

SCOUTING TRIP

For almost 50 years, a troop of Boy Scouts from suburban Chicago has been making regular trips to Arizona to hike the Grand Canyon. In July, they were back, but instead of just hiking rim-to-rim-to-rim, Troop 65 also delivered a check for \$4,500.

BY ANNETTE MCGIVNEY | PHOTOGRAPHS BY JOHN BURCHAM

THE ANTICIPATION was almost unbearable. One morning last July, as a light drizzle fell on Mather Campground at the Grand Canyon's South Rim, Boy Scouts of America Troop 65 from Wood Dale, Illinois, was doing last-minute preparations for an epic rim-to-rim-to-rim hike. The day before, the boys had been blindfolded and ushered to the edge of the South Rim, where, once the blindfolds were removed, they laid eyes on the Grand Canyon for the first time.

"It was astounding," said one of the Scouts as he watched adults divvy up ramen, dried fruit and cheese crackers into backpacks. "Now that we're finally going into the Grand Canyon, I'm nervous and kind of scared."

Composed of 12 boys, ages 13 to 16, and 10 adults, the group had been preparing for nine months for the 50-mile trans-Canyon hike. During 300 miles of training, they shouldered heavy backpacks



Andrew Welmers, a Boy Scout from Troop 65 in Wood Dale, Illinois, prepares to remove his blindfold and get his first in-person look at the Grand Canyon. The Scouts in the troop trained for nine months for their rim-to-rim-to-rim hike.

The troop's initial goal was to raise \$1,000 for the project, but by the time the Scouts reached the Grand Canyon in late July, people back home had pledged \$4,500.



CLOCKWISE FROM TOP LEFT:

Peter Wedemann (left) and Sam Nearing lead Troop 65 Boy Scouts toward the Grand Canyon's South Rim to get their first glimpse at the Seventh Natural Wonder.

Jeff Jakalski guides a blindfolded Nick Mercado to the rim for his first look at the Canyon.

Two Scouts identify Canyon formations they previously saw only in photographs.

while slogging across sand dunes around Lake Michigan. And when a long winter drove them indoors, they hiked in a gym. Now they were about to do the real thing: hike down the South Rim, up the North Rim, down the North Rim and back up the South Rim.

"Our total elevation gain and loss on this hike will be greater than climbing Mount Everest," said Troop 65 Scoutmaster Rich Zollner. "But I'm constantly reminding the boys that this is not a race — it's an adventure."

For most Scout troops, a Grand Canyon rim-to-rim-to-rim hike is ambitious enough. But Troop 65 set the bar even higher. "We didn't just want to take from the Canyon," said Zollner. "Part of what we're doing with this trip is giving back, and also, hopefully, improving the reputation of Scouts in the park."

In addition to months of physical and mental preparation for the expedition, the members of Troop 65 went from door to door in their suburban-Chicago community to ask people to pledge money for every mile the Scouts planned to hike in the Grand Canyon. The funds will go toward replacing 33 picnic tables at Indian Garden Campground that are splintering and falling apart. The troop's initial goal was to raise \$1,000 for the project, but by the time the Scouts reached the Grand Canyon in late July, people back home had pledged \$4,500.

After a day of acclimatizing and preparing at Mather Campground, the Scouts began their descent of the South Kaibab Trail at 3 a.m., with the goal of reaching Bright Angel Campground at the bottom of the Grand Canyon by 9 a.m. Because the troop was hiking in July and August, when temperatures in the Canyon's inner gorge can reach triple digits, the Scouts would stretch the trans-Canyon journey across seven days, always hitting the trail by 3 a.m. and breaking up the ambitious route into manageable stretches. The pre-dawn starts left plenty of time each day for splashing in the creek at camp, playing cards and taking well-deserved afternoon naps. In addition to the cautious itinerary, Troop 65 minimized problems on the trail by keeping the weight of the Scouts' backpacks under 18 pounds. Each Scout carried only a sheet, a tarp, food and water.

While it was the first time most of the Scouts had

been to the Grand Canyon, Troop 65 has been doing a rim-to-rim-to-rim hike about every four years since 1967. For Zollner, 67, who has been the Scoutmaster off and on for 30 years, it was his 10th trans-Canyon trek. Over the years, he and other adult leaders have perfected how to do the ambitious trip safely.

"Their approach of minimalist backpacking and taking adequate time to cover a lot of ground is exactly what we like to see," says longtime backcountry ranger Bil Vandergraff, who over the years has participated in numerous park rescues of less-prepared Scout troops, as well as evacuations of injured hikers. "They are doing everything right."

Six days after setting out from the South Rim, Troop 65 reached Indian Garden Campground for their last night of the trek. All the preparation had paid off, and the difficult hike had gone off without a hitch. And two big surprises awaited them. As a way of showing appreciation for the troop's hard work, park rangers baked cupcakes for the kids and had them waiting at the campground, located 4.8 miles below the South Rim. The Scouts also learned a donor from the Grand Canyon Association was so inspired by their efforts that he offered to match the funds the Scouts raised. In all, \$9,000 would be donated toward the \$35,000 picnic-table project thanks to Troop 65.

"Plenty of Scouts come to hike Grand Canyon, but this is the first time we've had a troop raise money for the park as part of their trip," says Helen Ranney of the Grand Canyon Association. The association, the park's nonprofit partner, manages fundraising efforts and is spearheading the replacement of Indian Garden's shabby benches with tables made of galvanized steel that will be flown to the campground by helicopter. "What these boys are doing inspires others to support the place they love," Ranney says.

From the Scouts' perspective, the trek was as hard as they had expected but more rewarding than they had ever dreamed. "When we got to Indian Garden, I was so tired, and I just wanted a sturdy, clean bench to sit on," said one of the boys. "I feel like a good person because we have helped all the hikers coming after us have a nice place to rest." **AH**



In a classroom at STAR School on the southwest corner of the Navajo Nation, frustration is mounting. Three students are working with teacher Rachel Tso, director of the school's media-arts program, to figure out how to operate a new drone, called a "quadcopter," which requires complicated computer calibrations to fly.

In just three days it will be STAR's September 2014 Harvest Festival, when the students will be tasked with operating the quadcopter and attached GoPro camera to get aerial shots of the event for a documentary film they're making about food sovereignty on the Navajo Nation. But so far, they can't get the

remote-controlled, four-propeller contraption off the ground.

A seventh-grader named Josh is searching for information on Tso's laptop while an eighth-grader named Maddie sifts through just-opened packaging in search of a missing manual. Seventh-grader Jacalyn experiments with the quadcopter's remote control.

"See if you can find any calibration videos on YouTube," Tso advises Josh.

But the laptop, which is hooked up to Tso's solar-powered computer bag, is running out of battery life, and the students are running out of class time. Compared with other charter

Film crews are nothing new on the Navajo Nation, but the demographics are skewing younger thanks to Rachel Tso, a gifted teacher who runs the award-winning documentary-filmmaking program at STAR School.

RACHEL TSO: ON LOCATION

BY ANNETTE MCGIVNEY | PHOTOGRAPH BY DAWN KISH



schools in Northern Arizona, STAR (Service to All Relations) is unique for its commitment to serving Native American students, its complete reliance on solar power and its award-winning documentary-filmmaking program headed by Tso.

Since Tso, 43, joined the STAR faculty in 2009 to start the school's place-based media-arts curriculum, she has guided students in producing professional-quality documentaries about Southwestern Native American culture that have been shown at national and international film festivals. *Nitsidigo'i*, a documentary made by STAR seventh- and eighth-graders about kindergarten students learning to make the Navajo heritage food called kneel-down bread, won the grand prize in the 2010 Arizona Student Film Festival. And another documentary, about STAR's use of solar and wind energy, earned the same prize in the 2011 festival.

While STAR students relied on one laptop for editing and three cameras for filming to create their award-winning documentaries, competing schools from wealthy areas in Phoenix and Tucson had far better equipment. But Tso says they didn't have the compelling connection to culture and the land that her students did.

"I tell my students they can make a film just with their phone," Tso says. "I want them to know that they have the power and the technology to tell their own story. When they get to screen their films at these big festivals and have complete strangers look to them as authority figures, the kids stand tall. It is very empowering for them."

A \$2,000 grant from First Nations Development Institute for the making of the current documentary on food sovereignty allowed STAR to buy the quadcopter and expand into aerial photography. It was the first new-equipment purchase for the media-arts program in six years.

Unable to get the quadcopter to fly, Josh gingerly sets the device back in the box as if he is handling a bird's nest full of eggs. Maddie blows air from a rubber bulb to clean the GoPro before packing it away.

"I know you are disappointed, Josh," reassures Tso, "but we will figure it out before the festival. I promise."

Tso is not just teaching Native American students about filmmaking. She is also showing them how to succeed in life and connect with their culture and landscape. But even though Tso has devoted her career to helping Native youths value their traditions, she is a member of the Navajo community only through marriage — she grew up in the suburbs of Florida.

Tso first came to the Navajo Nation in 1992 as a college student (with the maiden name of Cox) from Antioch University in Ohio. She had signed on to do field-based cross-cultural research on Navajo-Hopi relations. After driving across the country alone, she arrived at a remote area on Black Mesa, only to find out that her lodging arrangements had fallen through. She was taken in by a Navajo woman named Jenny Manybeads, who was 107 and spoke no English.

Tso spent three months living with Manybeads in her dirt-

floor hogan. Rather than feeling like an alien in the rustic environment, Tso developed an intense connection to the place. She also became smitten with Manybeads' great-grandson, Francis Tso, who spoke English and helped her navigate the cultural and language barriers.

"Every time Francis came riding up on his horse to check on me, my heart would go pitter-patter," she recalls.

When Tso returned to Antioch to complete her studies in environmental communication and documentary filmmaking, she realized she was a different person. "I had intense culture shock going back to my own culture," she says. "I just wanted to return to the 'rez.'"

Over the next three years, Tso completed her bachelor's degree at Antioch. For her senior project, she made a documentary film about Jenny Manybeads and the 28 generations in her family who had lived in the area impacted by the Navajo-Hopi land dispute. In 1995, she married Francis Tso and returned to Black Mesa, where she again lived in a dirt-floor hogan. The couple eventually moved to Flagstaff to allow Rachel to pursue graduate degrees in education at Northern Arizona University.

Her master's thesis explored the importance of place-based media-arts education by chronicling the positive documentary experience of her eldest daughter, Camille Manybeads Tso. The award-winning *In the Footsteps of Yellow Woman*, made by Camille in 2009 when she was in eighth grade, traced her family history and the life of her great-great-great-grandmother Yellow Woman, who survived the Navajo Long Walk of 1864-68.

"Having kids involved in filmmaking is one of the main things we do here," says STAR director and school co-founder Mark Sorensen. "Everyone has a story to tell, but kids on the 'rez' often don't get that chance. Rachel has a wonderful gift of not only empowering kids to tell their story through film, but of also giving them the freedom to learn how to do things on their own while under her guidance."

After more research and practice, Tso's students master the quadcopter and use it to film the Harvest Festival. On October 27, the student body gathers in the circular outdoor assembly area for the final footage needed to complete the food-sovereignty documentary. Josh holds the remote control while Maddie uses an iPad to monitor the camera feed.

Tso stands behind them, only to observe. "You guys are on your own now," she says.

There is a palpable tension in the crowd, which may have something to do with thoughts of the quadcopter crashing down on the audience. Josh moves a toggle, and the quadcopter lifts off from the middle of the circle. As it rockets 100 feet into the air, all 130 students look up at the camera and wave. The aerial view takes in the small, off-the-grid STAR campus, as well as surrounding cinder hills and Strawberry Crater. Then, with a surgeon's precision, Josh steers the quadcopter to the ground as the students cheer. He is beaming and looks back at Tso.

"Yes! You did it!" she says, fist-pumping the sky. **AH**

SIFTING THROUGH THE ASHES

Five years ago this month, an abandoned campfire in one of Arizona's most popular recreation areas exploded into a fast-moving inferno known as the Schultz Fire. Although it consumed more than 15,000 acres and completely scorched the forest in places, scientists are learning a lot from the blaze. Even more importantly, the burn areas are showing signs of life.

BY ANNETTE MCGIVNEY

PHOTOGRAPHS BY JOHN BURCHAM



FIRST THERE WAS THE FIRE. Then there was the flood. Even in Arizona, a state that has experienced more than its share of devastating fires and floods, this was a natural disaster of almost biblical proportions.

On June 20, 2010, the embers from an abandoned campfire in Northern Arizona's Coconino National Forest took flight and ignited surrounding brush. When the first fire crew arrived at the location near Schultz Tank north of Flagstaff, the blaze encompassed 2 acres. But 50 mph wind gusts soon overpowered the crew, and the fire jumped the road, caught the crowns of trees and exploded into a fast-moving inferno as it barreled across the San Francisco Peaks' steep eastern flank. By nightfall, the Schultz Fire had grown to approximately 8,000 acres. And by the time the blaze was fully contained 10 days later, it had consumed more than 15,000 acres of national forest in the heart of one of Arizona's most popular recreation areas.

But the fire wasn't the worst of it. On July 20, an epic monsoon storm dumped 1.78 inches of rain on the peaks in 45 minutes. Nearly 1 inch fell in 10 minutes. The vegetation and topsoil on the mountain normally act like a sponge that soaks up rain, but the unnaturally hot fire had cooked the surface and turned once-luscious meadows and forests into a water-repellent parking lot. Some 30 million gallons of water, along with a torrent of ash, debris and boulders as big as Volkswagens, rolled off the peaks and into residential areas below. The flash flood engulfed homes that had been evacuated during the fire just weeks before, and, most tragically, a 12-year-old girl walking along a normally dry drainage in the forest was swept away and drowned.

"The whole mountainside came apart," says Dan Neary, a research hydrologist and soil scientist with the U.S. Forest Service's Rocky Mountain Research Station. "It was a monumental erosion event that had not occurred on that scale in 1,000 years." Neary estimates

A lupine sprouts in front of a tree charred by the Schultz Fire, which burned more than 15,000 acres near Flagstaff in 2010.

Forest Service contractors and volunteers have individually planted approximately 100,000 ponderosa-pine seedlings in the devastation zone. The effort began immediately after the fire.

the last time the San Francisco Peaks were reshaped on the level of what happened during the summer of 2010 was before nearby Sunset Crater Volcano erupted in the 11th century.

On the first day of the Schultz Fire, I stood in my front yard in downtown Flagstaff and watched in disbelief as an orange-and-black mushroom cloud billowed hundreds of feet into the sky. In the next few years after the disaster, when I drove U.S. Route 89 past the peaks, I could barely stand to look at the gaping wound on the east side of the mountain. No matter the season, the slopes were always brown. And I didn't have the heart to hike there and witness the devastation up close.

But I could stay away for only so long. By the summer of 2014, as I drove on the highway and studied the peaks from a mile away, I glimpsed tiny patches of green amid the brown. I thought of one of my favorite quotes from Helen Keller: "Although the world is full of suffering, it is also full of the overcoming of it." *Could there possibly be something good, I wondered, arising out of something so terrible?* I would have to get much closer to the suffering to find out.

THE LITTLE BEAR TRAIL, on the northeast side of Mount Elden, is about a mile from the Schultz Fire's ignition point. Soon after the blaze started, the fire charged through the wind tunnel of Schultz Pass and came down hard here, devouring nearly 100 percent of the vegetation around the upper reaches of the trail and along nearby Schultz Pass Road (Forest Road 420).

"On the first day, the fire cooked the mountain," says Andy Stevenson, a silviculturist with the Coconino National Forest's Flagstaff Ranger District who has been heading up landscape-restoration efforts after the fire. "The heat was so intense, it cracked rocks."

Much of what burned that day was an unnaturally hot "high intensity" inferno that destroyed everything in its path and, in the words of Stevenson, left a "totally denuded, 4,000-acre hole" in the forest.

Under a cloudless sky one morning in August 2014, I am following Stevenson into the hole. We are hiking the Little Bear Trail and donning hard hats to guard (at least a little) from falling trees. Before we get to the burn area, Stevenson points out what he considers the signs of an unhealthy forest that contributed to the highly destructive nature of the Schultz Fire. The trees are spindly and closely spaced, and the forest floor is filled with dead and downed trees — like a rag soaked in gasoline, waiting for a flame.

As we make our way up the trail, we repeatedly scramble

around deep gullies that were carved by flash floods in July and August 2010. In one place, a narrow gash cuts down 4 feet and is filled with microwave-size boulders that tumbled down the mountain. Higher up on the peaks, where the slopes are nearly straight up in some places, the erosion is even worse. In these severely burned areas, the topsoil has completely washed away and gullies slice deep into the mountain, eroding all the way to bedrock.

In the years after the fire, volunteer trail crews worked diligently to restore the Weatherford, Little Elden and Little Bear trails, which had been washed out and littered with charred, fallen trees. "This used to be a giant boulder field until the volunteers moved the rocks," Stevenson says as we walk over a newly constructed drainage crossing. (While all the trails were reopened, a 2013 monsoon event washed out the Little Bear Trail, which now is closed again until funding to restore it is secured.)

Climbing up a hillside, we are surrounded by black snags that look like telephone poles, but the ground is profusely green, filled with invasive weeds, native grasses and the occasional wildflower. Stevenson explains that the heat from a fire — even an unnaturally intense one — releases nutrients from the soil, which jump-starts the revegetation process. "The grasses are coming back here more than I've seen in the past," he says. "Right after the fire, pronghorns even came into this area from Sunset Crater to graze, which I have never seen before."

However, Stevenson points out that the fire hit ponderosa pines especially hard. The slow-growing conifers are designed to tolerate moderate-intensity fires that move through the forest floor without disturbing the forest crown. Ponderosas were decimated in the 4,000-acre, high-severity hole left by the Schultz Fire, so Stevenson is carrying out an ambitious replanting program. Forest Service contractors and volunteers have individually planted approximately 100,000 ponderosa-pine seedlings in the devastation zone. The effort began immediately after the fire, with Forest Service staff growing trees in greenhouses from seeds collected years before the blaze. It takes a full year of tending in just-right conditions to coax the seedlings to the stage where they're ready for planting. And once they're in the ground, there are other challenges.

After our hike, Stevenson and I check on some of the ponderosas planted in 2013. Each seedling is covered with a 2-foot-tall plastic cone intended to give the baby pines a fighting chance against elk, which are enjoying the bounty of greenery after the fire.

"Oh, man! Here's a dead one!" says Stevenson as he pulls up a cone to find a tiny, brown tree. He blames this death on gophers eating the seedling's roots from underneath. Accord-

A damaged tree trunk frames ponderosa pines in the Schultz Fire burn area. The burned trees, at risk of falling in heavy wind, can be dangerous to those aiding the area's recovery.



BELOW: Students from Flagstaff's Ponderosa High School help restore the Schultz Fire burn area using ponderosa-pine seedlings grown in the school's nursery.



ABOVE: Wildflowers and other vegetation contrast with scorched ponderosas on a misty morning in the burn area.

ing to Stevenson, about half the ponderosa seedlings planted after the fire have died, mostly from gophers, elk or lack of moisture.

"We've got a live one!" he says with a smile as he pulls up another cone to reveal a 1-foot-tall ponderosa that is making a go of it amid a dense field of mullein, an exotic weed species that has overtaken the area. "This one has really sprouted up."

Nearby is a cone that has been fortified with a circle of rocks, and inside we discover another healthy pine. Stevenson notes that the trees planted by volunteers have a greater survival rate than those planted by Forest Service contractors. "The volunteers put more into it," he says.

UNLIKE PONDEROSA PINES, aspens are designed to survive — even thrive — after high-severity crown fires through their ability to regenerate quickly through root suckering. Along Waterline Road (Forest Road 146) on the upper slopes of the peaks, where mixed-conifer forests were devoured by fire and topsoil was swept away by flooding, about the only things growing four years after the burn are aspens. Even in higher elevations that experienced moderate fire damage, the level of aspen regeneration is surprising Forest Service scientists.

"Individual aspens are relatively short-lived and die so they can regenerate through the same root system," explains Mary

Lou Fairweather, a Forest Service plant pathologist who is based in Flagstaff and has been studying aspen mortality in Arizona for more than two decades. Since 2003, Fairweather has gathered data annually from more than 50 plots established in aspen stands on the San Francisco Peaks. She originally started monitoring the plots to study the effects of drought and try to determine why aspens were in precipitous decline on the mountain. But after the Schultz Fire burned through 14 of 18 plots in a stand there, she also began monitoring the aspens' response to the blaze.

"I was excited about the fire because I knew I would get all this new data," says Fairweather. It is October 2014, and I am hiking with Fairweather up a steep, aspen-covered slope toward her plots. The study area occupies 40 acres above and below Waterline Road, east of Schultz Peak. It is located in a mixed-severity region of the Schultz Fire, which left parts of the forest disturbed but not burned completely. We scramble over downed aspens and through pockets of coal-black snags. Fairweather holds her GPS device in front of her to home in on plot-location coordinates.

"Here we are!" she says as we arrive at a 6-inch-tall stake in

the ground that is marked with pink flagging tape. Each regeneration plot is a hundredth of an acre, and every fall she measures the height and health of every aspen seedling and sapling in that area to gauge change from one year to the next.

Before the Schultz Fire, Fairweather's data showed a pattern of steady decline. There was little new growth on her plots, and 90 percent of the saplings were not getting taller than 1 foot. None was taller than 3 feet. In 2009, she counted an average of 1,361 trees per acre. After the fire, in 2011 and 2012, that number grew to 10,000 trees per acre. This explosion is the aspens' normal response to fire. Even if the tree is burned to the ground, its root system produces profuse suckers during the two years after the blaze.

Fairweather expected the sucker growth, but what surprised her was the high number of aspen seedlings that began sprouting up. Born from copious amounts of seed dropped after the fire, these new trees will establish their own root systems, and Fairweather believes they could be critical to saving aspens on the peaks because they increase genetic diversity and forest health. That is, if the seedlings and saplings are not eaten first.

The abundant aspen growth has provided an all-you-can-eat buffet for elk. Fairweather's data documents heavy — sometimes devastating — browsing in her plots. "I haven't found one yet that isn't browsed on this plot," she says as she measures a stem that is about 1 foot tall and has been stripped of its leaves.

Arizona Game and Fish Department managers have responded to the elk's increased browsing of aspens since the fire by increasing hunting pressure in high-elevation areas. They established a new sub-unit in 2011 within the larger Unit 7 East hunting area. Over the last four years, elk permits issued in the sub-unit have been increased, from 200 in 2011 to 585 in 2014 and 2015, as a way to reduce the population and minimize aspen browsing.

While Fairweather still views elk as one of the biggest threats to aspen health, she has seen the browsing in her plots decrease slightly since the new hunting regulations were put in place, from 77 percent of all trees munched in 2013 to 62 percent in 2014. But even more promising is that some saplings are growing taller than what she observed before the fire. In areas of the burn that are not inviting to elk — on very steep slopes, amid barriers of fallen trees or along Waterline Road — aspen saplings are 7 feet tall and thriving.

"These are so adorable," says Fairweather. "I've never seen seedlings in such abundance here until after the fire." We have trudged up to the highest plot and the last one she will measure for the season. A handful of baby aspens with tiny green leaves are pushing through black soil. Nearby, a mature aspen stand untouched by fire is in full autumn splendor. We sit on a carpet of fallen leaves to catch our breath as a gentle wind unleashes a shower of shimmering gold discs that swirl all around us.

WHILE STEVENSON WISHES the Schultz Fire never happened, he says Forest Service scientists are learning a great deal from post-fire recovery efforts. They're also learning that the disaster served as an important wake-up call for the citizens of Flagstaff. In November 2012, Flagstaff voters overwhelmingly approved a \$10 million bond to support the Flagstaff Watershed Protection Project. It is one of the first municipally funded forest-restoration efforts in the country, and it will facilitate thinning and controlled burns on more than 10,000 acres of Coconino National Forest land around Flagstaff to prevent another Schultz Fire kind of disaster.

Although it may be a century before the worst part of the Schultz burn area returns to the scenic ponderosa-pine forest that it once was, there is a phoenix rising from the ashes in the form of volunteers who are on a mission to help heal the land.

Although it may be a century before the worst part of the Schultz burn area returns to the scenic ponderosa-pine forest that it once was, there is a phoenix rising from the ashes in the form of volunteers who are on a mission to help heal the land.

Among the most dedicated of this group are the students at Ponderosa High School, a Flagstaff accommodation school that serves at-risk teens and others who benefit from a non-traditional learning environment.

On October 2, 2014, I join the students for their Service Learning Day project: planting 100 ponderosa seedlings in the scorched earth around Schultz Pass Road. After receiving instruction from Stevenson on how to plant the seedlings, the students don hard hats and carry shovels and cartons of seedlings into a field of jagged black snags and green mullein stalks.

"These seedlings will survive. We've taken good care of them," says a student named Feather as she swings a pick to

A 2-foot-tall plastic cone protects a newly planted ponderosa-pine seedling from elk, which have slowed Schultz Fire recovery efforts by eating new growth.

remove a rock and make room for the new plant. She gently sets the seedling in the ground and pats dirt around it.

"We take pride in what we do," adds another student, Isaac, who is relishing the sense of accomplishment that this project brings.

Since 2011, Ponderosa High students have tended seeds collected from the burn area in the school's nursery. They have watered and nurtured the plants with compost from food waste collected from area restaurants. This latest planting is

the fifth such event the students have carried out as part of the Forest Service's long-term recovery efforts. Stevenson hopes to plant ponderosa seedlings on an additional 1,000 acres in 2015 with the help of Ponderosa High students and other volunteers.

Down the road from Feather and Isaac, a student named Alex is putting great effort into digging the perfect hole. He wants to make sure the seedlings have a good home. Alex says after graduating from high school, he plans to become a personal trainer and open his own gym. But right now, he is finding joy and purpose in bringing life to the ailing forest.

"It took us over a year to grow these," he says of the seedlings at his feet. "It feels good to finally get them in the ground." **AH**



FOR LAND'S SAKE

Walnut Canyon National Monument is one of Northern Arizona's points of pride, but the scenic, ecological and archaeological splendor of the canyon goes beyond the monument boundaries. What surrounds the gorge is equally impressive, which is why a coalition of Flagstaff citizens is lobbying Congress to protect the land by designating it a national conservation area. **By Annette McGivney**

SPECTACULAR CANYON COUNTRY is not far from the mountain town of Flagstaff. The Grand Canyon is just 90 miles away; Sycamore and Oak Creek canyons are a mere 20 miles. But the scenic gorge closest to the hearts — and homes — of many Flagstaff residents is Walnut Canyon. ¶ Located just 5 miles southeast of downtown Flagstaff, Walnut Canyon meanders through wild country that harbors sparse roads and rare stands of old-growth ponderosa pines, as well as a rich riparian area filled with the canyon's namesake Arizona walnut trees. Pronghorns roam the open, grassy plateaus of Campbell Mesa and Anderson Mesa, which flank the canyon. And tucked away in Walnut's 400-foot-tall cliffs are dozens of ancient archaeological sites. The most substantial cliff dwellings are protected in the 3,580-acre Walnut Canyon National Monument, but the scenic, ecological

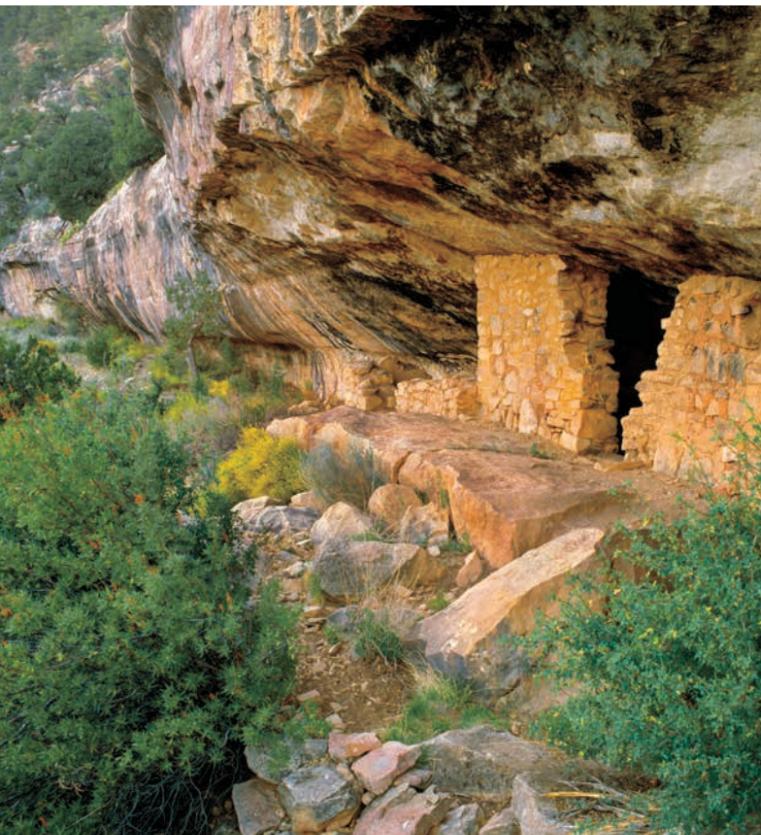
An agave stalk blooms on the rim of Walnut Canyon near Flagstaff. Several hundred Flagstaff residents are pushing for increased federal protection for the canyon. **TOM BEAN**

and archaeological resources of the canyon extend well beyond the park boundaries.

The fact that a large part of the Walnut Canyon drainage is located within Flagstaff's city limits is both a blessing and a curse. A network of trails through the canyon and on Campbell Mesa is a favorite playground for hikers, mountain bikers and equestrians. But as the city of 65,000 residents continues to expand, the prospect of losing part of this backcountry oasis, located almost entirely on the Coconino National Forest, to a land exchange or sale to developers is an ever-increasing threat. That's why several hundred Flagstaff residents have been fighting for more than a decade to get increased federal protection for their beloved canyon.

"This is Flagstaff's canyon. It is a unique and special place that is a recreation resource for the whole city," said Flagstaff resident Ralph Baierlein, who is spearheading the grass-roots

"The continued effort to protect the study area shows how much people love this place," said Mike Elson, a Coconino National Forest district ranger. "It is valuable to a lot of people for a lot of different reasons."



movement to protect Walnut Canyon.

The conservation effort began in earnest in 2002, when Flagstaff citizens banded together and petitioned Northern Arizona's congressional delegation to protect Walnut Canyon National Monument from the threat of encroaching urban development, as well as exempt the larger canyon drainage from land exchanges. The National Park Service was also interested in establishing a buffer around the monument, and the U.S. Forest Service was concerned about impacts to lands it managed along Flagstaff's urban interface.

From 2000 to 2010, Flagstaff's population grew by nearly 25 percent, and housing developments expanded all the way to the national-forest boundary along Campbell Mesa, as well as along parts of the Walnut Canyon drainage. As a result of continued public pressure and petitions from the Coconino County Board of Supervisors and the Flagstaff City Council, Congress in 2009 authorized a special study of the lands surrounding Walnut Canyon National Monument. The study area encompasses nearly 28,000 acres of federal, state and private land, including Walnut Canyon, several side canyons and Campbell Mesa. The goal of the study was to investigate management options for the area, including expanding the monument and converting it into a national park.

Carried out jointly by the Forest Service and the Park Service, the four-year study involved extensive surveys of the area's archaeological, ecological and recreational use, along with input from Flagstaff residents and Native American tribes. The results of the study were released in January 2014. While the agencies determined that the large swath of Forest Service land did not meet the strict guidelines required for national-park designation, it did meet the criteria for a national conservation area.

According to the U.S. Department of the Interior, "national conservation areas are designated by Congress to conserve, enhance, protect and manage public lands for the benefit and enjoyment of present and future generations." Public lands that meet the criteria for a conservation area contain "exceptional scientific, cultural, ecological, historical and recreation values." There are currently three national conservation areas in Arizona: San Pedro Riparian, Gila Box Riparian and Las Cienegas.

The designation for Walnut Canyon would prevent future development of the land while maintaining current access and uses. And, perhaps just as important to Flagstaff residents, it would elevate the status of the Walnut Canyon study area to something special.

"The continued effort to protect the study area shows how much people love this place," said Mike Elson, a Coconino National Forest district ranger. "It is valuable to a lot of people for a lot of different reasons."

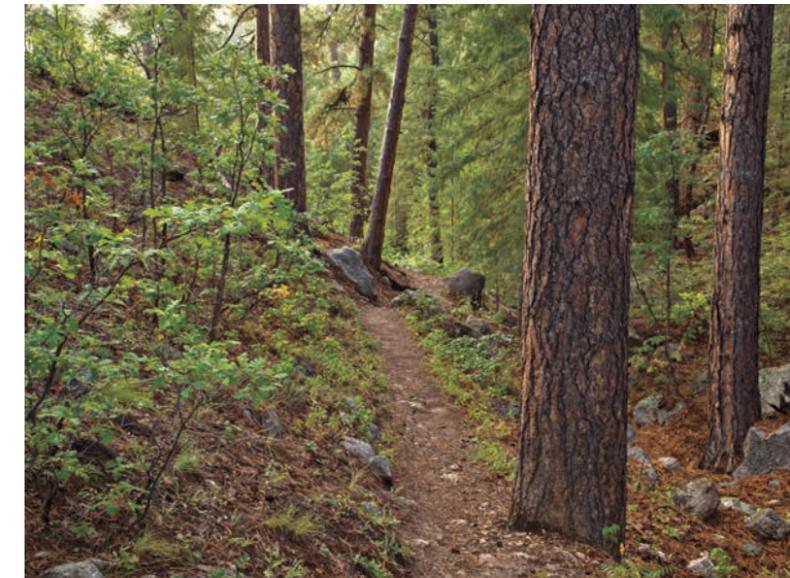
However, an act of Congress does not come easily. And while the Forest Service and the Park Service are tasked with managing the land, they do not lobby politicians for protective designations. So the loose-knit, grass-roots coalition of people who love Walnut Canyon is taking the fight from Flagstaff to Washington, D.C. Even if the study area does not meet national-park standards, it is a crown jewel for Flagstaff. And if the activists get their way, it will soon be called Walnut Canyon National Conservation Area.



OPPOSITE PAGE: Most of the ancient dwellings in Walnut Canyon were inhabited by the Sinagua people, who farmed in the area between A.D. 600 and 1400. GEORGE H.H. HUEY

ABOVE: Elk graze in a meadow in Fay Canyon, which is within the nearly 28,000-acre Walnut Canyon study area. TOM BEAN

RIGHT: The Sandys Canyon Trail winds around old-growth ponderosa pines in the study area. TOM BEAN



PHOTOGRAPHER TOM BEAN, a frequent *Arizona Highways* contributor, and writer Susan Lamb live on a 10-acre parcel within the Walnut Canyon study area. The married couple are among the hundreds of Flagstaff residents who find refuge in the nascent national conservation area nearly every day and are fighting to protect their favorite place. On a crisp morning in October, I accompanied them on their usual stroll.

"I like to roam through here," Bean said as we walked across an open, forested area. It's about a quarter-mile from the couple's backyard and is populated by majestic stands of mature ponderosas. "I call it the tree temple."

We dropped down into Skunk Canyon, and the musky smell of dogwoods, for which the place is named, filled our nostrils. In addition to the parts of Walnut Canyon not already part of the national monument, the study area encompasses the major side drainages of Skunk, Fay and Cherry canyons. While the main canyon cut by the ephemeral Walnut Creek contains a habitat similar to other riparian areas in Northern Arizona, the microclimates in the side canyons host a unique mix of plant species. As we made our way down Skunk Canyon, Lamb pointed out that we were in an ecological transition zone. On the north-facing canyon slope, mature Douglas firs were thriving in perpetual shade. But amid rocks on the south-facing canyon walls, bright-green agaves basked in the autumn sun.

"It's like the Pacific Northwest here because of the diversity

of species," Lamb said. "I've discovered wild strawberries and grapes in this canyon, and also columbines and lilies during the wet season." She pointed to a jagged limestone ledge along the cliff face: "During the monsoon, a hanging garden grows there."

When you hike in a place nearly every day for 20 years, as Lamb and Bean have, you get to know the land on an intimate level and witness its subtle shifts through the seasons. Lamb said Skunk Canyon is her favorite part of the Walnut drainage because of its abundance of wildflowers. She keeps a flower almanac of what she encounters in the study area; it now numbers 200 species.

After several miles, we dropped into the broad corridor of Walnut Canyon, where the 400-foot-tall sandstone-and-limestone monolith of Fisher Point glistened white against the blue sky. Stands of aspens on the canyon floor shimmered gold in the midday sun. Just east of the point, Walnut Canyon

squeezes down into a narrow section, several miles long, that harbors giant old-growth ponderosas, thickets of poison ivy and caves at the bases of canyon walls. We made a brief detour into the narrows and then hiked south on the Arizona Trail, which follows the meandering path of Walnut Creek.

“This is everybody’s backyard,” Bean said. “This trail is well used by hikers, mountain bikers and horseback riders.” On the weekday we were there, though, we encountered only one cyclist and two other hikers.

We ventured off the trail and scrambled up a steep scree slope to reach a cliff face where a pictograph panel attests to the long human history in Walnut Canyon. According to archaeological surveys done for the federal study, most rock-art sites and cliff dwellings found in Walnut Canyon are from the Sinagua culture, which farmed in the drainage between A.D. 600 and 1400. However, some artifacts are estimated to be far older and date back to prehistoric hunter-gatherer cultures. The Hopi Tribe claims ancestral ties to the sites in Walnut Canyon, and the Navajo Nation, as well as 11 other Southwestern tribes, also reports cultural connections to the study area.

Bean, Lamb and I pondered the possible meaning of the human stick figures that seemed to float ethereally across the salmon-colored sandstone. Some looked like they could have been painted yesterday, while others had almost faded into oblivion.

As we slid back down the scree slope toward the trail, a mountain biker threaded his way between trees along the canyon bottom.

“People have been using this canyon for more than 9,000 years,” Bean said.

IN THE LATE 1990s, Baierlein, the Flagstaff activist, and his wife were looking for a place to retire. After a long career as a physics professor for Harvard and Wesleyan universities, Baierlein “wanted to live in a place with blue skies.” After a 1996 visit to Flagstaff, he and his wife were sold. They bought a home in the Country Club neighborhood adjacent to Campbell Mesa and the northwestern part of Walnut Canyon. Soon after moving in 1999, Baierlein became concerned about development threats to his new stomping grounds and joined efforts to protect the area.

“I’ve been working on this, one way or another, for 14 years,” Baierlein, 78, said as we set out from the Campbell Mesa Trailhead on an unseasonably warm afternoon in January. I had joined Baierlein for his regular hike on the mesa’s 13-mile trail system. In two days — after years of Baierlein’s persistent, yet diplomatic, prodding — the Flagstaff City Council would finally vote on a resolution to support protecting the study area. As we traipsed through mud turned to goo by the afternoon sun, the mild-mannered professor felt the gravity of the upcoming vote. It was the final hurdle before the proposal for a national conservation area could be sent to Congress. “All the sides have had their say,” he said of the protracted battle. “Now we’re in a much stronger position to get a bill passed.”

Baierlein has seen elk, deer, bobcats, pronghorns and javeli-

Walnut Canyon’s sandstone cliffs protect stands of aspens and Douglas firs below Fisher Point.
TOM BEAN





LEFT: Fog and mist shroud the pines of Walnut Canyon near the Sandys Canyon junction. 📷 TOM BEAN

BELOW: Lewis flax blooms amid blue grama grass in Fay Canyon after a monsoon storm. 📷 TOM BEAN



At the top of a grassy knoll, we paused to catch our breath. The snow-covered San Francisco Peaks sparkled to the north. To the south, Walnut Canyon dropped away into folds of sandstone. Baierlein pointed to a log on the ground: “My wife and I usually stop and sit here and admire the view.”

nas during his Campbell Mesa hikes. He also likes to ride his horse through the northern end of the study area. “I’ve seen this area improve greatly over the last decade,” he said. “Now, there is a nice trail system. It used to be covered with tracks from trucks and trash from partygoers.”

We ventured off the trail because Baierlein wanted to show me an old sign that he found amusing. It reads: “No sheep grazing.” During the first half of the 20th century, Campbell Mesa was a major thoroughfare for driving sheep. It then became a playground for off-road driving. Now it is closed to motorized vehicles and traveled by hikers, mountain bikers and dog walkers.

Back on the trail, Baierlein pointed out places where he often sees potsherds. As we gained elevation, the juniper scrub forest opened up to a spacious meadow. At the top of a grassy knoll, we paused to catch our breath. The snow-covered San Francisco Peaks sparkled to the north. To the south, Walnut Canyon dropped away into folds of sandstone. Baierlein pointed to a log on the ground: “My wife and I usually stop and sit here and admire the view.”

The City Council would vote 5-2 in support of the resolution asking Congress to designate the study area a national conservation area. Next on Baierlein’s agenda was contacting members of Arizona’s congressional delegation to see if they would sponsor a bill on behalf of the people who love Walnut Canyon. But on this day, as on so many days over the past 15 years, he was enjoying the view from his neighborhood sanctuary.

“This kind of openness,” he said, “is really wonderful.”

For more information on Walnut Canyon National Monument, call 928-526-3367 or visit www.nps.gov/waca. 

BA'CHO

To the White Mountain Apaches, Mexican wolves are known as *ba'cho*. They're culturally significant to the tribe, but not all tribal members support the reintroduction of the endangered species. It's a polarizing issue that pits elders and traditionalists against outfitters and big-game hunters. BY ANNETTE MCGIVNEY PHOTOGRAPHS BY BRUCE D. TAUBERT



For the White Mountain Apache Tribe, history lives in the spoken word. Significant events from the past, cultural practices and spiritual teachings are often transmitted and preserved simply by the telling. Among the most treasured of the tribe's oral traditions is the "wolf song."

According to Ramon Riley, the tribe's cultural-resource director, tribal members used the song to summon the wolf's power before going into battle. The song harks back to a time before European immigrants arrived in the Apache homeland — a time when both the wolf and the tribe thrived across a large swath of the Southwest.

"The wolf song is not written down anywhere. I keep it recorded in my mind," Riley says. He's a youthful-looking 73 years old, which he attributes to his regular use of a sweat lodge. He grew up on the tribe's land in Eastern Arizona and learned the wolf song from tribal elders when he was young. Now he passes it on to others during sweat ceremonies.

"The wolf song does not translate into English," he adds. "You have to live with the land and know the Apache language to understand it."

It's August 2014, and I'm visiting Riley in the tribal town of Whiteriver to get his perspective on Mexican wolves. Called *ba'cho* in the White Mountain Apache language, the species carries deep cultural significance for the tribe but in recent times has been the subject of heated debate, both on tribal land and in communities throughout Arizona and New Mexico. We sit in Riley's office in the Nohwike' Ba'gowaa (House of Our Footprints) museum, located on the grounds of Fort Apache, the base from which the U.S. Army waged war against the tribe in the 1800s. Riley's desk is piled high with stacks of papers he's sifting through to request the return of tribal ancestors' human remains from museum collections in other parts of the country.

Mexican wolves hold a treasured place in the White Mountain Apache Tribe's lore, but the reintroduction of the species remains controversial even among tribal members.



Arizona Game and Fish Department wolf specialist Jeff Dolphin carries a Mexican wolf to a workstation after sedating it from a helicopter. The wolf will have its health checked and get a new collar before being re-released into the wild.

For Riley, what has happened to Mexican wolves and his own people are one and the same.

“The invaders came and brought their own laws. They killed all the predators, like the wolf and the grizzly, and they put us on the reservation,” he says. “They taught us to live in a way that forgets our dependence on nature. The value of creation became money.”

With a historical home range that extended from West Texas across New Mexico and most of Arizona, and down to central Mexico, the once-prolific Mexican wolves were eliminated from the United States by the 1970s. The wolves’ stellar hunting ability, which made them revered by the Apaches, made them despised by European ranchers and homesteaders who viewed the predators as a threat to their livelihood. However, after the federal Endangered Species Act passed in 1973, the U.S. Fish and Wildlife Service was charged with the recovery of Mexican wolves, the rarest subspecies of the northern gray wolf. In 1977, the last seven Mexican wolves remaining in the wild were retrieved from Mexico and a captive-breeding program began in the United States. In 1998, the wolves returned to the wild when 11 captive-bred animals were released with much fanfare into Eastern Arizona’s Blue Range Primitve Area.

Over the past 17 years, the Mexican-wolf recovery program has remained one of the most polarizing issues in the history

of Southwestern public-lands management. It has pitted environmentalists against ranchers, wilderness-loving hikers against trophy-craving hunters, city dwellers against rural residents — and, on tribal lands in wolf country, traditionalists against those who put economic concerns first. In the first year of the reintroduction program, four of the 11 released wolves were shot illegally (a federal offense under the Endangered Species Act). And the program has limped along ever since, with illegal shootings continuing, anti-wolf groups lobbying hard against any expansion of the program and environmental organizations suing to have the Endangered Species Act upheld.

Riley is reluctant to give me details about the wolf song, but he’s quick to point out why he believes Mexican wolves should be welcomed onto tribal lands. “The wolf and all the animals were here first,” he says. “In the Apache world, we learned how to live in nature from the animals; they showed us the trails to the water holes. We are connected to the wolf, and all the animals, through what they have taught us.”

But not everyone sees it this way. Down the road, at the tribe’s Hon-Dah Casino and Conference Center near Pinetop-Lakeside, the U.S. Fish and Wildlife Service is hosting a hearing to gather public comments on the agency’s plan to significantly expand the Mexican wolves’ recovery area and modify the program to comply with a legally mandated agree-

ment for sustaining a healthy population in the wild. After visiting Riley, I make my way to the hearing and sit in a ballroom filled with government officials, representatives from environmental groups, wolf supporters who have traveled from across the West, and cowboys wearing knee-high boots and 10-gallon hats. Participants walk up to a microphone, one by one, and shoot their comments into the audience like arrows. A rancher from Catron County, New Mexico: “We’ve got kids sitting in cages waiting for the bus. If you’ve got to worry about your kids getting eaten by something, that’s something you don’t need to have around.” An 8-year-old girl from Phoenix: “I love all wildlife, especially wolves. I’m counting on you to protect them for me when I have my own children and for all future generations.”

While no White Mountain Apache Tribe members speak at the hearing, the tribe’s sensitive-species biologist, along with tribal game-and-fish officers, sits in the audience and listens. Somehow, the heated rhetoric filling the ballroom — both for and against the wolves — seems far removed from the legendary predators Riley described. *Where is that wolf power? I wonder. Where is the magical creature that lives in Apache stories and songs? I want to see a wolf in the wild, or at least spend time with people who regularly observe wolves in the wild, to find out if *ba’cho* is still out there, somewhere.*

Jeff Dolphin’s official title is interagency field-team supervisor for the Mexican Wolf Blue Range Reintroduction Project. But he’s more like the program’s chief “wolf whisperer.” Based out of Alpine, in the heart of wolf country, the 34-year-old Dolphin, a biologist with the Arizona Game and Fish Department, has had more hands-on contact with Mexican wolves than just about anyone in the program and can describe the activities of individual wolves the way neighbors catch each other up on gossip.

I’m shadowing Dolphin for three days in September 2014 as he carries out his normal routine: monitoring the movements of radio-collared wolves; setting traps to catch wild-born, uncollared wolves and collar them; looking for signs of wolves; and responding to angry calls from ranchers reporting wolf-caused problems with their cattle.

“It never lets up,” he says as I climb into his pickup on the afternoon of the first day of my visit. He’s been on the go since before sunrise. Game and Fish wildlife technician Julia Smith caught the alpha male from the Hawks Nest pack in a trap, and Dolphin drove to the remote site at dawn to help collar and release it. Then he got a call from rancher Wink Crigler, reporting one of her calves had been killed by a wolf. Dolphin spent hours assisting the investigation of the carcass to confirm it was a wolf-caused death so Crigler could be reimbursed for the loss of her livestock.

Unlike the successful recovery program for endangered gray wolves in the northern Rockies, carried out largely in the 20 million-acre Yellowstone National Park, the Mexican-wolf project is mostly on national-forest land that is also used for cattle-grazing. The 4.4 million-acre recovery area, established in 1998, encompasses all of the Apache National Forest in Arizona and the Gila National Forest in New Mexico. In 2000,

the White Mountain Apache Tribe joined the project as a lead partner (along with the U.S. Fish and Wildlife Service, Arizona Game and Fish and the U.S. Forest Service) and opened its adjoining 1.7 million acres to Mexican wolves, providing crucial additional habitat.

Although Dolphin and his team report that 90 percent of the Mexican wolves’ diet in the recovery area consists of elk, there were 28 confirmed cattle kills in 2013, up from 19 in 2012. A fund administered by the independent Mexican Wolf/Livestock Coexistence Council pays ranchers market value for cattle that are killed (a total of \$24,343 in 2013), as well as a stipend for the presence of wolves in their grazing allotments. For many ranchers, though, even one wolf roaming near their cattle is one too many.

Crigler serves on the board of the Coexistence Council. She tells me, during a visit Dolphin and I make to her X Diamond Ranch, that “the payment is minuscule to adequately compensate for the cost of what happens.” She’s a fourth-generation rancher in the Greer area; her great-grandfather raised cattle to feed the soldiers stationed at Fort Apache. She points out that modern ranching has focused on changing cattle genetics to make the animals fatter, more docile and without horns.

“We’ve bred the defensive instinct out of them to produce a quality product,” she says. “It’s like feeding candy to a baby with these wolves. This one endangered species just doesn’t fit into our current culture.”

Crigler says she’s “at the end of [her] rope” because she and her sister have each lost two cows over the past two weeks.

The flip side of the cattle problem is the illegal killing of Mexican wolves. Between 1998 and 2013, 55 wolves were killed illegally — a heavy toll on an endangered population that numbered only 83 animals in the wild at the end of 2013. Just two of those illegal killings have been prosecuted. Ranchers and others experiencing problems with wolves are supposed to call Dolphin and let his crew manage the situation, usually by tracking a derelict wolf and moving it to a captive-breeding facility. But too often, people living in wolf country who don’t want the predators threatening their property use a different tactic: “Shoot, shovel and shut up.”

Dolphin has been working in various capacities for the wolf program since 2007. He logs about 25,000 miles a year driving washboard roads on the Arizona side of the recovery area, usually with his window down so he can more easily spot wolf tracks. After he finishes up with Crigler and grabs a bowl of chili at Alpine’s Bear Wallow Café, we cruise forest back roads, looking for the Bluestem pack.

Mexican-wolf packs have only one breeding pair. “The Bluestem alpha female has been a very successful breeder,” Dolphin says. “She kicked her mother out of the pack, who was 11 years old and had been the breeding female. The mother dispersed into New Mexico and was shot.”

The original breeding female was a founding member of the nine-member, captive-born pack that was released into the recovery area in 2002. Since then, the Bluestem pack has thrived despite one breeding male being illegally killed and another dying of natural causes. The pack has produced several generations of wild-born wolves, with some members dispersing and founding new packs, which is critical to the species’

survival. In 2014, the Bluestem pack numbered 12 wolves, including five new pups. Its territory in the middle of the Apache National Forest ranges over 200 square miles of aspen-covered mountains, rocky ravines and grassy cienegas.

Since eight of Bluestem's 12 wolves have radio collars, Dolphin often is able to track their movements, but today, they remain elusive. We drive past a meadow he says is a "rendezvous site" where the pack has been gathering since the pups became too big for their den. In the blue light of dusk, we stare hard into the distant meadow. "There has been a juvenile male staying behind with the pups to babysit while the others go out and hunt," Dolphin says.

Dolphin, along with two other biologists who have been

stripped bare by the 2011 Wallow Fire, the last whisper of daylight is fading. We wave at camouflage-clad elk hunters who fill the twisting back roads as they return to their camps. The explosive growth of aspens after the fire has given elk in the White Mountains a boost thanks to the abundant food source, which Dolphin says also helps the wolves that eat the elk.

While some big-game hunters welcome wolves into the area, others do not want the top-of-the-food-chain carnivores to intrude on their territory. This conflict is especially intense on White Mountain Apache Tribe land. Trophy elk-hunting brings in a much-needed \$1.4 million annually to the tribe, where 47 percent of tribal members live in poverty.

"Based on the impacts we are seeing now with the elk



A Mexican wolf rests in the White Mountains' tall grass. The wolves' predation of elk has complicated the White Mountain Apache Tribe's hunting industry.

studying wolves in the recovery area, says the Bluestem pack has become increasingly stealthy over the years. "They don't like people," Dolphin adds, noting that wild-born wolves like those in Bluestem are far more successful at survival and less likely to prey on cattle than captive-bred wolves released into the wild. However, captive-bred wolves provide the small wild population with crucial genetic diversity. Rather than releasing adult captive-bred wolves into the recovery area, Dolphin prefers a more surgical approach called "cross-fostering" where several captive newborn pups are placed with a wild female that has just given birth to her own pups. That technique was successfully implemented for the first time in May 2014.

As Dolphin and I drive past Big Lake and through forests

population, [the tribe's Game and Fish Department doesn't] want more wolves on the reservation," says the tribe's big-game biologist, Jesse Palmer, who helps manage the lucrative tribal hunting business. Clients pay \$20,000 for a weeklong, fully outfitted and guided trophy-elk hunt. Palmer says that on average, 90 percent of the tribe's business is return customers who want a larger trophy than the year before.

"On the eastern part of the reservation," he says, "elk are being displaced from their summer and winter ranges, and we are pretty sure the main culprit is the wolf. The elk calves are easy pickings, and the wolves will even haze the mature, trophy-class bulls." Palmer says that not only are there fewer elk on tribal land because of the wolf, but the big trophy animals

are seeking refuge on the land of the nearby San Carlos Apache Tribe, which has a competing hunting business and does not allow Mexican wolves on its land. And Palmer adds that his department has taken steps to address other factors that could be causing the elk displacement, leaving Mexican wolves as the likely cause.

The White Mountain tribe is the only Native American nation in the Mexican wolves' large historical range that accommodates the predator and maintains its own recovery agreement with the Fish and Wildlife Service. There are several packs that live full time on the tribe's land, and lone wolves are constantly moving through in search of new territory. In addition to the wolves, the tribe is working to recover other endangered species that are part of its cultural heritage: Apache trout, Chiricahua leopard frogs, Mexican spotted owls and Southwestern willow flycatchers.

"We manage wolves as part of the environment," says biologist Cynthia Dale, who has worked as the tribe's sensitive-species coordinator for 20 years. She agrees that wolves are changing the behavior of elk on tribal land, but she views this as a positive. "Now, the elk run when they hear wolves howl. It's better for the elk and the forest habitat because the elk are always on the move," she says. And Dale thinks that also presents a better challenge for sportsmen.

Despite the challenges of illegal wolf killings, cattle predation and pushback from hunters, Dolphin is bullish on the current state of the recovery program. "It feels like there will be an uptick in the wolf population [in 2014]," he says. "We've got more pups, more packs and more breeding pairs." The latest population report, released in February 2015, proves him right: Compared with the program's record-low population of just 42 Mexican wolves in the wild in 2009, there were a record-high 109 in 2014 among 19 different packs.

And the wolves now have much more room to roam. After receiving some 40,000 public comments on its proposed changes, the Fish and Wildlife Service announced in January 2015 major revisions to its 1998 recovery plan. The new rule greatly increases the area Mexican wolves can occupy, from 7,212 square miles to 153,853 square miles, and also greatly expands the territory where captive-born wolves can be released. In addition to the Apache and Gila national forests, the larger recovery area now includes all of Arizona's Sitgreaves National Forest along with the Payson, Pleasant Valley and Tonto Basin ranger districts of the Tonto National Forest. It also includes the Magdalena Ranger District of the Cibola National Forest in New Mexico. And the new rule triples the recovery program's existing population goal of 100 wolves, increasing it to between 300 and 325 animals roaming the wild of Arizona and New Mexico.

While environmental groups welcome the larger recovery area for the wolves, representatives say it's still too small to sustain a species that is highly territorial and can travel 60 miles in a day. The Center for Biological Diversity, which brought the lawsuit that pressed the federal government to revise the wolf plan, maintains that in order for the species to recover, it needs to be allowed to disperse north into the Grand Canyon and Northern New Mexico, and to grow to a population of at least 750 animals in the wild. Environmental-

ists also oppose the new rule's more liberal regulations, which will enable ranchers to legally shoot a Mexican wolf in the act of attacking livestock.

As for the White Mountain Apache Tribe, longtime Tribal Chairman Ronnie Lupe says the tribe will continue to receive the wolf with open arms. "Why not? It's their natural habitat," he says. Lupe, 85, recalls when he was a young boy growing up in Cibecue and hearing Mexican wolves howling. "We all lived with the wolves back then," he says. Lupe decided that the tribe would join the Mexican-wolf reintroduction program in 2000 because he wanted to hear wolves howl again on tribal land. "I look at the world through Apache eyes," he adds. "All life is sacred."

Wolves are also sacred to Mary Newby. She lives in a trailer off a remote road in the southern part of the Apache National Forest. She calls Dolphin on the second day of my September visit to report that the entire Bluestem pack ambled through her front yard that morning.

"I was outside listening to elk bugling when I first noticed three wolves about 100 yards away," Newby tells me when I contact her later. "And they kept coming until I saw all 11. I could even see black fur on the pups' tails. They looked at me and then kept walking across the meadow."

Newby, 58, moved to Greenlee County from Phoenix 14 years ago, after she learned she had terminal liver disease. "I just wanted to live in wolf country, but I was very lucky to wind up moving into a rendezvous site," she says. The meadow where she lives used to be a hangout for the Hawks Nest pack, but now it's been taken over by Bluestem. "When you see wolves in the morning, it is amazing," she adds. "I shouldn't be alive right now. I attribute my health to clean living and wolves."

At dusk on my third day of shadowing Dolphin, we're cruising the roads near Newby's residence, still trying to catch a glimpse of the Bluestem pack. Dolphin has the receiver on his truck seat tuned to the frequency of the wolves' radio collars. As we drive in silence, I think back to my visit with Riley.

I had pressed him for details about the wolf song, and he had said the words described a tribal member's desire to run and hunt like the wolf: "It goes, 'Like the black wolf that I am ...'" Then he had stopped, mid-sentence, and burst into song. English could do this cultural treasure no justice. From behind his paper-filled desk, Riley had closed his eyes and released the ancient Apache chant toward the office ceiling, hanging on every word.

Just as Dolphin and I are about to head back to Alpine, the transceiver beeps. A few seconds later, there is an explosion of beeps like popcorn cooking in a microwave. Dolphin parks the truck to assess the pack's location and the reason for all the beeping. Below the road is a 700-foot-deep, rocky ravine that drops into darkness. "They're all down there hunting," he says. This is as close as we're going to get to the Bluestem pack, which is close enough. Down there, beyond the reach of humans or politics, Mexican wolves are going about their business in their native habitat, as they have for millennia. Down there is *ba'cho*. **AH**