



# Our Stories

## *Southwest Science Applications*

### Jude Smith: Managing National Wildlife Refuges As Part of the Landscape

Jude Smith is a fortunate man. He is one of those rare individuals who, at mid-career, finds himself in his element, geographically, professionally, and philosophically. A native of Clovis, NM, Smith is the U.S. Fish and Wildlife Service's manager of a Complex of national wildlife refuges in New Mexico and Texas—Buffalo Lake, Muleshoe, and Grulla—located just 37 miles east of his hometown. “I have always loved this area,” Smith says. “I spent my youth hunting with old men and told them I was going to be a game warden when I grew up.” The job he does now, partnering with others to conserve a wide array of wildlife on public lands, is a dream fulfilled and then some.

*Texas horned lizards (Phrynosoma cornutum) are very common on the Refuge and surrounding landscape, but very rare in a good portion of their historic range./USFWS*



*Refuge Complex Manager Jude Smith monitoring salt cedar trees that have grown up in the last year due to increase in water levels at Upper Paul's Lake (saline lake)./USFWS*

With a headquarters office 22 miles south of Muleshoe, TX, population 5,158 at last count, Smith can still hold claim to being a “small-town boy.” But when it comes to his conservation philosophy, he thinks big. “Whatever we are doing on the Refuge Complex,” he says, “I’m considering how we can take the benefits and knowledge we have gained to surrounding landowners on the larger landscape. This Complex is too small to make the big difference for wildlife that we are after.” He is quick to add, “Whatever gets done, I don’t accomplish it by myself. I am working with Ecological Services, Refuges Inventory and Monitoring, the Natural Resources Conservation Service, Animal and Plant Health Inspection Service (APHIS), private landowners and others. It is our collective effort that makes the difference,” he emphasizes.

Smith’s orientation toward looking at the landscape and partnering is something he learned through powerful and effective mentoring, beginning early in his career. His first FWS job was as a biological

technician in what was then the Dexter, NM Fisheries Assistance Office (now Fish and Wildlife Conservation Office), where, metaphorically speaking, project leader Jim Brooks taught Smith valuable lessons in how to swim in troubled waters. It was 1993, and they were monitoring threatened and endangered fish, including the Pecos bluntnose shiner, at various points along the Pecos River. Brooks had established good working relationships with private landowners, who nevertheless remained skeptical about the merits of protecting the fish and highly protective of their own property rights—even as they granted him access to their lands for monitoring.

Through a series of unfortunate events, all the good will that Brooks had established was undone in a short period of his absence; and overnight, FWS was denied access to monitoring points on private lands all along the river. “My second week on the job, we started up and down the Pecos in Jim’s private vehicle—we didn’t dare use a government vehicle—and talked to landowners, one



*The view of lower Paul's Lake. These lakes once held water most of the year; but now only hold water during thunderstorm events and during the winter months. This lake normally holds the largest concentration of lesser sandhill cranes in the winter: A record number of 250,000 cranes were on this lake in 1983; normal peak observation counts of about 96,000 annually. A juvenile whooping crane was sighted on the lake in 2007./USFWS*

at a time,” Smith says. What Brooks demonstrated to him, Smith recalls, was courage—“we were afraid for our lives”—humility, and respect for private property rights. “By the time we were done, people that had been threatening to shoot us were civil and offering us a glass of iced tea,” Smith remembers. Five months later, they had permission to access 80 percent of the lands they had been kicked off. He says, “It was then that I realized it wasn’t all about the fish—it was also about people and our approach to people.”

These are lessons Smith has never forgotten. He is applying them today to private landowner concerns about the listing of the lesser prairie chicken and the conservation of prairie dogs. “The great thing about a small community is people know you; you are not just a nameless face in the town. When folks have an issue with anything we are doing, they stop by the Refuge Complex and talk to me, and that’s a good thing,” Smith says.

Smith’s journey to the role of Refuge Complex manager came by way of time spent in Ecological Services as well. Working in three FWS programs has driven home to him the necessity of collaborating across program lines. He points out that FWS efforts toward ecosystem management in the 1990s helped to break down historic barriers between programs. “In my jobs for Fisheries and later in ES, I needed to work hand-in-glove with Sevilleta and Bosque del Apache refuges along the Middle Rio Grande in conserving an endangered fish. The actions I took to conserve the silvery minnow could affect their efforts to protect migratory birds and other species; and what they did for migratory birds could affect water

needed for the silvery minnow,” Smith says. He makes the point that there is no room for territorialism when we are trying to do the right thing for wildlife. “As an ES biologist, I had to sit down with the biologist and manager at Bosque del Apache NWR and figure out how we could work together, take into account weather, and think about how to ensure that there was water for fish in the river and wildlife on the Refuge. We had to talk, listen and learn instead of fighting. It was excellent on-the-job training,” he says.

One of their successful collaborations was dealing with the problem of salt cedars, a water-guzzling, non-native tree found on Sevilleta and other refuges that was affecting water quantity and species’ use of habitat. Smith had recovery dollars for the silvery minnow that could be applied to the trees’ removal. With approvals from then New Mexico State Supervisor

Joy Nicholopoulos, the transfer of funds happened and the trees were removed, benefitting the silvery minnow, the riparian areas, and spring rejuvenation. That experience got Smith to thinking at the landscape scale. “The need to protect the silvery minnow became the catalyst for looking beyond a single species and beyond the Refuge. To protect that fish, we needed to protect the river itself. We needed to get the landscape right,” Smith said. “I asked myself, ‘How do we work with the landscape and with managers and landowners to strategically get flows back?’ This is what I think the Director is talking about with SHC—aligning ourselves to work together to address the larger problem, of which an endangered species is a symptom,” Smith says.

Smith has been appointed as a field representative to the national leadership team that is implementing Strategic Habitat Conservation across the FWS.

## ***“We needed to get the landscape right.”***

*Partnerships with Ecological Services have allowed the Muleshoe Refuge to work on eradication of invasive salt cedar trees off the Refuge. Collaboration on private lands to eradicate this invasive species helps increase ground water levels on the Refuge and in surrounding private lands. /USFWS*





*Lesser sandhill crane display mounts in the Refuge Visitor Center allow visitors see the birds up close./USFWS*

In his mind, what the FWS is aiming for is alignment around shared goals, internally and externally; the best science to drive our actions; and a way to assess whether what we are doing is having biological impact on species we want to conserve. “People can get all hung up around the surrogate species approach, when the fact is they are in favor of the bigger ideas that it supports—a landscape approach, working toward biological outcomes, and a way to tell if we are achieving our goals,” he says. He recommends focusing on the big picture and giving the surrogate species approach a chance to prove itself.

One of Smith’s contributions to the national team is that he can share how he is enacting SHC at the field level. In the Southwest, for example, having enough water at the right times is a concern for both public and private land managers. Early on, as Refuge Complex manager, he experimented with the removal of salt cedars to bring back springs at Muleshoe Refuge. When that was successful, he began working with Private Lands biologist Duane Lucia to expand the eradication program beyond the Refuge as private landowners gained interest. By 2009, most of the salt cedars on the Refuge and within a 5-mile radius had been removed, and the work to improve the landscape continues.

Smith also worked with Bill Johnson and others in the Southwest Refuges Inventory and Monitoring (I&M) program to create a wildlife monitoring protocol for wildlife surveys. “We wanted to know whether our grazing and prescribed fire efforts were actually giving us improvements in biological outcomes. To get that, we needed a tighter protocol that goes on for a longer time period so that we can track population density and diversity through time and overlay it with our management actions,” Smith said. On his own, Smith had been conducting loose, baseline studies of grassland health on the Refuge Complex, using three species of birds to represent the needs of a guild of species and guide land management decisions. Smith knew that what he needed was solid biological information that was replicable and comparable from year to year and that could be taken off the Refuge and onto the surrounding landscape.

Smith and the I&M program agreed to create a formal protocol to study grassland birds, mule deer, sandhill cranes, and prairie dogs. Johnson says, “Jude knew what he wanted from the outset. He was looking well beyond his borders and fences at the landscape, and lining that up with the capacities and priorities presented by I&M and LCCs to achieve his goals. He’s a game-changer at Muleshoe, and he has the partnership skills needed to make good things happen.”

As they move forward, the grassland birds study will tell them the implications for prescribed fire and grazing, as well as provide data for taking management actions beyond the Refuge Complex.

In regard to mule deer, there is a good herd on the Refuge Complex. That study will be comparable to Texas Parks and Wildlife data, and will guide the Refuge Complex in allowing youth hunts of the animal.

Muleshoe, established in 1935 and the oldest national wildlife refuge in Texas, is famous for providing wintering habitat for 60-100 thousand sandhill cranes, from 5-10 percent of the species’ entire population. Today, with only one of the three lakes on the Refuge Complex wet most of the year and with drought as an ongoing issue, Smith says the need for solid data takes on even greater significance. “We need to know how the population is changing and how the birds are using the landscape in the face of drought so that we can be strategic in protecting and managing them,” Smith says. Smith and Johnson are collaborating on gathering this data with an eye toward larger landscape studies, noting that the lesser sandhill crane and its grassland habitat are a priority species and habitat for the many partners who make up the Great Plains Landscape Conservation Cooperative (LCC).

Prairie dogs are also a priority species for the Great Plains LCC. Other animals, including long-billed curlews, horn lark, burrowing owl, Swainson’s hawk, prairie falcons, pronghorn antelope, badgers and coyotes, share their preference for short grass; so what is learned about the prairie dog holds potential benefit in conserving those species as well. “The prairie dog has no protection off the Refuge, so we decided to manage for them, knowing that we can take what we learn out to private lands if we have the opportunity,” Smith says.

*Black tailed prairie dogs are common on Muleshoe Refuge. The Refuge manages for expansion of prairie dog colonies on the Refuge through prescribed grazing and fire./USFWS*



The bottom line for Smith is both philosophical and biological: “How do we know if we are doing good out there? We need to be able to answer whether we are seeing more lesser prairie chickens, or mule deer, or Cassin’s sparrow or sandhill cranes, or any other species we are devoting resources toward conserving,” he says. Some species take a long time to recover, he notes, “but we have to be able to show progress.”

Smith says, “Seeing water come up in the springs and seeing birds come back—that’s the difference we are here to make. We can only do it if we take a landscape approach based on hard science and work together. That’s what we need to align ourselves to do. I know we can do it.” ♦  
*Southwest Science Applications Team*

***“Seeing water come up in the springs and seeing birds come back—that’s the difference we are here to make.”***



*Springs were common throughout the landscape historically. Now most of the springs are dry or produce water only in the winter when all the vegetation is dead. This spring was dry prior to the removal of salt cedars. Salt cedar removal began 2003 and was completed in 2006. This spring became active again in 2010, and has remained active through an extreme drought over the last four years. /USFWS*

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