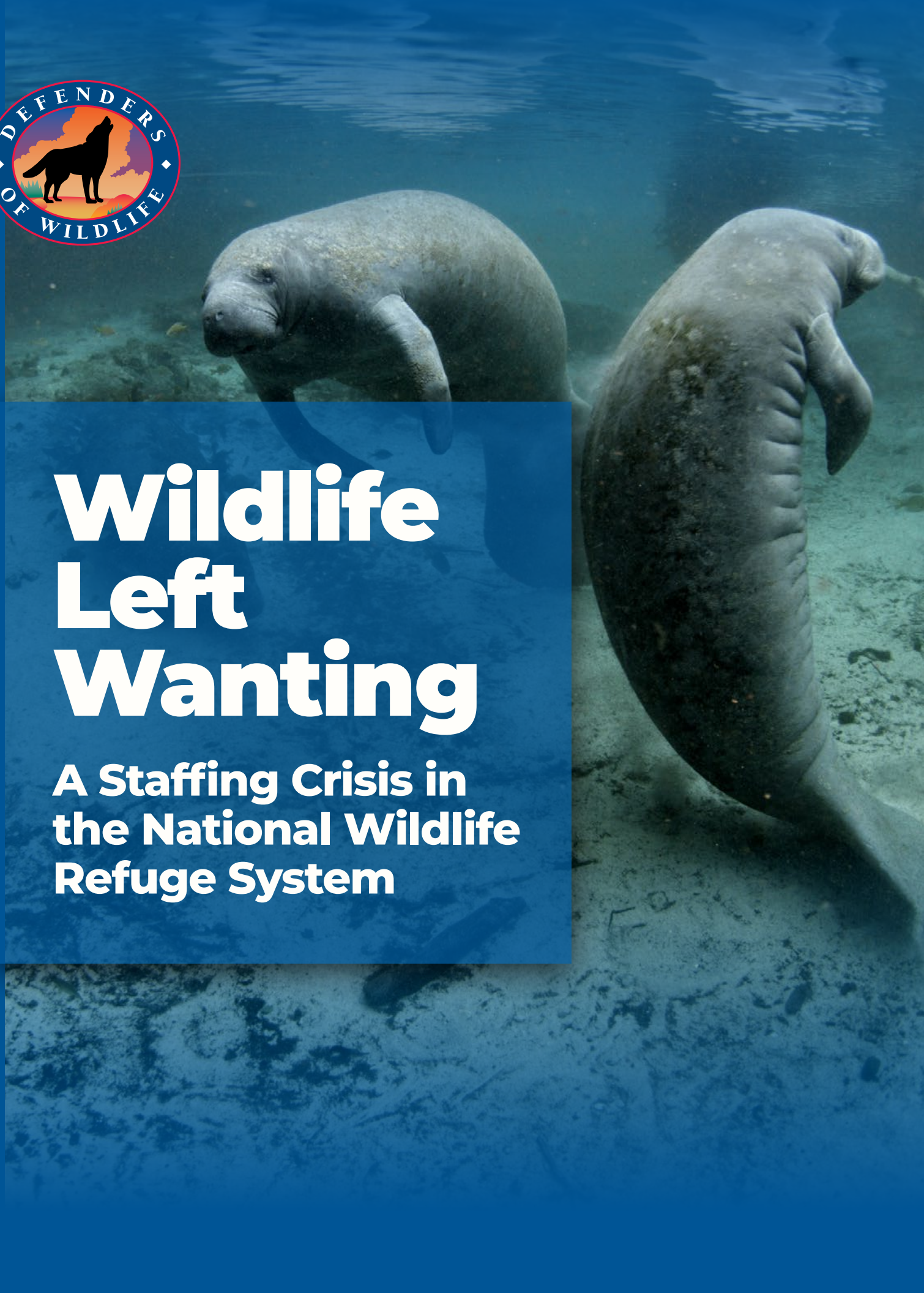


Wildlife Left Wanting

A Staffing Crisis in the National Wildlife Refuge System

For nearly 80 years, Defenders of Wildlife has worked to protect and restore America's wildlife at risk of extinction, advancing a vision of a future in which wildlife thrives, sustained by broad public support and a resilient network of healthy lands and waters.

Defenders has worked to defend and strengthen the National Wildlife Refuge System for decades. We played a major role in securing enactment of the National Wildlife Refuge System Improvement Act of 1997 and have since shaped implementing regulations and policies related to comprehensive conservation planning, compatible use, biological integrity, diversity, and environmental health and wilderness. We have also long advocated for the Refuge System to receive the level of funding needed to fully achieve its mission and the purposes of each refuge.

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The cliffs of Cape Meares National Wildlife Refuge. © A. LaValle/FWS

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Introduction



Boardwalk at Canaan Valley National Wildlife Refuge, Cindy Phillips. © FWS

The National Wildlife Refuge System is the only system of public lands and waters dedicated to wildlife conservation.

Refuges protect examples of every type of biome, from deserts to swamps and tropical forests to Arctic tundra. With more than 570 units in the Refuge System, there is at least one refuge in every state and territory, and at least one within an hour's drive of every major American city, providing people with unparalleled opportunities to experience wildlife in nature.

The Refuge System, however, is much more than boundaries drawn on the map. To fulfill the mission of the Refuge System, the U.S. Fish and Wildlife Service must actively maintain and restore habitats, inventory and monitor the species that use them and accommodate compatible public uses. Each of those programs requires a highly skilled workforce. It is the staff that makes the Refuge System function.

95 mil
ACRES OF LAND

760 mil
ACRES OF OPEN OCEAN AND SEAFLOOR

-30%
DROP IN FULL-TIME STAFF FROM 2010 TO 2025

Unfortunately, staffing has dwindled over the years. Due to stagnant funding, the number of full-time staff at the start of 2025 was roughly 30% less than it was in 2010. Since taking office, the Trump administration has made aggressive moves to push out hundreds more FWS employees. What has long been a chronic problem is now a full-blown crisis, with critical refuge needs going unmet.

For decades, Defenders of Wildlife and other conservation groups have asked Congress to provide more funding for refuges. Nonetheless, appropriations have failed to keep pace with inflation while stresses on the Refuge System have increased. Our requests are often met with questions like, "What have been the specific, on-the-ground impacts of staff loss?" or "What did the Refuge System once do that it can no longer do?"



Ranger-led hike at San Diego National Wildlife Refuge, Rinus Baak. © FWS

FWS staff know the answers to these questions, but are understandably reluctant to acknowledge ways in which their best efforts have not overcome the loss of capacity.

It is important to emphasize that the erosion of refuge management is not due to any shortcomings on the part of Refuge System employees. The few remaining staff have gone above and beyond to compensate for vacant positions. They have embraced unfamiliar roles, worked countless hours of unpaid overtime and devised creative ways to stretch their limited resources. By any measure, refuge staff are passionate about their duties and dedicated to the mission of the Refuge System.

To paint a picture of the impacts of underfunding, Defenders partnered with Scott Kahan, the recently retired Chief of Refuges in the Northeast Region. Guided by a list of questions developed by Defenders, Mr. Kahan interviewed people intimately familiar with 26 refuges or refuge complexes across the country.

Most of the interviewees left FWS since 2024. They had served as refuge managers and deputies, biologists, maintenance workers and visitor services specialists. To maintain their anonymity, Defenders never knew their identities. Mr. Kahan provided us with summaries of the interviews, including quotes, after the subjects had checked them for accuracy.

This report is the first of several pieces based on those interviews.

The Refuges

The interviews paint a picture of growing desperation. For example:

California's **San Joaquin River** has historically operated with minimal on-site staffing.

> *"The [Refuge's Comprehensive Conservation Plan] called for a tractor operator and a biologist. We never got those positions.*

Now, there are no on-site staff at all. "It's currently an unstaffed refuge."

At the **Crystal River Complex**, one of the most biologically sensitive and contested landscapes in Florida,

> *"[staff are] spread across five counties, managing very different refuges out of one small office. With 12 staff, it was hard. With four, it's impossible.*

Staffing levels in the **Coastal North Carolina Complex** have declined by an estimated 75% since 2010.

> *"When you've got nobody there, you've got no management capability. With the staff we have now, we can't meet the mission and purposes of these refuges.*

At New Mexico's **Bosque del Apache**, the staff reductions have occurred as the refuge faces increased pressures from water scarcity, invasive species and aging infrastructure.

> *"We're really at the edge. There just isn't the capacity to do everything that used to be done. It makes me sad to think that someday I won't have this beautiful refuge down the road from me — and that these animals may have no place else to go.*

Bosque del Apache National Wildlife Refuge, New Mexico. © Troy Lim

The Consequences of an Understaffed Refuge System



Closed boardwalk at Billy Frank Jr. Nisqually National Wildlife Refuge. © Liliana Elizabeth



Trempealeau National Wildlife Refuge office. © Amy Mueller/FWS

The interviews also provide specific examples of how refuge management has been falling short of established goals and historical standards.

At some refuges, neglected habitats are being overtaken by invasive species. At others, decades-long monitoring programs for sensitive species are being abandoned. Visitor centers are being closed, and school groups are being turned away. The absence of refuge law enforcement officers is putting both wildlife and visitors at risk.

This glimpse into the current state of refuge management is a call to action.

The Refuge System needs help.

Habitat Management

Wildlife refuges are not meant to merely preserve natural habitats. They must also be actively managed to prevent the deterioration of habitats and improve their value to wildlife.

In the **Upper Mississippi River Complex**, there has been a widespread shift to passive management. When active habitat management is still possible, staff have been forced to restrict their work to limited, high-priority areas. According to the interviewee: "Habitat management declined greatly. We had to pick which areas we could do. For some of them we just had to say: 'we're going to be living with that from now on.'"

Management of invasive species is often one of the earliest casualties of staffing reductions. At the **Klamath Basin Complex** in Oregon, "invasive species management was really hard when we started losing people."

At the **Southeast Idaho Complex**, reduced capacity has led to a declining ability to treat invasives at the right times and at the necessary scale. "There are aggressive invasive species on thousands of acres. The refuge just doesn't have the people to do it anymore."

> *"There are aggressive invasive species on thousands of acres. The refuge just doesn't have the people to do it anymore.*



Red wolf in the Coastal North Carolina Complex of refuges. © FWS

Even native species can be invasive in certain situations. That is the case at the **Oregon Coast Complex**, where mink colonization of offshore islands is an urgent threat. "Now they are reproducing and annihilating the burrow-nesting birds." Unfortunately, due to staff loss, mink removal efforts have stalled. "If we don't do something, we're going to lose storm petrels, Cassin's auklets, rhinoceros auklets, tufted puffins…"

Many refuges are centered around wetlands and require active management to maintain

their hydrological conditions. The unstaffed **Catahoula Refuge** in Louisiana has been forced to abandon upkeep of water management infrastructure. “We had two water control structures managing 350 acres. They were very inaccessible, so we quit maintaining them. That was 350 acres of moist soil and semi-flooded hardwoods that we no longer maintained — 350 acres less habitat for waterfowl and shorebirds.”

Fire is also a vital component of many ecosystems. Prescribed fire is a potent tool, but it requires significant capacity, and the loss of staff across the Refuge System has limited its use. As fire programs were regionally consolidated, the **Upper Mississippi River Complex** effectively lost the ability to conduct burns. “We lost fire on the ground completely.” This severely constrained prairie management that is important for species like Blanding’s turtles and the endangered rusty patched bumble bee.

At **Okefenokee** in Georgia, biologists and foresters historically served as resource advisors for the fire program. With those positions vacant, there is concern that fire decisions will prioritize speed and logistical ease over ecological outcomes. “We want the refuge to burn, but in a certain way. Crews might look at it like: ‘get it burned the fastest.’ But that’s not always the best way.”

Inventory and Monitoring

To effectively manage refuges for wildlife, FWS must have accurate data about what species and habitats occur on each refuge. That is the role of inventory and monitoring programs. Unfortunately, these programs are among those most vulnerable to staff loss.

At the **Upper Mississippi River Complex**, monitoring has been halted or reduced for the threatened eastern massasauga rattlesnake and the endangered Indiana and northern long-eared bats. As the interviewee said: “We don’t even know if [the rattlesnake] is on the refuge or not.”

To the extent that inventory and monitoring are still happening, some interviewees worried that the rigor of surveys has suffered



Conducting insect surveys at Sacramento National Wildlife Refuge. © Joanna Gilkeson/FWS

due to staff loss. From **Crab Orchard** in Illinois: "You can't just say, 'oh yeah, I saw butterflies.' You have to do it scientifically, and they don't have the staff."

At **Okefenokee**, the cancelation of surveys after the departure of the last biologist has made it harder for the refuge to support listed species' recovery plans and defend management choices with evidence. "There were so many wildlife surveys — all that has come to an end. We don't have that knowledge to support our decisions that are made at the Refuge."

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The interviewee for Utah's **Fish Springs** cited endemic snails as an example of "unknown losses." Some occurrences on the refuge may represent the last populations of multiple species. There were signs that populations were declining when staffing collapsed, but the lack of consistent monitoring makes it difficult to assess the situation. "We may never actually realize [the impacts], because we never got the opportunity to do the monitoring."

To ensure that habitat management is effective, it is essential to monitor the results and adapt accordingly. The **Oregon Coast Complex** has been conducting habitat restoration, but post-restoration assessments have fallen off. "We're not doing post-restoration monitoring for fish or habitat. That work has ceased, because there isn't capacity to oversee it." That includes monitoring of habitat restoration intended to benefit endangered Coho salmon, limiting the refuge's ability to evaluate its effectiveness and inform future investment. "You can't tell whether or not the restoration is working."

Priority Species

In addition to habitat management and inventory and monitoring, refuges sometimes take direct actions on behalf of their priority wildlife.

Catahoula Refuge historically maintained a nest box program for wood ducks, but it collapsed due to staffing constraints. Flooding conditions required many boxes to be placed high above the ground, making access difficult. "Those are very difficult to maintain, especially for one person, and have fallen to pretty much nonexistence." Fewer nesting opportunities may reduce wood duck production, and the loss of boxes also sends a worrying message to the public. "Wood duck boxes are a symbol of active

management. If you don't have them, you're not doing anything."

At **San Joaquin River**, dams have replaced gradual seasonal flooding with a pattern in which water levels rise suddenly and stay high for weeks. This is particularly dangerous for the refuge's endangered riparian brush rabbits. Major mortality events followed floods in 2006, 2011, 2017 and 2023. "Post-flood reconnaissance found bodies scattered everywhere. Probably hundreds, if not over 1,000 died during these flood events." Refuge staff developed rescue operations using boats and kayaks to relocate stranded rabbits. Because the refuge now has no on-site staff, future rescue operations are unlikely to be effective, if they occur at all. "Timely rescues probably won't happen the next time there's a big flood."



Dusky gopher frog. © John A. Tupy (CC by 2.0)

Law Enforcement

Refuge law enforcement officers are responsible for protecting both natural resources and public safety. The number of officers on duty has declined significantly, down roughly 28% as of 2023.

Unenforced violations create a feedback loop, described by the **Catahoula** interviewee as the "broken windows" effect. If the refuge looks neglected, it invites abuse. "Once you get a few beer bottles and food wrappers laying around, those things multiply big time. Once you have one bullet hole [in a sign] it attracts more bullet holes."

Vandalism can have a direct impact on wildlife. At **Ash Meadows** in Nevada, "people sometimes do bad things like dump goldfish into the springs. There have even been threats to dump chemicals." Restricted to a single pool of water, the endangered Devils Hole pupfish is extremely vulnerable. "Disturbance [of Devils Hole] could wipe the whole population out."

Reduced law enforcement also means reduced poaching deterrence. Without officers, it may be impossible to know if take by hunters exceeds authorized levels.

At **Laguna Atascosa** in Texas, current issues include illegal fishing and alligator hunting at remote river crossings. “Since there is no longer a law enforcement presence at Laguna, there are issues with poaching.”

Violations of waterfowl protection areas have increased In the **Upper Mississippi River Complex**. In addition to waterfowl taken illegally, the disturbance has prevented birds from resting and building the fat reserves needed for migration. This undermines both refuge purposes and legitimate hunting opportunities. As the interviewee lamented: “We’re not sending healthy birds down river.”

Law enforcement officers play a key role in keeping refuge visitors safe. This is especially important for some of the more remote refuges. At Nevada’s **Sheldon**, declines in staffing reduce the likelihood of finding missing persons. “People can disappear out there. If nobody’s looking for them, they could be there for weeks.”

> *“People can disappear out there. If nobody’s looking for them, they could be there for weeks.*

In the absence of officers, too many people on refuges also pose a safety risk. **Red Rock Lakes** in Montana experiences overcrowding in its only waterfowl hunting area. “Only eight camp sites. On opening weekend there are probably 25 pickups. Some parties are drinking too much and running around with handguns while they’re drunk.”

In the words of another interviewee, speaking for all of Region 8 (California and Nevada): “People don’t feel safe there. Staff don’t feel safe there. The lack of law enforcement results in fewer visits by the public, which creates this downward spiral where less visitation equates to less concern about conservation.”



Federal Wildlife Officer on horseback at Wichita Mountains National Wildlife Refuge. © FWS

Permitting and Compatibility

Hunting, fishing and all other recreational or economic uses may only occur on refuges if they are compatible with their purposes and the mission of the Refuge System. Oversight by refuge staff is often required to ensure that these uses fulfill the conditions of their compatibility determinations. Increasingly, that oversight is not happening.

Visitors continue to swim with manatees at **Crystal River Complex** under existing compatibility determinations. With current staffing, assumptions about on-site law enforcement, education and monitoring are not consistently met. There has been an increase in prohibited interactions like diving onto manatees, harassing them and separating cow-calf pairs. "The uses are still happening, but they're not being managed the way the compatibility determinations intended."

> *"The uses are still happening, but they're not being managed the way the compatibility determinations intended.*



Boating at Kenai National Wildlife Refuge. © Ian Shive/FWS

Alaska's **Kenai** has a commercial guiding program that is one of the most complex in the Refuge System. Guiding and outfitting services enable visitors to access remote areas they could not otherwise reach. Without staff, illegal guiding has risen rapidly, fee payment has become spotty and accountability mechanisms have broken down. The ability of the refuge to administer key compatibility requirements has been significantly weakened. "There is literally nobody left who has ever gone through the [permitting] process. The staff is not sufficient. It has to be done, but right now the staff would not be able to pull it off."

Visitor Services

Nationwide, refuges received more than 69 million visitors in 2025, an increase of roughly 48% since 2011. People typically visit refuges for outdoor recreation like hiking, boating and wildlife viewing and photography. Some visitors take advantage of hunting and fishing opportunities.

Many visitors interact with refuges primarily through their visitor centers. Unfortunately, diminished staffing levels have forced refuges to shorten their hours or even close them entirely. At the **Klamath Basin Complex**, the interviewee said, "We got down to just one visitor service person. We could barely keep the front doors open." The situation is similar at Crab Orchard. "That new visitor center was going to be tremendous. Now all they can do is try to keep it open, but they can't do any programming or education."



Students at Kīlauea Point National Wildlife Refuge. © FWS

Recreation on undermanaged refuges can put natural resources and public safety at risk. For example, **Red Rock Lakes** sits along the Continental Divide Trail bicycle route, with up to 500 cyclists passing through annually. The refuge historically provided water, information and emergency response. Now the information and medical services are unreliable or nonexistent, and it is unclear if anyone is monitoring the potable water. "I don't even know who's taking water tests. People are still drinking out of the spigot."

Many refuges have a history of sending staff off the refuge to engage with students and others. At the **Coastal North Carolina Complex**, efforts to connect with local communities and schools have largely disappeared. "We lost opportunity. We were finally getting into classrooms, and then it all went away."

Catahoula, once had an exceptional education and outreach program led by the office assistant, before that position was lost. That program reached thousands annually across multiple parishes. It included endangered species education and "teacher kits" that educators could borrow. Speaking about that former staffer, the interviewee recalled: "She was reaching probably 4,000 or 5,000 individuals a year with her programs. I had phone call after phone call requesting her and had to say, 'no, we can't do this anymore.'"

Refuges are increasingly relying on volunteers to provide visitor services. However, volunteers require training and supervision. Continued staffing reductions limit refuges' ability to sustain these programs. The interviewee for the **Upper Mississippi River Complex** noted that "you can't just let volunteers run without support. Someone has to lead that charge." And refuge volunteers, like refuge staff, are increasingly overworked.

> *"You can't just let volunteers run without support. Someone has to lead that charge.*

At **Rappahannock River Valley** in Virginia, "volunteers basically keep the refuge afloat, but it's difficult. Burnout is affecting volunteers, and they can't do everything."

Working with Partners

Refuges coordinate with, support and receive support from a variety of neighbors and partners. Loss of staff makes it more difficult to maintain these relationships.

At the **Oregon Coast Complex**, outreach to Coast Guard stations and pilots was key to reducing disturbance of nesting seabirds from low-flying aircraft and training missions. Since leaving, the interviewee said, "There's been no one to continue that program." The interviewee then summed up the problem: "It's the coordination — working with various agencies, with communities, with NGOs — that takes manpower and investment of time. It doesn't just happen."

Partnerships often depend on individuals. A biologist at **Red Rock Lakes** worked with the University of Montana and Montana State University to develop a model for guiding refuge management. He secured six-figure grants that supported graduate students who produced relevant publications for more than a decade. "He had a way of working with the universities to solve refuge-related issues. When he left in 2022 that all evaporated."

The partnership between refuges and their Friends groups plays an increasingly important role in supporting refuge operations. The Friends of **Bosque del Apache** historically provided volunteers and helped fund projects such as land acquisition and interns. In recent years, however, their support has expanded to cover basic needs like fuel, electricity and equipment repair. "People are stepping up because they feel like they have to, because the government's not funding it." But, the interviewee emphasized there are limits to how much their support can compensate for declining federal resources. "There's only so much that FWS employees can continue to do, and there's only so much that Friends can supplement. [Friends] were meant to support refuge staff — not replace them."

Conclusion



Sunrise with snow geese and sandhill cranes at Bosque del Apache National Wildlife Refuge. © Gary Garton

The interviews make clear that the Refuge System that exists today is not the Refuge System that was envisioned, or even the one that existed a few years ago.

Things that we came to expect from our wildlife refuges — healthy habitats, well-maintained facilities, interpretive programs — were made possible by the hard work of refuge staff. As staffing levels have dwindled, much has been lost.

But the Refuge System is not broken beyond repair.

The Refuge System was born because our nation chose to prioritize wildlife and wild places and the experiences they offer to us. More recently, Congress and the White House have deprived refuges of the resources they need, allowing them to deteriorate. We must reckon with the consequences and insist that decisionmakers now act with intention to revitalize the National Wildlife Refuge System.



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