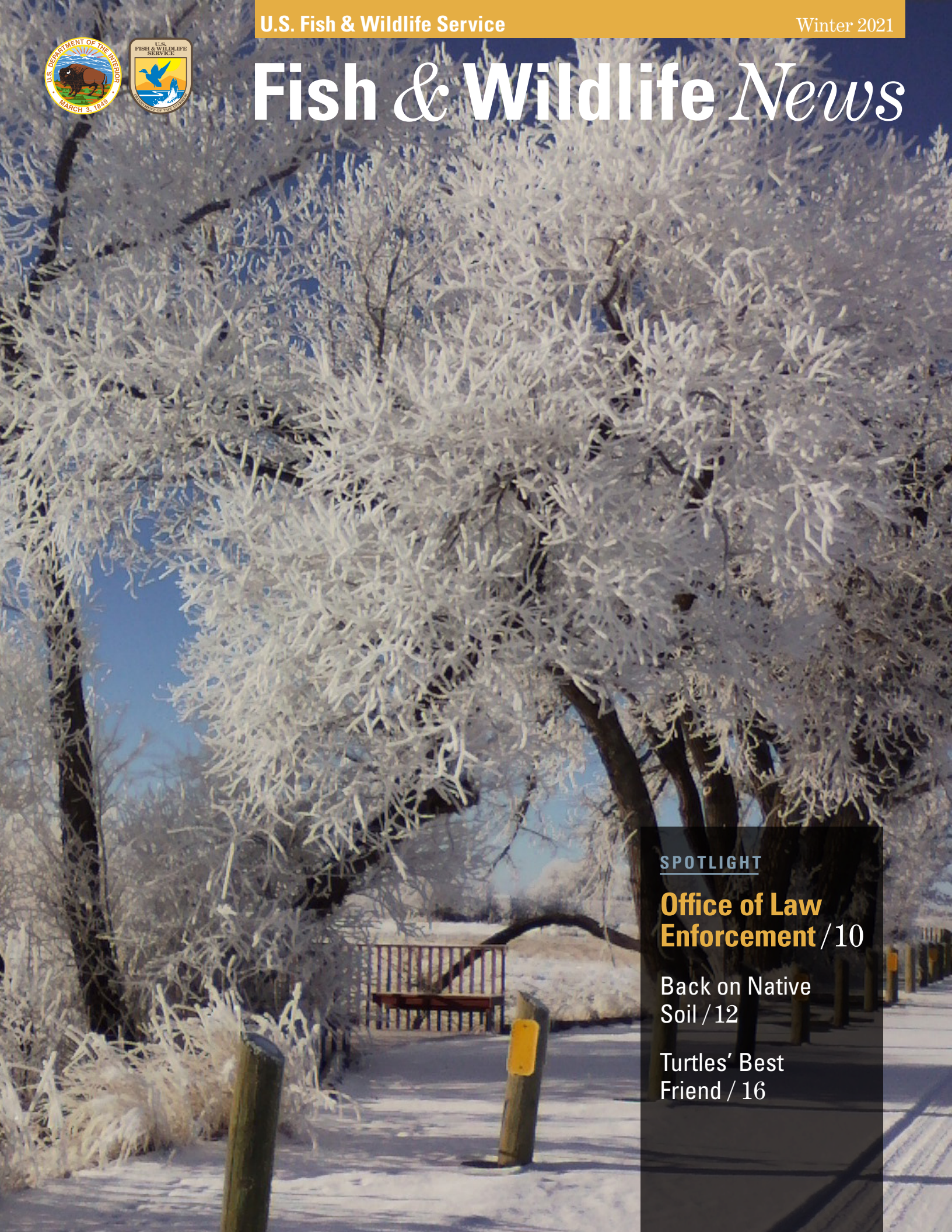
U.S. Fish & Wildlife Service Winter 2021

Fish & Wildlife News



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On the cover: Entrance road to Bowdoin National Wildlife Refuge in Montana.
TODD BOONSTRA/USFWS

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Hunting During the Pandemic: Respite for Families is Boon for Conservation

COURTESY OF JOHN HENDRIX

(Left) Easton Hendrix with a turkey he harvested from Deep Fork National Wildlife Refuge. (Above) Mackenzie Hendrix, 16, with a flathead catfish she caught while camping with family.

While the toll on countless families has been catastrophic during the pandemic, the people of this nation are doing their part to slow the spread by social distancing. It's been a time of adjustment, to say the least, as many typical family activities are under restrictions in the interest of minimizing the spread.

More and more families are enjoying traditional outdoor activities that come with built-in social distancing measures. Nationwide spikes in hunting and fishing license sales for 2020 are unprecedented, and those sales benefit statewide conservation. The Oklahoma Department of Wildlife Conservation reports an increase of around 50 percent in resident fishing license purchases. The use of parks has more than doubled in many cities, driving urban residents to seek out less crowded places to recreate, and this means a win for wildland conservation.

"We're seeing more people coming from the Tulsa area. People are going outside the city to recreate and reduce their risk of catching COVID-19," says Supervisory Refuge Specialist Catherine Bell of the Service, who works at Deep Fork National Wildlife Refuge, 50 miles south of Tulsa.

The Service closely follows Center for Disease Control and Prevention, state and local health department guidelines, and its top priority has been, and continues to be, the safety of staff and visitors. This has meant that refuge visitor centers were or are closed to the public. However, many refuge lands have remained open for responsible recreation throughout the pandemic.

An important part of the Service's National Wildlife Refuge System's mission is attracting visitors to refuges. When visitors enjoy wild spaces like national wildlife refuges, they tend to want to keep that place around for future recreation and the enjoyment of future generations. This also goes for refuges that allow hunting and fishing opportunities. And in a state such as Oklahoma where there are a lot of potential hunters and anglers with few public lands available, national wildlife refuges are often an oasis for outdoorsmen and -women amid private ranches and farms.

The Hendrix family of Bartlesville, Oklahoma, benefited from one of the hunting opportunities during this unprecedented age of lockdowns. Easton Hendrix, 12, was one of 10 youth selected to participate in the Deep Fork Refuge spring turkey hunt.

"The best part of hunting for us is getting the family away from the routine and electronic devices that take up so much of our time. We enjoy the camping and preparing meals outside," says Easton's father, John Hendrix. "We see a lot of wildlife every year and we don't necessarily have to harvest anything to feel like it's an enjoyable time. When we are able to harvest something, that's an added bonus: a source of pride and potentially some meat for those family meals."

John Hendrix is a supervisory wildlife biologist for the Service's Tulsa Ecological Services Office. Easton entered the refuge draw hunt and was randomly selected by an Oklahoma Department of Wildlife Conservation.

The Hendrix family has middle-school- and high-school-age children who are both active in competitive athletics. But even sports with traditionally less contact, such as cross-country runs, have been scaled back or canceled. So for the Hendrixes, activities that are intrinsically social distanced (hiking, camping, hunting, fishing) have surged in popularity recently. Luckily, the Hendrixes have a family history of outdoor recreation.

"My wife and I were married for 11 years before we had kids, and we spent a lot of that time hunting," says John. He says that his values as a wildlife biologist go hand-in-hand with his values as a sportsman. »

"I have wonderful memories of hunting and fishing as a boy, and I decided from a young age that I wanted to work outdoors. When I started deer hunting here in Oklahoma in the 1970s, we had very few deer, and it took me several years to harvest a buck," says Hendrix. "Thanks to habitat improvements, Oklahoma is now known for its deer. I'm fortunate to be working in a field where I can help to improve these very habitats to recover threatened and endangered species."

The national wildlife refuge side of the Service has made extensive expansions to hunting and fishing opportunities in recent years.

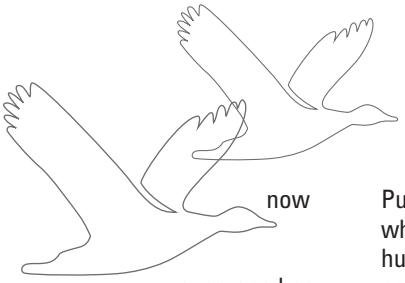
"Families like mine appreciate the refuge system opening up and providing more hunting and fishing opportunities on those lands that have sustainable wildlife populations," says Hendrix. "I think it's vitally important because it keeps youth interested in this field, it keeps them interested in outdoor activities as family traditions, and keeping conservation efforts going." □

AL BARRUS, External Affairs, Arkansas-Rio Grande-Texas Gulf and Lower Colorado Basin Regions

Brazoria National Wildlife Refuge Opens Waterfowl Blind for Hunters with Disabilities

The Service and Ducks Unlimited have announced the opening of the first Americans with Disabilities Act (ADA) compliant waterfowl hunting blind on Texas public coastal lands at Brazoria National Wildlife Refuge. Completed in September, the new blind aims to expand opportunities for hunters with a variety of disabilities.

"Our public lands belong to everyone, but hunters with disabilities face a variety of challenges accessing and navigating these outdoor spaces," says Scott Williams, project manager for the Service's Coastal Program. "With the completion of the new ADA compliant hunting blind at Brazoria National Wildlife Refuge, now everyone has the opportunity to experience waterfowl hunting on the Texas coast regardless of their physical abilities or limitations. We are proud to work with Ducks Unlimited to offer this opportunity to Texas hunters and look forward to expanding the project to other coastal refuges in the future."



Established in 1966 to provide wintering habitat for migratory waterfowl and other bird species, Brazoria Refuge is a popular hunting area that offers several great opportunities throughout the waterfowl hunting season. From the early teal season and throughout the rest of the waterfowl season, 15,000 to 20,000 ducks and 10,000 to 15,000 snow geese can be found on the refuge.

The ADA-certified accessible waterfowl hunting blind is located on the Alligator Marsh Public Waterfowl Hunting Area, which is a first come, first served hunting area open from 4 a.m. to noon Saturdays, Sundays and Wednesdays during the regular waterfowl season. The site features a parking pad with a paved walkway, ADA-compliant wheelchair access and a hunting blind large enough to accommodate up to four hunters.

"Building an accessible waterfowl hunting blind is something we've been wanting to do since the Alligator Marsh Public Waterfowl Hunting Area first opened in 2016," says Cody Dingee, refuge manager at Brazoria Refuge. "The area has gotten pretty popular over the last few years, and every year we've seen an increase in visitation and heard from hunters that it's been pretty productive. The hunting is going to continually get better where the blind is located because at that specific spot we're able to go in and manipulate water levels and do field work to improve it."

The hunting blind can accommodate up to four hunters.

USFWS

Texas has the second largest number of individuals with disabilities in the United States, with 11.7 percent of the general population and 23 percent of the veteran population reporting a disability. Ducks Unlimited Regional Biologist Kevin Hartke says due to limited accessible facilities, Texans with disabilities face even more challenges than the general public in accessing public hunting lands in the state.

"There are not a whole lot of public lands out there available for hunting, and when you think about people with disabilities, the actual availability of public lands where those folks can enjoy outdoor activities and hunting is very small," Hartke says. "This is something the refuges really need to make hunting more available to a larger group of folks, including those who have disabilities. It's a perfect fit for [Ducks Unlimited]…a lot of our constituents are waterfowl hunters and we support trying to provide as much public access as possible to everybody."

The Service's Coastal Program and Ducks Unlimited teamed up to help fund the project, but building a hunting blind that meets Americans with Disabilities Act design standards is much more expensive than building an everyday hunting blind. To secure additional funding for the project, Ducks Unlimited reached out to private donors Matt and Debbie Doyle, who Hartke says, "were integral in getting this project off the ground."

"As lifelong Texans, Debbie and I are committed to improving the quality of life for all citizens," says Matt Doyle. "Opening up areas and making them accessible to all hunters is an important part of that commitment."

The team also contracted the construction of the blind through a disabled veteran business owner, Christopher "Tipper" Esponge.

"Having a place to hunt that is easily accessible is important to people of all abilities," Esponge says. "As a fellow hunter, it was important to me that others would be able to enjoy the sport I love so much."

No fees are charged and no special use permits are required for hunting waterfowl in the designated areas on Brazoria Refuge, but all migratory game bird hunters must have a valid Texas hunting license and migratory game bird endorsement. All waterfowl hunters 16 years of age and older must also have a valid Federal Migratory Bird Hunting and Conservation Stamp and Harvest Information (HIP) Certification. □

AUBRY BUZEK, External Affairs, Arkansas-Rio Grande-Texas Gulf and Lower Colorado Basin Regions

COURTESY OF CDFW

Brian Young, CDFW's Fishing in the City program, shares tips and tricks for beginner anglers.

'Harvest Huddle Hours' Aim to Inspire a New Flock of Hunters, Anglers

Novice hunters, anglers and even foragers—yes, foragers—have a new venue to learn the basics of these outdoor recreation experiences without the intimidation factor that can be associated with picking up an outdoor sport such as hunting or fishing. In August, the California Department of Fish and Wildlife (CDFW) began offering free virtual "Harvest Huddle Hours" as a pilot program to help those interested in pursuing hunting, fishing or foraging, but don't know where to begin.

The Harvest Huddle Hours are one small part of CDFW's answer to the nationwide recruit, retain, reactivate, or R3, effort to reverse the decline in hunting, fishing and shooting sports. The Service has participated in the development and now implementation of CDFW's R3 effort through both Wildlife Restoration and Sport Fish Restoration grants.

"CDFW's R3 effort is about turning barriers to participating in hunting, fishing and shooting sports activities into opportunities," says Jen Benedet, CDFW's R3 coordinator.

Benedet says that one of the most challenging barriers to increasing participation is a lack of programming for beginner adults that is also socially and generationally relevant, not gender-specific, and available to a wide geographic and socioeconomic audience.

"The Harvest Huddle Hours are virtual, open to everyone, and the content focuses on beginning adult participants who do not come from hunting and fishing families," Benedet says. "The virtual platform allows anyone with access to an Internet connection to show up, learn and ask questions without the intimidation factor of feeling out of place or worrying about fitting in. It really is just about connecting people and humanizing the obstacles of starting something new, of learning a new skill set."

Those lucky enough to get a spot at the popular events have learned how to get started fishing in California; basic hunting and fishing terminology and laws; and the basics of foraging for wild food in California. »

The Huddles are done for 2020, but you can watch them at <https://bit.ly/2UoJ2ht>. CDFW will begin planning the 2021 schedule in January.

Service staff from the California-Great Basin Region Wildlife and Sport Fish Restoration Program (WSFR) have been engaged for years in coordination meetings with CDFW to discuss barriers to outdoor recreation, and Wildlife Restoration grants have help fund "human dimensions studies, hunter education programs, mentored youth hunts, and how to prepare and cook harvested game, with some great wild game recipes, among other actions," says Justin Cutler, WSFR grants management specialist for the Service in California. Sport Fish Restoration grants provide funding to the state for aquatic education, maintaining access to trails for anglers, sport fish stocking and fish habitat restoration.

"Probably now more than ever, efforts to provide the public with opportunities to engage in the outdoors help us fulfill our missions and sustain conservation funding for the future benefit of the American people," Cutler says. "I would encourage everyone to go make use of those opportunities in a way that works for them; fish, hike, hunt, paddle, attend a virtual Harvest Huddle Hour event, or just sit, watch, relax and enjoy the wild scenery of your local wildlife area. You inevitably will be directly or indirectly supporting R3 and our mission." □

ROBYN GERSTENSLAGER, External Affairs, California-Great Basin Region

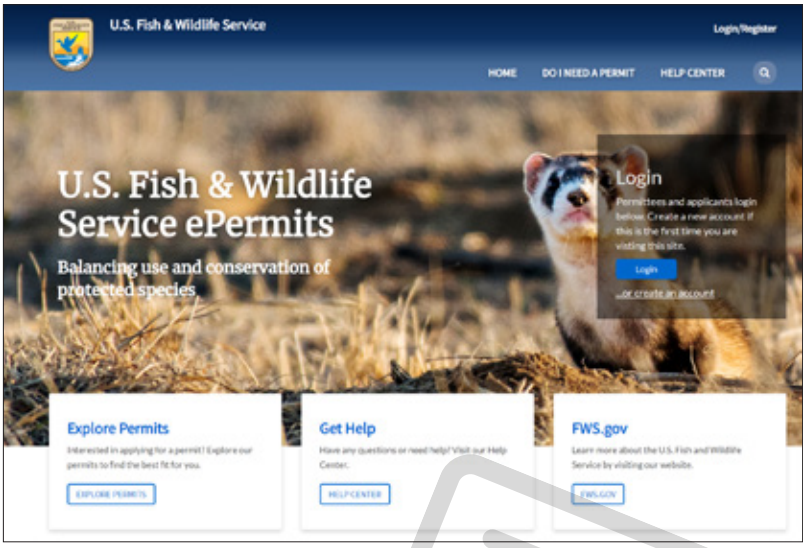
Service Launches Electronic Permitting System

To simplify, expedite and improve the permit application process, in October the Service launched "ePermits," a modern electronic permitting system. The Service issues permits under several domestic and international laws and treaties such as the Endangered Species Act, the Convention on International Trade of Endangered Species of Wild Fauna and Flora, the Marine Mammal Protection Act, the Migratory Bird Treaty Act, the Wild Bird Conservation Act and the Lacey Act. These laws protect species that are threatened by overexploitation and other factors.

Permits are issued for activities such as import and export of live animals, plants, or biomedical samples, rehabilitation of sick or injured migratory birds, scientific research or reintroduction programs for endangered species, and exchange of museum specimens between institutions for protected species. Each year, the Service issues approximately 65,000 permits. Before ePermits, applicants had to apply for permits through the mail and pay with paper checks, often resulting in delays that now may be avoided through the digital process.

The hard-copy option is still available to those who need it, but ePermits offers many advantages for applicants including a new permit application search feature. It also uses pay.gov, a secure electronic payment system, to process applicant permit fees. Once an application is submitted, the system allows applicants to view and track their application's progress. The Ecological Services, International Affairs and Migratory Birds programs working with the Office of Law Enforcement have supported the development of ePermits.

The "ePermits" system offers speedier turnaround.



Enhancements to ePermits and additional functionality are planned on a regular basis through July to make the application process more efficient and to allow for a more robust ability to analyze data to track business and conservation trends. You can visit ePermits at <fws.gov/permits>. □

COURTESY OF LEO BARTHELMESS

Collared cow on a spring pasture.

Cyber Cows: Are Virtual Fences the Future for Livestock Operations?

Have you ever been walking along, and a fence stops you in your tracks? That's a real problem for big game species such as pronghorn, mule deer and elk as they migrate across the West's sagebrush country and grasslands. Livestock fences can be particularly disruptive of daily movement patterns, long-distance migration and landscape connectivity for these big game species. These animals can also become entangled and sustain injuries while trying to cross the fences.

But we need fences. Fences allow ranchers to rotate their livestock, which can improve soil health and pasture productivity. Without fences, rangelands can deteriorate, leading to reduced habitat quality for grassland wildlife as well as livestock.

How can we address both of these issues? Virtual Fences. Livestock collars that use cellular networks and satellite positioning technology can create a virtual fence, which contains livestock without the need for a physical barrier.

With funding from the Secretary of the Interior's Order for Big Game Migration and Winter Range, the Service worked with a ranch in Montana to test out virtual fencing for its herd of 400 cattle.

Barthelmess Ranch, a cattle and sheep operation in Montana that spans 25,000 acres, was planning to add a significant amount of fencing to improve grazing intensity and shorten the amount of time their cattle spent in any given place. When they heard about the virtual fence project, they were excited to give it a try.

Vence (the virtual fence company, get it?) first had to set up base stations, which are designed to give continuous cell coverage across the property for communication with the collars.

Then, volunteers assembled collars for each of the 400 cattle and fitted them on the cattle using a hydraulic livestock chute. The chute allowed for safe, quick handling that is comfortable and minimally stressful for the animals. Each cow spent between one and five minutes in the chute for its "fitting." Collars were sized to minimize any discomfort to the animals and keep the collars from slipping off.

Once the cattle were fitted with their collars, the herd went back out to the pasture. After a few minutes, they seemed to not notice the collars.

There are two zones that help keep the cows in range, and ranchers can set the width of each. The first zone is auditory stimulation (the cows hear a tone). If they continue through the first zone into the second zone, the cows receive a mild shock. The cows learn quickly to avoid the shock, and more than 95 percent responded to audio only within a day or two.

Virtual fencing at Barthelmess Ranch has allowed the cattle to run together as one large herd to increase stock density, reduce grazing periods (creating more rest periods for the pasture) and strategically target invasive vegetation across the entire ranch.

Wildlife habitat should be significantly improved with better and more forage, increased soil health, a reduction of weeds and non-native plant species, increased availability of water, reduced impacts on areas near rivers and streams, and a reduction of physical barriers to migratory species.

In partnership with the Ranchers Stewardship Alliance, this project will be showcased extensively and openly within the community and to the public as an example of innovative grazing system design. □

BRYNN GARNER, External Affairs, and MARISA SATHER, Partners for Fish and Wildlife Program, Missouri Basin and Upper Colorado Basin Regions

Welcome Martha Williams

Martha Williams has been named Principal Deputy Director of the Service. Growing up on a farm, Martha gained an appreciation for place and all that comprises it. This passion led her to the wild places of the West where she focused on public lands and wildlife—first as attorney for the Montana Department of Fish, Wildlife and Parks, then as Deputy Solicitor Parks and Wildlife at the Department of the Interior, as a professor at the Blewett School of Law at the University of Montana, and most recently again at the Montana Department of Fish, Wildlife and Parks as its Director.

Service's Rebecca Chuck Named an Honorary U.S. Marine for Commitment to Veterans

Rebecca Chuck had an extremely important mission in June 2019.

She was the Honor Flight guardian for retired Marine Sgt. First Class Edgar Fox during the 77th anniversary of Battle of Midway Commemoration on June 4, 2019, at the Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial.

As the Service representative, Chuck accompanied Sgt. Fox and his daughter from Hawaii for a return to Midway Atoll, some 1,300 miles west of Honolulu in the Pacific Ocean.

Sgt. Fox's first trip to Midway was in 1941. During the Battle of Midway on June 4-6, 1942, he found himself in a pillbox on the south shore of Midway Atoll, desperately fighting to prevent the Japanese from occupying or destroying its naval and air force base. Sgt. Fox and other brave Sailors, Airmen and Marines laid their lives on the line against repeated attacks. In the end, the U.S. forces triumphed against seemingly impossible odds, and it was a turning point of World War II in the Pacific.

Going to Midway for the 75th anniversary in 2017 and again for the 77th anniversary in 2019 were exceptionally meaningful to Sgt. Fox, as he was able to visit the exact locations where he fought and where so many of his friends and comrades died protecting freedom. Chuck was there with him on both visits, and they forged a lasting friendship.

COURTESY OF SGT. FOX

Sgt. Edgar Fox was so impressed by the work and professionalism of Rebecca Chuck during two trips to Battle of Midway commemorations that he made it his mission to get a special award for her.

He was the only Marine survivor able to attend the 77th commemoration in person.

"I don't know how to express how I felt as Mrs. Chuck stepped up to the podium and read a poem for the commemoration," Sgt. Fox said. "At each pause, Mrs. Chuck glanced in my direction. When she finished and walked from the podium, she approached me and asked if she could give me a hug. I am unable to express the respect Mrs. Chuck offered to me that moment."

Once he was back home in Springfield, Missouri, Sgt. Fox had a new mission: find a way to honor Chuck. The sergeant attacked his mission with the bulldog-like tenacity of a Marine before it all came to fruition on Nov. 10, 2020, the 245th birthday of the U.S. Marine Corps.

On that day, Chuck, the deputy project leader at Oregon Coast National Wildlife Refuge Complex, was named an Honorary Marine. The title of "Honorary Marine" is one of the highest compliments the U.S. Marine Corps can give to a civilian, and it has been bestowed on fewer than 100 people since its inception in 2003.

"Oh my goodness," said a surprised Chuck, choking back tears during the award ceremony. "It has been my honor ever since I was chosen to escort you on the 75th. It has been my privilege to get to know you, and get to know about your whole life and service. To adopt you into my family, not just the U.S. Fish and Wildlife Service family, but my family. To have you hold me in such esteem is just such an honor. Thank you. … What an honor."

"Semper Fidelis, young lady. Welcome aboard, Marine," Sgt. Fox added, his voice cracking with emotion.

"Always faithful is the Marine Corps motto and that is descriptive of Rebecca in her attention to her job, the U.S. Fish and Wildlife Service's mission, to her community and her family, and in her remarkable connection with Sgt. Fox," said Robyn Thorson, Regional Director for the Service's Columbia Pacific Northwest and Pacific Islands Regions. "Sgt. Fox, it is an honor to be in your presence and we struggle to find sufficient words for our profound thanks for your service. You have bestowed on Rebecca a recognition befitting her excellence and reflecting yours. Thank you, Sgt. Fox, and congratulations, Rebecca."

Sgt. Fox also served with the 5th Marine Division on Iwo Jima in 1945 and retired from the military in 1966, The Honorary Marine presentation was the culmination of Sgt. Fox's mission to acknowledge Chuck.

"This is a rare award for someone whom this Marine Corps veteran has the greatest respect," he said. □

BRENT LAWRENCE, External Affairs, Columbia Pacific Northwest Region

Federal Wildlife Canine Team Locates Key Evidence in Whooping Crane Case

USFWS

Federal Wildlife Canine Cajun after a successful search.

Federal Wildlife Canine Officer Chris Hoag and Federal Wildlife Canine Cajun assisted with an investigation of two poached endangered whooping cranes that over the summer led to the toughest sentence ever in Louisiana for a crime involving one of these birds.

In May 2016, an alert was received by Louisiana personnel from a GPS transmitter that led them to a location where they found two killed whooping cranes. One of the bird's legs had been cut off, and the bands and transmitters were missing.

Investigating the deaths were the Service Office of Law Enforcement and the Louisiana Department of Wildlife & Fisheries.

The whooping crane is among the world's rarest birds and the largest crane in North America. There are only 850 or so alive today, and they are all descendants from an original 15 that lived in coastal Texas in the 1940s. The cranes are about 5 feet tall, white with black wingtips and have nearly featherless red caps.

A Service special agent requested help from Hoag and Cajun to find evidence. The canine team turned up a kitchen knife, a spent rifle casing and a severed whooping crane foot. Agents found the missing transmitters. These key pieces of evidence were linked to a suspect.

The knife found by Cajun, which was used to cut through the bird's leg to remove the bands and transmitters, matched a knife set in the suspect's house.

The defendant initially pleaded not guilty during his arraignment in federal court for violating the Lacey Act. In light of the evidence, he later entered into a plea agreement with the U.S. Attorney's Office. The defendant was sentenced on July 30, 2020, for violating the Endangered Species and Lacey acts. He was ordered to pay a $10,000 fine plus $25,000 in restitution and serve 360 hours of community service. He was also banned from hunting for up to five years. The federal magistrate sentencing the defendant said that prison confinement was appropriate, but it was withheld due to the pandemic.

Federal Wildlife Canine Teams spend countless hours training in the skill of locating evidence from wildlife crime. These skills are unique and highly sought after in wildlife crime investigations. Federal Wildlife Canines and the Service National Canine Unit are among only a very elite few that involve this much time and dedication to finding evidence from wildlife crimes. Without the efforts of Hoag and Cajun, key evidence may never have been located in this case. □

Old Hand

DANIELLE CHRISTIANSEN/MIDWAY ATOLL NWR

Wisdom, a moli (Laysan albatross), returned to Midway Atoll National Wildlife Refuge and Battle of Midway National Memorial, and the world's oldest known, banded wild bird is incubating her newest egg.

JIM VALADE/USFWS

Slow speeds in a Manatee Protection Zone are meant to protect the manatees from boat strikes.

OFFICE OF LAW ENFORCEMENT

Officers Rescue Couple from Sinking Boat

The Atlantic Intracoastal Waterway (ICW) wanders down Florida's eastern coast and is a popular avenue for boats and a great place to see manatees, the "belle" of the Florida marshlands. Tasked with protecting the manatee in these waters are Service Conservation Law Enforcement Officers (CLEOs) such as Jason Lowe. Lowe has been patrolling the ICW for more than five years, and this past June he found himself not rescuing a manatee but two people on a sinking boat.

On June 20, an estimated 2,000 boats were taking part in a boat parade on the ICW near Cocoa, Florida. Lowe and Florida Fish and Wildlife Conservation Commission (FWC) Officer Nick Stelzer were watching the crowd from Lowe's patrol boat.

"Due to the volume of traffic, government officials wanted lots of law enforcement in the area because it's a Manatee Zone," Lowe says. "We were just watching everyone making sure speed limits were observed."

In a Manatee Protection Zone, which are designated by the Service, FWC and others, strict speed limits are enforced to protect manatees from boat strikes and to keep distance between people and the animals. One of the biggest threats to manatees is watercraft collisions. »

The West Indian manatee is a large, aquatic mammal whose range runs from the southeastern United States through northeastern South America. The manatee is protected in the United States under the Endangered Species Act as threatened and by the Marine Mammal Protection Act.

The water in the area is usually calm, but according to Lowe, the conditions on that day were extremely rough and dangerous. "There were three-foot seas, and the increased boat traffic made it like a washing machine," Lowe says.

During the parade, Lowe spotted a 17-foot bass boat stalled and not moving. Thinking this was troubling, he pointed this out to Stelzer who replied, "Hey, we have to get over there. That boat is sinking."

Lowe and Stelzer immediately responded to the boat and discovered a husband and wife who needed help. When the officers arrived, another boat was trying to help, but the couple's boat was sinking fast. The water was already up to the couple's thighs and rising quickly. "We pulled up and Officer Stelzer threw them a life ring," Lowe says. "The couple was panicking. Everything was happening so quickly, and they were not able to grab the life ring. When we saw that one of them wasn't wearing a life vest, we knew we have to act fast."

The two officers maneuvered close enough to grab the man and get him onto the Service's vessel. He immediately told the officers that his wife couldn't swim. At this point, she was completely in the water, and her life jacket was not secured properly.

Lowe grabbed the woman by one hand, while Stelzer grabbed the other. Together, the two were able to pull her to the back of their vessel to a dive ladder that is used to get in and out of the water. The waves and stress of the situation made it difficult for the woman to get into the boat.

"She was having trouble getting her feet onto the ladder," Lowe says. "A big wave hit her from behind and she was lifted up. We were finally able to pull her into the back of the boat. In spite of the rough water, we held her tightly and were not going to let her go. She needed our help, and we were determined to save her life."

Overall, the entire rescue only took a few minutes, but as soon as the couple was safely on board the Service vessel, they watched their boat completely sink. The officers provided them with life jackets, ensured the jackets were properly fastened, calmed the couple and then called for medical support. "We took them back to the closest dock and had EMS meet us at there just to be safe," Lowe says.

The couple had a few minor cuts and bruises, but thankfully both made it out of the situation relatively unscathed. "You have to act quickly because lives are at stake," Lowe says. "I have thousands of hours on the water. Being in the Coast Guard and growing up in Florida, the training and experience really came in handy."

"This rescue is shared with Officer Stelzer.…Having our interagency partners is vital," Lowe says. "I couldn't have done the rescue without him, and I couldn't have gotten her on board without his help."

Lowe says an important factor to the success of the rescue was that the woman was wearing a life jacket. He recommends that any time you are on the water, make sure everyone onboard is wearing life vests properly. □

JEREMIAH MCDANIEL, Office of Law Enforcement, California-Great Basin Region

USFWS

MacGyver Would Be Proud

Using paperclips, epoxy and zip-ties, the Service, U.S. Marine Corps and Turtle Island teamed up to treat a desert tortoise with a cracked shell that was hit by a vehicle. She was also pregnant and laid five eggs. The hatchlings will be re-introduced to the wild once they are large enough. Mother "Zip-tie" will be rehabbed until she is healed and healthy enough to be released back to the wild. Then she'll be released in the vicinity of where she was found...but away from the road!

Operation Hidden Mitten resulted in more than 14,000 live mitten crabs seized from 137 illegal shipments. Some of the seized crabs are seen here. (Below) Heads of seized big cats sit on shelves at the National Wildlife Property Repository.

RYAN MOEHRING/USFWS

OFFICE OF LAW ENFORCEMENT

Officers contribute to virtually every aspect of wildlife conservation.

Many federal laws, such as the Endangered Species Act and the Lacey Act, protect wildlife. The role of the Service's Office of Law Enforcement (OLE) is to provide effective enforcement of those laws. (Another branch of the Service, which *Fish & Wildlife News* will tackle in a future issue, centers on protecting wildlife and habitat on national wildlife refuges and making refuges safe places for staff and visitors.)

You will find OLE staff throughout the country, and the world, contributing to virtually every aspect of wildlife conservation. Some of their key work includes:

- Breaking up international and domestic smuggling rings that target imperiled animals,
- Preventing the unlawful commercial exploitation of protected U.S. species,
- Inspecting wildlife shipments to ensure compliance with laws and treaties and detect illegal trade,
- Working with international counterparts to combat illegal trafficking in protected species,
- Protecting wildlife from environmental hazards and safeguarding critical habitat for endangered species, and
- Working with states to protect game species from illegal take and preserve legitimate hunting opportunities.

Expected, right? That's what law enforcement does. But they're also:

- Using cutting-edge science to analyze evidence and solve wildlife crimes at the only full-service lab in the world dedicated to crimes against wildlife,
- Training other federal, state, tribal and foreign law enforcement officers
- Helping Americans understand and obey wildlife protections laws, in part by maintaining the National Wildlife Property Repository, which supplies abandoned and forfeited wildlife items to schools, universities, museums, and non-government organizations for public education, and
- Operating the National Eagle Repository, which meets the needs of Native Americans for eagles and eagle feathers for religious use.

Like the Service itself, to accomplish all that, OLE relies on partnerships with federal, state, tribal and foreign enforcement agencies and other conservation groups.

The following stories offer just a glimpse at a few of their major cases. ››

BACK ON NATIVE SOIL

Splash-backed poison frogs are anything but 'blue' as they fly home to Brazil.

By BRYAN LANDRY, ALBERTO J. GONZALEZ *and* AMY JONACH

ALBERTO J. GONZALEZ/USFWS

(Above) Scientists discovered the rare blue morph coloration of splash-backed poison frogs in 2012. (Right) Disney provided expert care of the seized frogs for almost three years in a private quarantine room.

In September, Service wildlife inspectors carefully placed a container of splash-backed poison frogs on a plane to their native country, Brazil, a very happy ending to their amazing journey around the world, complete with a stay at Disney World.

Returning wildlife to their country of origin is uncommon because numerous factors must be met. For example, the animals must be well-cared-for in the United States and disease-free. Most importantly, the home country must be able to accept them back. It also involves much coordination and diplomacy between countries and partners, not to mention international legalities. The frogs will live at São Paulo Zoo. Animals recovered from poachers often aren't returned to the wild because of concerns about what they were exposed to in captivity.

The incredible story of this rare blue morph coloration of splash-backed poison frogs (*Adelphobates galactonotus*) of the family *Dendrobatidae* started back in 2012 when their population was discovered by scientists in an isolated remote area of Brazil.

Splash-backed poison frogs are important to the health of the Amazon rainforest, modern medicine and Brazil's indigenous peoples. These frogs are bioindicators, which means scientists use them to measure the health of the environment both on land and in water. In support of modern medicine, scientists have found more than 200 beneficial alkaloids in the skin of amphibians that may be used as a morphine replacement, antibiotics and as post-surgery healing treatments. These frogs can also excrete poisons in order to protect themselves in the wild. Some of Brazil's indigenous peoples use these toxins to coat their darts and arrowheads to support their subsistence hunting.

To protect these rare frogs, Brazil made it illegal to remove the *Adelphobates* species from their native habitat, sell them commercially or even possess them in captivity without express permissions from the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), the environmental authority in Brazil and the counterpart to the Service's Division of Management Authority.

"Brazil is one of the world's five megadiverse countries. This type of initiative shows the importance of adopting measures to protect animals and of bilateral cooperation to carry out operations such as this one," says IBAMA's President Eduardo Bim. "We are committed to the relentless fight against international wildlife trafficking."

Typically, IBAMA grants export permission of this frog species only to scientific institutions—even the scientific specimens exported were not live—and it has never allowed export of this rare blue morph for any reason. Therefore, the origin of any live *Adelphobates* species found outside of Brazil must be unlawful. They are also protected internationally under the Convention on the International Trade in Endangered Species of Flora and Fauna (CITES), an international treaty to prevent species from becoming endangered or extinct because of international trade.

These colorful and unique frogs are highly sought after in the pet trade and face global pressure from wildlife traffickers who illegally obtain and trade them via the web and social media. Until the discovery of the blue coloration, most of the splash-backed poison frogs in the pet trade had red, orange or yellow coloration. News about the discovery of these rare blue morphs traveled quickly and they became extremely sought after by collectors, who refer to these blue frogs as "blue galacts." In fact, within only a few months after the publication of the scientific paper announcing their discovery, numerous individual blue frogs were available for sale in many European countries.

In late 2017, a commercial import of live splash-backed poison frogs arrived from Europe at the Miami International Airport. Service wildlife inspectors examined the frogs and the associated documents, which included CITES permits from the European country of export. In this specific shipment, 22 frogs had the blue coloration—the others were orange and red.

Wildlife inspectors are our nation's front-line defense in the fight against wildlife trafficking. These highly trained professionals facilitate the legal wildlife trade, while keeping a vigilant eye out for illegal wildlife being smuggled into and out of the United States. They enforce U.S. federal laws that protect wildlife and plants and can identify wildlife species.

Knowing Brazil never allows export of the blue morphs, wildlife inspectors held the shipment and worked closely with IBAMA to determine the frogs' legality. It was discovered that the frogs had been illegally collected from the wild in Brazil, trafficked to Europe, and then imported into the United States using false paperwork in an attempt to evade law enforcement.

Ultimately, Miami wildlife inspectors seized the frogs under CITES and the U.S. Lacey Act, a powerful law that among other protections, prohibits the trafficking of wildlife taken, possessed or transported in violation of tribal, state, federal and international laws. Once the Service seizes live wildlife, it needs to find places to care, and often rehabilitate, the wildlife while an investigation is conducted. Animals are placed into temporary holding facilities either with the Service or one of our ››

partners such as a zoo, aquarium or a nonprofit wildlife rescue center. Once the investigation finishes, the Service works to find permanent homes.

Since splash-backed poison frogs can be highly toxic, the Service needed to find a specialized partner to care for them and Disney's Animal Kingdom accepted this challenge.

"At Disney, we are committed to protecting wildlife around the world," says Dr. Mark Penning, vice president of Animals, Science and Environment for Walt Disney Parks and Resorts. "When the U.S. Fish and Wildlife Service reached out to us, we were compelled to jump in and help since we knew we could provide the best possible care for these frogs until they could eventually make their journey back home."

Who wouldn't want an almost three-year vacation at Walt Disney World? The day after the Service had seized the frogs, they had a new home at Disney's Animal Kingdom. Disney professionals provided veterinary care, specific lighting, proper humidity and a nutritious diet for almost three years. A generous host, Disney ensured the frogs would thrive in captivity and provided a private quarantine room.

The Service has stationed senior special agent attachés throughout the world in geographic locations where wildlife trafficking is highly active. These attachés have built trusted partnerships with counterparts in their host countries, facilitated complex international investigations, participated in training programs and supported Service special agents on U.S. wildlife crime investigations with international connections. In addition, they work closely with U.S. embassy staff in support of each agency's mission. The assignment for this case: to return rare and imperiled wildlife to its lawful country.

JULIANA SIQUEIRA/DOS

ALBERTO J. GONZALEZ/USFWS

(Top) An IBAMA official (left) and Service attaché (middle) pass the frogs to a São Paulo Zoo representative. (Bottom) Thanks to the Service and its partners, 19 blue and two orange frogs now have a permanent home at Brazil's São Paulo Zoo.

The Service had considered it important to return these frogs to Brazil ever since they were seized in 2017. Working with officials from the Brazilian government, IBAMA, São Paulo Zoo, Disney's Animal Kingdom, the U.S. Department of State and the Service, wildlife inspectors, and the attaché in Brasilia, made this return happen.

"I'm really glad this operation was successful. Many people don't know it, but the wildlife trafficking market is huge. The U.S. Embassy and Consulates in Brazil have been actively engaging on this issue," says U.S. Consul-general in São Paulo, Adam Shub.

"I am very proud of the Service's role in returning home these incredibly rare and protected blue morph species of the splash-backed poison frog," says Edward Grace, Assistant Director of the Service Office of Law Enforcement. "This remarkable journey was due to the diligence of our wildlife inspectors and our Brazil attaché working closely with our federal, international and private partners. Thanks to their work, these frogs were rescued from the illegal pet trade, cared for by Disney and then returned home to Brazil where they belong."

In Brazil, 19 blue and two orange frogs will have a permanent home at the São Paulo Zoo, one of Brazil's premier institutions. Zoo scientists are experts in the care of amphibians and the zoo is known as a pioneer in conservation programs for the public. These frogs are an exciting addition to the zoo because most people are not able to see them in the wild. After they clear a 60-day quarantine, the frogs will be transferred to an educational room named, "The Frog Leap." The public will be able to view them once the coronavirus pandemic restrictions have been removed.

"In the last decade, the São Paulo Zoo Park Foundation has been concentrating its efforts on the protection of amphibians. In addition to environmental education and scientific research, the institution develops conservation activities targeted at endangered species," says São Paulo Zoo Park Foundation CEO Paulo ››

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Service wildlife inspectors and Disney Animal Kingdom staff carefully packed the frogs for their journey to Brazil.

Magalhaes. "We have expertise in working with amphibians and when we received the offer to care for the 21 frogs, we accepted right away, participating since the beginning, in the operation to return the frogs to their true home, Brazil."

In the process of trafficking these animals to fulfill demand in the illegal pet trade, some died. Removing wildlife from its native habitat is dangerous to the animal or plant. It also not only affects the adult count of the wild population but wipes out the countless offspring that could have been born if the adults had been left in the wild.

The frogs' journey highlights the importance of private-public partnerships and international collaboration to combat global wildlife trafficking to protect and conserve critically endangered species. □

BRYAN LANDRY, Senior Special Agent Attaché to the U.S. Embassy in Brazil; ALBERTO J. GONZALEZ, Supervisory Wildlife Inspector; and AMY JONACH, Writer-editor, Office of Law Enforcement

TURTLES' BEST FRIENDS

Wildlife Inspection Canines save U.S. native turtles and uncover an international smuggling operation.

By AMANDA DICKSON

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(Above) Turtles can die in transit because of bad conditions. (Right) Lancer with three boxes he found containing turtles.

I was inspecting boxes being exported from the International Mail Facility in Chicago, Illinois, with my partner, Wildlife Inspection Canine Lancer, a 6-year-old yellow Labrador retriever. We had done this search many times over the last few years, but this time was different. From the moment we entered the inspection area, Lancer had his nose in the air sniffing intently. I could tell Lancer was following a scent.

We zig-zagged through the bins, and Lancer stopped and alerted to a box being shipped to Asia. Cautiously, I opened the box and found 15 live turtles. The animals were stuffed into socks and tightly wrapped in tape so they couldn't move. There was nothing on the outside of the box that would have tipped off a wildlife inspector to its contents. It had been falsely labeled to contain makeup and cosmetics, but Canine Lancer knew immediately that hidden wildlife was inside.

Over the next six months, Lancer found 23 boxes containing a total of 263 turtles being smuggled out of the United States. Across the country, other Service wildlife canine inspection teams had also found large quantities of turtles being smuggled. The boxes came from different U.S. shippers and were always labeled to contain innocuous items like clothing or toys. Service special agents initiated investigations and discovered there were many co-conspirators. In this case, the co-conspirators were illegally taking turtles from the wild in the United States, trafficking them across state lines and smuggling them to Asia.

Usually when people think of wildlife trafficking, big charismatic species such as elephants and rhinos—animals from faraway countries—come to mind. You may find it surprising that the smuggled turtles our canines detected were species native to North America. The shipments of live turtles consisted mostly of several box turtle species that are highly valued in the foreign pet trade. They are protected by an international treaty, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), at the Appendix II level, which means the international trade is highly regulated and permits are required for their legal export. Due to their declining population numbers, most states have completely outlawed their collection and sale. In addition, some spotted turtles were found, which are also protected by CITES at the Appendix II level, and according to Indiana state law, they are listed as endangered.

Turtles are slow to reach maturity and few of their offspring survive to reproduce, so when they are illegally taken from the wild, it can have devastating consequences on the population for years to come.

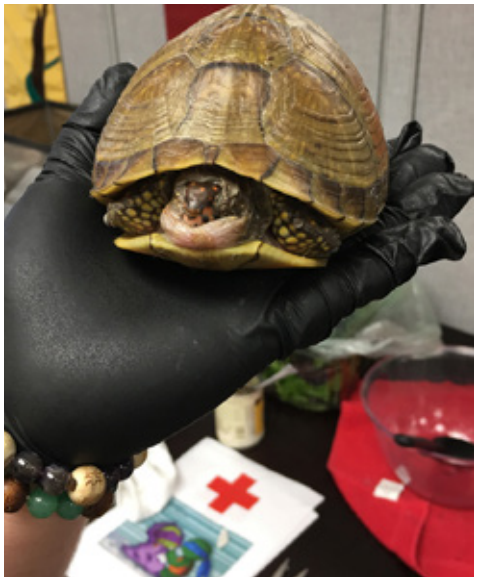
During this case, the Service saved hundreds of animals from being smuggled to Asia. If they had not been intercepted, many of these animals would have died in transit. Smugglers stuffed up to three turtles into a sock and tied it shut. These bundles were then piled into cardboard boxes and shipped with regular mail. Mail handlers had no way of knowing there were live animals inside the boxes and would have had no reason to handle them with the extra care that live animals need. The animals would have been exposed to temperature extremes and may not have received enough oxygen in a plane's cargo hold. Some of the turtles were already dead when the wildlife inspectors rescued them, and many had signs of illness. It was common to find turtles with their eyes swollen shut and puss coming out of their eyes and nose. The Service worked with veterinarians and wildlife groups to get the turtles the care they needed.

More than just hurting animals, people who engage in wildlife crime are often involved in other criminal activity as well. One Service special agent investigated a subject who was smuggling live turtles from Kansas. The investigation revealed the subject illegally smuggled about $1.3 million worth of illegal wildlife. Upon executing a search warrant, special agents found child pornography on the subject's cell phone. Ultimately, the subject was convicted of felony conspiracy to violate the Lacey Act and felony possession of child pornography. He was sentenced to serve 60 months in prison and three years of supervised release to be served immediately after his incarceration. He was also required to pay $11,000 in restitution, which was paid to the victims of the child pornography.

When animals cannot be released back into the wild, the Service places them at rehabilitation centers, educational facilities and zoos where they can help to educate the public about protected species and may become involved in species conservation programs. □

AMANDA DICKSON, Wildlife Inspector Canine Handler, Office of Law Enforcement

A box turtle showing signs of illness.



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THE SOUND OF SILENCE

A scheme to smuggle monitor lizards from the Philippines shows the importance of collaboration to stop wildlife.

By BRIDGET MACDONALD

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(Above) Island coastlines in the central Philippines. Water monitor lizards play an important predatory role in their island ecosystems. (Right) A photo taken by a smuggler in the Philippines shows three water-monitor lizards with their limbs bound to their bodies with electrical tape. The smuggler used the Facebook messenger app to circle in blue the lizard that was for sale.

Birds calling, insects buzzing, water flowing, the dulcet patter of rain falling on dense vegetation…This is what home in the wild sounds like for the water monitor lizard, a large reptile native to low-elevation streams in the coastal rainforests of the Philippines.

Over the course of multiple days in transit hidden inside speakers and subwoofers—devices meant to enhance sound—dozens of juvenile water monitor lizards smuggled into the United States in 2016 were surrounded by unfamiliar noises: tense voices, doors opening and closing, engines running, the deafening roar of a jet during the 16-hour flight and at times perhaps, an unnatural silence.

In a Florida courthouse this past September, a Florida man was sentenced to four years of probation, three months of home detention, and 288 hours of community service for his role in the transnational scheme, including reselling smuggled lizards for a profit to customers in Colorado, Connecticut, and Massachusetts.

Akbar Akram was the sixth individual prosecuted as part of Operation Sound of Silence, an investigation conducted by the Service's Office of Law Enforcement (OLE) in collaboration with the National Bureau of Investigations (NBI) in the Philippines into the players involved in taking these lizards from their home.

The international coordination facilitated by the Service's attaché in Bangkok, Thailand, helped partners pinpoint three Filipino suppliers, 10 customers and more than 30 shipments of lizards.

The nearly 100 water monitor lizards smuggled into the United States in these shipments will never go back to the rainforests of the Philippines. The confiscated animals will live out their lives in captivity in zoos and aquariums because of disease risks associated with returning them to the wild.

The investigation showed that between January and December 2016, Akram and his business partner Derrick Semedo of Nashua, New Hampshire, knowingly purchased 22 illegally collected juvenile water monitor lizards from smugglers in the Philippines and advertised them for sale in the United States.

> *"They knew these lizards were taken from the wild and shipped to the United States under inhumane conditions."*

"This was not simply a matter of someone buying something from another country because it was cheaper," Service Special Agent James Dowd says. "They knew these lizards were taken from the wild and shipped to the United States under inhumane conditions."

The evidence is captured in photographs shared between the smugglers and their U.S. buyers on Facebook Messenger. After the lizards were caught, the smugglers would use electrical tape to bind the animals' legs to their bodies and tape their mouths shut. Others had ropes tied around their stomachs to prevent their escapes. These ropes would burn and tear at their skin as they struggled for freedom.

After the U.S. buyers picked out the lizard they wanted from the photographs, the smugglers would stuff the animal into a sock, tape the sock shut, and then conceal the lizard inside the audio equipment without food or water. It would take about four days for the package to travel from the Philippines to Massachusetts, where Semedo lived at the time.

Dowd says, "A lot of times, the lizards would wind up sick, or dead."

Both from the lack of nourishment and from the cold. The average temperature in the coastal Philippines is about 76 degrees. The cargo hold on a commercial airplane is about 45 degrees.

Semedo, Akram and the others were charged with smuggling and wildlife trafficking in violation of the Lacey Act, which prohibits the import, export, sale, purchase, or acquisition of wildlife that are taken, possessed or transported contrary to state, federal or international law.

All of the water-monitor species that were caught up in the scheme are protected by the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), an international treaty that controls trade in order to prevent over-exploitation—a growing problem. The Philippines has outlawed the collection and export of all of its native water monitors in an effort to control a black market that seeks these animals for their unique patterns, vibrant colors and high intelligence.

The majority of the smuggled lizards were yellow-headed water monitors, which Dowd says are sought after for their distinct yellow-and-black patterned bodies. "People think about them as having a combination of a pet and a painting," he says. ››

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Yellow-headed water monitors are sought after for their distinct yellow-and-black patterns.

Cameron Siler thinks about them as something much more valuable.

"Water monitors are among the top predators in their habitat," says Siler, associate professor of biology at the University of Oklahoma, and associate curator of herpetology at the Sam Noble Museum. "They eat fish, birds, mammals, other reptiles and even dead animals."

He says the predator pressure provided by these reptiles is particularly important for maintaining biodiversity in an island environment. In such a small landscape, removing predators can quickly short-circuit a system because of the effect on other species. For example, without predators, herbivores can go unchecked, leading to vegetation loss, erosion and sedimentation—a cascade of negative impacts.

The Philippine eagle once played a dominant predator role in the island archipelago system. Now that species is critically endangered due to dramatic deforestation of its habitat, and its top predator status is diminished. Siler, who studies the evolution of amphibians and reptiles, fears the yellow-headed water monitor could be on a similar trajectory. He has been traveling to the Philippines for research since 2004 and has noticed alarming changes in the species' population in just those 15 years.

"We rarely see adults in the wild anymore," he says. "Pressure from hunting and the pet trade is completely shifting the age structure of the populations that remain."

For species that mature slowly, that's an unsustainable shift. "Juveniles are barely reaching reproductive age before they are taken," Siler says. "They just can't recover from losses quickly."

The losses are permanent. Even animals recovered from poachers are rarely returned to the wild because of concerns about what they were exposed to in captivity—unnatural conditions and interaction with foreign species (including humans) put animals at risk of contracting diseases that could spread to others in the wild.

Beyond their ecological role, these lizards have evolutionary significance. There are just two species of yellow-headed water monitors in the world, and they are found only in the Philippines.

"Each island represents a unique biological system and contains pockets of unique genetic diversity we should be trying to preserve," Siler says. Not because they have a market value. Because they are irreplaceable.

But Siler says he thinks there is still time. "When we are out during surveys, we still see diversity clinging on."

They still see water monitors in the wild, seeming at ease in their place at the top of the food chain. "We come across them running across the forest floor or asleep in streams," he says.

Unsuspecting of another kind of predator thousands of miles away that could permanently remove them from home. □

BRIDGET MACDONALD, External Affairs, North Atlantic-Appalachian Region

A mountain stream in the forests of Aurora Province, northeastern Luzon Island, Philippines, where water-monitor lizards make their homes.

COURTESY OF CAMERON SILER

COURTESY OF CAMERON SILER

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(Left) The expedition team, which includes many local villagers, for Siler's 2013 biodiversity surveys of Mount Huraw in northern Samar Island, in the eastern Philippines. Siler is pictured kneeling on the right. (Right) The tail of a monitor lizard sticking out of the red-and-white-striped sock, stuffed in a cavity in the back of a speaker.

TRUTH IN ADVERTISING

Wildlife special agents protect Native American culture.

By AL BARRUS *and* AMY JONACH

COURTESY OF LIZ WALLACE

Liz Wallace, a jeweler and an enrolled member of the Navajo Nation, cuts silver wire in the process of making a piece of jewelry.

The Service's Office of Law Enforcement (OLE) supports Native Americans and Alaska Natives in numerous ways, and an important one is enforcing federal laws that protect Native American culture such as the Marine Mammal Protection Act, Archeological Resources Protection Act and the Indian Arts and Crafts Act (IACA).

The IACA is a truth-in-advertising law that prohibits misrepresentation in marketing of American Indian or Alaska Native art and craft products within the United States. To enforce the IACA, the OLE works closely with Department of the Interior's Indian Arts and Crafts Board (IACB), led by Director Meridith Stanton, an enrolled member of the Delaware Nation and a Choctaw Nation descendant.

"In the initial period following the enactment of the IACA, the board worked with multiple law enforcement agencies on stopping the sale of counterfeit Native American art and craftwork, with mixed results," Stanton says. So in 2012, the Service and the IACB signed a Memorandum of Agreement to conduct IACA criminal investigations.

Since then, OLE agents have disrupted and dismantled this criminal activity. Numerous defendants have been investigated, indicted and sentenced for their crimes, and their actions were documented in states such as Alabama, Alaska, Arizona, California, New Jersey, New Mexico and Texas; and in countries such as China, Indonesia, Mexico, Pakistan, the Philippines and Thailand.

Most of these defendants ran similar multinational criminal schemes in the Southwest United States that involved fake Native American art mass-produced in the Philippines. These fakes were then smuggled into the United States and sold as authentic Indian jewelry to unaware consumers at retailers throughout the United States.

These multifaceted crimes were not simple to investigate because they involved other serious crimes such as identity theft, mail fraud, wire fraud, smuggling, conspiracy and money laundering. Throughout these investigations, OLE agents discovered that counterfeit Indian art criminal networks operated a complex web of middlemen, across the nation, to distribute and market fraudulent Indian artwork. In addition, these defendants used their illegal sales to undercut reputable competitors, often taking over their businesses. The millions of dollars generated by these counterfeit Indian art networks supported organized crime in the United States and were also funneled to overseas criminal operations.

The marketing of fraudulent Indian arts and crafts adversely affects Indian artists, businesses, tribes and economies. Many Native Americans and Alaska Natives depend on their artwork as their source of income. Without the oversight of the IACB and the OLE's investigative efforts, the marketplace would be flooded with cheap counterfeit items and there would be little or no market for Indians to sell their authentic hand-made products. ››

A counterfeit ring has the fake initials of the artist and "sterling" stamped on the back. Since it does not display the country of origin, it is implied the piece was crafted in the United States.

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Authentic Native American made canteen on the left compared to its counterfeit on the right.

Ultimately, this would contribute to a decline of Indian tradition, culture and authentic art.

Liz Wallace is a jeweler based in Santa Fe, New Mexico, and an enrolled member of the Navajo Nation. Her jewelry styles are classic Navajo and Art Nouveau. While the Navajo jewelry style is rooted in millennia-old Athabascan traditions, the silver and turquoise associated with it today involves metallurgy techniques learned from Hispanic blacksmiths in the villages of northwestern New Mexico in the mid-19th century.

"Starting in the 1800s, jewelry making became important economically for Navajo men. Navajo weavings made by our women were also coveted items early on in American history," Wallace says. "Our jewelers created this heavy silver jewelry style that makes the Navajo tradition unique. It was very different from the delicate Victorian jewelry that was mainstream during that time period." She continues, "Years ago I had been seeing stores full of cheap knockoffs, and I saw the IACA as ineffective, and symbolic at best. But I've since changed my tune, especially after learning how hard Service investigators work and how dedicated they are. We hope that these convictions and prison sentences will make a big difference."

Phil Land, the Service's special agent in charge stationed in Albuquerque, New Mexico, and agent responsible for the OLE's investigative work throughout most the Southwest United States, knows that the importance of authentic work spreads beyond the tribes. "New Mexico's economy relies heavily on Native American art and culture," he says. "The OLE is committed to investigating violations of the IACA to protect the Native American cultural heritage. If a person visiting New Mexico goes into a store to buy Native American made jewelry, they should have the confidence that they are getting authentic work and vendors who misrepresent Native American made jewelry will be held accountable."

While investigating counterfeiters is an effective deterrent, the consumer should also take steps to ensure their purchase is legitimate by asking about the history and authenticity of the piece.

"The best thing for people to do is their homework and to think of that authentic Native American artwork as an investment," Wallace says. "Buy from a reputable vendor or, even better, directly from the artists. Each piece has a history, it has traditions and heritage that go with it, and when you buy an authentic piece, you're honoring that culture and heritage." □

AL BARRUS, External Affairs, Arkansas-Rio Grande-Texas Gulf and Lower Colorado Basin Regions, and AMY JONACH, Office of Law Enforcement, Headquarters

? MORE INFORMATION

Buying Native American artwork
IACB provides a Source Directory of federally recognized Indian artists and arts businesses.

<https://go.usa.gov/x7GBd>

A hawksbill sea turtle swimming underwater.

CAROLINE S. ROGERS THROUGH NOAA

Service, Customs Seize Illegal Turtle Shells in Miami

Law enforcement officials with the Service and U.S. Customs and Border Protection intercepted boxes and boxes of endangered sea turtle shells smuggled through the Miami International Airport.

"It took probably 100 sea turtles to be killed to make this illegal shipment happen and that's a very rough estimate," Service Director Aurelia Skipwith said at an August 13 news conference in Miami displaying the shell pieces. "Sea turtles are sometimes illegally killed for their shells, meat, eggs which have a commercial value on the black market."

The shells were seized while in transit from the Caribbean to Asia. They were mislabeled as plastics and painted blue. Their value is unknown.

Skipwith said 65 of the shells came from hawksbill turtles and 35 from green sea turtles. Both turtles are protected as federally endangered.

The investigation continues. □

DAN CHAPMAN, External Affairs, South Atlantic-Gulf and Mississippi Basin Regions

Shark Fins seized in Honolulu, Hawaii.

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Operation Apex Shuts Down Operation that Profited from Shark Finning, Much More

In 2015, the Service began Operation Apex to investigate the trafficking of shark fins. It grew into a multi-agency law enforcement operation that in September apprehended 12 defendants and conducted 22 federal search warrants from coast to coast.

Agents seized millions in gold, silver, jewels and cash as well as marijuana, firearms and totoaba fish bladders. They also documented the harvest of more than 6 tons of shark fins.

Shark fins are dried and then sold to make shark fin soup, and a single bowl may sell for $100. Shark fin soup is considered a delicacy and is mainly served at special events, and can be found in restaurants around the world. □

Showcase

Collaborative conservation shines in CCAST library. | BY BEN IKENSON

The Collaborative Conservation and Adaption Strategy Toolbox (CCAST) features studies about Apache trout and bighorn sheep. Matt Grabau, a science coordinator with the Service, is one of the people behind CCAST.

The White Mountain Apache tribe began taking steps to protect the Apache trout in the 1940s, including closing stream access to anglers in 1955. White settlers who fished for the trout had decimated its population; streams were subsequently stocked with non-native trout, which further displaced the native fish. Logging, agriculture and mining also exacted a toll on the native trout. By the late 1960s, its range had been reduced from some 600 miles of mountain streams in southeastern Arizona to less than 40. The Apache trout, among the first fish listed as endangered, received strong protections with passage of the Endangered Species Act (ESA) in 1973.

The tribe's early efforts, and its subsequent and continuous cooperative work with the federal government, helped reverse the decline of Apache trout, whose status was upgraded to "threatened" in 1975. Today, the prognosis is good, thanks to the protections of the ESA and the collaborative conservation work in place.

"The Apache trout is a great example of how collaborative conservation can truly be effective at, not only preventing extinction, but promoting the recovery of a species," says Matt Grabau, a science coordinator with the Service. "And it's an example that deserves to be showcased."

Now, thanks to Grabau and his peers, the efforts on behalf of this fish—the on-the-ground recovery work made possible by partnerships—are, in fact, showcased in an online library of case studies created to help foster and promote successful examples of collaborative conservation.

Launched in 2018 as an online research sharing platform for resource managers in the western United States, the Collaborative Conservation and Adaption Strategy Toolbox (CCAST) was created by scientists at the Service and the Bureau of Reclamation and includes expertise from state fish and wildlife agencies, NGOs, conservation groups, and universities.

"We developed CCAST as a way to communicate work that the Service is doing with partners and to provide a place for practitioners to learn from each other," says Grabau. "But we are finding it even more valuable as a resource to promote landscape-scale conservation and science that supports responsible decision-making."

Presented in a richly visual, interactive format, with maps, graphics and video documentation, the online library is a wealth of accessible, practical information that describes the inner workings of a vast range of important conservation efforts across the Southwest.

In addition to the diversity of research generated by career professionals from federal agencies, the library features content produced by undergraduate and graduate-level students from a number of universities. "Mentoring students getting ready to enter the conservation workforce is a big priority for us," says Grabau. "CCAST allows them to significantly contribute to an increasingly important body of research."

In the case study on Apache trout recovery, Service biologist Zac Jackson worked with students from Northern Arizona University to document the effects of various conservation measures. These measures include the addition of physical barriers to keep non-native trout species away from upstream Apache trout habitat and the systematic removal of non-native trout from streams. Chemical treatment such as the piscicide Rotenone can be used to kill non-native fish in streams, but in some cases, "mechanical removal is necessary," according to the study. "But mechanical removal using electrofishing techniques and then netting the fish out can take decades of effort and the overall effectiveness may be uncertain."

The research repository now hosts more than 90 distinct case studies spanning a wide range of territory. Some examples:

- A pilot program developed to explore how certain design considerations for a solar energy facility in southwestern Nevada can mitigate impacts to the endangered desert tortoise and other endemic wildlife,

- A partnership between the Arizona Game and Fish Department and the state's transportation department that oversaw the incorporation of strategic wildlife crossings into a major highway project for the benefit of desert bighorn sheep,

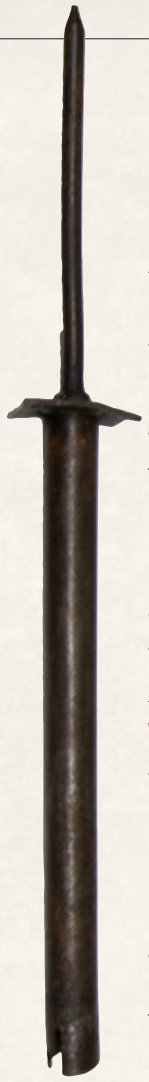
- A continuing study examining ways to enhance community engagement with the Valle de Oro National Wildlife Refuge, a 570-acre parcel of public land set aside in 2012 in Albuquerque, New Mexico, in a heavily industrialized area where environmental injustices have long persisted.

Altogether, the library represents the accrued—and accruing—wisdom of wildlife biologists and resource managers working in a variety of challenging contexts.

"The essential hope of contributors, I believe, is that their work may be instructive to others in the same field, and in this way, contribute to the broader, ever-growing and increasingly urgent realm of conservation science," says Grabau. □

BEN IKENSON, Arkansas-Rio Grande-Texas Gulf and Lower Colorado Basin Regions

On the Web
CCAST <https://bit.ly/3lE0Gtr>



MUSEUM OBJECTS COME TO LIFE

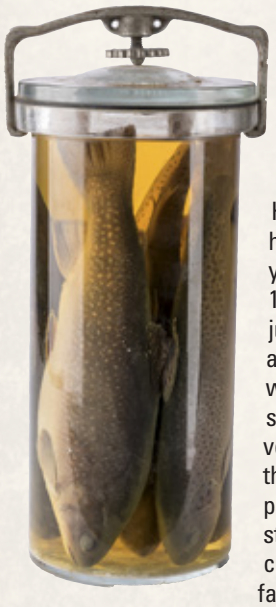
This is a series of curiosities of the Service's history from both the U.S. Fish and Wildlife Service Museum and Archives as well as the Service's National Fish and Aquatic Conservation Archives. As the first and only curator of the museum, Jeanne M. Harold says the history surrounding the archives give them life. Jeanne retired in November but provided articles to keep Curator's Corner going. We are also featuring submissions from April Gregory, curator of the National Fish and Aquatic Conservation Archives.

How to Catch Lots of Ducks

In 1948, refuge manager Herb Dill and maintenance worker Howard Thornsberry invented the first cannon-projected net trap to catch numerous waterfowl for banding purposes on Swan Lake National Wildlife Refuge in Missouri. On their first attempt, they caught 20 geese with their cannon that cost less than $70 to build. They said that it took several experimental runs with doses of explosives of potassium chlorate and sugar to get the charge right. Initially they suffered lots of big explosions or fizzles! This innovative tool is still widely used today, and its invention is another example of clever field employees inventing something others said could not be done. We have several old cannons and nets here in the museum. The nets come to us in a very dirty state, and it is always fun to watch the volunteers try to vacuum away the bird feathers and poop. (JEANNE M. HAROLD)

What a 'Darling' Celebrity

One day Jay N. "Ding" Darling had a visitor who desperately wanted to see a woodpecker on a bird-watching adventure. They didn't see one. However, in the next few days, Jay saw one on his own nature walk. He immediately drew a wonderful drawing with a woodpecker on it and sent it to his friend. What a kind gesture. I was told by Jay's grandson, Kip Koss, that Darling (as Kip referred to his grandfather) would be confronted by fans of his editorial cartoons on the streets of Des Moines, Iowa. Darling would take their names and send them the original of their favorite cartoon! (JEANNE M. HAROLD)



Lab Work

Hatcheries often have sets of preserved fish for educational purposes. Once used in an exhibit display in the Hector von Bayer Museum of Fisheries History, the museum at D.C. Booth Historic National Fish Hatchery, the jar calls to mind hatchery laboratories and research of a hundred years ago. Placed on exhibit in the museum in the 1980s, the jar was the museum object, with the fish just window dressing. The exhibit was dismantled about 15 years ago, and the jar returned to storage with concerns about visitor safety. It sits on an open shelf where it can easily be observed, with plenty of ventilation. The preservative used is unknown, but the seal is holding. Someday, with appropriate safety precautions, the jar will have to be emptied. A new storage location will be assigned, likely a closed cabinet, safer from breakage. Until then, it remains a favorite during archives tours. (APRIL GREGORY)

The Way to Stock Fish

This photo is a personal favorite of mine—a 1964 photo of stocking fish via an El Camino. Those fish were traveling in style! The photo was taken at the Senecaville National Fish Hatchery in Ohio (now a state fish hatchery). (APRIL GREGORY)

Searching for Wonder Among the Sparrows

By BRI BENVENUTI

BRI BENVENUTI/USFWS

A saltmarsh sparrow chick emerging from its shell during the July nest check. All four eggs hatched, and the chicks successful fledged.

Bri Benvenuti joined the staff at Rachel Carson National Wildlife Refuge as a biological technician in 2016.

Each stroke of the paddle makes a small ripple in the hues of blue reflecting off the still water. I watch as my niece glides slowly to a stop in her kayak. Looking back, she mouths "a heron," a smile beaming across her face. A minute later the large bird takes flight, soaring over our heads. My neice lifts her head back and watches in wonder as its impressive wingspan lifts it higher into the sky. The silence is broken with excited chatter of "how cool," and "how big it was."

I smiled and nodded along. To be honest, it was probably the 30th great blue heron I had seen this week. As a biologist at Rachel Carson National Wildlife Refuge in Maine, I am privileged to have intimate experiences with our natural world daily, and now this great blue heron seemed a bit mundane. Had I lost my sense of wonder?

At the refuge, my primary task is monitoring the saltmarsh sparrow—a small, brown bird that is intricately tied to the narrow band of salt marsh along the Atlantic coastline. It is estimated that four out of every five saltmarsh sparrows may have already disappeared from the landscape. They nest in the marsh grasses mere inches off the ground, and although they are adapted to tidal flooding, they are not adapted to high tides from rising seas and storms. As sea levels rise, their nests flood, and the species inches closer to extinction.

I spend my summers walking through the tall grasses of the salt marsh, listening for their whisper-like calls and watching for the quick flight of a female as she scurries from her hidden nest. By monitoring their nesting, we are learning what makes a nest successful so we can guide our conservation and restoration efforts.

As scientists, we are taught to be objective. Keep emotions at bay and look at the facts. But I know many of the saltmarsh sparrows that nest in the refuge's marshes, I've been watching them for seven years. I know that ››

BRI BENVENUTI/USFWS

BRI BENVENUTI/USFWS

(Top) Alexa paddling down the stream before seeing the great blue heron. (Bottom) Female saltmarsh sparrow #1601-69613 annually nests by the same little pool.

female #1601–69613 nests by a little pool, tucked into the Spartina grass, and has done so for the past three years. I know that #2781-82355 and #2781-82354 are sisters, born in August 2019, and nested just yards from one another in 2020. I've known many of these birds since they were eggs. I've watched as they hatched and in just nine short days were strong enough to leave their nest.

But I've also borne witness to eggs washed out of nests, wet and cold. I've time and time again checked nests that a few days earlier had squeaking young chicks to find them dead. Chicks that days earlier I had held in my hands and banded had been drowned in the safety of their nest, water too deep to escape by climbing on the tops of grasses. Sometimes, they were just too weak to climb.

As I entered the marsh on a humid July morning, I noted that I was walking in water where it was usually dry. An overnight storm combined with high-spring tides didn't bode well for the nests I was about the check. Bracing myself, I crouched down and saw that four eggs still remained in a slightly damp nest. They survived. Just then, an egg moved. Splitting the top and bottom of the shell, a rambunctious little pink chick emerged. I welcomed it to the world and quietly walked away. It was in this moment that my sense of wonder returned, and I pledged to keep hope alive in the marsh.

It is easy to be swept away in a sea of emotion. After all, a species can't be saved by an individual. It takes strong partnerships, dedication and time for a conservation success story. To disconnect emotionally from this research may be necessary for the sake of science and mental health, but isn't it emotion that drives our passion for conservation? There will always be a human dimension to wildlife conservation, and while I know majority of people will never see a saltmarsh sparrow, I hope they find comfort in knowing they exist. Rachel Carson said it best, "What if I had never seen this before? What if I knew I would never see it again?" □

BRI BENVENUTI, National Wildlife Refuge System, North Atlantic-Appalachian Region

? MORE INFORMATION

The Service and partners along the Atlantic Coast aim to turn the tide for saltmarsh sparrow. We are increasing our efforts to protect and restore marshes on our wildlife refuges, collaborate with researchers, and help states and landowners conserve the saltmarsh sparrow. United, quick and decisive action will give this bird a chance. Learn more at <https://go.usa.gov/x7Gjv>.

transitions

North Atlantic-Appalachian Region

Albert Spells: Man of Faith, Champion of Fish

Albert Spells collects a fish with a net on Virginia's Robinson River.

Albert Spells tells a story about a small stream in Barnwell, South Carolina, that flows through a culvert under Route 278. His brother Carnell and friend Thomas dubbed it the Little Stream. The Little Stream was their favorite fishing hole as young teenagers.

"It wasn't much of a stream, but it was 'our stream,'" he said. "We could always catch fish at the Little Stream, and we thoroughly enjoyed fishing there."

During spring break of his freshman year at South Carolina State College, they went to fish at the Little Stream. They found the stream and its banks filled with trash.

"I think it was probably at that moment that I decided I wanted to work in the aquatic ecology arena," says Spells, who retired at the end of September.

Leading by Example

In his 40-plus years with the Service, most recently as project leader for the Virginia Fish and Wildlife Conservation Office (FWCO) in Charles City, Virginia, Spells has distinguished himself as a champion for migratory fish in Virginia and the Chesapeake Bay. He is a man of great character and faith, which serves him both personally and professionally.

"Partners know Albert will represent their interests with integrity and honesty," says Bill Archambault, manager of the Lower Great Lakes Fish and Wildlife Complex. "Commercial fishermen, tribal representatives and numerous NGOs have worked with him over the years and count on him as a friend and trusted federal partner who follows through and keeps his word."

Restoring—and Revealing—Fish

Early in his career, as manager of Harrison Lake National Fish Hatchery in Virginia, Spells helped restore American shad to the Chesapeake Bay. Partnering with Virginia state agencies, hatchery staff released more than 36 million shad larvae into the James River and other rivers of historical importance under his direction.

In 1997, he partnered with the states of Delaware, Maryland and Virginia; the Chesapeake Bay Foundation; and the Virginia Institute of Marine Science to launch a program recruiting commercial fishermen to help locate Atlantic sturgeon in the Chesapeake. Most people thought they were gone entirely, but Spells never lost faith. He believed they were still returning to the bay's rivers and was determined to find them.

In less than a year, watermen found more than 300 sturgeon, including 2- to 3-year-olds, proving the fish were spawning in Virginia's rivers.

"For the recovery of at least one species—Atlantic sturgeon—Albert was the lone advocate for over a decade, when everyone else had written off this species as extirpated," says Dr. Greg Garman, director of the Rice Rivers Center at Virginia Commonwealth University. "We were all wrong, and Albert was right."

Removing Barriers

As administrator of the National Fish Passage Program (NFPP) in Virginia for the last 16 years, Spells has secured more than $1 million in grants and $2.6 million in matching funds to remove barriers to fish migration. Through strong partnerships, he has helped reconnect 1,750 stream miles. Last year's removal of Jordan's Point Dam on the Maury River alone connected 1,140 miles of fish habitat!

"His spirit and optimism are infectious," says Celia Vuocolo, wildlife habitat and stewardship specialist with Piedmont Environmental Council. "He has been an incredible ally, champion, partner, and all-around leader and doer without whom our fish passage projects would not have happened."

Prioritizing People

Spells is committed not only to fish but also to people. He helped pioneer the Shad-in-Schools Program, driving many thousands of juvenile American shad from the Harrison Lake Hatchery to schools in the Washington, D.C., area. Students raised the fish in their classrooms—in tanks designed by hatchery staff—and released the fry into the Potomac River. Programs from Maine to North Carolina were modeled after his.

In his personal life, Spells is passionate about working within his church family to educate on the word of God and help his community, both local and worldwide. He enjoys gardening, tending to a backyard pollinator garden to connect with nature during challenging times like these. Sharing time with his family, whether at home or traveling, is a priority. And, of course, there's always fishing.

Taking the Long View

While he inspires others, Spells finds strength and hope in the people he works with — both within the Service and in partner organizations. He admires their determination to "perpetrate a conservation ethic to protect and conserve our natural environment, understanding that we will not win every battle before us but knowing, as Edward Abbey said, we will 'outlive the b-------.'"

Spells has left a lasting legacy. And if you're wondering whatever happened to the Little Stream, so is Spells. He hasn't been back since college, but it's on his retirement to-do list. □

LAURI MUNROE-HULTMAN, External Affairs, North Atlantic-Appalachian Region

Headquarters

After 34 years of service, **Celecia Lee** (seen with husband Brad), an administrative officer in the Ecological Services Program in Headquarters, retired this fall.

"Celecia has unbelievable intelligence, courage, connections," says the Service's Kim Lambert.

Family has always been important in Celecia's life, and it shows with her niece. After the passing of Celecia's sister four years ago, she and her family took in her niece and are raising her. Niece BreAnna has met with Service biologists during Take Our Daughters and Sons to Work Day events and wants to be a zoologist when she grows up.

Celecia, active in providing resources that others need, such as leave donations and food drives, will be missed. □

honors

Great Lakes Region

Kelley Myers, senior adviser for landscape conservation science, is the 2020 recipient of the Midwest Association of Fish and Wildlife Management Agencies' (MAFWA) Midwest President's Award. Kelly Hepler, president of MAFWA, nominated Kelley for the honor and named her as recipient.The award, typically given to a non-governmental organization leader or political individual, reconizes outstanding achievements for the association by an exceptional conservation professional. Kelley is the first Service individual to receive this honor. The Service's entire Midwest Region received the award in 2015.

"It was my honor to recently present the MAFWA President's Award to Kelley Myers. Kelley is a driving intellectual force behind our Midwest Landscape Initiative. She is an excellent communicator, has a gifted sense of strategic thinking and has amazing skills at building effective teams," says Hepler, also director of South Dakota Game, Fish and Parks.

"The award affirms our work and the importance of the relationships among the Service and the states in conservation," Kelley says. "These are my former peers, as a former state director in Iowa, and my current peers, in this new relationship. I am proud that my work and my role is appreciated and valued," she says.

During her impressive conservation career, including as a key player in the creation of the Midwest Landscape Initiative, Kelley has served critical roles in nurturing essential conservation partnerships for the Service. The Midwest Landscape Initiative is a partnership among the Service and the states to identify shared conservation and management priorities to achieve healthy, functioning ecosystems in the Midwest.

"The atmosphere of the Initiative offers the opportunity to build on success of strong relationships in the Midwest and explore what is possible beyond this year or the next. It's a safe place for disagreement and conflict with an overarching goal to work together for fish and wildlife resources," Kelley says.

With her natural energy and positive attitude, Kelley has earned the respect of her fellow professionals, not only on a regional level, but more importantly on a national level. □

North Atlantic-Appalachian Region

Matthew Whitbeck, supervisory wildlife biologist for the Chesapeake Marshlands National Wildlife Refuge Complex, has received a 2020 Climate Adaptation Leadership Award for Natural Resources, given by the Association of Fish and Wildlife Agencies.

As a Service employee, Matt was nominated in the "federal government" category for showing exemplary leadership in both reducing threats to and promoting adaptation of the nation's natural resources to climate-related changes.

"Matt has been at the forefront of the Service's efforts to develop innovative measures to help wildlife and human communities adapt to sea-level rise and other impacts of a changing climate," says Wendi Weber, North Atlantic-Appalachian Regional Director for the Service. "He is an ambassador for creative conservation and science-based solutions for a changing world."

Matt was recognized for his work on Blackwater 2100, a comprehensive strategy to reduce marsh loss at Blackwater National Wildlife Refuge in Cambridge, Maryland. Along with staff from The Conservation Fund

and Audubon Maryland-DC, he developed a plan to help the marsh, which has lost more than 5,000 acres since the refuge's establishment in 1933, adapt to a changing climate.

The strategy includes protecting upland habitat to allow marsh to move inland, converting upland into high-quality marsh, slowing the rate of marsh loss and making tidal marsh more resilient to sea-level rise. Sea level within the Chesapeake Bay is predicted to increase about two-and-a-half feet by 2050 and five-to-six feet by century's end.

Matt led the centerpiece of Blackwater 2100: the first-ever thin-layer marsh restoration in the Chesapeake Bay watershed. He oversaw implementation and monitoring of the project and leveraged more than $2 million in federal Hurricane Sandy recovery and resilience money to complete the work.

He also guided Hurricane Sandy-funded efforts to build living shoreline structures at Eastern Neck and Martin national wildlife refuges, protecting the coast from destructive storms.

A skilled communicator and educator, he also has been featured in films and media as an expert in climate adaptation. □

in memoriam

Columbia Pacific Northwest Region

Matt Withee, a refuge equipment operator at Willamette Valley National Wildlife Refuge Complex, died peacefully in his home on the refuge on Sept. 27.

Based out of Ankeny National Wildlife Refuge, Matt was well known and beloved for his wonderful smile and cheerful presence that affected all of those who had the privilege of working with him. Matt became part of the Service family in 2001 as an equipment operator at William L. Finley National Wildlife Refuge in Corvallis, Oregon, and he transferred to Ankeny Refuge near Jefferson, Oregon, where he was from, in 2007.

Matt enjoyed working with his fellow employees, particularly when he was outside running heavy equipment, farming or interacting with the visiting public. With his local knowledge of farming techniques and years of experience on the refuge, he was invaluable to the refuge in management of more than 2,000 acres of prairie, farm ground and wetland units to provide wintering habitat and food for geese and a host of other native wildlife species.

He served as a member of the regional wage grade committee, and he helped other refuges in the region with equipment operation detail assignments and through his role as an ATV instructor. No matter what he was doing, Matt always did it with humor, dedication and perseverance.

"I had the joy and privilege of working with Matt for the last six years. We had a lot in common; both being local Willamette Valley guys who felt lucky to be doing what we loved in a place we love and both being dads. Matt was passionate about his conservation work, but it was clear his greatest love was his family. What I appreciated most about Matt was his genuine personality—he was open, always true to himself, incredibly dependable, and could get along with anyone," says Graham Evans-Peters, refuge manager at Ankeny and Baskett Slough National Wildlife Refuges, two of the three refuges in the Willamette Valley Complex. Willamette Valley National Wildlife Refuge is the third.

Matt leaves a legacy at these refuges where he helped build numerous wetlands, restored rare prairie habitats, helped recover threatened species and many other accomplishments. He was also well known around the Columbia Pacific Northwest Region as a heavy equipment instructor and for his willingness to help other refuges with important projects.

Most recently he helped create the Ankeny Hill Nature Center campus, which will serve as an environmental education center for generations to come—benefitting local youth for whom he had a keen soft spot. Many people will remember Ankeny Refuge by their experiences with Matt for years to come.

In addition to his wife, Sara, Matt is survived by his two sons, Trevor and Drew. □

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parting shot

RALPH SIMMONS/USFWS

Ready for Their Spotlight

Ralph Simmons, the assistant project leader at Tishomingo National Fish Hatchery in Oklahoma, sent in this photo of the early-morning sun shining a spotlight on the cattails surrounding the hatchery ponds. He says, "Although I see this every single day, on that particular day, it seemed like a moment to stop and enjoy nature's beauty."

Thanks for sharing, Ralph. Have an awesome photo? Send it to <matthew_trott@fws@fws.gov> for possible inclusion in the *News*.

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