



Fish & Wildlife *News*



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(Above): A silvery blue butterfly feeds on a milk vetch plant in South Dakota in the heart of the Dakota Grassland Conservation Area.

On the cover: The morning mist on the water adds to the tranquil view near the National Elk Refuge's historic Miller Ranch.

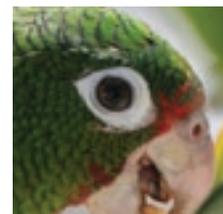
BJ BAKER, NATIONAL ELK REFUGE VOLUNTEER / USFWS



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Translocation of Columbian white-tailed deer

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A science—and art—to saving parrots

by SUSAN MORSE



Transitioning to Headquarters

Last fall, Service Director Dan Ashe asked me to serve as the Service's Deputy Director for Policy in Washington, DC.

I was the Regional Director of our Mountain-Prairie Region, a position I had held for five years. If we accepted this assignment, my wife and I knew we would have to pack up and move our family and numerous pets across the country. We also decided we would have our kids finish out the school year and their various activities out in Colorado and move during the summer of 2013.

I loved my job in Denver. Leading the Mountain Prairie Region gave me a chance to wade right into some of our thorniest conservation issues. The region saw how a changing climate could affect wildlife with the wolverine and the pika. We worked with some very talented people on the recovery of the gray wolf in the Northern Rocky Mountains and the continuing efforts for the black-footed ferret, grizzly bear, greater sage-grouse and other species. We witnessed firsthand the damage wildfires and invasive species do. We were also forging working landscape partnerships to protect large landscapes in areas like Montana's Crown of the Continent, the Dakota Grasslands, the Flint Hills in Kansas and the Sangre de Cristo in Colorado.

In the end, though, it was an opportunity I couldn't pass up for myself and for my family. As Deputy Director, I'd have the chance to work on these kinds of conservation issues but at a national level. We would also have the chance to reconnect with both of our families on the East Coast.

I have been able to roll up my sleeves and really get to work on some conservation priorities with our talented team here in Headquarters, in the regions and in the field. I get to fill in for Director Ashe at numerous events, and I have testified on the Service views on various issues before the U.S. Congress on a half dozen occasions including reauthorization of the Sikes Act, the North American Wetlands Conservation Act and the Lacey Act. I'm also working on several Department-wide initiatives as all the agencies prioritize mission responsibilities and align our resources around them all in the context of the uncertain budget situation.

“We are all working together to identify Service priorities and ensure everyone on the team has the resources you need to accomplish these priorities.”

We are all working together to identify Service priorities and ensure everyone on the team has the resources you need to accomplish these priorities. I have been able to take advantage of opportunities to visit the Southwest, Midwest, Northeast and Mountain-Prairie regions for various events. I look forward to meeting you all and to working with you in the years to come. Thanks for all you do.

Steve Guertin is the Service's Deputy Director for Policy.

A New Biological Management Option against Cheatgrass Raises Hope of Western Land Managers

A strain of naturally occurring soil bacteria tested on national wildlife refuges and other Western lands may soon offer rangeland managers a safe new way to manage cheatgrass, an aggressive plant pest.

Cheatgrass is a Eurasian invasive plant found in the United States, Canada and Mexico. It covers hundreds of thousands of square miles, including the fragile sagebrush steppe habitat that is the home of the increasingly rare greater sage-grouse. In the Great Basin states of Nevada, Utah, Oregon and California, cheatgrass is spreading at the rate of thousands of acres per day, endangering many more animal species and habitats. Wherever cheatgrass grows, unwanted wildfires burn hotter, more frequently and disrupt ecosystems.

The native bacterium doesn't have a catchy name; researchers refer to it simply as ACK55. But many hopes are riding on this strain of *Pseudomonas fluorescens*.

"I'm convinced it will work as long as the bacteria are applied in the fall to the soil so they can colonize emerging cheatgrass roots in the spring," says Michael Gregg, a Land Management Research and Demonstration biologist at the Mid-Columbia River Refuges Complex in Washington state. Like a sports agent, the Service scientist is working to convince others that ACK55 belongs in the big leagues of land management. The message is getting through.

In addition to the Service, government agencies expressing interest in the natural cheatgrass inhibitor include the National Park Service, Bureau of Indian Affairs, Bureau of Land Management and the U.S. Forest Service.

"A biopesticide is much more cost-effective than an herbicide and less damaging to the environment and human health," says Hilda Diaz-Soltero, senior invasive species coordinator for the U.S. Department of Agriculture. She hopes the inter-agency interest will speed further research designed to lead to the product's approval as a commercial biopesticide.

Early test results have been impressive. In long-term field trials at Hanford Reach National Monument/ Saddle Mountain National Wildlife Refuge in Washington, single applications of ACK55 dramatically reduced cheatgrass in three to five years, while not hurting other plants or animals. Another field trial is in progress at Deer Flat National Wildlife Refuge in Idaho. In December 2012, the Service committed \$200,000 to scale up ACK55 tests to meet Environmental Protection Agency biopesticide registration requirements.

ACK55 is not the only new cheatgrass management tool being studied. "There is a fungus, colorfully named Black Fingers of Death, that is being tested by other researchers," says Fred Wetzel, National Wildland Fire

and Emergency Response adviser and ACK55's project leader for the Service. In contrast to other controls, Wetzel likens ACK55 to using laser surgery to target and suppress the plant's developing root cells. "This cheats the plant out of everything it needs to grow and reproduce," he says.

Many land managers recognize that control of this invasive grass will require more than one management method.

The scientist who discovered ACK55 and devised a method to apply it is Ann C. Kennedy, a soil microbiologist with USDA's Agricultural Research Service. Kennedy stresses ACK55's safety. She says the native soil bacteria inhibit just three grass species: cheatgrass, medusa head and jointed goat grass. All are invasive species of the sage



Cheatgrass helped fuel the Constantia Fire in Long Valley, California, in July 2010.

NOLAN E. PREECE

steppe habitat. Wheat, native bunch grasses and broadleaf plants are unaffected. Another advantage of ACK55 is that applied bacteria don't survive in the soil indefinitely; after three to five years, soil bacteria numbers return to pre-treatment levels.

By applying ACK55 in the fall, scientists aim to give the cold-loving native bacteria time to colonize the soil before the spring growing season. "One of the issues with cheatgrass is it greens up early in spring, so it gets a head start on other plants and outcompetes them," says Gregg. "What we're trying to do is remove that competitive edge so native plants can survive."

Working with the EPA, the Service and a team of resource scientists are moving toward federal registration of ACK55 as a biopesticide. Only then can a patented treatment be licensed for commercial sale and distribution. Diaz-Soltero sees licensing as five or more years off. "The registration process is long and it's science," she says. "We have to do the work systematically and thoroughly, dealing with challenges and questions as they arise."

Biologists and land managers are anxious to keep this process moving.

"We don't have time to waste," says Wetzel. □

SUSAN MORSE, National Wildlife Refuge System, Headquarters

MICHAEL WOODBRIDGE/USFWS



Review Finds Lead Exposure Biggest Threat to California Condors

Back in 1975, Service Director Lynn Greenwalt signed the first recovery plan authorized under the newly enacted Endangered Species Act. That plan addressed the rapidly declining population of California condors, about 60 in number at that time.

In June, Pacific Southwest Regional Director Ren Lohofener signed the first five-year status review for condors. In the intervening years, the population of condors declined to 22 birds in the wild in 1982 and was extirpated from the wild in 1987. Bred in captivity, condors were reintroduced into the wild in 1992.

There are now 235 California condors flying freely in the wild with a total population of more than 400. Four captive-breeding facilities propagate condors, which are released at five sites from central California down to Baja California and east to the Vermilion Cliffs in northern Arizona. Most significantly, there are now 35 wild-fledged chicks that are the products of natural reproduction in the wild or were captive-bred eggs substituted for unsuccessful wild eggs just before hatching.

The heart of the five-year review considers 13 threats to the condors, including climate

change, lead poisoning, the residual effects of DDT exposure, disease, habitat loss and habituation.

Lead exposure from the consumption of carrion containing lead fragments from spent shot or ammunition is the biggest cause of death in the population—twice as big as the next biggest cause of mortality, predation. »

A pair of California condors perch outside their nest cave on the side of a cliff near Hopper Mountain National Wildlife Refuge in California.

It's also the largest impediment to condor recovery. One of the criteria defining "recovery" is a self-sustaining population. The population of condors is not self-sustaining as long as lead continues to be the factor that it is today.

The effort to recover the California condor is not hopeless. The birds have overcome huge obstacles before.

If lead mortality were eliminated as a factor, the population would increase without the existing captive-breeding programs. But if captive breeding and releases as well as testing and treatment for lead poisoning ended, the condor population would decline precipitously. Estimates suggest it could result in a return in the wild to 22 birds in as few as 11 years.

Every year and sometimes more often, each wild condor is captured and tested for blood lead levels, inoculated for West Nile Virus, evaluated for physical health and re-released into the wild. Depending on the population of birds and the time of year, about 35 percent of the birds tested historically have blood lead levels greater than background exposure, and about 20 percent require hospitalization and treatment. Without these

extraordinary measures, even greater mortality in the population could be expected.

The effort to recover the California condor is not hopeless. The birds have overcome huge obstacles before. In the first years of the release program (1992–1994) four of the eight birds released died from interaction with power poles and lines—either electrocution or impact trauma. Following evaluation of condor behavior, biologists created a power pole aversion training program to dissuade captive-reared birds from using power poles as roosts. The last condor death from power poles or lines occurred in 2007.

Similarly, adult condors were found to be feeding their chicks micro-trash—little bits of glass, plastic and metal. Eight chicks in one population died over the course of several years from ingesting micro-trash. As a result, a "nest guarding" project was developed that consists of biologists checking each chick's gut for micro-trash, cleaning nests and using volunteers to monitor nests and clean up areas where trash collects along roadways and picnic areas in the range of condors. Some injury from micro-trash in young birds still occurs, but none has died as a result of micro-trash since 2009.

States are taking two approaches to lead poisoning, both of which tend to reduce the amount of lead introduced into the environment.

Arizona developed an aggressive voluntary program to urge hunters and shooters to use non-toxic ammunition when

hunting animals in the condor range. Measures include hunter outreach, coupon redemption programs to provide non-toxic ammunition and a "gutpile" raffle for turning in lead shot offal. As the Arizona condor population expanded into southern Utah, that state also developed outreach and coupon programs, based in part on a grant provided by the Service.

In 2007, the California legislature passed the Ridley-Tree Condor Protection Act, which prohibits the use of lead ammunition for big game hunting in the range of condors as defined in the act. Legislation is currently being considered to expand that prohibition statewide.

The five-year review of the California condor recommends the establishment of a contaminants work group as part of the recovery program to advise the Service about how to reduce the harm done by lead in the environment. The report also encourages additional work with the states and federal agencies to educate shooting sports enthusiasts and hunters concerning the effects of ingested lead ammunition.

There is a light at the end of the 35-year recovery effort for California condors. By addressing the primary cause of adult mortality—ingested spent lead ammunition—a future with a downlisted and perhaps even recovered California condor is possible. □

JOHN MCCAMMAN, California Condor Recovery Coordinator, Pacific Southwest Region

In Dogged Pursuit of Justice for Wildlife

The ivory trade stinks! Not just metaphorically, as it certainly does, with the foul stench of death, corruption and the tragic decimation of one of our planet's most magnificent animals, but literally, with a scent all its own. At least it does to a dog, whose olfactory capacity outstrips ours by a factor of up to 100 million and who can detect carved, polished ivory wrapped and sealed in plastic. The Service is harnessing that astounding canine ability to help save African elephants—as well as rhinos, sea turtles and other endangered species—from the poaching crisis that is threatening to wipe the last remaining few from the face of the Earth.

Dogs have long demonstrated their effectiveness in law enforcement, helping track down everything from escaped felons and missing persons to contraband drugs and explosives (been to a major international airport recently? Stand around long enough and you're bound to see a dog or two nosing around the feet of weary travelers).

Since the mid-1990s, the Service too has employed dogs for a variety of research and law enforcement activities, using their olfactory prowess to sniff out wild animals from bats to bears, invasive plants and fungi that can devastate native wildlife habitat, missing persons, and illegal hunters and poachers. Just this spring, the Service reported on Federal Wildlife Canine Rudi <1.usa.gov/XREE4h>, whose keen nose helped Refuge Officer



USFWS

Darryn Witt catch a group of hunters on Illinois' Upper Mississippi National Wildlife Refuge who had exceeded their legal limit of ducks. The hunters had stashed the birds in the woods, thinking they would be safely hidden.

This year, the Service expanded its use of dogs to include four new recruits specially trained to search for illegal shipments of ivory, rhino horn and other poaching spoils commonly smuggled to or through major ports of entry throughout United States. Viper, Butter, Lancer and Locket have their noses to the grindstone (or more accurately, the conveyer belt) in Chicago, Louisville, Atlanta and Los Angeles, checking package after package without the need to open them, at a rate many times that of a human inspector alone.

"On an average day, I... can physically inspect — if I'm pushing myself hard — anywhere from 70 to 100 packages," says Denise Larison, wildlife inspector and newly trained handler of detector dog Butter. "The dogs can do 70 to 100 packages in a matter of minutes."

"I'm so excited about it. I know what a great program the dogs are," she goes on to say. "I know what a great tool they are, and I know how effective they can be."

Rudi's nose helped his Service partner find this stash of ducks.

To the dogs, it's a game—find a package or container with the "right" scent and get a treat—but to the Service, it's serious business, and the consequences of failure hardly bear contemplating; and not just for endangered wildlife. More and more, wildlife smuggling is the purview of criminal cartels with ties to the drug trade and even global terrorism. It impacts us all.

But already, the program is reaping rewards. All four detector dogs have uncovered illegal wildlife shipments, proving their value in saving elephants and rhinos, and making them wildlife's—as well as man's—best friend. □

GAVIN SHIRE, External Affairs, Headquarters

? MORE INFORMATION

Wildlife Detector Dog Program, visit <1.usa.gov/14wSr48>

National Wildlife Refuge Law Enforcement Canine Program, visit <1.usa.gov/15JsMVh>

Building on 15 Years of Mexican Wolf Recovery

On March 29, 1998, the Service released 11 Mexican wolves into the wilds of the Blue Range Wolf Recovery Area of east central Arizona and west central New Mexico. These captive-born and -reared wolves are descendants of the last-known Mexican wolves and are the vanguard of the now-growing population of at least 75 Mexican wolves living and breeding in the wild.

Recovery of this unique member of the gray wolf family, protected under the Endangered Species Act since 1976, began in earnest in 1977 when the Service, under an agreement with Mexico, contracted a trapper to go down to Mexico and bring back the last handful of Mexican wolves known to be living in the wild. These were joined by a few that were being held in captivity in wildlife facilities to form the seven founders of today's wild population. In addition to those living in the wild, there are now approximately 270 Mexican

wolves in the captive-breeding program, also descendants of the seven.

Mexican wolves, now one of the rarest mammals in the world, once lived and roamed the Southwest and much of Mexico. As European settlers moved west with livestock and domestic animals, an aggressive extermination campaign just about eliminated the Mexican wolf from the United States and Mexico by the 1970s.

Between 1977 and 1982 the United States and Mexico established a binational captive-breeding program, a last-ditch effort to save the species from extinction and to provide animals for future reintroduction to the wild. In 1982, the Service approved the Mexican Gray Wolf Recovery Plan. »

Mexican wolves were first released back into the wild in 1998, but the recovery effort began more than 20 years earlier.



JIM CLARK/USFWS

Because of the perilous status of the Mexican wolf at the time and uncertainty if captive-reared wolves could successfully be returned to the wild, the recovery plan stated that removal from the Endangered Species list may never be possible. The plan, therefore, did not provide a definitive recovery goal but instead provided an interim objective to establish a viable, self-sustaining wild population of at least 100 Mexican wolves. With substantial opportunities for public input, the Service subsequently published the *Establishment of a Nonessential Experimental Population of the Mexican Gray Wolf in Arizona and New Mexico* on January 12, 1998.

The non-essential experimental population designation for Mexican wolves provides greater management flexibility to address conflict situations, such as livestock depredation or nuisance behavior. The rule also provides regulations for how the reintroduced population will be managed, spells out public rights with respect to human safety and protection of property from Mexican wolves on private, tribal and public lands, and identifies the Mexican Wolf Experimental Population Area.

Then, on a chilly March day in 1998 the Service released the first 11 Mexican wolves into the wild.

Wendy Brown, then the Mexican Wolf Field Projects coordinator, and now the Endangered Species Recovery coordinator for the Southwest Region, was present on that March day and has been working on Mexican wolves for years. "As we watched these wolves run into the forest for the first time in decades, we silently cheered, hoping that they would become the genesis of a new population of Mexican wolves, returning to the lands they once called home. While these past 15 years have at times been challenging, we are confident that Mexican wolves can live wild on the landscape once again, their howls echoing from ridge to valley and beyond."

Update: On June 13, the Service published a proposed rule to reclassify the Mexican wolf as an endangered subspecies of the gray wolf and a proposed rule to revise the Experimental Population Area. The proposed revisions would modify the geographic boundaries established for the Mexican wolf reintroduction in the 1998 final rule and modify the management regulations that govern the release, translocation, natural dispersal and take of Mexican wolves. These proposed revisions would help the Service achieve the necessary population growth that would ensure the resiliency and genetic health of the experimental population. □

TOM BUCKLEY, External Affairs, Southwest Region

Conservation in Another Language

A year ago, Jason Holm opened an email that was like so many he'd seen in his long public affairs career: A national wildlife refuge manager was sharing a television news piece on the refuge's bird festival.

But this time, Holm couldn't understand what was said. The reporter, from the Spanish language network Univision, was interviewing a Spanish-speaking volunteer at the Tualatin River National Wildlife Refuge, an urban refuge in Portland, Oregon.

“We spend a lot of time talking about relevance, and struggling to reach people, and here's this entire untapped audience.”

“We realized there is this whole other conversation going on that we weren't involved in,” said Holm, the Assistant Regional Director for External Affairs in the Service's Pacific Region. “We spend a lot of time talking about relevance, and struggling to reach people, and here's this entire untapped audience. All we had to do is let them know we are here.”

A growing number of U.S. residents speak Spanish or Spanish Creole at home. According to a U.S. Census report, the number tripled from 1980 to 2007, to an estimated 34.5 million people, or 12 percent of the population. In the Pacific

Northwest, the percentage of Spanish speakers is about 7 to 9 percent. Many of them also speak fluent English.

Holm and his deputy, Miel Corbett, began piecing together a Spanish language communications strategy. It started with hiring an intern to translate some of the Region's stories, and create a Spanish version of the website. Holm also sought out Spanish-speaking Service employees to help with the effort and found them hungry for the opportunity.

In the year since, the Pacific Region's social media audience has grown from about 1,200 Facebook fans to 7,750—more than any other Region in the Service. Many of those newcomers now receiving Facebook feeds about the Service's conservation work in Hawaii, Idaho Oregon and Washington live in Mexico, South American countries, Spain and Portugal.

Holm said engaging audiences in faraway places makes a difference at home. “Worldwide conservation is good for U.S. conservation,” he said. “Conservation cannot be successful in a vacuum when you have wildlife and trust species that cross borders. Migratory birds know no boundaries.”

Holm also challenged his External Affairs staff to learn Spanish or another language commonly spoken in the Pacific Northwest and offered them Rosetta Stone courses. All five public affairs officers are taking advantage of the opportunity. For his part, Holm is learning Japanese.



Leah Olivares eyes an American kestrel at the Tualatin River Bird Festival in May.

The third piece of the strategy was partnering with Univision and Mundo Fox. For a “modest investment,” Holm said, the cable channels are producing and running public service announcements on its Portland station. One is a general introduction to the work of the Service; another one shows off the Tualatin refuge; and the last is on the annual bird festival held at the refuge in May.

The partnership also resulted in a one-on-one interview with the Service’s Science Advisor to the Director, Gabriela Chavarria, which aired on the local Univision station in Portland. It’s a good bet a lot of people were watching when Chavarria talked about the Service’s conservation mission: In the latest Nielsen TV ratings, Univision was the fourth most-watched network, ahead of CBS.

Robyn Thorson, the Service’s Regional Director of the Pacific Region, said “in addition to translating our website materials into Spanish, the partnership with these cable channels has the enormous benefit of helping us better reach the Spanish language constituency that we

hope to bring to our national wildlife refuges and conservation interests.”

Anecdotal evidence indicates the effort is making a difference. At this year’s bird festival on the Tualatin River National Wildlife Refuge, Corbett, who was born in Mexico, spoke with a family who had seen the PSA on Univision and decided to visit the refuge for the first time, despite years of living nearby.

David Smith, Univision’s station manager in Portland, gave a diversity presentation to the Service’s Regional Office and discussed the advantages of reaching out to Spanish-speaking audiences. He said the network is “providing new ideas for family entertainment and healthy activities, and providing learning opportunities for both kids and adults. We are developing a greater awareness and appreciation among Latinos for the natural resources in our region, and what it takes to be successful stewards of those resources in the years to come.”

Holm said not making the effort to communicate with such a significant audience would mean not doing his job.

“In public affairs, we give the American public the information they need to make appropriate decisions. We can’t do that and fail to talk to a significant part of the population,” he said. “Conservation is multi-lingual.” □

STACY SHELTON, Public Affairs, Pacific Region (on detail)

Baseball’s Tigers Star in Public Service Announcements Promoting Wildlife Conservation

The Detroit Tigers baseball team is taking a leading role in helping its namesake, and a Service team from International Affairs visited Detroit’s Comerica Park in June to film a series of public service announcements (PSAs) starring Tigers pitcher Max Scherzer, Tigers CEO and President David Dombrowski and his wife, Karie Ross.



The series of PSAs are designed to inform the public about the Pennies for Paws bank and the Save Vanishing Species Tiger stamp, both of which benefit the Wildlife Without Borders Multinational Species Conservation Funds.

The first series of PSAs was filmed for the Pennies for Paws bank located at Gate A, right in front of the main entrance to Comerica Park. The bank, created by Ross, is a large tiger designed to collect contributions to help wildlife conservation. Tigers fans are urged to donate to help save the wild animals that give the team its name. The contributions are sent to the Service’s »

Making Its Way



A baby Sonoran Desert tortoise passes through a prickly pear cactus.

USFWS

Wildlife Without Borders program. Last year the program received more than \$26,600 from the Tigers.

The second series of PSAs builds awareness for the Tiger Stamp. This is a special first-class stamp issued by the Postal Service. Each stamp costs 55 cents, and 9 cents help conserve tigers and other wildlife species. Launched September 20, 2011, the stamp has sold more than 21 million in the first 19 months, bringing in more than \$12 million to the U.S. Postal Service. That means the stamp has generated more than \$2.2 million for the Wildlife Without Borders species funds. Besides tigers, the stamp proceeds support elephant, rhino, great apes and marine turtle conservation.

Dombrowski, Ross and Scherzer spoke to their fans about why they should contribute to the two causes. They put a great emphasis on how it is the responsibility of Detroit Tigers

fans to help save the wild tigers. Scherzer and his fiancée, Erica May, are longtime supporters of wildlife conservation. He is also in the news for his record-setting pitching.

The public service announcements will air at Comerica Park during Tiger home games on their city-block-wide Jumbotron. It is hoped that fans attending the game will drop their change in the tiger bank when they get up to purchase concessions or on their way in and out of the ballpark, and buy Tiger stamps at their local post office to support the Wildlife Without Borders program.

The Service and the Detroit Tigers will approach other media outlets to air these public service announcements across the nation. □

Members of the Service and the Detroit Tigers gather at the Pennies for Paws bank.



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NCTC Looking to Highlight Wage Grade Personnel



An employee operates a grader at Sacramento National Wildlife Refuge in California.

The Service's National Conservation Training Center is in the early stages of planning a major exhibit highlighting the agency's Wage Grade personnel. The display will depict the vital role, past and present, these employees play in supporting the agency's mission and wildlife conservation.

According to Mark Madison, Service historian based at NCTC, the vital contributions Wage Grade employees have made to conservation are likely underrepresented in the museum collection, as well as in the wealth of interpretive materials found throughout the campus. He says a major part of the effort associated with doing the new exhibit will involve soliciting additional artifacts and historical information from regional and field offices portraying and documenting the efforts of these employees.

John Blicht, national heavy equipment coordinator, credits Doug Mason, an equipment operator at the Carolina Sandhills National Wildlife Refuge in South Carolina, as the one who first came up with the Wage Grade history project idea.

The types of jobs performed by these personnel are as wide and varied as the facilities and lands administered by the Service—whether it's moving dirt to build additional ponds for waterfowl, fixing a tractor or simply routine maintenance.

"One might say if you can envision it, the Wage Grades can build it," Blicht says, "whether it's an informational kiosk for public use or creating and restoring critical habitat for an endangered species. Many times a manager

will ask, 'How can we make this happen?' And that's when we really go to work and do our best stuff—building access roads for handicapped hunters, creating photo blinds for the public, restoring critical habitat, installing/building water control structures for fish raceways, creating walking trails and boardwalks, farming. You name it we do it."

The following are some important points Blich makes about the typical Wage Grade employee, adding that these concepts are often overlooked:

- Are often the first person visitors see on a refuge or hatchery,
- Are usually ambassadors for the refuge or hatchery (most are from the local community, families have been in the area for generations),
- Pride themselves for giving back to the community,
- Come into the Service usually from a trade in the private sector (carpentry, electrician, plumber, mason, etc.).

In order to expand the collection at the museum and provide items for the exhibit, Madison is requesting all Service entities be on the lookout for appropriate materials and objects for possible contribution. Associated with this effort will be an attempt to find and interview longtime employees as part of the Service's oral history project. For additional information please contact Mark Madison at NCTC (mark_madison@fws.gov). □

Recording Wilderness Features—Before They Change

What features give a wilderness its distinctive character? How much change can these features withstand before that wilderness character is lost?

That's important to know in a world where environmental change is inescapable—especially when accelerated by climate shifts and population growth.

For the third consecutive year, the National Wildlife Refuge System is deploying talented young conservationists to answer these questions.

Seven Wilderness Fellows—all college graduates or grad students—are spending 24 weeks this summer and fall assessing the features of 15 Refuge System wilderness areas, from as far south as Wolf Island, Georgia, to as far north as the Arctic. They began their work June 3 and will end Nov. 15. Before then, each developed measures to use in monitoring changes to those wilderness areas.

"The data that the fellows gather will help us enormously in deciding when and how to respond to change," says Wilderness Program Coordinator Nancy Roeper. "We are thrilled by their resourcefulness and enthusiasm."

This year's fellows are doing their study at an auspicious moment—the countdown to the 50th anniversary of the Wilderness Act in 2014. The 1964 law created the National Wilderness Preservation System, which protects nearly 110 million



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acres of wilderness nationwide. Twenty million acres of that wilderness is on refuge land. Wilderness is largely undeveloped and unmanaged, offering outstanding opportunities for solitude, wildlife observation and non-motorized recreation.

Their assignments often provide fellows some memorable experiences. Molly McCarter, a returning fellow, described helping on a rookery survey at Pelican Island Refuge, Florida, in 2012. "I would launch my kayak in time to arrive at the island just before sunrise. As the sun crested the horizon, a cacophony of bird calls would crescendo until flocks of ibises, egrets, pelicans, herons, wood storks and roseate spoonbills flew off the island by the hundreds to forage for the day. Observing this made me feel as if I had discovered one of nature's secrets...These images and sounds will stay with me forever." □

SUSAN MORSE, National Wildlife Refuge System, Headquarters

Molly McCarter, a returning fellow in 2013, took part in a rookery survey at Pelican Island Refuge, Florida, the previous year.

? MORE INFORMATION

Meet the 2013 **Wilderness Fellows**: <www.fws.gov/refuges/whm/wildernessFellows.html>.

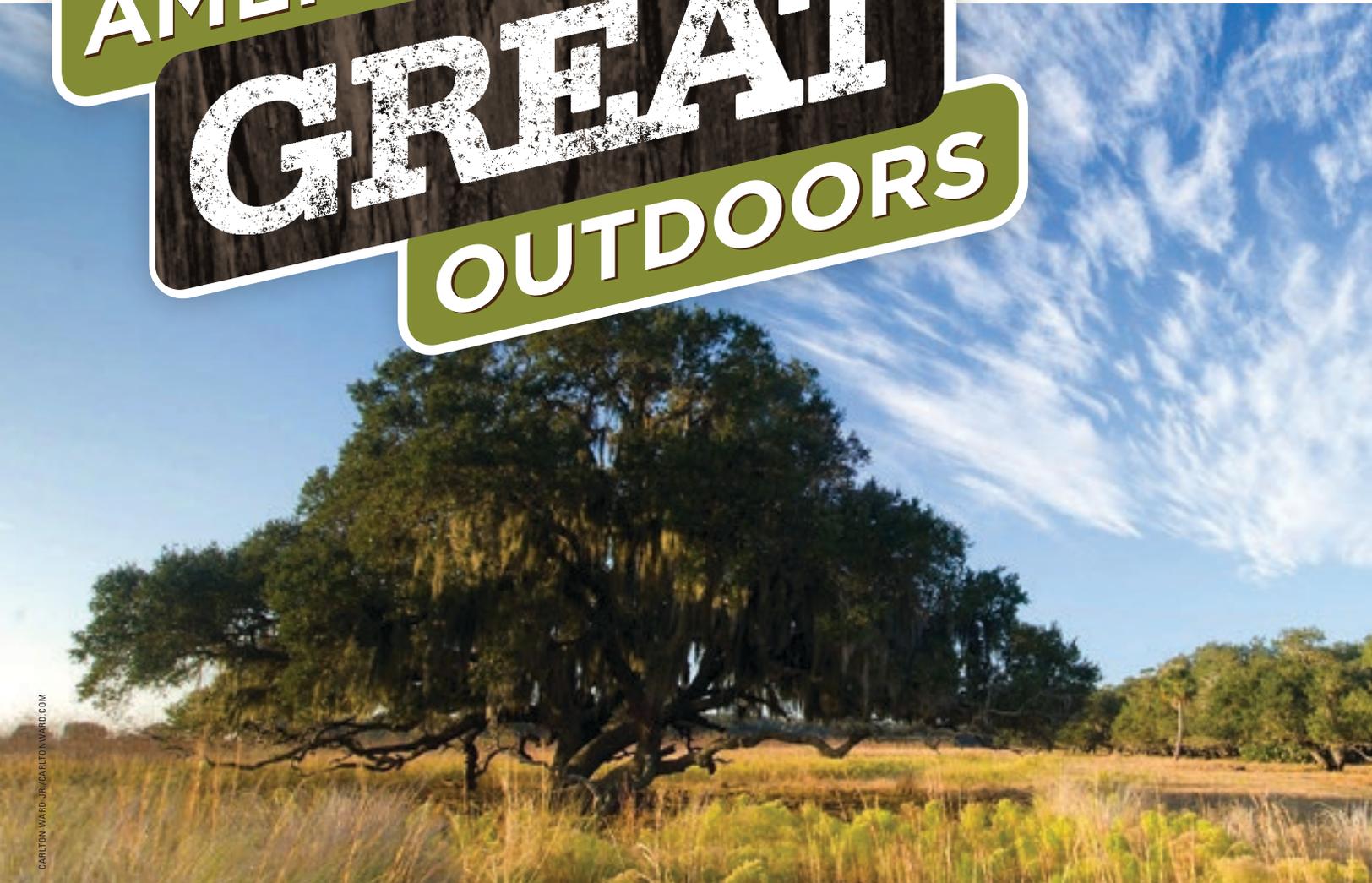
Read about wilderness and the **Wilderness Fellowship program**: <www.fws.gov/refuges/whm/wilderness.html>.

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Dams and Hydro Power

by FRANKIE GREEN



CARLTON WARD JR./CARLTONWARD.COM

21ST CENTURY CONSERVATION

Preserving America's Working Landscapes a Key Opportunity for Nation

by MARTHA NUDEL

(Above): Lightsey Ranch in Florida is within the acquisition boundary of Everglades Headwaters National Wildlife Refuge and Conservation Area.

The resources are astounding: 1.7 million acres of vital grassland habitat across a swath of eastern South Dakota, North Dakota and Montana that ultimately could be protected by working with private landowners interested in selling conservation easements. Another 238,000 acres of wetlands could be permanently protected the same way. Visitors can sometimes spot 100 — even 200 species — in just 25 acres. The land provides breeding habitat for at least 130 species of birds.

THE
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by HEATHER JOHNSON

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Deserts of the
Southwest / 17

by KAREN CATHEY



The Dakota Grassland Conservation Area, part of the National Wildlife Refuge System since September 2011, embodies the concepts of President Obama's America's Great Outdoors Initiative: <www.doi.gov/americasgreatoutdoors/index.cfm>

Launched in 2010, America's Great Outdoors (AGO) is conserving and restoring large landscapes by working across jurisdictional lines to involve federal agencies with state partners and private landowners. The federal government alone can't protect the nation's critical habitat.

Today, America's working landscapes cover some 1.4 billion acres. All that land represents strategic resources fundamental to the nation's future, notes Service Director Dan Ashe. Working landscapes help recharge aquifers that are the source of the nation's drinking water. They are vital for wildlife conservation. They provide jobs and a local tax base. They put food on American tables. But they are at risk.

A Natural Resources Conservation Service report found that 2.5 million acres of cropland and 1.24 million acres of non-federal grazing lands were lost each year from 1982 to 2007.

AGO turns that risk into opportunity by creating a 21st century conservation agenda to restore and conserve the nation's natural and cultural resources while connecting people to the outdoors through jobs, education and recreation.

The work was started by the AGO workgroup, organized in fall 2011 by the Council on Environmental Quality. The workgroup established five regional, interagency teams to coordinate the conservation work of federal agencies and state and local partners.

The regional teams are focused on five landscapes: longleaf pine forests of the Southeast, deserts of the Southwest, grasslands of the northern Great Plains, the Crown of the Continent in the northern Rockies, and the northern forests and waters of New England. The five landscapes were selected with an eye toward several factors, including locally led collaborations in which federal agencies could be strong partners.

But the regional teams didn't start their work from scratch. They built on local conservation projects to help leverage resources to conserve whole ecological systems — whether it's the "duck factory" of the Prairie Pothole Region or the River of Grass in the Everglades.

The teams have worked with local partners to understand what resources already exist and how to realign or refocus activities to accelerate on-the-ground results and build models of landscape-scale conservation that could be replicated across the country.

The concepts have become realities. The new Swan Valley Conservation Area will protect one of the last undeveloped, coniferous forest ecosystems in western Montana. The 11,000 acres that ultimately will be protected through conservation easements sit between the Bob Marshall Wilderness and the Mission Mountain Wilderness. The project protects wetlands and riparian areas critical for bull trout and westslope cutthroat trout. At the same time, it protects the working ranches and agricultural lifestyle of the 469,000-acre Swan River watershed.

In south-central Florida, the Everglades Headwaters National Wildlife Refuge and Conservation Area will conserve one of the last remaining grassland and longleaf pine savanna landscapes in eastern North America. Once fully realized, the refuge and conservation area will span 150,000 acres north of Lake Okeechobee. Two-thirds of the area — 100,000 acres — will be protected through conservation easements purchased from willing sellers.

"Just as we have done in Kansas, Montana and the Dakotas, our locally driven, cooperative approach to conserving the Everglades Headwaters will help grow a robust outdoor recreation economy for central Florida, while preserving ranchers' rights to live off the land," said then Interior Secretary Ken Salazar in announcing the project.

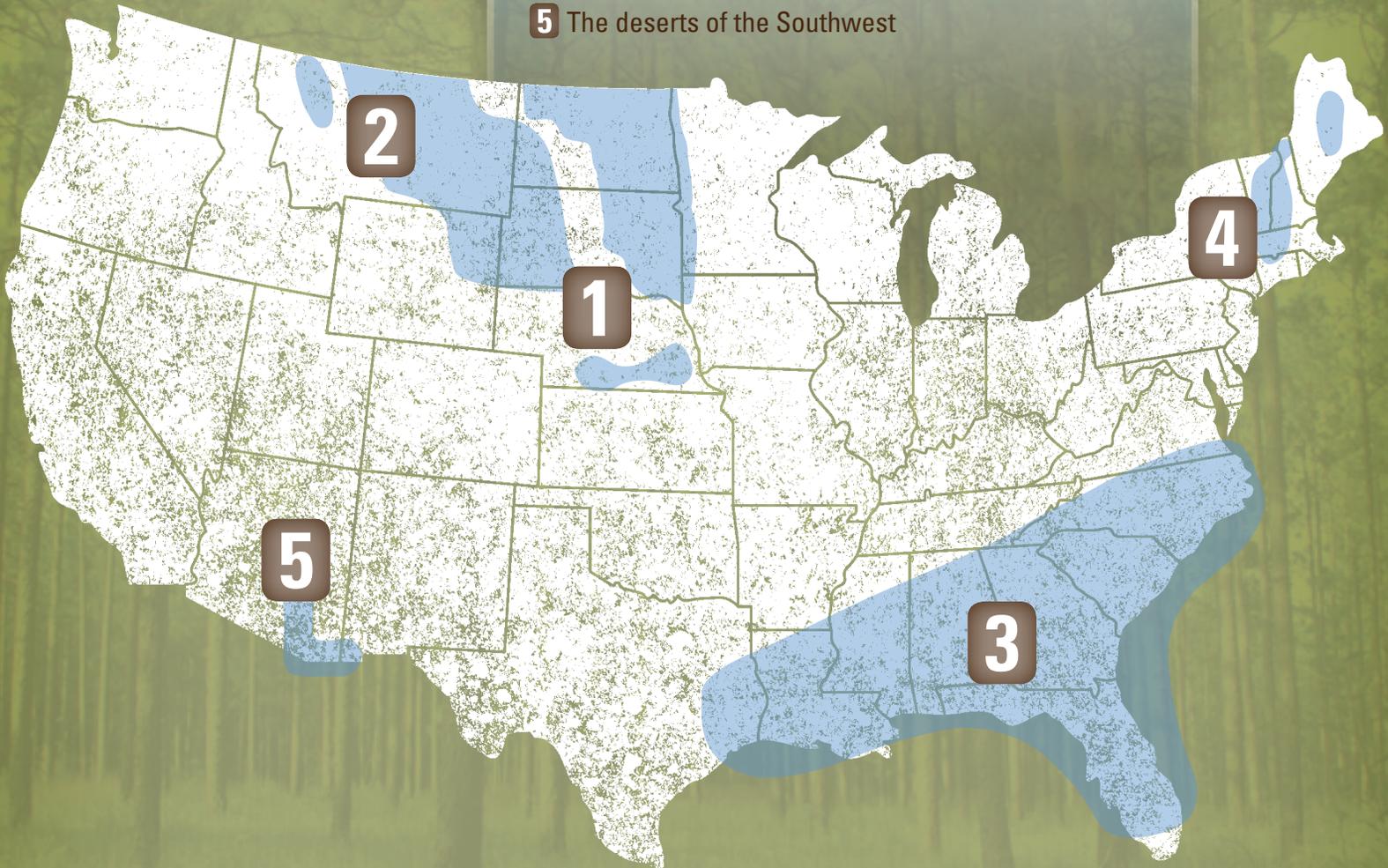
Much the same can be said across the country as AGO becomes the working motif for conservation.

MARTHA NUDEL, National Wildlife Refuge System, Headquarters

Fostering Grassroots Conservation Initiatives

At the heart of America's Great Outdoors is the idea that all Americans share in the conservation of the nation's natural heritage. In five key landscapes the federal government is partnering with communities to do just that. These landscapes serve as demonstration sites and models for the power of America's Great Outdoors.

- 1** The grasslands of the northern Great Plains
- 2** The Crown of the Continent in the northern Rockies
- 3** The longleaf pine forests of the Southeast
- 4** The northern forests and waters of New England
- 5** The deserts of the Southwest



1

NORTHERN
GREAT PLAINS

Weathering the Perfect Storm in the Grasslands of the Northern Great Plains

A perfect storm is hitting the Dakota Grasslands as record crop prices, advances in technology and equipment, and federal farm subsidies are creating incentives to plow up grasslands and drain wetlands for cropland. This is nothing new but the pace has grown rapidly, and the loss of this habitat has had devastating effects on many migratory birds and other fish and wildlife.

The rapid and extensive loss of native prairie throughout the Great Plains is a major focus of America's Great Outdoors—for example, less than 5 percent of the nation's tallgrass prairie remains. The Dakota Grasslands is one of three areas within the Grasslands of the Northern Great Plains AGO Initiative. The other areas are the Rainwater Basin and the Northwest Plains. As with other AGO initiatives, building on existing partnerships and shared goals is key.

In the Dakota Grasslands this means work in the Prairie Pothole Region of North Dakota and South Dakota. This area contains more than 50 million acres, including native prairie with embedded wetlands, providing highly productive



habitat for many migratory birds. This area is known as the “duck factory” because of its importance to waterfowl throughout the continent. The Prairie Pothole Region also provides spectacular habitat for migratory and nesting shorebirds, waterbirds, and grassland songbirds.

The healthiest areas of the Dakota Grasslands are those large blocks of native prairie grasslands with a diverse mix of embedded wetlands. These are typically managed by livestock producers, with cattle ranching as the primary industry. To conserve these areas, private landowners must have a seat at the table.

Many do, and they are seeing real benefits from conservation on their land. “Our family ranch was able to add our daughter, son-in-law and their family into the operation,” says Jim Faulstich, a rancher in South Dakota, “thanks to the Service’s Partners for Fish and Wildlife Program, conservation easements and the expertise of the biologist...”

Public-private collaboration is certainly not a new focus, but AGO has accelerated this focus.

Private land in the Prairie Potholes Region provides excellent habitat for migratory birds such as this mixed flock of ducks and white-fronted geese.

The Dakota Grasslands has been a focus area for the Service for many years. The Service’s Realty Program has accumulated more than 1.5 million acres of wetland easements in the Dakota Grasslands, as well as nearly 1.3 million acres in grassland easements since Fiscal year 2010. AGO brought additional funds, which provided more opportunities for the Service and key partners.

America’s Great Outdoors became the perfect opportunity at the ideal time. Conservation partners were all having discussions about the need to accelerate efforts to deal with this “crisis in the prairies.” AGO helped bring all the right people to the table to focus resources to maximize our conservation successes. The Service can’t do it all, but the combined efforts have achieved tremendous biological outcomes that will be sustained for many years to come. □

HEATHER JOHNSON, AGO Coordinator,
Mountain-Prairie Region

2 | **NORTHERN ROCKIES**

Conservation Easements in the Crown of the Continent in the Northern Rockies

The 18 million-acre Crown of the Continent landscape is one of North America's most biologically diverse and intact ecosystems. Spanning the United States and Canada, it includes high peaks, aspen glades, dense conifer forests, clear and cold rivers, native grasslands and numerous small communities heavily invested in the land and its health.

Despite the relatively high ecological integrity, the forest and stream ecosystems of this landscape face impacts from human land use and management, invasive species, and climate change. These challenges threaten the region's ability to continue to provide ecosystem services, such as clean water, recreation opportunities and economic benefits.

The area's wildlife face these threats, too. A variety of federal trust species call the Crown home, including grizzly bear, gray wolf, wolverine, American marten and Canada lynx. It is also an important breeding ground for waterfowl and raptors, and its waters supports fish like the bull trout and westslope cutthroat trout.



Successful landscape scale management and conservation in the Crown require collaborative and coordinated efforts between governments and local communities in the United States and Canada. Local collaborative efforts such as the Swan Ecosystem Center and the Blackfoot Challenge began taking shape in the early 1990s. These early efforts involved federal, state, tribal interests, NGOs and local landowners addressing working lands conservation at a local scale.

Greater collaboration began in 2001 with the Crown Managers Partnership—a federal, state and provincial partnership. America's Great Outdoors helps the partnerships come together to benefit from collaborative efforts, data-sharing, and technical and resource assistance from all levels.

In the Southern Crown of the Continent in the northern Rockies, partners, including the Service, local, state and other federal groups, tribes, and private landowners, have come together through Conservation

Potomac School kids took part in the Blackfoot Challenge's Adopt-A-Swan Program where teachers and students help with re-introducing the only wildlife species (trumpeter swans) missing from the Crown of the Continent.

Areas, which focus on partnerships with landowners to conserve working landscapes through conservation easements.

The three Conservation Areas—Rocky Mountain Front Conservation Area, Blackfoot Valley Conservation Area and the Swan Valley Conservation Area—have approval for acquisition of more than 400,000 acres of conservation easements from willing sellers. They will help link a diverse mosaic of public and private lands and create a landscape corridor for fish and wildlife unlike any place in America. □

TAMARA MCCANDLESS, National Wildlife Refuge System, Headquarters

3

SOUTHEAST

Return of the King in the Longleaf Pine Forests of the Southeast

Longleaf pine once ruled the Southeastern landscape, covering vast acreages across the nine coastal states from Virginia to Texas. Thanks to renewed interest from a wide variety of stakeholders, the longleaf pine forest is poised to regain much of its former glory.

After declining nearly 97 percent in the last century, the longleaf pine landscape is on the mend. Nearly a million acres of longleaf forest have been restored in the last decade. This is largely due to the efforts of the America's Longleaf Restoration Initiative and its Range-wide Conservation Plan for Longleaf Pine, which calls for more than doubling longleaf acreage from 3.4 million to 8 million acres by 2025.

Longleaf pine has proven over the years to withstand hurricane winds, ice storms, drought and pine beetle attacks far better than the faster-growing loblolly or slash pines that were planted in its place.

However, longleaf restoration efforts are less focused on the actual tree than they are on restoring an ecosystem it represents — a complex, interdependent network of plants, animals and ecological processes that evolved to not only tolerate

but actually thrive in the presence of fire. Frequent, low-intensity fire maintains the forest's open conditions, allowing light to penetrate through the canopy to the forest floor. This produces an incredibly diverse understory, which in turn provides cover, foraging and nesting habitat to a great diversity of wildlife, including many endangered and at-risk species. One such species, the endangered red-cockaded woodpecker, creates nesting cavities high above the flames in living longleaf pines and depends on fire to maintain its habitat.

The gopher tortoise, federally endangered in its Western range and a candidate for federal protection in the East, depends on fire to promote edible forbs and grasses. To escape these fires that typically occur every two to three years, gopher tortoises retreat to their burrows. These underground fortresses are typically 15 to 20 feet long, six feet deep, and are known to provide housing for hundreds of species, including the majestic indigo snake. Fire also encourages seed production in many understory vegetation types, providing food for wild turkey, Bachman's sparrow, bobwhite quail and others.

Playing a lead role in supporting the America's Longleaf Restoration Initiative is the Longleaf Partnership Council, a diverse 33-member group of stakeholders representing federal and state agencies, non-profit organizations, academia, timber industry and landowners. The council coordinates on-the-ground efforts of 15 Local Implementation Teams, which are further supported by State Coordination Teams in all nine longleaf states. These teams work on reforestation of longleaf pines, fire management and prescribed burns, reintroduction of longleaf to areas in their range and landowner outreach activities.

This well-oiled restoration machine is greatly aided by financial support from the Longleaf Stewardship Fund, administered by the National Fish and Wildlife



CLAY WARE/SEWS

A longleaf pine seedling in the grass stage recovers from fire. Fire not only does not harm young longleaf seedlings but also protects them from a fungus that causes brown spot needle blight.

Foundation. In addition to federal agency contributions to the fund, business partners, including the Southern Company, provide funding for restoration projects.

In 2012, the Service joined forces with the U.S. Forest Service, the National Park Service and The Nature Conservancy to submit a Land and Water Conservation Fund proposal to increase longleaf acreage on protected federal lands, emphasizing the Department of the Interior's selection of longleaf pine as one of five large America's Great Outdoors focal landscapes. LWCF administrators approved \$16.2 million to acquire and protect approximately 10,000 acres of longleaf habitat. □

CLAY WARE, Longleaf Pine Recovery Coordinator, Southeast Region

4 | NEW ENGLAND

Working to Conserve the Northern Forests and Waters of New England

The streams and forests of New England and upstate New York have long supported a vital forest products industry and provided habitat for abundant fish and wildlife. The waters provide recreational opportunities, hydropower, critical spawning and rearing habitat for migratory fish, and clean water for the populous cities of the Northeast.

Federal resource managers and non-federal conservation partners have long recognized that protecting the natural heritage in this landscape requires working across public and private ownership. Dozens of collaborative partnerships exist within the landscape, ranging from the New England Governors Blue Ribbon Commission on Land Conservation to local land trusts working together within their communities.

The federal New England Forest and Waters Working Group, established by the AGO initiative, helps coordinate federal investments, leverage non-federal investments and optimize past conservation efforts on a landscape scale. The working group has identified three focal areas to demonstrate strategic forest land conservation, improve fish and wildlife habitat, improve and expand



Maine's Grafton Notch State Park drains into the Androscoggin River Watershed.

BOB HARRIS/USFWS

recreational access to connect people and nature, and foster economic development. These areas have immense natural assets, robust recreational opportunities and struggling economies.

The 7.2-million acre Connecticut River Watershed spans four states and has been designated as the first National Blueway for its diverse public-private partnership that sustains working lands, natural resources and outdoor recreation. A significant concern for fish and wildlife habitat, as well as working forests, is fragmentation of the landscape from sprawling development and generational turnover in forestry operations. Tourism eclipses forestry as a source of employment in the region's rural places but is dependent on the natural qualities of the landscape and its rural industry.

The Androscoggin River and the Kennebec River watersheds offer unique opportunities for the working group to advance two landscape-scale objectives: securing recreational and ecological connectivity, with an emphasis on the Appalachian National Scenic Trail corridor and surrounding lands, and economic development for local communities through working forest conservation linked to related investments in the forest products manufacturing sector. This 2 million-acre landscape contains exceptionally productive large blocks of

working forest, habitat for a wide variety of wildlife species and some of New England's most prized waterways, high elevation ridgelines and mountain peaks. This crown jewel of the Northern Forest has long been recognized as a key hub for the recreation, tourism and forest products economies.

The 109-mile long Penobscot River is the largest river entirely in Maine. The Penobscot and its tributaries flow from forested headwaters near Mount Katahdin in the North Woods to the Atlantic Ocean in Penobscot Bay. The river is prized for its extensive recreational and fishery resources. The Penobscot River Restoration Project is a major private-public partnership with the goal of significantly improving fish passage in the Penobscot Watershed through the removal of two dams, the removal or bypassing of a third dam, and fish passage improvements to multiple other hydroelectric facilities. Upon project completion, the project will reconnect more than 1,000 miles of free flowing river habitat will be reconnected. □

PAUL CASEY, New England Forest and Waters Working Group, Northeast Region

5

SOUTHWEST

Restoring and Protecting the Southwest Deserts Landscape

AGO's Southwest Deserts Large Landscape Initiative seeks to conserve the fragile environments of the Chihuahuan and Sonoran deserts, while expanding safe access to allow enjoyment by the public. As part of this effort, the work by the Desert Landscape Conservation Cooperative (LCC), Malpai Borderlands Group (MBG) and Big Bend Conservation Cooperative (BBCC) and by landowners within the Lower and Upper San Pedro areas are key.

Desert Landscape Conservation Cooperative:

The Bureau of Reclamation and the Service are co-leads for the Desert LCC, which encompasses the Southwest Desert Large Landscape area. In 2011, the Desert LCC financed a multi-partner project to develop data on the status of springs and seeps in southeastern Arizona and add it to an online database. Future plans include creating a regional central repository for this data and collecting information on water availability, its relationship to groundwater basins and its importance to wildlife, plants and humans. In addition, the partners plan to assist tribes in



The Malpai Borderlands area of southeastern Arizona and southwestern New Mexico.

analyzing of how climate change is affecting water management, and cultural and habitat resources.

Malpai Borderlands Group: The MBG, organized by private landowners, works to restore and protect the ecological diversity and productivity of the land. This includes land protection, cooperative land management, habitat management and community outreach. This group has worked cooperatively with landowners to protect more than 75,000 acres through conservation easements, ensuring it will be kept as natural wildlife habitat and productive ranches. Federally protected species of concern to the MBG include 19 species of fish, wildlife and plants, such as the endangered jaguar, Chiricahua leopard frog and long-nosed bat. In 2008, the MBG prepared a Multi-Species Habitat Conservation Plan to protect threatened and endangered species.

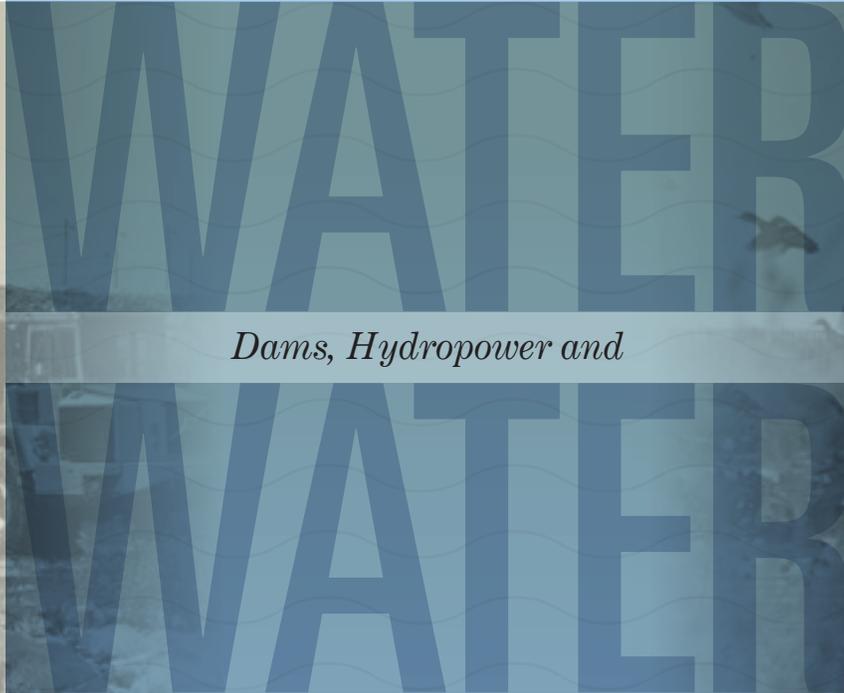
Big Bend Conservation Cooperative: From bighorn sheep at the top of rugged mountains to Rio Grande silvery minnows at the bottom of the Rio Grande, a diverse array of plants, fish and wildlife depend on

the grasslands, mountains, rivers and springs of the Chihuahuan Desert surrounding the Rio Grande Watershed at Big Bend. The BBCC envisions a Rio Grande Watershed with healthy rivers and grasslands that support wildlife and help connect Americans with their natural heritage. The BBCC includes more than 30 governmental agencies, other organizations and local partners, working across boundaries in Arizona, New Mexico and into Mexico to leverage resources. Projects accomplished by the BBCC have included the control of exotic plant species; re-introduction of the endangered Rio Grande silvery minnow, pronghorn antelope and big horn sheep; and the restoration more than 6,800 acres of grassland, 500 acres of riparian and 70 acres of wetland habitats.

San Pedro River, Arizona: The San Pedro is one of the most significant perennial desert rivers in the American Southwest, providing habitat for more than 400 migratory bird species, as well as designated critical habitat for the endangered southwestern willow flycatcher and for an endangered plant, the Huachuca water umbel. Private-public collaborations are focusing on preserving habitat while supporting working landscapes, including actions to protect species listed under the Endangered Species Act. The Aravaipa Creek tributary to the Lower San Pedro supports the best remaining collection of native desert fishes in Arizona, including the federally listed spikedace and loach minnow. Proposed efforts by the Service on the Lower San Pedro River include invasive species control, native fish recovery, acquisition of fee and easement interests from willing participants in the Lower San Pedro watershed and community outreach. □

KAREN CATHEY, AGO Coordinator, Southwest Region

Demolition begins on the Great Works Dam.



Dams, Hydropower and

America's Great Outdoors

EVERYWHERE

by FRANKIE GREEN

Hundreds of dams found across the country are an important natural resource and an integral part of America's Great Outdoors. They offer a multitude of benefits, providing recreation, aquatic habitat for wildlife, flood control and transportation. Many also produce electricity. In fact, hydropower accounts for roughly three-quarters of renewable power production in the United States. However, dam construction and operation alter free-flowing waters and redefines the size, flow and nature of rivers and drainages.

Service biologists from the Conservation Planning Assistance program look out for the interests of wildlife in the building and management of hydropower dams by working with the Federal Energy Regulatory Commission (FERC) to avoid the most harmful outcomes for wildlife and people.

Take for example the restoration of migratory fish access to more than 1,000 miles of the Penobscot River in Maine. The Penobscot River, with a strong commercial and recreational fishing history and perhaps best known for its exceptional salmon runs, was first obstructed by construction in 1834 of the Veazie Dam. The



Mallards in flight at the Partners for Fish and Wildlife South Platte Focus Area in Colorado.

structure made no provision for fish passage and inhibited the migration of anadromous fish including Atlantic salmon and nine other migratory species, to upstream spawning grounds.

For more than a decade, the Service worked closely with the Penobscot Indian Nation, Maine and other partners to develop a unique approach to restoring the historic fisheries while maintaining hydropower levels and recreational opportunities. The partners identified the removal of two seaward dams (Veazie and Great Works) and a fish bypass around Howland Dam as priorities. The private Black Bear Hydro LLC was to increase power generation at other dams in order to continue meeting Maine's power needs. The Service also helped Black Bear improve fish passage at four other dams. The Great Works Dam was removed in 2012 and removal of the Veazie Dam started in July.

Today, restored hydrologic functions in the Penobscot provide vital benefits to fish and

other native plants and animals, the traditional Penobscot Nation culture, as well as the local economy.

Another recent success involves the extensive drainage of the Platte River in the West. With headwaters in the Rocky Mountains, the Platte River flows across three states to the Missouri River. The Platte and its extensive riparian corridors provide essential stopover habitat for sandhill and whooping cranes, nesting habitat for least terns and piping plover, and habitat for many migrating waterfowl and waterbirds.

The flocks of 500,000 sandhill cranes and other migrating waterbirds found along the Platte provide major support for ecotourism. Fishing, mushroom hunting, bird watching and waterfowl hunting are all important recreational opportunities found along the length of the river.

As early as the 1970s, the Service began to examine the damage associated with withdrawals of water from the river. In the

1990s, the Department of the Interior, along with the states of Nebraska, Colorado and Wyoming began discussing a plan for operation of dams along the Platte to meet the needs of local communities as well as those of wildlife.

These talks culminated in a program earmarking certain amounts of water to be stored in reservoirs along the Platte to be released in "pulse flows" that resemble the natural flows expected from the free-flowing river. These flows scour the riverbed to produce sandbar and other types of riverine habitat vital to wildlife. The program also stops irregular return flows from irrigation systems or during high rainfall periods. Managing these irregular flows helps prevent the flooding of sandbars hosting the nests of least terns and piping plovers. The agreement also calls for a land and shoreline management plan for conservation and recreational uses and land acquisitions to protect critical wetland and avian feeding areas.

Managing dams and waterways for people and wildlife is a huge and complex task, but it is critical to conserving America's Great Outdoors. Large hydropower dams are a vital component of the nation's renewable energy strategy, and in the next five years alone nearly 60 hydropower licenses are due to expire, offering opportunities for implementation of enhanced landscape conservation measures. For decades, the Service has been at the forefront, providing expert advice and recommendations on mitigation. And Service biologists — working with partners — will continue to help provide for the needs of people and wildlife in the future. □

FRANKIE GREEN, National Hydropower Coordinator, Headquarters

Keeping their Heads above Water

by DOUG ZIMMER

Service leads emergency translocation of Columbian white-tailed deer from Julia Butler Hansen Refuge

The Julia Butler Hansen Refuge for the Columbian White-tailed Deer was once part of the floodplain of the Columbia River, and now the river wants it back. That's why Service employees in the Pacific Region, with support from the Cowlitz Tribe, Washington and Oregon wildlife agencies and many volunteers, began capturing endangered deer at the Cathlamet, Washington, refuge in January and moving them.

(Right) After being blindfolded, netted and sedated, the deer were flown a short distance to the processing site.

In late 2011 refuge employees noticed increasing erosion along the Steamboat Slough dike that protects the refuge's mainland unit from the waters of the Columbia, America's fifth-largest river. The river was eating away at the 1920s-era dike. If it failed, the 2,000-acre mainland unit, home to approximately 100 endangered Columbian white-tailed deer — as well as \$28 million in taxpayer-owned assets — would be under four to six feet of water.

Unfortunately, fixing a dike is seldom easy or cheap, so refuge officials decided to move up to half the deer threatened by the impending breach to Ridgefield National Wildlife Refuge, about 55 miles away, and Cottonwood Island, about 34 miles away, both within the historic range of the species.

Because the Columbian white-tailed deer is an endangered species, the effort called

for close coordination among personnel from the Julia Butler Hansen Refuge, Ridgefield NWR, the Ecological Services Washington Fish and Wildlife Office and staff from the Pacific Regional Office in nearby Portland. Non-Service partners included the Cowlitz Tribe (for whom the deer is culturally significant) and Oregon and Washington. Both federal and state permits would be needed to capture and move the deer, and a plan to handle potential damage to agricultural lands was also needed. Last but not least, there was



Blindfolds help keep the deer calm.



an environmental assessment to compete for the capture and translocation effort, public comment to be gathered and considered, and a considerable amount of public education and outreach to be done.

Meanwhile another clock, a biological one this time, had started ticking: Any female deer involved in the translocation must be presumed pregnant. The advancing state of those pregnancies past mid-April would increase the risk to both doe and fetus. This meant the Service would have to translocate up to 50 deer in less than six months.

Capture efforts began in early January. Initially, biologists decided to use a combination of drop netting, drive netting, dart gunning and helicopter hazing and netting to capture the deer.

But the number of animals captured remained too small for the amount of time and effort expended.

Facing a closing window for safe capture with less than half the targeted deer moved by late February, the team scheduled a day of helicopter capture.

Early on the morning of March 19, more than 70 volunteers and staff gathered. The plan was to use the helicopter to drive

deer into pre-positioned nets, capture, sedate and transfer them to Ridgefield NWR where they would be released. Veterinarians would assist each capture team, and, as with deer in the earlier captures, the animals would be fitted with ear tags and, if appropriate, radio-tracking collars. The tags and collars would allow staff to monitor the released deer over the next year.

By mid-morning, the deer proved more adept at avoiding the nets than the crew was at pushing the animals into them. Refuge biologists decided to move to helicopter net gunning. It was the right call.

By the end of the day, 12 deer were on their way to a new home at Ridgefield NWR, where they joined 22 animals already released. The day brought the number of deer successfully moved to Ridgefield to 34. "We have moved enough deer so that, if the dike breaches, we will have reduced the pressure on the available habitat for the remaining deer so that many of them will survive," Refuge Manager Jackie Ferrier says.

"If the deer at Ridgefield settle in successfully, we will have established another secure population and we've moved closer to recovery. I consider that successful."

In all, 37 Columbian white-tailed were translocated to Ridgefield NWR and 12 to Cottonwood Island. □

DOUG ZIMMER, Washington Fish and Wildlife Office, Pacific Region

“eHarmony for Birds”

A Science — and an Art — to Saving Parrots

by SUSAN MORSE

At the Service’s Iguaca Aviary in Puerto Rico’s El Yunque National Forest, the science that is saving the rare Puerto Rican parrot from extinction is everywhere on display: in the wall of TV monitors that relay images from cameras hidden in each breeding pair’s nest cavity; in the sleek emergency care center, where sick birds can be quickly isolated and undergo surgery if needed; in the meticulous record-keeping on each bird’s history, behavior and genetics.

The aviary is normally closed to the public because human noise and activity can stress the bright green birds and disturb breeding. But a few lucky visitors see more than science. A devotion and an art to captive breeding are also apparent.

In the spotless kitchen, aviary staff fill dozens of steel food trays with fresh fruits and berries; the mix, customized for each bird pair, changes regularly to spur the birds’ exploratory instincts. In the aviary’s nerve center, coordinator Jafet Velez-Valentin pores over computerized databases, calculating which bird pairings will best further species survival. The higher the percentage of DNA known per bird, the better. The lower the inbreeding coefficient (a measure of how closely a bird is related to any potential mate; 0.1113 is the highest value acceptable), the better. Then he repeats computations by hand to focus his thinking.

But, just as with humans, promising unions can fail; some would-be lovebirds must be separated before they kill each other. What gratifies Velez-Valentin: making a science-based match that also produces healthy chicks. In 2012 he made 33 of these. “I love it,” he says of his job. “It’s like eHarmony for birds.”

Once in a while, a pair beats Velez-Valentin to the punch — separating themselves from other birds, preening and feeding each other — all signs of mating behavior. “We love it when that happens,” he says. Using numbers from the birds’ leg bands, staff check records to see if the birds would make a good match. “If so,” says Velez-Valentin, “we pair them and let them get on with it.” Aviary-bred chicks are released in the wild.

At the aviary, tending the birds is a 365-day-a-year responsibility, even during hurricanes, when staff bunk down on site

to be sure the birds are fed. In 2012, thanks to the aviary’s efforts, the total population of Puerto Rican parrots topped 400 for the first time since recovery efforts began 40 years ago. The number included 171 in the Iguaca aviary, 152 in a second captive breeding facility, and between 102 and 129 parrots in the wild. Not only was the 2012 fertility rate — 77 percent — the highest in the aviary’s 40-year history, the chick survival rate also set records.

“Remember those days when fertility was very low and we use[d] to have between 1 to 3 or 4 chicks per year, or sometimes not a single chick a year?” Velez-Valentin crowed in a letter to friends and colleagues. “Well this year we produced 57 chicks with a survival record of 70.17 percent, an all-time record for the program.”

SUSAN MORSE, National Wildlife Refuge System, Headquarters



(Above): More than 400 Puerto Rican parrots existed in 2012, the highest since recovery efforts began 40 years ago.

(Left): The parrots eat a mix of fresh fruits and berries, which is customized for each bird pair and changes regularly.

(Below): Cameras hidden in each breeding pair's nest cavity keep an eye on things.



pacific



Service Finds Good Home for Coral

Today you have to find a home for more than 200 pieces of live coral.

Imagine getting to work and having that challenge set before you. For Service wildlife inspectors and special agents, it was just another day in the office.

In 2012, two shipments of coral were seized by the Service at the Seattle-Tacoma International Airport. More than 200 pieces needed to be identified and cataloged by wildlife inspectors! But where would it all go?

The Service partnered with the Seattle Aquarium and the Point Defiance Aquarium in Tacoma to provide a place for coral that was being illegally imported. In this case, approximately 198 pieces went to Point Defiance Aquarium and 68 went to the Seattle Aquarium. But it was a tight squeeze! The Service depends on partners like these aquariums to provide safe homes for seized coral.

Live coral is harvested and shipped around the world, from places like Malaysia, Indonesia and Australia, primarily for the aquarium trade. Typically, the coral is chipped off the reef where it lives and is placed in a plastic bag full of saltwater. It is then packed into boxes for shipping. Wildlife inspectors are in charge of checking shipments to make sure the coral is being imported legally.



USFWS

“One of the most difficult things about coral inspecting is that after 48 hours in the dark [in the boxes], they are very difficult to identify. It speaks volumes about the skills of the wildlife inspectors that they are able to identify these animals,” says a Service special agent.

Identifying the individual species of coral can be challenging, because when not in water and after being in the dark, the coral polyps retract into the coral, making it very difficult to identify the species. Each one has a polyp that looks a little different; some look like lace, some look like fans or leaves growing out of the coral’s hard, outer shell. It can take more than an hour for a wildlife inspector to thoroughly examine and identify one box of coral—and a typical shipment of coral can contain up to 40 boxes!

Coral seizure is a challenge across the country, as this photo from an investigation in the Northeast Region illustrates.

Some coral species can be harvested from the wild and shipped legally and some cannot. The coral trade is governed by the national laws of individual countries and international treaties like the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which define the rules for trading, transporting and buying or selling wildlife domestically and internationally. □

MEGAN NAGEL, External Affairs, Pacific Region

southwest



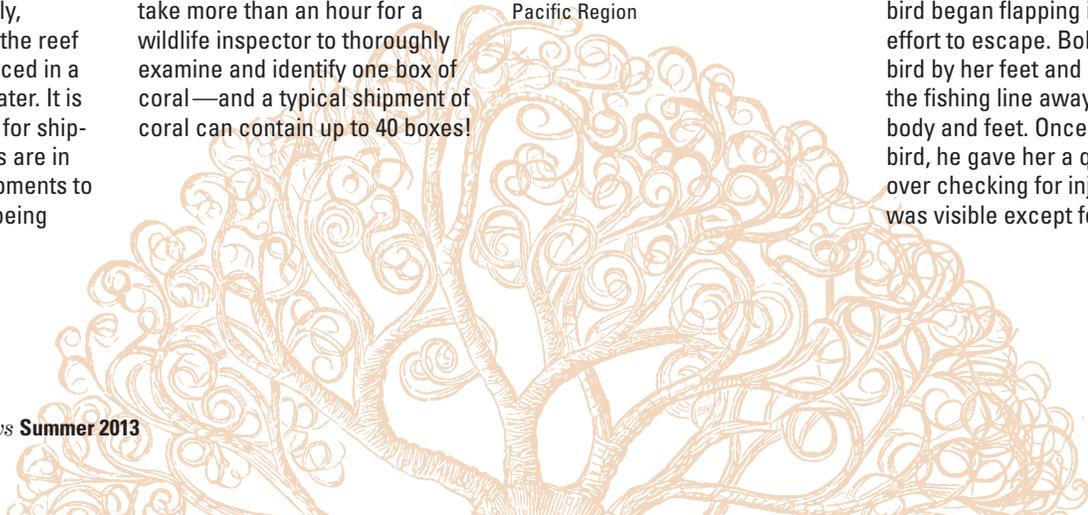
Working 24/7, Service Biologist Rescues Trapped Osprey

While preparing for a day-off canoe trip, Southwest Region Migratory Bird specialist Bob Murphy found himself on a Mother’s Day avian rescue mission.

As Bob was getting his canoe ready, his friend Dale Stahlecker spotted an osprey hanging upside down, tangled in fishing line, way up in a nearby pine tree. Dale alerted Bob and the four-hour rescue began.

Dale contacted some nearby friends who, in turn, began contacting others for help. State park staff arrived and brought a ladder, but as luck would have it, the ladder was too short. A local utility worker offered a 50-foot expandable pole, hoping it could be used to cut the fishing line, but it was too short.

Bob realized he had to climb the tree or the osprey would die. So up he went. The others gathered around the base of the tree with hopes of catching the bird if it fell. Equipped with an ad-hoc climbing rig of rope, carabineers, harness and safety belaying lines, Bob climbed for about 15 minutes. When he got to the osprey, the bird began flapping in a futile effort to escape. Bob grabbed the bird by her feet and began cutting the fishing line away from her body and feet. Once he freed the bird, he gave her a quick once-over checking for injuries. None was visible except for some



scrapes on one of her toes. Bob carefully placed her into a backpack where she quieted right down.

The trip back down the tree with the bird in the back pack only took about five minutes. Once on the ground, Bob and his friends took her to The Wildlife Center in Española, New Mexico, for a little rest and rehab.

Although she was somewhat dehydrated and malnourished, had a slightly injured toe and suffered neurological problems from hanging upside down for some time, she recovered and was later released. □

Service biologist Bob Murphy holds the injured osprey.



DALE STARLECKER

midwest 

First Returning Kirtland's Warbler Fledgling Documented in Wisconsin

A Kirtland's warbler that hatched in Wisconsin last year and was banded before its first migration has returned to its birthplace in Adams County, a significant milestone in efforts to help boost populations of this federally endangered songbird.

"This is the first time we've been able to document that a bird hatched in Adams County has returned to the area," says Kim Grveles, a Department of Natural Resources avian ecologist.

"It's a very encouraging sign that

Wisconsin is providing suitable and successful breeding habitat for these birds."

Chris Mensing, endangered species biologist with the Service, also hailed the news. "It's exciting to see Kirtland's warblers returning to habitat in Wisconsin. With endangered species, you never want to put all your eggs in one basket. Having a successful breeding population outside the core Kirtland's warbler range in Michigan helps protect the species from catastrophic events."

The Kirtland's warbler was placed on the federal endangered species list about 40 years ago, when its population dropped to about 300 birds. Until 1995, Kirtland's warblers were found almost exclusively in the northern Lower Peninsula of Michigan and were struggling to recover from a steep decline in populations in the 1960s and 1970s due to habitat loss and trouble from brown-headed cowbirds.

Starting in the late 1990s, the protections and efforts made under the Endangered Species Act enabled the Kirtland's warbler to start expanding its breeding territory to Wisconsin, Michigan's Upper Peninsula and Ontario. The warblers have been observed in several counties in Wisconsin, and nests have been confirmed in Adams and Marinette counties. In 2012, Kirtland's warblers were recorded in five counties in Wisconsin, and a minimum of 24 singing male warblers were documented in the state.

Wisconsin's Natural Resources Board in May approved adding the species to the state endangered species list because its



Kirtland's Warblers have spread to Wisconsin.

JOEL TRICK/USFWS

numbers, while growing in Wisconsin, are still very small.

To help increase Kirtland's warblers in Wisconsin, the Department of Natural Resources, the Service and other partners now conduct annual surveys to listen and look for the birds, monitor nests in Adams County where breeding sites have been found and set traps to keep cowbirds away from the warblers' nests.

Cowbirds lay their eggs in the nests of songbirds, including Kirtland's warblers. The warblers are unable to recognize cowbird eggs or chicks as different from their own young. Cowbirds hatch earlier, are larger and more aggressive at begging for food than warbler chicks, so Kirtland's warbler parents may raise a cowbird or two at the peril of their own brood.

The partners also are working to maintain and expand the mix of 5- to 20-year-old jack pine trees and barrens by planting the tree species. Historically, such habitat depended on fire, Grveles says.

The 2013 annual survey for Kirtland's Warblers began on May 18 with 23 volunteers searching for Kirtland's Warblers in jack pine stands of six Wisconsin counties. □



ANGELA BOYER/USFWS

Service, Partners Work to Prevent Extinction of the Purple Cat's Paw

One of the rarest freshwater mussels in North America, the purple cat's paw mussel was widespread in the southern Ohio River and its larger tributaries before these rivers were dammed, but the species was listed as endangered in 1990 when thought to be functionally extinct, meaning that some live adults existed in the wild but did not appear to be producing any young.

In 1994, biologists discovered a breeding population in Killbuck Creek, Ohio, which renewed hope for the species. However, water quality in Killbuck Creek has degraded to such an extent that drastic measures have been necessary to ensure the survival of the purple cat's paw mussel.

The Service is working with many partners to prevent the extinction of the purple cat's paw, including the Columbus Zoo, Ohio Department of Natural Resources, Kentucky Department of Fish and Wildlife Resources, Center for Mollusk Conservation in Frankfort, Kentucky, and Ohio State University.

Funded by the Service's Preventing Extinction grants, surveys and efforts to collect purple cat's paw for captive propagation began in 2006. After the 2006 survey, biologists found that the wild population had declined significantly—only nine males were found after extensive surveying efforts. In 2007, three additional males were found but no females.

Biologists believe that the purple cat's paw could still survive if just one female could be found. Propagation facilities can produce large numbers of juveniles from a single female. With successful captive propagation, additional recovery efforts may become feasible, including reintroductions and habitat conservation and restoration. So the search continued.

In 2012, much of the Midwest experienced drought. This rainfall shortage provided exceptional survey conditions because Killbuck Creek is normally turbid, with high flows that limit visibility and access. This survey yielded some encouraging findings: 15 males and 10 females from various age classes, including some only 3 or 4 years old. Surveyors placed these mussels into

Only 10 female purple cat's paw mussels (female shell at bottom) are known to exist.

in-stream holding cages so they could be collected the following spring, when females would likely be carrying mature larval mussels, called glochidia.

Earlier this year, biologists pulled the cages and transported the 10 female mussels to the Columbus Zoo and Aquarium's Freshwater Mussel Conservation and Research Center. At the zoo, biologists found that six of the mussels carried glochidia. The partners in purple cat's paw recovery hold the mussels at three separate propagation facilities to avoid a single accident or mistake wiping out the entire batch of glochidia.

Freshwater mussels have an unusual and complex method of reproduction. Female mussels release glochidia directly into the water and the glochidia must attach to the gills or fins of a specific host fish to complete development. After attaching, glochidia transform into microscopic-sized juveniles within a few weeks and then drop off the fish.

At each propagation facility, biologists have extracted glochidia from the purple cat's paw mussels and placed them in containers with host fish. Biologists are now waiting to see if viable juvenile mussels drop from the host fish. The very existence of the purple cat's paw is riding on the success of this effort. □

ANGELA BOYER, Columbus, Ohio, Ecological Services Field Office, Midwest Region



southeast

Chattahoochee Forest Fish Hatchery Supports Troops

The Chattahoochee Forest National Fish Hatchery in Suches, Georgia, has a unique relationship with Camp Frank D. Merrill, an Army Ranger Camp in nearby Dahlonega, Georgia. The hatchery lends its grounds, facilities and occasionally hatchery crew members to aid in military training. The hatchery also provides fish for survival training purposes.

Allowing access to the hatchery saves the Department of Defense countless dollars. A training mission could cost in excess of \$1 million if the Army was unable to use the hatchery. The close proximity of the hatchery eliminates the need to transport

Chattahoochee Forest National Fish Hatchery and a nearby Army Ranger camp have been partnering since the 1950s.



northeast 

“Buyer Beware” Wildlife Exhibit Unveiled at Newark Liberty International Airport

The Service in June unveiled a “Buyer Beware” wildlife exhibit at Newark Liberty International Airport in New Jersey. The exhibit showcases products made from endangered and protected wildlife, video footage of the impacts of the African and Asian elephant trade and QR codes linking to various wildlife laws. Its purpose is to educate international travelers about the risks of purchasing wildlife products abroad and importing them back into the United States. “We are so pleased with this exhibit and it far exceeded everyone’s expectations,” said Kathleen Bushman, of the Service Office of Law Enforcement in Elizabeth, New Jersey. “It’s already well-received by the passengers.”

The Service, Port Authority of New York and New Jersey and volunteer students from New Jersey Institute of Technology collaborated on the exhibit, which is located in Satellite Connector B-3 in the International Departures area. Travelers preparing to fly out of the country can view illicit wildlife souvenirs and educate themselves on illegal wildlife trafficking. □

equipment and personnel to another training facility, and the overall cost of a recent exercise was less than \$80,000—a big cost savings on just one training exercise.

The hatchery feels it should do whatever it takes to make sure the forces receive the necessary training to do their jobs. In exchange, the camp lends the hatchery a “life flight” helicopter for extreme life and death circumstances. Because the hatchery is more than an hour away from the nearest hospital, the helicopter could be life-saving for crew members or the visiting public. This has been an ongoing partnership since the early 1950s.

Camp Frank D. Merrill is the home of the 5th Ranger Training Battalion and the mountain phase of the U.S. Army Ranger School. The 5th Ranger Training Battalion’s mission is to train small unit leaders on mountaineering skills. The training Ranger students receive at Camp Merrill

and the surrounding north Georgia mountains enables them to successfully operate and lead in any mountainous environment.

The training is conducted both day and night and includes moving cross-country over mountains, conducting vehicle ambushes, raiding communications or mortar sites, and conducting a river crossing or scaling a steep sloped mountain. The hatchery serves as a base of operations for some of the training exercises. It can easily be transformed into a Taliban compound, a remote military base or anything it needs to be. Hatchery buildings have served as interrogation rooms, hideouts and base camps. These military exercises provide training for military operations, either exploring the effects of warfare or testing strategies without actual combat.

Using the hatchery facility enables the Special Forces units to have a full-scale rehearsal of military maneuvers as practice

for warfare. The Special Forces units use the facility for mock attacks, interrogations and bombings, and use crew members as terrorist targets. Sometimes teams infiltrate the hatchery and set up camp just as they would in a foreign county. In addition, the Georgia State Penitentiary Dog Tracking team works with the Special Forces in tracking fugitives. This gives much needed training to the dogs, as well as to the Special Forces.

Word of the hatchery’s generosity in allowing these training exercises has spread beyond the Army camp. Forces from various parts of the country have come to take advantage of the facility and crew.

One recent mission was to train an elite Special Forces unit to infiltrate a Taliban compound. After the mission, Army personnel told hatchery staff that the training at the hatchery enabled them to successfully complete their mission in a foreign country.

The hatchery is honored to know it contributes in some small way to making our troops safe. □

DEBORAH BURGER, Chattahoochee Forest National Fish Hatchery, Southeast Region



CAMP FRANK D. MERRILL



URSULA GALL

Making the Outdoors More Accessible—and Fun—for All Americans

Mud Pond Trail has attracted many accolades for a short trail in the White Mountains Region of New Hampshire little more than half a mile long. Located in the Silvio O. Conte National Fish and Wildlife Refuge, Mud Pond became a tiny part of the nation's first national Blueway—the huge Connecticut River watershed—in May 2012.

A year later, on May 31, Secretary of the Interior Sally Jewell and Director of the National Park Service Jonathan B. Jarvis honored Mud Pond and other trails in the country as national recreation trails, adding a total of 650 miles to the National Trails System.

But what visitor Hubert Gall and his family love most about Mud Pond Trail is the universal accessibility for those in wheelchairs. “A concerted effort involving volunteers and government oversight is making it possible for physically impaired individuals to get back in touch with nature,” Gall says.

Mud Pond Trail enabled Gall, disabled 20 years ago, to be back “in the forest” and in the outdoors he loves. Accessibility is an important part of President Barack Obama’s America’s Great Outdoors program, which aims to bring all Americans closer to nature as part of a community-driven 21st century conservation agenda.

The Youth Conservation Corps, Service staff and volunteers from the Friends of Pondicherry constructed the trail over a five-summer period. It has a

Hubert Gall REALLY enjoys the universally accessible Mud Pond Trail in New Hampshire.

900-foot-long raised boardwalk with rest stops that offer extraordinary views of a boreal forest and wetland communities.

The trail gives visitors, including those in strollers and wheelchairs, an experience unique in New Hampshire. Opportunities for wheelchair-accessible trails are limited in the mountains, and visitors pass through a wetland forest community uncommon to the Connecticut River Valley and end up at a beautiful pond and fen deep within the refuge.

Benches allow visitors to sit and observe the wildlife, plant communities and scenery. Mud Pond is home to three carnivorous plants and unusual wildlife for its part of New England, ranging from the Jutta Arctic butterfly to the yellow-bellied flycatcher.

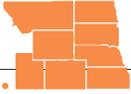
Andrew French, refuge manager of the Silvio Conte refuge, hopes that more accessible trails can be built in the future. In fact, one of the early successes for the Connecticut River Blueway was acquiring \$250,000 worth of excess lumber to build ADA-accessible trails and other public access facilities. Such trails are particularly appropriate in national Blueways because these nationally recognized rivers and their watersheds are chosen for the commitment of their stakeholders to sustaining working lands, natural resources and outdoor recreation.

National recreation trail designation also helps elevate the visibility of Mud Pond as an outdoor recreation site, French says. Communities and other partners supporting the establishment of national recreation trails receive a certificate of designation, a letter of congratulations from Secretary Jewell and a set of national recreation trail markers.

“We were very excited to receive this recognition for the Mud Pond Trail from the Secretary,” French says. “This outcome would not have been possible without the help of our partners, generous volunteers and the efforts of our Youth Conservation Corps over a period of several years. We are in the process of building a similar trail on the Fort River Division of the refuge located in Hadley, Massachusetts.”

Meanwhile, because Hubert Gall and Ursula, his wife of 50 years, only spend about three days a year in New Hampshire’s North Country, the trail helps them make the best use of their time. Their daughter Sharon Harvell said in a thank-you note to the refuge that the trail made this year’s vacation “so extra special” for her parents. □

JOAN MOODY, senior public affairs specialist, Department of the Interior



mountain-prairie

Tiny Catfish Hangs On In Kansas

At just 3 inches long, the Neosho madtom is hard to find. Today, these small catfish are extremely scarce—just four populations remain in the wild. Now living primarily in southeastern Kansas in the Neosho River, the species continues to face many of the same challenges today as it did more than 20 years ago, when it was protected as threatened under the Endangered Species Act.

“The good news is that the fish is still with us,” says Vernon Tabor, a fish and wildlife biologist in the Service’s Kansas Field Office. “The bad news is that little on-the-ground progress has been made to recover the historic population.” Tabor has worked to conserve the madtom for years, as the recovery team coordinator.

These night feeding bottom-dwellers were once common throughout much of the Neosho River basin, living in various rivers and streams. While juveniles inhabit slower-moving water, adults prefer shallow water with swift currents, where they can wriggle into the gravel during the day. In-stream gravel mining practices once posed a severe threat to the Neosho madtom, and the reduction of this activity largely accounts for the stabilization of populations since it was listed in 1990.

The madtom was also affected by a series of fish kills in the 1960s attributed to toxic run-off from



USFWS

livestock feedlots. After feedlots were regulated, the construction of dams has been the primary threat to remaining madtom populations. Discharges from the Tenkiller Ferry Dam in Oklahoma made the river too cold for madtom reproduction, leading to the species’ extirpation in the lower Illinois River. Rising water levels behind dams have also flooded the riffles where madtom live, altering water depth, turbidity, temperature, and nutrient levels. Not only do dams significantly reduce available habitat, but they isolate the remaining populations, weakening their genetic viability.

The Service is working with the Kansas Department of Wildlife, Parks and Tourism on the potential removal of non-essential dams. For instance, the Correll Dam, near Emporia, Kansas, no longer serves as a water supply dam for the city and could be removed. According to Tabor, the removal of the Correll Dam would improve about 10 miles of the Neosho River, connecting and returning the area to natural habitat.

Habitat restoration and conservation is crucial in ensuring the survival of this unique catfish. The removal of non-essential dams will go a long way toward re-establishing a stable and viable population of these fish. □

MEG DICKEY-GRIFFITH, Mountain-Prairie Region

Challenges abound for the Neosho madtom, a very small catfish listed as threatened under the ESA.

What’s the Buzz



TEAL WATERSTRAT/USFWS

Honey bees are said to pollinate approximately \$10 billion worth of crops in the United States each year. For Pollinator Week, Service biologist Jeff Chan shows students a honeycomb.

around the service



USFWS

alaska

70th Anniversary of Battle of Attu Commemorated

Seventy years after young men fought and died on remote, wind-swept Attu Island in the Alaska Maritime National Wildlife Refuge, the Service honored their sacrifices with the dedication of a new interpretive site on Attu.

In addition to interpretive panels that tell the story of World War II in the Aleutians, a plaque honors the deeds of Pvt. Joseph Martinez, the only Medal of Honor recipient in the Aleutian Campaign.

Three interpretive panels describe the Battle of Attu, the fate of the Attu villagers and a timeline of WWII in Alaska. Redwood benches made by veterans allow contemplation of the now peaceful scene on the uninhabited island. Captain William Pepper, a U.S. Navy veteran, of the Service research

vessel R/V Tiglax and an honor guard of three other veterans from the ship's crew, conducted the dedication ceremony on June 3, complete with taps played on a harmonica in the absence of a bugler. "This island is hallowed ground, an important part of this nation's history," Captain Pepper said in his dedication remarks, "American soil that was taken by enemy forces and then recaptured through bravery and heroism."

The Battle of Attu was the only WWII land battle in the 50 United States. This battle raged for 19 days in May 1943 and ended the year-long Japanese occupation of Attu. It has been described as the second deadliest battle in the Pacific Theater (behind Iwo Jima).

More than 500 Americans and 2,400 Japanese died on Attu. American forces retook the island after overcoming a tenacious, dug-in foe and brutal weather. The war sites, part of the Alaska Maritime National Wildlife Refuge

A visitor reads the plaque about Pvt. Joseph Martinez, the only Medal of Honor recipient in the Aleutian Campaign.

since 1913, are also part of the WWII Valor in the Pacific National Monument created in 2008 by President George W. Bush. This monument, dedicated to telling the story of war in the Pacific, includes refuge parcels on Alaska's Kiska and Atka Islands; Pearl Harbor, Hawaii; and Tule Lake, California.

Along with the interpretive panels, the Service's R/V Tiglax delivered a crew of specialists to Attu to assess the remnants of war and post-war military use.

WWII debris, associated contaminants, and unexploded ordnance still litter the landscape, threatening water quality, wildlife and visitors.

The Battle of Attu Interpretive Site will ensure that future visitors understand the magnitude and significance of the island's war history. Captain Pepper said in his final remarks "It is our great hope that Attu Island will remain a peaceful sanctuary for wildlife, and that by learning from the past we can avoid Attu ever being a place of war again. We are honored to dedicate this site to the Attu war veterans and to the native people who once lived on Attu." □

Checking the Net



GARY PEEPLES/USFWS

Each year the Watershed Association of the Tuckasegee River brings Cherokee and other youth out to re-enact a traditional Cherokee fish harvest on Western North Carolina's Tuckasegee River, an event long supported by the Service's Asheville Field Office. On a June day, kids rotated through several themed stations, including macroinvertebrates, where they found a female crawfish.

Alaska Studies Chugach Mountain Dall Sheep

Steve Klein, the Wildlife and Sport Fish Restoration Program chief in the Alaska Region, considers himself lucky to have drawn a hunting tag for Chugach Mountain Dall sheep in 1993, and he filled it with a 38.5" ram. Twenty years later, he was back in the Chugach Range with Alaska Department of Fish and Game biologists Tom Lohuis and Gino DelFrate, participating in a Dall sheep lamb survival study.

Sheep populations in the Chugach have declined as much as 50 percent over the last 20 years, and biologists are working to find reasons for the decline.

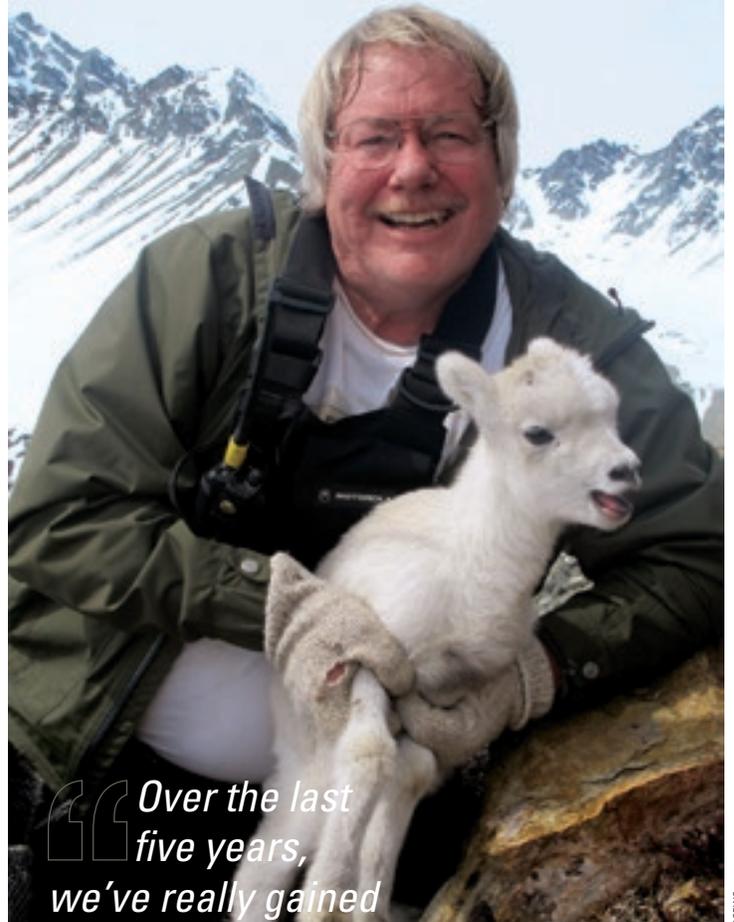
They were there to radio-collar newborn lambs and investigate recent sheep mortalities. Project leader Lohuis located a newborn lamb in the morning, while flying over the study area with pilot Mike Meekin in a Super cub. In a Robinson R44 helicopter, they located the lamb and ewe, landed nearby, ascended the steep mountain toward the lamb and collared it. It took less than two minutes to weigh, radio-collar and release the animal, which quickly reunited with its mom.

The group also tracked two sheep whose mortality sensor had activated and played crime scene detective to identify cause of death. One of the mortalities was an adult ewe that had died from brown bear predation, and the other was a young ram that had died in a snow avalanche.

Lohuis has been tagging sheep in the Chugach Range since 2009. "Over the last five years, we've really gained an understanding of the biological influences that shape sheep populations in Southcentral Alaska," he says. "That means we're able to do a better job managing hunting opportunity." In this particular study area, he has learned that pregnancy rates are particularly low (21–80 percent) compared to 85–100 percent in the Alaska range. Low predation rates in both lambs and adults suggest the population is not predation limited, and disease does not exhibit population level effects. Body condition is extremely poor, suggesting habitat may be the limiting factor.

This work was funded by the Wildlife and Sport Fish Restoration Program and hunting license sales. Excise taxes paid by hunters, shooters, anglers and boaters provide more than \$40 million to the Alaska Department of Fish and Game for management and research of Alaska's fish and wildlife. For more information on Dall sheep research, go to: goo.gl/vWKOR1. □

STEVE KLEIN, Wildlife and Sport Fish Restoration, Alaska Region



“Over the last five years, we’ve really gained an understanding of the biological influences that shape sheep populations in Southcentral Alaska.”

Steve Klein holds a lamb before the team fitted it with a collar as part of an effort to investigate recent sheep mortalities.



NOAA

California Department of Fish and Wildlife staff weigh and measure Chinook salmon before releasing them into the Sacramento River.

pacific southwest

Sacramento NWR Staff, Partners Rescue Stranded Salmon

They were big, approximately 15 pounds on average, and there were dozens of them.

While Sacramento National Wildlife Refuge wildlife biologist Mike Carpenter was conducting a wildlife survey on the refuge, he noticed movement in the water below Dam One. Next to the public wildlife auto tour route, Dam One allows the California refuge to control water quantity and manage wetlands that provide vital habitat for hundreds of thousands of migratory waterfowl in the winter.

Carpenter knew something wasn't right, so he contacted fish biologists from the California Department of Fish and Wildlife (CDFW) for assistance. Working together, refuge and CDFW staff caught some of the fish. They turned out to be Chinook salmon that had inadvertently found their

way into the waterway and intuitively followed it upstream on their spawning migration.

Some were missing their adipose fin, an indication that they were hatchery-raised salmon. A number of the fish were previously tagged, and upon reading the information on the tags, staff learned the fish were winter-run Chinook, an endangered species.

Because the fish is an endangered species, a permit was required before refuge and CDFW staff could handle them. The National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service quickly granted the permit, and the agencies cooperated in an effort to rescue the wayward salmon. Time was of the essence, as the heat in the Central Valley was making the water increasingly unsuitable for the salmon to survive.

Over the course of a few days, approximately 235 salmon were rescued and released into the Sacramento River. During that time, more salmon were spotted just outside the Delevan National Wildlife Refuge, a few miles away, in a larger canal within the same system. Crews went to that site as well, and using the same techniques of seine nets and dip nets, caught and rescued three more fish.

The area has continued to be monitored regularly, and a little more than 250 total salmon had been rescued by the end of May. Some of these salmon were taken directly to the Livingston Stone National Fish Hatchery in California to be spawned. □

MICHAEL WOODBRIDGE, Public Affairs, Pacific Southwest

headquarters

Service Named to AARP's "2013 Best Employer for Workers Over 50 List"

A first-time honoree, the U.S. Fish & Wildlife Service has been selected as a recipient of the AARP 2013 Best Employers for Workers Over 50 Award, ranking 14th among the 50 winners, and one of only three federal agencies to make this year's list. The award recognizes businesses and organizations that have implemented innovative policies, actions and best practices to attract and retain a multigenerational workforce.

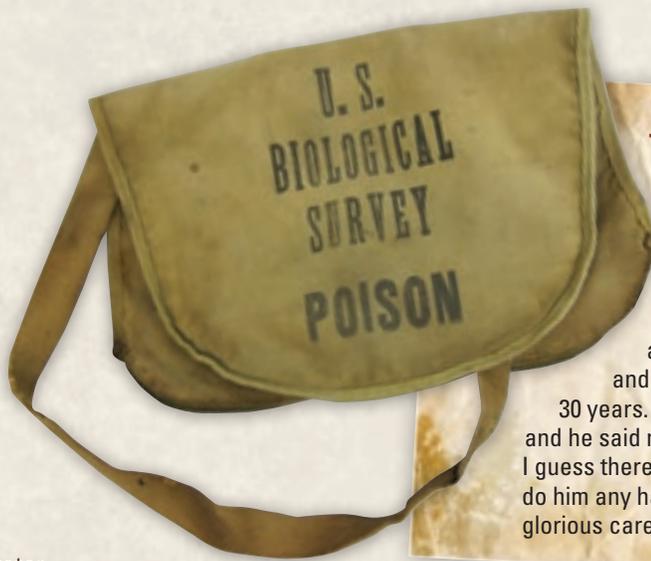
The AARP judges were most impressed by the Service's training resources, specifically the SKILLSOFT Online Library. Other notable Service HR areas mentioned were the benefits, policies and practices available to all employees, such as; various Recruiting Programs, Workplace Culture and Continued Opportunities, Health and Financial Assistance Benefits, Alternate Work Arrangements and Opportunities for Retirees.

"The Service views employees as one of our most important assets," says Assistant Director of Budget, Planning and Human Capital Denise Sheehan. "Currently, 39 percent of Service employees are age 50 and over. We believe Service employees who have the most experience, both in academic learning and in life years, are essential for maintaining a high level of institutional knowledge in order to accomplish our mission." □

From Poison Bag to Oprah to Big Foot

This is the first in a series of curiosities of the Service's history from the National Conservation Training Center Museum.

As the first and only curator of the museum, Jeanne M. Harold says the history surrounding the objects in the museum give them life.



The U. S. Biological Survey poison bag.

The folks in Animal Damage Control—at one time nicknamed “gopher chokers”—used these bags with the logo “U.S. Biological Survey”—to spread corn laced with strychnine to exterminate the overpopulation of rodents in the 1920s and 1930s. A retiree donated the bag, and he told me that he carried his lunch in it for 30 years. In surprise, I asked him if he washed it first, and he said no, that it was pretty clean when he got it. I guess there wasn't enough strychnine residue in it to do him any harm, as he made it through a long and glorious career and is now retired!

The elephant foot garbage can

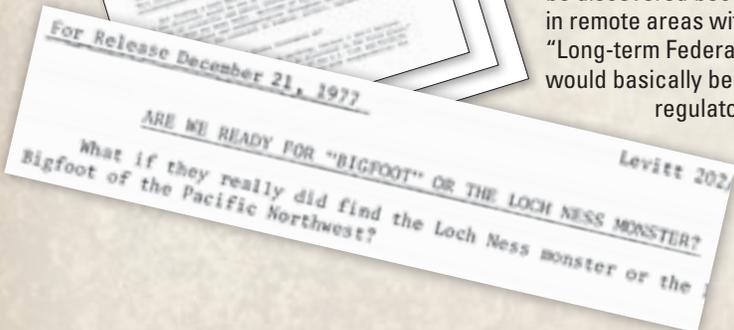
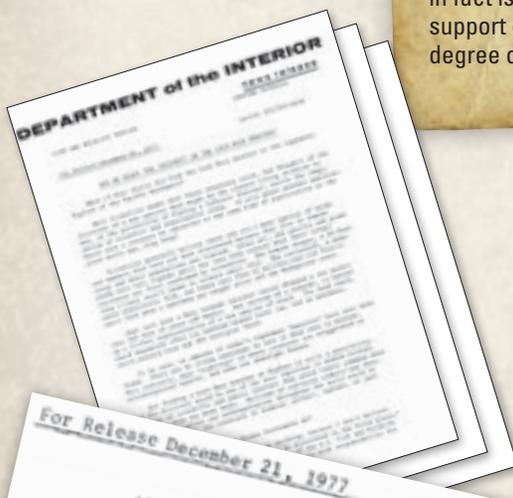
A small garbage can made from the taxidermied foot of an elephant has a prestigious story—It was carried in Oprah Winfrey's very own hands. The garbage can was included in the contents of a shipping crate that the Oprah show had purchased from an unclaimed freight auction. Oprah's folks broke open the lock, just like in *Storage Wars* and she carried out the foot, claiming that if you had bought this shipping crate, you could be the proud owner of the elephant foot garbage can. Soon after, Service wildlife inspectors showed up and confiscated the object, which in fact is illegal to possess. Our agents had the full support of Oprah. Having held that foot, I am only one degree of separation away from Oprah Winfrey!



The Bigfoot news release

A DOI news release dated December 21, 1977, stated what the U. S. government would do if Bigfoot was ever discovered. Just like the Komodo dragon, discovered in 1912, and the coelacanth in 1938, other creatures may yet be discovered because of their existence in remote areas with limited populations. “Long-term Federal protection of... Bigfoot would basically be a matter of following...

regulatory mechanisms already used in protecting whooping cranes and tigers.” It is a comfort to me to know that we are prepared for all circumstances!



If you'd like to set up a tour of the museum, please contact the Curator at 304/876 7285.



Reaching Out for Outreach

Showing the friendly face of Service Refuge Law Enforcement in a remote Alaska school

Jim Hjelmgren, Refuge System Law Enforcement chief in the Alaska Region, considers it part of every Alaska federal wildlife officer's mission to give presentations to, and perhaps more importantly just chat with, students in local village schools. I very much agree with him because I believe that doing so allows people in the villages to see us more often (and especially when we're not out there looking like the "Bad News Cops" who no one wants to meet or talk to). When possible, we also like to have an Elder speak at the presentation to reinforce respect for these local leaders.

In an effort to add something special to such visits, Alaska Region Refuge Law Enforcement created a limited-edition Challenge Coin. The only people eligible for these prizes are children who participate in our programs or individuals who go out of their way to help make them happen.

The students take the time to see all gear and furs shown by Officer Bennett, while one student shows off the "Alaska Refuge Law Enforcement" posters that were handed out.

In February, I made the bumpy two-hour snowmobile ride to Takotna, the nearest village.

The main purpose of my visit was to let the children know that officers are just like everyone else. All too often rural Alaska kids see us only when we're on duty in the field, which tends to make them believe that all we ever do is "be mean and give tickets." I wanted to show that we're friendly and helpful, and that we're always glad when anyone comes up to chat with us. After all, our officers and rural Alaskans share a belief in taking care of the environment and our resources. I felt that I could inform them about opportunities they may have not known about, point out the willingness our refuges have to help those in their neighboring communities and give advice on career opportunities. It may be a simple message but keeping out of trouble, working hard and having a great attitude can open doors for anyone.

I started my presentation with some photos of my family, the first one being a dingy picture of me at around age 2 or 3, standing in the yard in my "tighty whities"

and staring at two catfish my dad had caught in the Red River near our little country town of Yuba, Oklahoma. I hoped it would show that I've been fascinated with nature since I was very little. All the kids aughed, of course, but I wanted them to see that that I'm a person just like anyone else, and that you don't have to come from a big city or be born into a rich family to have opportunities.

I brought along one of the refuge's pilot helmets and some furs (wolf, wolverine, otter, marten, mink and squirrel) for the kids to handle. I was unable to find an Elder to speak, but the teacher's husband, Edwards "Hammer" Kinsland, graciously talked about why he moved to Alaska and has stayed here for more than 20 years, and shared his own ideas on the environment and resources.

After Edwards finished, I showed the children our LE Challenge Coins and told them that because they'd already sat politely and listened to me speak, they only had to fill out a paper (by answering a few questions and writing a paragraph or drawing a picture that describes harvesting plants, fish or wildlife) to get one. The kids did so eagerly, and every student got all big-eyed and smiled when I handed out the coins.

I closed my presentation by saying they can always call the refuge if they have any questions; whether it's just to have a "how ya doing" chit-chat or to ask about career opportunities or guidance. And I gave the kids the chance to ask me some questions. Finally, I reminded them to stop by if they're ever near the Innoko Refuge headquarters, because we love visitors!

Perhaps most rewarding of all for me was the fact that the kids didn't take off as soon as the final bell rang. In fact they stayed and chatted with me for a good 30 minutes after my presentation! If my memories of my own school days are any indication, that's high praise indeed!

Tim Bennett is a Refuge Law Enforcement Officer with Innoko National Wildlife Refuge.



transitions

External Affairs Turns Over New Leaf

External Affairs offices throughout the Service have undergone many changes this year with key retirements and transitions.

In the **Pacific Region**, longtime Public Affairs Chief **Joan Jewett** retired at the end of May. In an email, Jason Holm, the Assistant Regional Director for External Affairs, called her “a living legend.” After a full newspaper career at *The Oregonian*, she joined the Service in 1989 and led such communications efforts as the Northern Spotted Owl Recovery Plan. She was also known for her willingness to pass on her wealth of knowledge and tradecraft to the next generation of Service communicators. Jewett plans to pursue her loves of gardening, traveling and being a grandmother. Taking on her job is **Brent Lawrence**. Lawrence began his Service career in December in the Communications Office in Headquarters and worked on several key issues such as Wildlife and Sport Fish Restoration grants and wolf recovery. He came to the Service from the National Wild Turkey Federation. Also new to the Pacific Region is public affairs specialist Megan Nagel. Nagel had been the Science Applications communications coordinator in the Service’s Northeast Region where she had a leadership role establishing climate change, LCC, SHC and surrogate species communications strategies there.

In April, **Kristen Peters** joined the **Southeast Region** in Atlanta serving as congressional and legislative affairs specialist. She came from the Office of Congressional and Legislative Affairs at Headquarters and hit the ground running with strong congressional and legislative affairs experience that cuts across multiple agencies and the Office of the Secretary. Last year, she played a key role in supporting the Service’s interests associated with the RESTORE Act as the legislation moved through the House and Senate and was ultimately included in an extension of the highway bill. She also handled legislative issues related to the Oil Pollution Act, the Natural Resource Damage Assessment and Restoration program, the Office of Law Enforcement, transportation and International Affairs.

The **Northeast Region** is also welcoming several staffers from Headquarters External Affairs. **David Eisenhauer**, who had been with the Communications Office in Headquarters for eight years, now heads up that region’s communication on science, and **Christine Eustis**, the Service’s Deputy Assistant Director for External Affairs and Acting Assistant Director, has taken on the role of the Deputy Assistant Regional Director for External Affairs and Congressional Liaison. Eisenhauer has been the Communications lead on Landscape Conservation Cooperatives, Strategic Habitat Conservation and surrogate species for years and has been instrumental in development of an integral part of the Service’s new conservation models. Eustis spent nine years in Headquarters, including almost six as the Deputy Assistant

Director for External Affairs. Some of her most important accomplishments as Deputy were hiring a strong leadership team in EA, including a new CLA chief and a DPPS chief, adding a top-notch budget team, and continuing to mentor staff throughout the program. She also was proud to manage the EA community through Change@fws.gov, to grow the Service’s social media capacity and do more to collaborate as a national EA program to improve communications capacity across the Service. She was also instrumental in getting Recovery Act funding set aside for communications work in HQ and the regions, and the Service was the gold standard for ARRA communications.

In the **Alaska Region**, **Bruce Woods**, the chief of Media Relations, retired after 13 years with the Service. **Chuck Young** of that office, a strong advocate for the visual image and record management, retired after a 25-year career. Also in Alaska, **Maureen Clark** joined the EA staff as a public affairs specialist for the region’s fire management program.

In **Headquarters**, several people have been serving in Acting roles to make up for the losses. Longtime Communications Chief **Chris Tollefson** has been named Press Secretary to Director Dan Ashe. He becomes the senior spokesperson for the Service on high-profile issues and provides input on strategic communications initiatives and other activities directly supporting the Director’s office. Communications’ **Noemi Perez** is serving in the Division of Program & Partnership Support. **Laury Parrymore**, who worked in the Division of

Program & Partnership Support for many years, returns to Communications as a public affairs specialist. **Gavin Shire** is also new to Communications. He is both an experienced communications specialist and a trained biologist. Most recently, he served as vice president of Communications for the American Bird Conservancy. **Lynn Yaffe** also moved to External Affairs as the administrative assistant.

Welcome all. □

Headquarters



WVA

David Hoskins, who has more than two decades of experience in wildlife conservation law, policy and advocacy, has been named the Service’s Assistant Director for Fish and Aquatic Conservation.

Hoskins oversees policy direction and management of the National Fish Hatchery System, fish health and fish technology centers, fisheries management, aquatic invasive species and injurious wildlife, and aquatic restoration programs.

“David Hoskins has spent decades working in the public and private sector to protect and restore fish and wildlife and the habitats that support them. Throughout his career, David has shown the ability to manage complex issues and lead effective organizational change, and I’m excited to have him bring his talents and expertise to our fisheries programs.”

said Service Director Dan Ashe. "Our nation's fisheries and aquatic resources face enormous challenges, and I'm confident David will help us meet those challenges effectively."

The Fish and Aquatic Conservation Program encompasses almost 800 employees nationwide, located in 65 Fish and Wildlife Conservation Offices, 70 National Fish Hatcheries, nine Fish Health Centers, seven Fish Technology Centers and a Historic National Fish Hatchery. The program is focused on the protection and restoration of imperiled native fish species and aquatic habitat, and has extensive experience culturing more than 100 different aquatic species.

Hoskins most recently served as executive director of the Izaak Walton League of America, one of the nation's most respected conservation organizations, from 2007 to 2012. In that role, he oversaw all facets of the organization at the national level, including its core agriculture, water and energy conservation programs; fundraising and membership; finance and administration; communications; and a network of more than 250 volunteer-led local chapters across the nation. He led the organization to four consecutive years of balanced budgets, significant net operating surpluses and steady membership growth.

Before joining the Izaak Walton League, Hoskins served as vice president for government affairs and general counsel at the Ocean Conservancy, one of the world's leading organizations dedicated to the conservation of the nation's oceans, marine wildlife and fisheries.

Hoskins also served as a trial attorney with the U.S. Department of Justice's Environment and Natural Resources Division from 1999 to 2000; counsel to the Senate Environment and Public Works Committee from 1995 to 1999; counsel to the House Committee on Merchant Marine and Fisheries from 1994 to 1995; and senior program officer for the World Wildlife Fund from 1992 to 1994.

He was also executive director of the Appalachian Mountain Club, and worked for the Environmental Defense Fund and in private practice as an attorney.

Hoskins holds a Bachelor of Science degree in biology from Tufts University in Medford, Massachusetts, a Master's in forestry from Yale University in New Haven, Connecticut, and a law degree from Columbia University in New York. He and his wife, Marlene, live in McLean, Virginia, with their three children. □

Southwest

Allan M. Strand, field supervisor of the Corpus Christi Ecological Services Field Office, retired March 9 with 30 years of government service. After overseas military duty, Allan returned to school and then worked in the private sector leasing ranches for hunting ventures for many years before joining the Service. He began in Corpus Christi in 1991 with the NRDA/Contaminants Program and became the field supervisor in 2002.

Highlights of his career with the Service include finalizing a large, longstanding damage case against Alcoa for mercury contamination in Lavaca Bay and restoration of Shamrock Island in the Laguna Madre from oil company disposal area to a colonial nesting waterbird safe haven. His vision guided strategic planning for ocelots and border resources and whooping cranes and coastal wetlands. The office remains focused on these strategies as he heads off to enjoy the natural resources he worked to conserve. □

Southeast



Linda Hurley Kelsey, the Assistant Regional Director for the Fisheries Program of the

Southeast Region for the last 13 years, has retired. Kelsey had been responsible for management of all Fisheries

activities that work to protect and restore healthy populations of fish and other aquatic species and the environments on which they depend. She directed the activities and functions of the Regional Fisheries Center, which includes the Fish Health and Fish Technology Centers, 14 National Fish Hatcheries and six Fish and Wildlife Conservation Offices throughout the Southeast.

Kelsey led the development of a national report on the economic benefits of the Service's Fisheries Program. This report demonstrated for the first time the tremendous returns generated by the Service's National Fisheries Program in terms of jobs generated and economic benefits—\$3.6 billion to the nation's economy and 68,000 jobs across the country.

Kelsey has also been the Service's lead for the Gulf of Mexico Alliance. The Alliance is a partnership of the five Gulf States, 13 federal agencies and other partners committed to the enhancement of the environmental and economic health of the Gulf of Mexico. She also served as the Department of the Interior's lead for the Coastal and Marine Spatial Planning efforts in the Gulf being directed by the National Ocean Council.

In 2010, Kelsey received the Meritorious Service Award of the Department of the Interior for her leadership in the formation, development and implementation of the Southeast Aquatic Resources Partnership (SARP). Begun in 2001, SARP is a regional collaboration of state and federal natural resource and science agencies, conservation organizations, and private interests working

to strengthen the management and conservation of the aquatic resources in the southeastern United States. Kelsey's promotion of this concept of locally driven efforts that build private and public partnerships to improve aquatic resources was so successful that SARP served as the primary impetus for the Service's later National Fish Habitat Initiative. She was also given the Meritorious Service Award for her role in seeking reimbursement for the Fisheries Program's hatchery mitigation expenditures associated with federal water development agencies. Kelsey began her career in Washington, DC, with the Service's Endangered Species Program in 1980.

She later spent seven years in the Service's Annapolis Field Office where she participated in the Service's first Coastal Program office. She was responsible for implementing a number of projects and field activities aimed at restoring the natural resources of the Chesapeake Bay watershed. After returning to Washington in 1992, Kelsey worked in the Ecological Services Division of Habitat Conservation where she assisted in the development and implementation of the Service's newly formed National Coastal Program. She also served as the National Coastal Barriers coordinator and was the lead for the Coastal Wetlands Conservation Grants Program. She later became chief of the Branch of Habitat Restoration overseeing all the Service's coastal restoration programs as well as the Partners for Fish and Wildlife Program. Kelsey also

served as special assistant in the Director's Office.

Kelsey received a Bachelor of Science in biology and a Master of Science degree in marine and estuarine science from the University of Maryland. Her husband, Rob Kelsey, a native of Long Island, New York, is a retired Service fish and wildlife biologist. □



Vince Mudrak, director of Warm Springs Regional Fisheries Center in Georgia, has retired

after a professional career in the fisheries profession that spanned more than 40 years. His professional employment began in 1971, as a fisheries biologist for the Pennsylvania Fish Commission where he rose in the position of chief of research and served as chair for the commission's FUTURE Task Force for managing fisheries. In 1992 (after 21+ years of service with Pennsylvania) Vince made a difficult decision to leave a great job in Pennsylvania and take a job with the Service in Washington. There he served as the Fisheries liaison to Fish Technology Centers and helped to advocate science-based fisheries management. He facilitated the Service's role in advancing the "Uses and Effects of Cultured Fishes in Aquatic Ecosystems;" and co-chaired a national team that developed and published the American Fishery Society guidelines: "Considerations for the Use of Propagated Fishes in Resource Management." In 1995, Vince

moved assumed the role of director of the Warm Springs Regional Fisheries Center. He continued to advocate and integrate the principles of science-based resource management into both hatchery propagation activities and field operations. He sought scientists and encouraged them to use their talents. The Regional Fisheries Center became known for developing partnerships that utilize sound science—with emphasis on cryogenics, aquatic animal health and ecological genetics. Additionally, Vince implemented national standards and served as the lead for managing the Service's National Triploid Grass Carp Inspection and Certification Program. He was also actively involved in the Southeast Region's Mentoring Program, and mentored many Service employees, either officially through the Mentoring Program, or unofficially by working so well with all staff across all levels within the entire Service. Vince retired from professional fisheries work on May 31.

Vince recognizes that much of the credit for his accomplishments belongs to wife Susan, who always remained supportive of his work and the long hours. He and Susan will continue to reside in Lagrange, Georgia, and spend quality time with their family. He is eager to teach his grandchildren about nature and the values of our great outdoors. Rumor has it that a boat on West Point Lake is also in the works.

His spirit, enthusiasm, technical expertise, dedication and style will be sorely missed by all in the Fisheries Program. □



Dr. James Ron Nassar, project leader of the Lower Mississippi River Fish and Wildlife Conservation

Office and coordinator of the Lower Mississippi River Conservation Committee (LMRCC), has retired. The LMRCC is a non-profit organization comprised of 12 natural resource management and water quality agencies representing the states of Arkansas, Kentucky, Louisiana, Mississippi, Missouri and Tennessee. It provides the only permanent forum dedicated to restoration and conservation of the Lower Mississippi River's nationally significant aquatic natural resources. Dr. Nassar was responsible for developing and implementing a landscape-level plan for restoration of the aquatic resources in the 2.8 million acre leveed floodplain of the 954 river miles of the Lower Mississippi River.

Dr. Nassar has been a champion for conservation delivery with the "Restoring America's Greatest River" plan, which has resulted in the restoration of nearly 40 miles of Mississippi River side channels, benefitting endangered species such as the Pallid sturgeon, fat pocketbook mussel, interior least tern and numerous sport fish species. This on-the-ground restoration is the culmination of years of strategic partnership building that leverages funds from the Service's Fish Passage Program with assistance provided by the U.S. Army Corps of Engineers.

Dr. Nassar played an integral role in the initiation of the Lower Mississippi River Resource Assessment, the first congressionally authorized watershed study of the Lower Mississippi River in nearly 40 years. The LMRCC is one of the key partners in the study and when completed, it will recommend public investments in integrated river management, restoration of fish and wildlife habitat, and infrastructure enhancements for outdoor recreation.

In 2012, through Dr. Nassar's tireless efforts, the LMRCC produced "Fishing the Lower Mississippi River," an online and interactive guide that tells readers how to catch crappie, catfish, white bass and other game fish in a variety of river and floodplain habitats. The guide also has important safety and access information and is linked to detailed maps. The guide is free for viewing and downloading at <goo.gl/gy4B8s>.

Dr. Nassar has also been working to bring attention to the batture (land between the levees), the 2.8 million acres of active floodplain that remain along the lower river. The LMRCC and Mississippi River Trust have started an effort to restore 40,000 acres of bottomland hardwood forest, with the first 7,000 acres enrolled in 2012 in conservation easements to provide habitat for migratory songbirds and the threatened Louisiana Black Bear, protect water quality, and increase hunting opportunities. This effort is supported by the U.S. Natural Resource

Conservation Service and private foundations and is aimed at landowners willing to replant cleared land subject to frequent flooding.

In February 2013, he received the Mississippi Wildlife Federation's most prestigious award, Conservationist of the Year.

Dr. Nassar is a native of Cleveland, Mississippi. He received a master's degree in interdisciplinary science from Delta State University before receiving a second master's in wildlife management and a doctorate in wildlife and fisheries science from Louisiana State University.

Dr. Nassar's expertise with big river and bottom land hardwood restoration projects, his passion and driving work ethic will be sorely missed by the Fisheries Program, the Service and the people of the Lower Mississippi River Valley who have worked with him over his entire career. □

Before Warm Springs Regional Fisheries Center Park Ranger **Rosla Plant** began working at Warm Springs in Georgia, she had a completely different life. She retired from the Service this year. But before that, worked for 16 years as a radiologic technologist (American Registry), was the first woman Meriwether County commissioner and served as Congressional staff liaison for former Congressman Richard Ray. She graduated from Columbus State University (formerly Columbus College) in 1992 with a Master of Science as well as a Bachelor of Science in 1988.

Rosla's career with the Service began in October 1993 as office automation assistant with career advancement to park ranger. Her activities as park ranger focused on outreach and educational activities, such as the Centennial Celebrations for Warm Springs National Fish Hatchery and Private John Allen NFH in 1998; 2003 Refuge Centennial Celebrations at Okefenokee and Regional Office; managing all aspects of Fisharamas in Atlanta and Perry for Georgia Wildlife Federation for 13 years; managing all aspects of Kids Fish for Fun for more than 19 years; and many other outreach events. Rosla also managed multiple large meetings for the Service, both on site as well as off site and was instrumental in organizing and providing leadership for Friends of Warm Springs NFH.

Rosla stays active with community activities involving Greenville Lions Club and Greenville Baptist Church. Favorite pastimes include family—especially the five grandkids—friends, gardening, food and fellowship.

Her organizational and coordination skills, as well as her expertise in administrative functions as well as outreach, community involvement and community contacts will leave a big gap at Warm Springs that will be sorely missed. □

Northeast

Sherry Morgan, Assistant Regional Director for Migratory Birds in the Northeast Region, retired in July after a 26-year career with the Service.

Trained as a botanist, Sherry began her conservation career with the Missouri Department of Conservation. She first worked for the Service in the Pennsylvania Ecological Services field office, specializing in wetlands permitting. Later, Sherry led a team that designed the first basic training for Ecological Services. This was before the National Conservation Training Center (NCTC) was established, when the Service was beginning to realize the importance of training for employee development. She was an early leader in training and developing our people, setting new standards for how the Service and NCTC would go on to train our employees.

Sherry assumed leadership of the regional Migratory Bird Program in 2003. Under her leadership, the program has been working on innovative landscape-scale conversation for many years. From their work with partners in Central and South America, to habitat management for birds in the Appalachians, and their groundbreaking work to understand the impacts of offshore wind siting on migrating birds, Sherry and her team have helped position us well to design and conserve sustainable landscapes. □

Alaska



After nearly 35 years of federal service, Deputy Regional Director for the Alaska Region **LaVerne**

Smith retired on July 1. She plans to explore Alaska and other wild places with husband Rick in the immediate future.

Smith joined the Alaska Region in April 1999 as the Assistant Regional Director for Fisheries and Ecological Services. She helped lead various initiatives in the Service and with conservation partners; most recently she served on the Service's National Climate Change Team, which developed the Service's Climate Change Strategic Plan and completed a year-long detail starting the Alaska Region's Science Applications Program and launching the Alaska LCCs. LaVerne led the Endangered Species Act listing of the polar bear, the first ESA listing due to climate change, and has been involved with helping the agency shape its response to the challenges of climate change and the associated landscape level changes.

Before coming to Alaska, LaVerne served as chief of the Service's Endangered Species Program from 1995 to 1999. During her tenure in this position she received a Meritorious Service Award from Secretary Bruce Babbitt recognizing the new directions for Endangered Species Management that her division had set and formalized in

numerous volumes of guidance, regulations and policy. In recognition of her commitment to science-based listings in an era of high litigation, she received a Special Commendation from the Department of Justice.

LaVerne began her career with the Service in 1978 in the Endangered Species Program, working to conserve endangered plants of the southeast and southwest United States. LaVerne expanded her focus on recovery at the national level and received an honorary Recovery Champion award in 2002, the first year of the awards. LaVerne served in management positions in the Service's Habitat Conservation Program. In the early '90s she led the initiation of the Service's Coastal Program and supervised the Partners for Wildlife Program through a decade of rapid budget growth and focusing of the program's strategic priorities. She helped lead the effort to realign the National Wetlands Inventory, and led the Service's No Net Loss of Wetlands Initiative. She was the national co-leader for the Service's Ecosystem Approach to Management Initiative for which she received a Superior Service Award from then-Service Director Molly Beattie.

Throughout her career, LaVerne notes that she has done pretty well for one of the few botanists hired by the Service. Her commitment to conservation, and more importantly, her commitment to the employees she mentored, coached, supervised and encouraged to succeed, will be missed by all as we bid her farewell and congratulate her on her retirement. □

honors

Headquarters



Civil rights coordinator **Doug Gentile** received the Meritorious Service Award as he retired

after nearly 30 years of public service. Gentile, a member of the Wildlife and Sport Fish Restoration Program (WSFR), dedicated his entire federal career to enforcing civil rights laws and ensuring that Americans are treated equally with regard to public access to government programs and activities. He's also worked diligently to help diversify the workforce within the Service and the Department of the Interior.

Some of Gentile's career highlights include:

- Joining four employee affinity groups within the Department of the Interior to support diversity efforts;
- Conducting demographic analyses of racial/ethnic representation on the federal workforce by using Standard Deviation techniques;

- Providing extensive advocacy in disability access, both as a member of the DOI Disability Rights and Technical Advisory Committee and as an investigator of civil rights concerns across the USA where disability rights were the issue;

- Managing the Service's Combined Federal Campaign for Fiscal Year 2012, which raised more than \$91,000 by Headquarters employees for charities across the Washington, DC, metropolitan area.

"We are very privileged to have worked with Doug through the years. He is a warrior for the civil rights causes he has worked so tirelessly for," said Assistant Director Hannibal Bolton of the Service's Wildlife and Sport Fish Restoration Program. "It is a bittersweet moment because the WSFR program along with the entire Service family will miss Doug as he retires. We wish him all the best and give him our heartfelt thanks." □

Pacific



Estyn Meade (left) and Larry Salata (center) received the Department of Interior's Citation of Meritorious Service on June 10 from Service Deputy Director Rowan Gould.

The Service's **Estyn Meade** and **Larry Salata** received the Department of Interior's **Citation for Meritorious Service**. Meade is a national leader in conceiving and implementing innovative approaches to conserve aquatic and wildlife habitats, and Salata is a nationally recognized expert in the law, policies, and regulations pertaining to Sections 7 and 10 of the Endangered Species Act. □

Southeast

Tony Brady, fishery biologist with the Natchitoches National Fish Hatchery in Louisiana, is a recipient of the **2013 Legends Award** from the American Recreation Coalition, given to six federal managers in



recognition of their outstanding work to improve outdoor recreation experiences and opportunities for the American people. Brady was recognized for his efforts to expand and enhance recreational opportunities for Americans. Through his extraordinary efforts, Brady has connected numerous people, especially youth to the outdoors through archery. In addition to teaching archery to youth, Brady has trained and certified six Louisiana school teachers to teach archery in their schools. □

The **Harpeth River Restoration Project** in Franklin, Tennessee, has won a **2013 Governor's Environmental Stewardship Award** from Tennessee.

Since 2004, the Service has worked with the Harpeth River Watershed Association, U.S. Environmental Protection Agency, Tennessee Department of Environment and Conservation, and other partners to address water quality impairments and habitat degradation in the Harpeth

River Watershed. In July, the removal of a lowhead dam on the Harpeth River made the Harpeth River one of the few rivers in Tennessee that is entirely free flowing.

The dam removal improved fish habitat, raised water quality, bolstered recreational opportunities, helped conservationists restore unstable river banks and demonstrated modern methods for enabling water withdrawals that support the river's natural flow and ecological value.

In addition to recognizing these achievements, the award says: "The project's ecological significance cannot be overestimated as the Harpeth is one of a very unique system of southeastern rivers that together hold more biodiversity than anywhere else in the world."

On May 21, 2012, Secretary of Interior Ken Salazar identified the Harpeth River Restoration and Lowhead Dam Removal Project as the one project for Tennessee for the America's Great Outdoors Rivers Initiative. □

Mountain-Prairie



Bob Danley, outdoor recreation planner at Lee Metcalf National Wildlife Refuge in Montana,

has won the **American Recreation Coalition's Beacon Award** for his innovative use of technology. Danley uses social media — especially Twitter to bring visitors to the refuge: "I just posted on marble godwits. There were about 65 of these showy shorebirds on the refuge. People immediately got on the trail to see them. When people are informed in a timely way, they can take advantage of cool spectacles."

Danley also used a Facebook page to promote the Montana Junior Duck Stamp program, providing a way for kids to see their artwork online. He is preparing quick read (QR) codes for the refuge auto tour route. Danley has also coordinated firearm and archery hunter education courses, youth and special needs fishing clinics, and many environmental education programs.

Danley is also a regular presence on the public radio station in Missoula, where he offers weekly updates on the refuge including bird calls: say "Poor Jo-Jo Missed His Bus" fast and you'll have the call of the white-crowned sparrow! □

in memoriam

Headquarters

Toykia Kenya Keys, 39, died May 27 in an auto accident in Prince Georges County, Maryland. She worked as an administrative support assistant for the Office of the Science Advisor. Her 14-year-old son, Kamany Love, also died in the accident.

As a respected and valued member of the OSA team and Service family, she will be greatly missed by her colleagues and friends in Headquarters. □

Mountain-Prairie



Linda "Lyn" Crete, a veteran of the Vietnam era and Service employee for 18 years, died on February 14,

2013, at her farm near Callaway, Minnesota. She also worked for the Departments of Treasury and Transportation and the Small Business Administration during her 26 years of dedicated federal service. Lyn earned Associates degrees at St. Cloud State University and Montana State University-Billings in Business Administration and Accounting using her GI Bill benefits until starting her federal service in

Billings, Montana, with Treasury and Transportation. She worked for five years with the Small Business Administration in Helena before joining the Service in the Montana State Office there as a budget analyst/administrative officer.

She also served as a budget analyst in the national office and Portland Regional Office before finishing her career in the field at Benton Lake NWR in Great Falls, Montana, as the administrative officer. Lyn's work was that of complete dedication to teamwork and "getting the job done" — on time and in spite of the hoops, hurdles and barricades the current year budget and out-year budget cycles tossed in her way.

To her colleagues-friends in the Service she became known as "Scoot" for her inexhaustible energy and tactical maneuvers to make the budget and accounting, contract and personnel actions work.

Lyn elected a medical retirement due to her distraction with pancreatic cancer. Her remarkable six and a half year survival of that cancer was also an example of her tenacious life. In retirement Lyn became an organic gardener and "farmer's marketeer" of her produce at and near her farm. She worked to convert uplands on her 80-acre farm to grasslands to protect soil and buffer Service wetland easements on her

farm. She came to believe that her chickens were the greatest comedians of all farm animals and considered her farm the best "refuge" in the world.

Lyn is survived by husband Ron, daughter Jessica, son Zachary and seven grandchildren. In her quiet, but not silent; energetic as a "scooter," and determined but not abrasive way, she demonstrated how deeply honored she was to have served with her workmates. She was the consummate team player in the aim of conserving and protecting "all the little live things" and their ecosystems as our companions on this shared planet. □

parting shot

Mine. A frequent visitor to San Joaquin National Wildlife Refuge caught an awesome interaction between red and grey foxes. Rick Kimble, an avid photographer who lives near the refuge saw these two foxes vying for dominance along the refuge's walking trail. In that moment when the red fox bared its teeth and the grey crouched in submission, Rick took this photograph. Rick explains: "I stopped by the refuge last night on my way home and walked down the public trail. I heard these two before I saw them. They were so distracted I got right up on them. When they heard the shutter they were off in a flash... I doubt I will ever get another chance like that."



USFWS PHOTO COURTESY OF RICK KIMBLE

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