



U.S. Fish & Wildlife Service

Fish & Wildlife News

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What's All This About Federal Aid?

Federal Aid, for years one of the quietly successful, noncontroversial programs of the Service, has recently come in for its own share of scrutiny and controversy. If you're hearing the buzz and wonder what's happening, here it is in brief:

The Federal Aid programs for Sport Fish and Wildlife Restoration are funded by federal excise taxes on hunting, fishing, and boating equipment and motorboat fuels. The Service distributes funds collected to state fish and wildlife agencies annually. By law, the Service is entitled to retain up to 8 percent of the Wildlife Restoration funds and 6 percent of the Sport Fish Restoration funds for program administration.

The Service uses administrative money for a variety of things, such as salaries of Federal Aid employees, office expenses and computers, the National Survey of Fishing, Hunting and Wildlife Associated Recreation, and audits of state expenditures under the Federal Aid programs. For a number of years, some administrative funds were also used for "national administrative grants" for projects that benefitted the majority of states. Through the International Association of Fish and Wildlife Agencies, a committee reviewed applications for administrative grants and recommended which grants should be approved.

Administrative funds were also used for a "Director's conservation fund" which totaled no more than \$1 million a year. The Director's conservation fund supported National Fishing Week, the Service's hunter safety public service ads and other projects.

The controversy involves how the Service uses administrative funds. At the request of the House Resources Committee, the General Accounting Office reviewed the administrative funds and expressed a number of concerns about poor record keeping and other management practices, particularly with regard to the national administrative grants and the Director's conservation fund.

The Service has acknowledged many of these concerns and is working to correct them. You can find the Director's testimony on this issue posted on the Service's Web site.

Certain allegations that you may have read or heard, however, are inaccurate. For example:

■ The Service did NOT use Federal Aid funds for an administrative grant to an anti-hunting group, nor did it ever intend to do so.

■ Federal Aid funds did NOT pay for spotted owl preservation, wolf reintroduction or similar projects.

■ Federal Aid funds did NOT pay more than half the Service's overall administrative costs. The actual figure paid by Federal Aid is about 8 percent.

■ GAO has NOT accused the Service of doing anything illegal. GAO auditors testified that the existence of the administrative grants and Director's conservation fund were within the broad discretion of the Director and did not violate the Federal Aid statutes—although they did express serious concerns about record-keeping and financial practices.

■ Federal Aid funds were not "diverted" or "stolen" from sportsmen or states. The IAFWA review committee mentioned above reviewed grant proposals for national administrative grants. Director's conservation fund grants went to groups representing hunters, anglers, boaters or states.

To address the concerns raised by GAO, Director Clark asked the International Association of Fish and Wildlife Agencies to participate in a joint federal/state review of the Federal Aid program. That group has just made recommendations concerning the Service's administration of Federal Aid. One of the recommendations would reduce by half the amount of money available to the Service for Federal Aid administration. The Director is reviewing the recommendations and will make decisions about them in late 1999 or early 2000.

In addition, six teams of experts in budget, finance, and grants management from throughout the Service have been convened to review the Service's own internal management processes and make recommendations for corrective actions and financial reconciliations.

The Director and some constituent groups share a concern that inflammatory language and inaccurate information about the Federal Aid issue have a potential to undermine public support for this crucial conservation program.

"The issue of how Federal Aid administrative funds should be spent, and what percentage of the Federal Aid revenues we should keep for administration, are ones about which reasonable people may disagree," Director Clark said. "However, accusations of illegality, stealing and diversion of funds to endangered species projects or anti-hunting groups are untrue and do not help resolve a complex issue."

Resolution of the administrative funds issue has the potential to impact not only the mission and function of the Service's Federal Aid activity itself, but also other Service programs if Federal Aid administrative funding is significantly reduced. That would mean that Federal Aid would likely pick up a smaller share of total Servicewide shared costs for such things as office space, postage, telephones, printing and other administrative costs.

It is anticipated that the House Resources Committee will introduce legislation addressing the Federal Aid administrative funds issue.

Employees who would like more detailed information on this issue may look at material posted on the Service's Web site, www.fws.gov, under "conservation issues."

On the Cover:

Record setter. *This acrylic rendering of a mottled duck made history as Adam Grimm, a 21-year-old college student from Elyria, Ohio, became the youngest person ever to win the Federal Duck Stamp Art Contest. Grimm's painting bested 242 others in November and will be the 2000–2001 Federal Duck Stamp. Grimm took fourth place in the Federal Junior Duck Stamp Contest in 1996. FWS photo.*

New Policies Revolutionize Refuges' Relationship With the Public

Two recently proposed refuges policies, called for by the National Wildlife Refuge System Improvement Act of 1997, rewrite the rules for managers on dealing with the public as they steer their refuges forward into the next century.

Both policies are of great interest to Friends groups, Audubon Refuge Keeper chapters, and other local organizations interested in refuge management, and mark major steps towards achieving refuges that “foster broad participation in natural resource stewardship,” as envisioned in *Fulfilling the Promise*, the system’s roadmap for the future.

The Comprehensive Conservation Planning Policy, proposed in August, requires every refuge or refuge complex to complete a comprehensive conservation plan by 2012, and revise each plan every 15 years or sooner as necessary. Each plan will guide management decisions, outline how the refuge will achieve both unit and system conservation goals, and comply with other requirements such as those for occupational health and safety and access for Americans with disabilities.

The planning process calls for public participation at nearly every stage—beginning with open houses and scoping sessions, and concluding with formal written notice and comment.

“There are already 65 plans underway nationwide,” said Dan Ashe, assistant director for refuges and wildlife. “We asked managers to use the draft guidance and those pioneer refuges are having to feel their way a little bit.”

The revised Compatibility Policy, proposed in September, outlines a standard process to review the impacts of all proposed and existing public uses. Although the actual standard, defined as a use that will not “materially interfere with or detract from” these conservation goals, would not change, the new policy differs from previous guidance in several key aspects.

Managers now must consider the mission of the entire refuge system, as defined by the Improvement Act of 1997, along with the purposes of their individual refuges, in the review. The policy requires public notice and comment, and all determinations must be made in writing and be provided to the public upon request.

“The regulations enhance protection for the refuge system in some key areas,” Don Barry, assistant secretary for fish and wildlife and parks, told members of the Cooperative Alliance for Refuge Enhancement. “It now applies to things like cooperative farming, and timber harvest for wildlife management purposes, which are historically some of the most problematic areas for us.”

The policy also makes clear that “compensatory mitigation” will not be allowed in order to make an otherwise incompatible use compatible. For instance, a new road right-of-way could not be determined to be compatible by adding new lands to the refuge to mitigate the impacts of the road. This new policy will make it more difficult to use refuge lands for economic purposes.

The “Big Six” recreational and educational activities—hunting, fishing, wildlife watching, photography, environmental education and interpretation—identified as priority public uses by the Improvement Act get an additional boost. Under the new Compatibility Policy, managers are encouraged to secure the resources needed to allow these uses if they are otherwise compatible.

“The planning policy and the Comprehensive Conservation Plan Policy cross reference each other, and there is an obvious benefit to doing as many compatibility determinations as possible during the CCP process,” Ashe said. “A manager will not have to go through the whole process again if a proposed use has already been considered in an approved refuge management plan.”

*Eric Eckl, Public Affairs,
Washington, DC*

A New Addition



Future Service employee? *By the popular demand of Service employees nationwide... Heeeeere's Carson (and his proud Dad). FWS photo: Ryan Hagerty.*

On Tuesday, July 13, the Fish & Wildlife Service welcomed a new member into its family. Carson James Leopold Clark, son of Director Jamie Rappaport Clark and her husband, Jim, was born at 4:29 in the afternoon. Baby Carson weighed in at eight pounds, 10 and a half ounces, and measured 21 inches long.

Said Director Clark of her new charge: “I’ve come back to the office now more dedicated than ever. My wish for Carson to experience the same wild places and wild things that I have certainly has taken the mission of the Fish & Wildlife Service much deeper into my heart.”

She added, “I am touched by all the interest this baby has generated throughout the Service.”

With Carson’s birth, Clark became the first Interior Department agency head to become a mother during her tenure.

Baby, mother and father are doing well, and thank the entire Service family for its support and kind wishes on this momentous occasion.

Dam Removal Agreement Spotlights Columbia River Hatchery

The rumors barely had time to circulate last September when Northwest utility PacifiCorp announced it had agreed to remove Condit Dam from the White Salmon River in 2006 to aid recovery of dwindling Pacific salmon stocks.

“It’s the right thing to do,” said PacifiCorp’s Tom Imeson, pointing to the estimated \$30 million otherwise needed for upgrades to move fish from the Columbia River past the 98-year-old dam into the White Salmon River.

With the announcement, elated fishery biologists began to savor a rare prospect—the possibility of restoring native salmon...

With the announcement, elated fishery biologists began to savor a rare prospect—the possibility of restoring native salmon to some 20 miles of habitat currently bottled up behind a large dam. The White Salmon River is named after its signature fish, the Tule fall chinook, which has distinctive light colored flesh.

With Condit Dam plugging the mouth of the White Salmon River, the Tule fall chinook strain survives today due to artificial propagation at the Spring Creek National Fish Hatchery, located on the Columbia just downstream from the confluence. The Tule fall chinook is a crucial index stock—used to set quotas under international harvest agreements—and supports tribal fisheries for the Warm Springs Tribe and the Yakima Nation. Negotiations on restoration plans can only now commence in earnest, but Spring Creek’s fish are prime candidates for return to the headwaters of the White Salmon River once the dam comes down.



Arduous journey. A “white salmon” returns to Spring Creek NFH. Once Condit Dam is removed, these imperiled fish may return to their spawning grounds. FWS photo: Eric Eckl.

“We have prevented the extinction of this run for almost 100 years, waiting and hoping that the habitat would once again become available,” said Cathy Short, the Service’s assistant director for fisheries. “Other dam removals are on the table, so this will be an important opportunity to get some hands on experience with this type of restoration.”

Spring Creek hatchery, approaching its 100th birthday, has evolved along with the rest of the fisheries profession. Today, the hatchery employs a broad spectrum of broodstock management protocols to preserve the genetic integrity and minimize artificial selection in the Tule fall chinook run, and the on-site fish health center carefully monitors for disease and recommends appropriate treatments.



Signature fish. Spring Creek National Fish Hatchery’s “white salmon” are an important fishery for these members of the Yakama Tribe. FWS photo: Eric Eckl.

The Condit Dam announcement gave Manager Jake LaMotte and his crew at Spring Creek a chance to indulge in some additional optimism in an already good year. This fall, Spring Creek celebrated the largest return of Tule fall chinook in almost 20 years and this high return rate of vigorous fish suggests that their new protocols are paying off. Once the dam comes down, some of Spring Creek’s fish may once again spawn in their ancestral waters.

As Secretary Babbitt said, “Condit Dam, on this day, has become the Northwest’s epicenter of hope.”

*Eric Eckl, Public Affairs,
Washington, DC*

Service, Partners Celebrate Little Falls Fishway Project

The Service joined 16 other federal, state, and local agencies and three private conservation organizations at ceremonies October 12 marking the beginning of the \$1.5 million Little Falls Dam Fishway Project, at which a notch passage will open 10 more miles of spawning and nursery habitat for the imperiled American shad.

Little Falls Dam, built by the U.S. Army Corps of Engineers in 1959 across the Potomac River near the middle of the George Washington Parkway in Maryland, blocks anadromous fish such as the American shad and herring from moving upstream to spawn. Migratory fish were unable to use a vertical slot cut near the center of the dam at the time it was built and operation of the slot was abandoned in 1964 due to high maintenance costs.

At the October ceremony, Interior Secretary Bruce Babbitt joined Senator Paul S. Sarbanes, Representative Connie Morella and Governor Parris Glendening, all of Maryland, Brig. Gen. Stephen Rhoades of the Army Corps of Engineers, and others in praising the Little Falls project, which Babbitt referred to as "this extraordinary cooperative effort."

Sarbanes and Rhoades thanked Service biologists Steve Funderburk, deputy executive director of the North American Waterfowl and Wetlands Office in Arlington, and Peter Bergstrom, of the Chesapeake Bay Field Office, for their work in chairing an interagency task group that coordinated the efforts of the 17 cooperating agencies and organizations.

The Little Falls Fishway was designated a high priority project by the Maryland Department of Natural Resources in 1988. With support from Sarbanes, an intergovernmental task group formed in 1992 to help plan and obtain financing for a new fishway at Little Falls Dam. The task group, led by the Service, is part of the Chesapeake Bay Program's Fish Passage Workgroup.



Clear the way. *A passage in the dam at Little Falls will allow prized American shad to make their way up the Potomac River once again. FWS photo.*

Dams built on most of the major rivers in Virginia turned the shad—once one of the commonwealth's most plentiful and prized fishes—into an imperiled species as it all but disappeared. Maryland banned shad fishing in 1984 and Virginia followed in 1993 as both states moved to protect and rejuvenate existing populations.

Migratory fish monitoring above and below the dam has been conducted for several years by three agencies and citizen volunteers. Until stocking began in 1995 with fry raised at the Harrison Lake National Fish Hatchery in southeastern Virginia, no shad young were found in either location. About 6 million shad fry have been released at Mather's Gorge above Little Falls Dam between 1995 and 1998. Fish stocked in 1995 and 1996 should begin to return this year and in 2000. (See related article, page 20.)

Statistics on 1999 shad returns will be available in Spring 2000, according to Albert Spells, project leader at Harrison Lake hatchery.

*Ken Burton, Public Affairs,
Washington, DC*

A River Runs Through It: Breaching Edwards Dam

More than 1,000 people gathered along the banks of the Kennebec River in Augusta, Maine, on July 1 to witness the historic breaching of Edwards Dam. To the sound of church bells and cries of celebration from the crowd, the river ran free from Waterville, 17 miles upstream, to the Atlantic Ocean for the first time in 162 years.

One of Maine's major rivers, the Kennebec flows from its source at Moosehead Lake 132 miles, through Merrymeeting Bay, one of the largest freshwater tidal bays in the eastern United States, and on to the sea. Built in 1837 to provide power for timber and textile mills in Maine's capital city, Edwards Dam blocked fish passage to upstream spawning and nursery areas and flooded critical habitat.

Prior to the dam's construction, the Kennebec boasted flourishing runs of Atlantic salmon, American shad, alewives, blueback herring, striped bass, Atlantic and shortnose sturgeon, rainbow smelt and American eel. According to records kept by the Maine Department of Commissioners of Fisheries, for example, a seine that had taken 700 shad in one day in 1822 captured only 3,000 for a whole season in 1857. By 1867, the shad industry in Augusta had failed.

During the early part of the twentieth century, pollution from chemicals used in paper production, raw sewage, and debris from log drives further accelerated the decline of fish populations in the river. Vast fish kills were reported between 1947 and 1965.

While fish populations in the river have recovered slightly since the 1970s as a result of improvements in water quality and restrictions placed on recreational and commercial fishing, their numbers remain critically low. With the removal of Edwards Dam and aggressive fish restoration efforts, biologists anticipate that certain migratory fish populations will rebound steadily for the next 20 years.

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A River Runs Through It: Breaching Edwards Dam (continued)

Dams—there are more than 1,500 statewide and 190 in the Kennebec River watershed alone—remain the biggest impediment to restoring self-sustaining migratory fish runs in the river and throughout Maine.

“Dams are instruments, not monuments,” said Interior Secretary Bruce Babbitt, addressing the crowd at the July event. “With 75,000 nationwide, each one becomes a regional forum for hard conversations, debates and consensus-building solutions like these. When it comes to dams, fish and river restoration, a few states like Maine are the cutting edge laboratories of democracy.”

In 1997, when the Federal Energy Regulatory Commission called for the decommissioning and removal of Edwards Dam, it was the first time the commission denied a license renewal for an operating hydro power project over the objection of the dam owner. It had become apparent that the dam’s environmental costs outweighed its economic benefits. Before its turbines were turned off in January 1999, the dam, once essential to Augusta’s rich industrial heritage, had outlived its usefulness, producing only a tiny fraction of Maine’s electrical power.

“Edwards Dam represented a remnant of a 19th century technology, when damming rivers was one of the only ways to generate power,” reflected Steve Brooke, director of the Maine field office for American Rivers. “Now, as we enter the 21st century, we have new options for generating power, and on a case-by-case basis, we can look at our dams and determine whether or not the environmental harm the dams cause to our rivers outweighs their economic values.”

The commission’s precedent-setting action immediately sparked a series of appeals by the dam’s owners and hydro power interests throughout the country. Faced with the prospect of years of litigation, 15 public and private parties, including the Service, developed a comprehensive settlement agreement designed to achieve timely removal of Edwards Dam and to accomplish long-term fishery restoration goals in the Kennebec.

Under the agreement, the dam was transferred to the State of Maine, which assumed responsibility for its removal. Bath

Iron Works, a major shipbuilding industry, and the Kennebec Hydro Developers group, a coalition of dam operators upstream of Edwards Dam, will provide substantial funding for dam removal, stocking, monitoring and assessment studies, and other fish restoration activities in the Kennebec. The National Fish and Wildlife Foundation will seek to raise an additional \$1.5 million in support of the settlement’s goals.

*Terri Edwards, External Affairs,
Hadley, Massachusetts*

Successes in Maine

The removal of Edwards Dam is not the only recent successful river restoration success story in Maine. In 1999, three Service offices—the Gulf of Maine Coastal Program, Maine Ecological Services Field Office and the Maine Anadromous Fisheries Stewardship Program—worked with state resource agencies, nongovernment agencies, the Penobscot Indian Nation, town officials, community members and dam owners to remove four other dams and breach three more, re-opening nearly 800 river-miles for fish passage.

Just three months after removal of Grist Mill Dam on the Souadabscook Stream, a tributary of the Penobscot River, salmon redds were discovered upstream. The dam had blocked fish passage for 200 years, and like Edwards Dam it had generated only small amounts of electricity in recent years. The cost of installing a fish passage system was prohibitive and continued operation of the dam did not make economic sense.

The Penobscot Watershed Anadromous Fish Restoration Team received the Coastal America 1999 Partnership Award for their efforts in restoring 150 miles of free-flowing river and re-establishing the migrations of Atlantic salmon, alewives and other fish.

Service employees receiving awards as part of the Coastal America team include Gordon Russell, project leader for the Maine Field Office, and Lois Winter, a wildlife biologist/outreach specialist for the Gulf of Maine Coastal Program. The coastal program also received an award for the involvement of others on the staff. In a letter congratulating the award recipients, Vice President Al Gore wrote, “As a result of your efforts to remove the obstructions to fish migration, the Souadabscook, historically known by the Penobscot Indians as the ‘river of many sea fishes,’ can once again support salmon and other anadromous fish... Your work exemplifies the benefits that can be accomplished through partnerships that are created to achieve environmental goals.”

Terri Edwards

School Project Pays Off for Wildlife

Glossy calendars displaying photos of exotic animals grace the walls of many Service offices. A different type of wildlife calendar, however, was produced last year by elementary school students in Ithaca, New York. Proceeds from its sale will benefit Service efforts to combat the illegal wildlife trade.

Last fall, fifth grade science students at Caroline Elementary School created "Stop the Traffic," a 1999 wall calendar featuring drawings and essays on illegal wildlife trade and endangered animals and plants. Working with library and Internet resources and materials from the Service and World Wildlife Fund, each student studied a species whose future in the wild is threatened by illegal trade. Their reports and illustrations provide an account of the perils facing wildlife worldwide.

The calendar page for February, for example, spotlights black bears and the black market for Asian medicinals, while October looks at threats to saguaro cacti and orchids. Other featured species include elephants, tigers, Komodo dragons and parrots.

"My class researches and produces an environmental calendar on a different topic each year," explained teacher Jane Moon Clark. Previous themes included marine mammal conservation, alternative fuels and wetland preservation.

The project draws on the students' reading, writing, listening, and speaking skills in addition to exploring an aspect of environmental science. But Clark also emphasizes some less traditional teaching goals.

"The children become environmental advocates and philanthropists," Clark said. "They learn that once they own the knowledge, they have a responsibility to share it, and that the community will listen to them."

This past year, for example, Clark's students sold the professionally printed wildlife calendars at school; they also staffed a sales booth at a local grocery store and talked to shoppers about the illegal wildlife trade.



A closer look. Fifth grade students at Caroline Elementary School examine illegal wildlife products borrowed from the Service. FWS photo: Courtesy of Jane Moon Clark, Caroline Elementary School.

Some of the children participated in a seminar on wildlife trade with students from the State University of New York, College at Cortland, and wrote letters to U.S. government officials urging increased efforts to protect wildlife.

In the spring, after considering a variety of conservation and charitable causes, the students voted on how to "spend" their profits from selling nearly 600 copies of the calendar. The class contributed \$400 to the Service wildlife inspection program, which provides the nation's front-line defense against illegal wildlife trade, and made donations to the Tompkins County Society for the Prevention of Cruelty to Animals, a local soup kitchen and the UNICEF relief program for Kosovo refugees.

Sandy Cleva, Office of Law Enforcement, Arlington, Virginia

The Employee Pocket Guide—Don't Be on the Job Without It!

You may have heard whispers about a new and unique item...something small, handy and dandy...The rumors are true—a comprehensive handbook, the "U.S. Fish & Wildlife Service Employee Pocket Guide," hit the streets in December.

Chock full of Service facts and convenient information, the pocket guide's creators hope it will be helpful for all employees on the job, at meetings, in the field and on business travel. The pocket guide is the first major initiative—and one of many to come—for the Service's new national outreach coordinator, Anita Noguera (see article, page 9).

Noguera sees the pocket guide as a tool that will not only be functional but will actually strengthen employees' knowledge about the Service—who we are and what we want to achieve.

"By providing users with accurate and consistent information at a glance, the pocket guide will help us do what we do even better," she said. "And what will entice people to carry this around? Indispensability!"

The National Outreach Team developed the pocket guide in response to the need for a portable information package filled with consistent outreach messages and other essential information. This guide has something for everyone including the administrative officer who is asked about open seasons for health insurance enrollment or use-or-lose deadlines; a new employee who needs the Web site address for laws governing the Service; or an overworked field biologist who keeps forgetting the office fax number.

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The Employee Pocket Guide— Don't Be on the Job Without It!

(continued)

Although the pocket guide will not enable Service employees to answer broad questions about the federal government, it will help them to answer questions outside the scope of their own jobs. For example, an employee at a fish hatchery may be able to use the pocket guide to answer a hiker's question about national wildlife refuges, or an endangered species biologist might use it to advise a neighborhood scout troop on how many Native American tribes are in the United States.

"The National Outreach Team is excited about the pocket guide's potential to improve internal communications and our ability to accurately portray the Service to the public," said Noguera. "The pocket guide will help to properly equip our most valuable and effective outreach medium—Service employees."

Noguera emphasized that the outreach team printed one pocket guide per employee and no extras...so hang on to this new and handy product...and enjoy.

What's Inside the Guide?

Here's what you'll find in the Service Employee Pocket Guide.

Introduction—Who we are and where we are going.

FWS Fundamentals—Our mission and diversity statements and statement of principles.

Director's Initiatives—The Director's four major resource priorities.

Government Performance & Results Act—Service performance measurement standards.

Chronology—Origins of the Service from 1871 to the present.

Organization Chart—The Service's current organizational structure.

Regional Map—A map of the regions with time zones.

Ecosystem Approach—Definition of the ecosystem approach and a list of ecosystem units.

Regional Contacts—A listing by organizational unit to help you locate personnel easily.

Field Locations—A partial list of refuges, Ecological Services field offices, Fishery units and Law Enforcement senior resident agents.

Program Information—Descriptions of Service programs.

Frequently Asked Questions—Popular Q & As from employees and the public.

Monthly Calendar—A month-at-a-glance calendar with government holidays, payroll/pay periods and open enrollment dates, solar/lunar cycles, Service tidbits... and more.

Special Events Calendar—Major event dates for the Service.

Outreach Messages and Tips—Helpful tools for doing effective outreach.

We Want To Hear From You—A request for feedback and a list of personnel who designed the guide.

Notes—Lined pages for your personal information.

More about the USFWS Employee Pocket Guide

Will the pocket guide be on the Internet?

No, but it will be posted on the Service Intranet. This is an internal product and not for the general public.

Will there be a large print pocket guide for visually impaired employees?

We will provide a large-print version through the Intranet.

What is the source of the phone numbers? Is there an electronic list available?

Barb White of the Division of Information Resources Management checked our list and we also received input by calling all of the regions, Region 9 program offices, and many refuges and field stations, as well as checking the Service Web site. An electronic list of phone numbers is available on the Service's home page (<http://www.fws.gov>) under "Offices."

Why aren't all of the field stations listed?

We couldn't fit everything, but we went for the best representation of Service locations that fits in your pocket.

Don't people have their own calendars? If you eliminate the calendar you could use the guide longer.

We want this guide to be a tool that employees will carry with them and use all the time. Providing a calendar is one way to ensure its use. The information in the pocket guide will be updated annually. We'll review inclusion of the calendar based on employee feedback about this first edition.

Outreach Coordinator Hits the Ground Running

Named National Outreach Coordinator in July and located in the Public Affairs office, Anita Noguera is responsible for implementing a nationwide outreach strategy for the Service.

The Employee Pocket Guide is the first of many projects Noguera will undertake; other tasks include leading a national outreach team of Service employees from all regions and programs, and developing relationships and new partnerships with constituent groups to enhance the Service's conservation mission. The National Outreach Coordinator will also work with outside partners to develop ways of evaluating the Service's public outreach and customer service efforts, and identify needed communication products that can be used nationwide, including a new outreach handbook of how-to guidance, expected to be available late this year.

Noguera's other responsibilities include reviewing proposals for outreach activities to promote consistency with the Service's overall outreach goals and to ensure effective use of dollars and people; working with private corporations and other partners on communication projects that further the Service's mission; and working with the National Conservation Training Center to develop and conduct outreach training programs for Service employees.

Rachel F. Levin. Public Affairs, Washington, DC

Tiny Sandpiper Unites Distant Refuges



Long-distance traveler. *This tiny sandpiper winged its way from Texas to Alaska—an unprecedented journey. FWS photo.*

At first glance, Aransas NWR on the Gulf coast of Texas and Yukon Delta NWR on the Bering Sea coast of western Alaska seem to have little in common.

Aransas is nearly subtropical, a haven for alligators and armadillos; Yukon Delta is subarctic, home to beluga whales and brown bears. One is renowned for hosting endangered whooping cranes every winter; the other is equally well-known as one of the continent's most important areas for breeding waterfowl. Aransas is "only" 55,000 acres; at nearly 22 million acres, Yukon Delta is the largest refuge in the country.

Finding a Texas-banded western sandpiper on the Yukon Delta was quite a surprise for two biologists.

These differences did not stop a sandpiper weighing just over an ounce from making the 3,700-mile flight between Aransas and Yukon Delta this spring, dramatically demonstrating an important biological connection between these two distant refuges.

In April, Brent Ortego of the Texas Parks and Wildlife Department banded about 300 western sandpipers on Aransas refuge in an attempt to determine the importance of man-made wetland habitats to migrant shorebirds in Texas.

On April 10, Ortego banded one of those sandpipers with #1541-01664. Three weeks later and thousands of miles to the northwest, Yukon Delta NWR wildlife biologist Brian McCaffery and Humboldt State University graduate student Dan Ruthrauff traveled to a remote, snow-covered field camp to continue a long-term study of western sandpiper breeding biology on the tundra of western Alaska. On June 21, Ruthrauff trapped bird #1541-01644 on her four-egg nest on the Yukon Delta refuge. Nine days later, the eggs hatched and a new generation of sandpipers came into the world.

Finding a Texas-banded western sandpiper on the Yukon Delta was quite a surprise for the two biologists.

"Radio telemetry has shown that western sandpipers migrating from California, Washington and south central Alaska all converge on the Yukon Delta for nesting," said McCaffery. "We've even banded a bird on the Delta that was later recaptured in Panama, but we've never had one from outside the Pacific Flyway before."

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Tiny Sandpiper Unites Distant Refuges (continued)

Although the timing and routes of western sandpiper migration are well-documented along the Pacific coast, biologists know almost nothing about how birds from the Gulf of Mexico reach Alaskan breeding grounds, according to McCaffery.

“We don’t really know what wetland complexes are important for northbound western sandpipers migrating east of the continental divide. Only through studies such as Brent’s can we identify and protect the wetland habitats essential for their successful migration,” he said.

Yukon Delta Manager Mike Rearden drew a similar lesson from the diminutive transcontinental migrant.

“This kind of discovery really highlights the notion of a system of national wildlife refuges. For many migratory species, our refuges are truly links in a chain,” Rearden said.

Fulfilling the Promise, the long-term road map for the refuge system, envisions refuges as anchors for biodiversity and ecosystem-level conservation. The journey of sandpiper #1541-01664 demonstrates how diverse refuges can function as a cohesive unit to sustain a variety of natural resources.

“No one refuge can provide for all of the needs of a migratory species like the western sandpiper, but by working together to maintain a system of safe havens across the continent, we can provide important habitat throughout much of the species’ annual cycle,” Rearden said.

Wildlife Forensics Acknowledged as Unique Field

Wildlife forensics gained global recognition as a new field of science at the meeting of the International Association of Forensic Sciences last summer, thanks largely to the pioneering research of the Service’s National Fish and Wildlife Forensics Laboratory.

Lab Director Ken Goddard chaired an unprecedented wildlife forensics section meeting at the association’s conference, attracting a number of the U.S. and international forensic experts who convened in Los Angeles in August. The group promotes development of the forensic sciences and exchange of scientific and technical information.

“Wildlife forensics has never before been officially recognized by the international community as a distinct area of forensic science.”

“The section meeting was a significant accomplishment for the laboratory and for our growing number of colleagues around the world,” Goddard explained. “Wildlife forensics has never before been officially recognized by the international community as a distinct area of forensic science.”

All 14 of the laboratory’s scientists presented papers or poster sessions on their research and casework at the two-day forum. Topics examined ranged from wildlife poisoning and hair morphology to DNA identification of rhino horn and individual typing of North American black bears.

The laboratory, which opened in 1988 in Ashland, Oregon, is the only full-service crime lab in the world devoted to wildlife law enforcement. But research has been an important and necessary part of its work from the beginning.

“We’ve analyzed more than 35,000 evidence items over the past 10 years,” Goddard said. “In the process, we’ve created much of the science of wildlife forensics, developing the analytical techniques we needed to help solve wildlife crimes.”

Forensic scientists working on wildlife cases encounter unique challenges, such as confirming the species of smuggled goods or linking suspects with specific wildlife victims. Key research accomplishments from the lab’s first decade include ways to distinguish ancient and modern ivories; the application of DNA analysis to species identification; and work to pinpoint the contents of traditional Asian medicines, many of which claim to contain endangered species.

In the past year, laboratory scientists discovered that each species appears to have its own distinct hemoglobin, a finding that promises to provide the basis for a quick and accurate way to identify wildlife species from blood samples. Researchers at the lab also developed a DNA method for detecting the sturgeon species represented in a tin of caviar.

Two years ago, the lab earned accreditation from the American Society of Crime Lab Directors—a professional status attained by only half the crime laboratories in the United States. Demand for case assistance from federal, state and foreign investigative agencies increases each year.

“The lab has enlisted science in the fight against wildlife crime while completing ground-breaking research,” said Service Law Enforcement Chief Kevin Adams. “Service special agents and wildlife inspectors and investigators around the world depend on the lab as an essential enforcement partner.”

Sandy Cleva, Office of Law Enforcement, Arlington, Virginia

Hunting Opportunities Abound in the National Wildlife Refuge System

Craning her neck, she peered above the drooping cattails around the blind. With the birds right there she forgot the rule about keeping your head down—but only for a second.

They were coming in.

During orientation, the rules had seemed easy, obvious. “Ducks have good eyesight—try not to move around in the blind; don’t look up when they’re overhead.”

These came in fast, low and loose, as early season woodies will. Seven birds, left to right; into the slight wind. Twisting and fluttering they slowed and then slammed on the brakes, hovering momentarily just above the decoys. Now, heads thrown forward, feet reaching, they began dropping to the water.

“Too many hunters shoot before the ducks are in range,” their mentor had counseled. “Let them work the decoys. If the ducks cooperate, we’ll let ‘em land and then jump them before we shoot. But remember to wait for the signal.”

The birds were down now, but heads up; suspicious, alert.

Remember your shooting lane... swing with the bird... swing through the shot. Remember puddlers will jump straight up... pick out the drakes.

Seeing the birds, the golden retriever whined anxiously. Anticipation.

It is Youth Waterfowl Day at Minnesota Valley National Wildlife Refuge.

“This is the third year we’ve offered this youth waterfowl hunt on the refuge,” said Terry Schreiner, a refuge operations specialist at Minnesota Valley NWR in Bloomington, Minnesota. “These are all kids who have completed their firearms safety course but may not get a chance to get out duck hunting. We really like to get both kids and parents involved. In cases where their parents don’t hunt, we’ll match the kids with an adult mentor who does.”

Young waterfowlers taking part in the Minnesota Valley program complete 12 hours of waterfowl-related course work, a six-hour field exercise and a guided hunt



A great day. Opportunities for hunters of all ages abound on the nation’s national wildlife refuges. FWS photo: E. Cola.

on the refuge during Minnesota’s Youth Waterfowl Day, held this year on September 18.

Despite the refuge’s location in the midst of the Minneapolis/St. Paul metropolitan area, Schreiner says kids experience a quality hunt with a lot of birds and “not a lot of competition.”

It’s little wonder waterfowl call Minnesota Valley NWR home. Located along the Minnesota River, the wetlands, backwaters and grasslands within refuge boundaries provide nearly ideal habitat for raising waterfowl—and neotropical birds, furbearers, turtles, lizards and insects.

Refuges such as Minnesota Valley and federal waterfowl production areas provide critical nesting cover and wetlands for waterfowl and other wildlife across the country. In many cases, habitat on refuges and waterfowl production areas has been restored to make it suitable for wildlife following prior agricultural or commercial conversion. Service biologists use water control structures and plantings of native prairie grasses and forbs to help reestablish aquatic and upland cover.

Toward autumn, this same vegetation provides materials for blinds; hiding spots for ducks, pheasants, grouse and quail; and earthy nooks where a setter or retriever can snort a noseful of autumn’s musky perfume. It’s a place of whistling wings, wild flushes and wagging tails; where the rhythms of nature are obvious and compelling to even the most casual participant.

More than half of the 520 national wildlife refuges offer hunting opportunities—ranging from upland birds and waterfowl to elk and moose. Add to these some 700,000 WPA acres and hunting opportunities on the National Wildlife Refuge System multiply exponentially.

Together, these hundreds of sites play host to some of North America’s most spectacular autumn wildlife migrations—snow geese at DeSoto NWR near Omaha, Nebraska; canvasback ducks and swans on the Upper Mississippi River NWR near Winona, Minnesota; Canada geese at Horicon NWR northeast of Madison, Wisconsin. Autumn is a time of plenty in America’s heartland and one of the best times to visit the National Wildlife Refuge System with binoculars, camera or shotgun.

After the shot she would remember the colors of the flush. Chestnut brown, iridescent green. A blur of wings. It was over in an instant.

Hunting Opportunities (continued)

It took an instant too before she understood the result. By then, the golden was already halfway to the decoys, plowing a wake through the soupy marsh in a beeline toward the drake wood duck bobbing in the water. Whoops of exclamation. Smiles all around.

"Nice shooting."

The scene would linger for a long while in her mind but the feeling—a warm mix of teamwork, trust, effort and achievement—would last for years.

*Dan Sobieck, External Affairs,
Minneapolis, Minnesota*

Not Just for Duck Hunters

Do you remember the last time you crouched among the cattails listening to the fluttering of woodducks, hiked through lush, verdant vegetation, or lost yourself in fishing a clear stream? Refresh your memory by taking a trip to Minnesota Valley or one of the 519 other national wildlife refuges nationwide.

Refuges are special places set aside for fish, plants, mammals and a host of other wild creatures and humans, too. Most refuges are open to the public—and some require an entrance fee. But did you know you can enjoy unlimited year-round access to refuges with fees—all for a mere \$15?

That's right... Just buy a Federal Duck Stamp and sign it across the face, and you have an entree to all of our refuges that are open to the public. Not only can you enjoy the most pristine system of lands and waters in the nation set aside for fish and wildlife, but the money from the sale of Duck Stamps buys wetlands for those refuges... wetlands that filter ground water, store flood waters and improve drinking water.

The Federal Duck Stamp is not just for hunting and it is not just for ducks. It is a pass to some of the most magical places on earth—your national wildlife refuges. So buy a Federal Duck Stamp... and enjoy.

*Terry Bell, Federal Duck Stamp Office,
Washington, DC*

Refuges Fulfill Their Promise to America's Hunters, Anglers

Waterfowl hunting and saltwater fishing on national wildlife refuges across the country have both surged by almost 75 percent since 1993, according to statistics recently compiled by the Service. Participation in other types of hunting and freshwater fishing held steady or grew modestly over the same period.

"More people are visiting refuges to hunt, fish, and otherwise enjoy and learn about wildlife than ever before, and the list of refuges that welcome hunters, anglers, and other wildlife enthusiasts is growing steadily," according to Service Director Jamie Rappaport Clark.

As urban areas expand, many rural areas and open spaces once used for outdoor recreation are giving way to subdivisions, shopping centers and other development. As a result, national wildlife refuges are supporting a greater share of the nation's wildlife populations—their fundamental mission—and more Americans are relying on refuges for their outdoor recreation.

The refuge system has long had a special relationship with America's outdoorsmen

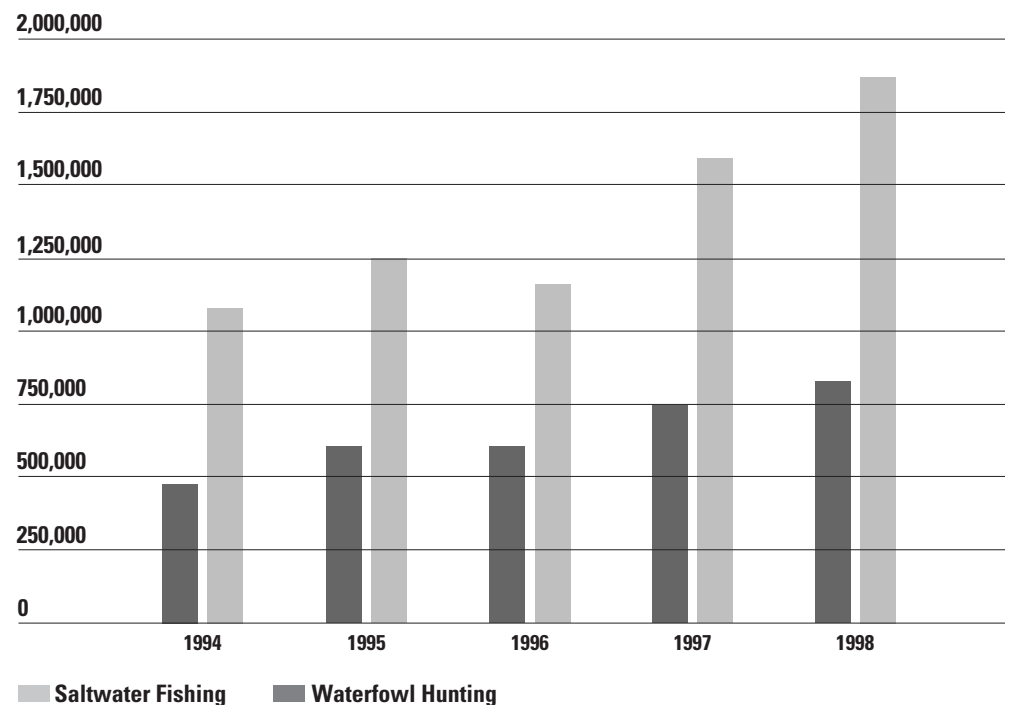
and women. Many of its 93 million acres have been purchased with proceeds from the Federal Duck Stamp, a required purchase for waterfowl hunters.

In this century, hunters and anglers have left scores of new refuges as their conservation legacy, refuges which in turn serve as pillars for hunting and fishing. For example, the Upper Mississippi Fish and Wildlife Refuge in Minnesota—established in the 1920s with help from the Izaak Walton League—now welcomes nearly a million hunters and anglers every year.

"The National Wildlife Refuge System provides some of the premier hunting and fishing experiences available to sportsmen and women today," said Jim Mosher, the Izaak Walton League's conservation director. "We applaud the work of the Service to continually expand the opportunities for hunters and anglers on refuges across the country."

"More and more anglers are discovering that national wildlife refuges provide outstanding saltwater experiences for both novice and experienced anglers alike," said

Visits to National Wildlife Refuges



Foundation Seeks Nominations for 2000 Guy Bradley Award

Mike Hayden, president of the American Sportfishing Association about the strong growth in coastal fishing on refuges. "Refuge managers should be applauded for their work during the past few years to educate the public about fishing opportunities, boat access and resource conservation."

Today, 287 refuges offer some type of hunting and 251 are open for fishing. A number of recent developments are expected to give refuge hunting and fishing a further boost in coming years. In 1997, President Clinton signed the system's first piece of organic legislation, the National Wildlife Refuge System Improvement Act, which designated hunting and fishing as two of the six "priority public uses" on refuge lands.

Subsequent budget increases for fiscal years 1998 and 1999 have enabled the system to begin reducing a substantial backlog of unmet maintenance needs, allowing refuges to offer recreational programs more often and still meet their obligation to put wildlife first.

Fulfilling the Promise, the system's roadmap and vision, finalized in March, recommends a number of steps to improve visitor services by increasing public use staff, expanding public involvement in refuge decision making, and issuing clear guidance to refuge managers for determining appropriate and compatible public uses of the system.

*Eric Eckl, Public Affairs,
Washington, DC*

Established by the National Fish and Wildlife Foundation, the national Guy Bradley Award recognizes individuals for achievements in wildlife law enforcement, focusing especially on those activities which directly aid or advance the law enforcement goals and mission of state and federal fish and wildlife agencies.

The Guy Bradley Award is presented each year to someone whose dedication and service to protecting the nation's natural resources demonstrates outstanding leadership, extended excellence, and a lifetime commitment to the field of wildlife law enforcement, and whose actions advance the cause of wildlife conservation. The award is given in the spirit of Guy Bradley, the first wildlife law enforcement agent killed while performing his duties to protect the nation's wildlife in 1905.

The award will be presented at the 65th Annual North American Wildlife and Natural Resources Conference to be held in Chicago at the Hyatt Regency O'Hare, March 24-28, 2000. Recipients will receive a check for \$1,000 and a commemorative plaque. In the event that a recipient cannot accept a cash award (as is the case for federal employees), a donation of \$1,000 will be made in the recipient's name to the wildlife project(s) of his or her choice.

Please submit all nominations on agency letterhead to Beth DeCarolis at the Fish and Wildlife Foundation by mail or fax no later than January 4, 2000. In submitting the nomination, please:

- provide all the information necessary to contact the sponsoring agency and candidate (including telephone numbers);
- clearly list the candidate's accomplishments which merit consideration for this award; and
- submit any additional documentation in support of the candidate with the nomination letter.

Submit nominations to:

Beth DeCarolis
National Fish and Wildlife Foundation
1120 Connecticut Ave., NW, Suite 900
Washington, D.C. 20036
Fax: 202/857 0162

For more information, please contact Beth DeCarolis by e-mail at decarolis@nfwf.org or by telephone at 202-857-0166.

Five Top Five Refuges in 1998 Refuge System Unit, Location, and No. of Visits

Waterfowl Hunting

1. Upper Mississippi National Wildlife and Fish Refuge	Winona, MN	159,076
2. Yukon Delta NWR	Bethel, AK	72,000
3. Felsenthal NWR	Crossett, AR	34,188
4. Crab Orchard NWR	Marion, IL	33,500
5. Cache River NWR	Augusta, AR	29,050

Saltwater Fishing

1. Chincoteague NWR	Chincoteague, VA	465,214
2. Pea Island NWR	Manteo, NC	401,379
3. Pinckney Island NWR	Savannah, GA	111,506
4. Lower Suwannee NWR	Chiefland, FL	82,500
5. Yukon Delta NWR	Bethel, AK	79,850

Working Toward 2003: Foundation Requests Pre-proposals for Refuge Conservation Projects

In celebration of the 100th anniversary of the National Wildlife Refuge System in 2003, the National Fish and Wildlife Foundation, in partnership with the Fish & Wildlife Service, is requesting pre-proposals for conservation projects on refuges that will directly benefit the fish, wildlife and plant resources the system protects.

The Foundation is providing challenge grants that require the grantee to match Foundation federal monies on a minimum 1:1 ratio with cash and/or contributed goods and services collected from non-federal partners. The Foundation encourages greater non-federal to federal dollar ratios.

Pre-proposals should require relatively small grants of no more than \$20,000 in federal funds unless approved by the Foundation prior to pre-proposal submission. Elements considered in a pre-proposal include:

- A description of the "critical" conservation need of the project and the implications if this project goes undone.

- Is this a "model" project that can be applied successfully elsewhere? If so, where?

- Is this an innovative project that involves new techniques or methods?

- Are there unique partnership aspects to this proposal (number, diversity of partners)?

- How will this project serve to engender public awareness of the refuge system and the threats to it?

- Is there a conservation education component to the project that will further public understanding of professional conservation management practices?

The two-page pre-proposal should contain a summary of the project including objectives, methodology, anticipated conservation benefits and project evaluation. In addition, it should include a one-page projected one-year budget.

The deadline for submitting pre-proposals—by mail only—is January 4, 2000. If the pre-proposal meets the Foundation's funding guidelines, the applicant will be notified by January 18, 2000, and invited to submit a full proposal by February 15.

Submit pre-proposals to:

Gary S. Kania/NWR
National Fish and Wildlife Foundation
1120 Connecticut Ave., NW, Suite 900
Washington, D.C. 20036

For more information, contact Gary Kania by e-mail (preferred) at kania@nfwf.org or by phone at 202/857 0166. The Foundation's web site, www.nfwf.org, has a more detailed description of the refuge program.

Lights, camera...

Participants in Keystone: One Year Later review their notes before showtime. The October 21st broadcast explored progress in implementing Fulfilling the Promise since the refuge conference in Keystone, Colorado, last year. Seated left to right are Carolyn Bohan, programmatic assistant regional director for refuges and wildlife in Region 1; Assistant Director for Refuges and Wildlife Dan Ashe; Service Director Jamie Rappaport Clark; Jan Taylor, Northeast regional refuge biologist; and Jim Kurth, chief of the Division of Refuges. FWS photo: Eric Eckl.



Group Will Address Invasives Issues

Director Jamie Rappaport Clark has named an eight-member cross-program Workgroup on Invasive Species to review Service responsibilities related to the invasive species threat and to recommend the most effective organizational structure to combat what has become a pressing national problem.

Invasive species cost the United States an estimated \$123 billion a year and are second only to habitat destruction in threatening the extinction of native species. Some, like the round goby, which has spread through the Great Lakes, may pose some public health risk. The goby can tolerate and accumulate high levels of toxic chemicals and it eventually becomes food for other fish, which become food for humans.

Clark said the Service workgroup will be chaired by Assistant Director for Fisheries Cathy Short, who will also serve as the external point of contact for the Service on invasive species at the Washington level. The workgroup will address a number of areas, including:

- Coordinating invasive species activities across programs at the national level;

- Sharing invasive species information and resources;

- Developing a rapid response capability model for the Service;

- Addressing gaps in legislation and regulations that hamper the Service's effectiveness; and

- Investigating the possibility of a "red light" list of the highest-risk invasive species and developing the ability to rapidly add species as warranted.

Clark said invasive species have increasingly become Service-wide concerns and that every program area has been eager to help, but "unfortunately, this has resulted in confusion both inside and outside the agency."

With that in mind, Clark has asked the workgroup to examine how the Service can deliver the invasive species program.

"This workgroup will consult with regional offices as well in making this recommendation," Clark said. "The recommendation should help us make decisions about the desirability for some level of consistency in approach across the Service."

While the Division of Refuges undertakes a survey of invasives on refuge lands, the workgroup will coordinate with regions and programs to identify the most serious invasive species and their current or potential impact on native species and important habitats.

Clark said she has asked each regional director and assistant director to submit a list of no more than 20 of the most critical invasive species, in ranked order. That information will eventually be shared across programs and regions so joint or coordinated efforts can occur on national, agency-wide priorities.

*Ken Burton, Public Affairs,
Washington, DC*

The Invasive Species Workgroup

Cathy Short, Assistant Director for Fisheries, Chair

Sharon Gross, Invasive Species Coordinator

Sue Lieberman, Chief, Office of Scientific Authority

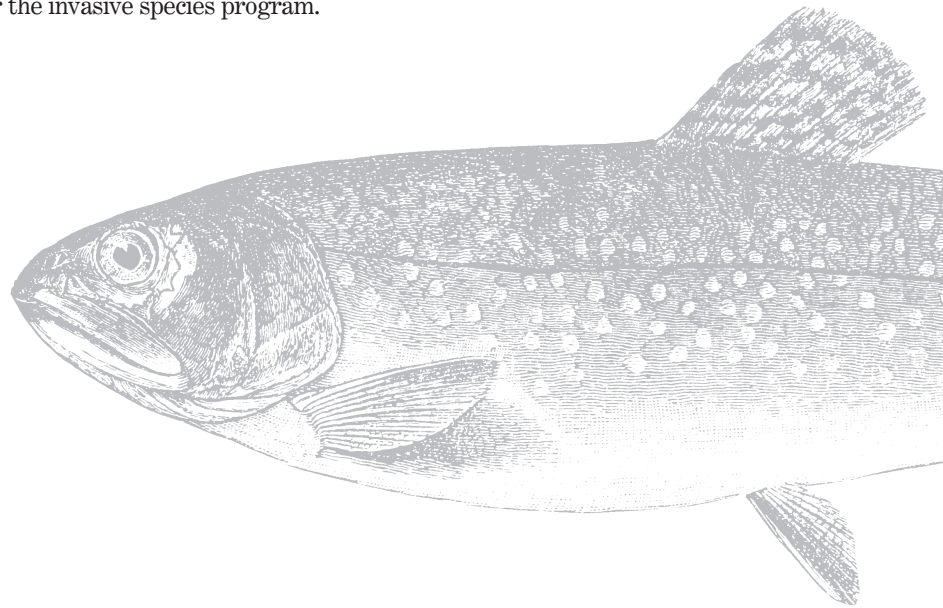
Marty Miller, Deputy Chief, Division of Endangered Species

Mike Ielmini, Invasive Species Coordinator, Division of Refuges

Paul Chang, Division of Law Enforcement

Ken Burton, Office of Public Affairs

Lori Williams, Special Assistant to the Director



How Many “E”s are in “Refuge”?



Welcome. *The Immigration and Naturalization Service was one of a number of agencies involved when a boatload of Chinese immigrants ended up on Midway Island. FWS photo: Rob Shallenberger.*

If you think your refuge work experience has prepared you to deal with any surprise, think again!

Nothing has been routine at Midway Atoll NWR, but the phone call I received on August 23 came out of left field. The Coast Guard had boarded a Chinese vessel 350 miles north of Midway. One hundred and twenty one Chinese refugees were on board. Could we set up a medical treatment and detainment camp on the refuge?

So began the latest Midway saga. There were daily conference calls—conveniently scheduled at 2 a.m. (9 a.m. Washington, D.C., time)—with Immigration and Naturalization Service; the Coast Guard; Public Health Services; the State, Justice and Interior departments; and even the U.S. Marshals Service.

The story unfolded. The vessel Yu Xing 2 had been at sea some 60 days, nearly 30 of them without power after the propeller fell off. The Coast Guard buoy tender Kukui provided food and water to the refugees, many of whom were badly malnourished and dehydrated.

By the morning of August 25, the vessel was under tow to Midway. The cooperating agencies scrambled to get people and supplies to the refuge in time for the anticipated arrival of the vessel 36 hours later. The next day, the Coast Guard cutter Jarvis arrived, providing additional medical support and enforcement capability. Two C130 planes also arrived, filled with INS agents, Public Health Service staff and tons of supplies. We prepared for new arrivals and I dealt with the possibility that this vessel might sink at the pier, leak fuel into the pristine lagoon waters or reintroduce rats to the refuge.

At 6:30 a.m. on August 27, the Jarvis entered the ship's channel, followed by the Kukui with the Yu Xing 2 in tow. The refugees appeared in surprisingly good shape given their ordeal at sea. Once they were processed at the dock, they were escorted to their home away from home, the Midway gym.

After the passengers disembarked, we installed rat guards on the mooring lines. Donning my tyvek suit and respirator, I scattered rat poison baits throughout the vessel. Only then did I get real appreciation, up close and personal, for what these people had been through and the desperation that must have led them on to this journey.

We boomed the vessel to contain potential fuel spills, a timely exercise as the vessel began to leak diesel fuel late on that first day. The Coast Guard helped us remove the fuel and tow the vessel to Honolulu where it could be properly sanitized and scuttled to make an artificial reef in nearshore Hawaiian waters.

The arrival of these three ships caused chaos and for the short time all three vessels were in port, our island population nearly tripled in size. Fortunately, no major catastrophes resulted, though there were a few close calls. As nearly 19,000 gallons of fuel were being pumped from the Yu Xing 2, fuel leaked from faulty patches on the hull. However, the double booms around the vessel contained the spilled fuel long enough to pick it up with absorbent pads.

We surveyed the Yu Xing 2 each day and found no evidence of rats on board. We also worked with interpreters to interview several passengers and crew, each of whom reported that they saw no rats during their voyage.

As of this writing, everything is running smoothly. The gym is bustling with activity. Medical check-ups and interviews of the refugees are complete and diplomatic negotiations with the Peoples Republic of China are underway. If prior events are an indication, most refugees will be returned to China and a small number will be granted political asylum. Life on Midway will eventually settle down and we'll be left with another “only on Midway” story.

Rob Shallenberger, Midway Atoll NWR, Midway Island

College Opens Aquaculture Center at Massachusetts Hatchery

Hampshire College, a small, liberal arts institution in Amherst, Massachusetts, will operate and manage a hands-on aquaculture training center for the next five years at the Berkshire National Fish Hatchery in Great Barrington, Massachusetts, thanks to a plan hatched by Janice Rowan, the Service's Connecticut River Coordinator, and Ken Bergstrom, director for the Western Massachusetts Center for Sustainable Aquaculture.

Vandalism had become a problem at the hatchery, which has been vacant since 1994 when the Service was forced to cease cold water fish production at the facility due to budget constraints.

"Once damages are repaired and aquacultural equipment is installed, educational programming can begin," said Bergstrom. "The existing water supply, aquaculture facilities, residences and surrounding wooded lands will serve as an excellent satellite educational facility for training in fisheries and related sciences. The site is also a prime location for ecological and forestry studies."

Ronald E. Lambertson, the Service's Northeast regional director, and Hampshire College President Gregory S. Prince, Jr., signed a precedent-setting agreement cementing the partnership at a ceremony in September.

According to Rowan, "the partnership presents many exciting opportunities for the college to participate in ongoing efforts to restore migratory fish to the Connecticut River. We hope to involve students in research projects, outreach efforts and potentially even fish production."

The Atlantic Salmon Restoration Program is guided by the Connecticut River Atlantic Salmon Commission which includes the Fish & Wildlife Service, National Marine Fisheries Service, Forest Service, and the state natural resources agencies of Connecticut, Massachusetts, New Hampshire, and Vermont, and is assisted by hundreds of volunteers each year.

Funding for operations and educational programs at the Berkshire hatchery site will be provided by the Massachusetts Department of Food and Agriculture as well as other sources. Gould Farm, a large operating farm and residential treatment facility neighboring the property, will actively participate in the partnership. Gould Farm will provide caretaker services, oversight, and a ready market for the fish produced at the hatchery.

Hampshire College has had a strong aquaculture program for two decades. Two of the largest aquaculture businesses in Massachusetts—Bioshelters and Aquafuture—were founded by Hampshire graduates.

The Western Massachusetts Center for Sustainable Aquaculture is dedicated to the development of freshwater aquaculture in Massachusetts and to providing extension, training and research to enhance the aquaculture industry and fisheries resources of the commonwealth.

Camp Draws Minorities to Natural Resources Careers



Summer fun (and learning). *Mingo NWR staff encourage minorities to enter natural resources careers through an annual summer camp that is educational and fun. FWS photo.*

Because fewer than 8 percent of college students currently pursuing natural resources degrees are minorities, Service facilities actively recruit talented minorities through a variety of partnership programs. At Mingo National Wildlife Refuge in southeast Missouri, recruiting minorities has taken the form of a successful summer camp run through a partnership among state and federal conservation agencies, universities and private groups.

Founded in 1993, the Natural Resources Career Camp is part of a three-year program designed to increase awareness among minority high school students of career opportunities in natural resources. Students from throughout Missouri participate and are encouraged to consider enrolling in a natural resources management program at nearby Lincoln University—a Historically Black College—or the University of Missouri at Columbia.

continued on page 16

Camp Draws Minorities to Natural Resources Careers (continued)

Once enrolled, students participate in a two-week camp each summer for three years. Refuge staff, university faculty and representatives from government agencies facilitate training sessions covering various topics in the field of natural resources and associated skills. The camp is the only program of its kind in Missouri and one of only a handful in the nation, and has served as a model for similar projects, according to refuge staff.

Mingo refuge staff work directly with students interested in pursuing careers with the Service. The refuge has hosted training programs on such topics as wetland plant identification, natural resource law enforcement, the Endangered Species Act and canoeing basics. The staff also leads refuge tours and even co-hosted a weekend canoe trip and camp out for the students.

Contact with the students does not end once the camp is over. Refuge staff members continue to make themselves available to assist interested students throughout their college careers.

"This was a wonderful opportunity for these students," said Refuge Manager Gerald Clawson. "The majority of them have never had the opportunity to study natural resource issues in a field environment. The location and hands-on approach to instruction gave the students a realistic understanding of what natural resource careers involve."

The Natural Resources Career Camp is also supported by the Department of Agriculture, Lincoln University, the University of Missouri, the Missouri Department of Conservation and Natural Resources, and the Conservation Federation of Missouri.

*Rodney Hansen, Mingo NWR,
Purico, Missouri*

Cutting-edge Culture Helps Yaqui Catfish



Imperiled. Service biologists are working to restore native Yaqui catfish in the species' historic range. FWS photo: Craig Springer.

Few know of the Yaqui catfish but those who do are concerned about its plight. This threatened species, the only native catfish west of the Continental Divide, has faced what is familiar to many imperiled fishes: an onslaught of competition and hybridization with non-native fishes coupled with habitat loss. But the Yaqui catfish holds on in portions of its native range in the Yaqui River basin of Chihuahua and Sonora, Mexico, and southeastern Arizona, giving biologists hope that one day it will rebound.

"Wild Yaqui catfish are faced with the menacing encroachment of non-native channel catfish," said David Oviedo, hatchery manager at Uvalde National Fish Hatchery in Uvalde, Texas. "There's grave concern that we could end up with a channel-Yaqui hybrid population throughout its native range."

Uvalde NFH may hold the key to restoring this remarkable catfish to its historic range—not to mention advancing its complete recovery rangewide.

For three challenging years, hatchery biologists tried unsuccessfully to spawn the imperiled Yaqui catfish. Standard catfish culture techniques did not work, but new ones have showed promise.

"This species had never been spawned in captivity until it was brought to Uvalde," says Manuel Ulibarri, Uvalde's former manager. "Relying on our experience with channel catfish and new emerging tools, we were able to spawn Yaquis in the hatchery. This ground-breaking work now allows the hatchery to raise fish for repatriation in the wild."

Ulibarri notes that the catfish's recovery plan identifies a captive brood stock as essential to its recovery.

The brood stock at Uvalde is growing. With the careful guidance of geneticists at Dexter National Fish Hatchery and Technology

Retirees Gather to Reminisce at NCTC

Center in Dexter, New Mexico, progress is being made. Through methodical management, hatchery biologists identify individual fish to ensure the genetic integrity of the brood stock and their future offspring. Coded internal tags allow biologists to track growth and condition of the Yaqui catfish.

Uvalde NFH presently holds 40 wild Yaqui catfish and has so far produced more than 30,000 young fish. Those hatchery-reared fish have been used for refining cultural techniques and brood stock development. With the cooperative efforts of the Arizona Game and Fish Department and the Centro Ecologico de Sonora, other hatchery-reared fish now face the rigors of the wild.

That's where San Bernardino National Wildlife Refuge comes in. This refuge, located on the Arizona-Mexico border, is dedicated to conserving fishes native to the Yaqui River basin. More than 350 Yaqui catfish were stocked there in 1997, a century after being extirpated.

There is more than brood stock development occurring at Uvalde, notes Oviedo. "The first Yaqui catfish at Uvalde were wild. We had to learn a lot about how to feed them, how to care for them. And they are, by all accounts, the most difficult catfish to raise in captivity."

As Service biologists learn more about this species, ancillary benefits could spin off to the aquaculture industry and perhaps a unique sport fishery could develop for the species.

Craig L. Springer, Division of Fisheries, Albuquerque, New Mexico



Catching up. Retirees gathered at NCTC in October to share some memories and tour the Service's new "home" in West Virginia. FWS photo.

The new home of the Service welcomed former colleagues to what organizers hope will become an annual tradition—the Retiree's Weekend. Former Service employees spent October 8, 9 and 10 at the National Conservation Training Center in Shepherdstown, West Virginia, renewing old acquaintances, swapping tales, touring the facility and learning more about the Service's heritage activities, which include interviewing retirees to compile an oral history of the agency.

Heritage Committee retiree coordinator Dennis Holland started the ball rolling for this event when he sent out an invitation to all retired Service employees. Some 25 retirees attended, including former Director Lynn Greenwalt. NCTC Director Rick Lemon welcomed retirees, describing the role of NCTC in carrying out the Service's mission and as a home for all employees—past, present and future.

Heritage Committee Chairman Dale Hall, Holland and Ron Anglin updated retirees on the Heritage Committee's work and the crucial role retirees play in preserving the agency's heritage. All agreed that Holland would coordinate the retiree mailing list, which will be used to distribute *Fish & Wildlife News* and invitations to future retiree reunions.

Later, guest speaker Charles Hasty provided a seminar on retirement topics including pensions, health care and other issues of interest to former employees. The rest of the day was devoted to tours of the campus and the surrounding community. Several retirees contributed items to Service's growing archives, while others gave videotaped oral histories.

The retiree weekend also saw the premiere of *Thirty Five Years of Conservation History*, a new Service video in which five current and former directors discuss the changing nature of the Service. Many of the best oral histories spilled out over meals and drinks as the retirees reminisced about the interesting characters (both human and animal) with which they worked.

The second annual retiree weekend will be held May 5-7, 2000, and will include the dedication of a Fallen Comrades Memorial for Service employees who died in the line of duty. More information about the second annual Retiree's Weekend will be forthcoming in *Fish & Wildlife News* and sent to retirees on the mailing list.

Mark Madison, National Conservation Training Center, Shepherdstown, West Virginia

Students and Shad Get Along Swimmingly

Some small fry helped some small fry return to the Potomac, James, Pamunkey and Rappahannock rivers this spring during the annual release of American shad into Chesapeake Bay tributaries.

Through a program now in its fourth year, schools in Maryland, Virginia and the District of Columbia followed a curriculum, written by the Chesapeake Bay Foundation, that turns students into fishery biologists, allowing them to rear shad hatchlings in their classrooms and release them in the springtime. The program is coordinated by the foundation, the Interstate Commission on the Potomac River Basin, the Virginia Department of Game and Inland Fisheries, the Pamunkey Tribal Government and the Service's Virginia Fisheries Coordinator.

The American shad was once among the most plentiful fish in the Chesapeake Bay. By 1984, however, Maryland had to ban shad fishing; Virginia followed nine years later. Overfishing, degradation of habitat and dam construction left shad spawning grounds badly fractured and contributed to the species' decline.

Now, thanks to 826 students and 46 teachers from 27 schools involved in the fry release program, shad have some newfound friends. And the students are more aware of the plight of this once plentiful anadromous fish.

"The children are playing a real role here," said Albert Spells, project leader at the Virginia Fisheries Coordinator/Harrison Lake National Fish Hatchery Complex near Charles City in southeastern Virginia. Harrison Lake supplied 66,000 shad eggs to Virginia schools this year. "If we can stimulate some real interest in just one kid's mind, the resource can benefit from it for a long time," Spells said.



Satisfaction. A cooperative program lets students raise imperiled shad fry and then release their fishy charges into Potomac River tributaries, where a small percentage will return to spawn. Chesapeake Bay Foundation photo: Chris Dollar.

Chesapeake Bay Foundation biologists estimated participants in the 1999 program released 25,650 fry into bay drainage areas. Assuming that one adult shad will return for every 373 fry released, biologists predict that 69 adults should return to the rivers in which they were released.

Jim Cummins, a biologist with the Interstate Commission on the Potomac River Basin, has spent five years working with the shad project. Each spring, he and other volunteers catch shad to retrieve their eggs and milt, mixing them together in river water to fertilize the eggs. Eggs are taken to Harrison Lake NFH, which uses them in cooperative private, state and federal restoration efforts for American shad above Little Falls dam on the Potomac River.

Other batches of eggs are passed along through the Chesapeake Bay Foundation's Schools in Schools program. Select elementary, middle and high school classes raised the eggs in their classrooms, where students learn the importance of river habitat and keeping water clean.

Only a small percentage of eggs—35,000 of 2.9 million collected in 1999—are passed along to schools. Students measured and recorded water quality in the tank, removed dead eggs and recorded the number of eggs removed. When the eggs hatched, students fed the fry, cleaned the rearing tank, removed dead fry and regulated water temperature through the sophisticated use of frozen water in a 2-liter soft drink bottle.

When fry were a few days old, students took a field trip to one of the four Potomac River tributaries to release their fish.

The students released their finny charges this year in the Mather Gorge area, above the Little Falls Dam, which has blocked shad migration since the early 1950s. That dam is scheduled to be refitted with a \$1.5 million passage that will open another 10 miles of shad spawning ground and habitat. The Service, the commission and the Chesapeake Bay Foundation all support this effort. (See related article, page 5)

*Ken Burton, Public Affairs,
Washington, DC*

Clark Honors Heroes of the Refuge System

At a Capitol Hill reception kicking off National Wildlife Refuge Week, October 10-16, Director Jamie Rappaport Clark, Senator Bob Smith of New Hampshire and Representative Ralph Regula of Ohio presented Refuge Hero awards to four people and organizations who have made substantial contributions to the National Wildlife Refuge System.

"Thanks to the tireless efforts of private organizations and citizens, the National Wildlife Refuge System has grown from just one man with one boat guarding one small island in 1903 into a 93-million acre network of lands and waters protected and nurtured as habitat for the nation's fish, wildlife, and plants," Clark said.

Partners have spearheaded many successful efforts to establish and expand national wildlife refuges, and are increasingly involved in all aspects of refuge management. *Fulfilling the Promise*, a long-term road map developed by the Service and its partners to guide the system into the future, encourages this trend and envisions a refuge system that "fosters broad participation in natural resource stewardship."

Rep. Regula congratulated all Service employees who work with the refuge system and exhorted them to "be missionaries and tell the [refuges] story across the land."



Our heroes. Director Clark honored Refuge Heroes during a ceremony on Capitol Hill. Left to right, Liz Maxon of the Conservation Fund, The Nature Conservancy's Mike Dennis, Clark, author Debbie Miller, and Evan Hirsche of the National Audubon Society. FWS photo: Nan Rollison.

1999 Refuge Hero Award recipients were:

■ **Evan Hirsche**, director of the National Audubon Society's Wildlife Refuge Campaign since 1996, who has spearheaded a successful effort to build public understanding and involvement in the management of the refuge system through public service announcements, the "Refuge Keeper" program, and the Cooperative Alliance for Refuge Enhancement, which has worked successfully to increase funding and reduce the backlog of unmet maintenance needs.

Accepting his award, Hirsche said that the most rewarding aspect of the campaign has been "the response we've gotten from refuge professionals in Washington and nationwide."

■ Author and Alaska resident **Debbie Miller**, a champion of conservation for more than 20 years who helped rally conservation groups, students, and individuals to beat back threats to develop the Arctic NWR for its oil and gas reserves. Miller frequently leads tours and gives presentations on the refuge.

Miller thanked Service employees for being stewards of the land.

"I feel grateful that there are people in this room who are stewards," she said. "Without stewardship we have encroachment and we could lose all of these treasures."

■ **The Nature Conservancy**, which has worked for half a century in cooperation with the Service to secure some 886,200 acres valued at more than \$250 million and serves as a key player in educating members of Congress and others about land acquisition funding priorities throughout the nation.

Accepting the award, The Nature Conservancy's Mike Dennis proclaimed: "The partnership between The Nature Conservancy and the Fish & Wildlife Service truly defines partnerships."

■ **The Conservation Fund**, a non-profit conservation organization that works extensively with major corporations to secure donations of valuable habitat. The Fund has donated more than 750,000 acres to the Service, helping to establish or expand some 30 national wildlife refuges. The Fund's Liz Maxon, vice president for development, said, "Our public lands define us as people. And that's an institution our nation needs."

Region 3 RO Employees Greet BIA Colleagues



Warm welcome. *Region 3 RD Bill Hartwig welcomes BIA Area Deputy Director Claricy Smith. FWS photo: Chuck Traxler.*

Staff from the Service's regional office at Fort Snelling, Minnesota, hosted a welcome mixer for employees of the Bureau of Indian Affairs, who recently moved into their new home on the fifth floor of the Bishop Henry Whipple Federal Building just a few doors away from the Service's operations.

More than 100 Service and Bureau employees attended the mixer and listened as Regional Director Bill Hartwig welcomed Bureau Deputy Area Director Claricy Smith to the building. The event gave Service and Bureau employees an opportunity to meet counterparts who perform similar duties and to informally meet other colleagues.

Following lunch, a local Native American dance and drum group, Heart of the Earth, performed a variety of traditional dances.

*John Leonard, External Affairs,
Ft. Snelling, Minnesota*

A Note From The Field



Rare treasure. *Less than 1 percent of unbroken native prairie remains in this country. FWS photo: C. Blacklock*

As project leader for the Northern Tallgrass Prairie and Big Stone national wildlife refuges and Big Stone Wetland Management District in western Minnesota, much of my job entails talking one-on-one with landowners and their families, explaining the programs the Service offers to help protect their prairie. This usually takes place over a cup of coffee at the kitchen table.

One such family is the Ericksons. They own about 400 acres in Lac Qui Parle County where they farm corn and beans and raise hogs, and they also have some 190 acres of unbroken native prairie. Nearly all of the unbroken prairie remaining in Minnesota and Iowa escaped the plow because it was too rocky or too steep—not much use to a corn farmer, but a critical lifeline to a grassland nesting bird.

I visited the Ericksons in September. Cottonwoods and elms, standing like old soldiers, protected the north and west sides of their house, which was old and worn down... but not out. Charles, the seventy-something patriarch, his son Wayne, Wayne's wife Karen and I sat at the table. Coffee was poured. We talked about the prairie in general and how Charles had been haying his own native prairie for the last 57 years, and about how much he and his family have enjoyed it.

I learned that Michaila, Charles' two-year-old granddaughter, is especially fond of "her" prairie and loves to collect bugs and hold snakes she finds there. Michaila also loves to walk barefoot in her prairie and feel the flowers under her toes. Blonde-haired and blue-eyed, Michaila rushed in to hug Charles as he left for an appointment that day.

Fighting the Hands of Time

After coffee I took a walk. The Ericksons' prairie is some of the best remaining in this part of Minnesota. Surrounded by a sea of corn and soybeans, it creates an illusion of being suspended in time. It was a great feeling to walk around a piece of prairie that I know will be protected forever (unlike Michaila, I kept my boots on).

I kicked up a brood of pheasants, walked right on top of a small buck bedded down in a patch of cordgrass, and watched an adult bald eagle fly out of a nearby tree. Not exactly marbled godwits, prairie chickens and bison, but their company was appreciated nonetheless.

Walking in native prairie reminds me of the feeling I got when I stood on the grass at Candlestick Park as a little boy at a Giants game. It's hallowed ground, to be sure. There is not much prairie left—less than one percent remains of what once existed. What once was the largest ecosystem in North America is now our most endangered and fragmented. Many experts believe it is almost functionally extinct.

At the 1998 National Wildlife Refuge System Conference, Lynn Greenwalt exhorted us to "save dirt." That means different things to different people. To some, it may mean saving a wetland, a salt marsh, an old-growth forest, or an endangered or threatened species. To a few, it means more votes or expanding one's power base. To others, saving dirt may mean saving a farm, a ranch, or a chance to hunt and fish.

On my way home that day, it occurred to me that I had met another reason to save dirt. Her name is Michaila, she likes snakes, and she likes to feel the wildflowers between her toes. That's reason enough for me.

*Ron Cole, Big Stone NWR,
Odessa, Minnesota*



Fighting Father Time. *Biologists hope these geotubes will help them to rebuild disappearing marsh on Galveston Island. FWS photo.*

The 1900 hurricane that killed more than 7,000 people in Texas has faded into history, replaced by recent memorable storms such as last summer's Hurricane Floyd. However, the scene of the 1900 disaster—Galveston Island—may itself be fading...into the Gulf of Mexico. Nearly a century after that infamous catastrophe, this strip of land off the Gulf coast is imperiled by another tide of destruction—the ceaseless beating of waves against an already weakened shoreline.

Recently the Service teamed up with other agencies to protect and restore Galveston Island's disappearing wetlands before they become another casualty of time.

Erosion and subsidence—sinking of land resulting from removal of underground water, oil and gas—have severely altered the ecology and the geography of Galveston Island. Photographs show a rapid loss of marsh over just 13 years as the bay crept ominously toward the camera's eye.

"And this is not unique to this site," reported Phil Glass, a Service biologist at the Clear Lake Ecological Services Field Office in Houston. "A tremendous loss of wetlands can be seen all over the bay side of the island."

These tidal marshes are critical to the bay ecosystem for the production of many marine species which sustain the seafood industry and as habitat for species of concern such as the Texas diamondback terrapin, roseate spoonbill and snowy plover. Tidal marshes also help remove pollutants and buffer nutrient levels in bay and coastal waters. The loss of these marshes poses serious long-ranging threats to humans as well as animals and plants.

For years, Glass and other scientists have been studying, documenting and attempting to solve this potentially devastating ecological dilemma through a project at Galveston Island State Park. Glass's project leader, Will Roach, helped conceive the endeavor and assembled funding.

Armed with an immense collection of data and aerial photographs, Glass and his colleagues developed engineering plans and hired a contractor. The goal: to place and fill geotubes—enormous, synthetic tubes anchored by dredged material from the bottom of the bay—and create 200-foot long marsh terraces in open-ended checkerboard patterns. The purpose: to break waves before they hit land so that remaining marshes and shoreline habitats are protected, restoring the marsh to a semblance of what it looked like in the 1970s.

continued on page 22

Fighting the Hands of Time

(continued)

“The tubes are really the keystones to the efforts at each site,” said Glass. “They’re raised above the normal water surface about two feet, which is about as high as winter storm waves get. By calming the wave action, the geotubes allow us to do our work here building up these terraces, and more importantly, they allow the terraces to flourish into marsh.”

A relatively new concept, geotubes are now used more frequently as affordable alternatives to rock levees to protect similar high wave energy areas. Behind the tubes in Galveston Bay, a grid of terraces had been laid out in 200-foot long, 10-foot wide strips and were ready to be planted with grass.

Glass explained what would happen next.

“In about a year, these barren mounds will look like natural marsh,” he said. “These grasses grow like mad if they’re not disturbed and the combination of marshy edge, deep channels, and quiet open water makes great gamefish and waterfowl habitat. We’ll claim success in a couple of years when the local fishermen and the duck hunters are using these terrace fields.”

Southwest Regional Director Nancy Kaufman acknowledged the great value of a project such as this.

“Galveston Island is an incredibly unique place with biological value to a great diversity of species,” she said. “Restoring these marshes is fundamental to preserving the island’s value. I have high hopes for the efforts currently taking place and I am proud of the dedication, commitment, and tenacity that underlies them.”

*Ben Ikenson, External Affairs,
Albuquerque, New Mexico*

Service Encourages Texas Partners

Southwest Deputy Regional Director Geoffrey Haskett lauded cooperative projects such as the Galveston Island restoration at a recent conference and warned of the serious threat of coastal erosion.

“...Thousands of acres of coastal wetlands and shoreline habitats in Texas are disappearing at an astonishing rate,” he told the audience. “Who’s paying the price? Commercially and recreationally important marine species...migratory birds...threatened and endangered species...and, of course, people.”

But he also expressed optimism.

“Coastal erosion is a fact, but we are not defenseless,” he said.

Haskett lauded Texas Parks and Wildlife for marsh restoration efforts on Galveston Island, and he presented 1999 Coastal America Partnership awards to the Texas General Land Office for its role in restoring Shamrock Island.

Similar to those on Galveston Island, wetland restoration efforts on Shamrock Island included placing a 4,000-foot long geotube—a synthetic tube filled with dredged sand—to protect shoreline habitat from the ceaseless eroding action of waves.

The marshes, mangroves and seagrasses on Shamrock Island make it one of the most productive colonial waterbird nesting areas on the Texas coast. It also serves as a resting and feeding ground for the recently delisted American peregrine falcon. Until efforts to protect the island began, erosion has been a serious threat to these vital assets.

Haskett later pledged on behalf of the Service: “We are entirely committed to working with state and local partners on future environmental projects of this type...where habitat can be enhanced or restored, and the health of the resource sustained.”

Ben Ikenson

Outfitters and Guides Develop Safety Class to Prevent Bear Attacks



Extra precautions. *A safety course aims to help people avoid confrontations with grizzlies similar to this one, which lives in Alaska. FWS photo.*

In collaboration with the Wyoming Outfitters and Guides Association and the Professional Guide Institute, the Division of Law Enforcement in Region 6 is providing technical assistance and financial support for an innovative safety class designed and presented by and for outfitters and guides working in grizzly bear country.

During the past year, more than 200 outfitters and guides in Wyoming, Montana, Idaho and Colorado have been trained to safely share the backcountry with bears. Law enforcement agents and bear experts assisting with the class hope it will help minimize bear encounters and potential harm to people enjoying hunting season.

Titled “Safety for People, Safety for Bears: Avoiding and Mitigating Bear Encounters in Grizzly Country,” the course addresses the needs of professional outfitters and guides responsible for the safety of hunters and others they lead into the backcountry. The curriculum includes tips on running a bear-safe camp, as well as bear identification and avoidance techniques. The training certifies and encourages participants to provide instruction to others, including their employees and clients.

The training also includes an unusual outdoor field exercise simulating a bear encounter to provide practice in the proper use of pepper spray to deter an attack. Class sponsors hope to add similar computer-based simulations to the course in the near future.

Based on the investigation of bear attacks since 1992 by Service law enforcement agents, who help teach the course, people encountering grizzlies and defending themselves with firearms suffer injury about 50 percent of the time. During the same period, those defending themselves with pepper spray escaped injury over 90 percent of the time, and the remaining 5 to 10 percent experienced shorter duration attacks and less severe injuries.

Dominic Domenici, senior resident agent for the Service in Wyoming, stressed that pepper spray is not a substitute for other important safety practices and shouldn't be relied upon to stop every bear.

“Seat belts in cars are very effective in preventing injuries, but you should not drive your car into a bridge just because you are wearing a seat belt,” he said. “Pepper spray is the last line of defense.”

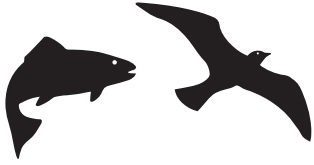
Domenici believes that if people follow safety practices taught in the course, their chances of being attacked by a bear are very slim.

Helping teach the course are staff from the Wyoming Game and Fish Department and the Shoshone National Forest. Seven classes have been held so far this year at various locations during annual and local chapter meetings of outfitter and guide associations for Wyoming, Montana, and Idaho, as well as during an America Outdoors conference in Colorado.

Funding for the course has been provided by the Service, Cody Country Outfitters and Guides, North American Wild Sheep Foundation, Safari Club International, and the National Rifle Association.

Karen Miranda Gleason, External Affairs, Denver, Colorado

Ecosystem Approach Initiatives



Something Fishy at the Wood River Ranch

The pickup truck, faded like a favorite pair of bluejeans, arrived with a bed full of cattails and willows and a billowing plume of peat dust in tow. Four young men, members of the Klamath Tribe, tumbled out of the truck and began planting the tall clumps of wetland grasses across a swath of bare dirt.

The Wood River, which until recently had sprawled lazily across this area like a cat stretching in the sun, now chugged by purposefully, nudged back into its original channel by a burlap covered levee to the east.

“Essentially, we have transformed a massive solar collector back into a river,” said Rich McIntyre with Oregon Trout, pointing to preliminary indications that water temperature had already dropped a few degrees, still two weeks shy of the official completion of the project.

Cooler river temperatures would be a success for a broad coalition of conservation interests working to improve water quality in Agency Lake in the Klamath River Basin in southwestern Oregon. In recent decades, the lake has warmed and produced huge algae blooms as the tributaries and lake were tapped for irrigation, and agriculture and timber harvest intensified in the watershed.

“These problems came to a head when the Service listed the shortnose and Lost River suckers as endangered in 1988, citing water quality and quantity in the watershed as the major causes of their decline,” said Steve A. Lewis, project leader for the Klamath Falls Fish and Wildlife Office. “Both fish are found in Agency Lake, which also supplies water for irrigation.”

An opportunity soon presented itself, when the Wood River Ranch came on the market. A citizen’s advisory council looked at the property, a 3,200 acre cattle ranch on the north shore adjoining an important tributary, and recommended restoring the parcel to its original wetlands state.

“Congress appropriated money for the Bureau of Land Management to purchase the property, but didn’t provide funds for the restoration, so we needed help,” said BLM’s Wedge Watkins, project coordinator at the Wood River site. “Fortunately, a diverse group of partners was each able to see something in it for themselves.”

Partners included Ducks Unlimited, the Oregon departments of Fish and Wildlife and Environmental Quality, the U.S. Department of Transportation, the Jim Root Ranch, the National Fish and Wildlife Foundation, the Klamath Tribes, the Bureau of Reclamation, and the Oregon Wetlands Joint Venture—just to name a few. Several facilities from the Service’s Klamath/Central Pacific Coast Ecosystem Team pitched in, anteing up people power, expertise, and dollars from the Hatfield Program, Partners for Fish and Wildlife program and Jobs-in-the-Woods programs.

Relying on common goals, common sense and some old fashioned horse trading, the partners reflooded thousands of acres of heavily grazed former pasture. The BLM managed a public timber sale for the Service’s Klamath Basin Refuge Complex. The refuges plowed the proceeds back into the restoration effort, reestablishing historic stream meanders throughout the property.

The final phase of the effort, now approaching conclusion, is to reconstruct the banks of the lower reaches of the lower Wood River, which had been dredged and channelized when the levees were built to drain the original wetland between 1950 and 1970.

“Water quality in the lake has already benefitted substantially just by removing the cattle,” Watkins said. “And we have gathered a lot of baseline data to assess the results of our restoration effort.”



Success. Wedge Watkins of the Bureau of Land Management kneels beside freshly planted wetlands vegetation in the restoration site. FWS photo: Eric Eckl.

Although partners have kept one eye focused on endangered suckers in the lake, many other species have benefitted from the project. The numbers of waterfowl using the property have expanded by some twenty-fold. Cleaner, cooler water would also benefit the troubled redband trout, which has been petitioned for listing under the Endangered Species Act.

“The Wood River restoration demonstrated to the ecosystem team that we don’t have to be the lead agency on a project to make real progress towards team goals,” Lewis said. “We hope that completing the Wood River restoration is just the first in a series of successes for this group.”

*Eric Eckl, Public Affairs,
Washington, DC*



Hard at work. Members of the Klamath Tribe unload wetlands vegetation to plant at the restoration site. FWS photo: Eric Eckl.



New life. The Wood River, back in its original channel, flows past the new levee, still covered in burlap to protect seedlings. FWS photo: Eric Eckl.

Exploring Our Past



Another Piece of History Finds its Way Home

*Rachel Carson (1907–1964) was perhaps the Service’s most famous and influential employee. Through her writings—especially the landmark *Silent Spring* (1962)—she sought to teach the world to view all aspects of life on the planet as interconnected. Carson’s wake-up call warned of the dangers the pesticide DDT posed to both birds and humans but the ensuing public debate popularized and energized the American environmental movement.*

Artifacts representing the life and times of Rachel Carson are hard to come by and generally unavailable to the Service because they are held in private collections. However, in early 1999, one of Carson’s belongings came to the Service to be permanently protected at the museum archives of the National Conservation Training Center. Rachel Carson’s magnifying glass has come home to serve as another reminder of the legacy of this heroic woman.

William Dryer, who replaced Carson in the Information office when she left the Service in 1952, found her magnifying glass in Carson’s desk when he took over her office. He used it for many years and has now, in his retirement, passed it on to the Service archives. Service historian Mark Madison plans to display the magnifying glass in the future so that visitors may share a small piece of Rachel Carson’s “sense of wonder.”

It is especially appropriate that this magnifying glass is used to represent Rachel Carson’s legacy. She began working at the Bureau of Fisheries in 1936 as an aquatic biologist, well-trained in the life sciences and possessing a scientific outlook on her environment as well as a talent for writing clear, beautiful prose—magnifying scientific concepts for all to understand. Through her work with the Service, Carson stayed informed of scientific advances such as the work done by researchers at Patuxent Wildlife Research Center on the dangers of pesticides.

Already possessed of excellent scientific credentials, Carson honed her writing skills as editor-in-chief for the Service between 1949 and 1952. Through publications such as the “Conservation In Action” series, brochures about wildlife conservation on national wildlife refuges, Carson evoked for the general public both the science and ethics of conservation. When it came to explaining the intricate food chains involved in the nation’s pesticide disaster, Carson possessed an impressive ability to describe a complex scientific issue in simple language.



Artifact. Rachel Carson’s magnifying glass will be on display at NCTC once archivists finish restoring it. FWS photo.

Much of her work for the Service had prepared her for the unique outlook on nature she described in *Silent Spring*. Her magnifying glass reminds us how her personal and professional background profoundly influenced her perspective on the environment.

As the home of Service employees both past and present, NCTC is dedicated to remembering Carson’s legacy. The Rachel Carson Lodge houses contemporary students of the environment, while a conference on Rachel Carson’s legacy is scheduled for the summer of 2001—the eve of *Silent Spring*’s 40th anniversary.

Jeanne M. Harold and Mark Madison, National Conservation Training Center, Shepherdstown, West Virginia

Fish & Wildlife Honors...

Refuge Employees Win Renewable Energy Award

Perseverance earned two Service employees a 1999 Federal Energy and Water Management Award from the Department of Energy. Doug Roster, manager of Willapa NWR in Washington, and Joelle Buffa, manager of Farallon NWR near San Francisco, won the renewable energy award for installation of a solar voltaic power system at the Farallon Islands. Farallon NWR, located in the Pacific Ocean about 25 miles west of California's Golden Gate, is a remote, environmentally fragile area that is home to 250,000 nesting seabirds and five breeding species of marine mammals.

Good as Gold

Service contaminants biologist Pedro Ramirez and Service Special Agent Gary Mowad were awarded the Gold Medal for Environmental Achievement by the Environmental Protection Agency. Ramirez and Mowad are the first non-EPA recipients of the medal, which is the agency's highest environmental award. The two were part of a joint Service/EPA team tackling the issue of eagles, hawks, owls and other birds trapped in oil pits. Mowad and Ramirez, along with fellow members of the multi-agency Problem Oil Pits team, were honored at an April ceremony.

Litchfield WMD Staffer Cited

Refuge operations specialist Craig Lee of Litchfield Wetland Management District in Litchfield, Minnesota, recently received a Department of the Interior Exemplary Act Award for his role in assisting a local burn victim. Last April, Lee was on duty when he saw an elderly man engulfed in flames as the result of an uncontrolled brush fire. Lee rushed to the victim's aid, and extinguished his burning clothing, then directed the victim's wife to call 911 for medical assistance and proceeded to extinguish the remaining wildfire. Lee assisted the emergency response team, who transported the victim to a hospital. Unfortunately, the victim died from his injuries the following day.

Prime Hook Refuge Manager Honored

The Friends group at Prime Hook NWR near Milton, Delaware, honored George F. O'Shea in August for 30 years of service to the Service. O'Shea is assistant refuge manager of Prime Hook, and has spent the last 21 years at the refuge. According to the Friends group, one of O'Shea's major contributions has been his management of the water control structures and levees designed to control water levels and to prevent salt encroachment into the refuge's freshwater wetlands. With O'Shea's support, 47 refuge volunteers provided the manual labor to finish the interior of the refuge's new office/visitor center. About 75,000 people visit the refuge annually.

ARD Receives Meritorious Service Award

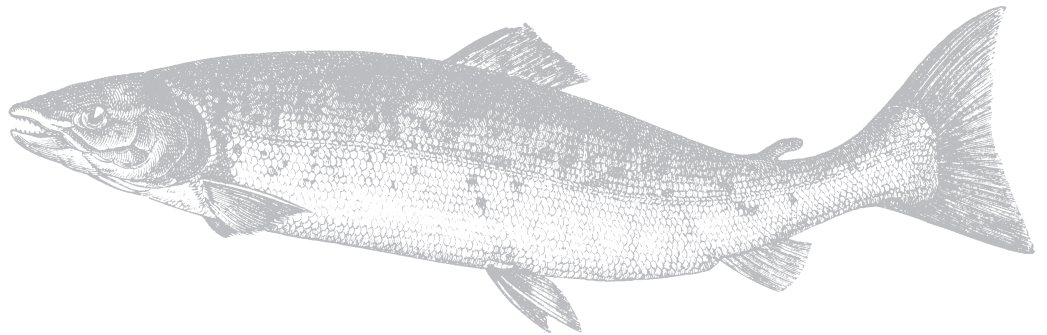
Region 7 ARD for Fisheries and Ecological Service E. LaVerne Smith received the Department of the Interior's Meritorious Service Award last month. Smith came to Region 7 in April after working in Washington as chief of the Division of Endangered Species. This award is granted to career employees of the Department of the Interior for important contributions to science, superior skills and ability, superior record of administration, superior contributions in areas such as diversity and equal opportunity, energy conservation or other areas of public service.

Fefer Named 1999 Recipient of Chuck Yeager Award

Stewart Fefer, the Service's project leader for the Gulf of Maine Coastal Program, has been named the 1999 recipient of the Chuck Yeager Award—a prestigious award presented annually by the National Fish and Wildlife Foundation to recognize individuals for superior on-the-ground resource conservation achievements. The award is named for American test pilot Chuck Yeager whose career epitomizes scientific and technical achievement. A \$20,000 grant accompanying the award will be directed to conservation projects of Fefer's choice.

SalmonFest Hooks Award

The Wenatchee River Salmon Festival of Leavenworth, Washington, was recently honored as Best Environment Program by the International Festivals and Events Association. Held each September, the festival is sponsored by Leavenworth NFH and Wenatchee National Forest and features family activities such as Native American storytelling and cultural performances, a birds of prey presentation, and a giant salmon maze. The IFEA Pinnacle Awards contest, a professional competition among many of the world's top festivals and special events, drew nearly 1,400 entries this year.



Transitions... Who's Coming and Going

Willard B. Hesselbart, refuge manager at Nisqually NWR, retired in July. His career spanned 34 years in the National Wildlife Refuge System, and he served as the manager at Nisqually for 23 years.

Paul Benvenuti retired in August after 32 years with the Service. He worked in the Region 1 Division of Recovery for the last 3 years of his career and spent a total of 32 years with the Service in three different regions.

Former California Condor Recovery Coordinator **Robert Mesta** moved from the Ventura, California, field office to the Service's Tucson, Arizona, field office, where he will serve as the Sonoran Desert Venture Coordinator.

Edward Merritt is the new manager of the Tetlin NWR in eastern interior Alaska. Formerly the manager at Innoko NWR, Merritt has been with the Service for almost 20 years, working on refuges in Michigan, Colorado and Montana.

In Region 1, several refuge managers will soon retire, including **Dave Goeke** of Hanford NWR Complex in Washington; **Gary Zahm** of San Luis NWR Complex in Los Banos, California; and **Clark Bloom** of Sonny Bono Salton Sea NWR in Calipatria, California.

Fourteen-year Service veteran **Joe McKeon** will be project leader for the new Central New England Fishery Resources Complex at Nashua, New Hampshire. He will oversee management of four separate fishery offices—Central New England Fishery Resources Office, Laconia Office of Fishery Assistance, Nashua NFH and North Attleboro (Massachusetts) NFH. McKeon has been project leader/fishery biologist at Laconia since 1989.

After 29 years of federal service, Region 1 Fire Management Coordinator **Dennis Macomber** retired on October 1. He has worked at Charles M. Russell-Ft. Peck and Charles M. Russell-Lewiston NWR, and he served as Regional Fire Management Coordinator for nine years.

Elizabeth Souheaver, manager at Chasshowitzka NWR in Florida, takes the helm of the Division of Refuges' Wildlife Resources Branch in November. She began her Service career in 1978 as a Youth Conservation Corps enrollee and has held posts at Mississippi Sandhill Crane, Crystal River, Merritt Island, St. Marks, Mackay Island, Delta, Bayou Sauvage and Eufaula refuges.

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Fish & Wildlife... In Brief

Shifting Jewel in the Refuge System Crown
Prime Hook NWR, near Milton, Delaware, will be established as a separate refuge later this year. Prime Hook has been a satellite of Bombay Hook NWR, about 50 miles to its north, since it was established in the early 1960s. A combination office/visitor center was built and dedicated in 1997 and the acreage of the refuge has grown. Water control structures and levees developed in the 1980s enabled refuge staff to control water levels, reclaim thousands of acres of marsh once dominated by Phragmites or common reed, and attract large populations of migratory waterfowl, shorebirds and wading birds. Prime Hook is managed to provide a variety of habitats, primarily for migratory birds.

Record Land Acquisition at Izembek NWR
In the largest conservation gift ever made in Alaska, The Conservation Fund in August donated 8,496 acres of land to the Service for addition to the Izembek NWR. Made possible by a gift from the Richard and Rhoda Goldman Fund, the donated lands encompass Morzhovoi Bay, rounding out the western boundary of the refuge. The lagoons, bays and marshes of Izembek, recognized as wetlands of international importance, play a critical role in maintaining healthy populations of several species of waterfowl. The Richard and Rhoda Goldman Fund was assisted in the transaction by The Conservation Fund, a national non-profit conservation organization. The Nature Conservancy of Alaska and the Alaska office of the National Audubon Society were partners in the project.

Babbitt Unveils Pioneering HCP for Butterfly

The endangered Karner blue butterfly, a beautiful but fragile insect whose survival depends on patches of wild blue lupine, will be protected by the first-ever statewide conservation agreement under the Endangered Species Act, Interior Secretary Bruce Babbitt announced in September. The landmark habitat conservation plan will protect butterfly habitat on more than 260,000 acres in Wisconsin while permitting landowners, businesses and governments to continue a variety of activities. Currently, more than 250 habitat conservation plans are in effect nationwide and more than 200 are under development. The Wisconsin Department of Natural Resources and the Service developed the Karner blue butterfly HCP in conjunction with private and public partners, including county and industrial forest owners, utility companies, state agencies, conservation organizations, and private landowners.

Service to Name Refuge in Honor of Late Senator Chafee

The Service mourned the loss of conservation hero Senator John H. Chafee on October 24, and a national wildlife refuge will be named in his honor. Senator Chafee, a Republican, served more than 20 years in Congress representing Rhode Island. He was Chairman of the Senate Environment and Public Works Committee since 1995 and served on the committee since 1976. He influenced an entire generation of laws and policies related to the environment and natural resources. Among his many accomplishments were the passage of the Atlantic Striped Bass Conservation Act of 1984, credited with restoring a valuable fishery along the Atlantic coast and in the Gulf of Mexico; the Clean Air Act of 1990, which strengthened pollution emissions standards; and the National Wildlife Refuge System Improvement Act of 1997, which put wildlife conservation first on refuges. Senator Chafee played an instrumental role in the establishment of the Pettaquamscutt, Truston Pond and Block Island national wildlife refuges. Recently, Congress renamed the Pettaquamscutt Cove refuge for Senator Chafee with the support of the Service in recognition of his contributions. An official dedication ceremony is planned for this spring; the new name of the refuge will be John H. Chafee NWR.

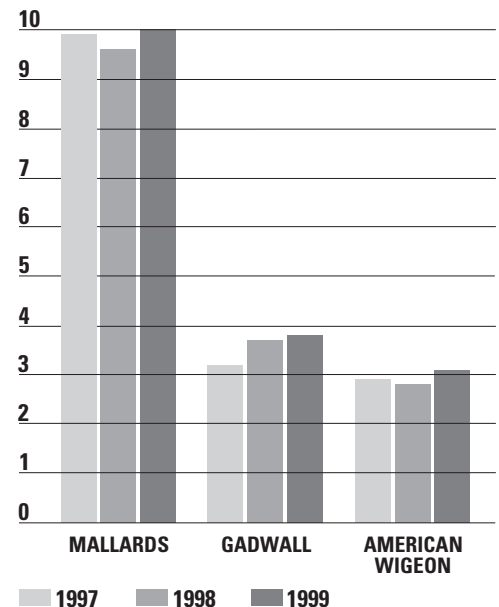
Corrections

The cover photo of the September/October issue showed swans at Benton Lake NWR, not Bottom Lake.

The chart on page 24 of the September/October issue was incorrect. A corrected chart appears below.

The News regrets the errors.

Breeding Population Estimates in Traditional Survey Area



Note: All populations in millions

On the Shoulders of Greatness

This New Year's Eve is special. It is extraordinary because it marks the turn of the millennium, an event of a lifetime that only a few generations will ever experience. In that sense, we are fortunate to be of this time. At the Service, that is true in more ways than one.

Right now the stars are aligned in our favor. Secretary Bruce Babbitt and Assistant Secretary Don Barry—both true friends of the Service—hold key leadership positions in a supportive administration. Whereas the coming of a new millennium offers us a symbolic time to strengthen our resolve for the future, the presence of such high-level support makes this an ideal time for us, as the Fish & Wildlife Service professionals of today, to make a lasting contribution to the annals of wildlife conservation.

Throughout history, the Fish & Wildlife Service has been at the forefront of species conservation. During the Dust Bowl years, our predecessors reversed the downward spiral of waterfowl populations, a feat that today allows us to enjoy the most plentiful flocks in nearly a century. Those who came before us have bequeathed to us the most successful user-pay programs in government history: our Federal Aid and Duck Stamp programs. Yesteryear's stewards of the National Wildlife Refuge System have handed us the premier network of lands dedicated to everything natural, wild and free. And the foresight of our forefathers has provided us with one of the most progressive laws ever passed—the Endangered Species Act—which has kept more than a thousand species from vanishing and has led to the full recovery of the Eastern brown pelican, the American alligator and the peregrine falcon.

Together these and many other great feats throughout our shining history have prepared us for the opportunities of the present. Sir Isaac Newton, one of the great scientists of all time, once humbly remarked, "If I have seen further it is by standing on the shoulders of giants." Likewise, as we enter a new millennium, all of us at the Service are poised on the shoulders of greatness.

We have made tremendous progress with respect to the four priorities I laid out last year: strengthening the National Wildlife Refuge System; moving toward an ecosystem approach; raising migratory bird conservation to the next level; and leading the charge against invasive species. Our accomplishments are too many to list in this short column (though you will find them in my second year report, now being printed).

I am grateful for the hard work of each and every employee. Now we must summon all of our energies and like a long distance runner, we need to sprint to the end. Those who came before us—Aldo Leopold, "Ding" Darling and Rachel Carson, to name a few—have left us a proud heritage. It is now up to us to dive into our work and help write what history will say about us.



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