight to South America.

SALT FLATS along California's Salton Sea provide habitat for the endangered Yuma clapper rail and for breeding white pelicans.

A rich mix of rare, threatened and endangered species also depend on **DESERT SPRINGS** and their associated wetlands. Underground water reserves percolate through rock fractures, creating habitat for unusual animals and plants, including the tiny pup fish and Ash Meadows milk vetch.

Development pressures may be more intense in the West than anywhere else in the nation. That, combined with the dry climate in many areas, make protection of these wetlands especially urgent.



west/
great
basin



ALASKA



ALASKA HAS MORE WETLAND ACREAGE THAN THE OTHER 49 STATES COMBINED—SOME 175 MILLION ACRES. WETLANDS COVER MORE THAN 40 PERCENT OF ALASKA, COMPARED TO FIVE PERCENT OF LAND COVERED BY WETLANDS IN THE LOWER 48 STATES.

According to the U.S. Environmental Protection Agency, "Alaska's diverse array of wetlands possess a variety of functions and values that contribute substantially to the nation's economy and well being." Of this rich mix of **BOGS, FENS, TUNDRA, FORESTS, FLATS** and **MARSHES**, more than 33 million acres, or 19 percent, are at risk of being classified as isolated.

One of the most important types are **BASINS** found on former floodplains in interior Alaska. Over the centuries, as the Yukon, Kuskokwim and other rivers have shifted their channels, the historic

floodplains left behind isolated lakes, ponds, marshes and bogs. Natural levees surround poorly drained sites dominated by low shrubs and scrub black spruce. Many of these wetlands are vitally important to wildlife. The Yukon Flats, for example, where the historic floodplain is more than 15 miles wide, supports some of the most valuable nesting habitat in the state. More than a million ducks come to breed each year.

Bogs are common in the southeast, south-central and interior regions of the state. The Anchorage area, where nearly half of Alaskans live,





Patterned peatlands are formed by ridges of peat separated by long, shallow pools.

is dotted with **KETTLE HOLE BOGS**. These wetlands are popular sites for outdoor education, wildlife viewing and photography. In addition, Native village populations depend on bogs as an essential food source. Villagers with a subsistence lifestyle hunt the bogs' waterfowl and harvest cranberries and blueberries from them.

Another type of isolated wetland unique to Alaska is tundra—shallow waters formed during the spring thaw in the treeless plains of the Arctic. These wetlands offer vital breeding habitat for swans, geese, shorebirds, raptors, songbirds and many migrating species. Proposals to allow oil drilling along the coastal plain of the Arctic National Wildlife Refuge have sparked outrage among conservationists because of the extreme biological value of this area, which is 90 percent wetland. The coastal plain of the refuge attracts millions of birds of 135 species. These birds originate from four continents and every state in the union, except Hawaii. The coastal plain also serves as the primary calving ground of the porcupine caribou herd, because it is nutrient rich and relatively free of predators.²³

How these tens of millions of acres of wetlands and the wildlife they support will be affected by the



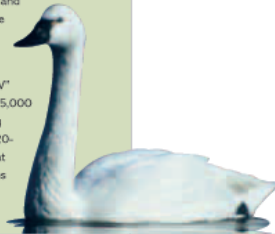
SWANCC decision remains to be seen. However, by May 2002, the Corps had already issued notices to developers of 14 wetland sites in the Anchorage area that no permit would be required to destroy these valuable systems.

alaska

SPECIES SPOTLIGHT | *Tundra Swan (Cygnus columbianus)*

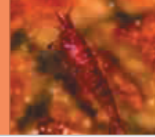
With a wing span of seven feet, the tundra swan is one of the most magnificent birds of North America. Tundra swans breed in the marshes and ponds of Alaska and the Canadian Arctic, building large nests of grasses, sedge, reeds, moss and feathers, and feeding on aquatic plants, often in isolated wetlands. Typically the birds, which mate for life, return each year to their old nests. The birds have only a few short months to find a nesting site, lay eggs, hatch their young, and nurture the babies until they are large enough to make the long migration flight. At the same time, the adults must fatten up and undergo their annual molt. All this must be completed by September, when many small wetlands begin icing up.

The migration of tundra swans is one of the great epic stories of nature. Flying in a "V" formation, the swans cruise at an average speed of 30 miles per hour and as high as 5,000 feet before reaching the Chesapeake Bay region and the Carolinas by November. Young swans stay close to their parents, learning the route they will follow throughout their 20-year life span. Along the way, swans rely on isolated wetlands in the Midwest and Great Lakes as staging areas for refueling for the long journey south. In mid-March, the swans once again take to the sky to begin the trek back to their Alaskan breeding grounds.



A report by the National Wildlife Federation and Natural Resources Defense Council

HAWAII



HAWAII HAS MORE ENDANGERED SPECIES THAN ANY STATE IN THE NATION, MOSTLY DUE TO HABITAT LOSS. THIS LOSS INCLUDES 30 PERCENT OF THE STATE'S WETLANDS. ACCORDING TO DUCKS UNLIMITED, THE NUMBER OF WINTERING WATERFOWL HAVE DROPPED FROM 40,000 PRIOR TO THE 1940S TO JUST 1,000 IN 1990.¹⁴

Anchialine Pond



on coastal leeward fields and are connected to the ocean through underground cracks.

Among the endangered species living in anchialine ponds are red shrimp that feed off algae clinging to rocks. The tiny shrimp can colonize hundreds of acres, migrating from pond to pond through fissures in the rock.

Also dependent on the ponds are Hawaii's endangered waterbirds and waterfowl and many migratory birds.

Anchialine ponds and other coastal wetlands are being filled and replaced with houses and shopping centers, as development pressures along the coast continue.

High in the island mountains lies a completely different kind of wetland—montane bogs. These bogs, found on perched flat areas at elevations of 3,000 to 5,000 feet, are home to many rare plants and forest birds, such as the kaloha duck.

Although montane bogs are too inaccessible to be affected by development, they face other threats, including feral pigs and goats that destroy the wetlands, and invasive plant species.



hawaii's wetlands include two unusual types that may be classified as isolated: ANCHIALINE PONDS and MONTANE BOGS.

Anchialine ponds are brackish, mixing fresh water from the mountains with seawater. They occur

SPECIES SPOTLIGHT *Hawaiian Stilt (Ae'o)*

The Hawaiian stilt lives in marshes and wetland areas. Feeding in anchialine ponds, mud flats and along the shoreline, the stilt survives on a diet of small fish, worms, dragonflies and other small invertebrates, using its sharp bill to crack open crab shells. Adult birds protect their young by feigning injury—using "the broken wing act"—to draw predators away from the nest. Once a game bird, it has been protected from hunting since 1941.

Today, drainage of wetlands is the primary reason why the Hawaiian stilt is endangered. Only 1,500 of these lovely birds remain.



Top of page: Red Shrimp (Caprellidae) graze algae from anchialine ponds, leaving a beautiful orange cyanobacterial crust. If the shrimp are eliminated by introduced fish, green filamentous algae overtakes the ponds.



CONCLUSION

AMERICA'S WIDELY DIVERSE WETLANDS ARE A RICH AND VITAL RESOURCE FOR PEOPLE AND WILDLIFE. THEIR VALUE TO WILDLIFE AND HUMANS IS UNRELATED TO WHETHER THEY ARE SMALL, OR LARGE; SEASONALLY OR PERMANENTLY FLOODED; "ISOLATED" OR NEXT TO A RIVER.



each wetland has unique characteristics, functions and values that must be protected in order to preserve the wildlife and wild places in our world, and the water resources upon which humans depend. "Things that isolated wetlands do, we take for granted," says Ben Tuggle, Chief of the Habitat Conservation Division of the U.S. Fish and Wildlife Service. "It is so easy to overlook isolated wetlands—until we have a major flood."

Even those states or local jurisdictions with strong wetland protections in place are harmed by the SWANCC decision. When federal protection is eliminated, cash-strapped local governments are forced to foot the bill for maintaining environmental

standards. Yet wetlands are a national (and even international) resource. A patchwork of local and state protections cannot ensure the future survival of wetland-dependent migratory birds that fly thousands of miles, crossing entire continents. The damage caused by wetland destruction—increased water pollution and flooding and decreased groundwater recharge—is not restricted to one state. Local communities, states and the U.S. Congress must act quickly to ensure the future of the nation's imperiled wetland treasures, or they will be lost forever. The inevitable result will be increased flooding, more water pollution and greater loss of wildlife habitat and biodiversity. We will all be the poorer for it.

top of page: Shorebirds complete incredible annual migrations of up to 20,000 miles nonstop.

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- Back cover Vernal pool goldfields, Carol Witham/vernalpools.org Boreal bluet damselfly, Blair Nikula
- Back cover Horses in playa lake, Wyman Meizer Nevada desert spring, Tom Webster Pitcher plants, Ohio Department of Natural Resources

STATEMENT OF ROLLIN SPAROWE, WILDLIFE MANAGEMENT INSTITUTE

The Wildlife Management Institute (WMI) is pleased to submit written testimony for the hearing entitled, "Current regulatory and legal status of Federal jurisdiction of navigable waters under the Clean Water Act." Founded in 1911, WMI is a non-profit scientific and educational organization staffed by experienced resource management professionals who are dedicated to improving the management of wildlife and wildlife habitats. The Institute has a long history of working to conserve our Nation's wetlands through oversight and support of State and Federal wetlands programs, particularly section 404 of the Clean Water Act (CWA) and Swampbuster provisions in the Federal Agricultural Policy Legislation (Farm Bill).

For your review are the comments we sent to the Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (COE) in response to the January 15, 2003, "Advance Notice of Proposed Rulemaking on the Clean Water Act Regu-

latory Definition of 'Waters of the United States'" (ANPR). In summary, WMI asserts that under CWA:

- Jurisdictional determinations should focus on the hydrological or functional relationships among wetlands and other waters of the U.S.;
- The Supreme Court's ruling on the Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers et al. case does not restrict EPA or COE from considering the Migratory Bird Rule when making jurisdictional determinations; and
- EPA and COE must assess the "aggregate effect" of discharges of dredged or fill material on interstate commerce, opposed to looking at only the effect of regulating a particular wetland fill.

2. Whether, and, if so, under what circumstances, the factors listed in 33 CFR 328.3(a)(3)(i)-(iii) or any other factors provide a basis for determining CWA jurisdiction over isolated, intrastate, non-navigable waters?

Our understanding of the factors listed in 33 CFR 328.3(a)(3)(i)-(iii) is that they already do not exclude any other factors that provide a basis for determining CWA jurisdiction over the waters subject to this provision. Nevertheless, the three factors listed fail to capture the breadth of the effects on interstate or foreign commerce that could result from the destruction or degradation of the waters subject to paragraph (3). Reliance on these factors alone would lead to erroneous conclusions concerning the nexus between the discharge of dredged or fill material into these waters and resulting effects on interstate commerce. Any determination as to whether a significant nexus with interstate commerce results from discharge of dredged or fill material into waters subject to 33 CFR 328.3(a)(3) must be based on the hydrological and functional relationships of those waters to other waters of the U.S.

The Clean Water Act (CWA) sets forth an explicit goal to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". The concept of "integrity" was recognized by Congress as having a broad, ecological context, i.e. "a condition in which the natural structure and function of ecosystems is maintained" (H.R. Rep. 92-911, 92d Cong., 2d Sess. 76 (1972)). CWA jurisdiction, therefore, should extend to all waters of the United States that perform functions necessary to achieve the goal of the law, consistent with the Commerce Clause. Geographic isolation of waters is a poor surrogate by which to judge the function of these waters in achieving the goals of the CWA or their relation to interstate and foreign commerce.

In *United States v. Riverside Bayview Homes, Inc.*, the Supreme Court "found that Congress' concern for the protection of water quality and aquatic ecosystems indicated its intent to regulate wetlands 'inseparably bound up with the 'waters' of the United States" (474 U.S. 121, 1985, at 134). Geographically isolated wetlands are as inseparably bound up with waters of the U.S. as adjacent wetlands. Geographically isolated wetlands commonly are connected hydrologically to other wetlands or other waters by means of surface or subsurface flows (e.g., prairie potholes and Nebraska Sandhills wet meadows) or infrequent overflows (e.g., West Coast vernal pools). Tiner et al. (2002) note, "Many wetlands considered isolated from the landscape or geographic perspective are connected hydrologically via groundwater to other wetlands and to rivers and streams . . . Other geographically isolated wetlands may become hydrologically linked to other wetlands during extremely wet years as surface water overflows from one depressional wetland to another." Prairie pothole wetlands and wetlands in karst regions are notable examples. Truly isolated wetlands that have no surface water or groundwater connection to other waters do exist (e.g., Southwest playas and Rainwater Basin wetlands in Nebraska), but such wetlands clearly are the exception (Tiner et al. 2002). Many waters thought to be intrastate waters are likely in fact to be interstate waters when hydrological linkages are understood and taken into account.

In *United States v. Riverside Bayview Homes, Inc.*, the Supreme Court noted "the evident breadth of congressional concern for protection of water quality and aquatic ecosystems," and "the inherent difficulties of defining precise bounds to regulable waters" (474 U.S. 121, 1985, at 133 and 134). The Supreme Court went on to conclude that regulation of wetlands in that case was warranted on the basis of, "the Corps' ecological judgment about the relationship between waters and their adjacent wetlands." With respect to this hydrological relationship between waters and adjacent wetlands, the Supreme Court stated,

"For example, wetlands that are not flooded by adjacent waters may still tend to drain into those waters. In such circumstances, the Corps has concluded that wetlands may serve to filter and purify water draining into adjacent bodies of water, and to slow the flow of surface runoff into lakes, rivers, and streams thus preventing flooding and erosion" (474 U.S. 121, 1985, at 134).

This statement applies equally well to geographically isolated wetlands. Several studies have concluded that loss of prairie pothole wetlands, for example, contributes to flooding and flood damages (e.g., Brun et al. 1981; Campbell and Johnson 1975; Moore and Larson 1979). Similarly, an analysis for a Federal interagency task force determined that watersheds with prairie potholes would be the most effective for restoring wetlands to reduce flood damages downstream (Interagency Floodplain Management Review Committee 1994).

The waters subject to 33 CFR 328.3(a)(3) often contribute to groundwater supplies (including regional aquifers) as water enters more permeable adjacent soils and moves downward to underlying aquifers and flows laterally to augment stream flows. According to Tiner et al. (2002), "Many wetlands that appear isolated from surface waters actually are vital components of regional water systems, since they contribute to local and regional aquifers." Hubbard (1991) discusses the importance of prairie pothole wetlands in groundwater recharge. Playa lakes are major recharge sites in the Southern High Plains (Wood and Osterkamp 1984 as reported in Carter 1996). Comments by Ducks Unlimited on this ANPR provide extensive additional support to demonstrate the linkages among geographically isolated wetlands, groundwater and navigable waters within a broad variety of wetland categories.

Geographically isolated wetlands and the other waters generally subject to 33 CFR 328.3(a)(3) also play an important role in maintaining the quality of other waters of the United States. Substantial sums are spent annually under section 319 and other provisions of the CWA to construct geographically isolated wetlands to control nonpoint source pollution and improve the quality of surface waters. These efforts under the CWA should not be undone by a narrow interpretation of the definition of "waters of the United States." Destruction or degradation of geographically isolated wetlands contributes to the erosion of stream banks by increasing the frequency of high flows. The State of Illinois' 1997 Integrated Management Plan for the Illinois River Watershed describes how sedimentation, caused in part by stream bank erosion, is filling up backwater lakes on the Illinois River and creating problems for navigation. The development of geographically isolated wetlands also has other water quality impacts. Studies have shown, for example, that prairie potholes significantly reduce concentrations of pollutants in agricultural runoff, and conversely, a study in the prairie pothole region of northwestern Iowa has shown that pollution concentrations increase as wetland acreage is decreased by drainage (Hubbard 1988). Phillips et al. (1993) have shown on the eastern shore of the Chesapeake Bay that concentrations of nitrates decrease in correlation with the presence of forested wetlands, many of which are in isolated "closed depressions." Tiner et al. (2002) discuss how the function of geographically isolated pocosin wetlands benefits estuaries by giving them more time to assimilate the fresh water without rapid and drastic fluctuations in water quality.

Although the Supreme Court found in *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers et al.* (SWANCC) that the COE had erred in relying exclusively on the existence of migratory bird habitat as a basis for regulation, the Court did not outlaw consideration of the use of wetlands by migratory birds, endangered species and other wildlife factors to be considered in making jurisdictional determinations. It merely ruled that such considerations could not serve as the sole basis for asserting jurisdiction. Isolated wetlands provide habitat functions that in many cases are distinct from, and interrelated with, the functions provided by other waters. Maintaining this functional linkage between geographically isolated wetlands and other waters is essential to restoring and maintaining the biological integrity of the Nation's waters.

The great importance of geographically isolated wetlands and other waters identified under 33 CFR 328.3(a)(3) as habitat for migratory birds and endangered and threatened species is documented extremely well. Waterfowl, other migratory birds and many aquatic animals use these wetlands for critical stages of their lives even while depending on other waters at other times. The high density of geographically isolated wetlands in the prairie pothole region produces half of North America's waterfowl in an average year; 41 percent of the continent's breeding dabbling ducks use this area (Bellrose 1979, Smith et al. 1964, Tiner et al. 2002). Geographically isolated wetlands east of the Rocky Mountains provide a series of feeding and resting areas for millions of birds that overwinter along the Gulf Coast and migrate to northern breeding grounds, and the geographically isolated wetlands of the Rainwater Basin provide habitat for nearly all of the mid-continent population of greater white-fronted geese (Tiner et al. 2002). The degradation, or destruction of these and other geographically isolated wetlands adversely affects nearly 3 million migratory bird hunters, including about 1.6 million duck hunters, and has a significant effect on interstate and foreign commerce. These hunters spent about \$1.4 billion in 2001 for hunting related goods and services; 14 percent of this hunting nation-

wide took place in a State other than the one in which the participant resided (U.S. Fish and Wildlife Service 2002). In addition, 14.4 million people participated in watching waterfowl, with associated expenditures and values also measured in the billions of dollars (U.S. Fish and Wildlife Service 2002).

As demonstrated above, there are many reasons to protect wetlands that are directly related to the water quality goals that are clearly within the intent of Congress as interpreted by the Supreme Court in SWANCC and Riverside Bayview Homes decisions and within the scope of Congress' power under the Commerce Clause. The proposed rule should revise 33 CFR 328.3(a)(3) to make clear that, under applicable Supreme Court decisions, it is the "aggregate effect" of discharges of dredged or fill material on interstate commerce that must be evaluated, not simply the effect of regulating a particular wetland fill. As the Supreme Court acknowledged in the SWANCC decision, most discharges of dredge or fill material involve the kind of economic activity that falls squarely within the Commerce Clause.

WMI recommends, therefore, that 33 CFR 328.3(a)(3) be revised to read as follows:

(3) All other waters such as intrastate lakes, rivers, streams, . . . or natural ponds, the use, degradation or destruction of which in the aggregate could affect interstate or foreign commerce including any such waters:

(i) which are or could be used by interstate or foreign travelers for recreational or other purposes; or

(ii) from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(iii) which are or could be used for industrial purposes by industries in interstate commerce; or

(iv) which through storage of water prevent or could prevent flooding of waters identified in paragraphs (a)(1)-(2) of this section; or

(v) which recharge or could recharge interstate aquifers or waters identified in paragraphs (a)(1)-(2) of this section; or

(vi) which affect or could affect the quality of waters identified in paragraphs (a)(1)-(2) of this section; or

(vii) which provide or could provide water for livestock or crops sold in interstate commerce; or

(viii) which, in combination with any waters under subparagraphs (i)-(vii), provide or could provide habitat for birds protected by Migratory Bird Treaties or for species listed under the Endangered Species Act (16 USC 1533 et seq.).

3. Whether the regulations should define "isolated waters," and if so, what factors should be considered in determining whether a water is or is not isolated for jurisdictional purposes?

If the regulations define the term "isolated waters," it should not be on the basis of geographic isolation, because such a definition has no basis in science. Jurisdictional determinations instead should be based on the hydrological or physical, chemical or biological functional relationships among wetlands and other waters. Jurisdiction, therefore, should extend to all waters of the United States that perform functions necessary to achieve the goal of the CWA, consistent with the Commerce Clause as interpreted by the Courts. Decisions concerning which intrastate waters fall within the jurisdiction of the CWA's definition of "waters of the United States" should be made on the basis of whether they fall within the revised definition of 33 CFR 328.3(a)(3) recommended above for making jurisdictional determinations based on the aggregate effect of regulated activities on interstate commerce or on waters regulated under 33 CFR 328.3(a)(1)-(2). If the term "isolated waters" is defined, it should be defined as those waters that have no hydrological or physical, chemical or biological functional relationship with any waters that otherwise would meet the definition of "waters of the United States."

APPENDIX A

WMI believes that the Joint Memorandum under Appendix A of the ANPR, which provides clarifying guidance regarding the Supreme Court's SWANCC decision, should be modified as follows:

1. Clarify that the SWANCC decision did not invalidate any of the provisions of 33 CFR 328.3(a), which define "waters of the United States." Only the total reliance on the use of waters as habitat by birds protected by Migratory Bird Treaties in the policy and guidance document known as the "Migratory Bird Rule" was invalidated. Moreover, the Joint Memorandum should clarify that the SWANCC decision did not bar jurisdictional determinations from considering the use of wetlands as habitat by migratory birds; only that such considerations could not be the sole basis for jurisdictional determinations.

2. The Joint Memorandum should not effectively remove all waters under 33 CFR 328.3(a)(3) from CWA jurisdiction by requiring field staff to seek formal project-specific Headquarters approval prior to asserting jurisdiction over such waters. We view this requirement as a substantial overreaction to the SWANCC decision and ask that it be deleted from the guidance.

3. WMI recommends that the Joint Memorandum guidance require assessment of the hydrological, physical, chemical and biological functions performed by wetlands within a given watershed in making CWA jurisdictional determinations. As discussed above, these functions include: flood control, erosion control, water quality maintenance, groundwater recharge, and conservation of biological diversity.

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