



# Fish & Wildlife *News*



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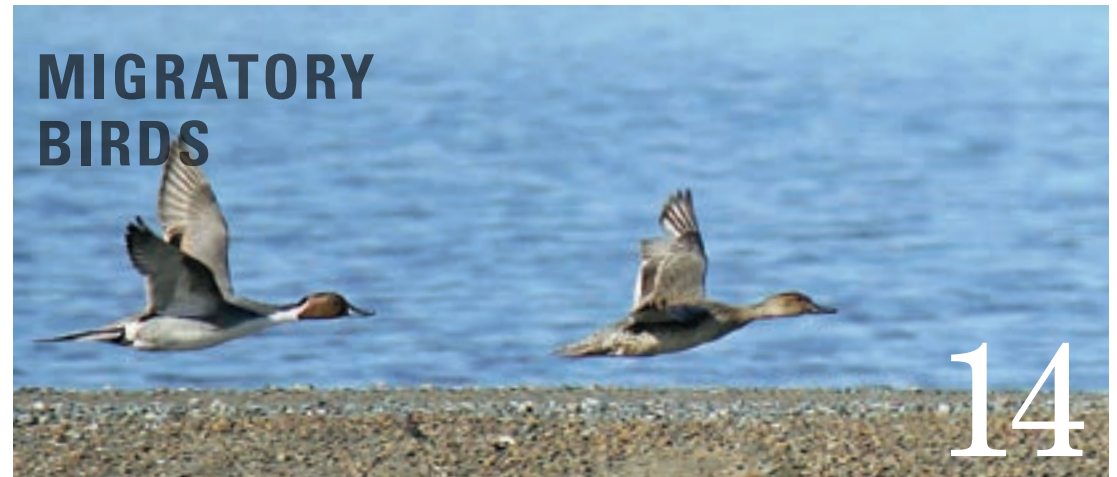
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### SPOTLIGHT

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## Birds Are Everywhere

Technology often amuses us with such games as *Flappy Bird* and *Angry Birds*.

When we want to listen to music, we can choose the sax work of Charlie “Bird” Parker, the harmonies of the Byrds or even the Trashmen’s *Surfin’ Bird*.

Movies show us the imaginary lives of macaws in *Rio* and *Rio 2* and the not-so-imaginary lives of birders in *The Big Year* and *A Birder’s Guide to Everything*.

You will almost always have the opportunity to see birds—they can be found everywhere, in every habitat in our nation. This is one of the things that makes them different from other wildlife.

In cities, falcons find homes on the ledges of skyscrapers. Kingfishers can be seen fishing along rivers and bodies of water. Colorful songbirds and zippy hummingbirds visit backyards everywhere. And huge numbers of bird species fill the air—especially during the spring and fall as birds move along the migratory pathways between their breeding and wintering grounds.

They all have amazing traits—the vivid colors on buntings and bluebirds, the compelling aerial displays of swallows and cranes, the cheery sounds of robins and wrens, the entertaining courtship rituals of cedar waxwings and Clark’s grebes...

In fact, these were just a few of the birds mentioned by Service employees when we asked them to name their favorite migratory bird.

We received responses from employees in all areas of the Service—Law Enforcement, External Affairs, Ecological Services, Fisheries...—and from people in all types of jobs—biologists and branch chiefs, office assistants and Deputy Regional Directors, support staff and people on the front lines of conservation. So many employees took the time to tell us about why a particular bird—or birds—captured their heart.

This tells me something important yet simple: People like birds—the way birds look and sound, and the impressive flights of migration. More evidence of the interest in birds and wildlife can

be found in the National Survey of Fishing, Hunting and Wildlife-Associated Recreation. Almost 72 million Americans participated in wildlife watching in 2011, spending almost \$55 billion; 47 million of those people were watching birds. That’s about 20 percent of the U.S. population age 16 and older.

Enjoying birds provides a way to invite more people into taking an interest in—and perhaps then taking action for conservation.

If we can get people to appreciate the birds at their backyard feeder or on a walk in a local park, maybe one day those people will venture to a national wildlife refuge to see species they might not see in their own yard. Then, maybe they become interested in black-footed ferrets or sea turtles. Before you know it, we have whole-hearted conservationists.

All thanks to the simple presence of birds—in the sky, on the water or around the backyard—and the enjoyment of watching them.

This issue of *Fish & Wildlife News* spotlights the U.S. Fish and Wildlife Service’s Migratory Bird Program and the work the program does to conserve America’s birds and their habitats. I am proud of our employees around the nation whose passion for birds and bird conservation drives them. And I am thankful for our partners who feel as strongly as we do about ensuring that generations to come will be able to enjoy the sights and sounds of birds filling the air.

I hope you will enjoy reading about just a few of the people and projects dedicated to conserving America’s birds.



DR. THOMAS G. BARRIS/ID OF KENTUCKY

PS. As Assistant Director of the Migratory Bird Program I really shouldn’t have a preference, but between you and me, my favorite bird is the wood duck. □

JEROME FORD, Assistant Director of the Migratory Bird Program

## Service, Partners Look at Effect of Climate Change on Hummingbirds

Hummingbirds are among the most easily recognizable groups of birds in the Western Hemisphere. Their small size, speed and brilliant colors are eye-catching, and their preference for feeding on the nectar of brightly colored flowers makes them common visitors to gardens and residential yards, as well as to the nectar-producing plants found in diverse habitats from deserts to forests.

Hummingbirds have caught the eyes of the Service and other conservation organizations because they are ecologically important as pollinators, helping flowering plants reproduce. Hummingbirds also make ideal indicators of environmental change from north to south because many migrate between breeding grounds in the United States and Canada and wintering sites in Mexico, Central America and the Caribbean.

Hummingbird research at Rocky Mountain Biological Laboratory in Crested Butte, Colorado, is explaining some of the impacts climate change may have by recording the earlier blooming times of glacier lilies.

This elegant, yellow lily typically blooms about one week after snowmelt, and in recent years is blooming nine to 18 days earlier than in the 1970s. It provides some of the first available nectar to male hummers returning to breeding sites in the United States and Canada. Although male broad-tailed hummingbirds are also arriving earlier, their timing has changed by only one to six days, not quite catching up to the altered flowering time of

the lily. This phenomenon is called mismatch or mistiming, and raises concerns about migratory birds and their ability to “catch up” to the earlier timing of plant events.

The earlier arrival of broad-tailed hummingbirds in the West is echoed by ruby-throated hummingbirds in the eastern United States. Data from two citizen science programs—the USA National Phenology Program and Journey North—show that arrival times of this species from wintering sites mostly in Central America have advanced by 11.4 to 18.2 days. These data were not linked to the flowering times of nectar-producing plants, but other studies in Massachusetts and Wisconsin have shown that the flowering dates of dozens of plant species have advanced as little as four days and as much as three weeks.

These shifting migrations and flowering times signal the need to consider where pollination might be disrupted and how land managers might respond.

Seven hummingbird species in the continental United States—Allen’s, blue-throated, buff-bellied, Calliope, Costa’s, Lucifer and rufous—are already listed by the Service as Birds of Conservation Concern, but continued climate impacts may put more species, especially migratory ones, at risk.

A number of organizations focus on hummingbird research and conservation. Among these is the Western Hummingbird Partnership, a network of partners, including the Service,



The rufous hummingbird is one of seven hummingbird species in the continental United States listed as Birds of Conservation Concern.

JONATHAN MORAN

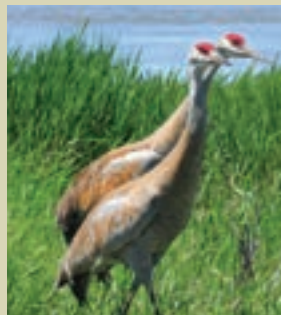
across western Canada, the United States and Mexico, with lead funding from the U.S. Forest Service International Programs. The partnership is collaborating to build a hummingbird conservation program through science-based monitoring, research, habitat restoration and education.

With the help of such groups, the Service can ensure that hummingbirds continue to draw eyes.

To learn more, visit <[www.westernhummingbird.org](http://www.westernhummingbird.org)>. □

SUSAN BONFIELD, Director of Environment for the Americas and coordinator of the Western Hummingbird Partnership

### My favorite migratory bird is...



Robert Carey, a wildlife biologist in California, has plenty of reasons to love the **greater sandhill crane**. He mentions how they recovered from near extinction, how the fossil record of the bird goes back millions of year and how they can hide in 6 inches of short grass. Lastly, he says, “they dance like Michael Jackson and sing like Lyle Lovett. What’s not to like?”

TOM KOERNER/USFWS

## African Leaders and Youth Engage with U.S. on Illegal Wildlife Trafficking

African leaders took a strong stance against illegal wildlife trade at the first U.S.-Africa Leaders' Summit, held in Washington, DC, in early August.

The signature event on "Combating Wildlife Trafficking" was hosted by Secretary of the Interior Sally Jewell. The Presidents of the Republic of Namibia, the Republic of Togo, the United Republic of Tanzania and the Gabonese Republic participated in this dialogue with other African leaders, senior U.S. government officials from the Presidential Task Force and the federal Advisory Council on Wildlife Trafficking, leaders of key non-government organizations, and participants from President Obama's Young African Leaders Initiative Network (YALI).

Recognizing that the illegal wildlife trade is a global challenge that needs a global response, the African leaders discussed progress made since President Obama's visit to Africa in 2013 and agreed to work with the United States and other nations to continue to strengthen regional and international cooperation—one of the three priorities outlined in the National Strategy for Combating Wildlife Trafficking issued by President Obama in February. In addition, they pledged to work with their governments and local communities to address the challenge of wildlife trafficking on a national and transnational basis.

The dialogue revealed the common threads between African nations confronting the dramatic escalation of wildlife trafficking. Combating wildlife trafficking



MATHEW JOHN/NATIONAL PARK SERVICE

involves multiple facets including conservation, economic, governance and security issues. When asked how the United States could assist, African heads of state mentioned assistance with professionalizing law enforcement agencies, regional and global cooperation, surveillance technology and training as priorities. The President of Gabon, a country home to more than half of the world's remaining forest elephants, had an additional request: He asked for U.S. help to "kill the market" in China, the world's largest destination of ivory.

Fueled by high demand, in particular from Asia, wildlife trafficking represents a multi-billion-dollar criminal enterprise. Some of Africa's most emblematic species, including elephants and rhinos, are now at serious risk of extinction from poaching. This has major consequences not only

for ecosystem and human health, but also for national economic development. Many African youth leaders, cognizant of the fragility and expendability of wildlife and the consequences this will carry, are determined to turn the tide. "We are using what we have for the future," stated YALI spokesperson Clive Chifunte. "As youth, we feel we must take part for future generations."

With more than 700 million people under the age of 30 in Africa (60 percent of Africans are between the ages of 15 and 25), any solution to the wildlife trafficking crisis must mobilize the next generation of African leaders through national, regional and community-based solutions. Addressing the African leaders, Secretary Jewell said: "We stand ready to work with you to inspire the new generation of leaders—

Secretary of the Interior Sally Jewell (front row, third from right), Service Director Dan Ashe (back row, center) and Africa Branch Chief Richard Ruggiero (back row, far right) meet with YALI representatives at the Department of Interior.

in our country as well as in yours—to take up the mantle and to protect our natural heritage for generations to come. As leaders, we share the responsibility to act. As President Obama emphasized when he visited Tanzania last year, we need to do more and we need to do it faster. Standing together, we can send a clear and very powerful message: we will stop the poachers, we will stop the profits, and we will protect our natural heritage." □

Pacific

**Behind the Flames: Partners Habitat Project Helps Fight Watermelon Hill Fire**

When the Service’s Partners for Fish and Wildlife Program started work on a wetland restoration project on Dave and Meg Losey’s property near Cheaney, Washington, little did anyone know it would be instrumental in stopping a raging wildfire.

The Partners project was straightforward enough—remove a dilapidated bridge and replace it with a water control structure to help restore a partially drained wetland. In 2012, the bridge over Damage Creek was removed and replaced with a structure that allowed water to flow over the structure and for vehicles to travel the same route.

The project was completed in fall 2013 with placement of backfill for the structure and revegetation efforts along several areas of the restored wetland. In spring 2014, the restored wetland held water for the first time in more than 100 years, covering nearly 200 acres.

Then came the fire. On July 19, the Watermelon Hill fire was spreading east toward the project location.

That’s when the hard work and planning came into play. The water-control structure and overall wetland restoration project helped save the Loseys’ farm from the fire by providing a



BRIAN WALKER / USFWS

route for firefighters to access the northeastern boundary of the fire. Helicopters also used the restored wetland to refill water buckets, instead of flying several miles to refill at Mason Lake or Hog Lake.

Eventually, a fire line was established immediately downstream of the structure, with the wet stream bed providing a suitable boundary.

“When the Watermelon Hill fire ran through our area, we became very appreciative of wetlands that you and the many other guys at Turnbull helped reestablish around our ranch...” the Losey family wrote in an email to Partners biologist Brian Walker, who is stationed at Turnbull National Wildlife Refuge. “Thanks for the wetlands that you reestablished at our place. We’ve always enjoyed them, but [we] became even more grateful during the fire and quite proud to have helped in stopping the fire.”

The water control structure across Damage Creek was used by fire crews to fight the Watermelon Hill fire. The road proved instrumental in halting the fire. You can see the fire damage in the background.

The fire was completely contained on July 24 after burning about 11,000 acres.

For Walker, it’s just another example of why it pays to manage your property for wildlife habitat.

“Prior to completing this project, this wetland was completely dry by early July,” Walker says. “It now provides open water habitat for waterfowl, beaver and other wildlife. The project was never intended to specifically act as wildfire control, but it illustrates how properly managed habitat can serve a wide variety of uses, including fire control.” □

**Oregon Department of Transportation Helps Keep Conservation Running Smoothly**

The road to wildlife recovery in Oregon often runs through the Oregon Department of Transportation (ODOT).

While state transportation agencies may initially come to the Service because of requirements under the Endangered Species Act (ESA) or the Clean Water Act, ODOT has taken many extra steps to enable conservation, while also providing the public with a safe and reliable transportation system.

ODOT isn’t always able to avoid impacts on the habitat surrounding roads and bridges it works on, so it purchases and maintains land elsewhere to benefit threatened and endangered species, a technique called mitigation and conservation banking.

The banking projects are essential to create needed habitat for many wildlife species over a wide area.

One of the largest and most successful projects in southwest Oregon is an 80-acre property with high-quality vernal pool habitat and restoration opportunities, used as ODOT’s first combination mitigation and conservation bank.

Vernal pools are short-lived seasonal wetlands that don’t have typical traditional wetland plants, soils or wildlife.



DELANIE COUTSFORTH / ODOT

ODOT has worked to restore the Agate Desert vernal pool habitat.

The Agate Desert vernal pool habitat is a mosaic of rolling mounds and depressions. ODOT has been busy restoring some of the disturbed pools on the property to re-create the natural hydrologic function.

On the Agate Desert project, radar imagery allowed ODOT wetland specialists to re-create the natural topography over an irrigation ditch that has now been piped, capped and buried. This has allowed isolated pools to reconnect to the pool complex, which allows them to function as a wetland system.

ODOT is also adding 115 acres to a mitigation site for a large bypass project in Rogue Valley. The mitigation properties are next to a Nature Conservancy conservation project, so together these areas conserve more than 300 acres of vernal pool habitat.

This area is important for the ecosystems that support the federally protected fairy shrimp, Cook's lomatium and large-flowered woolly meadowfoam. But a late winter or early spring trip to the site will reveal more than vernal pools with fairy shrimp or native wildflowers. Lewis's woodpeckers, western bluebirds and white-tailed kites can be found around the property. California Towhees, blue-gray gnatcatchers and northern mockingbirds, all uncommon in Oregon, can sometimes be seen with many other resident and migratory birds.

For ODOT's most recent conservation banking effort, the department purchased 20 acres west of Corvallis. The threatened Kincaid's lupine and endangered Fender's blue butterfly, found only in Oregon's Willamette Valley, benefit from this project.

ODOT biologists are working with experts in prairie restoration and the Service's Partners for Fish and Wildlife to develop and implement the restoration plan for the property. The Service believes that butterflies will likely recolonize the Kincaid's lupine patch on their own from nearby populations.

The plan is to transition these sites to an appropriate long-term steward such as The Nature Conservancy or possibly the Service's refuge system.

These collaborative efforts are just a few examples of how the Service and its partners work together to restore habitat and protect wildlife for the enjoyment of future generations. □

DAVID LEAL, Oregon Field Office, Pacific Region

### My favorite migratory bird is...



GEORGE GENTRY/USFWS

Moria Painter, the environmental education specialist at Wolf Creek National Fish Hatchery in Kentucky, loves "the majestic beauty of the **great blue heron**," and finds it "a pleasure to spot a blue heron waiting patiently and quietly to catch a fish in the river."

Southwest

Rare Predator Returns to a Southern Arizona Conservation Area

On May 16, 36 young northern Mexican gartersnakes, a non-venomous snake, slithered into the wild on the Bureau of Land Management’s Las Cienegas National Conservation Area in southern Arizona. It was the second release by a multi-partner, conservation effort to help recover the species. The first release was in October 2012, also on the Las Cienegas National Conservation Area.

The northern Mexican garter-snake, newly listed as a threatened species under the Endangered Species Act, can grow to 44 inches, and lives along the banks of streams or in the shallows of wetlands in Arizona. It used to be found throughout the southern half of Arizona, extreme western New Mexico, and the Sierra Madre Occidental and Mexican Plateau in Mexico.

Once a common predator, the gartersnake has declined primarily because of nonnative species such as bullfrogs, crayfish and predatory sportfish. These species prey on garter-snakes and compete with them for food.

Efforts to control nonnative predators and restore native aquatic and riparian communities could significantly benefit both gartersnakes and other imperiled native fish and amphibian species throughout their range. In addition to the northern Mexican gartersnake, many projects at Las Cienegas have focused on native riparian and aquatic species such as the Gila topminnow, Gila chub and Chiricahua leopard frog. Over the years, activities have included habitat improvement, nonnative species removal and reintroductions of at-risk species. Such projects were made possible, in part, by a growing and positive working relationship the Service has with local private landowners, livestock grazing permittees, local scientists and

Biologist Jeff Servoss holds a northern Mexican gartersnake.



conservationists, the Arizona Game and Fish Department, and the Bureau of Land Management.

The released gartersnakes were born in captivity, raised and cared for by the husbandry staff at the Arizona-Sonora Desert Museum, one of the world’s premier “living” museums. Captive snakes in the propagation program are fed a diet of fish and amphibians, and brumated (the hibernation-like state that cold-blooded animals use during very cold weather) seasonally to induce reproductive hormones and behaviors. This program began in 2006 with the start of the Gartersnake Conservation Working Group, a coalition representing 26 public, private and academic institutions from Arizona and New Mexico dedicated to working together to conservation and recovery of northern Mexican and narrow-headed gartersnakes.

On the scheduled day of the release, the snakes were measured and marked for record-keeping and identification, and set free.

Because each release location has previously been the focus of native fish and frog recovery efforts, a reliable prey base is present to support the newly released gartersnakes.

Efforts like these enable the Service to strengthen what has been lost or weakened in many areas in the southwestern United States, a wholly native aquatic ecosystem. □

JEFF SERVOSS, Arizona Ecological Services Field Office, and TOM BUCKLEY, Ecological Services Public Affairs, Southwest Region.

Surrogate Woodpecker—What one biologist does for species recovery!

Robert Allen, a wildlife biologist at the East Texas Sub-office in Nacogdoches, climbs ladders and builds artificial nest and roost cavities for the endangered red-cockaded woodpecker as part of a recovery effort to enhance nesting habitat in the four national forests in east Texas.

Allen builds these artificial cavities to promote population growth because natural cavity excavation commonly takes several years for the woodpecker to complete.

Unlike other woodpecker species, red-cockaded woodpeckers are highly social and cooperative breeders, living in family clusters comprising the breeding pair and helper males (previous year’s offspring). Most, if not all, red-cockaded woodpeckers in the group have their own cavity, all of which are in live pine clustered in close proximity, hence the term “cluster.”

Red-cockaded woodpeckers require open pine woodlands and savannahs with large, old pines for nesting/roosting habitat. Large, old pines are used as cavity trees because the woodpecker excavates completely within the heartwood in order to keep the cavity interior free of the resin the tree produces, which can entrap the birds. Also, old pines are preferred because of the higher



The red-cockaded woodpecker is found in 11 states.

incidence of heartwood decay caused by redheart fungus, which makes cavity excavation much easier.

Allen has installed more than 100 artificial cavities by either cutting a rectangular hole in the tree with a chainsaw and pushing a nest box (known as an insert) inside then sealing the edges, or by drilling an entrance tunnel into the tree at a slight upward angle, then drilling down at a 45-degree angle and moving the drill around to create a cavity that is about the size of a 16 oz. beer can (known as a drilled cavity). Both

of these types of nests are installed about 30 feet above ground in a pine tree at least 15 inches in diameter. Drilling cavities is much more labor intensive than using the chainsaw method so they are not as commonly used.

After the nest cavity is excavated, Allen scrapes the bark from the tree several feet above and below the cavity. This creates a smooth area around the cavity, making the hole less accessible to black rat snakes. These snakes can slither up the tree and prey on the eggs or chicks, but they find it hard to climb without the bark.

The red-cockaded woodpecker population growth on the national forests in Texas is increasing with every breeding season, and has nearly doubled in the last 10 years to approximately 500 active clusters.

TOM BUCKLEY, Ecological Services Public Affairs, and ROBERT ALLEN, East Texas Sub-office, Southwest Region



USFWS

Scarlet tanagers are among the birds helped by conservation measures by Rockies Express Pipeline.

## Midwest

### Pipeline to Migratory Bird Conservation

Oaks and hickories dominate the upland forests across much of the Midwestern prairies. Scarlet tanagers, Eastern wood pewees, cerulean warblers and wood thrush fill the air with song. You'll also find one of the most successful conservation projects associated with an oil and gas pipeline.

Measuring 638 miles long, the 42-inch diameter REX-East gas pipeline stretches from Missouri to Ohio. It all started in 2007 when the Rockies Express Pipeline (REX) filed an application to construct and operate the pipeline, which the Federal Energy Regulatory Commission (FERC) approved in 2008. Service biologists worked with REX to conserve precious interior forest habitat for the scarlet tanager and other migratory birds that depend upon forest interior habitats to raise their young.

Pipeline projects are critical for carrying oil and gas across the nation but can cause conservation headaches. Pipeline companies often remove all trees from their property to make it easier to construct and bury the pipeline, and access it for pipeline maintenance or emergencies. This means cutting wide swaths through forests and leaving large open grassy areas. Cutting trees may make it easier to walk the pipeline route, but it removes nest trees, fragments the forest interior and allows nest predators easier access to eggs and hatchlings, leading to severe declines in migratory bird populations. Conservation efforts focus on forest interior preservation and restoration, often through tree planting.

Service biologists coordinated with REX, and other federal and state agencies to survey the project area and develop conservation or mitigation measures

### My favorite migratory bird is...



LEE KARNNEY / USFWS

Pat Deibert, the National Sage-grouse Conservation coordinator in Wyoming, says she appreciates the chance to think about other birds for a moment, and like several others, she couldn't pick just one bird. One of the species she listed is the **pygmy nuthatch**. It has "so much moxie in such a small package and communal winter roosts—makes me happy on a cold winter day."

that preserve and restore forest interiors. These measures help to avoid and minimize impacts, or compensate for unavoidable impacts to species or habitats. In this case, REX provided more than \$4 million in compensatory mitigation funds to offset adverse habitat impacts, such as permanent tree removal and fragmentation of forest habitat. REX also avoided some important forest areas because of the presence of sensitive species or high quality forest habitat. The mitigation funds, to be managed by The Conservation Fund, will be spent to preserve and restore forest habitat where it was lost in Illinois, Indiana, Missouri and Ohio. The work will enhance habitat for migratory birds, particularly for any Birds of Conservation Concern in the area. The funds also are often matched and increased. Mitigation for 600 acres of forested habitat impacted by the REX-East and Columbia Gas projects in Ohio was leveraged with matching funds to protect 20,600 acres of forested habitat.

Time-of-year restrictions on forest clearing will also be included for areas where Birds of Conservation Concern may be located. Pipelines will also be collocated where possible.

The REX-East mitigation project was only possible because of the high level of coordination among the parties. This is the kind of successful conservation that can be achieved when Service biologists collaborate with industry and other partners to protect wildlife and their habitats.

CHRISTY JOHNSON-HUGHES,  
Conservation Planning Assistance  
Branch, Headquarters

## Southeast

### Biologist Uses Innovative Artificial Nesting 'Trees' to Help Recover the Wood Stork

What does it take to ensure the survival of a species? John Robinette, retired biologist at Harris Neck National Wildlife Refuge in Georgia, knows that in the case of wood storks, it takes a bold vision, teamwork, wood, rebar, some fencing and a hefty workout.

In June, Secretary of the Interior Sally Jewell announced that the Service was down-listing the wood stork from endangered to threatened. That means 30 years of recovery efforts have brought the wood stork one step back from the brink of extinction, but it remains at risk and recovery efforts must continue.

As a biologist at Harris Neck for 20 years, Robinette was instrumental in the ongoing recovery of wood storks. In 1987, the first wood stork nests were observed at the refuge's rookery, Woody Pond, with 18 nests producing 43 chicks to fledging. The following year, raccoons raided the nests when water levels dropped in the nesting pond. To protect nesting storks from predators, the pond was expanded and the water level increased by six feet.

In order for wood storks to thrive they require deep water in their nesting pond throughout the nesting season, but raising water levels can mean losing trees because many tree species cannot tolerate being flooded year-round and will die if the wetland is kept flooded year after year.

In the early '90s, Robinette proposed the idea of building artificial nesting structures as a solution to the loss of trees. Though some biologists questioned the idea, the refuge adopted the proposal. Under Robinette's leadership, Harris Neck staff built six artificial nesting structures from wood, rebar and fencing. They also planted cypress trees, which do well in wet, swampy areas.

What started as six artificial nests grew to 50 in a few years, with wood storks using them until the planted cypress trees were large enough. By 2002, the fledgling rate at Woody Pond was 20 percent above nests in other rookeries, and in 2012 biologists counted a record of 484 nests there.

Ever humble, Robinette will be the first to tell you this success was not a solo effort.

The Georgia Department of Natural Resources helped to build the nest platforms and lay them out in the pond, and both Ducks Unlimited and the Service's Southeast Regional Office provided funding. Harris Neck staff and countless volunteers dedicated their time to the effort,

### My favorite migratory bird is...



Becky Rau, who works for the Division of Migratory Bird Management in Maryland, says, "According to my parents, I sound just like the loon when I am laughing really hard! How can the **common loon** not be my favorite bird when I get such a loving compliment!" She was also born in Minnesota, where it is the state bird.



USFWS

and Orangeburg National Fish Hatchery provided fish for the ponds.

“It was a huge cooperative effort that was very rewarding,” says Robinette.

For Robinette, recovering wood storks was more than just a job; it was a passion and a family affair. Keeping count of nests is extremely time-consuming. Fortunately, his wife loves birds as much as her husband, so when the refuge needed to know how many birds fledged per nest on average, she would accompany him and help count.

Before wood storks had real trees like these to raise offspring, they used artificial ones.

“For me it was a great experience to share with my family,” he says. “My youngest daughter spent hours watching wood storks to help to determine the success of our feeding ponds.”

Service biologist Billy Brooks had the opportunity to work closely with Robinette and perfectly describes him in one sentence:

“John was a can-do biologist.” □

KATHERINE TAYLOR, External Affairs, Southeast Region

## Northeast

### Northeast Regional Office Gets LEED Gold for Going Green

The Service’s Northeast Region’s headquarters building in Hadley, Massachusetts, has received the prestigious Leadership in Energy & Environmental Design (LEED) Gold certification from the U.S. Green Building Council. The LEED rating system is the foremost program for buildings, homes and communities that are designed, constructed, maintained and operated for improved environmental and human health.

Liz Dawson, a Service architect who works in the building, took the lead in coordinating and planning the effort to improve energy efficiency and performance in the nearly 73,000-square-foot building.

The Service’s Northeast Regional Office features a patio and pollinator garden.

Work on the building was completed earlier this year. The project was a joint effort between the Service, the General Services Administration and Pearson Companies, Inc., the building owner.

“It’s important that we provide a model for reducing our carbon footprint and improving our energy and water efficiency by incorporating sustainable practices into our buildings,” says Northeast Region Regional Director Wendi Weber. “This is an example of responsible government saving taxpayer dollars and building a better environment for the next generation.”

“Green” modifications to the 20-year-old building began as early as 2005, and include energy-efficient HVAC units, water-saving fixtures, environmentally friendly landscaping and a 108-kilowatt solar panel system on the roof. Since then, electrical and natural gas use has been reduced by 50 percent and water use by 25 percent. □



USFWS



## Pacific Southwest

### Banking on Conservation: Promoting California Tiger Salamander Recovery in Santa Barbara County

Grassland-covered hills dotted with stock ponds remain motionless as strong coastal winds sweep across the La Purisima Ranch in Southern California's Santa Barbara County. Beneath the hills, California tiger salamanders live out their days in small burrows, surfacing to visit the ponds on rainy nights to breed. This year, the Service approved the La Purisima Conservation Bank, the first conservation bank in the region to ensure permanent habitat protection to support California tiger salamander recovery.

The California tiger salamanders that live in Santa Barbara County are the most genetically distinct from the other populations of the species, having been separated from them for at least 740,000

The Santa Barbara County Distinct Population Segment of California tiger salamanders is a federally endangered species that will benefit from the La Purisima Conservation Bank.

years. The Santa Barbara County population was listed as endangered in 2000 under the Endangered Species Act because large portions of its habitat were rapidly degraded as land was converted for large-scale, intensive agricultural use and urban development.

"The benefit of conservation banks is that they permanently protect lands that can be conserved and managed for species that are endangered, threatened or otherwise at risk," says Steve Henry with the Service's Ventura Fish and Wildlife Office. Henry adds that landowners participating in the conservation bank program receive financial incentive to manage the habitat for the benefit of the species.

Conservation banks such as the La Purisima Ranch one offset adverse impacts to species that may occur during development projects. In exchange for perma-

nently protecting the land and managing it for certain species, the Service approves a specified number of habitat or species credits that bank owners may sell. Developers may purchase credits from conservation bank owners to mitigate adverse impacts their projects have on species.

"We are delighted to assist in the recovery of the California tiger salamander population in Santa Barbara County, while at the same time benefiting from financial rewards by helping development projects in other areas," says La Purisima Ranch landowner Brian Sweeney.

Unlike many other salamanders, California tiger salamanders only spend a very short period of their lives in water. As juveniles, they leave the water to seek underground burrows made by small mammals. They spend most of the next four to five years underground as they mature to adulthood. Adults, which measure about six to nine inches from nose to tail, migrate to breeding pools during the rainy season. Adults can travel more than a mile to these pools and therefore require large areas of upland habitat as part of their life cycle.

The La Purisima Conservation Bank preserves more than 850 acres of California tiger salamander upland habitat and six known California tiger salamander breeding ponds.

The City of Santa Maria and California Department of Transportation have already purchased credits from the La Purisima Conservation Bank to offset project impacts.

"[Conservation] banks are incredible—they provide an alternative to mitigating in road rights-of-way, and if we can put state money to use for this type of conservation, then that's ideal. Banks make so much sense," says Paul Andreano, a consulting environmental planner for the California Department of Transportation, which purchased credits for a highway widening project that includes the construction of under-crossings to reduce vehicle collisions with California tiger salamanders and other wildlife.

The La Purisima Conservation Bank is next to a 539-acre preservation area for the California tiger salamander, and is near Vandenberg Air Force Base and the La Purisima Mission State Historic Park, ensuring a large area of ecologically important habitat for many species is preserved in perpetuity. Other species protected by the conservation bank include the western spadefoot, a toad species of special concern in California, and numerous native plants, migratory and resident birds, mountain lions, and reptile species such as the coast horned lizard, also a species of special concern.

For more information about Conservation Banking visit <[1.usa.gov/1nt0Qgy](http://1.usa.gov/1nt0Qgy)>.

ANDREA ADAMS, Ventura Fish and Wildlife Office, Pacific Southwest Region

## The Atlantic Coast Flyway: A Highway for Shorebird Migration

Each year, shorebirds undertake some of the longest migrations of any animals on Earth, using habitats across a vast area along the way. Within the Atlantic Flyway, many shorebird species breed on the tundra in the Canadian Arctic during summer, then fly south in the fall to winter along the eastern shores of South America. During this international flight, they stop at such critical sites as Delaware Bay and the Caribbean Islands to rest and refuel. Unfortunately, many of these shorebird populations are in trouble.

Atlantic Flyway shorebirds face a variety of human-induced threats at different parts of their journeys, including unregulated hunting in the Caribbean, predators that are attracted to the garbage and food found in populated areas, and of course, habitat loss and change throughout the flyway, including the United States.

Conservation requires a wide-ranging approach to identify and reduce threats all along the flyway. Such an approach must involve coordination across many political boundaries and the application of actions that provide the best use of limited resources.

That's where the Atlantic Flyway Shorebird Conservation Business Strategy comes in. The strategy is an unprecedented effort to implement conservation for shorebirds across the entire flyway. It emphasizes the involvement of scientists, advocates, funders and conser-



ANTHONY LEVESQUE

vation practitioners, all working together to carry out the most important actions to achieve specific, measurable outcomes for shorebirds.

"The Flyway Strategy addresses the problem of declining shorebird populations at an enormous geographical scale, in keeping with the size of the problem," says Stephen Brown, director of shorebird recovery for the Manomet Center for Conservation Sciences, which, along with the Service, took the lead on coordinating, writing and designing the first phase of the strategy. "It represents the most ambitious effort to recover shorebird populations ever undertaken by applying the collective efforts of a large

Unregulated hunting in the Caribbean threatens shorebirds.

partnership of organizations working closely together."

One threat the strategy addresses is unregulated hunting at Caribbean and South American stopover and wintering sites. In 2011, Machi and Goshen, two satellite-tagged whimbrels, circumvented numerous threats including a hurricane and a tropical storm—Machi had flown more than 27,000 miles since being tagged in 2009—only to be shot by unregulated hunters in Guadeloupe. This loss brought international attention to the plight of shorebirds from unregulated hunting, and partners to the

strategy have been working to improve shorebird harvest policy and regulations in the Caribbean and Latin America. For example, the Service was awarded a grant of \$250,000 from the National Fish & Wildlife Foundation last November to help manage the hunt of high-priority shorebirds in the Caribbean and northern South America.

The enormous task of reversing serious declines in shorebird populations can feel daunting. However, there are successes. For instance, a highly focused partnership has been working for several years to restore American oystercatcher populations. According to Jeff Trandahl, executive director and CEO of the National Fish & Wildlife Foundation, "The results have been nothing short of remarkable." Oystercatcher numbers, he says, have gone from declining to increasing.

Having a guiding document like the Atlantic Flyway Shorebird Conservation Business Strategy makes creating a safe highway for traveling shorebirds a little easier. □

DEBRA REYNOLDS, Atlantic Coast Joint Venture, Northeast Region



### MORE INFORMATION

For more information on the Atlantic Flyway Shorebird Conservation Business Strategy contact Scott\_Johnston@fws.gov. To see the full strategy, visit <bit.ly/1ejDI3W>.

## California Drought Forces Unusual Steps to Save Service's Salmon Smolts

An extreme drought in California called for extreme measures by the Pacific Southwest Region's Fish and Aquatic Conservation Program.

A third consecutive year of below-average rainfall and declining conditions in the lower Sacramento River system meant that the approximately 12 million juvenile fall Chinook salmon smolts expected to be released from Coleman National Fish Hatchery (NFH) onsite into Battle Creek would be in danger. So the Service and partners, including the California Department of Fish and Wildlife, the California

commercial and recreational fishing industry, and the Fishery Foundation of California developed a strategy to truck and release some of the fish closer to the ocean.

The California Department of Fish and Wildlife annually trucks and releases a major portion of their hatchery-bred salmon. But all juvenile fall Chinook salmon from Coleman NFH are typically released directly into Battle Creek, a tributary to the Sacramento River. Releasing fish onsite balances the hatchery's multiple objectives, including contributing to ocean harvest and in-river harvest (particularly in the upper Sacramento River), and maintaining adequate returns of broodstock to Battle Creek to sustain the program. Fish released onsite are more likely to return there to breed.



### My favorite migratory bird is...



Cyndi Perry, the Chief of Bird Habitat Conservation at Headquarters, says her favorites are the **phalaropes**. "Aside from the almost comical way they find their food—spinning in shallow water to stir up invertebrates—in a bit of role reversal the females are more colorful than the males, they do the mate selection and the males incubate and raise the young. After laying eggs with several males, the females gather and prepare for their next migration!" Cyndi took this photo of a red-necked phalarope while doing breeding bird surveys on the Arctic Plain in Alaska.

CYNDI PERRY / USFWS

"The extreme drought conditions would likely reduce survival of fish migrating down the river," says Dan Castleberry, Assistant Regional Director for the Service's Pacific Southwest Region. "We were concerned that we would meet none of the hatchery's objectives. Prior studies show that trucking fish past the Delta increases their contribution to ocean harvest, but decreases the likelihood the fish will return to the upper river and hatchery as adults."

With below-average rainfall throughout most of March, the state and federal trucking and release plans kicked off the week of March 24 at a release site in Rio Vista. During that week, approximately 2.5 million salmon smolts were trucked almost 200

Salmon smolts transported by truck are shot into net pens before release.

road miles (260 river miles) and released at the Rio Vista site. After the long drive, the fish were first released into net pens, to acclimate fish before full release into the ocean.

Shortly after, a significant rain throughout California enabled the Service to release about 4.5 million smolts onsite at Coleman on April 4.

During the week of April 21, about 750,000 smolt per day were trucked and released for five consecutive days at a San Pablo Bay release site. The last 1 million



USFWS

fish were trucked and released on May 28 and 29 in San Pablo Bay near Rodeo.

When it was all finished, it took 12 total days to truck and release approximately 7.5 million of the 12 million fish from Coleman, marking the biggest operation of its kind for the hatchery since 1991.

“The fish we trucked will help preserve the future of salmon fishing in California’s coastal waters,” Castleberry says. “The fish we released onsite should contribute to in-river harvest and adult returns to the hatchery.”

STEVE MARTARANO, Bay-Delta Fish and Wildlife Office, Pacific Southwest Region

## Washington

### Headquarters Employees Settling in at New Office

On July 28, the Service began operating from its new headquarters building in the Skyline Technology Center in the Bailey’s Crossroads area of Falls Church, Virginia. The move was the culmination of a three-year effort to identify, build out and relocate the headquarters offices from their old location in Arlington, where they had been for almost 25 years.

While the relocation required all employees to put in extra work to pack and unpack, figure out new commutes and get used to a different office space, that extra effort will pay off. The new headquarters building encompasses 183,000 square feet of space customized for the Service’s needs. All of the headquarters programs will be under the same roof for the first time in a quarter of a century, supporting increased collaboration and effectiveness.

Branding elements, including murals, display cases for artifacts and framed art selected by employees, showcase the Service’s mission. State-of-the-art technology and security ensure that employees can collaborate with ease in a secure environment. New furniture and standardization of office and workstation layouts support the “programs without borders” concept, allowing programs to expand and contract in the space without splitting up teams or

requiring expensive or time-consuming intra-office moves. The new space also represents a decreased lease cost for the Service, and cost savings will be repurposed to directly support the Service’s mission.

The Service was one of the first federal agencies to take part in the General Services

Administration’s (GSA) Total Workplace Initiative, which assists agencies in creating 21st century workplaces designed to save money and increase efficiency and productivity. The goals of the Total Workplace Initiative include reducing office space, fostering collaboration, better managing IT spending and increasing energy efficiency. □

### My favorite migratory bird is...



Joanne Bryant, the community liaison at Arctic National Wildlife Refuge in Alaska, says, “My favorite fine-feathered friend is the **mallard** because it has the most magnificent array of colorful feathers and is known to have series of vocal quacks.” She also shares a tale from her native Alaskan culture about the Raven trying to win the Mallard Girl’s heart by painting himself. It doesn’t work.

# Protected

**A cross-continental  
journey to conserve  
migratory birds**



*by* RACHEL PENROD

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# Paths

Boreal wetlands, like this one at Yukon Delta National Wildlife Refuge in Alaska, are crucial for migratory birds.

Imagine for a moment you are standing on soft ground beneath the outstretched branches of tall green conifers. In each direction you look, the forest seems to go on endlessly, but you can hear the soft gurgle of a stream nearby. The forest is at once extremely peaceful and bursting with birdsong and other sounds of wildlife. When you look up, the trees seem to press against the sky, asserting strength and a guardianship over their inhabitants.

This is the boreal forest, which spans the globe across the northern regions of Russia, Scandinavia, Canada and Alaska, and in North America, covers 1.5 billion acres from interior Alaska across Canada to the Atlantic Ocean.

One of the largest intact forests on the planet, this massive expanse of woodlands is naturally broken within its reaches by only one element—water. River basins, flood plains, bogs and other wetlands can be found pocketed among the trees, making this unique and massive forest one of the most important habitats for breeding birds in the Western Hemisphere.

In the sky, a flock of sleek and graceful northern pintails passes above you. The ducks find an opening in the forest cover and land in a large wetland nearby with a staccato of gentle splashes. These birds are among the millions of waterfowl that come to the boreal forest to nest, along with waterbirds, shorebirds and landbirds traveling nearly every flyway.

Pintails are one of the earliest migratory nesters in this northern habitat, making grass- and down-lined beds near seasonal wetlands soon after the spring thaw. Just as the journey of life begins for the northern pintail hatchlings in the boreal forest, the Service's conservation efforts also begin across the entire northern landscape: an endeavor to protect birds through each part—and place—in their lifecycle.

Threats to the boreal forest are increasing every day. Commercial forestry, mining, oil and gas extraction, land conversion, climate change and a host of other threats rise as human activities encroach on this vast wilderness. The Service's North American

Wetlands Conservation Act grant program (NAWCA) has funded conservation to protect the boreal forest for more than a decade.

A key partner, Ducks Unlimited Canada, is focused on protecting intact wetlands and restoring those that have been damaged. The Service has awarded more than \$140 million in grants to conserve habitats in and adjacent to the boreal in Canada, affecting more than 2 million acres to date. Throughout Canada, the Service has invested \$463 million, affecting more than 16 million acres. No other federal program can boast such an investment to protect migratory birds on their nesting grounds.

Young pintails, like most birds, are able to fly in a surprisingly short time (about a month and a half) after hatching. These dabbling ducks will feed mostly on aquatic insects in their first weeks. As they grow, they will expand their diet to include other aquatic fauna and plants. After a summer that will see three-quarters of the hatchlings survive to fledge, the ducks will be ready to depart for their annual fall migration. When temperatures drop, those that nest in the boreal forest may journey to any number of regions in the United States and farther south. Crossing incredible distances in very little time, these migrants need habitats along their paths south to rest and refuel.

Follow our boreal pintails along their migratory route, and you'll likely find them landing in the marshes of Nebraska's Rainwater Basin. Each fall, an immense number of waterfowl and shorebirds converge on areas around the Platte River as a stop on their migratory journey.

The Platte River runs for nearly 1,000 miles. Broad and shallow, full of sandbars and islands, the river and its basin are ideal stopover habitat for migrating birds in the Central Flyway. Sadly, the threats to these wetlands are even greater than those in the boreal region. In an area dominated by agriculture, land conversion is intensifying and those wetlands not



already drained or destroyed are often severely damaged.

The Rainwater Basin Joint Venture was created to bring together landowners, conservation organizations and government agencies to protect the birds and other wildlife that rely on this habitat. Nearly two dozen other migratory bird joint ventures work with diverse partners to reach specific habitat and population goals. For waterfowl species such as the northern pintail, these goals are taken from the robust North American Waterfowl Management Plan. With NAWCA as a funding mechanism and the joint ventures to implement it, the plan led to stabilized and increasing waterfowl numbers after their precipitous decline in the 1970s.

NAWCA has contributed more than \$12 million during the past 20 years to sustain the Rainwater Basin's highly productive habitat. Federal resources were matched by \$18 million in partner funds during that time. Land protection, wetland restorations, and wetland and grassland enhancements (made through NAWCA

**Top:** Pintails are early visitors to the boreal forest.

**Left:** Some lesser yellowlegs migrate to the southern tip of South America. **Right:** Improved methods of rice cultivation in the Southern Cone of South America have aided birds.

grants) have helped and continue to help conservationists combat the pressures of development throughout the United States.

Continuing their journey south, our pintails alight on the Laguna Madre, a shallow coastal wetland complex comprising a large hypersaline lagoon, barrier islands, and nearby freshwater lagoons and potholes in the Rio Grande Delta. The system runs along the Gulf of Mexico from southern Texas into the Mexican state of Tamaulipas. In winter you're likely to find pintails, redheads, gadwalls, wigeons and other migratory birds feeding on the Laguna Madre's seagrass beds and inhabiting the freshwater areas.

Portions of the Laguna Madre are reserved as a National Protected Area

in Mexico, and others are in Laguna Atascosa National Wildlife Refuge in the United States. However, these protections can't compensate for brown tides (microalgal blooms with no known direct cause) that are destroying the seagrass beds. Development—urban, commercial, agricultural and industrial—is also polluting and degrading the Laguna Madre ecosystem and land conversion is drastically modifying the system's freshwater hydrology.

NAWCA has funded restoration and habitat conservation projects in the Laguna Madre system in both the United States and Mexico, but one of the greatest impacts of the Service's investment can be found in Mexico's Arroyo del Tigre riverbed. This seasonal wetland habitat (critical for forage and cover) completely lost its functionality in the 1970s due to a rapid increase in agricultural land use. Grantee Pronatura Noroeste reports that 70 percent of its water volume has now been recovered thanks to infrastructure projects supported by the Service, Mexico's National Protected Areas Commission and municipal governments.

The journey for most pintail populations ends anywhere from the mid-United States to southern Mexico, where they will spend a warm winter before taking the same route back north to nest in the spring. But for many winged migrants, the journey has only begun.

One of these species stands out because of what it stands on—long, brightly colored legs. The aptly named lesser yellowlegs dances through the water in search of prey, elegantly probing with its long bill. Like our pintails, these shorebirds breed in the wetlands of the boreal forest, but most wetlands in the United States are merely a stop on their migratory route. Some overwinter in such spots as Laguna Madre, but many lesser yellowlegs make a far longer trek, a few all the way to the southernmost tip of South America.

As the yellowlegs cross the continental divide along with billions of shorebirds, songbirds and other longer-distance

migrants, they pass beyond the reach of NAWCA, but their need for protection only grows. The Service's Neotropical Migratory Bird Conservation Act grant program conserves the yellowlegs and other migratory birds who head farther south to complete their annual lifecycle.

The Neotropical Migratory Bird Conservation Act, or Neotrop Act, fills gaps in funding for shorebirds and songbirds in North America as well, supporting conservation work that includes research and education. The program has funded the University of Alberta's avian monitoring projects in the boreal forest, Rocky Mountain Bird Observatory's efforts to achieve landowner-supported grassland conservation in the Rainwater Basin and nearby Playa Lakes Joint Venture Regions, and The Nature Conservancy's acquisition of upland habitats surrounding the Laguna Madre.

Fly alongside a flock of lesser yellowlegs that continue past North America, and you may find yourself as far south as the Pampas, the vast grasslands of the Southern Cone of South America that cover 400,000 square miles across Brazil, Paraguay, Uruguay and Argentina. An incredible diversity of plant and animal life can be found there, including 211 species of resident and migratory birds.

An ocean of grass spreads out beneath the yellowlegs in flight. Cattle ranches and other forms of agriculture dominate the landscape. The flock touches down in the heart of Uruguay's agro-ecosystem. Inland agricultural fields and paddies are particularly attractive to lesser yellowlegs. Rice paddies offer shelter, food and water for non-coastal shorebirds.

The Pampas supports many long-distance migrants that rely on grasslands, including the threatened buff-breasted sandpiper and American golden plover. And like so many grasslands in the Americas, intensive agriculture and urbanization have redefined the landscape. In the Pampas, more than 95 percent of the land is privately owned, requiring a unique

approach to conservation. The additional complications of working across borders make the Southern Cone one of the most critical and most challenging areas for conservation in the Western Hemisphere.

Some of the earliest grants made through the Neotrop Act were aimed at conserving the Pampas, but the story of these grants doesn't end there.

The act's funds were used to form a groundbreaking partnership between four conservation organizations (Aves Argentinas, Aves Uruguay, SAVE Brazil and Guyra Paraguay) through BirdLife International. Now known as the Southern Cone Grasslands Alliance, the group is a powerful force for conservation in the region, bringing together governments, ranchers and communities to address bird conservation problems. The most notable impacts have been in agriculture, where bird-friendly beef and rice production are on the rise.

Neotrop Act investment creates a ripple effect in each project area. The program requires that its funds be matched at least 3 to 1 with resources from partners. Since the act became law in 2000, grants to the Pampas region have totaled more than \$2.5 million, generating \$10 million in matching support directed to bird habitat conservation projects.

The yellowlegs will remain in these rice fields through the winter. As a result of Aves Uruguay's work with the local farmers, the flock will forage and shelter in paddies free from harmful agrochemicals, while the local people enjoy the beauty of their winged visitors.

In a few short months, the cycle will begin anew as the yellowlegs join billions of birds across the hemisphere in the yearly journey back to their nesting grounds. And as before, the Service will touch their lives at every crucial step along the way.

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RACHEL PENROD, Migratory Bird Program, Headquarters



# CITY BIRDS

*Working with localities, partners for urban bird conservation*

In Phoenix, Arizona, residents learn about bird-friendly landscaping at the Rio Salado Bird Garden, a garden in the local Audubon Center. Residents, especially those with disabilities, are given the opportunity to participate in citizen science opportunities. | BY ALICIA F. KING and MATT TROTT



In Washington, DC, Earth Conservation Corps (ECC) included 30 elementary schools in the District in a bird-of-prey study. ECC installed and operated a web camera at an osprey nest on the South Capitol Street (Frederick Douglass Memorial) Bridge. Students helped tag four juvenile osprey and tracked the tagged birds online. ECC made school visits to educate students about bird-of-prey lifecycles, osprey in the urban environment and actions students can take to improve habitat for birds of prey.

And in Indianapolis, Indiana, the city created the Indy Birding Trail, an online guide to 35 of the city's best areas for birds.

These large urban centers, and others across the country, have joined with the Service and other partners in the Urban Conservation Treaty for Migratory Birds (Urban Bird Treaty).

Backed by one-time Service grants, \$50,000 to \$120,000 to each city, the Urban Bird Treaty works with cities and partners to conserve migratory birds through education and habitat improvement strategies in urban areas.

You might think nature is absent from many cities, but many birds have adapted to human development and thrive in urban areas. The wide variety of native birds in cities underscores the importance of these urban/suburban habitats to the survival of many bird populations, and through the Urban Bird Treaty, cities and their partners work to conserve, protect and restore and enhance habitat within the urban environment.

One feature of the program is to reduce hazards during migration, so Washington, DC, partnered with City Wildlife to educate building owners and increase public awareness about light hazards to migratory birds. City Wildlife monitored the downtown area of DC for bird

casualties during peak migratory periods and engaged additional building owners in the greater metropolitan area. City Wildlife also worked to educate building owners and the public about the impact windows have on migratory birds.

The Urban Bird Treaty Program emphasizes education and outreach programs, and includes resources for constructing schoolyard habitat sites and backyard habitats. It also creates and builds career awareness and career development opportunities for young people.

But all the bird conservation in the world cannot help unless the community is engaged in the efforts to make cities friendlier to birds (and people). A "one size fits all" approach will not work for the diverse urban communities across the country, so each Urban Bird Treaty is adapted to fit the city environment and diversity of the citizens within the city. To ensure the work is raising awareness and bird conservation, each city develops measureable and meaningful objectives and outcomes as well as a monitoring plan.

Currently more than 300 partners in Urban Bird Treaty cities have signed on to conserve, protect and restore habitat, and educate urban residents about the importance of migratory birds. Many Urban Bird Treaty partners are staff or volunteers associated with organizations such as Audubon Societies, bird clubs, nature centers, refuge Friends groups or public or private school volunteers. Others are just interested citizens who have agreed to participate in the Urban Bird Treaty program. These partners work together to implement the Urban Bird Treaty goals within their specific cities.

Because birds are widely considered indicators of the health of the environment, the Urban Bird Treaty work is a good way to engage people in better understanding their environment and hopefully taking action to keep it healthy and safe for birds (and for people.) □

### Urban Bird Treaty Program Goals

- Protect, restore and enhance urban/suburban habitats for birds,
- Reduce hazards to birds,
- Educate and engage citizens in monitoring, caring about and advocating for birds and their conservation,
- Foster youth environmental education with a focus on birds,
- Manage invasive species to benefit and protect birds,
- Increase awareness of the value of migratory birds and their habitats, especially for their intrinsic, ecological, recreational and economic significance.

### Urban Bird Treaty Cities

There are 21 partner cities, most of which are more than 500,000 in population.

Albuquerque, New Mexico  
Anchorage, Alaska  
Chicago, Illinois  
Denver, Colorado  
Hartford, Connecticut  
Houston, Texas  
Indianapolis, Indiana  
Kennedale, Texas  
Lewistown, Montana  
Nashville, Tennessee  
New Orleans, Louisiana  
New York City, New York  
Ogden, Utah  
Opelika, Alabama  
Philadelphia, Pennsylvania  
Phoenix, Arizona  
Portland, Oregon  
San Francisco, California  
St. Louis, Missouri  
Twin Cities: Minneapolis and St. Paul, Minnesota  
Washington, DC

ALICIA F. KING, Migratory Bird Program, and MATT TROTT, External Affairs, Headquarters

**Top:** An outdoor exhibit teaches children about bird wingspans. **Bottom:** Kids in Indianapolis learn about birds.



# CONSERVING BIRDS

## BY WORKING WITH PEOPLE

*The human dimensions of bird conservation*



BY ROXANNE E. BOGART | Bird conservation, in most instances, is not about changing bird behavior—it's about changing human behavior.

Biological and ecological science can be carried out, conservation plans and designs can be developed, but if partners, stakeholders and the general public aren't engaged, the Service won't be able to change people's behaviors for the benefit of bird populations.

The “human dimensions” (HD) of wildlife conservation concern the social science of how people value wildlife and natural resources, how they want them to be managed and how they affect or are affected by wildlife and decisions concerning them. Generating and using this information to improve how the Service engages people in conservation is imperative—and it's an adaptive and cyclical process that is integral to Strategic Habitat Conservation.

Recognizing the importance of engaging people in bird conservation, the Service and partners in the bird conservation community are already turning their attention to gathering and using HD research.

The U.S. North American Bird Conservation Initiative (NABCI) Committee hosted a workshop titled, “Exploring the Human Dimensions of Bird Conservation” last year in Arlington, Virginia.

The workshop brought together social science research experts with agency leaders to think strategically about how to better use human dimensions information to achieve their conservation goals. NABCI's newsletter, *The All-Bird Bulletin*, covered the workshop, and the issue can be downloaded from: [www.nabci-us.org/bulletin/Bulletin-Spring2013.pdf](http://www.nabci-us.org/bulletin/Bulletin-Spring2013.pdf).

**Top:** A student learns how to hold a bird for banding.

**Bottom:** Children spot birds on a bird watching tour through the John Heinz National Wildlife Refuge in Pennsylvania.

Waterfowl conservationists took “Conservation in HD” to heart in the 2012 Revision of the North American Waterfowl Management Plan (NAWMP). In addition to goals for waterfowl populations and habitat, a third goal acknowledges the critical importance of increasing the numbers of waterfowl hunters, other conservationists and citizens who enjoy and actively support waterfowl and wetlands conservation.

A Human Dimensions Working Group and a Public Engagement Team were created to advance the use of social science research in achieving the NAWMP goals and to create and carry out a science-based public engagement strategy. (Visit [www.nawmprevision.org](http://www.nawmprevision.org) to learn more). In addition, many of the Migratory Bird Joint Ventures (JVs) [www.mbjv.org](http://www.mbjv.org) have been developing and using social science information to drive bird habitat conservation delivery for years.

For example, small groups of landowners and producers in Nebraska's Playa Lakes and Rainwater Basin JVs came together in late 2013 to share their opinions about playas.

These landowner focus groups—conducted by a grant from the Great Plains Landscape Conservation Cooperative—are part of a human dimensions project that will help the JVs, and the broader partnership, learn about the socioeconomic impediments to playa conservation. A strategic planning session in January helped JV partners improve conservation programs and outreach efforts to landowners and encourage more playa conservation based on the landowners' feedback.

Whether it's increasing landowner participation in playa conservation programs, working with foresters to improve nesting songbird habitat,

## HD Tools

“Conservation in HD” is how Natalie Sexton puts it. Natalie is the social scientist who heads up the Service's Human Dimensions Branch located in the Natural Resources Program Center of the National Wildlife Refuge System in Fort Collins, Colorado. Her branch is developing tools, resources and training opportunities, and building an HD community of practice to promote the use of social science information in Strategic Habitat Conservation. To subscribe to the *Conservation in HD* newsletter, e-mail [human\\_dimensions@fws.gov](mailto:human_dimensions@fws.gov).

## Learn More

The **Bird Education Alliance for Conservation (BEAC)** is a coalition of educators representing universities, bird observatories, local, state and federal agencies, and environmental education and conservation groups. It works to develop effective ways to carry out bird conservation through education. Visit [www.birdedalliance.org](http://www.birdedalliance.org) for useful resource sheets and webinars.

The **Bird Education Network (BEN)** provides educators with tools and strategies, and allows them to exchange information on materials, resources and programs for bird conservation education. Visit [www.birdeeducation.org/index.htm](http://www.birdeeducation.org/index.htm) for more information.

collaborating with wetland managers to create mudflats for migrating shorebirds or motivating more nature enthusiasts to buy Federal Duck Stamps, people are always part of the solution.

ROXANNE E. BOGART, Migratory Bird Program, Headquarters

## Junior Duck Stamp Program Nurtures Artists, Conservationists of Tomorrow



SI YOUNG KIM

For more than 22 years, the Service’s Junior Duck Stamp Program has engaged students in learning about conservation and allowed them to show their artistic talents by competing in local and national art contests.

Students and educators use an education curriculum to learn about wetlands and wildlife, and can make a difference in their communities by completing conservation projects. The art contest portion of the program tests the students on their knowledge and understanding of waterfowl, anatomy, behavior and ecological requirements, as well as their ability to follow contest rules.



LAUREY PARRAMORE/USEFWS

**Top:** Si youn Kim’s illustration of a king eider. **Bottom:** Si youn Kim signs the Junior Duck Stamps at the First Day of Sale event.

The winning art chosen at the national Junior Duck Stamp Art Contest, held each year in April, appears on the annual Junior Duck Stamp, which raises funds for conservation education through visual arts. First-place national contest winners also receive \$1,000 and a chance to sign their stamp at the First Day of Sale event.

The 2014 Junior Duck Stamp Contest winner, 16-year-old Si youn Kim, known as Stephanie, spoke at this year’s First Day of Sale event, thanking her art teacher and telling how her art connected her with the species she painted.

Stephanie, who moved to the United States two years ago from Korea, painted a king eider. She said she chose the king eider because she is like this duck in many ways. Both like to dive—the king eider can dive 82 feet—and both like winter—the king eider likes to stay in cold places.

The Junior Duck Stamp Program also lets students share their conservation message.

“Students get the message that waterfowl and wetland conservation is important and we want them to enjoy sharing what they have learned,” says Suzanne Fellows, national coordinator for the Junior Duck Stamp Program.

Contest entrants are encouraged to add a conservation message on their painting, and a top conservation message is chosen each year. The 2014 Conservation Message winner, 15-year-old Max Cheng, who wrote: “Conserving a habitat is like painting a background. Without it the picture is not complete.”

“Encouraging kids to explore and appreciate nature provides them with the opportunity to find themselves in a magical place—rekindling that ‘sense of wonder’ frees them to a world of dreams and opportunities,” Fellows says. □

CHRISTINA WILLIAMS, Migratory Bird Program, Headquarters

## Science for the Birds

Proper management and conservation efforts require information such as population size and trend, migration patterns, productivity, disease prevalence, condition of all their habitats, and for hunted species, the number of hunters and the anticipated harvest. The Service works with many partners to ensure adequate scientific data.

Among the bird-monitoring and management efforts the Service is involved in are:

The **Waterfowl Breeding Population and Habitat Survey** has been conducted every year for nearly 60 years. Pilot-biologists fly more than 55,000 miles every year, counting ducks, geese and swans. The survey provides information on spring population size and trends for certain North American duck species, and the data is used to establish hunting regulations in the United States and Canada.

Conducted with states, the **Mid-Winter Waterfowl Survey** provides information on population trends, distribution on the wintering grounds and habitat use.

Engagement in the **U.S. Shorebird Conservation Plan**, allows the Service to help regions with the development and implementation of shorebird-monitoring efforts, support of shorebird-management training, and identification and designation of sites for the Western Hemisphere Shorebird Reserve Network.

Through the **North American Waterbird Conservation Plan** the Service works to ensure colonial-nesting waterbird populations remain healthy.

The Service supports **Partners in Flight**, a broad partnership of federal and state agencies, non-governmental organizations, industry, academia and individuals in the United States that works for the



TODD HARLESS / USFWS

conservation of more than 448 species of landbirds in the Western Hemisphere.

The Service coordinates and implements the **North American Waterfowl Management Plan**. Recognizing the importance of waterfowl and wetlands to North Americans and the need for international cooperation to help in the recovery of a shared resource, the United States and Canadian governments developed a strategy to restore waterfowl populations through habitat protection, restoration and enhancement.

The Service and its partner agencies manage for migratory birds based on specific migratory route paths (Atlantic, Mississippi, Central, and Pacific) within North America. Based on those route paths, state and federal agencies developed the four administrative **Flyway Councils** that administer migratory bird resources.

State wildlife agencies and the Service use the **Cooperative Harvest Information Program** to monitor the number of migratory bird hunters and their harvest throughout the country. □

Pilot-biologists mark the 50th anniversary of the North American Waterfowl Survey in 2005.

## The Duck Stamp of the Future is Here

For nearly 80 years, hunters and bird watchers have had to drive to a post office to buy a Federal Duck Stamp, a requirement for hunting migratory waterfowl and a key source of conservation funds. Now people can purchase a stamp in their own homes through online purchasing, which enables them to get a Duck Stamp the night before a hunt. The Electronic Duck Stamp, or E-Stamp, has arrived.

Federal Duck Stamp sales have raised more than \$850 million to conserve more than 6.5 million acres of wetland habitat. An estimated one-third of the nation's endangered species find food or shelter in national wildlife refuges established using Federal Duck Stamp funds. A stamp provides hunters, bird watchers and others with an entrance pass to refuges, but it also a chance to save wetlands by helping to purchase or lease wetland habitat in the United States.

People can go online to a participating state fish and game agency website and buy a temporary Duck Stamp. The E-Stamp is good for up to 45 days; by then a permanent stamp will be mailed to them. This opportunity allows hunters to spend more time hunting and less time looking for their Duck Stamps.

The Federal Duck Stamp Office often gets calls from people who have misplaced their Duck Stamps. The E-Stamp offers a solution.

“The E-Stamp is an instant endorsement and allows people to not have to go to the post office to pay but use an electronic device to print a receipt and use it as a license,” says Laurie Shaffer, Chief of the Federal Duck Stamp Office.

Currently, 13 states participate in the Electronic Duck Stamp program:



JENNIFER MILLER

Arkansas, Colorado, Florida, Idaho, Louisiana, Maryland, Michigan, Minnesota, Missouri, North Carolina, Texas, Virginia and Wisconsin.

With technology evolving, it is possible that everything might go electronic, but for now having a paper receipt works. It is a tradition that people have a paper receipt of their stamp purchase.

“Continual promotion of the E-Stamp needs to continue to help the conservation of wildlife by saving wildlife and animals,” says Shaffer. “With the E-Stamp there has been a 2 percent increase in sales. The money profited from the stamps goes straight to protect the wetlands. The E-Stamp is more than a symbol, it is about improving habitat.” □

CHRISTINA WILLIAMS, Migratory Bird Program, Headquarters



BRETT BILLINGS/JUSFWS

**Top:** Jennifer Miller's acrylic painting of a pair of ruddy ducks will be made into the 2015–2016 Federal Duck Stamp. **Bottom:** With the E-Stamp, hunters can spend more time hunting than looking for their stamps.

## Migratory Bird Treaty Centennial: 100 Years of Migratory Bird Conservation

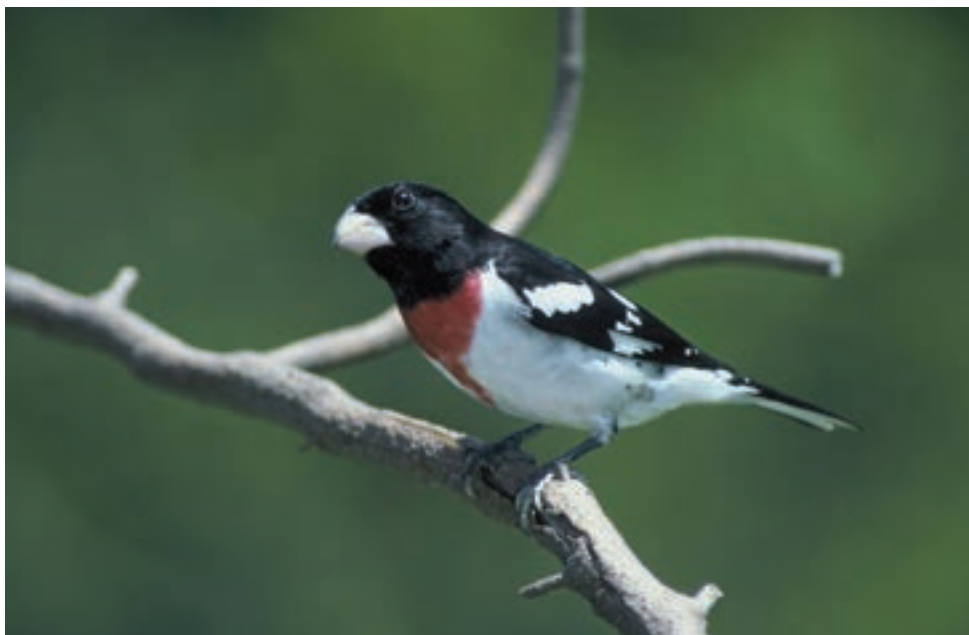
Migratory bird conservation is a trust responsibility of the Service and a common thread that unites many of the agency's programs, from Law Enforcement to International Affairs to the Migratory Bird Program.

The Service has a long, successful history of conserving, protecting and managing migratory birds and habitats. As far back as the Lacey Act of 1900 and the Weeks-McLean Act of 1913, the Service and its partners have safeguarded birds from illegal take and harm through permitting and enforcement.

In 1903, President Theodore Roosevelt created Pelican Island, the nation's first federal bird reservation. He followed this in 1911 with the creation of a network of 55 bird reservations and national game preserves for wildlife. This was the forerunner to what is now the National Wildlife Refuge System.

The year 2016 is an important milestone in the Service's history of bird conservation, marking the centennial of the Convention between the United States and Great Britain (for Canada) for the Protection of Migratory Birds, signed in Washington, DC, on August 16, 1916. This Migratory Bird Treaty created a system of protection for certain species of birds that migrate between the United States and Canada. Similar treaties followed with Mexico (1936), Japan (1972) and Russia (1976).

Throughout 2016, the Service and partners will celebrate the centennial. The vision: a world where birds and people thrive. The goal: create awareness, promote key actions, increase support and expand opportunities for engagement in the conservation of migratory birds.



USFWS

The centennial celebration extends far beyond the Service to include other agencies, nonprofit partners, industry, even Congress. Migratory birds don't pay attention to borders, so the celebration won't either. □

JENNIE DUBERSTEIN, Sonoran Joint Venture, Southwest Region

A rose-breasted grosbeak checks out his surroundings.

### ? MORE INFORMATION

To learn more about the Migratory Bird Treaty Centennial and how you can take part: Visit <[www.fws.gov/birds/MBTreaty100](http://www.fws.gov/birds/MBTreaty100)>.

Contact <[MBTreaty100@fws.gov](mailto:MBTreaty100@fws.gov)>.

# STRONG

## AFTER SANDY

*By strengthening natural defenses, Service and partners help wildlife and coastal communities better withstand future storms.*

by TOM STURM



Five beach restoration efforts on Delaware Bay brought back to life one of the most crucial habitats for migratory birds on the East Coast. The beaches, badly eroded by 2012's Hurricane Sandy, will likely face continuing challenges from future storms, sea-level rise and ongoing shoreline development. To bolster the depleted landscape at Moores Beach, trucks brought in more than 70 loads of sand daily. All told, the multiple contractors working at Moores, Reeds, Kimbles, Cooks and Pierces Point beaches would deposit 45,000 tons of sand by the time the restoration project wrapped up in April.

**Left:** Beach restoration at Delaware Bay restored critical habitat for horseshoe crabs and migratory shorebirds such as the imperiled rufa red knot.

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**Right:** Sandy caused unprecedented coastal flooding at such mid-Atlantic locations as Chincoteague National Wildlife Refuge in Virginia.

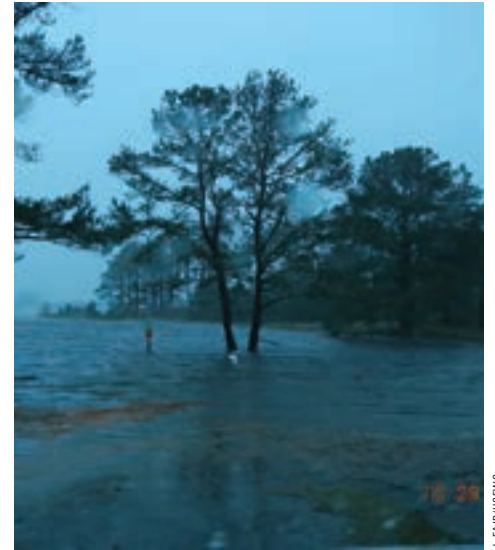
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**“**This sand is critical for horseshoe crab spawning,” says New Jersey Field Office biologist Eric Schradling. “If you don’t have it, they won’t be able to reproduce, won’t have any sand to dig into. In the end, if you don’t have horseshoe crabs laying eggs then there’s nothing for the shorebirds to feed on.”

The Delaware Bay beach restoration project is among 31 Hurricane Sandy resilience projects managed by the Service and funded by the Department of the Interior through the Disaster Relief Appropriations Act of 2013. In total, the Service received \$102 million for projects to restore coastal marshes, wetlands and shoreline, create habitat connectivity, improve flood resilience, and undertake other efforts to protect nearby areas from future storms. In addition, the Service received \$65 million for recovery projects to make refuges safer and healthier for visitors and staff by cleaning up damage dealt by Sandy and upgrading facilities to withstand future storms.

#### **If you build it, they will come**

The Delaware Bay beach restoration project helped re-create habitat for horseshoe crabs just in time for their annual arrival in mid-to-late May. The crabs’ high-protein eggs play a critical role in sustaining shorebirds’ biannual



J. FAIR/USENEWS

migrations to and from the Arctic—some of which, like the rufa red knot, fly more than 9,000 miles from as far away as Tierra del Fuego at the southernmost tip of South America. Red knots are a species of concern and are being considered for protection under the Endangered Species Act. According to Delaware Bay biologist Larry Niles, migrating populations of red knots plummeted from a high of 91,000 in the 1980s to fewer than 20,000 a few years ago. Sandy’s 2012 impact was impossible to ignore, and beach restorations over the past few years by the Service and partners such as the American Littoral Society (ALS) have been able to help stabilize the red knot population at an estimated 26,000.

“The U.S. Fish and Wildlife Service recognized the critical importance of this stopover for the migratory birds, and advocated to the rest of the Department of the Interior for funding to restore these beaches back to where they could provide this optimal habitat for the crabs and for the shorebirds,” says ALS Executive Director Tim Dillingham, who lauded the Service’s role in helping lead the beach restoration project and for being “a leader on the protection of these birds.”

In addition to wildlife benefits, the project also has benefits for people living in nearby communities such as Middle Township.

“[Tourism] is a huge part of our town and the future of our town, and we definitely took that into consideration—it’s sort of like the horseshoe crabs and the red knots are tourists that come to our area,” says Middle Township Mayor Tim Donohue. “If we don’t have these beaches in the condition that they need to have them, they’re not going to come back either. And that would be a huge loss to the environment as well as to us, from a [human] tourism perspective.”

### Cleaning up after the storm

While many Sandy projects focus on building natural defenses, others must first address significant damage caused by the powerful storm. At the Lido Beach Wildlife Management Area, a 22-acre salt marsh in Long Island next to the city of Long Beach, about 15 workers combed through the coastal wetland on foot for nearly two months. They dragged dock timbers and pilings, tires, barrels, buckets, old toys, furniture, chunks of foam flotation material and PVC piping to a staging area at the water’s edge. Afterward, a landing craft reminiscent of the D-Day invasion would haul it away. More than 165 tons of refuse were extracted from the coastal marshes and beaches of the Long Island National Wildlife Refuge Complex’s 10 refuge units from January to March, 67 tons of which were pulled out of Lido Beach.

At New Jersey’s Edwin B. Forsythe National Wildlife Refuge, more than 430 tons of debris has been extracted from areas along the refuge’s 22 miles of coastline. In addition to what was pulled out of the Long Island marshes, Forsythe has had to deal with entire boats and even partial houses. Like Lido Beach, much of the debris-strewn area is inaccessible to anything but workers who trudge in on foot, and even these efforts can often be



met with such seasonal obstacles as bay ice in the winter or thick marsh vegetation in summer.

“The guys are doing a great job in a difficult environment,” New Jersey Field Office biologist Clay Stirn says in praise of the team’s efforts. “They’re dealing with unstable footing and doing a lot by hand, picking up wood with big, nasty, rusty nails,” he says.

The refuge’s 47,000 acres are a lot to cover and essentially represented ground zero when Sandy made landfall on October 29, 2012. Even so, the Forsythe cleanup is expected to be complete by year’s end.

### Boosting natural defenses

Another major element of Hurricane Sandy resilience planning includes the development of “living shorelines,” ongoing efforts to restore coastal habitat and native plant species. These projects control erosion by reducing wave energy and enhancing the health and prevalence of submerged aquatic vegetation, and will provide flood mitigation in vulnerable

More than 45,000 tons of sand were added to five beaches on New Jersey’s Delaware Bay shoreline that were badly eroded by Hurricane Sandy.

communities. Living shoreline projects are planned for Eastern Neck, Martin, Blackwater, Chincoteague and other refuges that share the Chesapeake Bay’s exposure to the effects of climate change and sea-level rise.

Further inland, Sandy resilience projects are targeting aging, obsolete dams and damaged or undersized stream culverts. They were once vital parts of industrial communities across the region, but are now little more than hazards to human safety and impediments to natural aquatic connectivity. Even before Sandy, the Service had overseen dam removals and is funding several more in Connecticut, Maryland, Massachusetts, New Jersey and Rhode Island. Removing dams can reduce flood risk to nearby communities from storm-swollen rivers and dam failure, restore access to spawning grounds for



TOM STURM/USFWS

fish and eels, and promote the return of natural sediment flow, which can help rebuild eroding coastline downstream.

### Powering up

Sandy knocked out power in 15 states where an estimated 6 million customers remained without power days after the storm hit; some areas remained so for weeks. In places where Service facilities were already equipped with emergency, self-powered electrical systems, refuges served as invaluable resources to their surrounding communities during the outages. To prepare for future storms and equip many more refuges to serve their own communities in a similar capacity, the Service has invested more than \$9 million in backup and solar power systems at 18 locations that will assure auxiliary power during future emergencies. At locations where solar systems are being installed, facilities' carbon output will be reduced and thousands of taxpayer dollars saved on annual refuge utility bills. Installation at most locations is under way.

Project Manager Robin Donohue has overseen the removal of nearly 70 tons of Hurricane Sandy debris from the Lido Beach Wildlife Management Area near Long Beach in Long Island.

The indelible image of the hurricane slamming into the Atlantic Coast can never be erased. But as the storm's two-year anniversary approaches, the Service's ongoing resilience and recovery work is focused on safeguarding wildlife and communities against future storms and helping them remain strong after Sandy. □

TOM STURM, External Affairs, Northeast Region

**? MORE INFORMATION**

For more information on the Service's Hurricane Sandy Recovery efforts, visit [1.usa.gov/UYK6qR](http://1.usa.gov/UYK6qR).

### Progress By-The-Numbers

*Service's Hurricane Sandy project milestones as of August 1:*

- Extracted more than 500 tons of hurricane debris from coastal marshes, beaches and wooded areas.
- Restored five badly eroded beaches on Delaware Bay in New Jersey critical to horseshoe crabs and imperiled migratory bird species.
- Repaired buildings, roads, trails, fences, boardwalks and visitor/educational facilities at more than 20 national wildlife refuges.

*From 2014–2016, the Service will also:*

- Invest more than \$77 million in coastal marsh, beach, dune and barrier island restoration to preserve and enhance critical habitat and help protect coastal communities from erosion, storm surge and predicted sea-level rise.
- Invest more than \$10 million to remove obsolete dams and road culverts, restoring more than 170 miles of river and tributary fish habitat, returning natural sediment transport that helps rebuild eroding coastlines, and protecting communities from flooding and dam failure.
- Invest more than \$9 million in funding decision-support projects that provide valuable research and science-based guidance to the aforementioned projects.
- Invest more than \$9 million in backup and solar power systems at 18 locations, reducing refuge facility carbon footprints and saving thousands of taxpayer dollars on annual utilities.
- Invest \$5 million in updating the Coastal Barrier Resources System (CBRS), which maps the areas considered too vulnerable to be covered under National Flood Insurance programs.



# A SOARING SUCCESS

*Tribal eagle aviaries help Native Americans reconnect with revered bird*

by CHARNA LEFTON



The Service has a long history of working collaboratively with Native American tribes on natural resource conservation efforts, and in the Southwest, it has helped six tribes establish the country's only fully permitted, tribally owned and operated eagle aviaries.

Native American cultures and religions consider eagles (and their feathers) sacred. Eagles are highly revered and are often considered family members. The aviaries care for permanently injured birds; one aviary rehabilitates and releases less severely injured eagles.

“Supporting these eagle aviaries is a labor of love for us in the Southwest,”

says Benjamin Tuggle, the Service's Southwest Region Regional Director. “The tribes are our neighbors, and honoring their traditions and beliefs is extremely important to us. To me, the aviaries represent an amazing example of a true conservation partnership.”

Because eagles are protected under two federal laws—the Bald and Golden

**Top:** Secretary of the Interior Sally Jewel, and Assistant Secretary of Indian Affairs Kevin K. Washburn visit the outdoor viewing area of the Citizen Potawatomi Nation's aviary along with Aviary Manager Jennifer Randell.

Eagle Protection Act and the Migratory Bird Treaty Act—the Service must issue permits for anyone wishing to house and care for eagles or gather feathers. These permits help ensure the future viability of eagles in the wild. No permit authorizes the sale, purchase, barter, trade, importation or exportation of eagles or their parts or feathers

“The eagles are family—members of our tribe—and we are honored to have the opportunity to protect and learn from them.”

VICTOR ROUBIDOUX, manager of the Iowa Tribe of Oklahoma's Grey Snow Eagle House

The aviary permits allow tribes to gather naturally molted feathers and distribute them to federally recognized tribes and registered tribal members for use in cultural ceremonies. “The fact that the aviaries can also distribute eagle feathers to tribes and tribal members provides an important adjunct to the Service’s National Eagle Repository feather distribution capacity,” Tuggle says. “The aviaries are able to help the National Eagle Repository meet the high demand for eagle feathers for tribal cultural and religious uses.”

The Pueblo of Zuni in southwestern New Mexico was the first tribe to approach the Service to request a permit for an eagle aviary in 1999.

“We established our eagle aviary nearly 15 years ago,” says biologist Nelson Luna, Zuni’s fish and wildlife director. “The eagle is a sacred relative, and it has been our responsibility since time immemorial to care for our relatives.”

Luna says the tribe is proud to partner with the Service in the tradition of an eagle aviary program and indicates that Zuni aviary staff members are available to assist other tribes in establishing and managing tribal eagle aviaries.

One of the first to take advantage of the Zuni experience was the Iowa Tribe of Oklahoma. Its Grey Snow Eagle House (Bah Kho-je Xla Chi), built in 2006, was the first eagle aviary built with money from a Service Tribal Wildlife Grant.

“Our eagle aviary is unique in that we provide both lifelong care for non-releasable eagles and rehabilitation for eagles that, with treatment and care, can be released back into the wild,” says Victor Roubidoux, manager of the Iowa Tribe of Oklahoma’s Grey Snow Eagle House. “The eagles are family—members of our tribe—and we are honored to have the opportunity to protect and learn from them. We also truly appreciate the support we’ve received from the Pueblo of Zuni and the U.S. Fish and Wildlife Service. Without their help and the Tribal Wildlife

Grants we’ve received, we would not have been able to realize this dream.”

The Iowa Tribe’s eagle rehabilitation program also increases community awareness of wildlife and Native American culture. They are the first tribe in the country to be permitted through the Service as an eagle rehabilitator. The tribe has successfully rehabilitated eight bald eagles in their clinic and released them back into the wild, including one to the Sequoia National Wildlife Refuge in Oklahoma. Grey Snow Eagle House also opens its doors to more than 6,700 visitors from around the world annually.

The eagle aviary of the Comanche Nation in Oklahoma is part of the tribe’s Sia Essential Species Repository, which houses the eagles and a variety of other bird species culturally important to Native American ceremonial and religious practices. Sia provides feathers and parts from eagles and the other species to federally recognized tribes.

But eagles have a special place there: “The Numunuh (Comanche) revere the Eagle as our direct link with the Creator. Historically, the golden eagle is perceived as the only creature that flies high enough to see the face of God,” says Bill Voelker, Sia’s founder and director. “The Comanche Nation Eagle and Raptor Program is part a broader effort dedicated to the preservation of the eagle in history, science and spirit.”

Like other tribes with aviaries, the Citizen Potawatomi Nation in central Oklahoma uses its eagle aviary as a place to help its members reconnect to the eagle.

“I cannot overstate the importance of the eagle in our tribe’s cultural and spiritual life,” says Jennifer Randell, manager of the Citizen Potawatomi Nation’s Eagle Aviary. “Having the aviary has meant a great deal to all of us in the Citizen Potawatomi Nation. We now have a chance to honor these sacred birds and reconnect our people to the living eagle.”

In addition to the eagles, the Citizen Potawatomi Nation was also the first tribal eagle aviary to receive another dignitary: Secretary of the Interior Sally Jewell, who visited with Assistant Secretary of Indian Affairs, Kevin K. Washburn.

The fifth and sixth eagle aviaries are just now being established. The Navajo Nation currently houses four golden eagles at its aviary in Window Rock, Arizona, and it has a planned expansion, thanks to a Tribal Wildlife Grant. The San Carlos Apache Nation, which comprises nearly 3,000 square miles in southeastern Arizona, is also using Tribal Wildlife Grant funds to establish an eagle aviary.

These tribal eagle aviaries provide an outstanding example of cooperation and partnership and are a clear demonstration of the Service’s commitment to honoring tribal history and culture.

CHARNA LEFTON, External Affairs, Southwest Region

### Tribal Wildlife Grants

The Service-administered Tribal Wildlife Grants program provides funding up to \$200,000 to federally recognized tribal governments to develop and implement programs for the benefit of wildlife and their habitat, including species of Native American cultural or traditional importance and species that are not hunted or fished. Funds are provided through an annual appropriation from the Land and Water Conservation Fund. The funds are derived from a portion of the revenues collected on outer continental shelf oil and gas royalties. The grant funds are distributed annually through a competitive application process.

# A DAY IN THE LIFE of a Service Scientist

The Service is a science-driven agency, making decisions based on the facts and data. Every day (and sometimes at night), Service scientists get their hands dirty while helping protect and conserve our nation's natural heritage. Their work provides hard data that are used to conserve the countless wild things and wild places that make America a treasure. Thanks to them, our country is rich with diverse species and habitat that the Service is working to conserve for generations to come. And despite the long hours and often-hard work, the scientists find rewards.

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## Heather McPherron

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PACIFIC



Like sage-grouse biologists all over the West, Heather McPherron spends much of the spring stumbling through the shrublands at night looking to capture grouse with just a spotlight and a net.

She has worked with sage-grouse in six of their 11 range states, and has endured many sleepless nights, carried generators on her back, ridden ATVs in extremely cold temperatures, tripped over bushes in the dark and walked hundreds of miles in search of sage-grouse. She has no plans to end her springtime ritual, though, "because there's nothing better than watching a sage-grouse strut on an early-spring morning. The display of a male sage-grouse is truly a wonder of the natural world," she says.

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## Tom Shearer

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SOUTHWEST



Tom Shearer, a wildlife biologist from the Texas Coastal Ecological Services Field Office, recovered this juvenile endangered green sea turtle during one of his wildlife patrols

looking for oiled wildlife along the beach on the Matagorda Island Unit of Aransas National Wildlife Refuge after the Texas 'Y' oil spill this spring. Tom was one of several Service staff who conducted the wildlife patrols along the Matagorda beach. He has also been the Service lead for Kemp's Ridley sea turtle recovery since 2004 and works with volunteers from the Texas Master Naturalists/Friends of Aransas NWR who have been coming to the beach on Matagorda since 2003, during the Kemp's nesting season each spring, to look for and record the nests. Usually, they are moved because of invasive predators (hogs, fire ants) and other threats. When the nests have to be moved, the eggs are uncovered and placed into a special box to prevent them from being shaken around or broken. They are then transported to the Padre Island National Seashore where National Park Service personnel and volunteers either put them into incubators or into a fenced-off area on the beach. They hatch from there and make their way down to the water. When he is not working with wildlife, Tom also serves as office IT support in the Corpus Christi field office.



### WHAT'S YOUR STORY?

Everyone has a story. What's yours? *Fish & Wildlife News* would like to keep highlighting the work of our employees. Nominate a Service employee we should feature and tell us why. We'll print the best. Email [matthew\\_trott@fws.gov](mailto:matthew_trott@fws.gov).

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## Nathan Eckert

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### MIDWEST



Nathan Eckert, a mussel biologist at Genoa National Fish Hatchery in Wisconsin, is a true pioneer in endangered freshwater mussel restoration. Depending on the

day, he may be diving in the St. Croix River looking for gravid mussels, tirelessly working in the mobile freshwater mussel rearing unit or teaching children how to fish. The larvae of mussels grow by attaching themselves to very specific host fish. Nathan's research on alternate host fish and his efforts to develop captive host fish populations are giving many endangered freshwater mussels a fighting chance.

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## Jeff Powell

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### SOUTHEAST



Jeff Powell has been working in the Southeast with freshwater mussels, snails and fish for more than 20 years. He works with the Federal Energy Regulatory Commission (FERC)

to ensure that hydropower operations in Alabama do their best to avoid environmental damage. He also has the lead recovery and listing responsibilities for 30 federally listed, and more than 44 recently petitioned aquatic species. However, his true passion lies in working with a small but dedicated group of state and private industry partners, and private landowners, to develop assessment and restoration tools that improve aquatic habitat and lead to the recovery of these highly imperiled animals for the next generation.

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## Pat Hnilicka

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### MOUNTAIN-PRAIRIE



"There's never a dull moment," says Pat Hnilicka, a biologist at the Lander Fish and Wildlife Conservation Office in west-central Wyoming. Whether it's counting elk by airplane, electroshocking and

spawning at-risk sauger, surveying sage-grouse at the crack of dawn on their leks (mating grounds), radio-collaring and monitoring wolves and grizzly bears, or stocking native cutthroat trout in high mountain lakes and streams, variety is the norm when assisting the Eastern Shoshone and Northern Arapaho Tribes of the Wind River Indian Reservation. Along with fellow biologist Mike Mazur, who also works with tribes, Pat is grateful for the opportunity to conserve and enhance all things fish and wildlife on the Wind River's nearly 2 million acres of wild and pristine lands.

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## Chris Dwyer

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### NORTHEAST



TYLER GREEN/USFWS

Chris Dwyer is the go-to regional game bird biologist for the Service in the Northeast, and he serves as the avian health and disease coordinator for the region. He has been featured on the front

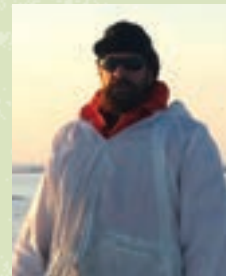
page of the *Boston Globe* for the work he is doing with scientists from other agencies to better understand what is taking a toll on common eider populations. Earlier this year, Chris became the first Service employee to receive the William T. Hesselton Memorial Award, given annually by the Northeast Wildlife Administrators Association to a northeast wildlife professional who has made significant contributions to the profession.

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## Suresh Sethi

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### ALASKA



Suresh Sethi, a biometrician and self-described "all-purpose quantitative guy," serves a critical role in the Alaska Region as an applied statistician. He advises biologists and managers

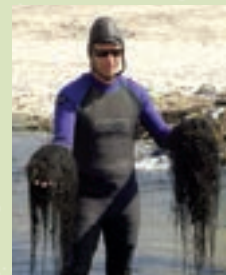
working on projects ranging from Chinook salmon at Togiak National Wildlife Refuge to invasive plants in Southcentral Alaska, and everything in between. For example, he's helping marine mammal biologists apply genetics in new ways to understand Pacific walrus numbers. This important population assessment project spans applied statistics, marine mammal biology and population genetics, representing cutting edge wildlife science.

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## Kai Palenscar

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### PACIFIC SOUTHWEST



Kai Palenscar, a wildlife biologist with the Palm Springs Fish and Wildlife Office, had a busy spring working with a variety of experts to identify an unknown alga that suddenly appeared in the Santa Ana River

in Riverside County, California. Kai, along with other biologists, came across the alga while conducting nonnative fish removal in a portion of the river inhabited by the federally threatened Santa Ana sucker. The alga has now been identified as *Compsopogon caeruleus*, a species of freshwater red algae. Kai and other scientists are now busy collaborating with top algae experts around the world on how to manage this nuisance species.



## Long-term Conservation

*Full restoration of the upper Arkansas River will take years, but NRDAR making strong progress*

by LAURA ARCHULETA



The newly protected Headwaters Ranch provides important habitat for elk.

USFWS

*Last issue Fish & Wildlife News provided a look at the early part of the Natural Resource Damage Assessment and Restoration (NRDAR) process in Colorado's upper Arkansas River Basin in Lake County. Next steps are restoration planning, implementation and monitoring. This issue looks at the implementation phase, which could not take place without partners from all parts of the upper Arkansas River Basin working together to restore fish and wildlife habitat, and public places for recreation and other uses.*

As I began to write this article, I got to thinking about what partners are and why they are so important. So to begin my thinking foray, I looked up "partner" on Dictionary.com: "1. a person who shares or is associated with another in some action or endeavor; sharer; associate. 2. Law. a person associated with another or others as a principal or a contributor... usually sharing its risks and profits." My favorites were the synonyms: "colleague, accessory, accomplice." I would use all those words to describe the many partners that I have the honor to work with on many incredible projects. So you don't think I've lost my mind in the river of partnerships, the Service mission statement begins with "Working with

others..."—which I take quite seriously. And most importantly, working in the area for 17 years has taught me that a lot of people/groups (partners) in the area know it better than I do.

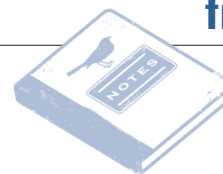
### Restoration Project Highlights

As part of the restoration planning process in 2010, partners in the Lake County Open Space Initiative identified Headwaters Ranch as the highest conservation priority in Lake County and the upper Arkansas Valley.

The ranch, along the Top of the Rockies Scenic and Historic Byway, provides important habitat for elk, mule deer, black bear, mountain lions and greenback cutthroat trout, as well as potential lynx habitat. Nearly one-third of the property is classified as high quality wetland and riparian habitat, so this habitat, with the ranch's grassland, shrubland and upland forested habitat, provides a diverse range of habitats for plant, bird, insect and wildlife species.

I can gleefully report that 550 acres of land and more than 3.5 miles of the headwaters of the Arkansas River are now permanently protected by a conservation easement, thanks to our partners The Trust for Public Lands, Land Trust of the Upper Arkansas, Colorado Parks and Wildlife, and Great Outdoors Colorado. Further, the landowner has agreed to allow public access for fishing, and the partners are now working on developing access and parking.

Another highlight is the Canterbury Tunnel, built in 1924 to help drain several active mines in the Leadville area and improve mine operations. Although it was not successful for that purpose, beginning in the early 1960s, the Leadville Water Company (predecessor of Parkville Water District) used groundwater from the tunnel as a clean source of drinking water for the town of Leadville. The tunnel provided more than 600 gallons per minute at a constant temperature of 54 degrees Fahrenheit, which helps prevent frozen pipes during winter. In the late 1990s,



support structures in the tunnel began to fail and cave-ins reduced the flow of water. By 2002, Parkville stopped using water from the tunnel. Since losing the warm water, Parkville has had to cope with water shortages in the winter and frozen water lines, which are costly to repair. For example, a block of frozen water mains in 2007 cost more than \$50,000 to fix.

Injured groundwater, a state trust resource, was included in the settlement, so the NRDAR team partnered with the Parkville Water District, Colorado Department of Local Affairs, Colorado Water Conservation Board and others to co-fund a \$2.5 million project to regain access to this valuable water source. And in November 2012, Parkville was able to turn on the pump at the Canterbury and add that warm water to its system just in time to prevent freezing pipes.

Many other restoration projects will also be implemented in the next several years. In addition, post-implementation monitoring and adaptive management strategies will improve outcomes for trust resources.

It was a long process to get to settlement and it will be many more years before I will consider restoration fully complete. I've joked that I will start and finish my career on the upper Arkansas River, but over the years I've come to appreciate the importance of long-term commitments to the resources, community and partnerships that have been developed during this process. Therefore, I now proudly say that the upper Arkansas River NRDAR project has made my career, and without all my partners, colleagues, accomplices and accessories (both internal and external) my job would not be as fun or rewarding. THANK YOU! □

LAURA ARCHULETA, an environmental contaminants specialist, is the project manager for the upper Arkansas River restoration and has been involved with the project for 17 years.



LAURA ARCHULETA/USFWS



USFWS

**Above:** One can find wetland and riparian habitat, grassland, shrubland and upland forested habitat on the Headwaters Ranch. **Left:** The Headwaters Ranch provides potential habitat for lynx.



## Keepers of the Last Frontier

*Animals still reign supreme throughout Alaska's lands; let's keep it that way*



Rachel Ruden takes a moment after hiking Bumyok Ridge, which overlooks Lake Aleknagik.

**M**y name is Rachel Ruden, and I am a third-year veterinary student at the University of Pennsylvania. This summer I was awarded one of the Service's Directorate Resource Assistant fellowships to study Kittlitz's murrelets for Togiak National Wildlife Refuge in Alaska.

Murrelets are some of the most elusive seabirds in North America, and Alaska plays host to two species—Kittlitz's murrelets and marbled murrelets. Long-term studies in Glacier Bay, Prince William Sound and Kodiak Island have been instrumental in estimating abundance and discovering aspects of their life history. Yet, still so little is known—such as why these birds are showing up on freshwater glacial lakes in the Bristol Bay area. This is what brought

me to Dillingham—to coordinate surveys of the Wood River Lake System and figure out if and why murrelets are there.

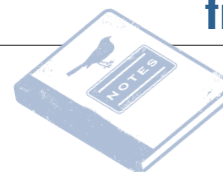
A 2013 pilot survey indicates they are there, at least on the first lake in the chain, Lake Aleknagik. But the why poses more of a challenge. In 1978, a single Kittlitz's nest site was found nearly 50 miles inland. Lake Aleknagik is about 30 miles inland on its closest shore, and the other lakes range farther inland from there.

Freshwater murrelets are a novel concept, and to document the presence of a breeding population on these particular lakes could be groundbreaking. As a budding naturalist, it does not take me long to get excited about animals and life histories, but that enthusiasm does not always translate to the community at large.

While I collect and crunch data, I have tried to get others excited about Kittlitz's murrelets, too, using local media platforms. For example, I wrote an episode for "Bristol Bay Field Notes," a local radio program. Radio is an extremely important means of communication and a vital news source for remote villages. Whenever I talk about murrelets, I try to convey a similar message—the importance of showing pride in your wildlife as well as the significance of these birds on the lakes.

And that's the thing. This fellowship has afforded me a once-in-a-lifetime opportunity to spend time in remote Alaska, surveying lakes in a surreal and breathtaking landscape. But after 11 weeks I return to school in Philly. It is the Alaskans who can keep murrelets in their landscape.

Last year I spent the summer in Pittsburgh, Pennsylvania, as a pair of bald eagles raised the first eaglet to fledging in more than 150 years. The Audubon Society of Western Pennsylvania says the figure is more like 250 years. It represents a major achievement for a city once known for its



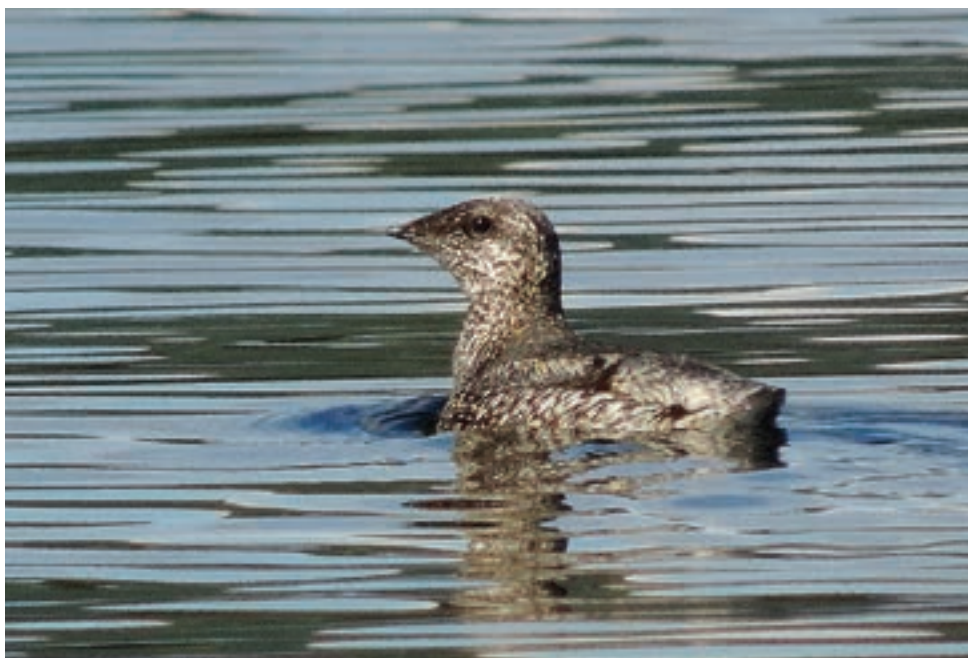
polluted rivers and steel mines. But it also represents a huge victory for bald eagles in Pennsylvania. In the 1980s, only a handful of nesting pairs were known in the state! This June, that same pair raised three eaglets to fledging, and a species that was once listed as endangered in 43 of the contiguous states has made a comeback.

Much of the romanticism admittedly lies in the fact that the bald eagle is our national symbol, and their comeback success in Pittsburgh fostered a sense of community and communal achievement. The excitement of seeing an eagle has not been lost on me since coming to Alaska. But can that same sense of urgency and pride apply when you're fighting for a funny little seabird with disproportionate features? Murrelets may not be flashy, but they have an inherent value as species that call Alaska home.

I have one more survey to complete before my project wraps up, but we do have several interesting findings. A robust population was observed on Lake Aleknagik this summer. The population seemed to peak during the predicted early post-nesting period in late July, when we would expect to see both adults provisioning for a chick if we do indeed have a breeding population. We also observed a single adult holding a juvenile salmon. This was particularly exciting considering that fish-holding behavior is often used as an index for chick-rearing. That does not mean adults are nesting in the immediate vicinity of the lakes, but it does suggest that they use the lake as a food source.

It has been a great privilege to take the lead on this project and a responsibility I do not take lightly. It is certainly the most unique way I could have spent my last summer before entering clinics.

But this project goes beyond me and Togiak National Wildlife Refuge.



RACHEL RUDEN/USFWS

It is about getting people excited about wildlife and wild places because that provides the impetus for conservation and responsible resource management. Alaska is unlike any place I have been. This refuge maintains more than 2 million acres of designated wilderness, but there is an innate wild property to the landscape surrounding the towns, too. Even Dillingham, a relatively large city, is but a microcosm of humanity within the greater context of endless tundra fields, mountains and lakes.

Man has carved out small patches for subsistence, but Alaska remains a land where animals reign superior. And what a beautiful thing, to realize those animals, even funny little seabirds, are still the true keepers of the last frontier. □

Kittlitz's murrelet is one of the rarest and least known seabirds in North America.

### MUSEUM OBJECTS COME TO LIFE

This is the fourth 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.

### Don't Cook that Bird



Former Special Agent Dave Hall was a great friend to the museum and the Service's historical archives. He was largely responsible for saving the historic records of Service wildlife law enforcement. He also shared many items with the museum. Dave died

in July (see In Memorium, p. 47), but he lives on at the museum. For instance, a famous Louisiana chef, whose brother had been arrested by Dave for poaching protected night heron, released a cookbook that included a recipe for the bird (under the term *gros bec*, French for thick billed). In Cajun culture, eating *gros bec* is an Easter tradition. At a book signing, Dave raised his hand and asked, "How come page 67 of your book has a recipe for cooking a bird which is illegal to have?" The chef replied, "You must be Dave Hall!" The second edition of the book did not have that recipe included. I think of that story whenever I see our photos of a haul of dead *gros bec* or when I watch that famous chef on PBS! Thank you, Dave.

### Meet Vincent Van Goat

Tucked away in the corner of the archives is a taxidermied mountain goat. He was loaned out to an institution a few years back, and the institution did not tell us that they had a carpeted display area, which is not optimal for display of objects made out of organic materials. Unfortunately, the goat came back a few months later infested with carpet beetles and a broken-off ear. I repaired the ear and got rid of the tiny livestock, and the goat has now been dubbed Vincent Van Goat!



### Breaking the Law and Biology

We have a beautiful mounted tiger lunging on its hind legs at visitors in the archives. It was purchased for \$76,000 by a Houston oil tycoon and brought into the country without the proper CITES permits. It was, of course, confiscated. Seems the tycoon wanted to have a rearing tiger and lion fighting each other in his foyer. I guess if you are wealthy enough, you can write your own version of biology, ignoring the fact that tigers and lions are not even from the same continent.

### Rabbit Remembered



One of my duties as the NCTC curator was to help with the selection, fabrication and installation of the statue at the NCTC Fallen Comrades Memorial. The artist selected was Eli Hopkins, and the 11-foot

tall bronze was of a refuge officer surrounded by animals in their habitats. After sending Eli a list of animals and plants we wanted included, I often reminded him that I would like an endangered riparian brush rabbit because I am a rabbit lover, having always had pet rabbits. Eli finally said, "Don't worry, Jeanne, having a rabbit is ingrained in me by now!" When the statue was completed, it had a rabbit, but it was surrounded by predators (wolf, mountain lion, scorpion, snake, eagle)! When I asked Eli about the rabbit's dire neighbors, he said, "Jeanne, that is the circle of life!"



## transitions

### Southwest



After a 35-year career working with and for wildlife, **Wendy Brown** retired at the end of August. Most recently, Wendy served as the Branch Chief for the Ecological Services Branch of Recovery and Restoration in the Southwest Region.

Raised in Nebraska, Wendy attended New Mexico State University for her undergraduate work, and Texas A&M for her master's in Wildlife Biology. After graduate school, Wendy spent about 13 years as a researcher working for the prestigious Hornocker Institute at the University of Idaho. Her research focused on waterfowl and cranes, including endangered whooping cranes. During her time with the Institute, she spent about 80 percent of her time in the field traveling up and down the Rocky Mountains with yearly forays to Canada and Mexico. Her research laid the groundwork for the founding of the "Avian Powerline Interaction Committee" (APLIC), an organization that continues to play a leading role in bird conservation today.

In 1994, Wendy realized her life's dream when she was hired by the Service to work on Mexican wolf reintroduction. Wendy spent seven years helping to implement the first steps of reintroducing the Mexican wolves back to the Southwest. Thanks to the efforts of Wendy and others the wolves are once again part of the Southwest landscape.

As Endangered Species Recovery Coordinator, Wendy had a window into the science and policy issues facing all the listed species in the Southwest, and learned how valuable partnerships are. "I've learned a little about everything from restoring endemic plants to running decision analysis workshops to address our toughest wildlife management problems," Wendy says. "It has been my privilege to work with some of the best and brightest folks dedicated to conservation for my whole professional life. It couldn't have been any better, and I hope some of my work made a contribution to conservation."

Wendy says she is ready to move on to new challenges and adventures, but she'll still be engaged and supporting the Service and its goals from a different place. Wendy and her husband will stay in Albuquerque, New Mexico, and take the next year to relax and explore her options. They intend to spend a lot more time in the outdoors, scuba diving, hiking, camping, and continuing one of their favorite pastimes, dancing with the Albuquerque International Folk Dance Foundation. □

### Southeast



**Timothy "Tim" Williams**, equipment engineer at Mackay Island National Wildlife Refuge in North Carolina and Virginia, retired June 30 after 40 years, all with the Service at Mackay Island. Tim began his career as a temporary worker in August 1974, when Mackay Island NWR was 14 years old. In those early days, he "worked as a guide for the water; this was before we had GPS and they needed somebody to run the boats and take them around. When we started getting equipment is when I started running it" until his job evolved to become what it is today. His favorite part of the job is "seeing if what you did all year was successful. If there's lots of good food in the impoundments and the geese are thick—that's the best." He says he isn't going to miss the wasps or deer flies.

He believes he's had 28 supervisors over the years and says he's learned something from each of them. His current supervisor, Mike Hoff, says, "As a boy, before there was a refuge, Tim played, hunted, fished and enjoyed the bountiful marshes where he would spend his career building and nurturing a wonderful refuge. Seems odd but in this case the refuge grew up around Tim."

One of Tim's greatest talents, which he honed during his many days on the refuge, is his story telling. What do a bottle of prune juice, a raccoon crossing the road and an oily sock have in common? They are all key parts to stories that Tim has kept us entertained with for years! His ability to tell a story and keep you laughing is one of the greatest things about working alongside Tim. He always has a great story ready...no matter the situation. The refuge will be just a bit quieter without the cheery laugh it's had for the past 40 years, but it's good to know that even in retirement, he's just around the corner with a story waiting.

When asked if he's going to go anywhere after he retires, Tim's response is: "Where would I go?" He is from Knotts Island. His great, great granddaddy came from Ireland and established his family there. He is the fourth generation of his family to serve as a duck hunting guide, something he's been doing since he was 15. His son, Timothy, who works with him, makes generation five. He and his wife, Nancy, run Williams Lodge, a 100-year-old farmhouse overlooking the Currituck Sound at the southern tip of Knotts Island, just like his grandfather and grandmother did for 50 or so years. There have been news articles written about him, and more recently, a spot on the local news that referred to him as the Duck Dynasty of Hampton Roads.

Happy Hunting, Tim! May the geese always be thick. □

SUSAN SPRY, Mackay Island and Currituck National Wildlife Refuges, Southeast Region

## Northeast



**John Organ**, a longtime Service employee in the Northeast Region, is joining the U.S. Geological Survey as the director of the Cooperative Research Units. John served the Northeast Region for 35 years and worked in Ecological Services and Refuges before joining Wildlife and Sport Fish Restoration (WSFR). He became Chief of the region's WSFR Program in 2005.

"John has been a true leader in the Service," says Northeast Region Regional Director Wendi Weber. "He not only brought a great wealth of knowledge and expertise, but he continuously acted with integrity, sincerity and care. He has been a true friend and colleague to many and will be leaving a legacy that will be appreciated for years to come."

John received his Ph.D. in Wildlife Biology from the University of Massachusetts, Amherst, where also served as adjunct associate professor of Wildlife Ecology and Conservation. He became the

first-ever assistant regional wetland coordinator for the Service's National Wetland Inventory, where he attained extensive knowledge of wetland ecology and mapping.

During the course of his career, he has served as a Certified Wildlife Biologist, Fellow and Past President of The Wildlife Society, Professional Member of the Boone and Crockett Club, Senior Specialist in the Fulbright Scholarship Program, Permanent Invited Professor at the Universidad Andres Bello in Santiago, Chile, and supervisor of M.S. and Ph.D. students studying carnivore conservation and ecology in Canada, Chile and the United States.

To many in the profession, John's seminal contribution to North American conservation has been his work to describe, advance and promote the North American Model of Wildlife Conservation. He is considered by peers to be perhaps the single most knowledgeable living professional on the history and heritage of wildlife conservation in North America.

Because of these contributions, John received the Wildlife Management Institute's 2014 George Bird Grinnell Memorial Award for Distinguished Service to Natural Resource Conservation. The award was presented during the 79th North American Wildlife and Natural Resources Conference in Denver, Colorado. □



**Kevin Sloan** has been named the project leader at Chincoteague National Wildlife Refuge in Virginia. Kevin is a 27-year Service veteran and brings a wealth of knowledge from his diverse experience with the Service and other conservation agencies. He previously was project leader at Crab Orchard National Wildlife Refuge in Illinois.

He began his wildlife career doing alligator research with the Louisiana Department of Wildlife and Fisheries before accepting a position with the Service in 1987. Since then, he has served in biological and management positions in eight states at national fish hatcheries, field offices, national wildlife refuges and with the Wildlife and Sport Fish Restoration Program. He is a 2011 graduate of the Service's Advanced Leadership Development Program.

He and his wife of 24 years, Valerie, have two children. □

## Alaska



**Ernestine Ahgeak (Uiññiq)** has joined the Service as a biologist / outreach specialist in the Barrow Field Office in Alaska.

Uiññiq was born and raised in Barrow, and graduated *cum laude* with a bachelor of science in Fisheries in 2011 from the University of Alaska Fairbanks; she was also a student in the Alaska Native Science and Engineering Program (ANSEP).

Uiññiq began her career with the Service as an Eider Journey student in 2006. She assisted with the Migratory Bird Management's geese and eider nest plot survey on the Yukon-Kuskokwim Delta in 2007 and worked on Service's avian influenza project on the North Slope in 2008. Since graduation Uiññiq has worked as a protected species observer and as an intern for the Alaska Department of Fish and Game. Her most recent internship was at the Alaska SeaLife Center assisting with general husbandry and care of the captive flock of Steller's and spectacled eiders; preparation and inventory of past eider egg field samples for laboratory analysis; and assisting with outreach and education tasks associated with Steller's eider reintroduction on Yukon-Kuskokwim Delta. □

## Headquarters

**Charles “David” Goad** has joined the Service’s Wildlife and Sport Fish Restoration Program as Deputy Assistant Director after 25 years building and leading conservation and management programs for the Arkansas Game and Fish Commission. He began his career as a field biologist and progressed through multiple levels to the number two position within the agency, managing biological, social and political aspects of conservation for the people of Arkansas.

He played important roles in modernizing the commission: replacing paper licensing and survey records with electronic records; persuading the Arkansas public to pass a conservation sales tax initiative to increase annual revenue by \$30 million; developing the agency’s strategic plan; and generally moving the commission from a “hook and bullet” agency to a conservation agency.

While deputy director of the commission, he oversaw fisheries, wildlife, education and support functions of the agency. He led the charge to establish both the Arkansas Youth Shooting Sports and the state’s National Archery in the Schools Programs; today these programs are the largest of their kind in the United States. He worked with political and conservation leaders to promote the Conservation and Reinvestment Act (CARA), resulting in establishment of the State Wildlife Grants Program.

As a wildlife biologist, he supervised wildlife management areas and staff, and worked across state lines to establish and lead the Black Bear Technical Committee for the Southeastern Association of Fish and Wildlife Agencies.

He has a degree in Biology and Fish & Wildlife Management, with a minor in Criminal Justice, from the University of Arkansas. He is also an alumnus of the inaugural class of the prestigious National Conservation Leadership Institute. □



**Gloria Bell** has been selected as the Deputy Assistant Director for the International Affairs Program, providing critical support and guidance to further the program’s mission and effectiveness of its conservation work.

Gloria began her conservation career as a field biologist with the Puerto Rico Department of Natural Resources (PRDNR), working on imperiled species such as the West Indian whistling duck, white-cheeked pintail, and snowy and Wilson’s plovers. After three years with the PRDNR, she began her career with the Service in 1989 at the Caribbean Field Office, where she worked as an endangered species biologist and helped to establish the

Puerto Rican Parrot Field Office. She then joined the Southeast Regional Office’s endangered species staff, where she coordinated the listing and recovery programs, and later served as the Endangered Species Chief, overseeing all aspects of the endangered species program for the region.

In 2008, Gloria made the transition to Washington, DC, joining the Headquarters staff as the Deputy Assistant Director for Endangered Species. In 2010, she joined the National Conservation Training Center staff as the Deputy Chief of

Training, where she helped Service employees and the broader conservation community better deliver conservation.

Gloria has a bachelor of arts degree in Biology from the College of Notre Dame of Maryland and a master of science degree in Wildlife Management from Clemson University in South Carolina. Her husband, Bruce, is a retired Service biologist who enjoys staying at home with their two dogs. They have three children and three granddaughters in the Atlanta area. □

## My favorite migratory bird is...



Kathy Lindgren, of the Inland NW NWR Complex in Washington, says: “My spirit is renewed when I hear the unmistakable **Western meadowlark** song on a fresh early spring morning in eastern Washington. They annually remind me to sing my song, loud and strong, with all my heart and soul.”

## Headquarters



**Gina Shultz** stepped up to the position of Deputy Assistant Director for Ecological Services in September.

Gina served in a variety of positions directly related to the work of Ecological Services during the course of her career. Most recently, she served as Chief of the Division of Conservation and Classification, and she was also Chief of NMFS' Division of ESA Interagency Cooperation. In both roles, she demonstrated outstanding leadership and skill in managing some of the most high profile, controversial and demanding work activities of the agencies.

Gina also served as Chief of the Office of ESA Litigation and was instrumental in negotiating the MDL settlement agreement. She came to HQ from the Pacific Islands Fish & Wildlife Office, where she served in a variety of leadership roles, including Acting and Deputy Field Supervisor. Gina began her Service career with the Carlsbad Ecological Services Office.

Gina has degrees in both biology and law and is a graduate of the Service's Advanced Leadership Development Program. □



**Paul Souza** has been selected as the Assistant Director for Science Applications for the Service. In this role, Paul will provide leadership to further strengthen the Service's science partnerships, work collaboratively to set conservation priorities, and then leverage the resources to achieve them. Paul will help oversee the network of Landscape Conservation Cooperatives across the country, implement the Strategic Habitat Conservation approach to adaptive management, and address key science needs that enable resource managers to find common sense solutions to real world problems.

"I am very pleased to have Paul serve in this important role for our agency," says Service Director Dan Ashe. "Paul brings a clear track record of working closely with partners to set shared goals and solve challenging problems. These skills will help us address the effects of a changing climate and the other transformational conservation questions that we face today."

Paul was the Deputy Assistant Director for the Service's Ecological Services Program in Headquarters. In this capacity, he provided national leadership

for the Endangered Species Act, Marine Mammal Protection Act, Fish and Wildlife Coordination Act, Clean Water Act and many other statutes. Paul worked closely with partners to leverage resources that benefit wildlife conservation and other important needs, such as farming and ranching, military readiness, and energy and infrastructure development.

Before coming to Headquarters, Paul was the Field Supervisor for the South Florida Ecological Services Office. In this capacity, Paul oversaw actions to recover 67 listed species and protect a host of important habitats for migratory birds, fish and other wildlife. Paul also helped lead the effort to restore America's Everglades with many partners, implementing projects to improve the health of the environment for species such as the Florida panther, wood stork and snail kite.

"I am so honored to take on this important challenge with the dedicated conservation professionals in our agency," Paul says. "I am a big believer in the power of conservation partnerships with states and organizations of all stripes. Together we can meet today's challenges head on and continue our country's rich legacy of wildlife conservation." Paul joined the Service in 1997 as a Presidential Management Fellow. He has a bachelor's degree in Environmental Studies from the University of California at Santa Barbara, and a master's degree in Urban and Regional Planning from Florida State University. Paul and his wife, Dana, have two children. □



**Dr. Richard Ruggiero** will serve as the Chief of the Division of International Conservation,

overseeing the Wildlife Without Borders Regional, Species and Global Programs. Richard assumes this role building on his 16 years with the Service and the division, formerly as a project officer for the Great Ape Conservation Fund, the African Elephant Conservation Fund, and more recently, as Chief of the Branch of the Near East, South Asia and Africa. Richard came to the Service after 17 years in Africa and at several other international and domestic positions.

His first position in Africa was as a Peace Corps volunteer in the Central African Republic 1981-85, which he followed with a year as a wildlife security expert. Following two years directing the School for Field Studies in Kenya, Richard worked in Zimbabwe on the CAMPFIRE Programme before a six-year stay in the forests of Republic of Congo, where he focused on protected area development, professional training, community conservation, applied research and wildlife security. During his time with the Division of International Conservation's Africa Branch, he led a staff whose work produced significant growth and recognition as a leading force in wildlife conservation in Africa.

A product of the Rutgers University system in his native New Jersey, Richard received his MS in 1988 with a thesis on Predation by Lions and his Ph.D in 1989 with a dissertation on the Behavioral Ecology of the African Elephant in Northcentral Africa. Richard lives in Arlington with his wife, Heather, who is a professor at Johns Hopkins University and Virginia Tech with a special focus on global conservation issues and capacity building. They have two children who are also interested in animals, mostly dogs and horses. His hobbies include classical music, old-school fly fishing and wildlife photography. □

## honors

### Service-wide

Each year, the Department of the Interior's (DOI) Natural Resource Damage Assessment and Restoration (NRDAR) Office recognizes people who, through their dedication to the program's mission and personal perseverance, have done strong work for the program. The Service had several winners:

**Mark Huston**, who recently moved from the Service to become the Deputy Director of DOI's NRDAR Office, was honored for his leadership of the Service's NRDAR Program for seven years. He is considered the subject matter expert on NRDAR policy and practice, and often shares his experience with the Service, DOI and others. He continues to be a problem solver, an advocate and a leader in the NRDAR Program.

**Jeff Krausmann**, an NRDAR specialist with the Service's Washington state Fish and Wildlife Office, was recognized for leading the Commencement Bay NRDAR for more than 20 years. Commencement Bay is an urbanized estuary in southern Puget Sound, Washington, where intertidal areas and tideflats were filled in, meandering channels were dredged and straightened, and a variety of hazardous substances have contaminated the air, surface and ground water, sediments and soils. Settlements to date have restored more than 240 acres of wetland and riparian areas, riverine side channels and estuarine habitats. The value of these restoration projects exceeds \$161 million.

The Service's **Anne Secord** and the St. Lawrence Environment NRDAR Case Team were honored for work in New York. Last year, they announced a \$19.4 million settlement with Alcoa Inc. and Reynolds Metals Company for injuries to natural resources, recreational fishing and Mohawk culture resulting from the release of hazardous substances into the St. Lawrence River environment since at least the late 1950.

**Molly Spurduto**, an NRDAR biologist in the Service's New England Field Office, received an award in recognition of her leading role in restoration planning and implementation for more than 15 years. Her work has helped restore thousands of acres of habitat as well as many miles of stream that were opened them to fish passage.

The **Cosco Busan NRDAR team**, featuring the Service's **Carolyn Marn** and **Toby McBride**, both biologists, and **Janet Whitlock**, the NRDAR Branch Chief, was honored for work on the Cosco Busan oil spill in San Francisco Bay. The settlement totaled \$44 million, the largest ever under the Oil Pollution Act, and almost immediately after completion of the restoration plan and consent decree in 2012, the team began directing settlement funds toward restoration efforts. To date, \$12 million has been allocated to projects. □

### Southwest

Three Southwest Region employees were recently recognized by the Department of the Interior for exemplary service. **David P. Maple** (second from left above, with Regional Director Benjamin Tuggle, Regional Refuge Chief Aaron Archibeque, Refuge Supervisor Kelly McDowell), deputy refuge manager at Balcones

Canyonlands National Wildlife Refuge near Austin, Texas, was honored for courageous actions that helped save the life of a refuge intern. The intern was surveying golden-cheeked warblers, lost control of his ATV and was pinned underneath. David came upon the scene and quickly responded, aiding the victim and contacting emergency services. David's quick action and clear thinking prevented a more serious situation and likely saved the young man's life. Federal Wildlife Officers **Chris Davis** of Texas Chenier Plain NWR Complex and **Ken Carver** of Cabeza Prieta NWR (Arizona) took quick action during a medical emergency and saved a man's life. While on duty, the two where fueling a patrol vehicle and heard a call over the radio reporting a possible heart attack at a nearby restaurant. The two immediately responded and rendered essential aid to the victim and stayed with him until emergency medical personnel arrived. □



## Midwest



Midwest Region Deputy Regional Director **Charlie Wooley** has won the Ira Gabrielson Award, which the Service's Advanced Leadership Development Program bestows on one Service employee each year. It's truly a special award—the recipient is nominated and chosen by his/her peers.

The award is named after the first Service Director, Ira Gabrielson, and recognizes an individual currently within the Service who best exemplifies the leadership qualities demonstrated by Dr. Gabrielson during his 11-year tenure at the helm of the Bureau of Biological Survey, the precursor of the Service.

The key leadership qualities used to evaluate nominees are: vision, determination, commitment, integrity, and strong management skills. Dr. Gabrielson was known for consistently demonstrating these qualities, and so is this year's award recipient, Charlie Wooley.

*Vision and Determination*  
Throughout his 35-year career with the Service, Charlie has consistently cultivated and maintained a progressive and forward-looking vision and viewpoint for achieving effective natural resource management. This includes implementing a management model that incorporates broad and

consistent collaboration with a diverse collection of partners and stakeholders, informed by state-of-the-art science and policy, to achieve aggressive conservation objectives. Under Charlie's leadership in the Midwest Region, this approach to collective, multi-partisan problem-solving has been especially successful in ensuring the Service's ability to be a federal leader on resource issues in the Great Lakes basin, where jurisdictional and geopolitical boundaries encompass eight states, two Canadian provinces, and numerous tribes; and include Canadian and U.S. federal interests.

*Commitment and Integrity*  
Throughout his tenure with the agency, Charlie has consistently supported the mission of the Service and upheld the principles and values that are the foundation of the organization. Charlie consistently instills the importance of trust, respect, honesty and professionalism in each and every one of his staff. Countless employees of the Midwest Region—from senior managers to seasonal technicians—know Charlie by name as a result of his commitment to, and caring for, the people who are in the field and on the water, working year-round to achieve conservation delivery to benefit fish and wildlife resources. Charlie holds himself accountable to make the time for face-face meetings with field staff during his travels throughout the region's eight states, ensuring strong connections between the many field stations and refuges, and the Regional Office.

### *Strong Management/ Leadership Skills*

Charlie's active leadership with the Service has been marked by his ability to build consensus and inspire members of the conservation community to apply common sense solutions to some of the nation's most difficult challenges. His capability in identifying limiting factors affecting fish and wildlife resources has led to significant restoration milestones, particularly in the Great Lakes region. Charlie was instrumental in establishing the Great Lakes Fishery Trust, an innovative cooperative that restores fishery resources from losses caused by the operation of hydroelectric facilities. He has also led field, regional, and national efforts to identify natural resources injured by contaminants, recover damages from those responsible, and undertake restorations. On behalf of the Department of the Interior, he negotiated one of the earliest, large settlements nationally for the Saginaw River in Michigan and continues to lead Natural Resource Damage Assessment and Restoration activities across the region. Charlie has also effectively advocated for fish and wildlife resources as a major priority and deliverable via the U.S. Environmental Protection Agency's Great Lakes Restoration Initiative.

Charlie has a special affinity and appreciation for the day-to-day work of field biologists across all organizations. He makes himself available to all employees and his coaching, guidance and caring are hallmarks of a generous leader. □



**Dr. Gwen White** has received the Emmeline Moore Prize in recognition of her work to promote diversity and equal opportunity within the American Fisheries Society and the field of fisheries science. White is the science coordinator for the Eastern Tallgrass Prairie and Big Rivers Landscape Conservation Cooperative.

"Dr. White's efforts to promote diversity, equal opportunity and outreach to groups typically underrepresented within AFS exemplify every aspect of the Emmeline Moore Prize. She has served as a role model for all AFS members," says Lonnie Gonsalves, the chair of the 2014 Emmeline Moore Prize Committee. "Gwen continues to demonstrate the value of increased inclusion of groups typically underrepresented in the Society."

White's work encompasses decades of service and leadership roles in AFS, including positions as President AFS Equal Opportunities Section 1999-2001, and presidencies at the chapter and division level. She has also written multiple publications highlighting the history of diversity in AFS and contributions of members from groups typically underrepresented in the Society. White's service has also included administration of the J. Frances Allen Award, EOS Travel Award and the Hutton Program.

"I've been really pleased to see the growing recognition that the world is changing and that fisheries professions benefit from the full range of perspectives brought by people from many different backgrounds," says White. "It's been my great privilege to support that evolving attitude in AFS over the years. Our community must continue expanding to meet the future needs of fisheries and water resources."

The Emmeline Moore Prize was established by the American Fisheries Society as a career achievement award to recognize AFS members who demonstrate a strong commitment to diversity issues, and who promote greater involvement of under-represented groups in fisheries science, education, research or management. The award is named for AFS's first woman president, Emmeline Moore, who served from 1927 to 1928. □

KATIE STEIGER-MEISTER, External Affairs, Midwest Region

## Northeast

**John S. Wilson**, the retired regional preservation officer for the Northeast Region, was one of four honorees to receive the annual Secretary of the Interior Historic Preservation Award, which recognizes outstanding contributions to the preservation of historic places and artifacts. As the principal preservation experts for the region, Wilson and his team reviewed 300 to 500 requests for compliance with Section 106 of the National Historic Preservation Act each year. They also provided oversight for thousands of

archaeological sites and historic buildings, nearly 200,000 museum items and volunteers who contributed hundreds of hours to cultural resource interpretation. □

## Mountain-Prairie



The American Recreation Coalition honored **Lorrie Beck**, outdoor recreation planner at Quivira National Wildlife Refuge in Kansas and director of the Great Plains Nature Center in Wichita, Kansas, with a 2014 Legends Award. The award recognizes representatives of the major recreation-related federal agencies for extraordinary individual efforts to enhance recreation resources and participation.

Beck is the only Service employee co-located at the center, an outdoor education center for the City of Wichita, a regional office for the Kansas Department of Wildlife, Parks and Tourism, and an administrative site for the Service. She oversees management of the facility and works to provide education through programs, events and personal contact. She routinely appears on television in Wichita to discuss wildlife education, nature programs and events, and usually brings along a critter that is well known to the area. Beck

also leads the Kansas Jr. Duck Stamp program and remains a part of programs and events at Quivira.

The Great Plains Nature Center received the Department of the Interior's Partners in Conservation award earlier this year. □



**Dr. Donald "Pete" Gober**, black-footed ferret coordinator for the Service, received a 2014 Special Achievement award from the Western Association of Fish & Wildlife Agencies (WAFWA) in recognition of his outstanding service and contributions to the recovery of the black-footed ferret and conservation of

the prairie ecosystem of the American West.

"I am pleased to have received this award," says Gober. "WAFWA members are probably the most pragmatic conservation partners that I have worked with over the past 30 years. You can count on them to pick you up if you have a good idea...and to knock you down if it's a bad one. Either way it's usually a win for wildlife."

As the recovery coordinator, Gober has worked with a wide array of federal agencies, state and county governments, Native American tribes, private citizens, landowners, and non-governmental organizations to recover the endangered black-footed ferret throughout its former range in the Great Plains, mountain basins and semi-arid grasslands of North America.

Gober has worked for the Service for 27 years. □

## My favorite migratory bird is...



Park Ranger Carol Stayer, of Wichita Mountains Wildlife Refuge in Oklahoma, loves **painted buntings** "because it looks like a 5-year-old colored them! Locals who are not birders are aware of them when they get here and when they leave."

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## Alaska



Since the 1990s, **Bob Blush** has volunteered for Alaska Peninsula and Becharof National Wildlife Refuge. He has worked on maintenance and carpentry projects, helped set up and take down field camps, and assisted with bird banding and research all over the refuge. In August, staff honored him for his countless hours of service.

Married to wildlife biologist Susan Savage, Bob has participated in a variety of her field projects, attaining the high level of training required by the Service for travel in the backcountry. This summer, he helped set up the Puale Bay field camp, where a crew of four young people lived from July to September conducting population surveys of seabirds and other studies. He also assisted this year with Susan's bird-centered research projects.

It's easy to find Bob's handiwork throughout the refuge compound and in the outlying cabins. His carpentry in particular, from outhouses to cabins, has made its mark. The refuge is grateful for his high quality service for so many years. □

## Pacific Southwest

The Inter-mountain West Joint Venture presented its 2014 Conservation Partner award to **Dave Mauser**, lead supervisory wildlife biologist at Klamath Basin National Wildlife Refuge Complex until his retirement this year. "Dave Mauser is, hands down, one of the best wetland managers in the West," says Dave Smith, coordinator of the joint venture. "Yet what separates him from so many other habitat managers is his commitment to innovation and partnerships. He truly set the standard for excellence in the field of wetland habitat management."

Mauser consistently saw the power that the public and other organizations can bring to the table in promoting sound conservation ideas. He harnessed that energy to conserve habitat on both public and private lands. For example, farmers in the Klamath Basin today tout the benefits of having wetlands as part of their farming operations. This is because Mauser spearheaded a unique and innovative approach, termed "Walking Wetlands." He helped find ways to integrate wetlands and agricultural lands while maintaining the ecological integrity and economic well-being/sustainability of rural economies.

Along with his expertise in wetland ecology, Mauser has a tremendous ability to communicate his knowledge and ideas. He can hold meaningful conversations about wetland ecology with farmers, ecologists, birders, hunters, the media, lawyers, and the list goes on. His ability to speak at so many levels ensured that his message was heard throughout the Klamath Basin and beyond. □

## Headquarters



**Larry (Kaili) McCray** (above, right, with John Segar, chief of the Service's Branch of Fire Management), wildland fire medical standards program manager, was awarded a Department of the Interior Citation for Exemplary Action for heroic acts at the 2013 Beaver Creek Fire on the Sawtooth National Forest, northwest of

Hailey, Idaho. McCray's prompt action and decisions contributed to saving a life on August 13, 2013. "The victim's heart had stopped. Kaili's quick thinking, decisive action and leadership were directly responsible for preventing a death," says Segar. "He joins a small and select group within the fire community ever to receive this award." McCray is a Service employee serving at the National Interagency Fire Center.

McCray administered chest compressions, applied an automated external defibrillator (AED), and ordered oxygen in response to a fire camp crew member who suffered a cardiac arrest. He coordinated his efforts with two other trained employees assigned to the fire, who also responded, from the U.S. Forest Service and the state of Maryland. The emergency room physician who later cared for the victim credited the responders' actions and use of the AED on site with saving the patient's life.

Since 1990, cardiac arrest has been the third-leading cause of wildland firefighter deaths. Aircraft and vehicle accidents



TAMI HEILEMAN/DOI

are the first and second leading causes respectively of wildland firefighter fatalities. □

The American Recreation Coalition honored the staff of **NCTC's Knowledge Resources and Technologies Division** (KReaTe) as the Service's recipient of the **2014 Beacon Award** (NCTC Director Jay Slack and Rhonda Miller, Diane Knudson and Randy Robinson of KReaTe are bookended by ARC President Derrick Crandall (left) and Mark Schaefer, Assistant Secretary of Commerce and Deputy Administrator of NOAA). The Beacon Awards recognize outstanding efforts by federal agencies and partners in harnessing the power of technology to improve public recreation experiences and federal recreation program management.

KReaTe received the award for its outstanding work in integrating technology within the many programs and courses offered at the National Conservation Training Center. KReaTe provides the Service, and its partners, with instructional video, print and electronic products such as interactive distance learning, video for training, print publications and online-based materials. □

## in memoriam

### Southeast



**David L. Hall**, a retired Law Enforcement Special Agent, died July 14 after a long illness. He was 76.

The Jackson, Mississippi, native became an avid sportsman while hunting and fishing with his father as a young boy.

After receiving a B.S. degree in Forestry in 1961 and an M.S. degree in Zoology/Wildlife Management in 1962 from Mississippi State University, he served as a Special Agent with the Service for more than 33 years.

His writing and photography won awards and were frequently featured in outdoor recreation publications. During his career he was responsible for supervising Service law enforcement programs in seven states, and he conducted undercover investigations from Alaska to the East Coast.

In 1992, he became known outside the conservation circle with the publication of Marc Reisner's *Game Wars: The Undercover Pursuit of Wildlife Poachers*.

The review on Amazon.com reads in part: "If environmentalists ever get around to

building a hall of fame, Dave Hall ought to be up for early induction. Hall, the hero of *Game Wars*, is the Dirty Harry of the United States Fish and Wildlife Service whose goal in life is to stop poachers dead in their tracks..."

Some of his more significant achievements included:

- Starting a "Poacher to Preacher" program. Former poachers went to schools and civic groups, and made videos explaining why they were no longer poachers and now were conservationists.

- Getting the first helicopter for law enforcement work.

- Largely saving the historic records of Service wildlife law enforcement.

In his later years, he taught at universities, led seminars and continued work with convicted and reformed poachers.

Over the years, Dave won the Monitor Award, Chevron Award, Guy Bradley Award, National Wildlife Federation Award, Izaak Walton League Outdoor Ethics Award and Louisiana Wildlife Federation Conservationist of the Year three times. □

### My favorite migratory bird is...



Andrew Forbes, the assistant coordinator of the Upper Mississippi River/Great Lakes Region Joint Venture in Minnesota, says he has been "lucky to have worked with a variety of amazing bird species. However, when asked what my favorite bird is, I always come back to the **black-capped chickadee**. One of my earliest memories is of sitting on the back deck with my grandfather watching black-capped chickadees boldly grabbing birdseed from the deck railing inches away from me. I've been hooked on birds ever since!"

DONNA DEPHURST/USFWS

## Midwest



Retired Special Agent **Bob Lumadue**, who served many years as the Resident Agent in Charge for the Office of Law Enforcement in Ann Arbor, Michigan, died September 16. He was 65.

A native of Clearfield, Pennsylvania, Bob attended the University of Massachusetts on a wrestling scholarship and graduated with a degree in Wildlife Biology and a second lieutenant's commission in the U.S. Army. His active duty career, which included postings in California, Arizona, South Korea and Pennsylvania, was followed by service as a military intelligence officer in the U.S. Army Reserve and full-time employment as a wildlife law enforcement officer for Pennsylvania.

After joining the Service as a Special Agent, Bob worked as a criminal investigator in Missouri, where he orchestrated the Service's first large-scale covert investigation of the poaching of paddlefish for the black market caviar trade. His case work also included successful investigations that exposed the unlawful take of eagles and illegal migratory game bird hunting.

As a Resident Agent in Charge, Bob directed Office of Law Enforcement criminal investigations in Michigan, Ohio and at times Indiana, and also oversaw wildlife inspection operations at Detroit and other border crossings in Michigan. He played a key role in a major U.S./Canada investigation of profiteering in black bear gall bladders; forged strong partnerships with state counterparts; and successfully mentored many new officers.

"I've known Bob since college, where we both had working for the Fish & Wildlife Service as our goal," remembers friend Lew Gorman who works in Ecological Services in Headquarters. "His love for wildlife and nature drove him to study wildlife biology and to pursue a career with the Service."

Bob was an avid outdoorsman who enjoyed fishing and hunting. He retired from the Service in 2006. He is survived by his wife of more than 40 years (Kathy), three sons, and three grandsons.

## Northeast



**Grover E. Wilgus Jr.**, better known as "Drizzle" or "Driz," died peacefully at Peninsula

Regional Medical Center in Salisbury, Maryland, on June 11. He was 73.

Drizzle began his career with the Service on August 2, 1972, as a temporary intermittent Laborer, WG-3502-2 at Chincoteague National Wildlife Refuge in Virginia. He was hired as a patrolman on horseback and was paid \$2.55 an hour. He and his horse, another Service employee, served as a visitor services safety team, patrolling refuge trails that were inaccessible by automobiles. He also provided tours to the public and performed maintenance work as needed. Drizzle became a permanent intermittent career-conditional employee in November 1972, and went to part-time status in March 1973. In 1973, the horse patrol was disbanded, and his duties changed to maintenance work.

Drizzle became full time on October 16, 1983. Drizzle received another promotion in 1985 to the position of Engineering Equipment Operator, where he remained for more than 29 years.

He was a lifetime member of the Chincoteague Volunteer Fire Company, and for many years Drizzle was the refuge representative at the annual Chincoteague Pony Penning Roundup and Swim. Driz always led the ponies down the Assateague Beach in the sunrise pony walk to the south pony corral, where they remained until pony swim time.

Driz was regarded by his refuge family as a very dear and faithful friend. He was a "tell-it-like-it-is type of guy," a "true Chincoteaguer," "an original Eastern Shore waterman and a kind soul." In August 2012, Driz was surprised by his refuge colleagues when they presented him with his 40-year USFWS gold pin. He wore it proudly on his hat with other refuge pins he had received over the years.

He will be greatly missed by his refuge family, especially at monthly staff/safety meetings. When asked what he had been doing the past month, his answer was always "routine maintenance" – although he said "that after 41 years, I've learned there is nothing routine about maintenance."

Drizzle devoted his life to the U.S. Fish and Wildlife Service and Chincoteague National Wildlife Refuge, and his faithfulness and dedication to the Service set a high standard. He will be missed. □

SUSAN MERRITT, Chincoteague National Wildlife Refuge, Northeast Region

## Mountain-Prairie



**Carl D. Marks**, who retired from the Service in 2003 after 30 years at Quivira National Wildlife Refuge in Kansas, died in May. He was 77.

Carl served as the Work Leader for the maintenance crew and Law Enforcement Officer for the refuge. He was also the Heavy Equipment Instructor for the Mountain-Prairie Region.

He was very instrumental in establishing the refuge and its 11,000 acres of wetlands by not only surveying and building the infrastructure, but also developing it. Carl designed and got approval from Service engineers for the water control structures that are in place at Quivira, a style of structure adopted for use throughout the central United States.

Beyond Quivira, Carl became known for taking skilled Wage Grade professionals across the country to repair projects that had been either underfunded or were not finished by contractors.

The Regional Director once asked him to repair the raceways and holding facilities at Jackson Fish Hatchery in Wyoming after a contractor had been unable to fix them. Carl's skill topped the contractor's, and the hatchery soon had its raceways and holding areas.

Dave Hilley, a retired refuge manager from Quivira, remembers that Carl was a real organizer, molding a local group of waterfowl supporters into "Sunflower Mallards."

The Mallards rescued eggs from wild duck nests that were destroyed by local farming activities. After the eggs hatched, the young ducks were released back into the wild in suitable habitat throughout Kansas. Carl raised money for the group through fundraisers within the local communities.

The project helped raise awareness for waterfowl and the need for suitable wetlands. Carl based it on his long-term efforts at raising and releasing Giant Canada geese throughout the area.

His love of waterfowl and desire to help them were the driving forces for his life and he was very passionate about the refuge and Service efforts.

Survivors include son-in-law Brent Waters, a Wage Grade professional at Quivira.

He was a great friend and will be missed! □

## Headquarters

**William "Bill" Farr III**, the Service's National Diversity Recruiter Coordinator, died July 12 after a battle with cancer. He was 52.

After more than 25 years in the U.S. Marine Corps, Bill joined the Service in December 2010, and after a stint in International Affairs, he took on the recruiter role.

Bill served in various leadership roles in the Marines before moving to recruiting, and he was honored with a Meritorious Service Medal, two Navy & Marine Corps Commendations Medals and six consecutive Recruiting Tour Ribbons for superior performance.

He left active duty with an honorable discharge in 2008 and moved into consulting, focusing on management and training at a Certified Service Disabled Veteran Owned and Minority Small Business. He also served as a Marine liaison on the WP Wounded Warrior Mentor Program, which helps veterans transition to civilian life.

Bill was dedicated to the Service's conservation mission and used skills learned as a Marine Corps recruiter to advance the Service's recruitment initiatives.

His strengths were many, and he approached challenges through his leadership and generous spirit. Bill was a friend to all who knew him and will be greatly missed. □

# Fish & Wildlife News

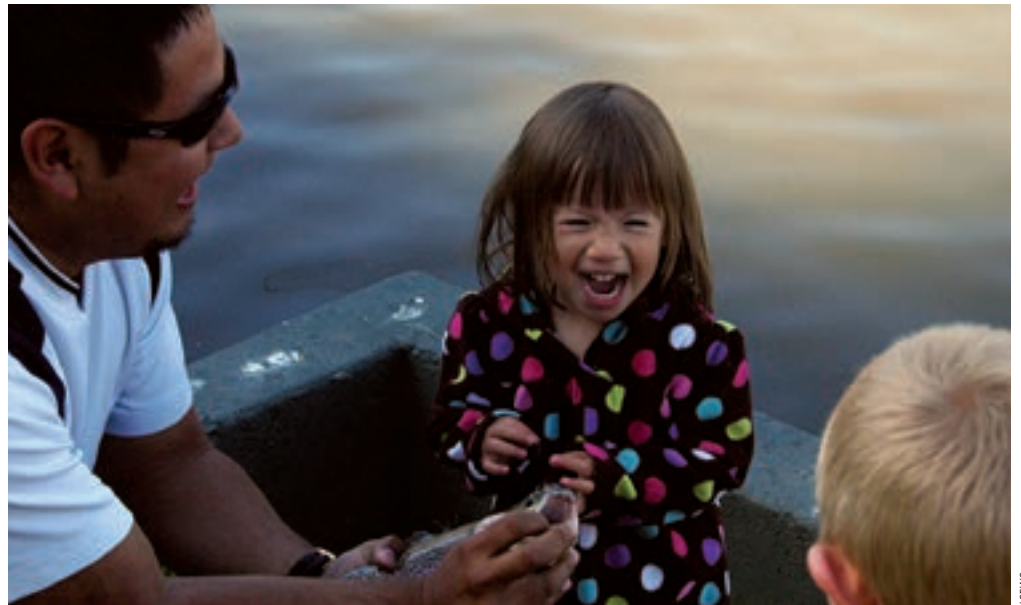
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## parting shot

### Connection to Nature? Check

Alaina Valen's dad introduces her to a fish at the Welling Up for Watershed Festival and Fishing Derby in June at Bozeman Fish Technology Center in Montana. Staffers and volunteers also came from the Service's Aquatic Animal Drug Approval Partnership and the Montana Fish & Wildlife Conservation Office.



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## Fish & Wildlife News

**Editor:** Matthew Trott

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703/358-2512  
Fax: 703/358 1930  
E-mail: matthew\_trott@fws.gov

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