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Arctic National Wildlife Refuge (ANWR): A Primer for the 114th Congress

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Summary

In the ongoing energy debate in Congress, one issue has been whether to approve energy development in the Arctic National Wildlife Refuge (ANWR, or the Refuge) in northeastern Alaska—and if so, under what conditions—or whether to continue prohibiting development to protect the area's biological, recreational, and subsistence values. ANWR is rich in fauna, flora, and oil and natural gas potential, but energy development is currently prohibited by law. Its development has been debated for more than 50 years, and sharp periodic increases in energy prices have intensified the debate at times. Low energy prices, such as those currently being experienced, negate the short-term incentives for developing ANWR as Alaskan production is relatively costly. According to the American Petroleum Institute, in 2009 Alaskan drilling costs were nearly 18 times more than drilling costs in the lower 48 states. This report provides a primer on this debate, which has been given new impetus in 2015 by a presidential proposal to designate the area as wilderness. If approved by Congress, this designation would reinforce the existing prohibition on energy development.

Procedurally, the status quo of no energy development in ANWR can be changed toward development or toward additional protection only by congressional action. Over the years, controversies have prevented any change in current law, either to open the Refuge to development or to give it further protection.

A number of issues have been raised. Development advocates assert that

- ANWR oil would further reduce U.S. energy markets' exposure to political instability in the Middle Eastern crises, contribute to lower oil prices, and extend the economic life of the Trans Alaska Pipeline System (TAPS);
- development would create jobs in Alaska and elsewhere in the United States; and
- ANWR oil could be developed with minimal environmental harm, with some arguing that surface development could be limited to a fraction of leased acres.

Wilderness advocates counter that

- development of oil from other sources and lower world oil prices have obviated the need for production from ANWR, which would have a negligible effect on oil prices and job creation, while irreparably damaging the environment;
- intrusion on this ecosystem cannot be justified on any terms; and
- if economically recoverable oil is found, it would provide little additional energy security.

This primer provides background for analyzing the various claims through an examination of ANWR's history and an analysis of its geological, biological, human, and economic resources.

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Introduction

The promise of oil in the midst of a biologically rich Arctic ecosystem has been a centerpiece of the American energy debate for more than 35 years. The cornerstone of the debate is a portion of the Arctic National Wildlife Refuge (ANWR, or the Refuge) with potentially significant oil resources as well as a wealth of species such as polar bears, caribou, musk oxen, waterfowl, and others. The Fish and Wildlife Service (FWS) manages the area and must periodically update plans that guide management of the Refuge; the last plan was finalized in 1988.[1]

On January 25, 2015, the Obama Administration announced a final decision on the Revised Comprehensive Conservation Plan and Final Environmental Impact Statement (RCCP) for ANWR.[2] Public notice and comment on a draft plan, as well as consultation with state agencies and Native corporations, is required. The RCCP recommended that Congress designate the Coastal Plain[3] of the Refuge as wilderness. The designation, if approved, would mean that there would be no commercial development, except to meet the minimum requirements for managing the area as wilderness. Under the Wilderness Act, a "recommendation of the President for designation as wilderness shall become effective only if so provided by an Act of Congress."[4] In the meantime, under the new RCCP, the Coastal Plain is managed as it has been—under the Minimum Management Policy (MMP), which provides for minimal human intervention.

Energy development is currently prohibited in ANWR, and the recommendation does not overturn this prohibition. However, the recommendation has sparked renewed interest by some in opening ANWR for energy development. A sharp drop in oil prices during 2014 and 2015 may affect the amount of oil that might be economically recovered if low prices persist, as well as the timing of any exploration were the Refuge to be opened by Congress. In the 114th Congress, three bills have been introduced concerning the Coastal Plain. H.R. 239 would designate the area as wilderness; H.R. 339 and S. 494 would authorize energy exploration and development in the area.[5]

This report discusses the history of the Refuge, the basic issues in the debate over wilderness versus development, the Native interests, and the energy and biological resources at stake.

[1] Plans are required under the Alaska National Interest Lands Conservation Act (ANILCA, P.L. 96-487, §304(g)).

[2] Available at http://www.fws.gov/home/arctic-ccp/. For a map of the wilderness recommendations, see http://www.fws.gov/home/arctic-ccp/pdfs/09_AppH_WldnssRvw.pdf, Map H-1.

[3] In the Arctic National Wildlife Refuge (ANWR) debate, the term *coastal plain* can have two meanings. First, it can be used in a geographic sense, to refer to the broad area extending from the northern foothills of the Brooks Range and north to the ocean, and from the Canadian border in the east to the Chukchi Sea in the west. Second, it is used by many (including authors of many bills that have been introduced in the past) to refer to the specific area in ANWR defined in statute, legislative maps, or regulation. When used in the latter sense, the term is generally capitalized: in effect, the Coastal Plain is a small, eastern portion of the coastal plain. To avoid possible confusion, this report will use the term *1002 Area* when referring to the area at issue for development in legislation (See "Alaska National Interest Lands Conservation Act," below, for the origin of this term).

[4] 16 U.S.C. §1132(c).

[5] Specific legislation will not be explored in detail in this report.

Background

ANWR consists of 19 million acres in northeast Alaska. It is administered by FWS within the Department of the Interior (DOI). Development proponents view its 1.57-million-acre Coastal Plain—also known as the 1002 Area—as a promising onshore oil prospect.[6] According to the U.S. Geological Survey (USGS), the mean estimate of *technically* recoverable oil[7] from multiple prospects on the federally owned land in the Refuge is 7.7 billion barrels (billion bbl), and there is a small chance that more than 11.8 billion bbl could be recovered on the federal lands over the life of the prospective fields.[8] (In comparison, the United States currently uses about 7.0 billion bbl per year; see "Oil Resource Potential.")

However, the amount that can be recovered depends, in part, on the economics of the oil market. When oil prices are high, more oil will be economic to produce; when oil prices are low, less oil will be economic to produce. Since January 2014, oil prices have dropped by almost half, going from an average of $96.19 per barrel (bbl) to $46.46 per bbl in 2015 during the same week on an annual comparison.[9] In 2005, the most recent analysis available on ANWR, when oil was priced at $55 per bbl in 2003 dollars (or $70.76 per bbl in 2014 dollars), the mean estimate of *economically* recoverable oil[10] on the federal lands in the 1002 Area was 7.14 billion bbl, and there was a small chance that the federal lands could have had more than 10.7 billion bbl of economically recoverable oil.[11] (See box, "Old Geological Data, Old Prices, and New Interest," on use of older data.) That amount would be nearly as much as the single giant field at Prudhoe Bay, discovered in 1967 on the state-owned portion of the coastal plain located west of ANWR (shown in **Figure 1**), now estimated to have held almost 14 billion bbl of economically recoverable oil. However, the available information indicates that any ANWR oil would be scattered among multiple smaller fields rather than concentrated in a single large field, which would make development more expensive and potentially expand the area in which any environmental effects might occur.

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[6] Multiple witnesses in multiple hearings have expressed this view, beginning with the legislative debate over ANILCA in the late 1970s; for a sample, see U.S. Congress, Senate Committee on Energy and Natural Resources, *Establishment of Arctic National Wildlife Refuge Oil and Gas Leasing Program*, 104th Cong., 1st sess., August 2, 1995, S.Hrg. 104-333 (Washington: GPO, 2006). The part of the coastal plain of the Arctic National Wildlife Refuge (ANWR) that is under debate is called the *1002 area*. See "Alaska National Interest Lands Conservation Act," below, for the origin of this term.

[7] *Technically recoverable* means the quantity of oil or natural gas assessed as being in a formation that can be recovered using current technology without regard to cost and prices.

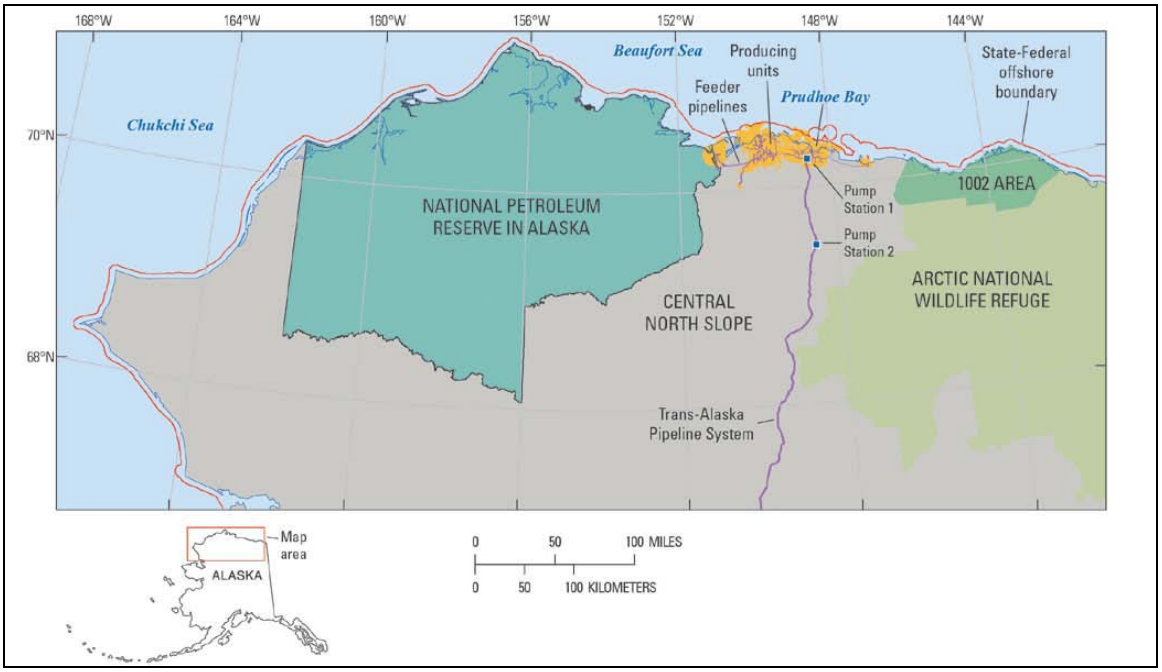
[8] E. D. Attanasi, *Economics of 1998 U.S. Geological Survey's 1002 Area Regional Assessment: An Economic Update*, USGS Open-File Report 2005-1217, 2005, at http://pubs.usgs.gov/of/2005/1359/OF2005-1359.pdf.

[9] U.S. Energy Information Administration, *Weekly Cushing, OK WTI Spot Price FOB*, accessed January 29, 2015, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=rwtc&f=w.

[10] *Economically recoverable* means the portion of technically recoverable resources that could be produced at a given price and accounting for costs, including a return on capital. It is not accurate to assume that the amount of economically recoverable resources will go up in the same proportion as prices may rise (i.e., if prices double, the amount of economically recoverable resources does not necessarily double).

[11] E. D. Attanasi, *Economics of 1998 U.S. Geological Survey's 1002 Area Regional Assessment: An Economic Update,* U.S. Geological Survey (USGS) Open-File Report 2005-1359, 2005, at http://pubs.usgs.gov/of/2005/1359/OF2005-1359.pdf. See "Current Market Conditions: Low Oil Prices Hinder Project Economics," below, for a discussion of price effects on oil prospects.

Figure 1. North Slope of Alaska



Source: Figure 1 in Emil D. Attanasi and Philip A. Freeman, *Economic Analysis of the 2010 U.S. Geological Survey Assessment of Undiscovered Oil and Gas in the National Petroleum Reserve of Alaska*, U.S. Geological Survey, May 2011, at http://pubs.usgs.gov/of/2011/1103/ofr2011-1103.pdf.

Section 1003 of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA) bars energy exploration and development of ANWR. If Congress were to open federal lands in ANWR to development, that decision in itself could open adjacent Native lands, based on current law. (See "Alaska Native Claims Settlement Act" and "Chandler Lake Agreement of 1983.") In addition, nearby onshore development would make state lands (already legally open to development) along the coast more economically attractive and, as a result, these state lands also might become more attractive to industry for exploration and development. Together, the federal, state, and Native ownerships likely have multiple individual fields with oil potential. Although only fields on the federal lands would produce federal revenue from bonus bids, royalties, and rents, the 2005 USGS figures show that when state and Native lands also are considered, the mean estimate of economically recoverable oil rises to 9.7 billion bbl. In addition, there is a small chance that economically recoverable oil in the three ownership areas might total more than 14.6 billion bbl, if oil is priced at $66.67 per bbl in 2014 dollars. (See box, "Old Geological Data, Old Prices, and New Interest," for a discussion of the use of old data and old prices, and see "Oil Resource Potential," for further discussion of prices.)

The Refuge, especially the nearly undisturbed coastal plain, is home to a wide variety of plants and animals. The presence of caribou, polar bears, grizzly bears, wolves, migratory birds, and other species in this wild area has led some to call the area "America's Serengeti."[12] (See "The Biological Resources.") Several species found in the area (including polar bears, caribou, migratory birds, and whales) are offered certain limited protections through international treaties

[12] This characterization is widespread. For an example from the adventure tourism industry, see http://www.alaskaalpineadventures.com/alaska-destinations/anwr.

or agreements. In the past there have been proposals that the Refuge and two neighboring parks in Canada join to form an international park, with continuing prohibitions on oil exploration and development.

The analysis below provides the legislative history of ANWR; the economic and geological factors that have triggered interest in development; the Native interests in the area; and the biological and environmental quality factors that have been issues in past Congresses.[13]

The conflict between high oil potential and nearly pristine nature in the Refuge creates several dilemmas. Should Congress open the area for energy development, or should the area's ecosystem continue to be protected from development, perhaps permanently? What factors should determine whether, or when, to open the area? If the area is opened, to what extent can damages be avoided, minimized, or mitigated? To what extent should Congress legislate special management to guide the manner of any development? And to what extent should federal agencies be allowed to manage the area under existing law?

Old Geological Data, Old Prices, and New Interest

Because ANWR has been closed since 1980 to "leasing or other development leading to production of oil and natural gas from the range" unless authorized by an act of Congress, research that would require field studies or seismic exploration inside the 1002 Area (shown in **Figure 2**) has not occurred for more than 30 years. The most recent geological data gathered on-site in the 1002 Area date from the 1980s as background for the 1002 report. Any studies of geological resources in the 1002 Area that have been published after the 1002 report are based on new analyses of data from earlier field investigations, extrapolations from exploration of nearby areas, and/or improved modeling of older data. Various new industry techniques also are considered in reevaluating the area's potential. As a result, the best available information is often old.

The most recent federal government studies on economically recoverable amounts of oil were published in 2005, when oil was $68.66 per bbl in 2014 dollars—higher than January 2015 prices of almost $50 per bbl. Although oil prices may have some effect on how much oil ultimately may be recovered economically, the relationship is complex. (See "Advanced Technologies in Development and Production.")

Moreover, the debate over ANWR has been relatively quiescent in recent years, with fewer congressional documents, shorter hearings, and less floor consideration. As a result, wider exploration of issues may be found in sources that are more than a few years old.

Legislative History of the Refuge

The balance between oil and natural gas development and the preservation of biological resources of northern Alaska has been controversial for decades, even before Alaska became a state. In 1943, the federal government withdrew all lands on the North Slope (the land north of the crest of the Brooks Mountain Range and between Canada and the Chukchi Sea) by Public Land Order (PLO) 82 to prevent certain types of development. In November 1957, Interior Secretary Fred Seaton filed a document protecting some of those lands (plus some additional lands south of the crest of the Brooks Range) for the benefit of wildlife and migratory birds.[14] Alaska was admitted

[13] Basic information on the Refuge can be found in CRS Report RL31278, *Arctic National Wildlife Refuge: Background and Issues*, by M. Lynne Corn et al. For legal background, see CRS Report RL31115, *Legal Issues Related to Proposed Drilling for Oil and Gas in the Arctic National Wildlife Refuge (ANWR)*, by Pamela Baldwin. State lands on the coastal plain are shown at http://www.dog.dnr.state.ak.us/oil/products/maps/maps.htm. An extensive presentation of arguments in favor of development can be found at http://www.anwr.org, sponsored by a consortium of groups. Opponents' arguments can be found at http://www.alaskawild.org/ and http://www.protectthearctic.com/.

[14] Under the regulations in effect at that time, this document (called an *application*) was to "segregate" the lands in question (i.e., to remove them from disposal). This fact is important because just eight months later, the Alaska Statehood Act was passed, and on January 3, 1959, Alaska was formally admitted to the Union. Submerged lands in the (continued...)

to the Union in 1959. In 1960, PLO 2214 reserved the 1957 segregated area as the Arctic National Wildlife Range. The PLO withdrew the lands from "all forms of appropriation ... including mining but not the mineral leasing laws," thus leaving oil and natural gas development as a possibility.

Despite these withdrawals, not all of ANWR is owned by the federal government. The history of ANWR (and its energy development restrictions) is intertwined with congressional efforts to settle land claims of Native Alaskans. As part of those efforts, some ANWR property was transferred to Native corporations. The next section provides a short history of those transfers to help explain the restrictions on development.

Alaska Native Claims Settlement Act

In 1971, Congress enacted the Alaska Native Claims Settlement Act (ANCSA)[15] to resolve Native claims against the United States. One purpose of ANCSA was to distribute land to Native corporations, which were created in the act. Native *village* corporations (for example, the Kaktovik Inupiat Corporation, based at the northern shore of the coastal plain of the Refuge) usually were entitled under the terms of ANCSA to select the surface estate of lands; they received the surface estate of approximately 22 million acres of land that had been held by the federal government.[16] Native *regional* corporations (for example, the Arctic Slope Regional Corporation, covering the area north of the Brooks Range from the Chukchi Sea to Canada) were entitled to the selected subsurface estate, meaning they got the mineral rights. Usually the regional corporations could receive the lands beneath the village corporations in their area, but subsurface lands beneath pre-1971 refuges were not available, so other lands were substituted for them. ANCSA Section 22(g) also provided that surface lands that were conveyed within a refuge created before 1971 were subject to that refuge's regulations. The restriction on subsurface selections and Section 22(g) limit Native claims regarding oil development.

Alaska National Interest Lands Conservation Act

In 1980, Congress enacted the Alaska National Interest Lands Conservation Act (ANILCA),[17] which expanded the Arctic National Wildlife Range to the south and west by 9.2 million acres and renamed it the Arctic National Wildlife Refuge. (See **Figure 2**.)

(...continued)

Refuge that might have been treated as state property under the Equal Footing Doctrine were deemed federal property instead. The Supreme Court held that the segregation of lands before statehood prevented Alaska from owning certain submerged lands (such as river beds) in the refuge upon statehood. United States vs. Alaska, 521 U.S. 1 (1997).

[15] P.L. 92-203, 85 Stat. 688, 43 U.S.C. §§1601 et seq.

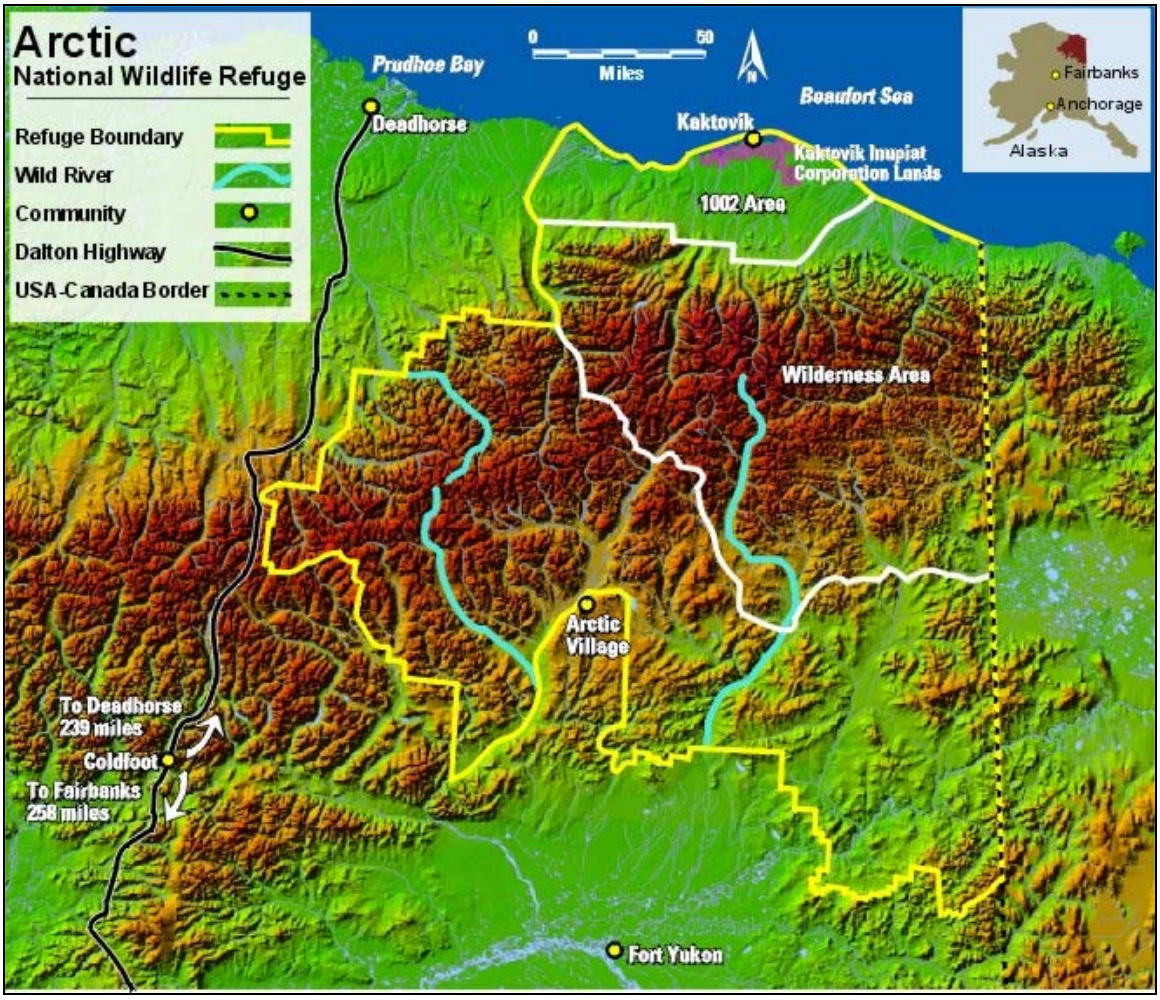
[16] The Bureau of Land Management provides this discussion of the difference between surface and subsurface estates:

> In split estate situations, the surface rights and subsurface rights (such as the rights to develop minerals) for a piece of land are owned by different parties. In these situations, mineral rights are considered the dominant estate, meaning they take precedence over other rights associated with the property, including those associated with owning the surface. However, the mineral owner must show due regard for the interests of the surface estate owner and occupy only those portions of the surface that are reasonably necessary to develop the mineral estate.

Available at http://www.blm.gov/wo/st/en/prog/energy/oil_and_gas/best_management_practices/split_estate.html.

[17] P.L. 96-487, variously codified; provisions relating directly to ANWR are found at 16 U.S.C. §§3141-3144.

Figure 2. Arctic National Wildlife Refuge



Source: http://www.fws.gov/uploadedImages/Region_7/NWRS/Zone_1/Arctic/Sections/Maps/shademap.jpg#a

Note: Red-brown colors indicate the Brooks Range.

ANILCA Section 702(3) designated 8 million acres of the original Wildlife Range as a wilderness area. The remainder of the original refuge, defined in Section 1002 of ANILCA as the *Coastal Plain* and constituting 1.57 million acres, was not included. Debate over use of the area was intense, with one group favoring wilderness designation and another group (led by Alaska's two Senators at the time) favoring energy development. Instead, Congress postponed decisions on the development or further protection of the Coastal Plain. Section 1002 of ANILCA directed that all of the resources of the Coastal Plain be studied. (As a result, the Coastal Plain is also referred to as the *1002 Area*.) That study was completed in 1987 and is known as the 1002 report or the Final Legislative Environmental Impact Statement (FLEIS).[18] The 1002 report recommended full development.

[18] U.S. Dept. of the Interior, Fish and Wildlife Service, Geological Survey, and Bureau of Land Management, *Arctic National Wildlife Refuge, Alaska, Coastal Plain Resource Assessment*, Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement.,, 1987; hereafter known as the *1002 report*.

For the future of the 1002 Area, the most significant aspect of ANILCA is Section 1003. This section prohibited oil and natural gas production in the Refuge as a whole, and it prohibited "leasing or other development leading to production of oil and natural gas from the range" unless authorized by an act of Congress.[19] Some have argued that P.L. 96-487 set aside the 1002 Area for energy development.[20] Although the requirements for an extensive study in Section 1002 would favor the assertion that the land was set aside, it is difficult to conclude from the debate at the time—as well as from the breadth of the required study—that one purpose was favored over another. As noted, Section 1003 expressly reserves that decision for a future Congress.

Chandler Lake Agreement of 1983

In 1983, a further complication was added to energy development in ANWR. As allowed by ANCSA, the Kaktovik Inupiat Corporation (KIC) previously had selected the surface estate of certain lands near the northern boundary of the Refuge. These selections amounted to three townships. Because the Refuge was created before ANCSA, the Arctic Slope Regional Corporation (ASRC) was prohibited from taking title to the subsurface estate of those lands. ANILCA, in its definition of the 1002 Area, excluded these three townships even though, in a geographic sense, they are within the coastal plain north of the Brooks Range. ANILCA further authorized KIC to select more lands within the 1002 Area, as defined. These additional lands totaled approximately 19,588 acres. Together with the three townships, the KIC surface estate in ANWR totals more than 92,000 acres, although much of the total is defined as out of the 1002 Area. (In addition, there are at least eight individually owned Native allotments within the 1002 Area that, together with the KIC lands, total nearly 100,000 acres.)

Then, in 1983, an agreement between the United States and ASRC, known as the Chandler Lake Agreement (or sometimes the 1983 Agreement), gave ASRC title to the subsurface estate beneath those KIC surface lands, even though the KIC lands all fall in a refuge area created before ANCSA.[21] The 1983 Agreement continues to prohibit development of the ASRC lands in ANWR unless Congress opens ANWR. Such an opening therefore could affect development not only of any energy resources owned by ASRC but also of all 100,000 acres of Native lands, because they would become available for surface occupancy for storage, staging, and other development activities. These lands might even be preferred locations for such activities, depending on any restrictions Congress might place on use or occupancy of the remainder of the 1002 Area.

[19] The requirement is statutory and therefore cannot be overridden by an executive order. (For more history of legislation on ANWR and related developments, see CRS Report RL31278, *Arctic National Wildlife Refuge: Background and Issues*http://www.crs.gov/pages/Reports.aspx?PRODCODE=RL31278; for legal issues, see CRS Report RL31115, *Legal Issues Related to Proposed Drilling for Oil and Gas in the Arctic National Wildlife Refuge (ANWR)*. For specific actions, including key votes, see CRS Report RL32838, *Arctic National Wildlife Refuge (ANWR): Votes and Legislative Actions Since the 95th Congress*.)

[20] For example, see statements of Rep. Don Young, "Securing America's Future Energy Act of 2001," House debate, *Congressional Record*, daily edition, vol. 147 (August 1, 2001), p. H5160.

[21] Agreement Between Arctic Slope Regional Corporation and the United States of America (Aug. 9, 1983). This agreement is also known as the Chandler Lake Agreement, referring to some of the property transferred as a result of the agreement. A copy is available from the authors of this report. Also see U.S. General Accounting Office (now U.S. Government Accountability Office), *Federal Land Management: Chandler Lake Land Exchange Not in the Government's Best Interest*, GAO/RCED-90-5. October 1989.

Actions in the 109th to 111th Congresses

A history of congressional action on ANWR extends back as far as the 86th Congress, and perhaps farther. However, with little enacted legislation since ANILCA in the 96th Congress, this report will focus on more recent actions, beginning with the 109th Congress.[22] The ANWR debate took two basic routes in the 109th Congress: (1) reconciliation bills (S. 1932 and H.R. 4241) under the budget process, which cannot be filibustered, and (2) other bills (H.R. 6, an energy bill; H.R. 2863, Defense appropriations; and H.R. 5429, a bill to open the Refuge to development), which can be filibustered.[23] These bills all would have provided for an expedited opening of the Refuge to development to address national energy needs.[24] Two bills (H.R. 567 and S. 261) would have designated the area as wilderness. In the end, Congress did not send any of these bills to the President.

In the 110th Congress, there was a concurrent resolution (S.Con.Res. 70) to adjust budget levels to assume that there would be increased revenues from opening ANWR to leasing and exploration. However, on May 14, 2008, the House rejected the measure.[25] During debate on S. 2284 (a bill originally concerning flood insurance) on May 13, 2008, the Senate rejected S.Amdt. 4720 to open ANWR to energy development .[26] Rising gasoline prices during 2008 intensified interest in opening ANWR to development, and a number of bills to open the 1002 Area to development were introduced during the second session. Two bills (H.R. 39 and S. 2316) would have designated the area as wilderness. In the end, Congress did not send any bill with ANWR provisions to the President.

Although 17 bills concerning the Refuge were introduced in the 111th Congress, no bills were reported by committees in either House or Senate.

Actions in the 112th and 113th Congresses

Only one bill regarding the Arctic Refuge was reported from committee during the 112th Congress. H.R. 3407 was reported from the House Committee on Natural Resources on February 9, 2012.[27] Under its provisions, the Coastal Plain (defined in Section 2) would have been opened to energy leasing (Section 3). The bill named the Bureau of Land Management (BLM) in the Department of the Interior as the lead agency, which would have reduced the role of FWS as the managing authority.

Section 3(a)(2) of H.R. 3407 would have required the Secretary of the Interior to administer the leasing program so as to "result in no significant adverse effect on fish and wildlife, their habitat,

[22] Contact authors for a more extensive historical review; also see CRS Report RL32838, *Arctic National Wildlife Refuge (ANWR): Votes and Legislative Actions Since the 95th Congress*.

[23] For more on the budget process and budget enforcement, see CRS Report RS20368, *Overview of the Congressional Budget Process*. For ANWR and reconciliation, see CRS Report RS22304, *ANWR and FY2006 Budget Reconciliation Legislation*.

[24] For details of these bills, and of House and Senate actions on them at that time, see CRS Report RL33523, *Arctic National Wildlife Refuge (ANWR): Controversies for the 109th Congress*.

[25] Roll Call #321, 185-229.

[26] Roll Call #123, 42-56.

[27] H.Rept. 112-393. Frequently mentioned controversies are discussed here. For more on this bill and how it compares with past controversies, see individual headings under "Development Options and Issues."

and the environment, [and to require] the application of the best commercially available technology" for energy exploration, development, and production. However, Section 3(a)(2) would have further required that this program be done "in a manner that ensures the receipt of fair market value by the public for the mineral resources to be leased." The bill did not clarify how the two goals of environmental protection and fair market value were to relate to each other (e.g., if environmental restrictions had made some fields uneconomic). Sections 6(a)(3) and 6(a)(5) would have required lessees to be responsible and liable for reclamation of lands within the Coastal Plain (unless the Secretary approved other arrangements), and they would have required the lands to support pre-leasing uses, or a higher use approved by the Secretary. These provisions also included requirements for mitigation, stipulations regarding the development of regulations, prohibitions on public access to service roads, and other transportation restrictions. (See "Judicial Review.")

Section 8(a)(3) would have limited the surface area covered by specified facilities to 10,000 acres per 100,000 acres of leased area. If the entire 1002 Area were leased, then such facilities would have been limited to a total of 157,000 acres. (Leasing the entire 1002 Area is unlikely, however.)

Like previous development bills, H.R. 3407 would have limited the venue and scope of challenges. The bill (Section 9) would have required that any challenges be brought before the Circuit Court of Appeals for the District of Columbia. Section 10 would have allocated 50% of revenues from bonus bids, royalties, and rents to the U.S. Treasury. Unlike most previous bills, however, H.R. 3407 would not have directed these funds to any specific purpose. The two bills (H.R. 139 and S. 33) that would have designated the area as wilderness were not reported.

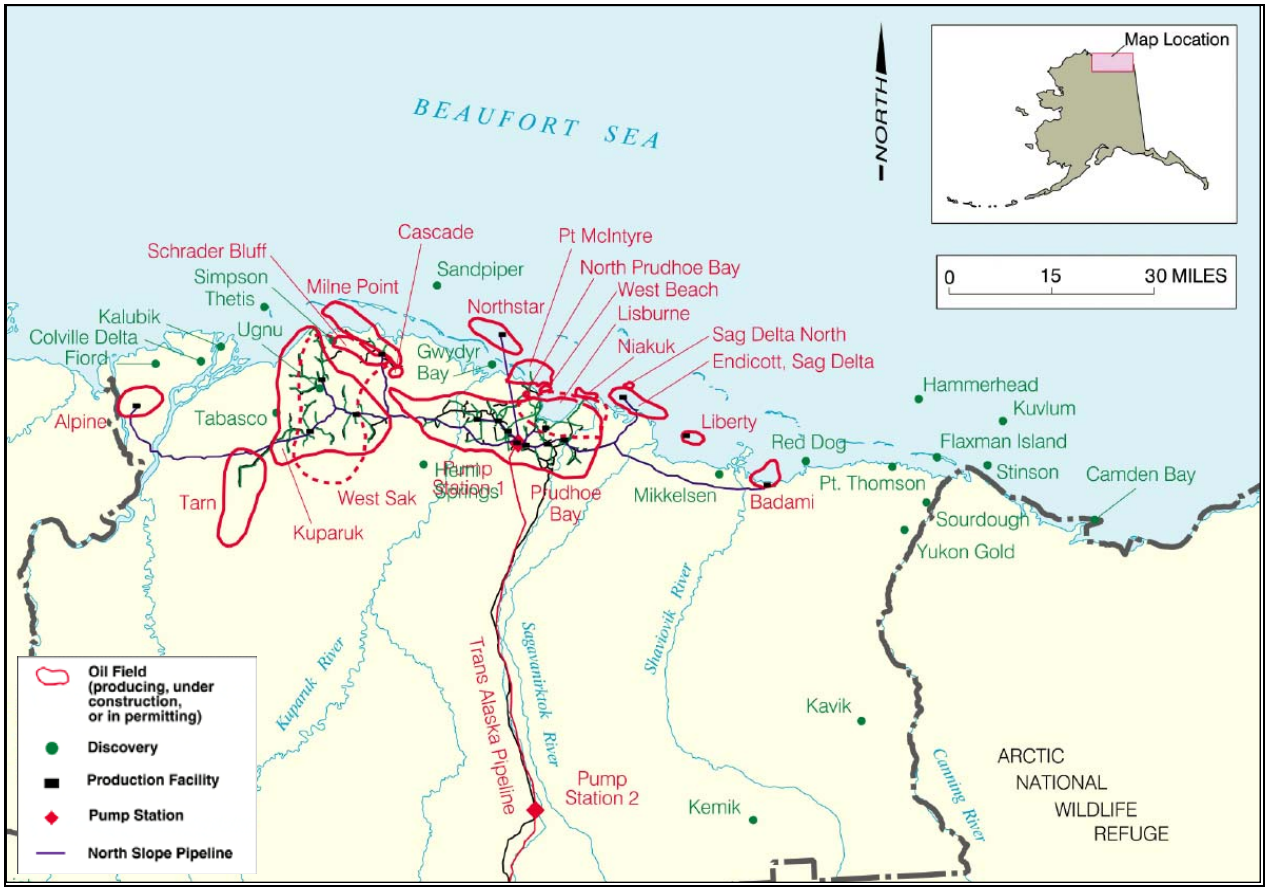
In the 113th Congress, 15 bills relating to the Arctic Refuge were introduced. There were 13 promoting development in some form and 2 promoting wilderness designation, but no bills were reported by House or Senate committees.

The Energy Resources

The developed parts of Alaska's North Slope suggest promise for energy prospects in the adjoining ANWR. Petroleum-bearing strata extend eastward from structures in the National Petroleum Reserve-Alaska through the Prudhoe Bay field, and they may continue into and through ANWR's 1002 Area. (See **Figure 3** and **Figure 5**.) Both changing prices and changing costs affect oil and natural gas prospects. New technologies may help alleviate some environmental concerns. However, production issues in some North Slope fields have raised doubts about ANWR's potential for oil and natural gas resources.[28] Any ANWR resources would be expensive to produce and would require construction of new infrastructure, such as pipelines and processing units, due to location and environmental conditions.

[28] U.S. Department of Energy, National Energy Technology Laboratory, *Alaska North Slope Oil and Gas: A Promising Future or an Area in Decline?*, April 8, 2009, at http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Resource_Evaluation/Reserves_Inventory/2009DOENorthstarPotential.pdf.

Figure 3. Northern Alaska Petroleum Sites



Source: Trans Alaska Pipeline System Renewal Environmental Impact Statement, http://www.tapseis.anl.gov/guide/photo/akoilflds.html.

Current Market Conditions: Low Oil Prices Hinder Project Economics

The United States consumed approximately 19.1 million barrels per day (Mb/d) of oil in 2014, the most of any country. Of that, 5.2 Mb/d net came from imported sources of oil and 13.9 Mb/d was produced domestically, with production from Alaska accounting for about 0.5 Mb/d, or 2.6% of U.S. consumption. Alaskan oil production, the bulk of which is from the North Slope, has been in steady decline since peaking in 1988.[30]

Assessments Evolve as Technology and Information Change

A 2011 report by USGS on the National Petroleum Reserve-Alaska (NPRA) highlights the uncertainty of energy resources and the risks involved on the North Slope.[29] In its report, USGS revised its 2002 figures for undiscovered conventional technically recoverable oil and natural gas in the NPRA. The 2002 assessment mean values showed 10.6 billion bbl of oil and 61.4 trillion cubic feet of natural gas. The 2010 assessment shows 0.9 billion bbl of oil and 52.8 trillion cubic feet of natural gas, a reduction of more than 90% in oil estimates and 14% in natural gas estimates. On a barrel of oil equivalent basis, the 2010 assessment estimated that the composition of the prospective energy resources is 8% oil and 92% natural gas. In contrast, the 2002 assessment had estimated that the prospective resources had a much higher ratio of oil: 48% oil to 52% natural gas. The change in ratio was the result of new data from drilling in other areas since the 2002 assessment.

Whether oil is produced domestically or imported, it is traded in a global market, and any one part of the market can affect other parts. The result is that oil prices are set by world markets. **Figure 4** shows the interconnectedness of crude oil prices in the United States and international markets. Starting in 2010, the demand for oil increased as the global economy improved and put upward pressure on oil prices. Political unrest in the Middle East and North Africa also pushed prices up for a time, though short of an earlier peak in 2008.[31] However, since May 2014, world oil prices have dropped significantly, and companies have started cutting back on capital expenditures and postponing the development of some relatively more expensive projects.

For some oil companies, interest in ANWR likely will decrease as oil prices decline, while other companies may maintain capital budgets for exploration and development in high cost areas. Sustained low oil prices make development of more expensive oil resources less economically feasible. Even the perception of sustained low oil prices will prompt companies to reconsider their resource development plans and capital budgets, as has been seen with current oil prices. Additionally, the smaller fields thought to be present in the 1002 Area might be less attractive if prices are low.

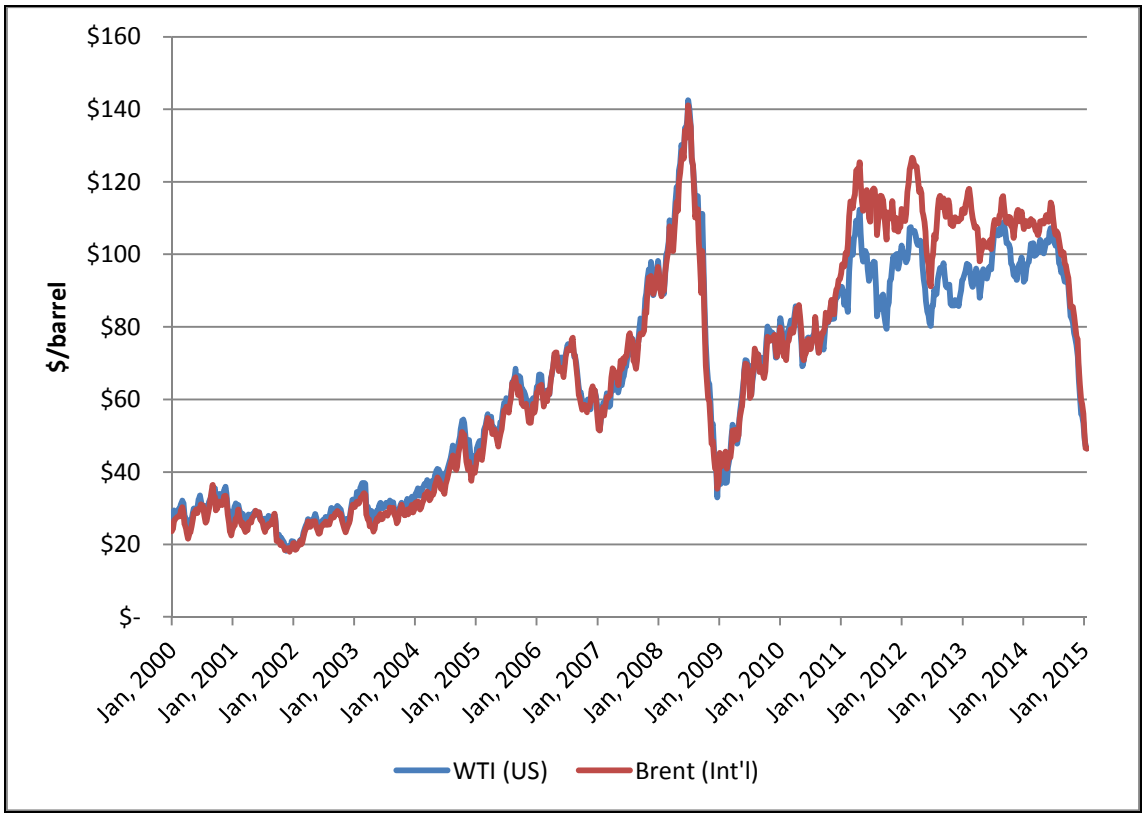
[29] Emil D. Attanasi and Philip A. Freeman, *Economic Analysis of the 2010 U.S. Geological Survey Assessment of Undiscovered Oil and Gas in the National Petroleum Reserve of Alaska*, U.S. Geological Survey, May 2011, at http://pubs.usgs.gov/of/2011/1103/ofr2011-1103.pdf.

[30] U.S. Energy Information Administration (EIA), "Petroleum & Other Liquids: Crude Oil Production," at http://www.eia.gov/dnav/pet/pet_crd_crpdn_adc_mbblpd_a.htm.

[31] CRS Report R41683, *Middle East and North Africa Unrest: Implications for Oil and Natural Gas Markets*.

Figure 4. Weekly U.S. and International Crude Oil Prices

(January 2000 through January 2015)



Source: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/pet_pri_spt_s1_w.htm.

Notes: Units = nominal U.S. dollars per barrel of oil. WTI is the U.S. benchmark crude oil, whereas Brent is the international benchmark. WTI and Brent lost their correlation between 2011 and 2014, in part, because of U.S. infrastructure constraints. As prices have fallen, the correlation has been restored.

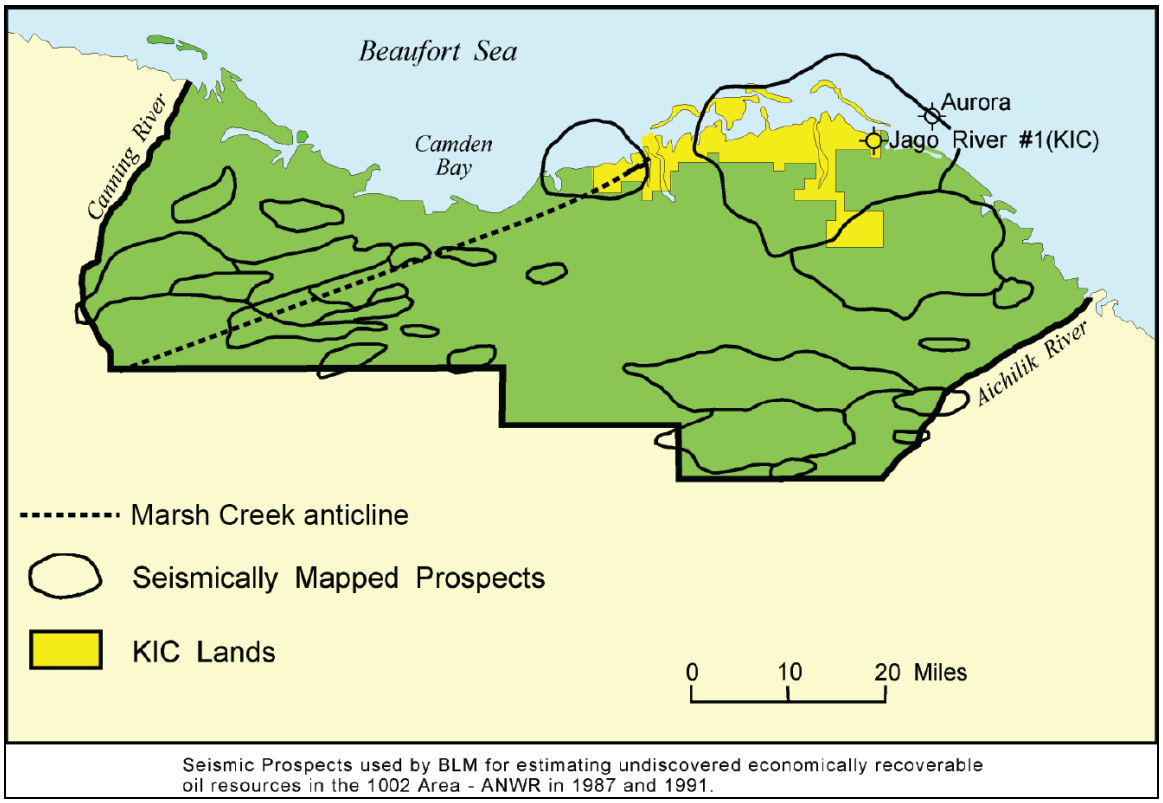
Oil Resource Potential

Estimates of ANWR's oil potential are based on limited data and numerous assumptions about geology, economics, and in part climate. Early attention focused on the northern and eastern parts of the 1002 Area. Since the 1990s, interest has shifted to parts of the 1002 Area west and north of the Marsh Creek anticline, roughly a third of the 1002 Area. (See **Figure 5**.) The shift was driven mainly by a reevaluation of geological data from nearby formations. A geologic study of oil and natural gas prospects in ANWR, completed in 1998 by USGS,[32] found a high probability (95%) that at least 11.8 billion bbl of technically recoverable oil are *present* on federal lands in the 1002

[32] U.S. Dept. of the Interior, USGS, *The Oil and Gas Potential of the Arctic National Wildlife Refuge 1002 Area, Alaska*, USGS Open File CRS Report RL33736, *Sexual Harassment: Developments in Federal Law*, by Jody Feder, 1999, Summary and Table EA4. Because ANWR is not open to "leasing or other development leading to production of oil and gas from the range" unless authorized by an act of Congress, new geological field research in the 1002 area has not occurred since 1987. Any studies published after 1987 are based on field data from earlier investigations, inferences from newer drill sites offshore or on adjacent lands, or improved modeling of older data. As a result, the best available information is often old.

Area. (For comparison, annual U.S. oil consumption from all domestic sources was about 6.9 billion bbl in 2013.)

Figure 5. 1002 Area of the Arctic National Wildlife Refuge (ANWR)



Seismic Prospects used by BLM for estimating undiscovered economically recoverable oil resources in the 1002 Area - ANWR in 1987 and 1991.

Sources: Based on Bureau of Land Management, http://www.blm.gov/style/medialib/blm/ak/aktest/tr.Par.13487.File.dat/ak_tr18_1998.pdf. Marsh Creek anticline added by the Congressional Research Service based on Figure 2 in the U.S. Geological Survey's map in *Undiscovered Oil Resources in the Federal Portion of the 1002 Area of the Arctic National Wildlife Refuge: An Economic Update*, 2005, at http://pubs.usgs.gov/of/2005/1217/pdf/2005-1217.pdf.

The amount that would be economically recoverable depends in part on the price of oil. In its last economic assessment in 2005, USGS estimated that, at $55 per bbl in 2003 dollars ($68.58 per bbl in 2014 dollars), there is a 95% chance that 4.0 billion bbl or more could be economically recovered and a small (5%) chance that 10.9 billion bbl or more could be economically recovered on the federal lands in the 1002 Area; the mean was 7.3 billion bbl.[33] These estimates reflected newer field development practices and cost and price changes, since USGS's 1998 assessment. Prices in January 2015 averaged less than $50 per bbl. If low prices are sustained over the long-term, the estimates of economically recoverable oil could be less than the 2005 estimate.

About one-third more oil may be under adjacent state waters and Native lands than is available in the 1002 Area alone.[34] The state waters adjacent to the 1002 Area are far from any support system

[33] E. D. Attanasi, *Economics of 1998 U.S. Geological Survey's 1002 Area Regional Assessment: An Economic Update*, USGS Open-File Report 2005-1217, 2005). See Table 4. The three figures shown here include very minor amounts of natural gas liquids, which would be produced along with any oil.

[34] According to the 1998 USGS report, if state and Native lands are included, there is a mean estimate that 9.7 billion (continued...)

or land-based development, and any oil that may be under them currently would not be economic to produce, according to USGS. If onshore development were to occur, leases in state waters could benefit from onshore transportation systems (airstrips, haul roads, pipelines, etc.) and supply bases (gravel mines, water treatment plants, staging areas, etc.), and these areas might become more attractive to industry. In addition, lifting the statutory prohibition on oil and natural gas development in the Refuge not only would lift the ban on Native lands but also might make smaller fields on Native lands more attractive, if they were able to share facilities with nearby development or if they became preferred locations for support facilities due to fewer restrictions on surface development.[35]

Prices Unlikely to Support Natural Gas Development

USGS has projected that in addition to oil, large quantities of natural gas may be found in the 1002 Area, as in other areas on the North Slope. Unlike oil, the United States imports very little natural gas (about 11% of consumption in 2013, mostly from Canada). Prices for natural gas are more regionally based than oil, and with ample supplies, the United States has experienced relatively low prices over the last two years.

Current North American natural gas prices likely would not support building the infrastructure, including a pipeline that would be required to transport ANWR natural gas to the lower 48 states or Canada.[36] Globally, natural gas prices tend to be linked to oil prices, and therefore natural gas prices around the world have declined, making additional U.S. exports of liquefied natural gas (LNG) less attractive. This situation presents a major obstacle to developing ANWR's natural gas resources as well as those in the rest of northern Alaska. Natural gas prices in the United States are projected to remain relatively low for the remainder of the decade and beyond.[37] Nevertheless, in 2014, the State of Alaska reached an agreement with ExxonMobil, BP, ConocoPhillips, and TransCanada on a project to export North Slope natural gas.[38] If completed, the project, which is in its early stages of development, would consist of gas processing facilities on the North Slope, an 800-mile pipeline, and a liquefaction facility for export. The estimated cost is between $45 billion and $60 billion.

Advanced Technologies in Development and Production

The industry has looked for ways to adapt its practices to the harsh and changing environment of the Arctic region. The cost of operating in Arctic conditions has increased beyond the higher industry costs in other parts of the United States, in part due to the remoteness of the area.

(...continued)

bbl could be economically recovered at this price, a 95% chance of 5.4 billion bbl or more, and a 5% chance of 14.6 billion bbl or more.

[35] For more detail on possible oil under Native lands and state waters, contact author for a copy of out-of-print CRS Report RS21170, *ANWR Oil: Native Lands and State Waters*.

[36] For more information, see CRS Report R40963, *The Alaska Natural Gas Pipeline: Background, Status, and Issues for Congress*.

[37] EIA, *Annual Energy Outlook 2014 with Projections to 2040*, April 2011, p. MT-22, at http://www.eia.gov/forecasts/aeo/pdf/0383(2014).pdf.

[38] Margaret Kriz Hobson, "Agreement signals start of early work on multibillion-dollar pipeline, export project," *Energy Wire*, July 7, 2014, at http://www.eenews.net/energywire/stories/1060002366/.

Environmental concerns have prompted companies to reduce their footprint in the region, which has resulted in smaller production sites, among other changes.

The average cost of drilling and completing an onshore well in Alaska is approximately 31 times greater than drilling and completing an onshore well in the lower 48 states, according to American Petroleum Institute data.[39] In 2009, the average cost of drilling and completing a well to an average depth of 6,617 feet in the lower 48 states was almost $4 million, for an average cost of $595 per foot. In Alaska, the cost per well was just over $122 million to an average depth of 11,484 feet, for an average cost of $10,628 per foot or nearly 18 times as much.[40] (In 2005, Alaskan drilling costs per foot were 6.4 times higher than those in the lower 48 states.[41]) This cost differential highlights the difficulties and challenges of producing oil and natural gas in Arctic conditions and the need for substantial finds of oil and natural gas to cover the higher costs. The presumed dispersed nature of ANWR's oil and natural gas resources may make development a difficult financial choice.

According to EIA, "the main impact of such approaches [enhanced recovery techniques and development of smaller fields] on the amount of oil actually recovered from ANWR is likely to occur after 2030, the current time horizon for EIA analyses."[42] EIA further states that

> [t]he basic intuition that higher crude oil prices would likely result in higher ultimate recovery from whatever resource exists in place is sound. However, given the timing and cost considerations outlined above, EIA does not expect the recent increase in oil prices to affect the projected profile of ANWR development and production activities prior to 2030.... Therefore, this current analysis of projected production from ANWR through 2030 parallels our prior recent analyses ... that have used similar or identical information on ANWR resources notwithstanding the recent run-up in world crude oil prices.[43]

Reducing the footprints of development has been a major goal of industry, partly in an effort to reduce environmental impacts and associated costs. As North Slope development proceeded after the initial discovery at Prudhoe Bay, oil field operators developed less environmentally intrusive ways to develop Arctic oil, primarily through innovations in technology. New drill bits and fluids and advanced forms of drilling—such as extended reach, horizontal, and "designer" wells—permit drilling to reach laterally far beyond a drill platform. Current industry standards in Alaska for down-hole operations limit drilling to five miles in diameter around the surface well pad. (See **Figure 6.**) These drilling technologies are commonly more costly than simpler techniques and may require expectations of a higher rate of return to be considered worthwhile.

[39] The American Petroleum Institute (API) is an industry-funded advocacy group. See http://www.api.org/. Email exchanges between Michael Ratner of CRS and API staff, citing data aggregated in API's *2009 Joint Association Survey (JAS) on Drilling Costs*, May 3, 2011. The database is available, for a fee, at http://www.api.org/statistics/accessapi/product-description.cfm. According to the API website, the JAS is "the only long-term source of information on detailed U.S. drilling expenditures."

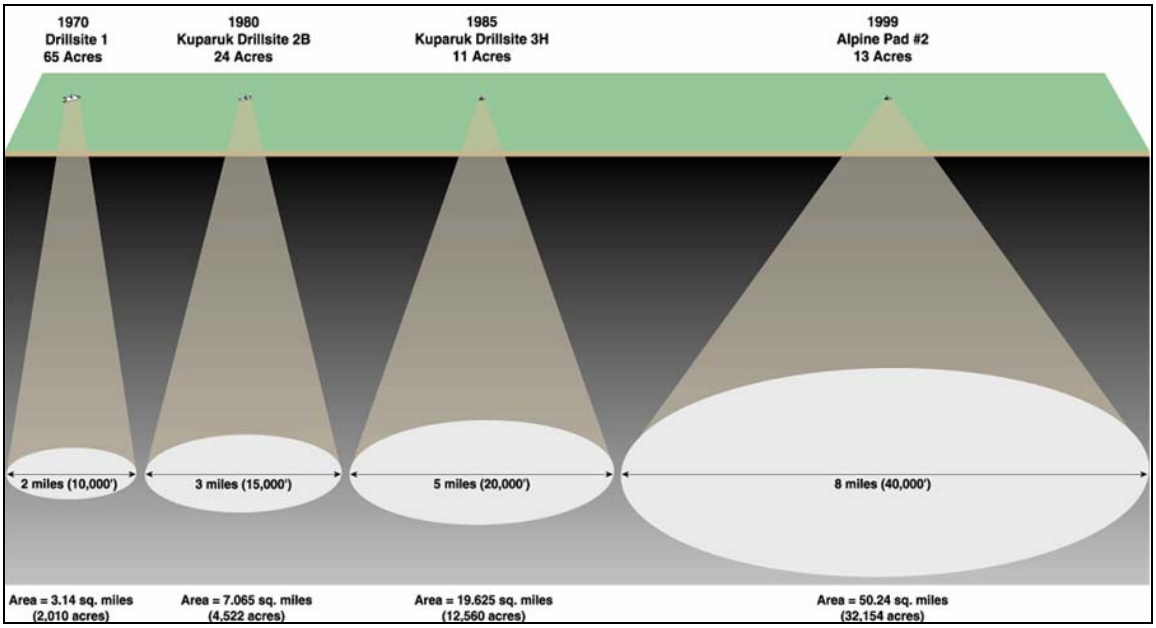
[40] Ibid. Figures were based on more than 30,000 wells in the lower 48 states and about 40 Alaskan wells.

[41] See p. 7 in U.S. Department of Energy, Energy Information Administration, *Analysis of Crude Oil Production in the Arctic National Wildlife Refuge*, May 2008, at http://www.eia.doe.gov/oiaf/servicerpt/anwr/pdf/sroiaf(2008)03.pdf.

[42] Ibid., p. 6.

[43] Ibid., p. 8.

Figure 6. Evolution of Down-Hole Operations



Source: ConocoPhillips presentation, April 19, 2011.

Notes: Although the graphic shows that the down-hole operations can be up to eight miles in diameter, the normal area in Alaska is still five miles in diameter according to ConocoPhillips.

Ice-based transportation infrastructure can serve remote areas during the exploratory drilling phase on insulated ice pads. During exploration, ice pads are approximately 10 acres in size, but they can double in area during the production phase of a project. Such small pads are not regularly staffed during the production phase, and they are feasible when linked to larger pads providing worker housing, equipment storage and maintenance facilities, airfields, and other production support. The linkage may be by road or small airfields, which provide access for periodic maintenance or servicing. However, for safety reasons, use of ice roads and pads may be limited in the more rolling terrain of the 1002 Area: on a slope, gravel structures provide greater traction than ice structures and have been permitted for exploration on state lands south of Prudhoe Bay.

However, although oil development is becoming more dependent on ice roads and pads in some areas of Alaska, warming trends in Arctic latitudes already have shortened winter access across the tundra by more than 50%[44] and have led to changes in the standards for use of ice roads. If these trends continue, heavy reliance on ice technology could be infeasible and might force greater reliance on gravel structures, with inherently longer-lasting impacts and higher costs. Rigid adherence to ice technology (instead of gravel construction) might put some marginal fields out of reach due to the high cost of exploration, development, or operation, due to shorter season, or difficult terrain. Moreover, fields that could begin with few roads might expand their gravel road network as the field expands. However, companies have adapted to the changing conditions, in some cases using two drilling rigs, rotating rigs at drill sites, starting ice road construction from

[44] S. R. Bull, D. E. Bilello, J, Ekmann, M. J. Sale, and D. K. Schmalzer, 2007: Effects of climate change on energy production and distribution in the United States (Box 3.3.) in *Effects of Climate Change on Energy Production and Use in the United States*. A Report by the U.S. Climate Change Science Program and the Subcommittee on Global Change Research. Washington, DC.

both ends simultaneously, using aircraft to reach remote sites, and prepositioning equipment and materials so that tasks can be accomplished more quickly during the shorter winter season. Nevertheless, it is expected that projects, such as the possible development of ANWR, would need to adapt to a shorter operating season.

Development and operating technologies have advanced over earlier decades and could reduce or mitigate some of the environmental impacts of petroleum operations, but would not eliminate such impacts. Advocates of wilderness protection maintain that facilities of any size would still be industrial sites and would change the character of the coastal plain, in part because the sites would be spread out in the 1002 Area and connected by pipelines and probably roads. Instead of seeing the Alpine development (see box, "The Alpine Development Example") as an advance, they see its growing collection of footprints as indicative of the spread that would occur if the Refuge were opened for exploration and if commercial fields were developed over time.

The Alpine Development Example

Because it is held as a model of modern development, the history of the Alpine field, located along the border of the National Petroleum Reserve-Alaska west of Prudhoe Bay, is relevant to ANWR's possible development. Run by Houston-based ConocoPhillips, it is considered innovative because of the short gravel road connecting the 2 initial pads and the lack of a road connection with the remainder of North Slope development, except in winter via ice road. At first, the 2 initial pads, their connecting road, and an airstrip totaled about 100 acres. In the next 10 years, 2 additional pads were added, including 1 connected by an additional road of more than 3 miles, plus a pipeline. The other pad is joined to the first 2 pads only by a pipeline; to compensate for the absence of a road, it has its own airstrip. A fifth pad was approved. Although its road access is not yet permitted, it will total about 5 more miles. First production from the fifth pad is expected in late 2015. Two other pads also were approved but have not been built yet. Altogether, the expansion of the field will add roughly 27.5 miles of gravel roads to the first 3 miles of roads and create 1,845 acres of disturbed soils, including 316 acres of gravel mines or gravel structures.[45] Approximately 150 miles of roads would be constructed if the field is fully developed. The Alpine example illustrates the difficulty in keeping development to the smallest possible footprint as additional discoveries are made.

Native Interests and Subsistence Uses

The Native community, both between and within its villages and organizations, is significantly divided on the question of energy development in the Refuge, but some patterns can be discerned. Generally, the Alaska Natives along the North Slope (Inuit) have supported ANWR development, whereas the Natives of interior Alaska (Gwich'in) have opposed it, though neither group is unanimous. Some parts of the Native community are heavily dependent for their subsistence uses on the caribou herd that calves in the 1002 Area, and because of the lengthy migration of the caribou herds, this dependency is an important factor for them even if they live at a considerable distances from the coastal plain. Seeing energy development as a threat to the safety or success of calving season, these groups oppose drilling the Refuge. Among these opponents are most members of the Gwich'in tribe, whose members are found both south and east of the Refuge in Alaska and Canada.[46]

Among the Native groups supporting ANWR development are the Arctic Slope Regional Corporation (ASRC) and Doyon Limited (both Native regional corporations) and the Native

[45] Bureau of Land Management, *Alpine Satellite Development Plan: Final Environmental Impact Statement*, September 2004, Figure 2.4.6-1, http://www.blm.gov/eis/AK/alpine/dspfeisfig.html. Figures given here do not represent full development of the field over the next 20 years.

[46] The Gwich'in Steering Committee is the lead organization expressing this view. See http://www.gwichinsteeringcommittee.org/index.html/

Village of Kaktovik (a Native organization in Kaktovik, the only town within the coastal plain of ANWR). The chief arguments cited by these groups are the increases in both North Slope employment and revenues from increased business activity. According to ASRC, "Chevron Texaco and BP currently hold leases to all of the ASRC/KIC acreage within the ANWR coastal plain."[47] In support, they note that the Central Arctic Herd of caribou has increased in the last 10 years and that this herd is found seasonally in the lands around Prudhoe Bay. (See "The Biological Resources," on caribou.)

The Biological Resources

The 1002 report, issued in 1987, rated the Refuge's biological resources highly—"The Arctic Refuge is the only conservation system unit that protects, in an undisturbed condition, a complete spectrum of the Arctic ecosystems in North America."[48] It also stated that "[t]he 1002 area is the most biologically productive part of the Arctic Refuge for wildlife and is the center of wildlife activity."[49] The biological value of the 1002 Area rests on intense productivity in the short Arctic summer; many species arrive or awake from dormancy to take advantage of this biological richness and leave or become dormant during the remainder of the year. Caribou have long been the center of the debate over the biological impacts of Refuge development. Among the other species most frequently mentioned are polar bears (which were listed under the Endangered Species Act[50] (ESA) as threatened after the publication of the 1002 report), musk oxen, and the 135 species of migratory birds that breed or feed there. In addition, the effects of energy development on marine mammals (many of which are protected under ESA and all of which are protected under the Marine Mammal Protection Act[51]) could become an issue if infrastructure development onshore made offshore development more economically attractive.[52]

Research Updates

The Biological Resources Division of USGS published an updated assessment of the array of biological resources in the coastal plain in 2002. The report analyzed new information about caribou, musk oxen, snow geese, and other species in the Refuge, and it concluded that development impacts on wildlife would be significant. [53] A subsequent memorandum[54] on caribou

[47] See http://www.asrc.com/Lands/Pages/Oil.aspx, viewed on Jan. 30, 2015. Many Native supporters argue that development and production practices can be carried out so as to avoid damage to the caribou that calve in the area. For a sample of Native expressions of support, see statement of the Arctic Slope Regional Corporation regarding ANWR development at http://www.anwr.org/index2.php?option=com_content&do_pdf=1&id=52.

[48] 1002 report, p. 46.

[49] 1002 report, p. 46.

[50] 16 U.S.C. §§1531-1544. For more information on the Endangered Species Act, see CRS Report RL31654, *The Endangered Species Act: A Primer*.

[51] 16 U.S.C. §1361ff. For more information on the Marine Mammal Protection Act, see CRS Report R41613, *Fishery, Aquaculture, and Marine Mammal Issues in the 112th Congress*.

[52] For more information on biological resources of the 1002 area, see CRS Report RL31278, *Arctic National Wildlife Refuge: Background and Issues*. The changes in the polar environment due to climate change are affecting polar ecosystems. How these changes will affect the ecosystem of the ANWR coastal plain is uncertain. For more on climate change effects on the polar environment, see CRS Report R41153, *Changes in the Arctic: Background and Issues for Congress*, and discussion of "Polar Bears," below.

[53] USGS, *Arctic Refuge Coastal Plain Terrestrial Wildlife Research Summaries*, Biological Science Report: USGS/BRD/BSR-2002-0001. 2002.

by one of the assessment's authors clarified that if development were restricted to the western portion of the refuge (an option being considered at that time by the George W. Bush Administration), the Porcupine Caribou Herd would not be affected during the early calving period, since the herd is not normally found in the area at that time. The memorandum did not discuss impacts that might occur when the herd subsequently moved into the area.

A March 2003 report by the National Research Council (NRC) highlighted impacts of existing development at Prudhoe Bay on Arctic ecosystems.[55] NRC noted harmful environmental impacts, including changes in the migration of bowhead whales, in distribution and reproduction of caribou, and in populations of predators and scavengers that prey on birds. NRC cited some beneficial economic and social effects of oil development in northern Alaska and credited industry for its strides in decreasing or mitigating environmental impacts, but it also said that some social and economic impacts have been harmful.[56] The NRC report specifically avoided determining whether beneficial effects were outweighed by harmful effects.

Industry supporters counter that impacts on wildlife can be reduced or mitigated by various measures. Among these are (1) restricting activities at the exploration phase to the winter season, with maximum use of ice roads and ice platforms; (2) careful placement of gravel roads and platforms to minimize wetlands disturbance; (3) re-injection of wastes below the permafrost layer; (4) limiting human access to the oil field; (5) management of garbage to avoid build-up of scavenger populations; (6) reducing the footprint of development; and (7) other measures already in effect in the current oil fields.[57]

Polar Bears

In 2008, FWS listed polar bears as threatened under the ESA.[58] The primary factors in listing the species were the effect of accelerated polar climate change on polar bears and their prey (primarily seals) and the effects of oil and natural gas development. The ESA prohibits activities that harass or harm listed species.[59] The listing of polar bears could have a significant impact on energy development in ANWR, because the 1002 report stressed the unusual importance of the 1002 Area as a location for dens of pregnant female polar bears. (See **Figure 7**.) Female polar bears are known to abandon their dens when disturbed. If the cubs are young and unable to

(...continued)

[54] Brad Griffith, Memorandum to Director, USGS, "Evaluation of additional potential development scenarios for the 1002 Area of the Arctic National Wildlife Refuge" (April 4, 2002).

[55] National Research Council (NRC), *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope*, March 2003, p. 452, at http://dels.nas.edu/Report/Cumulative-Environmental-Effects/10639.

[56] Examples of impacts include changes in cultural traditions to both inland (Gwich'in) and coastal (Inupiat) peoples, dependence on a monetary economy that would eventually require significant sources of external revenue to maintain, lack of jobs in industry, effects on subsistence hunting and whaling, health impacts, and more. See NRC report, p. 214-240.

[57] See, for example, Fact Sheet "Strategic Energy Resources: ANWR, Alaska," American Petroleum Institute, at http://www.api.org/~/media/files/policy/exploration/energy-resources/08_04_21_strategic_energy_res_anwr.pdf.

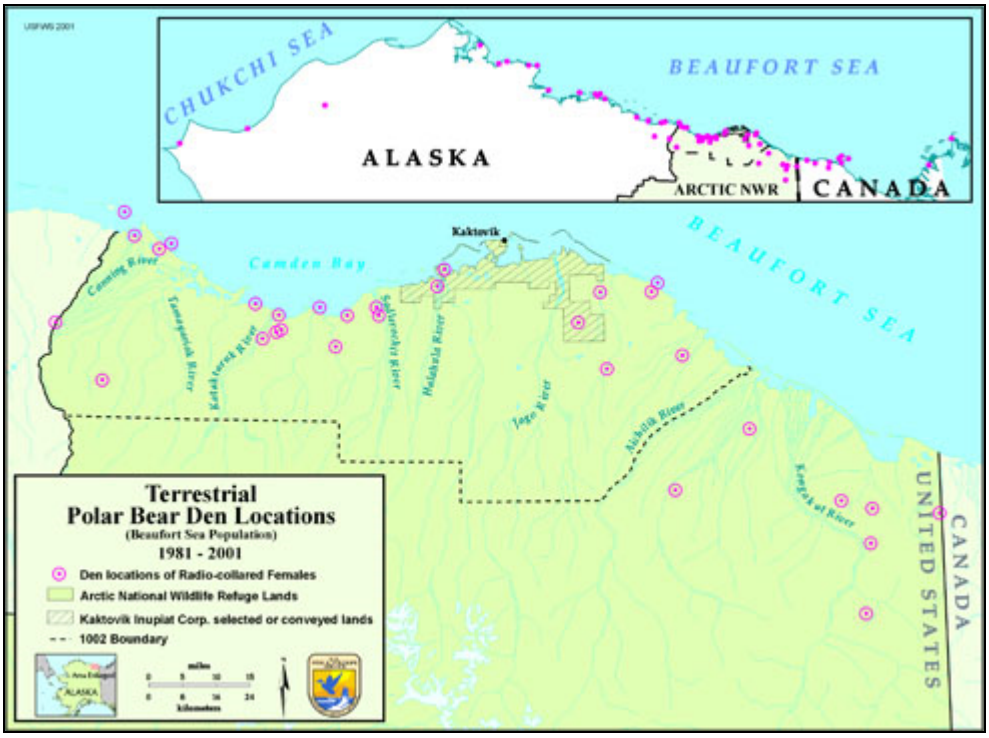
[58] Fish and Wildlife Service, "Endangered and Threatened Wildlife and Plants; Review of Native Species That Are Candidates for Listing as Endangered or Threatened; Annual Notice of Findings on Resubmitted Petitions; Annual Description of Progress on Listing Actions," 73 *Federal Register* 28211-28303, May 15, 2008; 50 C.F.R. §17.11(h); Fish and Wildlife Service, "Endangered and Threatened Wildlife and Plants; Special Rule for the Polar Bear; Interim Final Rule," 73 *Federal Reg*ister 28305-28318, May 15, 2008; 50 C.F.R. §17.40(q). Also see CRS Report RL33941, *Polar Bears: Listing Under the Endangered Species Act*.

[59] 50 C.F.R. 17.3.

maintain their body temperature, abandonment of a den would probably be fatal to them. The arguments against listing, as cited by FWS in the Final Rule, included observations that the species was increasing in population in some parts of the Arctic; the possibility that some species of seals (a common prey for polar bears) might increase; questions concerning the accuracy of climate models as they might affect population levels of the species; and claims that existing regulations were adequate to maintain population levels. FWS analyzed these arguments, holding that, on balance, the species warranted listing as threatened throughout its range.

Figure 7. Terrestrial Polar Bear Den Locations

(1981-2001)



Source: Fish and Wildlife Services, "Polar Bear Denning," at http://www.fws.gov/refuge/arctic/pbdenning.html#pbhab, viewed Feb. 2, 2015.

In December 2010, FWS established a wide area in northern Alaska, including the 1002 Area and a considerable area offshore, as critical habitat under ESA for polar bears.[60] The designation provided a stronger role for the ESA in any federal agency activities, such as energy development, taking place in critical habitat. Under ESA, federal agencies must avoid actions that jeopardize listed species or that destroy or adversely modify their designated critical habitat.[61] The action agency must consult with FWS (or the National Marine Fisheries Service for some species) to determine whether such jeopardy or destruction might occur. If there is such a risk, the action agency must modify the action to reduce the risk.[62] Scientists cite research on the risk to

[60] Fish and Wildlife Service, "Designation of Critical Habitat for the Polar Bear (*Ursus maritimus*) in the United States; Final Rule," 75 *Federal Register* 76086, Dec. 7, 2010.

[61] 16 U.S.C. §1536.

[62] For a more detailed discussion of consultation under ESA §7, see CRS Report RL31654, *The Endangered Species Act: A Primer*.

polar bears: many female polar bears have responded to thinning or vanishing offshore ice by moving more of their dens to locations onshore, and many females that historically denned on land to the west of Prudhoe Bay have moved their dens to the east, into or nearer the Refuge.[63] This shift increases the importance of the Refuge's coastal plain to the polar bear population and adds to the significance of consultation under ESA in any exploration, because exploration and development are more cost-effective in the winter season—the time when denning female polar bears are likely to be present.

The Basic Question: To Protect or To Develop?

In addition to the basic issue of whether development should be permitted at all, key aspects of the past legislative debate have included restrictions that might be specified in legislation: limits on the footprints of development; the regulation of activities on Native lands; the disposition of revenues; labor issues; oil export restrictions; compliance with the National Environmental Policy Act (NEPA);[64] and other matters. (References below to the "Secretary" refer to the Secretary of the Interior, unless stated otherwise.)

The basic and most contentious ANWR question Congress has considered has been whether to permit energy development in the 1002 Area at all. Taking no action has left current prohibitions on development in place; proposals have ranged from designating the 1002 Area as wilderness to designating it as a national monument to allowing partial or full development. The analysis below describes some of the issues that have been raised most frequently in the past legislative debate. If Congress chooses to add further protection to the 1002 Area, any development options would become moot. Therefore, protection options and issues will be considered first, followed by development options and issues.

Protection Options and Issues

Interest in the protection of ecosystem of the Arctic Refuge and its coastal plain has focused on protecting the array of wildlife found within its borders or using the 1002 Area of the Refuge seasonally. (See "The Biological Resources.") To date, three options have been discussed to achieve that end: (1) wilderness designation; (2) designation as a national monument; and (3) taking no action.

Wilderness Recommendation and Designation

The strongest environmental protection for the 1002 Area would be wilderness designation by Congress.[65] As noted previously, the Revised Comprehensive Conservation Plan (RCCP),

[63] The proportion of dens on pack ice declined from 62% in 1985–1994 to 37% in 1998–2004. See A.S. Fischbach, S.C. Amstrup, and D.C. Douglas, "Landward and eastward shift of Alaskan polar bear denning associated with recent sea ice changes," *Polar Biology*, 30 (2007), pp. 1395-1405. The authors concluded that the changes in denning related to changing ice conditions.

[64] 42 U.S.C. §§4321-4347.

[65] Only Congress can designate an area as wilderness, but as with any legislation, a later Congress could still reverse the designation and authorize development.

approved in January 2015, recommended this protection.[66] However, the recommendation does not change current management policies. Energy development is not permitted in wilderness areas unless there are preexisting rights or unless Congress specifically allows it.[67] Wilderness designation generally prohibits commercial activities and may tend to preserve existing recreational opportunities and related jobs, as well as the existing level of protection of subsistence resources. (In the 1002 Area, this protection of subsistence resources would include the Porcupine Caribou Herd, for example.) The practical effect of the RCCP wilderness recommendation appears limited however, because it produces little, if any, change in current management policy and no change in the Alaskan National Interest Lands Conservation Act's (ANILCA's) Section 1003, which already prohibits energy exploration and development.[68] Unless Congress acts, FWS will manage the area to preserve its wilderness values:

> Until Congress makes a decision regarding their designation, lands recommended for Wilderness status are managed under the Minimal Management category. If Congress were to designate recommended lands, only then would their management convert to Wilderness Management as defined in the Revised Plan.[69]

The Wilderness Act (16 U.S.C. §§1131-1136), directly and by cross-reference in virtually all subsequent wilderness statutes, generally prohibits commercial activities, motorized uses, and roads, structures, and facilities in units of the National Wilderness Preservation System designated by acts of Congress. Specifically, Section 4(c) states,

> Except as specifically provided for in this Act, and subject to existing private rights, there shall be no commercial enterprise and no permanent road within any wilderness area designated by this Act and, except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act (including measures required in emergencies involving the health and safety of persons within the area), there shall be no temporary road, no use of motor vehicles, motorized equipment or motorboats, no landing of aircraft, no other form of mechanical transport, and no structure or installation within any such area.

Section 4 thus prohibits most businesses, except "for activities which are proper for realizing the recreational or other wilderness purposes of the areas" (§4(d)(6)). It also effectively prohibits development of commercial resources, such as timber, although the Wilderness Act permits livestock grazing and some mineral development.

[66] See ANWR, "Revised Comprehensive Conservation Plan. Final Environmental Impact Statement," January 2015, at http://www.fws.gov/home/arctic-ccp/.

[67] CRS Report R41649, *Wilderness Laws: Statutory Provisions and Prohibited and Permitted Uses*.

[68] For more on wilderness uses, see CRS Report R41649, *Wilderness Laws: Statutory Provisions and Prohibited and Permitted Uses*.

[69] RCCP, Executive Summary, p. S-47; also see Table 1, S-25-26 for details on a range of activities that are permitted in the ANWR areas recommended for wilderness status. Section 707 of the Alaskan National Interest Lands Conservation Act also directs management of wilderness areas in accordance with the Wilderness Act.

Designation as a National Monument

Some groups seeking to preserve the 1002 Area advocate proclaiming the area as a national monument, using the President's power under the Antiquities Act.[70] However, ANILCA's Section 1326 limits withdrawals from the public lands in Alaska to 5,000 acres unless Congress passes a joint resolution to approve the withdrawal within one year of the President's proclamation. Congress could designate the 1002 Area a national monument, a designation which does not necessarily convey the more clearly defined statutory protections provided in the Wilderness Act.[71] Consequently, it is unclear how a congressional monument designation could restrict development any more than ANILCA already does. If Congress wished to protect the area, designating it as wilderness arguably would have a bigger impact.

Status Quo

Another option is to continue to take no action. Those supporting the compromise of delay often argue that not enough is known about either the probability of discoveries of recoverable oil or the environmental impact if development is permitted. Others argue that oil deposits should be saved for an unspecified "right time."[72] Because current law prohibits development unless Congress acts, the no-action option also prevents energy development on both federal and Native lands because of the provisions of ANILCA and the 1983 Agreement. (See "Legislative History of the Refuge.")

Development Options and Issues

Development is the other basic option. Within this option, Congress might choose simply to authorize development, or it could set specific restrictions or relaxations of other laws that would apply. Below are several of the options and issues that could be addressed in development legislation.

Environmental Protection

If Congress authorizes development, it could address environmental matters in several ways. Congress could impose a higher standard of environmental protection than is currently required because the 1002 Area is in a national wildlife refuge or because of the fragility of the Arctic environment, or it could legislate a lower standard to facilitate development. The choice of administering agency and the degree of discretion given to that agency also could affect the approaches to environmental protection. For example, Congress could make either FWS or BLM the lead agency (possibly assuming that FWS management would give more support to protecting

[70] 16 U.S.C. §431. See, for example, Sierra Club Press Release of Dec. 6, 2010, "Arctic 50th Anniversary: Make It a Monument, Citizens Say," at http://action.sierraclub.org/site/PageNavigator/E-Newsletters/Pressroom.

[71] For a description of the protection options afforded by national monument designation, see CRS Report R41330, *National Monuments and the Antiquities Act.*

[72] Both of these arguments have been elements in bills directing a preliminary exploration program in the 1002 Area. See, for example H.R. 3601 in the 100th Congress. As introduced, this bill contained a provision for a limited exploration program directed by DOI; the resulting data were to be used in shaping a subsequent leasing and development program. The idea appears not to have been contained in bills introduced in later congresses.

wildlife values). It could include provisions requiring use of "the best available technology," "the best commercially available technology," or some other standard. Existing laws such as NEPA and the Endangered Species act (ESA)[73] already require consideration of various environmental impacts of federal actions. Congress could choose to limit judicial review under NEPA, ESA, or other laws, of some or all of a development program, including standards and implementation. Or, to facilitate development, Congress could leave much of the environmental direction to the Secretary. A number of bills in various Congresses contain language that would require the Secretary to ensure that leasing, development, and production have "no significant adverse effect on fish and wildlife, their habitat, subsistence resources, and the environment ... by requiring the application of the best commercially available technology." However, the provision would also require "the receipt of fair market value by the public for the mineral resources to be leased."[74] The language appears to subordinate environmental protection to fair market value by specifying that the Secretary's duty to the former must be carried out "in a manner that ensures" fair market value for the mineral resources.

The Size of Footprints

Newer technologies permit greater consolidation of leasing operations, which tends to reduce the size and the environmental impacts of development. Since the 1980s, an area of debate in Congress has been the size of the footprints—or physical area—in the development and production phases of energy leasing. The term *footprint* does not have a universally accepted definition (e.g., the inclusion of exploratory structures, drilling pads, roads, gravel mines, port facilities, etc.), and therefore the types of structures falling under a *footprint restriction* are arguable.[75] In addition, it is unclear whether exploratory structures, or structures on Native lands, would be included under any provision limiting footprints.[76]

For over a decade, development bills have proposed a 2,000-acre limit on the acreage of surface disturbance.[77] Development facilities have to be dispersed, because one single consolidated facility of 2,000 acres (3.1 square miles) would not permit full development of the 1002 Area. Dispersal is necessary due to the limits of lateral (or extended-reach) drilling. If the North Slope model of about 4 miles out from the point of origin for this technology were matched on all sides of a single pad, at most about 4% of the 1002 Area could be developed. Even if the current world record (7 miles) for lateral drilling were matched, only about 11% could be accessed. Instead, full development of the 1002 Area would require that facilities, even if limited to 2,000 acres in total surface area, be widely dispersed. However, it is important to remember that the location and dispersal of any potential oil and natural gas in ANWR remains unknown.

[73] 16 U.S.C. §§1531-1544.

[74] For example, in the 114th Congress see Section 3(a) of H.R. 339.

[75] See CRS Report RL32108, *North Slope Infrastructure and the ANWR Debate*, for more information.

[76] For discussion of an acreage limit, see CRS Report RS22143, *Oil and Gas Leasing in the Arctic National Wildlife Refuge (ANWR): The 2,000-Acre Limit*.

[77] It is unclear where the specific figure of 2,000 acres originated. It first appeared in legislation in the 107th Congress on August 1, 2001, when the House passed the Sununu amendment to H.R. 4 to limit specified surface development of the 1002 area to a total of 2,000 acres (228-201, recorded vote #316). With small variations (e.g., see S. 352 in the 112th Congress), it has been a common feature of ANWR development bills since that date. The language of the provision is not entirely clear on whether all surface disturbances necessary to development would be included under the restriction.

Although the cost of lateral drilling has declined somewhat, it remains more expensive than simpler methods. As a result, strict adherence to a 2,000-acre limit could make some marginal fields uneconomic or inaccessible. If so, a policy choice could be between not developing such fields, and expanding the allowed limit on the footprint of development. If no new technology were developed to enable economical drilling with greater extended-reach, industry would likely prefer to expand the footprint, rather than to allow otherwise economic resources to be neglected.

The structures themselves have the potential for impacts over a much larger portion of the 1002 Area. Research evidence indicates that the roads, pads, airfields, gravel mines, pipelines,[78] and other structures, plus associated human activity, may deter caribou cows from calving in areas that have been most frequently used in the past, cause avoidance by cows with very young calves, or deter other species that use the 1002 Area. [79] Expansion beyond 2,000 acres likely would be opposed based on impacts on recreation, subsistence, vegetation, and wildlife beyond areas actually covered by development.[80]

In some previous bills, the 2,000-acre limit was dropped in favor of a more expansive provision to limit surface occupancy to 10,000 acres for every 100,000 acres leased.[81] A footprint restriction at this standard would allow for development of more remote areas. Moreover, if the length of the winter season, when ice-based technology is feasible, continues to decline, this provision would allow more gravel surfaces generally and could make more prospects attractive to industry.

Native Lands

As noted ("Chandler Lake Agreement of 1983"), if oil and natural gas development were authorized for the federal lands in the Refuge, then development also would be allowed or would become feasible on the nearly 100,000 acres of Native lands. Any acreage limitation applying to development on the federal lands might or might not affect Native lands, depending on how development legislation was framed. The extent to which the Native lands might fall under any management restrictions on the 1002 area as a whole, and therefore could be regulated to protect the environment is uncertain, given the status of allotments and some of the language in the 1983 Agreement cited above.[82]

[78] There is debate on how to count the footprint of a pipeline. To date, legislative limits on footprints have uniformly counted only the area covered by pipeline supports: S. 494 in the 114th Congress refers to "piers for support of pipelines" in its provision limiting the footprints of development. Wilderness advocates would count, at minimum, the entire area underneath a pipeline, and usually some area beyond that, to account for disturbance to wildlife, any changes in vegetation, or any other effects.

[79] Displacement of caribou during the calving period has been one of the most frequent issues raised in this debate, and has been documented in various studies. See, for example, C. Nellemann and R.D. Cameron, "Cumulative impacts of an evolving oil-field complex on the distribution of calving caribou," *Canadian Journal of Zoology*, vol. 76 (1998), p. 1435.

[80] A variety of effects are commonly cited by environmental or scientific groups. A list of such effects beyond the immediate physical footprint of structures may be found at http://arcticcircle.uconn.edu/ANWR/anwr_fws.htm.

[81] For example, see H.R. 3407 (Section 8(a)(3)) in the 112th Congress.

[82] See also CRS Report RL31115, *Legal Issues Related to Proposed Drilling for Oil and Gas in the Arctic National Wildlife Refuge (ANWR)*, and "Evolving Maps" below.

Evolving Maps

During the 109th Congress, bills in both the House and Senate would have created ANWR leasing programs. They contained new definitions of the term *Coastal Plain* by referencing maps that had not been used in past legislation.[83] The Coastal Plain was first defined in Section 1002 of ANILCA as the area indicated on an official August 1980 map referenced in ANILCA. An administrative articulation of the boundary by the Secretary of the Interior was authorized by Section 103(b) of ANILCA, and has the force of law. The 1980 map is missing from FWS files.[84] Because the 1980 map is missing, evaluating whether the administrative description[85] properly reflected that map is now impossible. The description excluded three Native townships from the articulated Coastal Plain (1002 Area).[86] (Some bills in various Congresses also have excluded these same Native lands from the 1002 Area by referring to the 1980 map and the administrative description.) As noted, the fourth Native township (selected later) is not excluded from the Coastal Plain (1002 Area) by that description. The choice of new or old maps or new or old legal descriptions, with their varying inclusions and exclusions, may affect Native rights, environmental restrictions, development costs, or resource potential.

Revenue Disposition

Another issue is whether Congress may validly provide for a disposition of revenues other than the 90% state-10% federal split mentioned in the Alaska Statehood Act.[87] A court indicated that the language in the Statehood Act means that Alaska is to be treated like other states for federal leasing conducted under the Mineral Leasing Act (MLA), which contains (basically) a 90%-10% split.[88] Arguably, Congress could establish a different, non-MLA leasing regimen—such as the existing separate leasing arrangements that govern the National Petroleum Reserve-Alaska, where the revenue sharing formula is 50%-50%—but this matter was not before the court and hence remains an open issue.[89] Most development bills in the past have opted for a 50%-50% federal-state split, often allocating a small part of the federal share to aid Alaska in dealing with impacts of development and the remainder to benefit one or more federal conservation, land acquisition, or energy efficiency programs. Sometimes these last provisions provided for mandatory spending.

Project Labor Agreements

In general, Project Labor Agreements (PLAs) are a recurring issue in federal and federally funded projects. The issue is whether project owners or contractors should be required, by agreement, to use union workers under PLAs. Such agreements have been a feature of most ANWR

[83] See CRS Report RS22326, *Legislative Maps of ANWR*.

[84] Felicity Barringer, "Arctic Map Vanishes, and Oil Area Expands," *New York Times*, October 21, 2005. The cause of the map's disappearance is not known, and it is still missing. (Personal communication with FWS, March 4, 2015.)

[85] 48 Fed. Reg. 16858, Apr. 19, 1983; 50 C.F.R. Part 37, App. I.

[86] Questions continue to surround this description. See CRS Report RL31115, *Legal Issues Related to Proposed Drilling for Oil and Gas in the Arctic National Wildlife Refuge (ANWR)*.

[87] For more on the sharing of federal revenues with states, see CRS Report R41770, *Leasing and Selling Federal Lands and Resources: Receipts and Their Disposition*.

[88] Alaska v. United States, 35 Fed. Cl. 685, 701 (1996).

[89] For more on this issue, see CRS Report RL31115, *Legal Issues Related to Proposed Drilling for Oil and Gas in the Arctic National Wildlife Refuge (ANWR)*.

development bills over the last 20 years.¬ PLAs establish the terms and conditions of work that would apply for the particular project, and they also may specify a source to supply the craft workers. Construction and other unions strongly support PLAs and argue that PLAs ensure a reliable, efficient labor source, help keep costs down, and ensure access for union members to federal and federally funded projects. PLA provisions in past ANWR bills have led to labor endorsements from some unions, such as the Iron Workers and the Plumbers and Pipefitters. (Union support of ANWR development has not been unanimous, however, as some unions see more job creation in other energy strategies.) Opponents, including nonunion firms and their supporters, believe PLAs inflate costs, reduce competition, and unfairly restrict access to those projects. There is little independent information to weigh the validity of the conflicting assertions.

Oil Export Restrictions

Export of North Slope oil in general, and any ANWR oil in particular, has been an issue, beginning with the authorization of the Trans Alaska Pipeline System. The export issue was illustrated in the Trans Alaska Pipeline Authorization Act,[90] which specified that oil shipped through the pipeline could be exported internationally, but only under restrictive conditions. In the mid-1990s, high volumes of Alaskan oil that could legally be shipped only to the four Pacific states resulted in falling oil prices on the West Coast.[91] As California prices fell below the world market in the mid-1990s, there were complaints from both North Slope and California producers. Congress responded by amending the MLA to provide that oil transported through the pipeline may be exported unless the President finds, after considering specified criteria, that exports are *not* in the national interest.[92] North Slope exports rose to a peak of 74,000 bbl per day in 1999, or 7% of North Slope production. These exports ceased voluntarily in May 2000 as West Coast buyers had to pay more to compete with foreign buyers for Alaskan oil.[93] The first crude export cargo from the North Slope in a decade left Alaska in September 2014 destined for South Korea.[94]

NEPA Compliance

NEPA requires the preparation of an environmental impact statement (EIS) to examine major federal actions with significant effects on the environment and to provide the opportunity for public involvement in agency decisions. The last full EIS examining the effects of development in ANWR was the 1002 report, which was completed in 1987. NEPA requires an EIS to analyze an array of alternatives, including a no-action alternative—a process that can take years for complex or controversial actions. To hasten development in ANWR, some bills have included provisions to truncate the process by stipulating that the 1002 report would be considered as satisfying NEPA requirements. The 28-year gap and changed circumstances since the last analysis could necessitate a thorough update of the 1002 report if development is authorized unless development

[90] P.L. 93-153; 43 U.S.C. §§1651 et seq.

[91] Very minor amounts also went through the Panama Canal to refineries on the Gulf of Mexico.

[92] P.L. 104-58, 30 U.S.C. §185(s).

[93] For additional information on U.S. crude oil export policy, see CRS Report R43442, *U.S. Crude Oil Export Policy: Background and Considerations*.

[94] Michael Muskal, "Alaska oil, exported for first time in a decade, heads to South Korea," *Los Angeles Times*, September 30, 2014, at http://www.latimes.com/nation/nationnow/la-na-alaska-oil-export-south-korea-20140930-story.html.

legislation were to waive a new examination.[95] The 2015 RCCP is simultaneously a final environmental impact statement, which could obviate the need for some more recent analysis of some matters, though the document does not analyze energy development, an activity prohibited under current law.

Compatibility with Refuge Purposes

Under current law for the management of national wildlife refuges (16 U.S.C. §668dd), and under 43 C.F.R. Section 3101.5-3 for Alaskan refuges specifically, an activity may be allowed in a refuge only if it is compatible with the purposes of the particular refuge and with those of the National Wildlife Refuge System as a whole. Many past bills have addressed this issue by stating that the energy leasing program and activities in the 1002 Area would be deemed to be compatible with the purposes for which ANWR was established and that no further findings or decisions would be required to implement this determination. This language (found in some previous bills) appears to eliminate the usual compatibility determination that would be conducted by FWS. If a bill did not specify that development is to be considered compatible, the extent of leasing "activities" that might be determined to be compatible is debatable. For example, a compatibility test that rejected necessary support activities, such as construction and operation of port facilities, bridges, gravel mines, staging areas, and personnel centers, could prevent development.

Judicial Review

To put an ANWR leasing program in place promptly, the expediting, curtailing, or prohibiting of judicial review could help to achieve that goal. Congress could expedite judicial review through statute by reducing the time limits within which suits must be filed, avoiding some level(s) of review, curtailing the scope of the review, or increasing the evidentiary burden imposed on challengers. The counterargument raised in such discussions is that the prospect of judicial review leads to better decision-making by the agency, in full consideration of all statutory factors, and that judicial review provides the opportunity to correct any errors.

Special Areas

Within the context of development, and beginning with the 1002 report, there has been consideration of setting aside certain small portions of the 1002 Area to protect specific ecological or cultural values. This could be done by designating the areas specifically in legislation or by authorizing the Secretary of the Interior to set aside areas to be selected after enactment. The 1002 report identified four special areas that together total more than 52,000 acres. The Secretary could be required to restrict or prevent development in these areas or any others that may seem significant, or to select among areas if an acreage limitation on such set-asides is imposed. Many past development bills have contained provisions that would limit the Secretary to prohibiting leasing in only a specific number of acres (commonly 45,000 acres).

[95] Only four years after the 1002 report was issued, a court in a declaratory judgment action (NRDC v. Lujan, 768 F. Supp. 870 (D.D.C. 1991) held that DOI should have prepared a Supplemental EIS (SEIS) at the time to encompass new information about the 1002 Area in connection with the Department's recommendation that Congress legislate to permit development. With the passage of 24 additional years, it is still more likely that an SEIS or a new EIS would have to be prepared, absent specific direction to the contrary.

Conclusion

The coast plain of the Arctic National Wildlife Refuge is an area that has been prized for decades for its biological and geological resources, and for generations by the people who have lived in it or depended on it for their livelihoods. Energy development has been prohibited since 1980, and the Obama Administration has recommended further protection through congressional designation as wilderness. Basic choices for the last 35 years have focused on the relative value of all of the resources and, if energy development were to be legislated by Congress, the degree to which the environment and Native interests would be protected and at what cost. At issue is whether relevant factors and priorities have changed in a manner sufficient to affect policy decisions and significantly to alter the debate going forward.

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