RESOURCE MANAGEMENT

in the Pacific Northwest Region

Summer **1992**

The purpose of this newsletter is to enhance communication among NPS employees throughout the Region on activities and issues concerning management of natural and cultural resources in parks of the Pacific Northwest parks.

Your input is welcome. Please let us know if you have ideas or questions about resource issues, in your park or elsewhere, that you would like to see discussed in a future issue.

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MAKING HISTORY (OR PREHISTORY) AT JOHN DAY FOSSIL BEDS

Nowhere else in North America is there such a continuous record of fossil flora and fauna as at John Day Fossil Beds NM. At John Day Fossil Beds, species show up at earlier times in the fossil record than they do in areas farther east because John Day was on the eastward route of species from Asia.

Many exciting finds have occurred at the monument recently. A new rodent, the size of a modern ground squirrel, was found recently at the Painted Hills Unit. Other new finds are a mouse-deer and two canid species, including one that may represent a new genus. Species are being found at John Day that have never been seen before. These are exciting because they are not just new to John Day Fossil Beds, but they are new to the world.

The challenge is to figure out how all of the species being found fit together chronologically. Past methods of dating had a resolution of within 1.5 to 2 million years. For the many species of land mammals that only existed for 2 million years, this resolution is not good enough.

A new dating procedure, being used at the Berkeley Geochronology Center in California, shows great promise. Called the single-crystal laser fusion argon/argon method, it irradiates a single crystal within a sample of volcanic tuff to give a date that is accurate within 100,000 years.

Testing samples of each rock stratum at the monument will provide a calibration so scientists will have much more accurate ages for the fossils they find.

For more information, contact JODA Paleontologist Ted Fremd at (503) 987-2333.

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Because scientists have yet to put names on most kinds of organisms, and because they entertain only a vague idea of how ecosystems work, it is reckless to suppose that biodiversity can be diminished indefinitely without threatening humanity itself.

E. O. Wilson, in *The Diversity of Life*
(Harvard University Press, 1992)

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NEW FACES / NEW PLACES

Vicki Snitzler-Neeck is the new Resource Management Specialist at Craters of the Moon NM. She most recently came from Upper Delaware Scenic and Recreational River. Prior to that, she worked with the Environmental Protection Agency in New York City. She replaces *Shelley Sparhawk*, who has joined the Resource Management staff at Olympic NP.

Paul Gleason has been selected to fill the new position of Archeologist at Olympic NP. Paul comes to Olympic from the Alaska Regional Office in Anchorage.

Karen Taylor-Goodrich has been selected to fill the new supervisory position of Resource Management Specialist at Coulee Dam NRA. Previously she was Natural Resource Specialist at Coulee Dam NRA.

David Ek has been selected to fill the new Resource Management Specialist position at Fort Clatsop NMem. Prior to this, David worked in Resource Management at Carlsbad Caverns NP.

Shirley Hoh has joined the staff of San Juan Island NHP, filling their new Resource Management Specialist position. She comes to the park from Theodore Roosevelt NP, where she was a District Interpreter.

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Spotted owl habitat protection, by itself, did not precipitate this situation [with the timber industry in the Northwest]. But allowing the species to become extinct will not resolve it.

Attempts to find a viable, long-term solution must now take a comprehensive approach to the economic transition that is taking place in the Pacific Northwest, and lay the foundation for ecologically sound regional prosperity and sustainable economic development.

V. Alaric Sample, Forest Policy Center,
American Forestry Association

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Hugh McDonald has been selected to fill the new Paleontologist position at Hagerman Fossil Beds NM. He comes from the Cincinnati Museum of Natural History where he was Curator of Vertebrate Paleontology. He has also worked at the Idaho Museum of Natural History. He has a Ph.D. from the University of Toronto, where he conducted research on systematics of prehistoric ground sloths.

Damian Sedney is the new Resource Management Specialist at Stehekin in North Cascades NPS Complex. This is the position that *Jack Oelfke* held until he transferred to Isle Royale NP. Prior to accepting the position, Damian worked in the College of Forestry, Wildlife, and Range Sciences at the University of Idaho. He also worked as a resource manager for the State of Idaho for four years.

Marsha Davis has joined the staff of the PNRO Resource Management and Protection Division, filling the new Geologist position. She comes from Jewel Cave NM. Her responsibilities will center on resource management issues related to geology, soils, stream dynamics, erosion, subsurface hydrology, wetlands, floodplains, fossils, caves, and geothermal resources.

Erv Gasser has been selected to fill the position in the PNRO Resource Management and Protection Division that was vacated when *Steve Gibbons* transferred to the position of PNR National Natural Landmarks coordinator. Erv comes from Richmond NBP, where he was Resource Management Specialist. His responsibilities will focus on vegetation restoration and management, grazing, pest management, and air quality/smoke management.

Craig Dalby has been selected to fill the new position of Geographic Information Systems (GIS) Coordinator in the PNRO Division of Resource Management and Protection. With a master's degree in Geography (GIS), Craig comes to the NPS from the Defense Mapping Agency.

THE SUSTAINABLE DESIGN INITIATIVE

One of the recommendations from the 75th Anniversary Symposium, held in October 1991, was for the NPS to adopt the concept of sustainable design as a guiding principle of facility planning and development.

The concept of sustainable design has come to the forefront of design thinking in the last 20 years. It is based on respect for the land and other species, and symbiosis of design with the ecosystem so that the ecosystem can not only be self-maintaining, but it can continue to evolve. Sustainable design is best articulated by the following statement by Aldo Leopold:

> ***A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.***

A workshop, held in November 1991, produced general guidelines for sustainable design in the NPS. Guidelines addressed the following areas:

Natural resources

Facilities should always function within the surrounding ecosystem and should not place additional stresses on its resources or processes. A basic understanding of the ecosystem is essential to designing facilities that will function within it.

Resource considerations, not the physical capacity of a site, should determine the carrying capacity of a facility. Fragmentation of habitats, on a local or regional scale, and loss of biological diversity should be avoided.

Limits of acceptable environmental change should be established before development begins. All parties involved in the development should recognize and respect these limits and not attempt to circumvent them through short-term fixes.

After construction, the effect of the development on the condition of resources should be routinely monitored and evaluated, and actions immediately instituted to correct identified problems.

Cultural resources

When an aspect of the built environment achieves sufficient importance that it is deemed significant in human history, it becomes a nonrenewable resource worthy of sustainable conservation. Management, preservation, and maintenance of cultural resources should be directed to that end.

Cultural resource treatment and maintenance methods should be both environmentally sensitive and sustainable over the long term.

Site planning and design

Site planning and design is a process of intervention involving the location of roads, trails, structures, and utilities to make natural and cultural resources and values available to people. To reflect the principles of sustainable design, planners and designers should assume an accountability to the environment. Resources and ecosystem dynamics should be understood so that resource values are preserved and disruption of natural systems is minimized.

Development should occur in phases, with monitoring of site resources between the phases to ensure that facilities and their use are not damaging resource values or exceeding the capacity of the resources to be sustained. Where damage is noted, *de*-development should be done to remedy the imbalance with the site ecosystem.

Mitigation and site restoration after development should not be a standard practice, but should be considered a last resort. *Avoiding the need for such actions should be the* ***rule*** *in sustainable design.* The effects of previous development should be carefully considered before proceeding with additional development.

Architectural design

Sustainable design should create in visitors, designers, and developers a new awareness of the natural environment. The fact that a building has an effect on the environment, just as the environment has an effect on the building, should be acknowledged.

All elements of a building should be considered equally important, especially as they relate to harmonious integration within the ecosystem. Human activities that maintain the building should be as important as the building itself.

Because design and development have contributed to environmental degradation in the past, design for sustainable developments should become a model and teaching tool for a new ethic.

Building ecology

To qualify as a sustainable development, a facility should provide specific functions related to education; recreation; relaxation; physical, emotional, and spiritual recuperation; and environmental restoration. Design of interior spaces should be people-friendly, enhancing the connection between structure, people, and the site ecosystem. Materials, scale, and form should reflect an optimum symbiosis with the indigenous ecosystem.

Additionally, it should incorporate research and development for, or demonstration of, ways to live environmentally aware lives in the 21st century. An environmental report card—a record of positive and negative environmental effects—should be prepared for each development. To be considered sustainable, a development's environmental report card should show close to no global impact and no net environmental loss.

After construction, a declaration should be made of the global impact of the materials used. Each material should be labeled, stating, from cradle to grave, the energy it took to get there; the environmental degradation caused by its extraction, fabrication, and use; and any toxic and harmful components it may have.

Interpretation

Visitor experiences should be based on resources, should be environmentally sustainable, and should encourage the value of protecting the environment.

Site and facility design should allow visitors to experience natural and cultural resources in an intimate, sensory fashion. Opportunities for private moments in natural settings should be created. Visitor interaction with resources should be encouraged.

The values of sustainability should be apparent to visitors in all daily aspects of operation, including services, retail operations, maintenance, utilities, and waste handling. The best model is a good example.

Energy and utilities

Primary renewable energy resources should be analyzed to best apply alternative sources, such as sun, wind, tidal energy, or bio-gas. The principles of siting and architectural design should be applied to reduce the need for energy-consuming utilities.

Water and energy conservation measures should be incorporated in all aspects of design. Surface and subsurface waters should be protected from contamination. Alternative water treatment methods suitable to the ecosystem should be explored and implemented.

Visitor experiences should be broadened by awareness of energy use issues and the use of efficient appliances, conservation methods, and renewable energy sources. Energy "meters" should be installed to monitor and illustrate energy consumption.

Waste disposal

There is no completely safe method to dispose of waste. Sustainable development should include a comprehensive strategy to minimize the *generation* of waste. Waste prevention methods and systems should be apparent to visitors, and ways to change personal habits and adopt more responsible attitudes toward waste should be described.

Where disposal of waste is necessary, the preferred methods should be recycling and biodegradation.

Facility maintenance and operation

To succeed, sustainable development must be maintainable. Designers should work closely with managers to define the practices and training requirements that will allow the facility to operate and be maintained at the same level as when it was designed and constructed.

The complete guidelines are scheduled for release this year. For more information on sustainable design, contact PNRO Landscape Architects Geoff Swan or Joe Dunstan at (206) 553-1006.

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If we don't develop some kind of sustainable relationship with the earth, we won't have to worry very much about small issues such as national parks.

> Association of National Park Rangers, in Testimony to Congress on the NPS 75th Anniversary Symposium Recommendations

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Proponents of ecological sustainability regard nature not just as a set of limits but as a model for the design of housing, cities, neighborhoods, farms, technologies, and regional economies....

Amory and Hunter Lovins, founders of the Rocky Mountain Institute, similarly draw on ecology for the design of resilient technological systems. Resilience implies the capacity of technological systems to ... absorb shock more gracefully and forgive human error, malfeasance, or acts of God. Resilience does not imply a static condition, but rather flexibility that permits a system "to survive unexpected stress; not that it achieve the greatest possible efficiency all the time, but that it achieve the deeper efficiency of avoiding failures so catastrophic that afterwards there is no function left to be efficient."

...Resilience implies small, locally adaptable, resource-conserving, culturally suitable, and technologically elegant solutions whose failure does not jeopardize much else.

David W. Orr, in *Ecological Literacy* (State University of New York Press, 1992)

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While an ecological system is a loop, industrial systems are linear. Industrial "growth" is simply an acceleration in rate that materials flow, from their source to their end, at the dump.

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JOHN DAY FOSSIL BEDS FEATURED AT HIGH DESERT MUSEUM

An expansive exhibit on the discovery of fossils and the ongoing management of paleontological resources of John Day Fossil Beds NM is on display at the High Desert Museum this year. The museum is located 6 miles south of Bend, Oregon, on U.S. Highway 97.

For more information, contact JODA Paleontologist Ted Fremd at (503) 987-2333.

INTERPRETING CRITICAL RESOURCE ISSUES TO ALL VISITORS

For the subalpine meadows at Mount Rainier NP to be preserved, understanding and cooperation by park visitors is vital. Interpreters at Mount Rainier actively work to convey this important message through personal contact, brochures, displays, slide programs, and other means.

In an effort to reach people of diverse cultures, who may not speak English, the park has translated a critical message about the need to care for the fragile meadows at Paradise. The piece, titled "Bigfoot Lurks in the Meadows," has been translated into Japanese, German, French, Spanish, Korean, Chinese, Russian, and Vietnamese. The message explains what each person can do to help the meadows by remaining on constructed trails, refraining from picking flowers, picnicking only in designated sites, and encouraging other visitors to do likewise.

The park newspaper, *Tahoma*, also carries a meadow preservation message in the eight other languages, as well as English, so each person entering the park has access to information that is critical to resource protection.

"Oh, What a Paradise" is a new slide/tape program being shown daily through the summer and fall at the Henry M. Jackson Memorial Visitor Center. The professionally recorded program highlights the history of meadow damage resulting from abuse. It points out the efforts of the NPS to mitigate the damage, and enlists public support for restoring the subalpine meadows of Paradise. Developed with funding by the Northwest Interpretive Association, the program is also available in VHS video format for use in off-site programs.

Trailhead exhibits and a new exhibit at the visitor center at Paradise were installed in 1991 to call attention to the meadow restoration efforts. Site-specific exhibits will be installed in the coming season to highlight ways that the NPS is working to restore the meadows and point out ways that visitors can help.

For more information, contact MORA Assistant Chief of Interpretation Ron Warfield at (206) 569-2211 ext. 3311.

RESEARCH ON SHELL MIDDEN DEPOSITS ON THE NORTHWESTERN OLYMPIC PENINSULA

The northwest coast of the Olympic Peninsula is rich in prehistoric resources. Survey efforts to date have located 30 prehistoric archeological sites in the area. Twenty-three of them are shell middens. These sites frequently contain substantial amounts of debris, including artifacts, seashells, and the bones of mammals, fish, and birds, reflecting a wide range of cultural behaviors—and the changing environmental conditions with which they were associated.

Archeological research is being undertaken this summer to examine what are believed to be the oldest known sites in the area. Radiocarbon dating of the oldest of these sites indicated that it may be anywhere from 1,720 to as much as 3,800 years old, representing the oldest cultural deposit yet dated anywhere on the outer coast of Washington. In conjunction with the archeological research, a geologist will investigate the geological processes that produced the landforms at one of the sites.

Results of this research are expected to give insights into the maritime adaptations of people who lived in the area during the period, as well as the nature and sequence of environmental changes that occurred.

For more information, contact Regional Archeologist Jim Thomson at (206) 553-0791.

GRIZZLY BEARS IN THE PACIFIC NORTHWEST

A five-year effort to evaluate the potential for the Cascade Range of Washington to support a viable population of grizzly bears was completed last winter. This effort included assessment of the probable existing population, based on sightings, tracks, and other sign, and an evaluation of the habitat.

The population assessment concluded that a very small number of perhaps 10 or 20 grizzly bears does inhabit the Cascades. Numerous sightings and observations of tracks have occurred north of Interstate 90, and at least three positive observations have occurred south of I-90.

The habitat assessment used a Geographic Information System to evaluate plant community types, including sources of early spring habitat and abundance of berry-producing species. This data theme was overlaid with digital maps of roads, communities, campgrounds, and other developments, and with snow-melt patterns and other information, to determine the availability of critical seasonal habitats in areas where grizzly bears would not be likely to conflict with human activities.

As a result of this assessment, in December 1991 the U.S. Fish and Wildlife Service determined that the grizzly bear population in the Cascade Range north of I-90 is a "recoverable population." In other words, the ecosystem is capable of supporting a viable population of grizzly bears, and the foundation for a viable population exists in the area. Recovery of grizzly bears in the North Cascades will provide a valuable complement to the five other recovery areas—Yellowstone, Northern Continental Divide, Cabinet-Yaak, Selkirk, and Selway-Bitterroot—in contributing to full recovery of the species from its current threatened status.

Under the Endangered Species Act, federal agencies are responsible for taking appropriate actions to contribute to the recovery of listed species. Work has begun on a recovery plan for the North Cascades population. It will be appended as a chapter of the existing Grizzly Bear Recovery Plan. With the Washington Department of Wildlife taking the lead, the Forest Service, NPS, U.S. Fish and Wildlife Service, and Government of British Columbia are working together in this project as a subgroup of the Interagency Grizzly Bear Committee.

Public involvement is part of the recovery planning process. A public meeting on grizzly bear recovery was held in Wenatchee in July. Additional meetings are scheduled:

Sept. 17	7pm	Mountaineers Bldg. 300 Third Ave. W., Seattle
Sept. 30	7pm	The Barn, Winthrop
Oct. 15	7pm	Best Western Cotton Tree Inn 2300 Market St., Mount Vernon

For more information, contact Regional Resource Management Specialist Kathy Jope at (206) 553-

AIRCRAFT OVERFLIGHTS

In response to the National Parks Overflight Act of 1987, the NPS has initiated a study of the extent and effects of aircraft overflights over units of the National Park System.

The research encompasses a wide variety of parks. Parks being studied include Walnut Canyon NM, Buffalo National River, Hot Springs NP, Lassen Volcanic NP, Dinosaur NM, Rocky Mountain NP, Canaveral NS, Everglades NP, Gulf Islands NS, Hawaii Volcanoes NP, Assateague Island NS, Cape Cod NS, Sleeping Bear Dunes NL, Wilson's Creek NB, Glacier NP, Lake Mead NRA, Bandelier NM, Perry's Victory and International Peace Memorial, Delaware Water Gap NRA, Gettysburg NMP, Fort Sumter NM, Mount Rushmore NM, Great Smoky Mountains NP, Fredericksburg/Spotsylvania NMP, and Yellowstone NP. Parks being studied in the Pacific Northwest are Mount Rainier NP, Olympic NP, and North Cascades NPS Complex.

The purpose of the research is to define minimum altitudes that should be maintained by aircraft flying over parks to ensure that resources are not impaired. Potential impacts of overflights include disturbance of wildlife, vibration and other damage to historic and prehistoric structures, and disruption of visitors' experiences. In addition to research at the wide variety of parks across the System, the study will also monitor the effectiveness of restrictions that have been imposed at Grand Canyon, Yosemite, and Haleakala.

A second study, a survey of NPS managers, will follow shortly, involving 102 park areas. NPS units being surveyed in the Pacific Northwest will include City of Rocks NRes, Coulee Dam NRA, Crater Lake NP, Craters of the Moon NM, Fort Vancouver NHS, Hagerman Fossil Beds NM, John Day Fossil Beds NM, Mount Rainier NP, North Cascades NPS Complex, and Olympic NP.

Results of both studies will be incorporated into a report to Congress.

For more information, contact Regional Chief of Resource Management and Protection Reed Jarvis at (206) 553-5670.

REPATRIATION OF ANCESTRAL REMAINS AT WHITMAN MISSION

Under the auspices of the Native American Graves Protection and Repatriation Act, the NPS has now completed the return of Indian ancestral remains held at Whitman Mission NHS to the Confederated Tribes of the Umatilla Indian Reservation. In sacred ceremonies over a two-week period, the bones were cleansed and buried on the banks of the Snake River. Whitman Mission Superintendent Terry Darby was allowed to witness some portions of the ceremonies.

This is the second repatriation to take place in the Pacific Northwest Region. The first was the return of remains held at the University of Idaho to the Lummi Indians of Washington. That repatriation took place in the San Juan Islands last autumn.

For more information, contact WHMI Superintendent Terry Darby at (509) 522-6360.

FOSSIL MUSKRATS

The best-known of the fossil fauna at Hagerman Fossil Beds is the Hagerman horse, *Equus simplicidens*.

However, there are many other fossil species at the monument that are of interest to paleontologists. More than 90 fossil species have been found in the sediments of the Hagerman fossil beds. Many of these species are small mammals that are quite rare among the world's fossil specimens.

One of these species is a small muskrat, *Pliopotamys minor*. The earliest date that it is known to have occurred was about 3.75 million years ago. Mary Thompson, a graduate student in Paleontology at Idaho State University, recently spent several weeks at the monument, collecting specimens for use in tracing the evolutionary lineage of the muskrat and examining its adaptations to environmental changes that may have occurred.

For more information, contact HAFO Unit Manager Neil King at (208) 837-4973.

FLOOD HAZARD MANAGEMENT

Management of flood hazards goes beyond traditional flood control. Some of the essential principles of flood hazard management are:

Respect for natural processes.—Flood hazard management emphasizes minimum impact to the natural hydrological processes of streams, such as channel migration, braiding, sediment deposition, erosion, and flooding. Diking, channeling, or otherwise resisting a stream's natural tendencies may be appropriate in some cases, but flood hazard management recognizes that there are cost-effective and environmentally sound alternatives, such as minimizing adjacent development, making use of wetlands as water storage areas, and other non-structural solutions.

Focus on the cause of damage.—Chronic flooding is often caused by land use practices upstream or by inappropriate development in floodplains. A traditional flood control response would treat the symptom by building up floodwalls to channel higher water levels, without addressing the causes of the problem. Progressive flood hazard management recognizes the need to treat the causes as well as the symptoms of flooding.

Consider the entire watershed.—The watershed represents the physical context of flood hazard management. For example, poor forestry, agriculture, or other development practices upstream can cause additional water runoff to peak, surge, or accumulate downstream. Since watersheds typically cross city and county jurisdictional boundaries, and possibly federal or tribal lands, inter-jurisdictional cooperation is vital.

Excerpted from *Coastal Currents* (Washington Department of Ecology, Feb.'92)

For more information on flood hazard management, contact Regional Facility Management Specialist Dick Engle at (206) 553-1006, or Regional Geologist Marsha Davis at (206) 553-5670.

NEW FISHING REGULATIONS AT OLYMPIC

The waters of Olympic NP harbor a diverse variety of anadromous and resident fish. The salmonids, which include salmon, trout, and char, are the target of extensive recreational fisheries, as well as commercial fisheries beyond the park boundary.

Salmonids are also critical components of the park's ecosystem. Park staff have a number of concerns related to the ecological role of the fish populations, the long-term status of individual fish stocks, and the quality of recreational fishing opportunities.

The Washington Department of Wildlife (WDW) recently reviewed the status of summer steelhead, cutthroat trout, and dolly varden/bull trout in western Washington and concluded that each of these species has declined and is vulnerable to further serious decline. According to WDW, "there are a number of warning signs indicating that present regulations are not providing adequate protection for these populations to sustain future recreation. Increases in growth and urban development, fishing pressure, and depleted habitat are contributing to the overall concern."

For summer steelhead, WDW also cited their small natural population sizes, their extended period of exposure to harvest, and impacts of hatchery stocks.

In addition to conserving viable populations of fish species, Olympic NP is also concerned about maintaining their role in natural ecological processes. Research has shown two important roles of fish: (1) as a source of prey to terrestrial wildlife; and (2) their contribution to nutrient levels in aquatic and, possibly, terrestrial ecosystems.

As a result of these concerns, Olympic NP adopted an experimental approach to recreational fishery management on three rivers—the North Fork of the Skokomish, the South Fork of the Hoh, and the Queets River. This summer, fishing on these rivers is restricted to catch-and-release and artificial lures for most species. The regulations apply to fishing for summer steelhead, resident rainbow trout, cutthroat trout, dolly varden, and bull trout, as well as non-salmonid species such as whitefish, suckers, and sculpins.

For more information, contact OLYM Fishery Biologist John Meyer at (206) 452-4501.

LEGAL RESPONSIBILITIES IN HANDLING HAZARDOUS MATERIALS

Any employee who uses, transports, stores, or otherwise handles hazardous materials and hazardous wastes should be aware of the legal responsibility that comes from doing so. Substances that are legally defined as hazardous include pesticides, herbicides, paints, solvents, and other materials.

Specific legal requirements were established through several laws, including the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund); the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); and the Toxic Substances Control Act.

There are criminal penalties for violation of some of these laws' legal requirements. Under these laws, a person can be convicted for "knowingly" violating their provisions. The legal test for "knowing" does not depend on actual knowledge. Instead, the law presumes that a person who operates in such a strictly regulated area and handles substances capable of doing such harm should know the regulations.

Recently, three federal employees were convicted for violating provisions of RCRA. Although they appealed, their convictions were upheld. The defendants claimed that since they were acting in their capacity as agents of the United States, they were immune from prosecution for these official actions. The courts rejected this argument and found that the employees were subject to RCRA as individuals, not as agents of the federal government.

The defendants also claimed that they were unaware that their activities were specifically regulated by RCRA. The court reiterated the position that lack of knowledge was not a defense, since they *should have known* that the materials they were handling were hazardous and thus subject to regulation. The court also added that, even if the defendants had inherited these environmental problems from their predecessors, the defendants were criminally liable because of their continued failure to comply with RCRA.

These laws must be taken seriously. The public, and the courts, have little tolerance of polluters, whether they are in private industry or are employees of public agencies.

For more information, contact Regional Safety Officer Ray Peterson at (206 553-4832, or Regional Law Enforcement Specialist Mike Blankenship at (206) 553-2635.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) *(42 USC 6921-6939, 6943-6948, 6991)*

Passed in 1976, this was an amendment to the Solid Waste Disposal Act. Its purpose is:

- To protect human health and the environment
- To reduce waste and conserve energy and natural resources
- To reduce or eliminate the generation of hazardous waste as expeditiously as possible

To carry out these purposes, several programs were established. They include:

Subtitle C: Hazardous Waste Program.—Establishes a program to manage hazardous wastes from ***cradle to grave***, and to ensure that hazardous wastes are handled in a manner that protects human health and the environment. EPA has defined wastes that are considered hazardous, and established strict regulations for treatment, storage, and disposal of hazardous wastes.

Subtitle D: Solid Waste Program.—Establishes minimum federal standards for solid waste control. Provides funding to states that develop and implement solid waste management plans which (1) promote recycling, and (2) require that dumps which do not meet EPA standards be either closed or upgraded.

Subtitle I: Underground Storage Tank Program.—Requires EPA to establish regulations giving performance standards, including leak detection, leak prevention, and corrective action, for underground tanks used to store petroleum products or hazardous substances.

PARTNERS IN FLIGHT
AVES DE LAS AMERICAS

Concern for neotropical migratory birds—species that breed in North America and winter in the Caribbean, Mexico, Central America, or South America—has been building for years. Results of long-term surveys, published in 1989, confirmed what biologists had feared all along: Populations of many neotropical migrants are declining, in some cases precipitously. Species that are likely to lose more than 25% of their remaining winter habitat in the next 10 years include several warblers, the olive-sided flycatcher, western wood pewee, and Swainson's thrush, to name just a few. Others are projected to lose a staggering 50% of their winter habitat; these include Vaux's swift, the western flycatcher, rough-winged swallow, turkey vulture, and the ruby-throated hummingbird.

In May 1990, the National Fish and Wildlife Foundation launched the Neotropical Migratory Bird Conservation Program, an international initiative to conserve these species. The objective of the program is to create the first integrated federal, state, and private program for research, monitoring, and habitat management for migratory nongame birds. National/international and public/private partnerships are a key element of the program. The National Fish and Wildlife Foundation serves as a catalyst.

In the U.S., the program is coordinated by an interagency Federal Agency Neotropical Migratory Bird Committee. The committee provides a forum for effective communication and coordination of conservation efforts. There are technical working groups on specific topics, such as research, monitoring, information and education, legislation, and geographic areas.

Federal agencies have made a strong commitment to the program. The NPS initiated a *Migratory Bird Watch*, a plan to link key national parks throughout the country by focusing on neotropical migratory birds.

In just over a year, the Partners in Flight program has made tremendous strides. Federal and state agencies, nongovernment organizations, universities, and private industry have all embraced the program as an exciting opportunity to promote conservation of neotropical migratory birds, as well as biodiversity programs in general. The success of the program depends on the continued active involvement of all partners.

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When was the last time that we took a strong stand about major environmental issues such as overgrazing of public lands, irresponsible mineral development, or the failure to add to the nation's wildeness preservation system? When was the last time we told the ORV people to take a hike?

We stand to continue to lose ground to groups such as "People for the West" if we are not able to demonstrate where we stand in stark contrast to what they are advocating. We will never provide that demonstration if we are not willing to get to the front, take some heat, and be leaders, not simply public land managers.

Any bureaucrat can be a manager; we need to be *leaders*.

> Association of National Park Rangers, in Testimony to Congress on the NPS 75th Anniversary Symposium Recommendations

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EXAMINING FOSSILS AT HAGERMAN FOSSIL BEDS

JODA Curator Camille Evans assisted Hagerman Fossil Beds NM recently in identifying and documenting the diverse animal and plant fossils that have been collected at Hagerman.

The data were computerized to allow the files to be searched for particular types of fossils. Future computerization projects will compile all known fossil sites to allow a better understanding of the "big picture" of the paleontological resources at HAFO. The data may be used to model the types of plants and animals that existed in the Pliocene period over 3 million years ago. This will help us to understand how ecology and climate affected development and survival of species at that time.

For more information, contact HAFO Unit Manager Neil King at (208) 837-4793.