



RefugeUpdate

National Wildlife Refuge System

www.fws.gov/refuges



INSIDE: Youngsters enjoy themselves during a Junior Refuge Ranger program habitat walk at California's Don Edwards San Francisco Bay National Wildlife Refuge. To learn more about the program and other ways refuges are reaching out to welcome visitors, see the Focus section, which is titled "Be Our Guest" and begins on page 6. (Courtesy of Shuck family)

Cooperative Recovery Initiative To Aid Woodpecker, Other Species

By Susan Morse

Red-cockaded woodpeckers flout usual woodpecker rules. They feed and nest in live trees, not dead ones. They hang out in groups rather than flying solo.

But these traits haven't kept their numbers from shrinking as their old-pine habitat has dwindled. This loss of habitat and changes in forest management practices have led to the species' decline throughout its range. Now, with the help of the U.S. Fish and Wildlife Service, the birds have a new opportunity for recovery.

A plan to reintroduce the endangered birds at Great Dismal Swamp National Wildlife Refuge in Virginia, where they have not been seen since 1974, aims to boost the nationwide population. Great Dismal Swamp would be the state's second population and the only one on public land. It would also be the northernmost outpost of the eastern birds, now concentrated largely in Florida, Georgia and the Carolinas.

The Great Dismal Swamp Refuge project is one of 14 nationwide being funded through the Service's Cooperative Recovery Initiative (CRI) to help recover threatened or endangered species at or near national wildlife refuges. In addition to the woodpecker, species meant to benefit from this year's funding of \$5.8 million include a Midwest dragonfly, a tiger beetle and a Southeast pitcher plant. Since 2013,

continued on pg 19

Service, Partners Seek to Save Monarch Butterfly

The U.S. Fish and Wildlife Service has launched a campaign aimed at saving the declining monarch butterfly.

The campaign includes three primary elements:

- A cooperative agreement between the Service and the National Wildlife Federation.
- A new funding initiative between the Service and the National Fish and Wildlife Foundation.
- \$2 million in immediate Service funding for priority monarch conservation projects.

Monarch butterflies are found across the United States. As recently as 1996, there

continued on pg 18

From the Director

Building Community Through a Refuge

In March, *Albuquerque Business First* named 30 women from a highly competitive pool of 435 nominees as this year's Women of Influence in the state of New Mexico. The publication was looking for women who are leaders, innovators, mentors and role models. It comes as no surprise that Jennifer Owen-White, manager of Valle de Oro National Wildlife Refuge, was an honoree.



Dan Ashe

Owen-White is pouring her heart and soul into Valle de Oro, the first urban refuge in the Southwest Region. And she is building the refuge with the people of Albuquerque. Valle de Oro is "a refuge established, designed and built by the community for the community, and that is so exciting," she says. That it is!

"I often tell people that it is not my job as the refuge manager to build this refuge; it is my job to help the community build its national wildlife refuge," she says.

Throughout the National Wildlife Refuge System, our visitor services folks are engaging nearby communities and helping them build their connections to nature by answering their concerns and meeting their needs.

Unless we act, many of today's children will have few opportunities to experience nature. We have become a more diverse, more urban nation, and many kids don't get a chance, like I did, to wander fields breathing in pristine air, to turn over rocks in creeks and find out what was hiding out there, to watch a bird of prey

swoop down on a river and grab a fish with its talons.

But visitor services folks are working tirelessly to find programs that do allow young people to connect with nature, even in the heart of a city like Albuquerque. As Owen-White says, "I can find nature all around me; you just have to know where to look. One of my favorite things about my job is helping others find the great stories in the nature that is all around us."

At Valle de Oro Refuge, one project uses community gardens to help youth really get their hands dirty. Sometimes, geocaching or other adventures that use the latest technology get people out into nature.

It's springtime, so I know many refuges are holding fishing derbies for new anglers or wildflower walks or even "spring cleaning" events. That's on top of the normal events that happen at refuges: teaching people about the amazing critters and beautiful places that we share the world with.

Since I took this job, I have emphasized that priorities are making the U.S. Fish and Wildlife Service relevant in people's lives and ensuring that all Americans really see that what we do matters in their lives. We can't afford to allow millions of kids to continue growing up with little understanding of the personal stake they have in healthy wildlife and ecosystems. A world without a conservation ethic is not a world friendly to humanity.

Fortunately for us, we have a standout visitor services crew and people like Jennifer Owen-White, a true Woman of Influence. 

The people of Albuquerque are defining the shape of Valle de Oro Refuge.

Refuge Update

Sally Jewell
Secretary
Department of
the Interior

Dan Ashe
Director
U.S. Fish and
Wildlife Service

Cynthia Martinez
Acting Chief
National Wildlife
Refuge System

Martha Nudel
Editor in Chief

Bill O'Brian
Managing Editor

Address editorial
inquiries to:

Refuge Update
U.S. Fish and
Wildlife Service
Mail stop: NWRS
5275 Leesburg Pike
Falls Church, VA
22041-3803
Phone: 703-358-1858
Fax: 703-358-2517
E-mail:
RefugeUpdate@fws.gov

This newsletter is
published on recycled
paper using soy-based
ink.



Inside

Video-Editing Tips

Shooting video at a national wildlife refuge is one skill; editing video is another skill altogether. Page 4

A Woman in Science

Jean Richter, a biologist at Roanoke River National Wildlife Refuge, NC, is featured in "Outnumbered: Portraits of Women in Science." Page 5

Focus: Be Our Guest

In a multitude of ways, national wildlife refuges are saying "welcome" to traditional visitors and new audiences alike. Pages 6-15

Around the Refuge System

Ottawa National Wildlife Refuge, OH, is offering the Refuge System's first publicly accessible electric vehicle charging station. Page 16

Kerr Named Refuge Manager of the Year

The National Wildlife Refuge Association has honored a Midwestern refuge manager, a Texas volunteer, and a biologist and Friends group from the same New Mexico refuge with 2015 National Wildlife Refuge System awards.

Tom Kerr received the Paul Kroegel Refuge Manager of the Year Award.

Kerr, manager at St. Croix Wetland Management District and Whittlesey Creek National Wildlife Refuge in Wisconsin, was recognized for his ability to connect with the local community.

Kerr, who has been with the U.S. Fish and Wildlife Service since 1989, has worked closely with the Friends of the St. Croix Wetland Management District since the group was established in 2010. In addition, he has spearheaded many other partnerships that encourage collaboration between the public and the wetland management district and among the refuge, the Wisconsin Department of Natural Resources, the U.S. Geological Survey and the University of Wisconsin. Kerr also publishes a biweekly newspaper column about activities and projects at the refuge. He routinely gives presentations to the community to continue to raise awareness about the refuge, which is on the south shore of Lake Superior in northern Wisconsin.

John Vradenburg received the Employee of the Year Award.

Vradenburg is a supervisory biologist at Bosque Del Apache National Wildlife

Refuge in New Mexico. He was cited for going “above and beyond the call of duty to not only ensure the conservation of sensitive species, but also to involve the public in conservation efforts.”

In nine years at the refuge, Vradenburg has helped improve the soil quality and the water drawdown system both to increase native vegetation and control invasive species. He was honored for his foresight in devising a management plan for the New Mexico meadow jumping mouse before it was listed in 2014 as endangered, thus positioning the refuge to aid in its recovery.

Vradenburg is also considered a leader in the community, continually providing opportunities for area youth to learn at the 57,331-acre refuge along the Rio Grande in central New Mexico.

Wiley “Dub” Lyon received the Volunteer of the Year Award.

Lyon was honored for “his unwavering support for the Balcones Canyonlands National Wildlife Refuge in Texas.”

Lyon, a retired American Airlines landing, takeoff and maintenance supervisor, has been a volunteer at the refuge northwest of Austin for the past seven years.



Tom Kerr, manager at St. Croix Wetland Management District and Whittlesey Creek National Wildlife Refuge in Wisconsin, received the 2015 Paul Kroegel Refuge Manager of the Year Award. (USFWS)

He serves as the volunteer coordinator, organizes the annual Friends meeting and refuge volunteer awards ceremony, works with other volunteers to make sure teachers are able to schedule environmental education programs, collects public use data and always finds ways to accomplish repair jobs cost-effectively. He has been elected president of the Friends of Balcones twice and has been on the Board of Directors for six years.

Friends of the Bosque Del Apache National Wildlife Refuge received the Molly Krival Friends Group of the Year Award. The award was recently renamed to honor the late Molly Krival, a pioneer of the Friends movement.

The Friends organization coordinates the annual Festival of the Cranes, an event that draws more than 6,000 people from around the world, and generates \$2.5 million, making it the greatest income-generating event in Socorro County, NM.

The Friends also provide environmental education opportunities for students from the surrounding community. In addition, the Friends advocate for the refuge and the Refuge System by visiting the U.S. Capitol, hosting events for legislators on the refuge and writing letters to their representatives. 



Friends of the Bosque Del Apache National Wildlife Refuge in New Mexico received the Molly Krival Friends Group of the Year Award. (USFWS)

Video Editing: A Primer for Non-Editors

By Brett C. Billings

In the fast-changing social media world, video editing is still the weak link for most organizations.

Anyone can use their smartphone or pocket camera to take still photos and quickly post them. Everyone does. Quick video shorts, often just one scene of an animal being cute or funny, are also easy.

But what about longer videos that require refining and careful splicing to make your point? Finding a video editor is daunting. Learning those skills and obtaining the right software, especially on tight deadline, is more daunting.

Here are some starting-point tips.

Knowing which software to purchase is largely related to your level of tech savvy. At the high end, *Final Cut Pro* (for Macs) provides powerful editing for professionals. *Adobe Premiere Pro* (for Macs or PCs) is less daunting but still complicated for newbies. All three

products are designed for video and public affairs professionals.

More suited to the typical person is *Adobe Premiere Elements*, which is often bundled with *Adobe Photoshop Elements*, a handy photo-editing program.

Elements is more than robust enough for the casual video editor. So is Mac's *iMovie*, which can be used on a tablet, iPhone or traditional computer. *Windows Movie Maker*, another simple program that often comes bundled with Windows software, may be the easiest program to access.

Final Cut Pro and versions of *Adobe Premiere* account for most conservation organizations' video-editing software. Check with your regional external affairs people to see what software they use and if they can provide you a copy for downloading. In any case, make sure the editing software you choose can import the video format your camera records and can convert the footage into a compatible format.

With the software loaded and basic technical training on how to get your video in and out of the system, all that's left is the most important part – honing your creativity. There are no absolutes, but here are some hints to make your edited videos sing.

- Start by backing up your footage in case the original accidentally gets erased in the editing process. It happens.
- Keep the message simple – just a few key points. Just one key point is even better. Tell a simple story.
- Use the scenery in the video to establish where it takes place.
- Use close-ups to give an appreciation for what is unique or beautiful about your subject.
- Fascinating critters, beautiful landscapes and compelling stories of conservationists at work – those are the U.S. Fish and Wildlife Service's strong suit. Make sure to use them.
- If your video has people speaking or voice-over narration, captioning is mandatory. You can add captioning through YouTube or Vimeo. Ask your regional external affairs office or Service Headquarters multimedia production specialist Kayt Jonsson about captioning options.
- If you plan to use the video at a major conference, make sure to take at least three versions in different formats. Give the video a test run on the system that will be used for the event. Not all computers play a QuickTime movie file as easily as a Windows Media file. Plus, having a version to stick into a DVD or Blu-ray player further tilts the odds that your video won't be a no-show. 🦋



The author sets up his video camera to record supervisory refuge ranger Toni Westland explaining features of the technology-enabled wildlife drive at J.N. "Ding" Darling National Wildlife Refuge in Florida. Shooting video is one skill; editing video is another skill altogether. (Chelsea McKinney/USFWS)

Brett Billings is senior video producer at the National Conservation Training Center in West Virginia. More tips about video equipment and editing are at <http://bit.ly/1DGh2Yp>

Refuge Biologist Becomes a Face of Women in Science

By Jennifer Strickland

What image pops to mind when you hear “scientist”? U.S. Fish and Wildlife Service employees might envision a refuge biologist in her brown uniform walking through a longleaf pine forest in search of woodpecker roosts. However, many Americans see a stereotype: a man in a white lab coat and gloves, holding a beaker or peering into a microscope.

Jean Richter is a scientist who’s been wearing brown rather than white for 18 years. For her, as a wildlife biologist at Roanoke River National Wildlife Refuge, NC, a day spent stomping solo through the swamp is routine. But last May, one particular day led Richter to a rare experience.

Clare Fieseler, a doctoral candidate and marine ecologist at the University of North Carolina, explained in an e-mail to Richter that she was seeking women who were advancing science within the state. Through her research, Fieseler kept coming across Richter’s name.

“I guess I’ve been here long enough that I’ve gotten myself into some trouble,” jokes Richter, whose areas of expertise include bottomland hardwood forest health, neotropical birds, water quality and the environmental impact of managed river flows from upstream dams on floodplain resources and a river’s channel morphology.

A former filmmaker, Fieseler was interested in creating a permanent photographic archive of female scientists at work. The project, called “Outnumbered: Portraits of Women in Science,” will launch later this year. It seeks to replace the stereotype of the man in a lab coat with realistic images of women in a variety of scientific careers.

In a video trailer for “Outnumbered,” Fieseler says “I’m targeting, for this project, women who really break your idea of what that woman in science is.” She seeks to depict women’s dreams and struggles.

Fieseler’s camera crew came to Roanoke River Refuge one day last July. “I didn’t do anything different than I normally do,” Richter says. “I needed to get stuff done!”

The day resulted in a series of compelling images featuring Richter knee-deep in swamp water, set against a beautiful green backdrop of cypress trees. “In those pictures, we are totally drenched, and it wasn’t all sweat,” Richter explains.

The need for a project like “Outnumbered” inspires a question: Is the Service doing a good job of encouraging, recruiting and retaining female scientists?

Richter thinks so.

“In the Fish and Wildlife Service, we have a good culture. I see so many females in this agency that I never thought about not being well represented,” she says. But when she considers the conservation community at-large, “I realize that with our state and nonprofit partners, women really aren’t that well represented. I feel like through this project I’ve become a symbol for the females here in Fish and Wildlife.”

Richter is committed to inspiring the next generation of conservationists, whether



Jean Richter, a wildlife biologist at Roanoke River National Wildlife Refuge in North Carolina, is featured in a video trailer for a project designed to dispel stereotypes – “Outnumbered: Portraits of Women in Science.” More information and the video are at <http://bit.ly/1DWZmrj>

male or female, and that’s one reason she agreed to participate in Fieseler’s project.

“We have a generation behind us that’s got to walk in our footprints,” she says. The experience “wasn’t an inconvenience for me because I just did what I normally do. Clare didn’t interfere, even with the cameras. For the very little time it takes, there’s a potential for a big return, and I think that’s part of our responsibility: to make sure that the people we have coming in behind us are really dedicated. We want them to appreciate the resource and go to bat for it.”

Jennifer Strickland is a digital media specialist in the Southeast Region office in Atlanta.

Refuges Welcome Traditional Visitors, New Audiences

By Bill O'Brian

The National Wildlife Refuge System puts out the welcome mat with its hunting guide (<http://go.usa.gov/3amsR>), its fishing guide (<http://go.usa.gov/3amHT>), its trail guide (<http://go.usa.gov/3am6Y>), its special events calendar (<http://1.usa.gov/1ztSbRW>) and other online tools.

Individual wildlife refuges are saying “welcome” in a multitude of ways: web and Facebook pages that tout special events and opportunities to see wildlife; hundreds of festivals geared to special interests and families; and thousands of wildlife tours and environmental education adventures.

All told, national wildlife refuges drew almost 47 million visitors in fiscal year 2014.

Despite tight budgets, staff reductions and curtailed hours at some visitor centers, “the people we have on the ground are doing a great job in a lot of places in terms of engaging the public and inviting them in,” says Refuge System national visitor services chief Kevin Kilcullen. “If you look at the visitor

continued on pg 14



Involving young people in conservation is important to the future of the National Wildlife Refuge System. Here a student from Rancho de la Nación Elementary School in National City, CA, plants native vegetation as part of a sixth-grade Birds and Habitat Study program at San Diego Bay National Wildlife Refuge. (Copyright Ralph Pace)

Most-Visited Refuges National wildlife refuges attracted almost 47 million visitors in fiscal year 2014. Here, according to Refuge Annual Performance Plan (RAPP) data, are the 20 most-visited refuges:

- 1 Oregon Islands National Wildlife Refuge, *Oregon*
- 2 Havasu National Wildlife Refuge, *California and Arizona*
- 3 Upper Mississippi River National Wildlife and Fish Refuge, *Minnesota, Wisconsin, Iowa and Illinois*
- 4 Wichita Mountains Wildlife Refuge, *Oklahoma*
- 5 Pea Island National Wildlife Refuge, *North Carolina*
- 6 Chincoteague National Wildlife Refuge, *Virginia*
- 7 Merritt Island National Wildlife Refuge, *Florida*
- 8 Kenai National Wildlife Refuge, *Alaska*
- 9 Crab Orchard National Wildlife Refuge, *Illinois*
- 10 J.N. “Ding” Darling National Wildlife Refuge, *Florida*
- 11 Wheeler National Wildlife Refuge, *Alabama*
- 12 Don Edwards San Francisco Bay National Wildlife Refuge, *California*
- 13 National Elk Refuge, *Wyoming*
- 14 Cape Meares National Wildlife Refuge, *Oregon*
- 15 Horicon National Wildlife Refuge, *Wisconsin*
- 16 Great Meadows National Wildlife Refuge, *Massachusetts*
- 17 Kilauea Point National Wildlife Refuge, *Hawaii*
- 18 Hanalei National Wildlife Refuge, *Hawaii*
- 19 Okefenokee National Wildlife Refuge, *Georgia*
- 20 Tennessee National Wildlife Refuge, *Tennessee* 

“A Full-River Approach” Along the Mississippi

By Bill O'Brian

Mark Twain wrote that the Mississippi River “is in all ways remarkable.”

More than three dozen national wildlife refuges in two U.S. Fish and Wildlife Service regions in 10 states are teaming up with the Mississippi River Connections Collaborative and the National Geographic Society to publicize the river’s remarkability, its recreational opportunities and its importance to fish and wildlife.

The Service and the National Park Service are co-chairs of the collaborative, which includes the Mississippi River Parkway Commission (overseer of the Great River Road National Scenic Byway) and the Mississippi River Trail (for bicycles and pedestrians).

Steve Gard, manager at North Mississippi Refuges Complex, has represented the Service’s Southeast Region on the collaborative since its inception in 2010. Sabrina Chandler, manager at Upper Mississippi River National Wildlife and Fish Refuge, represents the Midwest Region.

“It is without a doubt one of the largest landscape-level projects within either of the two regions,” Gard says of the collaborative, whose value to the Service is twofold. It fosters conservation along the Mississippi, and it promotes awareness of and visitation to refuges.

The collaborative takes a “full-river approach,” says Chandler. “For us, that fits perfectly in a lot of our strategies in the Refuge System.” It encourages landscape-scale conservation from the river’s headwaters in Minnesota to its mouth in Louisiana.

“It covers the Mississippi Flyway, which is the largest flyway in the United States,” says Gard. “It connects refuge managers with other land managers from the Park Service, the U.S. Army Corps of Engineers, Forest Service and the 10



The Mississippi River Connections Collaborative coordinates yearly themed events up and down the river. This is the Year of Fishing, which kicked off with ice fishing in February at Upper Mississippi River National Wildlife and Fish Refuge in Minnesota. (USFWS)

states.” The work of the collaborative also is of political interest to 20 U.S. senators and three dozen House members.

Regarding visitation, the collaborative hosts events with yearly themes. All three dozen-plus refuges are involved to some degree, but Upper Mississippi River Refuge in Wisconsin, Minnesota, Illinois and Iowa; Two Rivers Refuge in Illinois and Missouri; and Dahomey Refuge in Mississippi have staff members dedicated to working with the collaborative: Cindy Samples at Upper Mississippi River, Amber Breland at Dahomey and Courtney Solum at Two Rivers.

This is the Year of Fishing, which kicked off with an ice fishing event at Upper Mississippi River Refuge in February and will include dozens of angling events at refuges along the river.

In 2012, the collaborative coordinated the Summer of Paddling. “That was huge for us,” Chandler says of the paddling theme, which included 300 canoeing and kayaking events and involved all refuges near the river.

“I would guess that 95 percent of the people who came to the paddling events had never been to the refuge, nor did they even know of it,” says Gard. “The events are designed to show them what’s out there and say we’re open to the public.”

Last year’s theme was the Year of Geotourism, which is defined as “tourism that sustains or enhances the geographical character of a place – its environment, culture, aesthetics, heritage and the well-being of its residents.”

continued on pg 14

New Partnerships Take Service Into New Territory

By Martha Nudel

Forget most of what you thought you knew about fraternities and sororities. Now meet Phi Beta Sigma and its sister organization, Zeta Phi Beta.

Established in 1914 at Howard University, one of the nation's historically black colleges, Phi Beta Sigma believes its members should return their skills to the communities from which they came. The fraternity's motto is "Culture for Service and Service for Humanity" (<http://www.phibetasigma1914.org/>).

Both the fraternity and Zeta Phi Beta (<http://www.zphib1920.org/>) – founded at Howard in 1920 – not only are international organizations with tens of thousands of members, but they also have youth mentoring programs, social service commitments and wellness programs that seek to address health conditions that often affect the African American community more severely.

Enter the U.S. Fish and Wildlife Service.

The Service signed a memorandum of understanding with Phi Beta Sigma in April 2014, followed a year later with a similar agreement with the sorority. Both agreements are avenues to reach the African American community, which has not been fully represented among visitors, volunteers and Friends of the Refuge System and among the Service's employees.

Even before the agreements were signed, relationships were building.

The Service had booth space at the Zeta Phi Beta annual meeting in July 2014, which attracted more than 2,500 members. People who had never heard of a national wildlife refuge were introduced to the concept for the first time and learned about career opportunities, including in biology and law enforcement.

In February, two chapters of Phi Beta Sigma toured Nisqually National Wildlife Refuge, WA, and began formulating



In January, the president of the National Sigma Beta Club Foundation brought almost two dozen young people to Big Branch Marsh National Wildlife Refuge, LA. The foundation is a youth program of Phi Beta Sigma, a fraternity with which the U.S. Fish and Wildlife Service is working to engage the African American community. (USFWS)

plans for programs to enhance the curriculum of the National Sigma Beta Club Foundation (the youth program of Phi Beta Sigma) in the Pacific Northwest.

In May, 50 members of Zeta Phi Beta – including its youth contingent – plan to travel to Anahuac National Wildlife Refuge as part of the Zetas Have Heart program, which seeks to reduce the incidence of heart disease among its members. Last year, some member of Zeta's top leadership toured Anahuac and Trinity River Refuges, both in Texas, as a first step in engaging sorority chapters there and in the Southeast.

Broader potential for partnerships is being pursued. A potential grant from the National Fish and Wildlife Foundation would include members of Zeta Phi Beta in a prairie restoration project being undertaken with the Houston Parks and Recreation Department.

In March, Central Arkansas National Wildlife Refuge Complex project leader Keith Weaver spoke about recreation and volunteer opportunities at refuges at the convention of Zeta Phi Beta's Arkansas chapter. "The Zetas Have Heart initiative meshes well with the Refuge System's Connecting People With Nature concept and the growing emphasis on urban refuges," said Weaver.

The president of the National Sigma Beta Club Foundation took almost two dozen young people to Big Branch Marsh

National Wildlife Refuge, LA, in January. The visit included an airboat tour as well as a tour of the visitor center. "The day was absolutely fantastic and well received by all involved," said Pon Dixon, acting project leader at the Southeast Louisiana Refuges Complex. "We pretty much spent the entire day on the refuge. No one really wanted to leave.

"A very warm and cordial dialogue took place between Art Thomas, National Sigma Beta Club Foundation president and past international Sigma president, and Service staff," said Dixon. "I believe we have started a relationship between this office and Phi Beta Sigma that will be the cornerstone of the national partnership."

"The partnerships with these two organizations can have far-reaching impact on fostering a new generation of conservation stewards," said Noemi Perez, the Service's national partner liaison. "Our work with Zeta Phi Beta and Phi Beta Sigma are setting the pace for much broader partnerships with organizations that haven't been in our sphere." 

For more information about Phi Beta Sigma and Zeta Phi Beta, contact Martha Nudel in the Refuge System Branch of Communications or Noemi Perez in the Service Division of Partner & Intergovernmental Affairs.

Photography Helps Visitors Make Refuges Their Own

By Karen Leggett

“With photography, you are making a site yours. ‘I took this picture, and then I worked on the picture, and then I put it on Flickr and people interact with it.’ It’s very personal,” says Tim Parker, visitor services manager at Pahrnagat and Moapa Valley National Wildlife Refuges in Nevada. For that reason, Parker promotes photography and finds photographers to be big refuge supporters.

Parker isn’t alone. From classes to hikes and from blinds to boardwalks, refuges and Friends groups nationwide engage and accommodate photographers.

Supervisory refuge ranger Matt Poole at Parker River Refuge in Massachusetts has developed a comprehensive program. The Photographic Society of Parker River National Wildlife Refuge has a Facebook page, conducts photo safaris and workshops, runs a weeklong summer photography camp for teenagers and holds an annual contest, with winners announced on Phabulous Photo Weekend each October.

Ched Bradley, once a photographer-in-residence at Canaan Valley Refuge in West Virginia, notes that “people love to photograph birds ... but small birds take serious patience and serious lenses to be photographed.” He recommends viewing platforms that bring amateur photographers closer to the birds.

In the late 1990s, the North American Nature Photography Association funded about three dozen photography blinds on refuges. Service biologist Joe Milmo, a member of the association, says biologists and photographers together must decide where to place blinds. “The biologist will know where to put the blind to see wildlife,” he explains, “but if the light isn’t right, it’s useless.”

Sacramento Refuge in California takes reservations for its popular photo blinds, which can be used only once a week lest



To give birds a natural perch and photographers a natural shot, Mike Peters, manager at Colusa National Wildlife Refuge in California, has been known to stick a branch into the top of a refuge sign. This red-tailed hawk is on such a branch. (Nerina Fielding)

birds become habituated to people. Two of the refuge’s four blinds are accessible to wheelchairs.

Refuge manager Mike Peters also spread 45 tons of sand under shallow water near a viewing deck at California’s Colusa Refuge. Geese and ducks stand at just the right height and distance for photographers while their gizzards take advantage of the sand’s grit. Peters mows vegetation that obstructs views from the auto-tour route, and he has been known to stick a branch atop a refuge sign, giving a natural perch to birds.

Roy Lowe, recently retired manager of Oregon Coast Refuge Complex, recommends placing bird feeders amid vegetation, so photographers don’t have to snap the birds on the feeders themselves.

At Cape Meares Refuge, when a veteran photographer complained that he could not use his high-powered camera on a new deck if visitors were walking there, Lowe added another deck level. One deck level is now designated for photographers, and visitors can “jump up and down on the other side,” Lowe says, without affecting photographers.

Lowe learned that photographers like to go behind locked refuge gates in small groups, which generally is impractical. But at Bandon Marsh Refuge he did allow photographers to visit by boat for two hours before sunrise and after sunset, because there was no impact on wildlife and no gates needed to be opened or closed.

Refuges and Friends groups often sponsor photo clubs and contests. The Friends of the Little Pend Orielle Refuge in Washington displays winning photos in local Chamber of Commerce offices. St. Marks Photo Club in Florida offers photo workshops at nurseries and senior centers and displays refuge photos at the public library.

Photography’s secondary impact is vital to refuge outreach, says Poole. For primary impact, “you have to be on the refuge holding the binoculars or fishing rod, but the secondary impact for photos is anyone standing anywhere on the planet.”

Karen Leggett is a writer-editor in the Refuge System Branch of Communications.

Making “Taking Care of Nature Feel Like Second Nature”

By Bill O'Brian

Lynnea Shuck is extraordinary. She has won a prestigious national award. She has been to the White House. She has volunteered at Don Edwards San Francisco Bay National Wildlife Refuge for more than five years, leading habitat walks, outdoor lab experiments, festivals and other activities. She sees herself as a one-woman welcoming committee for the Refuge System.

And she just turned 18.

Her pet project is the Junior Refuge Ranger program, which exists at some refuges. She has reimaged it and hopes to expand it.

“I saw that there was a need for an ongoing, year-round program for young kids: elementary school ages 7 through 12. That’s when I thought of the Junior Refuge Ranger program and how great it would be to connect all 560 refuges,” says Shuck. She knew of the National Park Service’s Junior Ranger program and thought “wildlife refuges really need something like this. Our commitment to conservation is something that every kid should know about.”

With the help of visitor services manager Jennifer Heroux, environmental education specialist Genie Moore, San Francisco Bay Wildlife Society interpretive specialist Julie Kahrnoff and others, Shuck is asking refuges nationwide to embrace her idea.

“Lynnea is an exceptional girl, considering she is able to think beyond herself at such a young age,” says Kahrnoff. “Her dedication and drive to grow the program has been a true inspiration.”

The Junior Refuge Ranger program, as Shuck has retooled it, is designed to provide pre-teens with hands-on refuge experiences. Shuck’s goal is “to make taking care of nature feel like second nature” to youth.

Shuck’s version of the program is in play at Don Edward San Francisco Bay Refuge and nearby San Pablo Bay Refuge – and it’s designed to be replicated at other refuges. Shuck and refuge staff members have produced a how-to kit that includes an instruction manual, a template into which refuge-specific information can be dropped, an activity book template, a collectible-cards template, a certificate template and Don Edwards San Francisco Bay Refuge samples.

Already, Shuck says, 14 refuges in California, Nevada, New Mexico and Colorado have requested the how-to kit by e-mailing her at refugeranger@gmail.com. “The idea is to connect all the refuges through the program and have a uniform system where kids can earn rewards after they complete the program at a certain number of refuges,” she says.

Shuck credits Don Edwards San Francisco Bay Refuge’s majestic scenery, gorgeous sunsets and abundance of wildlife with instilling her love of nature. She credits refuge staff members with inspiring her to act on it. “They’ve mentored me, and they’ve really helped bring the Junior Refuge Ranger Program to life,” she says. “From watching them in action and seeing their dedication, they have shown me what environmental stewardship is, and now I know what public service means.”

For her efforts, Shuck received a 2014 Brower Youth Award from the Sierra Club. Named for the club’s longtime executive director David

Brower, the award honors 13- to 22-year-old environmental leaders from across the continent. Shuck also participated in a climate education and literacy roundtable at the White House in February with about 15 students from around the nation. One thing she told the roundtable was “our national wildlife refuges are the perfect place to make science real and to have hands-on activities that get kids excited about the environment.”

What’s next for the senior at Mission San Jose High School in Fremont, CA – beyond the Junior Refuge Ranger program? She plans to major in environmental policy in college. And after that? “I really admire Secretary Sally Jewell,” she says. “I aspire to become Secretary of the Interior one day.”



Lynnea Shuck, who just turned 18, has volunteered for more than five years at Don Edwards San Francisco Bay National Wildlife Refuge. Learn more about the Junior Refuge Ranger program she has retooled: refugeranger@gmail.com. (Courtesy of Shuck family)

What a Customer Service Pro Taught One Refuge

By Toni Westland

We brought a customer service professional to J.N. “Ding” Darling National Wildlife Refuge as a consultant and learned a lot from her.

Here’s how it happened and what the refuge learned.

A few years ago, as my husband and I were being pampered at an all-inclusive vacation resort, it dawned on me exactly what great customer service is. I realized that, with a little work and a slight attitude adjustment, “Ding” Darling Refuge could make visitors coming to experience nature feel that good. Well, almost!

Shortly after that vacation, I met a woman who had worked at Disney and wrote articles for the National Association for Interpretation, the nonprofit dedicated to advancing the profession of heritage interpretation. I saw her as my ticket to teaching myself and “Ding” Darling Refuge staff, concession employees and volunteers about the keys to great customer service.

Funded by the “Ding” Darling Wildlife Society, our Friends group, the consultant gave a two-day training modeled on Disney’s “Be Our Guest” experience.

While we know that the National Wildlife Refuge System is not – and should not be – Disney or an all-inclusive resort, the consultant did give us valuable tips that can apply to any staffed refuge.

- Little things are important. When a visitor is within 10 feet of you, smile. Within five feet, greet the visitor.
- Make sure people know the location of your visitor center or main information kiosk. The consultant suggested we put a volunteer greeter at a key point. That can work if the greeter says a quick hello and directs the visitor to the center. However, if the greeter goes on at length about the



J.N. “Ding” Darling National Wildlife Refuge in Florida offers much of its signage in three foreign languages, based on visitor origins: German, French and Spanish. (USFWS)

refuge, some visitors will skip the visitor center altogether. Not good. In any case, make sure signage makes clear where visitors should go for information.

- Know your visitors. Ask your Friends group and conservation partners to help keep track of who is coming to the refuge. Go to your local Chamber of Commerce and/or tourism bureau. It is their business to know who is spending time in your city, county, state or region.
- Recognize that language can be a barrier, and accommodate visitors accordingly. “Ding” Darling Refuge has a lot of international visitors, so we use international symbols for information and restrooms, as the consultant recommended. We also offer signage in three foreign languages based on visitor origins: German, French and Spanish. Keep in mind that Friends groups and volunteers often can help to translate brochures, fliers and other documents.

The consultant’s tips were inspiring and useful, but they came with a \$2,000 price tag that I knew the Friends group could not afford every year. So I looked for other training options and discovered that the Lee County Visitor and Convention Bureau offers free training for hotels, concierges and attractions. The seven-module “Guest First” course has proved to be an amazing way to provide training for refuge visitor services, biological, maintenance and administrative staff members; volunteers, concessionaires, Friends, partners and interns. Participants receive certification.

I know that “Ding” Darling Refuge, with its location on Sanibel Island in tourism-oriented Florida, is not typical. But I believe a lot of what we learned does apply nationwide. In fact, much of it will be incorporated into the Refuge System Ambassador Program, which is scheduled to be launched next year. 🦋

Toni Westland is supervisory refuge ranger at J.N. “Ding” Darling National Wildlife Refuge in Florida.

Kootenai Refuge and Others Welcome Disabled Hunters

By Jane Chorazy

National wildlife refuges are always seeking ways to connect the public with America's wild places. Although it can be difficult, especially in remote locations, refuges do their best to be accessible to all. For instance, refuges across the country host more than 70 hunting events annually for disabled visitors.

In northern Idaho, Kootenai National Wildlife Refuge opened its first accessible-to-all hunting blind last fall so disabled veterans like Frederick Brookings can view migrating waterfowl, take photos of wildlife and participate in the annual hunting season.

"I don't need to take an animal to enjoy the hunt," says Brookings. "I just like the opportunity to be out there and connect with nature."

Located 20 miles from the Canadian border in Idaho's panhandle, Kootenai Refuge is surrounded by the Selkirk Mountains on the west, the Kootenai River and Deep Creek on the east, and state lands on the south.

The refuge's diverse habitats contain wetlands with associated uplands and hardwood/conifer forests. The 2,774-acre refuge offers opportunities to hunt big game (deer, elk, moose, black bear and mountain lion), upland game species (grouse and turkey) and migratory waterfowl (geese, ducks and mergansers).

Kootenai Refuge's new accessible hunt blind, one of many at refuges nationwide, is available for reservation for a week at a time via a lottery drawing. Hunters must have a valid state hunting license, require Americans With Disabilities Act (ADA) accessibility and meet Idaho Fish & Game disabled hunter needs. Furthermore, only short-range weapons and nontoxic, non-lead ammunition are permitted.

The blind was built by the refuge's engineering equipment operator, Wayne

"I just like the opportunity to be out there and connect with nature."

Wilkerson, with help from a local Youth Conservation Corps (YCC) crew.

In addition to the joy the blind brings to people with disabilities, the project taught the YCC students about habitat, species and how to construct facilities without power tools. That's right. The students were not allowed to use power tools so they could learn how to build a deck with manual hammers, drills and levels.

Last fall, the blind's first deer hunting season, it was booked solid.

"I didn't think this little project would have such an impact," says Kootenai

Refuge manager Dianna Ellis, who recognized the need to provide hunting opportunities to people with disabilities. "Seeing the smiles on their faces and hearing them tell us how appreciative they are, just made the effort so worthwhile."

For many hunters with disabilities, just knowing that the opportunity is available has reinvigorated their love of the outdoors. This project also has created opportunities for these hunters to connect with fellow hunters and community members.

It is a reminder that refuge recreational opportunities are social activities, pastimes people can enjoy today and pass on to the next generation tomorrow. 

Jane Chorazy is a public affairs officer in the Pacific Region office in Portland.



National wildlife refuges host more than 70 hunting events annually for disabled visitors. Kootenai National Wildlife Refuge in Idaho opened its first accessible hunting blind last fall. (USFWS)

When Mega-Rare Birds Land, Refuge Visitation Can Soar

By Noah Kahn

Thousands of people visit national wildlife refuges annually because they are among the nation's premier places to watch birds. And when a "mega-rarity" shows up – a species almost never seen in North America – word spreads quickly. Hard-core birders drop what they're doing and make a beeline for the bird, often boarding the next flight.

The appearance of such birds often is a tourism boost, delivering a local economic stimulus if a mega-rare bird stays for more than a couple of days. There's even a 2001 William Hurt and Molly Parker movie, "Rare Birds," centered on that boost.

It's striking how often needle-in-a-haystack birds are found on refuges, perhaps because of relatively thorough coverage by birders and almost certainly because refuges offer high-quality habitat, often near coastlines and geographic funneling points.

Last fall, Nestucca Bay National Wildlife Refuge volunteer Lee Sliman spotted a tundra bean-goose. It was only the second recorded sighting of the Eurasian species in the lower 48 states.

Almost immediately, the refuge near Pacific City, OR, put up a "Welcome Bean-Goose Observers" sign, set up a sign-in sheet to gather hometown information about the birders, and asked Sliman to help the birders. Each morning for weeks, she found the goose and set up a spotting scope. She also posted her phone number on an Oregon birding website for anyone seeking information. The refuge parking lot overflowed. Visitation skyrocketed from four to six visitors daily to more than 100 for a while, and stayed steady at 20-plus long after.

"Restaurants and other businesses really appreciated the boost our visitors provided, especially because Nestucca Bay only opened to the public in 2008 and had been a relatively unknown treasure



When this Eurasian tundra bean-goose – a "mega-rarity" in North America – was sighted at Oregon's Nestucca Bay National Wildlife Refuge last fall, visitation skyrocketed from four to six visitors per day to more than 100. Such sightings at refuges can give local economies a big tourism boost. (Ram Papish)

on the spectacular Oregon coast," says refuge visitor services manager Dawn Harris. "One lost goose has drawn in thousands of visitors who never knew about this special refuge, its trails and its wildlife-viewing opportunities."

Last fall, a tundra bean-goose was seen at Nestucca Bay National Wildlife Refuge, only the second recorded sighting in the lower 48 states.

A rare falcated duck has returned to California's Colusa National Wildlife Refuge three of the past four winters. Normally found in Asia, the falcated duck is classified as "near threatened" by the International Union for Conservation of Nature. After its 2011 discovery at Colusa Refuge, visitation more than doubled, and local hotels, motels and restaurants benefited. Because the bird is returning to the wetland refuge 70 miles from Sacramento, the economic benefit continues.

Last fall a common crane, an uncommon bird even in its home range of Russia, was

discovered at Muleshoe National Wildlife Refuge in Texas. It likely migrated there with lesser sandhill cranes that breed in Siberia and winter in the lower 48.

"After it was miraculously found among the massive sandhill flocks, birders came from all over the U.S. and even from Germany," says refuge manager Jude Smith. Incredibly, a second common crane was found soon thereafter, and visitation doubled and stayed high throughout the winter.

"It's great for all these people to visit because, though they may have come for the crane, this also gives us an opportunity to show them how special shortgrass prairie is for many animals on the high plains," says Smith.

Other megas have had similar effects in recent years at New Mexico's Bosque del Apache Refuge (rufous-necked wood rail, sungrebe); Delaware's Bombay Hook Refuge (little egret, European golden-plover); Oregon/California's Lower Klamath Refuge (whooper swan); and Virginia's Chincoteague Refuge (black-tailed godwit). 

Noah Kahn is an assistant refuge supervisor in the Northeast Region office in Hadley, MA.

Refuges Welcome Traditional and New Visitors — continued from page 6

services surveys we've done, they're pretty consistent in terms of the high praise we're getting."

Still, the Refuge System is trying to be more engaging, to attract new audiences and to spread its conservation message farther and wider.

Guided by the *Conserving the Future* vision, the Refuge System spearheaded creation of the U.S. Fish and Wildlife Service Urban Wildlife Conservation Program, which puts new emphasis on engaging urban residents by designating more than a dozen priority urban refuges and establishing 14 Urban Wildlife Refuge Partnerships, among other advances.

The urban program, which was covered extensively in the November/December 2014 issue of *Refuge Update* (<http://bit.ly/1E9LIQE>), "isn't so much about visitation," says Kilcullen. "It's about relationships you build with the

community and that sense of building a conservation ethic or stewardship in that community."

As for welcoming visitors onto refuges, Kilcullen mentions three areas in which the Refuge System is working to be more welcoming.

One is accessibility, as Americans age and society evolves. "Accessibility is going to be a big issue for the Refuge System in the next 10 or 20 years," Kilcullen says. "We're in the process of working on a national agreement with the National Center on Accessibility for a new training program on how to design programs, facilities and web pages to be more universally accessible to the public regardless of people's capabilities and physical and cognitive abilities."

Refuge signage also is being examined.

"Are signs placed in a proper way to attract and welcome people and give

them direction when they actually arrive? Are they bilingual or in languages that many local residents speak?" Kilcullen says. "Are the messages welcoming, rather than 'do not pass this point'? Are we using the right language to convey that we want people to enter in a different way or go a different route, rather than saying 'keep out'?"

A third way the Refuge System is working to be more welcoming is the Ambassador Program. This national program, which also was covered in the November/December issue, will adapt hospitality industry concepts to the Service by training employees, volunteers, Friends and partners to provide top-notch customer service. It is scheduled to be piloted this fall and launch in earnest next year.

In the meantime, this Focus section highlights ways that a handful of refuges already are saying "be our guest" to visitors. 🦋

"A Full-River Approach" Along the Mississippi — continued from page 7



The 2012 Summer of Paddling included 300 canoeing and kayaking events and involved all refuges near the Mississippi River. Here, interns Isaac Coleman and Rachel George and a young boy explore Tallahatchie National Wildlife Refuge in northern Mississippi. (Eva Kristific)

As an offshoot, National Geographic's Mississippi River Geotourism Program, which is sponsored by the collaborative, is scheduled to be fully operational late next year. It will include a one-stop-shopping website "designed to show the public what's out there that's sustainable – and by that we mean the ma-and-pop cafes, the little bed-and-breakfasts, the small events. It's designed to highlight those things that are publicly owned or privately owned in the communities," says Gard. "A person going to that website who's thinking about traveling to the Mississippi River will be able to click on a refuge." 🦋

For more information about the Mississippi River Connections Collaborative, go to <http://mr-cc.org/>. For a preview of National Geographic's Mississippi River Geotourism Program, go to <http://mississippiriver.natgeotourism.com/>



This bicycle path connects National Elk Refuge in Wyoming to the town of Jackson and Grand Teton National Park. (Jim Stanford)



These turn lanes and bike lane ease congestion at the entrance to San Pablo National Wildlife Refuge. (Don Brubaker/USFWS)

Getting There Is Half the Battle

By Andrew Valdez

The U.S. Fish and Wildlife Service is encouraging urban and suburban Americans from various backgrounds to head out to national wildlife refuges and have a look. But all the encouragement in the world does no good if it's too difficult to get there.

“We need to make it easy for people to visit refuges,” says Service national transportation program coordinator Steve Suder. “This means building safe, convenient and reliable transportation connections that serve diverse populations.”

To facilitate visitation, the Service frequently partners with communities and organizations to expand transportation options. Here are a handful of examples.

- People wanting to visit the tidal marshes, wetlands and woodlands of Featherstone National Wildlife Refuge in Virginia have to get there by canoe or kayak. Soon the refuge along the Potomac River, about 20 miles south of Washington, DC, will be accessible directly by land, thanks to a Service project in which a section of the Potomac Heritage National Scenic Trail will be re-routed. Prince William County, the National Park Service, Virginia Railway Express and the local community are partners in the project.
- In Alaska, a 1.7-mile trail extension at Kenai Refuge is in the planning and design phase. The state is helping to fund the project, which will connect the town of Soldotna directly to the refuge. Kenai Refuge, often called “Alaska in miniature,” is home to a diverse range of flora and fauna, including moose, eagles, black and brown bears, lynx and wolves in eco-regions ranging from mountain tundra to boreal forest. The refuge attracts more than 1 million visitors annually.
- Bill Williams River Refuge in Arizona is an important boating and recreation destination on the Colorado River. To alleviate safety concerns, the Service, the state Department of Transportation and the Bureau of Reclamation recently collaborated on a project to widen Arizona Highway 95 and provide turn lanes into the refuge.
- In Washington state, the Service, the city of Ridgefield, Clark County and others are working on a multi-use path that will link the city to Ridgefield Refuge. Specifically, the path will connect to the Oaks to Wetlands National Recreation Trail on the refuge along the Columbia River north of Portland, OR.
- California Highway 37, which provides access to the San Pablo Bay Refuge, is extremely congested at rush hour. In 2014, the Service completed a project with the California Department of Transportation, Ducks Unlimited and the California Department of Fish and Wildlife to construct turn lanes and a bike lane at an entrance of the refuge north of San Francisco.
- The Service partnered in 2014 with the Illinois Department of Transportation and Calhoun County to replace a failed bridge that provides access to Two Rivers Refuge on the Mississippi River. The project included bridge safety upgrades and resolved erosion issues encountered during seasonal floods.
- The Service completed a bridge at Florida Panther Refuge’s main access point in 2009. The bridge increased visibility to the destination and alleviated several safety issues.
- In Wyoming, the town of Jackson, the National Park Service and National Elk Refuge together funded a 20-mile bicycle path that connects the town, the refuge and Grand Teton National Park. The Jenny Lake Pathway was an America’s Great Outdoors project. 🦋

Andrew Valdez is a U.S. Fish and Wildlife Service transportation analyst in Falls Church, VA.

Around the Refuge System

Ohio

Ottawa National Wildlife Refuge is offering the Refuge System's first publicly accessible electric vehicle charging station – the start of a series of projects to increase the use of alternative fuels and reduce the carbon footprint of the U.S. Fish and Wildlife Service. Because the charging station at Ottawa Refuge is powered by an 81-kilowatt onsite solar array, the energy is renewable and free to the public. Future stations at other refuges might need to charge for energy. The Service transportation program funded most of the Ottawa Refuge station's \$3,300 cost. A complete charge for a typical electric vehicle takes two to four hours, plenty of time to explore some of the refuge. The project, spearheaded by Midwest Region transportation coordinator Brandon Jutz and Ottawa Refuge assistant manager Eddy Pausch, was completed in collaboration with the Department of Energy's Clean Cities program.

Arizona

Buenos Aires National Wildlife Refuge, established in 1985 for the reintroduction of the endangered masked bobwhite quail, marked a milestone in February. The refuge recovery team successfully relocated 70 masked bobwhites almost 1,500 miles south to the Africam Safari Zoological Park in Puebla, Mexico, effectively creating a second captive population. The refuge had been searching since 2008 for a new home for a segment of the captive flock but had difficulty finding a suitable host. With the Service's help, Africam Safari built a state-of-the-art rearing facility to accommodate part of the Buenos Aires Refuge masked bobwhite quail population. "There are a lot of moving parts to consider when you're trying to transport live animals over an international border. There are health requirements, import and export permits, quarantine periods and strict time schedules to follow, to name just a few," said Sally Flatland, Buenos Aires Refuge manager. Masked bobwhites are found only at Buenos Aires Refuge and in

the Mexican state of Sonora. Few, if any, remain in the wild. In an effort to recover the species, refuge staff members are working with ranchers in Mexico to locate bobwhites in the wild.

Wyoming

Elk lovers set a record on Valentine's Day at National Elk Refuge. Despite snow being below average and the contractor needing to switch from sleighs to wagons to accommodate patches of bare ground, the refuge's horse-drawn vehicle program hit an all-time high for the most riders in one day: 864 people on 57 wagon trips. The previous busiest day was Dec. 28, 2013, when 862 passengers filled 55 sleighs.

Oregon

The Oregon chub in February became the first fish ever removed from the endangered species list. A small minnow found only in the Willamette River

Basin, the Oregon chub was listed as endangered in 1993 and reclassified as threatened in 2010. Primary factors that led to its listing were loss of habitat and predation by nonnative fish. Just eight populations totaling fewer than 1,000 fish were known to exist at the time of listing in 1993. Today, the population is more than 140,000 fish at 80 locations with a diverse range of habitats. Oregon chub populations exist at William L. Finley and Ankeny National Wildlife Refuges.

Pittman Receives DOI Award

Midwest Region heavy equipment coordinator Dale Pittman received a Department of the Interior Meritorious Service Award for his career-long work in advancing the U.S. Fish and Wildlife Service's equipment safety training, maintenance and management programs. Pittman, who began his Service career in 1991 at Illinois River National Wildlife Refuge, became regional heavy equipment coordinator in 2005. In addition to emphasizing employee safety and training throughout his career, Pittman developed and implemented the Maintenance Action Team (MAT) program, which has saved the Service more than \$15 million. The Meritorious Service Award, established in 1948, is the second-highest honor an employee can receive in the Service.

Midway Atoll

Results from the annual nesting albatross census on Midway Atoll National Wildlife Refuge confirm that its nesting albatross colony is the world's largest. Nineteen volunteers systematically covered the atoll's three small islands counting active nest sites from Dec. 11, 2014, through Jan. 2, 2015. They estimated more than 1.39 million individual birds, assuming two adults per nest, for Laysan and black-footed albatross species combined. This year far surpassed any previously documented year for nesting Laysan albatross, with 666,044 pairs recorded. That represents a 52 percent increase over the average number for hatch years 2010 to 2014. Black-footed albatross nesting pairs



Ottawa National Wildlife Refuge in Ohio is offering a publicly accessible electric vehicle charging station. (USFWS)

came in at 28,610, also a record, up about 18 percent from the 2010-2014 average.

In less upbeat news, Wisdom – the world’s oldest known banded bird – lost her incubating egg to predators in January. Wisdom is a Laysan albatross estimated to be 64 years old; she has successfully reared more than 30 chicks. She and her mate appeared to be fine.

Puerto Rico

More than 500 University of Puerto Rico students gathered at Laguna Cartagena National Wildlife Refuge in January, when student organization Reforestación Colegial planted more than 500 trees to combat deforestation. The group

plans to return regularly to weed and water the new trees, which are especially helpful to the federally endangered yellow-shouldered blackbird and Puerto Rican nightjar, native birds that flourish in mature subtropical dry-forest habitats. Students planted more than 20 native tree species, and they plan to undertake one such reforestation effort every semester. Although most of Puerto Rico’s primary forests were cut down over the past 200 years, recent human population decreases and abandonment of agriculture have led to a trend toward reforestation. Today, Puerto Rico is covered by more forest than it was 100 years ago.

Hawaii

Hakalau Forest National Wildlife Refuge will receive the fiscal year 2015 Refuge System Large Invasive Species Allocation of \$1 million for feral pig eradication/control. The allocation originally had been designated to

Montana



Kimi Smith Rankin, a regular visitor at Lee Metcalf National Wildlife Refuge, won the Flora and Fauna category of the National Recreation Trails 2014 photo contest with this image of a badger adult and her four cubs. Rankin saw the badger family just off the refuge’s Kenai Nature Trail last spring.

eradicate Indian fleabane and restore wetland habitat at Laysan Island, part of Hawaiian Islands National Wildlife Refuge. However, for logistical and administrative reasons, the allocation has been switched to Hakalau Forest Refuge on Hawaii’s Big Island. Feral pigs pose a threat to conservation and restoration of native forest habitats on the refuge through destruction of understory vegetation and enabling the spread of alien weeds. Feral pig eradication would benefit several endangered native bird species and at least eight species of endangered plants.

Maine

Moosehorn National Wildlife Refuge has worked routinely with Project SHARE (Salmon Habitat and River Enhancement) on the refuge. Last summer, refuge staff members began working with the group to restore Atlantic salmon habitat off the refuge. Maintenance mechanic Mike Krug and

forestry technician Brandon Harriman from Moosehorn Refuge and engineer equipment operator Kirk Cote from Aroostook Refuge helped install two eight-foot-wide, 52-foot-long open-bottom arches and remove four culverts on the Narraguagus and East Machias Rivers. The Service’s Maine Fishery Resources Office provided technical and management assistance. The project was funded by the Service, the National Oceanic and Atmospheric Administration (NOAA), the Atlantic Salmon Federation and private landowners. The project “not only taught our staff members how to install arch culverts but empowered them to utilize the skills that they learned to benefit fish and wildlife on and off refuge lands. The ease of installation of the precast arch culverts is not only a game changer in how road crossings are constructed, but their utilization will be a substantial cost savings to the Service,” said Moosehorn Refuge assistant manager Steve Agius. 



Monarch butterflies, shown here at St. Marks National Wildlife Refuge in Florida, are among the best-known butterfly species in the United States, but their numbers have declined precipitously in recent years. (Gayla Kittendorf)

Service, Partners Seek to Save Monarch Butterfly — continued from page 1

were some 1 billion, but their numbers have declined by approximately 90 percent since then. The decline has been blamed on numerous threats, particularly loss of habitat because of agricultural practices, development and cropland conversion. Degradation of wintering habitat in Mexico and California has also had a negative impact on the species.

“We can save the monarch butterfly in North America, but only if we act quickly and together,” Service Director Dan Ashe said when announcing the campaign in February. “And that is why we are excited to be working with the National Wildlife Federation and the National Fish and Wildlife Foundation to engage Americans everywhere, from schools and community groups to corporations and governments, in protecting and restoring habitat. Together we can create oases for monarchs in communities across the country.”

The memorandum of understanding between the National Wildlife Federation and the Service is designed to serve as a catalyst for national collaboration on monarch conservation, particularly in planting native milkweed and nectar plants, the primary food sources in breeding and migration habitats for the butterfly.

“If we all work together – individuals,

communities, farmers, land managers, and local, state and federal agencies – we can ensure that every American child has a chance to experience amazing monarchs in their backyards,” said National Wildlife Federation president and CEO Collin O’Mara.

The National Fish and Wildlife Foundation Monarch Butterfly Conservation Fund was kick-started with \$1.2 million from the Service, which will be matched by other private and public donors. The fund is the first dedicated source of funding for projects to conserve monarchs.

During the current fiscal year, the Service will restore and enhance more than 200,000 acres of habitat for monarchs from California to the Corn Belt; support more than 750 schoolyard habitats and pollinator gardens; and fund additional restoration, seed supply and education projects totaling \$2 million. Many of the projects focus on the Interstate 35 corridor from Texas to Minnesota, an area that provides important spring and summer breeding habitats along the Central Flyway for the monarch’s eastern population.

“These projects will not only help us leverage expertise and resources for

engaging critical partners on restoring the monarch,” said Ashe. “We will also reach out to millions of Americans on both the challenge involved and how they can help.”

The monarch is perhaps the best-known butterfly species in the United States. Every year monarchs undertake one of the world’s most remarkable migrations, traveling thousands of miles over many generations from Mexico, across the United States, to Canada.

The monarch’s exclusive larval host plant and a critical food source is native milkweed, which has been eradicated or severely degraded in much of the United States in recent years. The accelerated conversion of the continent’s native short and tallgrass prairie habitat to crop production has also had an adverse impact on the monarch.

But protecting the monarch is not just about saving one species. The monarch serves as an indicator of the health of pollinators and the American landscape. Conserving and connecting habitat for monarchs will benefit other plants, animals and important insect and avian pollinators.

More information is available at <http://www.fws.gov/savethemonarch> 

Cooperative Recovery Initiative—continued from page 1

the CRI has funded 38 projects totaling \$16.4 million.

Having a new breeding colony “will help protect the Virginia population against loss from catastrophic events such as disease and storms, and put the bird on the track to recovery,” says Great Dismal Swamp Refuge manager Chris Lowie. The red-cockaded woodpecker once was common in pinelands from New Jersey to Louisiana. By the time the species was listed as endangered in 1970 under the Endangered Species Act, fewer than 10,000 birds were scattered throughout the Southeast.

Relocating five mating pairs of the woodpeckers will take dexterity. In October, biologists will clamber up tall trees at the host site to collect 10 birds – five male, five female. Then they will drive the birds to the relocation site, stopping to feed them hourly. On the same day, at the new site, they will climb trees again to place each bird in a pre-dug artificial cavity. Then they will place a screen over the cavity and wait. When biologists hear the birds call to one another the next morning, they will remove the screens and monitor the woodpeckers’ activity, all in an effort to acclimate them to their new home.

Red-cockaded woodpeckers live in mature pine forests, where trees may be up to 100 years old. The birds nest and roost in tree cavities that they dig and maintain. Around the cavities, the birds peck holes that weep resin. The resin protects eggs and young against snakes and other predators.

In the Southeast, pine forests are often harvested – for wood and paper products – before they are old enough for the

birds. Mature pine forests also depend on periodic fire to clear out undergrowth and allow seeds to germinate. Wide-scale fire suppression has reduced the size and health of these forests.

Great Dismal Swamp Refuge contains mature native pine forest, including some 2,000 acres of pine pocosin habitat – deep-soiled evergreen marsh that supports longleaf pine trees. The refuge, says Lowie, “has good habitat for red-cockaded woodpeckers, but no longer has the birds.”

Partners in the project include several Service offices, the Center for Conservation Biology at the College of William and Mary, The Nature Conservancy, the Virginia Department of Game and Inland Fisheries and local groups.

Three previous endeavors to reintroduce colonies of the birds – in Arkansas,



The endangered red-cockaded woodpecker is expected to benefit from one of 14 Cooperative Recovery Initiative projects. (USFWS)

Florida and Mississippi – have been successful. 🦉

Susan Morse is a writer-editor in the Refuge System Branch of Communications.

The 14 Projects

The U.S. Fish and Wildlife Service has allocated \$5.8 million in fiscal year 2015 to fund these projects under its Cooperative Recovery Initiative:

- Nestucca Bay (OR) and Willapa (WA) National Wildlife Refuges – Restore habitat for Oregon silverspot butterfly.
- Sevilleta Refuge, NM – Restore habitat for Rio Grande silvery minnow, Southwestern willow flycatcher and Western yellow-billed cuckoo.
- Laguna Atascosa and Lower Rio Grande Valley Refuges, TX – Connect, restore habitat for ocelot and Northern aplomado falcon.
- Windom Wetland Management District, MN – Restore channels and pools for Topeka shiner.
- Upper Mississippi River Refuge and Genoa National Fish Hatchery, WI – Captive rearing of Hine’s emerald dragonfly.
- Florida Keys Refuge – Restore habitat for Bartram’s scrub-hairstreak and Florida leafwing butterfly.
- Mountain Bogs Refuge, NC – Restore habitat for mountain sweet pitcher plant.
- Monomoy (MA), Nantucket (MA), Edwin B. Forsythe (NJ), Cape May (NJ), Chincoteague (VA) and Cape Romain (SC) Refuges – Restore habitat for seabeach amaranth plant.
- Silvio O. Conte Refuge, CT – Restore beach habitat for Puritan tiger beetle.
- Great Dismal Swamp Refuge, VA – Reintroduce red-cockaded woodpecker.
- Rainwater Basin Wetland Management District, NE – Restore wetland habitat for whooping crane.
- Quivira and Kirwin Refuges, KS – Restore prairie habitat for lesser prairie-chicken.
- Charles M. Russell (MT) and Arapaho (CO) Refuges – Develop two populations of black-footed ferret.
- Seal Beach Refuge, CA – Improve cordgrass nesting habitat for light-footed Ridgway’s rail.



RefugeUpdate

U.S. Fish and Wildlife Service
Mail stop: NWRS
5275 Leesburg Pike
Falls Church, VA 22041-3803



Meet us at www.fws.gov/refuges

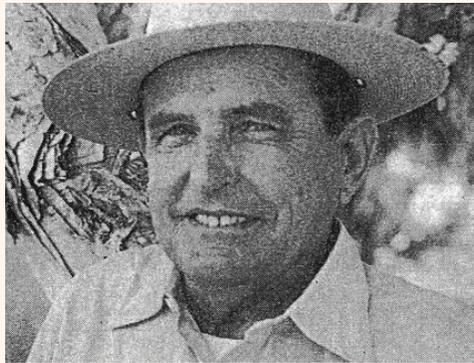
STANDARD PRESORT
POSTAGE AND FEES
PAID
U.S. DEPARTMENT OF THE
INTERIOR
PERMIT G-77

A Look Back ... Lawrence Wineland

Larry Wineland was the first man since Paul Kroegel to serve full time at Pelican Island National Wildlife Refuge in Florida, the nation's first refuge. He worked as biological technician, law enforcement officer, public affairs specialist and environmental educator. But when asked if he needed more help, he answered, "Nope, [my wife] Edith and I can usually handle it."

The Winelands lived near Sebastian, FL, with five beagles, pigeon roosts, rabbit hutches and a free-roaming gaggle of geese. Wineland was a commercial fisherman before he came to work for the U.S. Fish and Wildlife Service in 1947, working at White River Refuge, AR; St. Marks Refuge, FL, Lacassine Refuge, LA, and Blackbeard Island Refuge, GA, before coming to Pelican Island in 1964, where he stayed until his retirement in 1980.

Wineland arrived at Pelican Island Refuge soon after a controversial effort by the state of Florida to encourage housing developments across from the island. Wineland excelled at building



Lawrence Wineland (1912-1997) initiated and led fourth-grade field trips to Pelican Island National Wildlife Refuge in the mid-1970s, before environmental education was a serious discipline.

relationships with the community and developing environmental education programs before EE was a discipline. "When people talk about conservation and wildlife preservation at a local level, they inevitably talk about Larry Wineland," according to a 1977 newspaper article about an award he received from the Woodmen of the World Life Insurance Society.

Teacher Laura Matheson told that award dinner audience that "Larry Wineland

creates the largest classroom you've ever imagined," eventually putting fourth-graders in a boat to see Pelican Island. "The schoolchildren get wet and they get muddy, but they learn," said Wineland, who insisted that the youngsters not feed the pelicans. "If I brought a sack of fish out here and gave it to the birds, before I hopped into my boat they would be on relief. And the next time I came back they could be lined up waiting for a government handout."

After Wineland retired, there was a 12-year gap before Paul Tritaik became the third full-time employee at Pelican Island Refuge. Tritaik has talked to people who remember those grade-school field trips. "I was the beneficiary of seeing some of his students as adults, and it did make an impression on them as he'd hoped." It was Wineland's passion, says Tritaik, to educate children so when they became adults, they would make informed decisions.

At that award dinner, friend and fellow environmentalist Richard Thomas said that "Larry Wineland is a darn good egg that hatched into a very rare bird."

Follow the National Wildlife Refuge System on Facebook at www.facebook.com/usfwsrefuges and [Twitter@USFWSRefuges](https://twitter.com/USFWSRefuges).

Send Us Your Comments

Letters to the Editor or suggestions about *Refuge Update* can be e-mailed to RefugeUpdate@fws or mailed to *Refuge Update*, U.S. Fish and Wildlife Service, Mail stop: NWRS, 5275 Leesburg Pike, Falls Church, VA 22041-3803