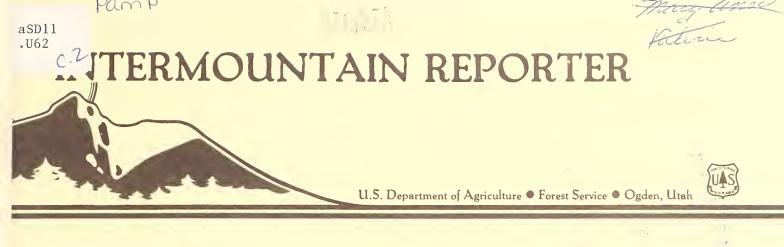
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MARCH-APRIL 1986

DC-3 MARKS 50th ANNIVERSARY

The DC-3/C-47, grandfather of today's giant jetcraft, marked its 50th anniversary December 17, 1985.

Nicknamed ''Grand Old Lady'' and ''The Plane That Changed The World,'' the DC-3/C-47 joined the Forest Service fleet 21 years ago after serving as a commercial and military airplane.

The DC-3/C-47 has flown more miles, hauled more freight, and carried more passengers than any other aircraft in history. It's still on the job today—transporting Forest Service personnel, fire suppression crews, equipment and supplies; and dropping smokejumpers and paracargo.

The accompanying article on the history of the DC-3/C-47 is an attempt to pay tribute to this noble aircraft by acknowledging its accomplishments. Although it has been around a long time, pilots who fly it never seem to get tired of it.

The immortal "GOONEY BIRD" may yet outlive us all!

The Plane That Revolutionized Air Travèl

PART I - GRAND OLD LADY CELEBRATES HER 50th ANNIVERSARY

Fifty years ago on December 17, 1935, a Douglas Commercial Model No. 3 (DC-3) took off on its maiden flight from Clover Field in Santa Monica, California. Nobody bothered

to record the flight on film even though it coincided with the 32nd anniversary of the Wright brothers' powered flight and marked the birth of the best airplane ever built.

It is referred to as the "plane that changed the world" and the airplane that virtually revolutionized commercial air travel. Ron Davies, Air Transport Curator of the Smithsonian Institution Air and Space Museum, now home to one DC-3, recently stated that "this is the single most important aircraft in the history of air transport."

The prototype (DC-I) first flew on July I, 1933, and was delivered to Trans World Airlines in December 1933. In February 1934, it broke the United States coast-tocoast speed record, going on to set 19 national and world speed and distance records. It set and broke transcontinental records. The DC-3 was first placed into airline service by American



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Airlines on June 25, 1936. It became the first airplane to make a profit by hauling passengers without being subsidized by government mail. Within its first four years of service, it was operating on 90 percent of all United States air routes and carrying 90 percent of all world commercial air travelers.

Between 1935 and 1945, Douglas Aircraft Company built 803 civilian DC-3's and 9,988 military C-47's. In all, there were 13,641 built including 416 by the Japanese and 2,500 by the Russians. There were more DC-3's built than any other aircraft up to that time.

The DC-3 was the first airplane to fly to both the North and South Poles. It has flown in and out of equatorial jungle strips in monsoon weather and has operated from every desert around the globe. It has hauled Presidents, prelates, princes, pirates, paratroopers, spare parts, plasma, smugglers, dope, gold and illegal aliens.

During World War II, almost 10,000 military versions of the DC-3 were built, proving absolutely indispensible to the war effort. General Dwight D. Eisenhower listed four pieces of equipment that most senior officers regarded as most vital to the success of the war effort. The Douglas C-47 transport was listed even though it wasn't designed for combat.

The DC-3 went to war as the Army C-47, the Navy R4D, and as the RAF's Dakota and has been involved in every major world conflict. It received acclaim in the Berlin Airlift and

it evacuated 4,689 wounded Marines from Korea in 6 days without a loss. It hauled rice to Laos and was among the last aircraft to leave Saigon in the final collapse of 1975.

The ability of the DC-3 to survive potentially catastrophic circumstances in commercial and military service and its continuing longevity, far beyond what was expected, have nurtured the legend about this twin-engined transport.

One DC-3 in particular is still operating on a daily commercial schedule, continuing to break its own record of having the highest known airframe time. Hard as it is to believe, this DC-3 has logged over 87,000 hours—the equivalent of I0 years time in flight.

On July I, 1936, Donald W. Douglas received aviation's coveted Collier Trophy from President Roosevelt for developing "The most outstanding twin-engined transport plane." Again in 1953, the U.S. Air Force presented Donald W. Douglas the Exceptional Service Award, the highest civilian decoration for noncombat service. The citation reads, "The soundness of his technical skill is best illustrated by the DC-3 (C-47), which unquestionably ranks as the best single airplane every built."

In 1975, Lt. General James H. Doolittle said, "The DC-3 is without question the most versatile fixed-wing aircraft ever built and I know of no other machine that has saved so many lives."

Aviation historians report that in 1985 1,500 to 2,000 DC-3's remained in service throughout the world with scheduled airlines or as part of air forces in foreign countries.

The DC-3 is still alive and well—still doing what it has done for the Forest Service for the past 2I years—transporting personnel, fire suppression crews, equipment and supplies, dropping smokejumpers and para-cargo, and just about anything else that can be strapped on its back.

Who knows how many more years we will be making birthday toasts to this grand old lady?

David W. Russell DC-3/C-47 Pilot Aviation and Fire Management



PART II - ADOPTION BY THE FOREST SERVICE

In the I930's, the Forest Service began using the Ford tri-motor and an occasional Boeing 247 to shuttle fire crews and freight throughout the western United States.

It wasn't until 1940 that Johnson's Flying Service in Missoula, Montana, purchased a DC-2 which was considered the most modern aircraft of its time. The DC-2 was the forerunner of the Douglas DC-3.

In 1944, a Marine battalion stationed in Pendleton, Oregon, was used to combat a Region 6 fire in northwestern Washington near the Canadian border. The paratroopers and cargo dropped from a military Douglas C-47 became the first fire jump from a C-47 for the Forest Service.

In 1946, Johnson's Flying Service purchased a surplus Douglas C-47 which was immediately used as part of Region I's smokejumper program. Most of Region 4's smokejumper work continued to be done by contracted Fords and Travelairs until around 1954, when Region 4 acquired a military C-45 followed by the purchase of a new Beech Super 18 a year later. Both

The 50-year-old DC-3/C-47 is still working for the Forest Service today.





aircraft were stationed at the smokejumper base in Idaho City.

By this time, there were around 88 inter-Regional fire crews around the country requiring larger aircraft for the crew movement currently being handled by several nonscheduled airlines. This situation prompted Region 5 to acquire large surplus military aircraft.

Region 4's transport operations didn't really begin until about 1963 when two Region 5 Curtis C-46's were transferred to us. One was surplused and sold in early 1964; the other, N155Z, continued serving under Washington Office authorization.

About this time, Region 4 acquisitioned and placed into service a surplus Douglas C-47 which became the first Regionallyowned DC-3. Its successful, all-round utility operation prompted acquisition of other DC-3's.

1967 was the beginning of several acquisitions of surplused military C-47's. NI48Z replaced a leased DC-3 at McCall. NI00Z was picked up from the FAA in 1970. The latest DC-3, NI43Z, was acquired from the Army in 1975. Region 4 acquired all four DC-3's at no additional cost to the taxpayer. They continue to provide the single most cost-effective and versatile multi-purpose delivery of smokejumpers, fire crews, paracargo and air freight.

We presently operate two DC-3's flying between 200-400 hours annually; one is detailed to Region 8 for about 6 weeks for its spring fire season. Both are then stationed in McCall, Idaho, from about June through October serving the multiple role of dropping smokejumpers, transporting fire crews, and associated missions.

During the winter months, they are based in Ogden. One is kept in a ready status for administrative use.

The DC-3's have been the workhorse of our fleet and, with high utilization through the years, have brought about a very favorable cost use rate.

NI45Z was surplused some time ago and just recently was sold. NI43Z has become a museum piece on display in the Hill Air Force Base Museum. It has been restored and repainted and bears the insignia used in the I944 Normandy invasion. With its never-ending popularity and demand, who knows what its future will be.

David W. Russell DC-3/C-47 Pilot Aviation and Fire Management

(See the next issue of the ''Intermountain Reporter'' for Part III - ''The DC-3's Future in the Forest Service'')

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Regional Forester's Message

Much is said about investments these days; but to be an investor, you must first be a saver. It's steady, week-in and week-out savings that add up most reliably to the money needed for that bank certificate, or whatever else is in one's investment plans.

Forest Service employees are known for their generosity in helping others, but also need to think about their own futures. Economic uncertainties have spurred Americans to save more than ever before. A logical, safe, reliable, convenient and dependable way of saving is purchasing U.S. Savings Bonds through the payroll savings plan.

Since November I, 1982, Series EE Bonds have been eligible for variable, market-based interest. When held five years or longer, they earn 85 percent of the average market yield on five-year Treasury securities during the Bonds' lifetime. Should market rates decline, there is a minimum guaranteed rate of 7.5 percent, compounded semiannually, if held five years or longer. As always, Bonds cashed in less than five years still earn a graduated rate of interest.

Another plus is that the plan is flexible enough to meet most people's diverse needs:

-It allows an employee to save as little as \$3.75 per pay period. Those who have difficulty setting money aside may find it easier if the money is taken out before they see it.

-It allows saving in the names of children and others to save taxes and provide an educational fund.

-It offers the chance of a variable, market-based interest yield so that earnings can keep pace with investment yields and a guaranteed minimum yield in case market rates are low.

The Savings Bond program is an excellent means for expanding personal investments and providing a regular, reliable savings opportunity. It also helps the United States strengthen its financial capabilities and that's good for everyone.

J. S. Tixier Regional Forester

Driver's Licenses Are Eliminated

Employees who drive most FS vehicles are no longer required to have an SF-46, U.S. Government Motor Vehicles Operator's identification card.

The new regulations eliminating this requirement are expected to result in considerable cost savings and fewer administrative burdens.

The certification of heavy equipment and specialized vehicle operators, defensive driving, and other safety related programs will continue.

Chalk Creek Canyon Ready for Reconstruction

1983 and 1984 spring flooding washed away about 35 percent of the Chalk Creek Canyon road causing disruption of activities such as wood gathering, hunting, fishing, sightseeing and picnicking at the four sites in the Canyon.

A road has existed in the bottom of Chalk Creek Canyon since early pioneer days when lumber was hauled from the Canyon. In the 1960's, the Forest Service and Millard County started construction of a connecting road between Chalk Creek Canyon and the road system on top of the Pahvant Range. This attempt faltered as difficult construction was encountered and funds were exhausted. The connecting road was completed by the National Guard in 1976.

To avoid future flooding problems the old road location is being abandoned and maintained as a trail. The new road location will be high on the south sidehill of the Canyon. Construction will be financed by ERFO funds with the Forest providing supplemental funding for a trailhead and scenic overlook.

Millard County has started construction on its portion of the road which has been moved to a bench south of the old road. Construction of the Forest Service portion of the road should start in the spring of 1986.

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Crews Improve Cutthroat Trout Habitat

Lahontan cutthroat trout benefited from an extensive habitat improvement project last summer on By-Day Creek. It was the largest project of its type ever done on the Bridgeport Ranger District of the Toiyabe National Forest.

Labortan cutthroat originated in ancient Lake Labortan. The native population has declined from competition and hybridization with non-native trout introduced in the West. It's now listed as a federally threatened species.

A genetically pure strain of Lahontan was discovered in the By-Day in the late 1960's. The trout were found to be a remnant of a population that once inhabitated the entire Walker River drainage.

California Department of Fish and Game (CDFG) is reintroducing the Lahontan to streams within the Walker River drainage. A recovery plan for the species calls for restoring I2 streams. When reintroduction goals are met, the fish will be de-listed from threatened status.

Since Lahontan have not been reared successfully in fish hatcheries, By-Day Creek provides critical habitat for broodstock used in reintroduction efforts. To do this, the Creek has needed some help. Overgrazing, logging and beaver dam blowouts have hastened bank erosion and sedimentation.

In spring of 1985, the stream was evaluated by CDFG Fisheries Biologists Randy Benthin, Erick Gerstung and Jack Hansen; Toiyabe Hydrologist Rick Jameson and Bridgeport District

Biologist Elizabeth McGraw. The team identified sites needing improvement, wrote a stream prescription, and requested funding from California's Wildlife Conservation Board. The project received funds generated from "threatened and endangered species" contributions on state income tax forms. Forest Service threatened and endangered funds paid the rest of the tab.

Seasonal work crews, Youth Conservation Corps enrollees, fire crews and volunteers from the Marine Corps Mountain Warfare Training Center worked on the project. They stabilized eroded banks with log and rock reinforcement structures. On some stream sections, they built gabions to maintain stream grade and reinforce banks. They also built digger log dams to create additional pool habitat for fish, and stabilized an abandoned beaver dam to prevent future blowout.

Tons of rocks and logs were hauled in. The crews placed rocks behind each log and secured the logs with iron rebar. They also removed debris from the channel to protect structures during high water.

The crews will plant willow and aspen on top of the reinforcement structures next spring; and will work next summer to improve fish-hiding cover and decrease sedimentation caused by an adjacent road.

Despite heavy lifting, slippery footing and chainsaw operations in less than optimum weather, workers had an accident-free summer. Special thanks go to our summer seasonals Brian Day, Robert McNab and Mike Wolder; and to YCC enrollees Kris Engstrom, Tim Minder, Dave Robbins and Steve Underwood.

Toiyabe crews build gabion baskets and add log and rock reinforcements to stabilize eroded banks of the By-Day Creek. Aim of the massive restoration project is to improve habitat for the native Lahontan cutthroat trout.





New Forest Supervisor of the Bridger-Teton National Forest

Brian Stout has been named Forest Supervisor of the Bridger-Teton National Forest.

He will transfer from Region I where he has been Director of the Information Office since April 1984.

The new Forest Supervisor began his career with the Forest Service on the Superior National Forest in Minnesota in 1960 after he received a B.S. degree in Forest Management from the University of Minnesota.

He was a District Ranger on the Superior and Allegheny National Forests before becoming a Job Corps Center Director in the mid-1960's. After the Job Corps assignment, he spent two years as a Legislative Affairs Staff Assistant in the Washington Office.

Brian and his wife, Iris, will move to Jackson in the next few months, but his reporting date has not yet been established.



Life Savers

It's not every day you save a person's life, but that is what Judith Pepe and Don Fritch did January 3 at the Bridger-Teton Supervisor's Office when Becky Robertson, an elderly volunteer who helps part time, collapsed in the ladies room. A co-worker, concerned about Becky, followed her and quickly got word to Judy in the computer printout room that an EMT was needed.

Judy, a computer programmer/analyst who completed Emergency Medical Technician training in April 1984, did a cursory check for life signs and found no pulse or respiration. Don, a veteran Ski Patrol member who has been a First Aid and CPR (cardio-vascular resuscitation) class instructor for at least 20 years, arrived to aid Judy. Together they administered CPR for three or four minutes until spontaneous respirations were noted and it appeared she was conscious, but suddenly Becky's breathing became labored and they thought they were losing her again. As they prepared to start CPR again, Becky gasped a sudden deep breath.

Help arrived from St. John's Hospital and, within an hour, Judy and Don were visiting Becky at her bedside in the hospital's Intensive Care Unit. "She was her old self, very alert and happy," reported Don. "To have participated in this is certainly the most rewarding experience of my life."

Becky has been released from the hospital and is recuperating. A few sore ribs are her temporary reminder of the day two fellow employees saved her life.

Judith Pepe and Don Fritch. (Jackson Hole News)



Fostering Civil Rights Ripples

According to Webster, "outreach" is extending...services and activities beyond current or usual limits" and that is just what the Challis National Forest did. The Forest offered two trips for local physically- or mentally-impaired school children. One trip was designed to acquaint the children with a fire lookout and its operation. Twin Peaks on the Challis Ranger District was the site chosen because of its accessibility. After checking out the stove and bunks, the children learned why the lookout was on a mountaintop, why it was glassed in, and that a person had to be there at all times to make sure that no fires went undetected.

The Challis Ranger District personnel also took the children out on a spirited, fun-filled adventure to locate Christmas trees for the high school, elementary school and special education classrooms.

Both trips gave the school children an opportunity to see, first

hand, a bit of what the Forest Service is about.

On a beautiful day last June, a I-day float trip was held on the upper Salmon River for members of the Fort Hall Indian Reservation. Members of the Middle Fork Ranger District staff and the Fort Hall Indian Reservation met to improve communication. Contracting, employment opportunities and management of the Middle Fork of the Salmon River were discussed in the rafts and during an on-shore lunch.

This Forest reached out to the young and the not quite so young and both groups benefited by increased knowledge and understanding. It will not be too surprising if, somewhere along the line, the Forest Service receives some positive ripples in return.

Brad Morrill Research Forester Middle Fork Ranger District

Productivity Efforts Recognized

One of Region 4's productivity efforts was recently recognized when awards were presented to Jon Leonard and George Campbell "For superior performance in implementation of the R-4 unit cost action plan and national productivity improvement team recommendations applicable to the landline location program."

Productivity has become an everyday word throughout the Forest Service as efforts are being made at all levels to cope with reduc-

George Campbell, Regional Land Classification Adjustments Officer (now retired), and Jon Leonard, Regional Cadastral Engineer (left to right), accept their Superior Performance Awards from Tom Roederer, Deputy Regional Forester-Resources.



ed budget levels. The Chief's overall aim in this effort is straightforward and simple: to foster and promote cost-efficient operations at all levels of the organization.

In April 1982, the Chief appointed a Productivity Improvement Team to study the current landline program and make recommendations which would significantly improve job accomplishment. Five issues were addressed:

-Reduce marking and posting standards.

-Consolidate program into more cost-effective units (shared services).

—Increase the use of new technology to reduce operational costs.

—Standardize and streamline contracting specifications and processes.

—Tract out ownership according to use lines (primarily applicable in Region 5 and requires special legislation).

Through the leadership efforts of Jon Leonard (E) and George Campbell (R&L), Region 4 met the challenge head on by initiating an action plan to implement the above recommendations and to reverse previous Regional high unit cost trends.

A start has been made with significant progress but emphasis will continue.

Digging for Answers

Few people give much thought to garbage, but a world of information can be found there. A developing science, nicknamed "garbology," seeks insight into human behavior by studying what people throw away. This is nothing new; archeologists have long used garbage to learn about past civilizations.

Five volunteer "garbologists" excavated a garbage dump last fall to gain insight about past residents on a piece of property on the Payette National Forest. The team included Colleen LeClair, Deanna Flemmer, Mona Malone, Pam Gardner, all from the Payette Supervisor's Office, and Jim Camp, Fire Management Officer and paraprofessional archeologist for the Council District of the Payette NF. Lee Bennett, Payette archeologist, supervised the crew.



Colleen LeClair (left) and Deanna Flemmer work the dirt looking for pieces of the puzzle.

Through a perpetuated error in fence building, privately-owned structures had been built on what was discovered to be National Forest System land. The adjacent property owners, Gunnard and Emma Johansen, wanted to purchase the I.I4 acres they once had thought they owned. Before the property could be released to them from Federal management, certain criteria had to be met—including evaluating the property's cultural resource value or potential.

Although there are differing opinions about what services were offered at the site, all agree that the piece of property once served as a halfway stage station for mining traffic between Council, Idaho, and Seven Devils Mining District, a distance of about 40 miles. Some local residents recall a store and post office, while others remember a hotel, post office, saloon, and store. Peter Kramer, the original petitioner for homestead, called it "a stopping place for the convenience of travel."

Limited mining in Seven Devils began in 1862 and continued until 1885 when a number of investors became interested in developing the mines. After a few years of slowed production, the district regained momentum in 1897. The town of Cuprum was established that year. Interest by the Pacific and Idaho Northern Reilroads reflected excitement over the mineral potential of Seven Devils. The district was active between 1902-1906 and again in the late 1920's. During this time, Council became a major supply and freight transfer point and the Council-Cuprum Road, which passed in front of the Kramer Station, was the principal access route.

Kramer, a German naturalized citizen, filed his homestead application in 1903. His inability to read English well may have caused him to improve the wrong piece of property—requiring a 1904 amendment to his original application. After failing to appear at the Land Office within the required 60 days, it took several years of affidavits and testimonies before Patent No. 23047 was recorded on October 19, 1908.

A May 2I, 1908, agricultural settlement report, completed by the Weiser National Forest (later to become part of the Payette National Forest), listed improvements to the land as a large two-story house, a large frame barn, a large log barn, a smaller log barn, grainery, woodshed and bunkhouse.

Kramer drove stage, carrying freight and mail to mining communities some 20 miles beyond his station. The large house was often used as a hotel for those not wanting to make the trip in one day. Martha, Kramer's wife, prepared meals for the guests. In testimony taken in behalf of his homestead application, Kramer stated that a small store and post office were located on the site.

A portion of one of the original barns is all that remains. An interpretive sign is the only noticeable indication that anything





Reconstructed Chamberlain's Colic and Diarrhoea Remedy bottle. Chamberlain's products were first produced in 1882. This bottle probably dates between 1882-1913. Drawing by Colleen LeClair.



significant ever happened there. It was thought the archeological dig might produce information to improve understanding of that time and the significance of the services the Kramers offered.

Excavation of the garbage midden (refuse heap) consisted of one- or two-meter squares. After a surface survey recorded any visible debris, the sod was peeled back to expose the first excavation level. Level two was approximately 10 to 15 centimeters below the sod layer. Finally, a test hole of about a shovel depth was dug to determine where there was sufficient debris to justify going deeper. Each shovel load was run through a screen revealing what seemed like bits and pieces of a puzzle.

Few artifacts were found intact—no real surprise since this was a garbage dump which probably had been scraped and piled several times over the years. Whether a tin can scrap or a glass shard, everything was counted, revealing 3,745 pieces over the course of 3 days. There were some datable items recovered, such as bottle necks and bottoms. Based mainly on manufacturing techniques, the time span ranged from 1880 to 1950.

Bennett concluded from the information gathered from historical documents, informants, and archeological testing that the I.I4-acre piece of property did not meet the criteria for nomination to the National Register of Historic Places. Sale of the triangular parcel of National Forest System land would not affect significant cultural resources and the Johansens could finally purchase what they once thought they owned.

Pam Gardner Writer-Editor Payette National Forest

Richfield District Volunteer

Leo Crane doesn't get paid much but he likes his job.

Leo has been site administrator at the Gooseberry Guard Station and campground for the past two summers under a voluntary agreement.

"He's invaluable," according to Forester Mike Stubbs.

His duties are varied-maintains the site, campground and trails, builds fences, acts as security guard and helps supervise correctional youth programs at Gooseberry.

All that and more for \$10 per day which only offsets expenses he wouldn't have if he weren't there.

Leo feels the real payoff comes in making a difference to some of the correctional youth he works with. Some of them are bitter when they come to Gooseberry; some are still bitter when

they leave; but others have enjoyed the experience and regretfully leave behind Leo, their new friend.

Leo has lived most of his life in the mountains around Gooseberry. For many years, he ran a herd of cattle on the mountain during the summer months, moving them to lower ground when snow began to fall.

Leo now pulls his trailer to Gooseberry as soon as he can get it up the mountain road and he stays until snow falls in the autumn. Then he goes down to the valley to his wife and home. Leo and his wife celebrated their 50th wedding anniversary last spring. She doesn't stay at Gooseberry with him but she visits regularly and he frequently goes to town to see her. That might not seem like good accommodations to many people, Leo said, "but that's the way we've lived all our lives." With a smile he philosophized, "Maybe the key to being married 50 years is not being together too much."

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Putting Mined Land Back to Work

When people think of National Forests, they think of renewable natural resources. Wood, water, range, and wildlife quickly come to mind; but, of equal and growing importance in the western National Forests are vast mineral deposits. These include coal, phosphate, oil shale, uranium, oil and gas, and metallic minerals. As the Nation searches for new sources of wealth and energy, pressure mounts to utilize these mineral resources. How can this activity be made compatible with other uses and products these lands provide?

Intermountain Research Station scientists at the Forestry Sciences Laboratory in Logan, Utah, are developing improved ways to rehabilitate lands that have been disturbed through mining. The stakes are high, for these mineral deposits lie beneath timber and grasslands that are the principal water source for recreational, agricultural, and industrial uses in the West.

Perhaps no other activity has the potential to disturb land so drastically as mining. The Mined-Land Rehabilitation Research Work Unit (RWU), under the direction of Project Leader Gene Farmer, is committed to devising methods through research to quickly reclaim mined land and make it productive for water, grazing, timber, and wildlife. Farmer and other RWU scientists are also working on techniques to protect mine spoil against wind and water erosion, so that surrounding soil and streams are not damaged by mine effluents.

Farmer has worked on mined-land reclamation for 20 years, as have Project Scientists Ray Brown and Bland Richardson. They worked with the Surface Environment and Mining (SEAM) research and development project in the 70's. The current project is now one of only three Forest Service research work units in the Nation dealing with mined-land reclama-



A spoil bank revegetated in 1975 with grasses, shrubs, and trees (Southeastern Idaho Phosphate).

tion. Gene reflected on advances he has seen in the field during the past 20 years. "Reclamation is now planned from the very start of mining activity. A reclamation plan is commonly worked into the mining operation plan. In short, reclamation has become an accepted, recognized part of mining."

This is not to say that all problems related to mined-land reclamation have been solved. Acid mine wastes pose a major challenge to those working to return the land to a productive state. Acid wastes result from mining sulphide metallic minerals such as copper, nickel, and some gold-bearing ore. According to Gene, the acid generated in the waste material makes the reclamation job much more difficult, expensive, and less certain of being a successful proposition. Mining in extremely arid climates also presents some difficulties that are yet to be solved.

Working with Gene on these and other problems are Plant Physiologist Brown, Range Scientist Jeanne Chambers, Ecologist Norbert DeByle, Research Forester Richardson and Forestry Technician Bryan Williams. This group has developed close working ties to personnel of National Forests in Regions I and 4 and cooperates with universities, State and other Federal agencies, and private mining companies. By working with these groups and developing their trust and cooperation, the researchers have been able to quickly transfer their results into on-the-ground practices.

In reviewing the biggest successes or advances research has provided to mined-land reclamation, Gene points to several research areas that were developed by project scientists which are now in wide practice on National Forest lands. These are techniques and methods of site preparation, seedbed preparation, and use of soil amendments to improve chemical and physical properties of overburden material. Gene also is proud of the contributions the project has made in determining the amount and timing of seed and fertilizer applications and, particularly, the use and selection of adapted plant materials to revegetate mined land. Scientists from the mined-land rehabilitation RWU have worked closely with scientists at the Intermountain Station's Shrub Sciences Laboratory in Provo, Utah, to use native plant materials in a variety of reclamation situations.

What lies ahead for reclamation research? "Future reclamation research will emphasize soil/spoil as a resource to be developed by reclamation. We'll also be looking at how plant succession can be manipulated to benefit site productivity," says Gene. "The hydrology of mined sites will become increasingly important in future research, especially controlling mass movement and managing the quality of water leaving mined areas."

Mike Prouty Public Affairs Officer Intermountain Research Station

Stranger Than Fiction

On June 22, 1985, my son and I, went on a weekend fishing trip to the Uinta Mountains, pitching our tent at Marsh Lake. It rained during the night and became more intense as it approached mid-day on Sunday.

Being a native of Bridger Valley, Wyoming, I knew what those on-coming clouds could produce. I told my son to break camp and we would head west over the mountain road to the Mirror Lake Highway. From there, we would go through Kamas and continue on to our home in Salt Lake City. We left Marsh Lake around noon and fished along the way.

About two miles west of the Hewinta Guard Station, we stopped while a severe thunderstorm passed through. Thirty minutes later, I cleared the hail from the hood and windshield and continued on. After driving about 2 I/2 miles, a sheepherder stopped us and asked if we had a camera. He pointed to a pile of dead sheep approximately 70 yards from the road. Apparently, they had huddled under a fir tree during the storm that had just passed through. Unfortunately, the sheep had picked the same tree that a bolt of lightning did and it killed 53 of them. Upon discovering them, the herder had checked and found none alive.

I moved closer to the scene in order to get better pictures. Even though the storm had passed by only 35 minutes before, the sheep were already bloated and their condition was the same as if they had been dead for three weeks.

Just another strange lightning story? Perhaps, but there may be a lesson to be learned on where to find safe protection during such a lightning storm.

Milt Taylor RO Engineering Editorial Footnote: Most lightning accidents need not happen according to Don Fuquay. In his article, "Flash and Fury in the Sky," he prescribes the following precautions:

"When you see a storm moving in, you should seek shelter, preferably in a structure with lightning protection. Get away from water or out of an open field. Avoid taking shelter under an isolated tree or unprotected shed. Move near taller conducting objects like towers or radio antennae. Position yourself at least two feet from a tower's legs to avoid a side flash but stay within the cone of protection. Remain several feet away from metal rods or wire fences; stay away from power lines because they might fall. Remember, a car or a truck cab is excellent shelter. Stay inside until the storm is long past. If nothing else is available, crouch down in a group of trees or in a thicket. Stay low (but not prone) until the storm danger is past.

"Before going out to the fields, onto the water or into the hills, it's a good idea to check area weather forecasts.

"On thunderstorm days, rapidly growing cumulus clouds should warn you of impending lightning. Downward bulges or a column or streak of rain emerging from the cloud base also signal that the cloud has reached a mature state and that lightning is imminent. Sometimes on high mountains or ridges, strong electric fields can cause dry hair to stand on end and produce a tingling feeling in raised fingertips. An audible crackling or buzzing may be heard from a portable radio. This is the final warning—the lightning discharge process has started. Immediately drop to a kneeling or crouch position and crawl toward the safest place you can find. Remain down until the danger is past.

"Lightning safety requires that we understand the phenomenon, plan ahead, be alert and observant and act decisively when action is required. These are useful instructions for any outdoor activity."

Genoa "Pioneer Christmas" Gathering Draws 72

A cold crisp night at the Pink House Restaurant in Genoa the oldest town in Nevada—was a fitting aura for a very special Christmas get-together of Toiyabe National Forest employees to look at where they are now and where they were then. The December 14 festivities in this historical place were to celebrate Christmas and honor Forest Service retirees who live in Nevada or who have worked there. The late I800 vintage of the Pink House provided a cozy atmosphere for the gathering of 30 retirees and spouses and 42 current employees.

After dinner, Master of Ceremonies Jim Bradley added his charm as retirees were presented with a Toiyabe National Forest coffee mug, complete with the Forest's pack string logo. One of the highlights of the evening was the storytelling contest. The tales were, to say the least, interesting and funny—even hilarious. The winner of the contest was George Lafferty, former Forest Supervisor of the Toiyabe, who received the beautiful book, "Nevada," as a prize. The person with the most stories was John Kincheloe. The evening wound up with a Christmas carol sing-along accompanied by Sandi Young on a very old piano.

It was truly a memorable evening that included both heartwarming reunions with old friends and the making of new friends.

Alicia Merryman Information Assistant Toiyabe National Forest

I2

How the National Forests of Nevada Began

The recent proposal to transfer National Forest lands to the Bureau of Land Management raised the same question that original founders of Forests in Nevada confronted from the very beginning—Can lands without a large commercial stand of timber be declared National Forests?

Nevada's landscape is rugged, with a certain pervasive barrenness about it. It has little merchantable timber, except possibly for pinyon and juniper fence posts. Yet, millions of acres became National Forests. Clearly the definition of National Forest lands within the Nevada context was broader and more inclusive than just land with significant stands of timber.

While the presence of timber growth was noted and important, forested areas in Nevada were lands wherein watershed values were highly prized and, according to investigators, thus qualified to be set aside for protection as National Forests. The multiple-use concept that was developed by the Forest Service as early as 1907 visualized lands and their resources serving many functions. Also, the Management Act of 1897 spoke of regulating use of Forest Reserve lands to protect timber and watershed resources. By the time that Nevada lands came under investigation, the sensitive issue of watersheds was well established as an important justification for withdrawal of forested lands from the public domain.

"Watershed" had many different meanings to the various user groups that might need the water. Urban groups hoped for an insured water supply; farmers saw full reservoirs as important to irrigation, others saw watershed preservation as a means of protecting homes and property from the ravages of floods. Still, there was debate and controversy about designating many of the lands as National Forests for the purpose of watershed protection.

One of the most ardent supporters of conservation at the turn of the century was Nevada's Senator Francis G. Newlands. He saw Gifford Pinchot's new Forest Service and, also, the Bureau of Reclamation leading the way to a new era of managed resources in the West. Newlands was determined to see Forests established in Nevada. In addition, Newlands and other State political representatives in Washington began receiving correspondence from local ranchers requesting that lands be included in the National Forest System.

The main concern of these ranchers was establishing grazing control administration over mountain rangeland they had traditionally used. It was recognized that a system of grazing regulation would end the free-for-all range use and eliminate some competitors for it. The competitors of the local land-owning ranchers in the State were most often itinerant bands of sheep herded by hired Basques and owned by absentee corporations in San Francisco or Chicago. These ''tramp'' herders often appeared in the early spring. Their flocks consumed forage, leaving the local ranchers with little on which to graze their herds later in the season.

As the Forest Service established itself in Nevada, local support for its system of grazing control grew. It called for limited stock numbers, establishing seasons of use, charging a nominal grazing fee and, imposing a permit system that gave local landowners the privilege of first access to grazing lands and provided protection against the itinerant graziers.

By 1909 and 1910, after administering the National Forest System for several years in Nevada, Forest officials could report that "public sentiment, especially the graziers, seems to be strongly in favor of National Forests." Better returns were reported on cattle grazed three years under Forest permit than in the previous IO years. The good results produced demands for more public domain to come under Forest Service control by 1910 and 1912. While additions were made, Forest officials had to distinguish carefully between adding lands for watersheds and forest protection and those that were primarily grazing lands. Such lands had to be increasingly rejected after 1910 because the Forest Service could not incorporate lands with grazing values only. Also sheep graziers, under direction of corporations outside the state, formed the International Wool Growers Association to fight for elimination of large areas from National Forests and to oppose their expansion.

These issues and pressures existed when the Forests were created in Nevada—in many ways, they still exist. A history of this agency must continually ask the right questions about its past, especially questions that bear upon issues that still persist; i.e., which lands should come under the jurisdiction of the Forest Service as opposed to an agency primarily committed to grazing administration.

A historical study, such as the one being undertaken now of National Forests in Nevada, must be sensitive to issues and personalities of the past, as well as contemporary questions and probable future directions that a public agency will pursue. Since an agency is an institution, its life span transcends the life and memory of any individual. The historian's task is patching together an institutional memory, or a picture of the past, that helps explain the way things have come to be as they are. The principles will guide the research and writing of the forthcoming history of the National Forests in Nevada.

Dr. William Rowley Historian

(Dr. Rowley is a professor of western history at the University of Nevada, Reno. He currently is writing a book on the history of the Toiyabe and Humboldt National Forests. He is working on this project as a Forest Service volunteer on the Toiyabe Forest.)

Spruce Budworm Invades Targhee

Move over mountain pine bark beetle. A new kind of bug has taken over the trees on the Targhee.

A fall aerial reconnaissance flight by Forest Service research scientists revealed a heavy infestation of western spruce budworm in Douglas-fir.

"Over 476,000 acres received heavy defoliation last year," says Jack Amundson, Targhee Forest Silviculturist. "Another 134,000 acres received moderate to light infestations."

The heaviest hit areas on the Targhee are the Centennials, Big Bend Ridge, West Slopes of the Tetons, and Baker Draw.

Evidence of western spruce budworm is obvious to the naked eye only in spring and mid-summer when the budworm goes through six larval stages. Ravenous, growing larvae eat new needles as fast as the tree "buds" new ones. As one new needle's bud is eaten, the larvae search for a "new housekeeping area," dropping on a silken thread to new foliage below. The budworms first congregate on the tops of trees, attracted to the warmth and light. As they eat and drop lower, they become more congested in the young trees.

Needles are the ''food factories of the tree,'' says Amundson. Without them, the tree can't grow.

As the needles die, their color turns red and the Douglas-fir looks like a deciduous tree changing colors in the fall.

Winds eventually blow off the dead red needles and the trees again appear from a distance to be green and healthy.

Spruce budworm infestations do not guarantee the death of a tree. In fact, the infestation usually lasts around seven years, killing about IO percent, usually the youngest trees.

Jack Amundson shows the damage of a spruce budworm to the needles of a Douglas fir to local Ashton reporter, Tamra Cikaitoga. (Photo by Ann Matejko)



Cool weather and a lot of snow, especially in the spring, are the best budworm combatants. The budworm likes warm, dry places—cold, wet springs interfere with its eating and traveling pattern.

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The western spruce budworm will never disappear. It is native to the Douglas-fir. It can withstand 60 degrees below zero if it has some protection.

Another control measure is even-aged canopies, instead of multistoried, with wide spacing. This slows down spread of the worm. Mixing in other tree species is another successful strategy.

Amundson stresses that the budworm is a natural part of the ecosystem. As it kills some trees, it is performing natural thinning. The survivors have better genetics and are more resistant to the next invader.

Amundson says that some timber harvest treatment, using a patchwork quilt of different sized, even-aged stands of 20-60 acres per patch would probably reduce the infestation considerably. "However, the Forest Plan calls for reforestation of thousands of acres of lodgepole pine killed by the once rampant pine beetle epidemic and all our efforts are going into reviving those dead parts of the Forest as quickly as possible," says Amundson.

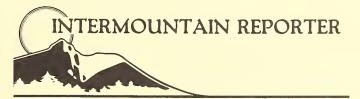
Amundson says the Targhee intends to continue monitoring the situation. The Forest will only treat Douglas-fir areas that were previously planned for harvest.

The activity of the budworm is expected to continue in Douglasfir areas not planned for harvest in this decade.

"By allowing the budworm to continue its natural role in Douglas-fir, we can expect trees to die and regrow naturally.

"There will be top killing of some trees and loss of some young trees but we don't expect any major tree kills.

"Trees that have been weakened by the budworm will be more susceptible to a bark beetle infestation or other diseases," predicts Amundson.



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Susan McDaniel, Design and Layout

I4

Data General System Expands to Meet Growing Demands

The Region's Data General (DG) computer system has expanded dramatically during its three-year history.

DG will keep growing as more employees find new ways to use this set of tools, said Information Systems Director Mike Slimp.

"Our continuous task is to acquire new hardware and to upgrade the hardware already installed as workload grows," Slimp said.

"Our goal is to make the technology available to literally all our employees," he said in a recent interview. "With budget cuts ... we've got to look at different ways of doing business. Technology is one way of doing business smarter."

The Regional Office, all Supervisor Offices and 13 Ranger Districts have their own mini-computers, Slimp said. "This year we'll install 19 more at Districts. Next year we'll install about the same amount. Eventually, we will have one at every District with seven or more employees."

How have employees responded? "Many started out being reluctant to accept this change," Slimp said. "As people have started to use the technology, even the most skeptical have begun to see some benefits."

"One thing the Forest Service is incredibly good at is trying something new," he added. "What we're terribly bad at is letting go of the old. So we're still using both, in some cases, and that's costing us."

Employees do need to realize that "technology in the Forest Service and communication of information throughout the Forest Service will be done electronically, now and in the future," he said.

Implementation and use of the technology have caused some growing pains.

In the Regional Office, so many people started using the system that the computer was very slow, Slimp said. To level that workload, Common Service Units were moved to the Intermountain Research Station computer.

"Next we initiated scheduling of things to be done in particular time frames," he said. For instance, only top priority work is to be done during certain peak hours.

Also, line managers now set priorities on what information goes on the system, Slimp said.

Another big boost came from a newly-installed MV 10,000 computer with much more capacity. "Not only does that support a large number of users, it allows the Region to do other things to support Forests when used with existing hardware," Slimp said.

For instance, Forests will be able to use various software in the Regional Office by connecting to the RO computer through DEPNET, he said. "This avoids duplication and overloading of smaller systems." Employees Regionwide can expect more innovations in coming months, Slimp said.

Time and attendance reports will soon be done on DG—an Agencywide change. "We'll be going to it soon in this Region."

Studies have shown that there's a 30 to 40 percent error rate on paper forms. "Electronically, they've found about an eight percent error rate."

Another efficiency will be electronic financial management, Slimp said.

Information Systems is now installing a software package called Information Structures (IS) which will cut duplication and provide better ways to access information, Slimp said.

IS will permit users to build a document as part of a co-owned staff drawer. "So when you want someone to review it, you just send a message, telling that person to look up a given document in a certain drawer. Since you'll no longer have to mail a document to the reviewer's personal profile, that saves storage space and response time."

One issue that's arisen Forest Service-wide is whether DG can meet all the needs of the Agency.

Agency direction is that DG is to be "the mainline computing capability of the Forest Service," Slimp said. The system was justified and bought to handle all information management such as word processing, electronic mail, data entry and editing, and data base management.

DG was not sized or planned to handle specialized techniques such as mapping and engineering graphics, Slimp said. Often those capabilities are needed to do the job; if so, it may be necessary to acquire microcomputers or other specialized technology.

"Those uses will have to be justified on a case-by-case basis," Slimp said. "Technology can't be acquired in lieu of or interim to DG if DG has the necessary capability."

Slimp said the Information Systems staff provides training and support in helping employees use DG "tools." Since 1982, Slimp has trimmed that staff from 34 to 24 people. He also set up a Regional Help Desk run by Jolene Berry (625-5489) to respond to problems or suggestions on using DG.

"As people use it, they will see innovative ways to use the technology better than they used it before," Slimp added.

"The main purpose for Data General technology is to make it pay," Slimp said. "The technology is not an end in itself but a means to work smarter and more productively, to continue to be a viable organization in the future."

Cindy Chojnacky Information Office

Volunteers Work on Ski Trails

This past winter, the Salmon Nordic Ski Club worked with local Forest Service personnel to clear and mark several cross country ski trails in the Williams Creek Summit area of the Salmon National Forest.

A total of 284 hours of volunteer work was donated by I6 members to establish three trails on the Salmon and Cobalt Ranger Districts. The work was the result of an effort to encourage local residents to utilize skiing opportunities close to Salmon. "Marking and clearing routes which have become favorites over the years should make them easier and safer to use," says Jack Venerus, Ski Club member.

According to Tom Buchta of the Cobalt Ranger District. "We placed a high priority on those trails which were already being used for skiing and did not conflict with snowmobile use in the area," he said. Trails selected included two historic stock driveways and an old logging road system.

The clearing work consisted of felling trees, bucking up downfall, and limbing trees adjacent to the trail. The limbing was probably the toughest job for most ski club members. It was accomplished with long-handled pruning saws and resulted in plenty of sore arms and stiff necks.

Skiers of all ages were eager to help with the limbing.

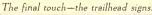


Another job involved nailing up blue diamond-shaped trail markers. These were placed about 10 feet off the ground on trailside trees to ensure good visibility when the winter snowpack reached 4 to 5 feet. "Most folks used a metal ladder to get the necessary height. Nearly 500 markers were put up," said Buchta.

The final touches were trailhead signs which went up the first of December. These displayed the trail name, length, level of difficulty, and a map of the area. The North Moccasin and Williams Creek Trails are for skiers of intermediate skill, while the Meadow Trail is for beginners. "The main difference is that intermediate trails require some skill in skiing under control while negotiating turns and going downhill," advised Craig Grother, Salmon Ranger District employee, who coordinated the volunteer effort.

The file on this cooperative venture can be stamped "Mission Accomplished."

Tom Buchta Cobalt Ranger District Salmon National Forest





No Bugs in the Snow

The absence of gnats, flies, mosquitoes, and horseflies makes silvicultural treatments in the snow very enjoyable, according to Clark Lucas, Island Park Forester. Lucas also lists three other advantages: snowmachines move a lot faster and travel quickly over downed timber (buried under I2 to 20 feet of snow) compared to timber cruising by foot in the summer. Working during the snow season provides an opportunity to get more sales cruised, marked and treated. Everyone agrees the biggest advantage of all is relief from cabin fever.

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If ever there was a place to get cabin fever, the Island Park Ranger District, Targhee National Forest, heads the list. Island Park has a short summer season—spring begins in May and roads are cleared around mid-June. This means the hardy "inmates" living at the Station endure snow 7 months a year. Because of this, foresters must find ways to mark, cruise and gather data for silvicultural prescriptions in the middle of the winter.

A reporter and photographer were invited to spend a day working in the snow with Foresters Clark Lucas and Kevin Schulkoski. What an experience!

The trip began with an overview of what must be known before actually venturing out: aerial maps, the Forest Plan, environmental analyses, the pine bark beetle epidemic and the biology of serotinous cones of lodgepole pine, elk habitat and range needs in the area.

Serotinous cones are closed with resin and are an important part of the lodgepole's reproductive system. Only fire when trees are standing—or extreme heat when branches are on the ground during the summer—will open the cones, releasing the seeds. "Timing is so important," explains Bruce Fox, Island Park District Ranger. "Unless we get branches with serotinous cones on the ground by August, we can't get natural regeneration. Hand planting costs a lot more and is much more time consuming." Doing timber sale preparation work during the winter is critical in assuring that trees can be cut during the short summer season in time to precipitate successful natural regeneration."

Before leaving the warm office, the group had a safety meeting, discussing proper snowmobile use and checking clothing and other essentials (first-aid kits, maps and lunch).

Baggy, black waterproof overalls, parka, two layers of socks, waterproof boots, scarf, hat, helmet, sunglasses and two pairs of gloves were the dress for the day. Being inside all that paraphenalia must be how an overstuffed Teddy Bear feels. Whether handsome or ugly, woman or man, green or blue, differences are unobservable once people are cocooned in the required gear. Sunglasses are a necessity no matter what the snow conditions. They reduce glare from the sun (which this expedition never saw), provide definition from whiteout, and protect eyes from ice when traveling in a snowstorm (which the group did encounter).

At the snowmobile shed, engines were checked to see that they were running properly and had a full supply of gas and oil. Upper body strength was required to start the motor with its long-g-g pull rope. Prior pushup training would have been helpful.

Once everything was checked, the group left in single file with occasional glances backward to be sure everyone was still together.

Normally, a sale preparation layout occurs in two parts: (a) reconnoitering and data collection and (b) boundary layout. For purposes of this trip, both parts were blended to give reporters a feel for the entire process.

At the chosen site—a firewood area for next summer—work began in earnest. Depending on the mission, the forester may use an abney level or a more modern clinometer to determine the slope for a road; check the diameter of trees to see what sort of sale should be offered; mark trees with sale boundary signs; identify snag trees for wildlife; or measure the number of acres within the boundary. The mental effort required by the job appears minimal. This was fortunate, as the tradeoff was hard, physical labor—struggling to maintain body heat while walking in snowshoes through snowdrifts; trying to hold equipment with hands wrapped in two pair of gloves; and pulling stuck snowmobiles out of the snow.

The jumpsuits aren't 100 percent waterproof.



Some things can't be done in the snow, such as marking trees. Clark explained that, "With I2 to 20 feet of snow on the ground, the marker would be too high for firewood cutters or loggers to read or see in the summer."

Seeing some creeks and deer on our return trip were a pleasant contrast to the monotonous scenery of thousands of acres of dead lodgepole. While other Forest Service personnel sit in warm offices pushing pens during the winter, these dedicated foresters are fighting the elements daily and then returning to their offices to write environmental analyses in wet pants and underwear. That's right—wet! Those jumpsuits are not I00 percent waterproof after sitting, walking and driving in snow all day, as anyone on this day's trip can attest.

Ann Matejko Public Affairs Specialist

Have You Hugged Your Community Today?

"Have you done anything for your community lately?" asks Carl Pence, Forest Planner of the Bridger-Teton National Forest.

Carl is concerned. He feels that Forest Service employees aren't getting involved in community affairs anymore and that results in a big loss for the Forest Service image. "Involvement makes us human, not just an organization," says Pence.

Pence is not talking about Rotary or the Lions Club. "Working with their young people is what small communities really feel involvement is."

Pence's role model was Ranger John Wick in Mackay, Idaho, who interested the 8-year-old in forestry projects for 4-H. In fact, Wick influenced all the Pence brothers so much that all five majored in natural resources in college. Four of the brothers are in the Forest Service and one works for the Soil Conservation Service.

Pence feels that programs such as Scouts and 4-H provide youngsters with an opportunity to investigate career options. Broad-based youth programs should help young people develop lifetime interests, skills, appreciation, and hobbies such as sewing, cooking, livestock care, plant collection, photography, recreation and music. Pence points out that, contrary to the common impression, 4-H isn't just sheep and cows. The club is structured so that any interest can be pursued if a leader is willing and able.

Pence was recently chosen by Teton County 4-H members for a Leadership Scholarship to attend an all-expense-paid "Adults Working with Adults" training conference in Washington, D.C. After working for the Forest Service for 20 years in various capacities and attending numerous leadership-type sessions, he felt this session wouldn't offer anything he didn't already know. What a pleasant surprise that session was.

Pence admits that being a 4-H and Scout leader can be a lot of work, especially since he tries to gear his programs to individual interests. What does he get out of all this? Besides learning a lot himself, Pence says, "The big bonus is it keeps me feeling young. I know I will stay with it in some capacity even when my kids grow up." "Being active in youth programs really makes one a part of the community," says Pence. Its a big plus to have the respect of that community and its young people.

When asked why he thought not many Forest Service people get involved today, Pence conjectured that part of the reason was that the Forest Service no longer emphasizes the importance of such involvement. He feels there needs to be a reward system. Community involvement shouldn't mean just talking with ranchers on an allotment.' Rewards need to filter throughout the organizational structure.

Pence feels there is too much focus on traditional institutions such as schools. He'd like to see a return to emphasis on nontraditional youth groups like 4-H and Scouts. He feels such programs are more economical and often more effective.

Pence feels that not much is needed to turn around the tarnished Forest Service image that is being talked about these days. "All it would take is a little involvement by everyone. It's not necessary to be a leader; just be a resource person. We need more enthusiasm for this sort of thing. Involvement with youth will help shed the idea that we don't care about the community."

Ann Matejko Public Affairs Specialist



Not one-but two-Bridger-Teton NF employees lead this 4-H group (Carl Pence, Leader, on the right, and Dave Prevedel, Assistant, on the left).

I8

New Inventions Make "Little Trees" Grow-Faster, Stronger, Healthier

It's obviously a labor of love when you talk to Lowell Birch about how he grows his ''little trees.''

Birch, a forestry technician on the Ashton Ranger District, Targhee National Forest, has been involved in growing trees for 25 years.

One result from all this labor is Birch's modified version of a machine to help his "little trees" grow faster, stronger and healthier.

Birch's "invention" is an adaptation of a Swedish scalper machine which replaces the hoe. Purchased in the 70's, the scalper has gone through three generations of improvements under the practical direction of Birch and other Ashton foresters. Today, the newest version is being blueprinted by the Missoula Equipment Development Section and Ben Lowman, Engineer.

The "SFI," as Birch refers to it, makes growing trees a lot easier.

For trees to grow, they need to be free of competition for nutrients, water and light. The Birch version of a scalper cuts a bigger slice (30''x30'') on the ground, removing more vegetation. By increasing the size of the scalp, the District has recorded an increase in survival and growth during the first years of the little trees' lives.

The scalper is for use mainly in flat to 25 percent slope country and, in the Intermountain Region, is usually used in lodgepole pine planting areas. On steeper slopes, the Ashton District has developed the Birch "Quick-Tach" scalper teeth which mount on conventional dozer blades quickly and easily. This modified invention is also being blueprinted.

Another advantage of Birch's invention is that only the small section being scalped is disturbed not the entire environment. The SFI can travel over stumps and logs like a crazy car without missing a rotation.

The new SFI reduces handplanting costs by \$40-\$60 per acre. The machine can cover 2,000 acres in 3 months, although the Targhee is no longer handplanting that many acres. The land can be prepared one year in advance of planting. So that it doesn't sit idle, the SFI also has been used for reforestation by the Bureau of Land Management.

Birch points out that the local economy has benefited from the new machine. A local company, Rigby Machine Works, made the modifications.

Birch has another invention called the burrow builder which also helps ''little trees grow.''

Gophers are a real menace to lodgepole pine survival. Clear-

cuts needed for successful lodgepole regeneration have provided a haven for gophers, giving the Targhee the dubious honor of "Gopher Capital of the World." If the gophers aren't treated, Birch says the Targhee will lose most of the trees in a plantation within 3 years.

The burrow builder mechanically puts strychnine poison bait underground to kill gophers.

The burrow builder is a two-wheel contraption pulled by a caterpillar tractor. It is pulled through the ground creating gopherlike burrows. Every few feet, 8-10 kernels of poison bait are automatically planted 8 inches deep. Gophers carry the kernels to their underground nests and there meet their demise.

At one point, in 1979, the Targhee had to halt use of the burrow builder due to a concern that grizzly bears might be killed

Lowell Birch, Ashton Forestry Technician, explains how to make ''little trees'' grow faster, stronger and healthier.



by consuming poisoned gophers. A Fish and Wildlife Service study, using radio-collared gophers in test plots, proved that gophers die below the surface. Since the poison loses 50 percent of its potency after 24 hours, a stomachache is the worst that could happen if a grizzly inadvertently dug up a dead gopher. Since the study proved no adverse effects upon grizzly bear, the burrow builder is back in business-improved and modified each year by Birch and Ashton Foresters.

Birch is a "local," born and raised on a farm. He said successful reforestation of trees is similar to growing a crop. His modifications of machinery to help grow tree crops are natural

Public Affairs Workshop

The Toiyabe National Forest conducted a workshop entitled "Public Affairs for Ranger Districts" on December 3-5. The session was designed by Jim Bradley, Public Affairs Officer for the Toiyabe NF, aided by the organizational skills of Alicia Merryman, Information Assistant.

The 23 participants came from every District of the Toiyabe and Humboldt Forests, plus Forests throughout Region 4 and northern California.

Pat Sheehan, Director of Information for the Intermountain Region, spoke on "The Forest Service Under Siege," which addressed public affairs challenges facing the Forest Service. Jim Bradley presented a variety of topics emphasizing the importance and "how to" of effectively communicating with the public and the press about the mission of the Forest Service. Dave Young, Law Enforcement Special Agent, spoke on the need for effective public interaction in law enforcement. Gail Merritt and Alicia Merryman teamed up to give basic guidelines for an Information Officer in reporting an "incident." Ann Melle from the Toiyabe's Las Vegas Ranger District; Susan Grundy, Deputy Public Affairs Officer, Toiyabe NF; and Warren Grandall, Public Affairs Officer for the Plumas NF taught video equipment operation.

During an evening banquet, participants gave short presentations on the mission of the Forest Service. Using different approaches, it was discovered points could be clearly communicated whatever the style—humorous or serious.

Workshop tours of the Reno Gazette-Journal, KRNO/KCBN Radio and KOLO-TV, Channel 8, gave participants a better idea of methods to disperse news to the public.

A trip was made to a choice segment of the public-a thirdgrade class at Grace Warner School in Reno—where Susan Grundy directed a presentation depicting what the Forest Service is all about. The production entitled ''What Do Rangers Do All Day?'' involved casting all students in roles (nobody was forced; however, one girl played the role of "audience") extensions of mechanical practicalities on the farm.

"Common sense, the desire to create and improve, and dedication are what we've got that makes trees grow so successful on this District," says Birch.

It must be the tone of love and endearment in Birch's voice when he talks about how best to grow his "little trees" that makes his contribution to forestry so successful.

Ann Matejko Public Affairs Specialist

to make up a National Forest. There were two cows, an elk, a miner, a lot of trees, two junior forest rangers and a camper who started a forest fire (also played by a student). The students were very enthusiastic, even though 20 adults were watching. Actors and audience all had a wonderful time. The program will be taken to schools throughout the Reno area and can easily be adapted to any locale.

The kids who participated all wrote thank you letters to Ms. Grundy, % Forest Service. Here are some excerpts:

-"...It was educational how you talked about how lumberjacks can tell what trees to cut down and forest rangers can tell how old the tree is with that metal bar...'

-'Now I know how to be a forest ranger and how to be nice to the people in the Forest ... I learned that if animals in the forest are overcrowded you move some to another spot..."

-"...the play we did was fun...when I was a tree I was small then they re-planted me then I grew really big. Then a forest fire came and I was dead. So then the camper got in trouble...'

-'...I have to tell you something...I hate being a tree it feels weird and it's stiff...you taught me a lot and the costumes were neat...'

-...You taught us in a fun way of learning...'

-'...Your visit was fun!...we liked all the things you let us do-getting to cut down Mrs. Baer was fun!"

-- '...I hope the forest is o.k...if you come again bring some friends. And I liked the play. If you come again bring some trees, animals so they can eat the grass, like the cow. And bring the gold and silver."

Thus, a diverse and informative workshop came to an end.

Susan Grundy Deputy Public Affairs Officer Toiyabe National Forest

Bridgeport District Offers Educational Material to Visitors

The Toiyabe National Forest Bridgeport Ranger District joined Eastern Sierra Interpretive Association (ESIA) this past year in offering a broad range of educational material to visitors.

Publications include books on wildlife and ghost towns, topographic maps, trail guides of National Parks, and—for the kids—coloring books, Smokey T-shirts and Smokey hats. Topo maps and Smokey T-shirts have been the biggest sellers.

To avoid unfair competition, Forest Service representatives checked with store owners to make sure the same publications were not sold in local stores.

ESIA grossed \$101,088 and had a profit of \$68,380 from the material sold in fiscal year 1985. The Association contributed \$13,412 to Forest Service programs.

Carson Ranger District and Markleeville Guard Station are joining ESIA this year. The Association is located in Bishop, California.

Gail Merritt Toiyabe National Forest

Rules for 1986 Regional Photo Contest

PHOTO FANS-this is for you.

Limber up your cameras for the 1986 Regional Photo Contest.

There were some great entries in 1985-but not enough of them.

A better job of communicating with our publics can be done with photos that tell the story; so take a lot of pictures this year and enter your best in the I986 contest. The rules are:

I. The contest is open to all Region 4 and Intermountain Research Station employees, volunteers and retirees.

2. Color slides (transparencies), color prints, and black and white photos of all sizes are eligible.

3. Originals are preferred but duplicates will be accepted. Negatives should be included with color prints and black and white entries.

4. All entries must be labeled showing location, date and photographer. Photographers should specify the categories in which they wish to enter their work.

5. Photos need not be taken in Region 4 but must look like Region 4 flora, fauna, terrain, etc. Photos from previous years except past winners—are eligible.

Visitors look over Eastern Sierra Interpretive Association maps and educational material now offered by Bridgeport Ranger District, Toiyabe National Forest.



aterial now offered by Bridgeport Ranger District, Toiyabe National Fo

6. After judging, original photos will be duplicated and the originals returned to their owners. Duplicate photos entered in the contest will not be returned unless requested.

7. There will be eight categories. Photographers may enter up to four photos in each category:

- -Scenery.
- -Recreation activities.
- -Wildlife (animals).

-Resource use, management, and improvement activities (timber, range, minerals, wildife, water, soil).

-Resource protection activities (fires, insects, diseases, noxious weeds, and flood control and damage repair).

-Forest Service people at work in their specialties. Include public service (contacts) as well as resource work.

-Wildflowers, trees, shrubs, and other vegetation.

-Other (structures-current and historic, signs, construction, communications, engineering, etc.).

8. The contest runs until December 31, 1986. Entries will be accepted through February 28, 1987.

9. Entries—and suggestions for getting more people involved—should be mailed to Phil Johnson, Information Office, USDA Forest Service, 324 25th Street, Ogden, Utah 84401. Please send photos in boxes or other protective containers.

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HOST

The following March I letter was received by Paul Nordwall, Forest Supervisor, Caribou NF:

"I just wanted to send you a personal note with reference to a recent event that took place in your office. I called Tim Burton on Friday morning...and requested an appointment with someone that would help me on a small lands problem... Mr. Burton arranged a meeting with Norm Bare for I p.m. that same day right while I was on the phone with him.

"I showed up for the meeting about ten minutes early and was using the phone in the lobby when Sherm Boyce happened by...and I asked if he had just a minute so I could ask him a question or two and he graciously invited me into his office and discussed the question I had and then advised me that Mr. Boyd Carpenter would be the man to talk with and Sherm took me to Mr. Carpenter's office and introduced me to Boyd. Boyd took me in his office and along with Dahl Zohner's help we were able to take care of the problem right there.

"I then asked who the wildlife biologist was in the office and they introduced me to Mr. Juan Spillett. Mr. Spillett immediately produced for me a copy of some inter-office memos dealing with my project that I had not yet received.

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"In the meantime, Norm Bare and I met for a few minutes and he dictated a letter and made arrangements for me to take it with me as I left.

"As I was nearly ready to leave I ran into Frank Beatty (sp) and Frank asked if there was anything that he could do to help.

"The bottomline of this letter is to let you know that I was absolutely delighted with the way your staff treated me yesterday. If all agencies of government were able to function as well as the members of your staff, it would certainly be an improvement.

"I do sincerely thank you and your staff.

Yours very truly,

/s/ Robert N. Fackrell Fackrell Construction Co., Inc.

Obituaries

P. MAX REES

P. Max Rees died Saturday, February 22, at the University Hospital in Salt Lake City of leukemia.

He was born February 27, 1916, in Logan. He was reared and educated in Inkom, Idaho, and graduated from Utah State University with degrees in forestry and range management.

He served as a lieutenant in the United States Navy during World War II.

He worked for the Forest Service for over 40 years as a District Ranger in Utah, Nevada, and Idaho; Forest Supervisor of the Sawtooth and Challis National Forests and he retired as Director of Planning and Budgeting in the Regional Office.

He was a member of the Society of American Foresters and the American Forestry Association. He was active in the Boy Scouts of America.

Surviving are his widow, Jeanne, of Layton, two sons. David M. Rees, Grand Junction, Colorado; Ralph B. Rees, Layton, Utah (presently working in the Regional Office Planning and Budgeting Staff); and one daughter, Patricia Behrendt, Pocatello, Idaho; and three grandchildren.

FRANCIS W. WOODS

Francis William Woods died Wednesday, March 5, 1986, in North Ogden of injuries sustained in an automobile accident.

He was born September 10, 1902, and was a lifetime resident of Ogden.

He was a professional engineer. While working for the Forest Service, he was active in soil conservation and reforestation.

He had been active in many civic groups, including the Weber Water Conservancy District, Sons of Utah Pioneers, North Ogden Planning Commission and North Ogden Kiwanis Club.

He was an amatuer photographer and had won many awards.

Surviving are his widow, Lavon, of North Ogden and two sons and one daughter.

Retirements

LINDY MARCHI

The Engineering Department of the Payette National Forest lost over 30 years of experience when Lindy Marchi retired on January 3. Lindy began his career as an Engineering Aid for the Bureau of Reclamation on July 18, 1955, transferring to the Department of Agriculture in 1960 on what was then the Bridger National Forest. He was reassigned to the Sawtooth in 1973 and finally came to the Payette in 1974 where the remainder of his career was spent holding numerous positions including Supervisory Construction Representative, Civil Engineering Technician and Supervisory Civil Engineering Technician. Lindy received two cash awards for his outstanding performance and more recently two cash awards for his support of the Forest safety program.

Lindy's retirement plans include hunting and fishing and doing some woodworking. At the present time, he and his family intend to remain in McCall where his son is a freshman at the McCall-Donnelly High School.

NANCY KESLING

January 3 was the retirement date of Nancy Kesling, who retired from the Payette National Forest with over 20 years of service. Her entire service, beginning September 20, 1965, was on the Payette where she held numerous positions: Clerk-Typist, Resource Clerk, Accounts Maintenance Clerk, Accounting Technician, Business Management Assistant and, most recently, Support Services Supervisor on the Krassel Ranger District. She worked in the Supervisor's Office as well as on two Ranger Districts.

During her career, she received several awards including two quality step increases for outstanding performance in 1975 and 1982; a 1985 group cash award for effort, commitment, and support of shared services and co-location; and an engraved wall plate for 20 years of safe performance, presented in 1985.

Nancy and her husband, Darrell, will remain in McCall where he works seasonally as a Motor Vehicle Operator for the Payette National Forest.

VERBA TEUSCHER

Verba Teuscher began her career in 1969 as a temporary employee on the Montpelier Ranger District, where she stayed until her January 3 retirement after 15 years of Federal service.

In October 1976, she was promoted to Resource Clerk and, in 1983, she received a cash award for continued performance exceeding acceptable levels.

Verba and her husband, Milt, will continue to reside in Geneva, Idaho, and do some traveling to warmer winter climates.

PEGGY LAMBIRTH

Peggy Lambirth retired from the Payette National Forest on January 3 with over 20 years of service. She was Support Services Supervisor on the New Meadows Ranger District at the time of her retirement and had served in that capacity under other titles since 1972.

Peggy began her government career with the U.S. Naval Supply in 1944, the War Department in 1945, and, in 1946, postponed her career to raise a family. She returned to Federal service in 1967 as a Clerk-Typist on the Payette National Forest. All of her service was in New Meadows, Idaho. During her career, she received a quality step increase for outstanding work in 1970, a safety award in 1982, and a group award for effort, commitment, and support of shared services and co-location in November 1985.

Retirement plans include traveling, fishing, boating, motorhoming, and just "having fun." She's looking forward to doing just what she wants when she wants. She enjoys sewing and handwork as well as reading.

Awards

REGIONAL OFFICE

MARY D. SPENCER-Outstanding job of assistance in dispatch.

ASHLEY NF Cash Awards

Cash Awards SANDY K. STEPHENS-Certificate of Merit LUDAWN MECHAM-Certificate of Merit JULENA D. POPE-Certificate of Merit BRENT FORD-Certificate of Merit STEVE MARTINEZ-Certificate of Merit DANDY POLLOÇK-Certificate of Merit MERLE CECIL-Certificate of Merit GARY RAVENBERG-Certificate of Merit WILLIAM T. MOULTON-Certificate of Merit FRED BIRD-Certificate of Merit TODD SAUL-Certificate of Merit RULEN WOOLLEY-Certificate of Merit CHESTER SMITH-Certificate of Merit

Quality Step Increase RALPH GILES

BOISE NF

Length-of-Service

- 10 Years—CHARLES SWEARINGEN, Forestry Technician, Idaho City RD, PAUL MOROZ, Wildlife Biologist, Emmett RD
- 20 Years–JESSE GREEN, Supervisory Civil Engineer, Mountain Home RD, EMMETT DEMASTERS, Eng. Equipment Operator Leader, SO, KEITH SCHNARE, Forester, SO

30 Years-GLENN OSBORN, Supervisory Land Use Planning Specialist, SO

Special Act EUGENE FUQUA, Forestry Technician, Cascade RD JOHN MEREDITH, Motor Vehicle Operator, SO Survey Crew JAMES SHERRILL, Engineering Equipment Operator, SO Survey Crew

BRIDGER-TETON Cash Awards

GLENNA PREVEDEL—For exceptional quality and quantity of work performed as Secretary to the Forest Supervisor. ROBERT RIDDLE, Forester—For accomplishment in overcoming unusual difficulties and exceptional achievement in handling unusually difficult assignments, critical situations, or crash programs resulting in unusual demand on employee.

GERALD HAWKES, Forester—For outstanding accomplishment in increasing morale and work of all staff units and for utilizing extra personnel in accomplishing unit targets and budget difficulties.

MICHAEL HERTH, Minerals Forester—For superior performance and persistence in obtaining high quality restoration of oil and seismic activities for several years.

TOM KNIGHT, Forestry Technician—For an accident-free season in accordance with District Safety Policy.

GARY POULSON—For outstanding accomplishment in gaining a TAP project and performing his duties as a Forestry Technician.

GENE SMALLEY, Range Conservationist—For superior performance of the range operation during 1985, for his quality of performance and unselfish dedication throughout this season.

CARIBOU NF

Cash Awards

NANCY POOLE—For outstanding achievement as Accounting Technician for period 1/20/85-9/30/85.

CARA LEE DAVIS—For performing outstanding service to the District in the absence of the BMA during the period $I0/I/84\cdot2/2/85$.

SHAWNA ANDERSON—Sustained superior performance as Receptionist for the FY 1985 rating period.

JAMES GILSDORF—Superior performance in assisting in management of the District timber program.

STEWART SUSSEX—Exceeding requirements of his position on a sustained basis for FY 1985.

DAHL ZOHNER-Exceeding requirements of his position on a sustained basis for FY 1985.

GEORGE COTTON—Performance substantially exceeding requirements of his position for FY 1985.

TIMOTHY BURTON—Sustained superior performance as Forest Hydrologist during the period of 10/1/84.9/30/85.

Quality Increase

JOHN ELLE-For outstanding performance for FY 1985 rating period.

BARBARA IGNASIAK—For performing all major duties in an outstanding manner during FY 1985 rating period.

Length-of-Service Awards

40 Years-YVONNE OLIVER, Mail and File Clerk, SO

35 Years—JANET HOOLEY, Purchasing Agent, SO 30 Years—SHERMAN BOYCE, Forester, SO

PAUL CLERK, Range Technician, Malad RD

20 Years—HAROLD KLEIN, Ädministrative Officer, SO CLYDE WILLIAMS, Forestry Technician, Malad RD RONALD WALTERS, Wildlife Biologist, Montpelier RD ANTHONY VARILONE, District Ranger, Soda Springs RD

CHALLIS NF

Quality Increase

RONALD G. YACOMELLA, Civil Engineering Technician, SO—For superior performance and significant contributions to the engineering program.

PAYETTE NF

Cash Awards

SANDRA L. HARDIN—For recognition of sustained superior performance which consistently and substantially exceeded acceptable levels.

SAWTOOTH NF

Quality Increase

DOLORES J. STRICKLING, Realty Specialist, SO—For exceeding the requirements of her position to improve the land adjustment program on the Sawtooth NF.

Special Act

BONNIE LUCKMAN—For diligence and outstanding dedication in her efforts to assure accuracy and a smooth transition into the new billing procedures and other RAMIS programs and reports on the Sawtooth NF

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TARGHEE NF

Cash Awards

LYNN R. THOMAS, Engineering Aid—For exceeding expectations and for demonstrating special effort in accomplishment of assigned duties on the Dubois RD.

ROBERT RILEY, Supervisory Forester—For the implementation of extension policies that the Chief provided as a relief to timber purchasers and the timber "Buy-Out" Act on the Targhee NF. All of these actions required lengthy direction for their application. All were completed in a highly efficient manner.

TIM KIMBLE, Forester—For outstanding accomplishment in his critical elements of recreation planning and recreation special uses planning and management for fiscal years 1984 and 1985.

WAYNE JENKINS, Supervisory Ranger Technician—For suggestion of the Targhee bear proof food storage container for back country or wilderness sites that can be transported by park animals.

WILLIAM BRADFORD, Forestry Technician—For outstanding performance in the role of Smokey Bear on Saturday nights during the 1985 summer season and when called upon by the SO for special events.

MAUREEN THOMAS, Forestry Aid—For three accident-free years while using a snowmobile for the cross-country ski grooming program and snowmobile patrol.

DON BLACK, Forestry Technician—For outstanding performance in critical elements, target accomplishment exceeding II5% and program management of the Ashton District's human resource program in FY 1985.

Quality Increase

JOHN AMUNDSON, Forester—For sustained superior performance and a high caliber of work reflected in innovated equipment development, new written and established guidelines and for implementing use of Data General equipment for the Silvicultural Timber Department.

IRENE RIGBY, Clerk-Typist—For outstanding performance in both quality and quantity of work.

MARLA WOODBURY, Forestry Technician—For outstanding performance in both quality and quantity of work.

Personnel

ASHLEY NF

Promotion MARY SANCHEZ, Support Services Specialist, Duchesne RD

Reassignment JULENA D. POPE, Personnel Clerk to Resource Clerk

Transfer Out RICHARD K. SNYDER, Supervisory Civil Engineer to Supervisory Highway Engineer, RO/R-I

BOISE NF

Promotion in Place LINDA ALEXANDER, Procurement Assistant, SO

Reassignments CHERYL MOLIS, Personnel Management Specialist, SO RUTH MURPHY, Accounting Technician, SO

Transfers In BRENT McBETH, District Ranger, Boise RD, from Eldorado NF

Transfer Out KEITH SCHNARE, Civil Engineer, RO/R-4

Retirements ORA HUEY, Accounting Technician, SO GENE COLE, Hydrologist, SO

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Resignation RAY PATNAUDE, Supervisory Forestry Technician, SO

BRIDGER-TETON NF Promotion in Place ANN MANSKI, Budget Analyst, SO

Transfers Out PAMELA MATOZEVICH, Support Services Specialist, Big Piney RD to Support Services Supervisor, RO/E JILL SUTHERLAND, Civil Engineer, SO, to General Engineer, RO

CHALLIS NF Promotion in Place BARBARA N. KEMP, Business Management Clerk, Yankee Fork RD

Transfer In GARY L. FULLMER, Middle Fork District Ranger from Greys River RD, Bridger-Teton NF

Retirements VIVIAN W. IVIE, Engineering Equipment Operator Leader, SO RONALD D. WARDLEIGH, Forester (Lands), SO

Resignation SUSAN B. REDDICK, Payroll Clerk, SO

PAYETTE NF Promotions in Place ELAINE BOLES, Accounting Technician, Budget and Finance JOYCE STECKMAN, Support Services Supervisor, McCall RD

Promotion SACHI SAKOI, Resource Clerk, Weiser RD

SAWTOOTH NF Appointment DEANNA L. MENDIOLA, Clerk-Typist, SO

Promotions SHIRLEY KELLEY, Sawtooth NRA, from Clerk-Typist to Resource Clerk RAY ATKINSON, Criminal Investigator, SO Transfer In JANE A. RASMUSSEN, Information Receptionist, SO, from Superior NF

Transfer Out GWEN CARTY, Secretary

Retirement ROBERT F. HOAG, JR., Supervisory Forester, SO

Resignation SCOTT D. ROBERTS, Operations Research Analyst, SO

TARGHEE NF Promotions in Place PATRICK KEY, Wildlife Biologist, Ashton RD MARSHA PHILLIPS, Forest Supervisor's Secretary, SO ALEEN ORR, Civil Engineering Technician, Ashton RD EUGENE EDWARD McGREGOR II, Forestry Technician, Teton Basin RD ROBERT VERMILLION, Forester, Dubois RD

Promotion WILLIAM K. FROME, Mail and File Clerk to Support Services Supervisor, SO

Transfer Out LYNN BENSON, Supervisor Civil Engineer, SO to Defense Depot Ogden

Retirement EMMA LOU MOSS, Resource Clerk, SO

UINTA NF Promotion GEORGE P. MATEJKO, Spanish Fork District Ranger

Transfer In ANN MATEJKO, Public Affairs Specialist, from Targhee NF to Uinta NF CONNIE McGURK, Administrative Officer, from Mark Twain NF to Uinta NF

Retirements RALPH G. McDONALD, Forestry Technician, Pleasant Grove RD NORMAN E. CORBRIDGE, Forest Engineer, SO GARY M. COLEMAN, Branch Chief, Recreation and Lands, SO W. FRANK SAVAGE, Branch Chief, Watershed, Range, Wildlife and Timber, SO S. RON LISONBEE, District Ranger, Spanish Fork RD

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