INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER
SPRING 2019

Pictured: the painted "wolves" of Africa—actually, wild dogs that share many behaviors with wolves and are similarly endangered. PAGE 27

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VOLUME 29, NO. 1 THE QUARTERLY PUBLICATION OF THE INTERNATIONAL WOLF CENTER **SPRING 2019**

Le Plan du Loup*

*The Wolf Plan

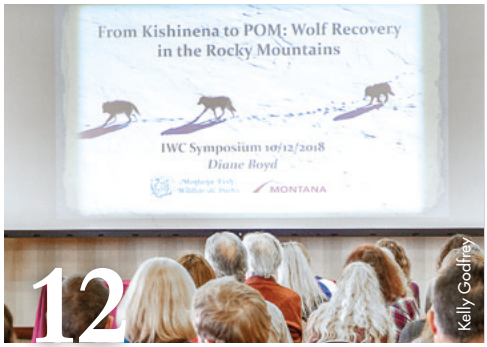
The last wolves in France were seen in 1934, after which they disappeared from the landscape until 1992. Today, 52 packs inhabit the country. This is the entertaining, informative tale of *le loup*—the wolf—in France, and France's national response to its presence. It's an unfinished story with cultural, economic and environmental considerations, all wound into a 100-page document unveiled in 2018.

By Debra Mitts-Smith

These Montana Ranchers Are Helping Grizzlies, Wolves and Cattle Coexist

Montana's Tom Miner Basin, just outside Yellowstone, has become a model of what environmentalists call predator coexistence. The use of range riders, along with innovations such as low-stress herd handling and even breeding the "fight" back into cattle, has allowed ranchers to minimize predation despite the presence of one wolf pack and 30 to 40 adult grizzly bears in the basin.

By Kristina Johnson



Diane Boyd—Patient Pursuit of Understanding

Diane Boyd's remarkable career began with a field assignment from her mentor, Dr. L. David Mech. By 1979 she was tracking the first radio-collared gray wolf in western Montana. She would study and live among wolves for two more decades, patiently learning and reporting on their progress. After 40 years, she's a specialist for Montana Fish, Wildlife and Parks—and still loving what she does.

By Myers Reese


Dean Cluff

On the Cover

African wild dogs, the painted "wolves" of Africa (not real wolves, but cousins to wolves), struggle for survival just as wolves do in other parts of the world. Their story begins on page 27. Photo by Nicholas Dyer www.nicholasdyer.com

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A Gala to Benefit the International Wolf Center

Shining a Light on Our Symposium Co-chairs

Just a few months ago, the International Wolf Center played host to nearly 500 people from 23 countries at the 2018 International Wolf Symposium.

Elsewhere in this magazine, you'll read about the numerous sessions that were held and the impressive list of speakers who dazzled us all.

What you won't read much about, though, is the huge task of organizing the event, performed beautifully by two of our board members. Here, I want to highlight the amazing work they did to make the symposium such a success.

Rob Schultz

Back in 2014, Judy Hunter and Debbie Hinchcliffe agreed to be the symposium co-chairs. I'm not kidding when I say that they worked on this symposium for four years—and that's in addition to the time they spent volunteering on our board of directors and the time they spent serving on various committees here.

Of course, dozens and dozens of people chipped in along the way to help organize the symposium. Staff members took a major role. Board members helped, and our wonderful volunteers seemed to be on hand whenever we needed them. Ex-board members Ray Wells and Neil Hutt contributed critically to our success. Ray oversaw IT during the symposium, and Neil developed the abstract booklet. To each and every one of you, I offer my sincere gratitude.

Behind the scenes, it was Debbie and Judy who quietly made the magic happen. They planned the program, vetted the presentations, and along the way they left chocolates on the desks of staff members who contributed their efforts. They worked with wolf biologists to plan the content for plenary sessions and ordered the beautiful padfolios that participants received when they checked in. They made dinner and hotel arrangements and managed details like name badge holders and special pins for our volunteers.

They handled tasks big and they handled tasks small, and they did it all while flashing their encouraging smiles.

I simply want to thank them here. We know the event wouldn't have been such a profound success if it weren't for their organizing skills, enthusiasm and attention to detail.

The truest sign of their commitment is this: even after planning the recent symposium for four years, Debbie and Judy agreed to sign on and plan the 2022 International Wolf Symposium, which is back in Minneapolis Oct. 13-16. In mid-January, I had the pleasure of delivering the signed contract for the 2022 symposium to the event hotel. As I handed over the document, Debbie and Judy were at my side.

We wouldn't have it any other way. ■

Sincerely,

Rob Schultz
Executive Director

MISSION

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Le Plan du Loup*

**The Wolf Plan*

By DEBRA MITTS-SMITH

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A step toward co-existence between France's shepherds and wolves

The French have always had a close, but problematic, relationship with wolves. French literature, language and history are rich with references to wolves, both real and imagined. Some of the best-known wolf tales, "Little Red Riding Hood" and "The Wolf and Kid Goats," have their origins in the oral tales of French peasants in a region that is once again home to wolves. These stories, which live on in youth literature, are joined today by parodies that undo the Big Bad Wolf and stories that question the traditional, embattled relationship between people and wolves.

In French, the word *loup* (wolf) appears in expressions describing people, behaviors and situations. The term "wolf" adds negative connotations. For example, "a young wolf" (*un jeune loup*) is a person who uses any means to get ahead, and may end up leading a dishonest, criminal life (*mener une vie de loup*) to the point of notoriety (*être connu comme le loup blanc*). Risk takers find themselves "thrown into the wolf's mouth" (*se jeter dans la gueule du loup*), while those who prefer to go along with the crowd tend to "howl with wolves" (*hurler avec les loups*). And someone who follows in the steps of those who went before is said to "follow the wolf's tail." And when someone is famished he or she may be as "hungry as a wolf" (*une grande faim de loup*).

Real wolves inhabit France's history as well as its literature and language. Twice in France's past—during the plague and famine of 1033 and the 100 Years War (1438)—wolves entered Paris, dug up the graves of the recently buried,

and fed on their corpses. In the 18th century, the *Bête de Gévaudan*, a large animal reputed to be a rabid wolf, attacked and killed children in a remote area of southern France.

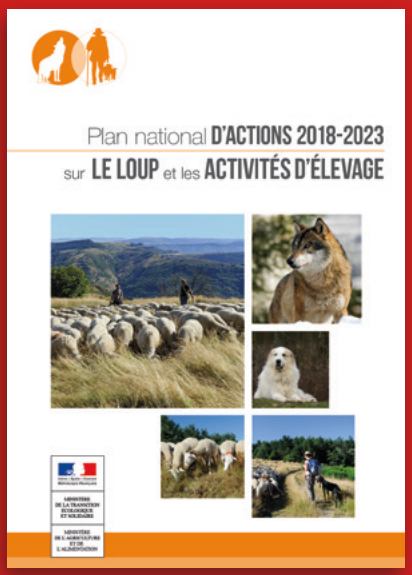
Wolves in France have been hunted for centuries. Charlemagne, between 800 and 813, established the *luparii*, an elite royal corps of wolf hunters. Gaston de Phébus's late 14th century manuscript on hunting describes various ways to hunt them, including pits, foot traps and cages. In 1467, Louis XI created the Office of the Grand Wolfcatcher (*Grand Louvetier*) whose responsibilities included overseeing royal wolf hunts. Disbanded during the French Revolution, these royal offices were revived in 1814. They live on today in the Corps of Volunteer Wolfcatchers, *Les Lieutenants de Louveterie*. It was not until the late 19th century, however, that the wolf's fate was sealed by higher bounties and the use of poisons. The last wolves in France were observed in 1934 in the Chantal Forest of the Burgundy-Franche Comté region.

However, in November 1992, two wolves were observed in France's Mercantour National Park, in the Alpes-Maritimes region of southeastern France, having made their way from Italy.

The following year, France's National Office of Hunting and Wildlife (*L'Office Nationale de la Chasse and de la Faune Sauvage*) was established to track France's wolf population, which it reports is undergoing rapid growth and expansion. In 2013, there were approximately 229 wolves living in 21 packs. Today, there are 430 wolves in 52 packs. Wolf range has expanded, too. Over the last 25 years wolves have recolonized areas in mountainous regions and in the agricultural valleys and plains of eastern France.

The wolf's return to France is an environmental success story—but not everyone is pleased about it. The increased presence of wolves has been followed by an increase in attacks on livestock. French farmers, especially those who raise sheep, claim to have been hit hard. (Of the livestock killed by wolves, 94 percent are sheep, 1 percent cattle). As described by Troy Bennet, a French shepherd, in the Summer 2016 issue of *International Wolf*, the aftermath of an attack can be both economically and emotionally troubling, rekindling old fears and hatred among the contemporary generation of farmers. In 2017, the French government paid more than 3 million euros in compensation. In recent years, French farmers have blockaded roads (with sheep) to protest what they consider to be the government's inadequate response to wolf depredation.

In February 2018, France's Ministry of the Environment and Ministry of Agriculture and Food unveiled The National Action Plan for 2018-2023 for Wolves and Meat Producers (*Le Plan National D'Actions 2018-2023 sur le Loup et les Activites d'Elevage*)—or The Wolf Plan, for short. This 100-page document attempts to respond to the conflicting concerns of France's livestock producers and environmental groups, as well as upholding France's obligation to protect the wolf as an endangered species under the Bern Convention and the European Union's regulations. Introductory remarks in the plan describe it as way to balance the preservation of the wolf while protecting livestock producers. As its logo of two intersecting circles (one framing the silhouette of a wolf howling, the other containing an image of



The cover of the 100-page National Action Plan for 2018-2023 for Wolves and Meat Producers (Le Plan National D'Actions 2018-2023 sur le Loup et les Activites d'Elevage)—or The Wolf Plan, for short.

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a shepherd with sheep) suggests, the plan seeks to serve as a framework for co-existence.

One of the major issues on which the Wolf Plan focuses is the viability of the wolf population. Drawing on recommendations by scientists, the plan states that one of its goals is to allow the wolf population in France to increase to 500 by 2023, the number deemed necessary for achieving and sustaining a viable population. At the same time, the plan also allows for the killing of wolves in specific circumstances: *defensive* and *preventive*. Defensive killing of wolves may take place when three or more attacks have occurred on a herd or flock within the past twelve months, and all other protective measures have failed. Preventive measures allow for an annual, controlled culling of wolves in regions where wolf attacks pose a threat but where depredation of livestock may not actually have occurred. In both instances, no more than 10 to 12 percent of the wolf population may be taken annually—a number that according to scientists will not diminish the sustainability of the species. The Wolf Plan dictates that the taking of nuisance wolves be limited to trained government agents (*La Brigade Loup*—the Wolf Brigade), trained volunteers (*Les Lieutenants de Louveterie*—the Wolfcatchers) or by farmers or hunters who are trained and certified in killing wolves.

To help address livestock farmers' concerns, the Wolf Plan provides financial compensation for livestock losses due to depredation by wolves. To prevent or limit future attacks, the plan offers farmers training and money for implementing protective measures. It covers 100 percent of a farmer's cost in identifying potential vulnerabilities and 80 percent of the cost of implementing such measures as maintaining a human presence near flocks and herds, the use of guard dogs and the use of electrified fencing. As described above, if depredation continues even with these practices in place, wolves may be killed as a defensive measure.

Looking toward the future, the Wolf Plan calls for research on wolves and their impact on the ecosystem and on wolf-livestock interactions. It also supports the development of new ways to protect stock. In addition to stressing the need to breed and train guard dogs, it supports the recruitment, education and professionalization of shepherds.

As with most compromises, the Wolf Plan most succeeds at leaving both sides dissatisfied. For French sheep and cattle producers, the plan does not go far enough in protecting them, their livestock or their livelihoods. Claiming the loss of almost 12,000 head of livestock in 2017, and an ever-rising number of attacks, farmers seek assurance that there will be no more attacks on their animals—which, they say, the plan fails to provide. Instead, it places restrictions on the number of wolves that can be killed, when wolves can be killed (September to December), and who can kill them. They point to Wyoming as an example of what France needs to do: no longer treat the wolf as an endangered species and allow a "shoot on site" policy in areas with livestock.

French farmers also criticize the compensation conditions, which require farmers to prove wolves were responsible for killing their stock, and have in place at least two protective measures (such as shepherds, guard dogs or electric fences) before they can be reimbursed. But the implementation of these measures requires time, money and people; resources farmers say are unavailable or unaffordable. They also claim that the compensation falls far short of the price of the animal. For instance, a sheep producer from Fresse-sur Moselle imports sheep from Shropshire, England, a breed known for its lean meat. He pays about 400 euros per sheep, but receives only 26 to 110 euros for each sheep killed by wolves.

Not only economic issues are at play in France; there is also a cultural divide. Just as the wolf holds a place in France's cultural imagination, so does the image of a pastoral France where sheep graze amid open, peaceful fields under the benevolent gaze of shepherds and their herding dogs. For many farmers and shepherds, the use of fencing to keep wolves away and sheep safe undermines a centuries old way of life. They argue that sheep and cattle grazing the open pastures are integral to French culture and attract tourists, benefitting the French economy, and that building


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enclosures and penning animals will mar the beauty of the countryside. They also say it is further proof that the government places wildlife and wolves over their livelihood and France's traditions.

According to the Professor Jean-Christophe Bureau of Agro-Paris Technique, the wolf has become a rallying point for French farmers, symbolizing their grievances and fears. Anxieties run high across France's agricultural community as rural areas experience cutbacks in public services, including medical clinics, schools and post offices.

Environmental and pro-wolf groups object to the plan's underlying portrayal of the wolf as a dangerous predator and criticize the government as lacking the political courage to make peaceful coexistence a reality. They question the use of 'authorized kills,' as a preventative strategy, arguing that its success is unproven, and that it adversely affects the long-term viability of France's wolf population. Environmentalists argue that the real motivation behind the farmers' "kill, kill, kill" response is the loss of income—and point out that France's sheep industry is already heavily subsidized, with some farmers receiving as much as 50,000 euros annually.

France's centralized, national plan differs from the multiple and diverse state plans at play in the United States. It also reflects a heavily subsidized agricultural sector and more restrictive geography. For supporters of the wolf, it shows that the iconic carnivore is indeed back. Yet the plan leaves open the question of what will happen when the wolf population reaches 500, which given the recent rapid increase in the number of wolves, may occur before 2023. Will France then allow wolves to be hunted?

As the numbers of wolves and wolf attacks increase, will wolf populations be decimated, and human-wolf co-existence become just another fairy tale? ■

Debra Mitts-Smith is a School of Information Sciences faculty member at the University of Illinois. Her research and teaching focus on visual culture, children's literature, history of the book and storytelling. Her book, Picturing the Wolf in Children's Literature*, was published by Routledge in 2010. She is currently working on a cultural history of the wolf.*

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These Montana Ranchers Are Helping Grizzlies, Wolves and Cattle Coexist

By KRISTINA JOHNSON

Adobe Stock/ roblan

Louise Johns

Louise Johns

Along with cattle, ranchers and wolves, Tom Miner Basin is home to 30 to 40 adult grizzlies. The bears forage in the area for caraway root, a nonnative plant rich in fat and fiber.

As human–wildlife interactions increase, range riders test novel strategies for keeping herds safe in the presence of threatened predators

In the predawn chill, a range rider moves through the sage grass and lupine. The scene—a woman on horseback, her cattle dog trailing behind her under a sky shockingly full of stars, and a quiet herd grazing between the aspens—is what Westerns are made of. But she is wise to not be lulled into the cowboy poetry of this place.

In the Tom Miner Basin of Montana, just outside the protected wilds of Yellowstone National Park, survival requires vigilance. The 30-square-mile (80-square-kilometer) basin is home to not only a wolf pack, but also one of the densest populations of grizzly bears in the Lower 48. Some 30 to 40 adult bears live in the aspen-fringed draws and fir-studded peaks that weave through the area. Each summer, tourists park their cars on the side of the road to watch the animals dig for caraway roots in the cow pastures. Local residents carry cans of capsaicin-laced bear spray the way cautious urbanites pack mace. And ranchers on the upper basin's five cattle ranches must be constantly alert. Earlier this year, a mother grizzly protecting her cubs mauled another range rider, fleeing only after the rider's companion emptied two cans of bear spray into the air.

The cattle are under even more threat than the humans. In Montana in 2017, 87 head of cattle were killed by grizzlies and 59 more by wolves. Yet the Tom Miner Basin has become a model for what conservationists call "predator coexistence": the art of sharing the landscape with threatened meat-eaters like bears and wolves. At a time when habitat is decreasing and government protection is increasingly precarious, the ranchers here have decided to make space for their erstwhile enemies because they believe they deserve to be here, too.

The effort to coexist grew more urgent after the U.S. Department of the Interior announced in June 2017 that it would remove the grizzly in the Greater Yellowstone Ecosystem—an area bordering the park that spans parts of Idaho, Wyoming and Montana—from the endangered species list, opening the door for hunting the bears outside the park. The decision is already sticky with lawsuits from environmental groups that claim that *Ursus horribilis* remains threatened by climate change and the loss of several of its staple foods. They fear that, without federal protection, there will be fewer regulatory obstacles to shooting bears when they wander onto private lands. But as the court cases proceed, the bears' immediate fate may depend in part on how willing ranchers are to change their practices in ways that protect both bears and cattle. It's an experiment that's transforming not only how people relate to predators, but how ranchers ranch.

Riding Herd and Calming Cattle

Malou Anderson-Ramirez remembers when the wolves began roaming from Yellowstone into Tom Miner Basin soon after they were reintroduced into the park in 1995. Then, about 10 or 15 years ago, the grizzlies started appearing in greater numbers, too. It was a pivotal moment for the basin's cattle families, hers included, which suddenly had to contend with predators eyeing their calves from the hills. Anderson-Ramirez, along with her parents and siblings, custom-graze around 300 beef cattle on the family property for another Montana ranch.

Malou Anderson-Ramirez

Louise Johns

"You feel violated when you have one of your animals killed by a predator," Anderson-Ramirez says. "It feels like something has been stolen from you."

The number of livestock killed every year varies widely, depending on whether any of the local predators have taken a liking to beef. Most remain satisfied with wild game. But some years are especially bad—as in 2013, when a male grizzly killed nine cows in two-and-a-half weeks on a Tom Miner ranch.

A wolf or a bear that kills a cow becomes a marked animal. That said, bears—especially females—typically are given several strikes before they're euthanized, because their reproductive rate is low, and it can take decades for the population to recover if it begins to dip. Still, the greatest cause of non-natural death for both wolves and grizzly bears in the West is a run-in with humans, often over livestock. In 2015, for example, a record 54 grizzlies were killed by humans in the Yellowstone ecosystem, largely due to conflicts with hunters and ranchers.

But the Anderson family, and some others in the basin, recognize that these top predators are only acting the way they were born to act. Instead of killing them for following their instincts, they asked, why not reduce the cattle's vulnerability?

Most ranchers scatter their herds across the range for weeks or months at a time, leaving the cows to fend for themselves until it's time to load them onto trailers and ship them to a feedlot. In 2013, Anderson-Ramirez's sister-in-law, Hilary Zaranek-Anderson, started the basin's range riding program, hiring a few riders every summer to patrol the area's herds. "The objective is very simple," Anderson-Ramirez says. "You go out and check cattle." Today, both women manage the program with the goal of minimizing livestock kills, but also helping ranchers stay more attuned to the health of their animals by relaying back information about the herd.

Range riders might deter attacks during the day, since simply having a human around could make predators look elsewhere for a meal. But most attacks happen in the middle of the night, when range riders aren't there. So every morning and evening, when the riders in Tom Miner inspect cows, they use a relatively rare technique called low-stress livestock handling to encourage the cattle to behave more like the bison that used to graze these lands and knew to guard their young.

A scattered herd is vulnerable to predation; isolated animals are more likely to run if ambushed by a wolf or bear, making them an easier target than if they bunched together. So the range riders gently urge mothers to pair up with their calves and stick close to the rest of the herd. The low-stress part? Rather than driving a herd hard from behind, the

Louise Johns

Above: Whit Hibbard, a fourth-generation Montana rancher and cattleman, is a prominent advocate of low-stress livestock handling.

Below: Ancient White Park Cattle are known for their aggressive efforts to protect their young from predators.

Louise Johns

way most cowhands do, they walk or ride in zig-zags so the cows can always see them out of the corners of their eyes. As soon as the herd starts to move in the right direction, the riders stop nagging.

"A lot of ranchers see their cattle as the enemy," says Whit Hibbard, a fourth-generation Montana rancher and the editor of the *Stockmanship Journal*, which advocates low-stress livestock handling. Most ranchers act a lot like predators, he says. "They're basically attacking these animals with their yelling and their horses and their [aggressive] dogs, with their whips and hot-shots and all the torture devices that they use."

All of which riles the cows up and makes life harder for the humans that have to work with them. Low-stress livestock handling enables a single range rider or rancher working alone to rekindle the herd instinct in a herd of hundreds without employing any of the aggressive tactics often used on ranches. And most importantly for ranchers in predator country, calm cows want to stay close to the group and are less likely to draw the attention of predators because they aren't bawling anxiously.

Low-stress-handling proponents argue that keeping animals in a peaceful state of mind improves their health, their ability to gain weight and the quality of their meat. About 5 percent of the average beef carcass is discarded at slaughter because it's bruised from rough handling when the animal was alive, a loss that costs the industry millions of dollars a year.

And when cows are tightly grouped and grazing intensively in an area for a short period of time, their hooves work dung and urine into the ground, bury seeds, and break through crusted soil and club moss, all of which regenerate the soil and improve forage.

Despite benefits for both rancher and cow, low-stress livestock handling in its purest form is rarely practiced. Hibbard estimates that only about 2 percent of American cattle ranchers truly incorporate it, though many more claim to. It's hard to convince ranchers who are used to thinking of their cows as so many widgets to treat them as sentient beings, says Hibbard.

But when ranchers are willing to patiently practice with their cattle, they can teach mother cows to regain the maternal instinct that the cattle industry has worked so hard to breed out of them, preferring docile mommas who won't charge when a rancher tries to approach her baby.

> The ranchers here have decided to make space for their erstwhile enemies because they believe they deserve to be here, too.

At the Anderson ranch, they're trying to put the fight back into their animals: They'll cull a cow rather than breed her again if she doesn't show aggression on her calf's behalf. Down the road from the Anderson ranch, at the B-Bar ranch, they raise Ancient White Park cattle—a rare heritage breed where both sexes have horns and mothers are famously protective, with a reputation for charging grizzlies. This gives the herd a better chance of besting predators.

Overcoming Barriers

If many ranchers are agnostic about their cattle, it's certainly not easy to get a predator-hating cowboy to care about grizzlies. You can't preach ranchers into compliance, says Martha Sellers, director of development and communication at People and Carnivores, a nonprofit that partners with ranchers in Montana and Wyoming to implement coexistence strategies, from cow composting sites (so that carcasses don't draw predators closer to the herd) to fladry (electric fences tied with pieces of cloth that spook wolves), all of which have shown success.

"The best way to get this stuff to work is to let neighbors talk to each other," Sellers says. "Instead of us telling someone how it went, let their neighbor tell them" after they have zero depredations that year.

Attitude is a barrier, but so is money. Range riding, for example, means another salary to budget for. Even in Tom Miner, where several landowners are absentee millionaires, range riders are paid for by outside, non-governmental organizations and government grants, though Anderson-Ramirez hopes the community's ranchers will eventually be willing to fund at least some of the program themselves. And range riding isn't practical for every locale. In dry places like Nevada, where the ranches are vast and arid, it would take too long to ride out to the herd every day.

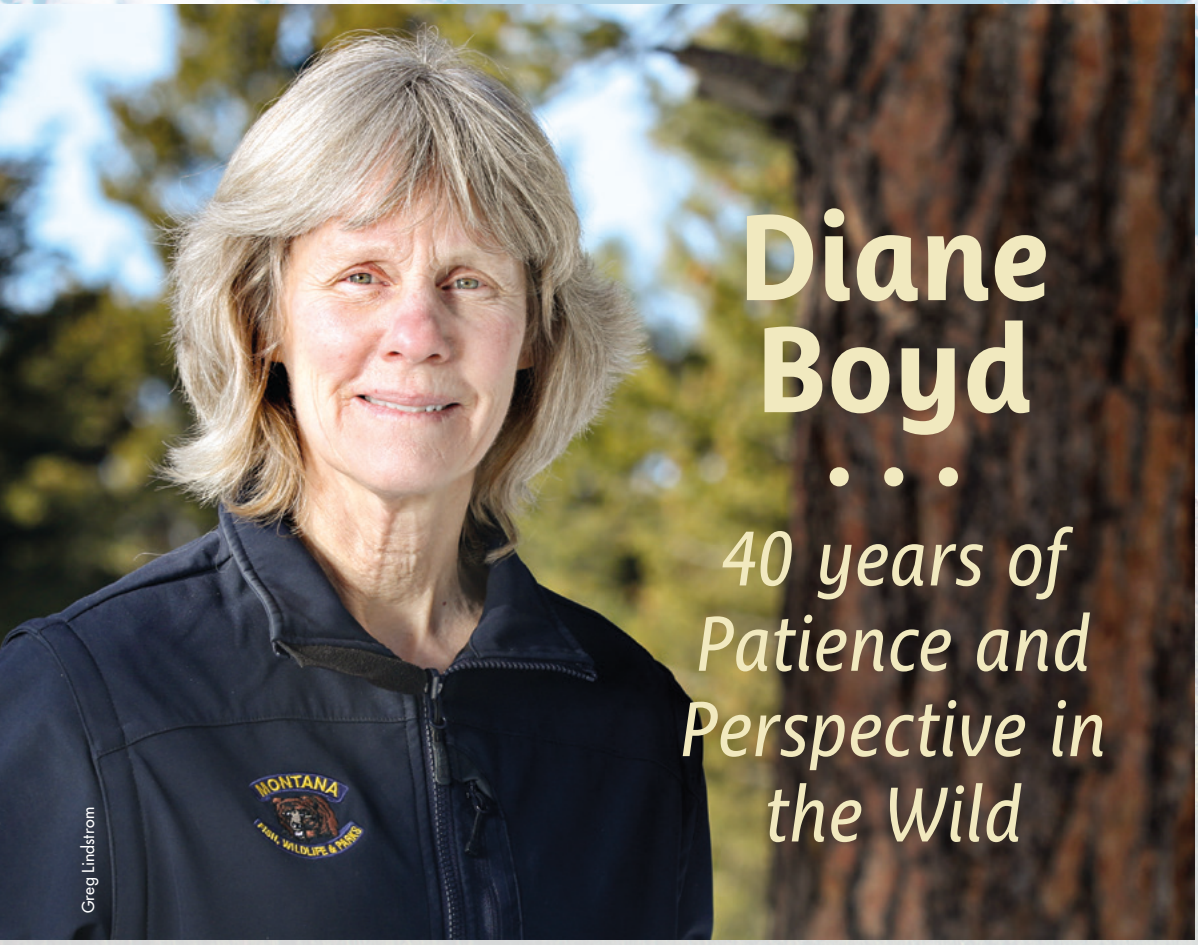
Still, Abby Nelson, a wolf management specialist with Montana Fish, Wildlife & Parks who has worked closely with the basin's range riders, believes the case for range riding is strong, even if research on its efficacy remains scant. Since the program started in Tom Miner in 2013, there has been only one probable wolf kill. And while the same isn't true for bear attacks, Nelson argues that range riding has many benefits besides deterring predations. For one, riders are quick to the scene if a calf is sick or a cow is dead. A fast response is crucial, since the only way for ranchers to get reimbursed for a predator kill is for Wildlife Services to conduct an autopsy, proving that the animal didn't die from other causes. But most of the time, ranchers don't come across a carcass for days or even weeks, when it's too deteriorated to tell what happened.

Yet, if you listen to Anderson-Ramirez describe why she works to foster coexistence, something beyond the practical reasons, something verging on the sacred, emerges. She talks of the magic that you find—the wolf dens, the grizzly tracks—when you stop trying to rule the landscape, and instead let it teach you.

"There are a lot of tough old cowboys who would haze a bear off if they saw it," says Anderson-Ramirez. "They would be loud and human and just too much. But the most beautiful thing is if you can sit back so that the bear doesn't even know you're there. Most of the time, he'll just walk right through." ■

Editor's note: *This story was produced thanks to a collaboration between Ensia and the* Food & Environment Reporting Network, *a non-profit investigative news organization.*

The author, Kristina Johnson, is based in Montana.



Greg Lindstrom

Diane Boyd . . .

40 years of Patience and Perspective in the Wild

By MYERS REESE

In 1979, Diane Boyd left her native Minnesota and headed west to begin tracking the first radio-collared gray wolf from Canada to recolonize the western U.S. There, humans had effectively eliminated the species by the 1930s through hunting, poisoning and habitat loss. Boyd, a 24-year-old wildlife biology graduate student at University of Montana, was fueled by optimistic idealism and boundless energy. When she pulled up to her new home, deep in northwestern Montana's rugged North Fork Flathead River valley, it was apparent she would need both.

"It was like, 'Wow,'" Boyd recalls of seeing the cabin, which had no plumbing, electricity or means of communicating with the outside world. "I'd spent a lot of time outdoors, but this was true isolation."

Though Montana's wolves had been extirpated, reports of sightings and shootings trickled in during the 1960s and '70s, leading University of Montana professor Bob Ream to launch the Wolf Ecology Project in 1973, the same year that Northern Rocky Mountain gray wolves were listed under the Endangered Species Act. It was through the Wolf Ecology Project that researcher Joe Smith trapped a female wolf, dubbed Kishinena, on April 4, 1979, in the North Fork drainage along the northwestern edge of Glacier National Park.

From a scientific standpoint, the story of gray wolf recovery in the western U.S. starts with Kishinena, and nobody is better suited to tell it than Boyd, who would study and live among wolves, beginning with Kishinena and her descendant "Magic Pack," for the better part of two decades, living mostly without running water or power—and at times, without funding.

Now, nearly four decades after she first arrived in Montana and following years of non-wolf work, Boyd has orbited back to her professional origins with her new role as wolf management and carnivore specialist for Montana Fish, Wildlife and Parks (FWP) Region 1. She brings a uniquely qualified, long-view perspective to a public discussion that often gets bogged down in short-sighted squabbling. This is a woman, after all, who still melts snow or treks to the river for water. She's patient.

"I've come completely full circle," Boyd, now 62, said from her Kalispell office in January. "This is where I want to be."

Boyd grew up near Minnesota's Twin Cities. That state's northeastern lake and sub-boreal forest region held the last remaining, viable population of wild gray wolves in the lower 48. There were also wolves living on Michigan's Isle Royale and periodic sightings in Wisconsin, but Minnesota was the true final American frontier for the species.

"Wolves were kind of the mystery animal, the essence of what was wild," she said.

Boyd enrolled in the University of Minnesota's wildlife management program as a starry-eyed 18-year-old freshman and immediately began pestering Dr. L. David Mech to give her field work. Mech is one of the leading figures in modern gray wolf research and the founder of the International Wolf Center. He didn't have much time for starry eyes. But Boyd would not be denied.

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Boyd enrolled in the wildlife management program as a starry-eyed 18-year-old freshman...pestering Dr. L. David Mech to give her field work. He didn't have much time for starry eyes. But Boyd would not be denied.

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Mech finally relented and gave her a summer position. After graduating college, Boyd worked in Alaska and then accepted a trapping job with the U.S. Fish and Wildlife Service back in her home state. She wasn't aware of a single other female trapper, in Minnesota or anywhere else.

"It was a time of huge growth for me, personally and professionally," she said. "I gained a lot of perspective. Here I was, a girl in this male-dominated field, walking up to farmers to talk about wolves killing their livestock."

After wrapping up her Minnesota USFWS job, Boyd enrolled in University of Montana's wildlife biology graduate school and showed up in Missoula in September 1979 with everything she owned stuffed into her car. Ream, the founder of the Wolf Ecology Project, greeted her and let her stay at his home the first night.

At the time, wolves were novel—almost mythical—and not yet a heated political football. Loggers would take photos of them and share information about sightings with Boyd. One woman who had shot a wolf up the North Fork in 1970 had apparently reconsidered her actions and implored Boyd not to harass her furry neighbors.

"They had been gone so long, there wasn't the hatred," Boyd said. "It's been an amazing evolution of cultural perspective."

Boyd huddled up in her rudimentary cabin in a region known for brutal winters. She became part of the landscape, a resident of the wild not unlike the animals she was there to study. Her

Photos courtesy of Diane Boyd

Kelly Godfrey

Dr. Diane Boyd speaks to a rapt audience at the International Wolf Center's 2018 wolf symposium.

cabin in Moose City, a former homestead settlement along the Canadian border, was built in 1909. As for amenities, "… it barely had walls. It was very, very rustic," Boyd said. "I shared it with mice, chipmunks, packrats, weasels and my dogs."

Boyd melted snow or retrieved river water, boiling it on a wood stove, a way of life she would continue at a different cabin she built later, up the North Fork, and still calls home.

"You learn to depend on your brain," she said, "and not technology."

Boyd monitored Kishinena's movements from a distance that would not disrupt the wolf's natural behavior. She spent many days tracking the radio-collar signal—in summer, afoot or in her pick-up, skiing or snowmobiling in winter, or in airplanes when she could, and plotting her findings on a map.

Then, Kishinena disappeared. The radio collar quit transmitting. With only one wolf documented in the Flathead drainage, interest in research declined and funding evaporated in 1982.

• • •

She brings a long-view perspective to a public discussion that gets bogged down in short-sighted squabbling. This is a woman who still melts snow or treks to the river for water. She's patient.

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But around the same time, Glacier Park rangers discovered the tracks of a three-toed male wolf. It had presumably lost its toe in a trap. Those distinctive tracks merged with a familiar set: Kishinena's. In the spring of '82, Bruce McLellan, a biologist who had been with Smith when Kishinena was captured, located the two wolves' litter of seven pups. But the male died the same year, leaving the pups' future in serious doubt.

"A female with seven pups and no male…we thought they would die," Boyd said. "But we were still seeing the tracks of eight wolves in winter. It was amazing."

After more than a half-century of absence, a wolf pack roamed Montana's wilderness, spending much of its time in Canada. Its descendants would be dubbed the Magic Pack.

After funding resumed in 1985, Boyd and Mike Fairchild, another biologist, returned to full-time wolf research. The following year, biologists discovered the Magic Pack was denning in Glacier National Park—the first time in more than 50 years a wolf den had been documented in the western U.S.

Boyd still has not lost the childlike curiosity that decades ago compelled her to venture into the Minnesota wilderness. Last winter, she set out alone on skis to the frozen North Fork to research wolverines, relieved to get out of the office and into the timber where she feels most at home.

Nor does she speak of wolves with any hint of professional fatigue. They remain majestic animals continually capable of astonishing her with their intelligence, their personality and their tales of redemption. There may be nothing scientifically special about a Washington wolf venturing 700 miles to central Montana's Judith Gap, or another trekking 540 miles in seven months through all sorts of terrain, because wolves routinely make epic voyages. But in Diane Boyd's telling, the story is shrouded in wonder.

It's not just that she sees an incredible creature; she sees herself. And sometimes a journey ends where it should.

"This will be my last stop," Boyd said of the FWP job. "I'm doing what I want to do. I was kind of like that wolf—moving around, trying to find what I wanted. And I found it. I'm here. I'm happy." ■

Myers Reece works for the Flathead Beacon *newspaper in Kalispell, Montana, where this story was originally published in 2017.*

2018 Wolf Symposium Hosts Nearly 500

By Chad Richardson

Over three days, nearly 500 people from 22 countries packed into ballrooms and meeting rooms to hear from many of the world's experts on wolves during the 2018 International Wolf Symposium in mid-October.

Organized by the International Wolf Center, the event took place in Minneapolis, Minnesota, USA. The last International Wolf Symposium was held in 2013.

"We were so proud to host an amazing collection of biologists, researchers, wildlife professionals, students and wolf enthusiasts," exclaimed Rob Schultz, executive director of the International Wolf Center. "A lot of hard work went into this event, and the feedback we have received reinforces our belief that events like this are vital."

The symposium began Thursday, Oct. 11, with a welcome reception for attendees and an optional bus trip to Ely to tour the International Wolf Center.

Friday

After opening remarks, the first plenary panel was held on the topic "Wolves of the World." Presenters were Sabina Nowak (biologist and president of Association for Nature "Wolf" in Poland), Brent Patterson (research scientist with the Ontario Ministry of Natural Resources and Forestry), Shannon Barber-Meyer (research biologist with the U.S. Geological Survey) and Dean Cluff (wildlife biologist with the Government of the Northwest Territories). Nowak discussed wolves in Europe, Patterson talked about Canada, Barber-Meyer addressed the United States and Mexico, and Cluff spoke about the Canadian high arctic.


Kelly Godfrey

Participants then split off to attend any one of up to five concurrent sessions held throughout the conference center. Over three days, a total of 76 20-minute sessions covered emerging research being conducted by biologists and experts across the world.

The second plenary panel of the symposium focused on Ellesmere Island. Presenters were renowned biologists Morgan Anderson, Dan MacNulty, Kira Cassidy and International Wolf Center founder Dr. L. David Mech.

They were followed by a plenary debate between Jim Heffelfinger for the Arizona Fish and Game Department and Mike Phillips, executive director of the Turner Endangered Species Fund, who discussed pros and cons of the current Mexican Wolf Recovery Plan.

In a stirring speech during a Friday evening presentation, Yellowstone National Park Senior Wildlife Biologist Doug Smith spoke about the value of public lands. His speech was triggered by hearing a speaker at another event discuss the economics of public lands, and whether they create jobs and revenue.

"Not one thing was said about the inherent value of public land or wildland itself," Smith said. He posed the question: "Does public land, itself, have intrinsic value or meaning not determined by humans?"

Smith grew up with a romantic view of the woods, but that idealism was "whooped" out of him during his career, he said. He aims to change that.

"The discussion about wolves needs to start here," he said. "What are they worth to themselves—then to nature, and lastly, to us? What kind of world do we have for them? That is the one thing I want you to remember."

Eventually, Smith shifted gears, discussing some of the work he and a dedicated network of biologists do in Yellowstone. He then introduced his friend and colleague, freelance cinematographer Bob Landis, who has made several documentaries for National Geographic. Landis delighted the audience with breathtaking video of Yellowstone wolves.

Andy Blenkush

Volker Beckman (right) at the 2018 International Wolf Symposium discusses the work being done by Spirit Way in Thompson, Alberta, Canada

Saturday

A plenary panel on Isle Royale opened the Saturday schedule. Michigan Tech professor John Vucetich, Shannon Barber-Meyer and University of Minnesota associate professor Joe Bump updated attendees on the reintroduction of wolves to Isle Royale.

After another round of individual sessions, Brent Patterson addressed the ongoing saga of caribou, wolves and beaver on Michipicoten Island in the northeastern waters of Lake Superior.

The third plenary panel of the day featured five people from varying backgrounds discussing wolf depredation on livestock. Carter Niemeyer spoke as a former wolf management specialist with the U.S. Department of Agriculture Wildlife Services. Cameron Krebs provided a livestock producer's perspective.

Dave Ruid, wildlife biologist, covered the practice of handling depredations in Wisconsin. Amaroq Weiss, of the Center for Biological Diversity, discussed the state-sanctioned killing of wolves to protect cattle in Washington State. Lastly, John Steuber with the USDA Wildlife Service in Montana updated attendees on events in his state.

Kelly Godfrey

Narumi Nambu of Japan receives the International Wolf Center's 2018* Who Speaks for Wolf *Award on Saturday evening.* *See the complete story on page 32.

Following the afternoon individual sessions, attendees enjoyed a social hour followed by a banquet at which Mike Phillips discussed the possibility of the last great wolf restoration in Colorado. In addition to his role as executive director of the Turner Endangered Species Fund, Phillips is a Montana state senator and International Wolf Center Board member.

Rob Schultz, executive director of the International Wolf Center, took the

Andy Blenkush

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Andy Blenkush

Above: Event co-chairs Debbie Hinchcliffe (left) and Judy Hunter are all smiles after receiving a surprise gift at the symposium. Pictured far-right is International Wolf Center executive director Rob Schultz. Second from right is Nancy jo Tubbs, the chair of the Center's board of directors.

Left top: John Vucetich was a presenter during a plenary panel on Isle Royale.
Middle: Kim Wheeler discusses red wolves.
Lower: Tom Gable shared his research regarding wolf depredations on beaver.

stage following Phillips to report on the progress of the Center's outreach work.

Later, Narumi Nambu of Japan was presented with the International Wolf Center's 2018 *Who Speaks for Wolf* Award. Nambu is the first resident of Asia to ever to receive the award.

The evening wrapped up with a DJ providing music and an open dance floor.

Sunday

The final day of the symposium began with a plenary panel on red wolves, eastern wolves and *Canis* mixes in eastern North America. Presenters were Pete Benjamin, U.S. Fish and Wildlife Services, Lisette Waits, University of Idaho professor, Roland Kays, North Carolina Museum of Natural Science, Kim Wheeler, executive director of the Red Wolf Coalition and Regina Mossotti, director of animal care at the Endangered Wolf Center.

To close out the symposium, International Wolf Center Founder Dr. L. David Mech, senior scientist at the U.S. Geological Survey, delivered the keynote address titled "Wolf Facts, Fallacies, Fables and Fake News."

2022

The event's 2018 co-chairs were International Wolf Center board members Judy Hunter and Debbie Hinchcliffe. They expressed their gratitude for the event's sponsors, exhibitors and the countless volunteers, board members and staff who pitched in to make it happen.

Hunter and Hinchcliffe have agreed to co-chair the next International Wolf Symposium along with Center Outreach Director Misi Stine. That event will be held October 13-16, 2022 at the Minneapolis Marriott Northwest in Brooklyn Park, Minnesota—the same location as the 2018 symposium. ■

Chad Richardson is the communications director at the International Wolf Center.

Time for Reflection

By Lori J. Schmidt

Where does the time go? It seems like yesterday, but it was May 1989 when a seasonal wolf exhibit opened at the U.S. Forest Service's Voyageur Visitor Center in Ely, Minnesota—and so began what would become the International Wolf Center's wolf care department.

Visitor Center staff introduced the public to the Center's first four captive pups—Jedadiah, Bausha, Ballazar and Raissa—and a complex journey of science-based education began. Thirty years later, wolf care staff is adept at the intricacies of managing a social carnivore. Some lessons were harder than others, but the knowledge gained with each pack and each decision about its care helped create the foundation for our current management policies.

As we plan for our next set of pups in 2020, it's a good time for reflection on our captive wolf management department at the International Wolf Center.

The Center has always had a management philosophy of adopting pups from other facilities. When discussing ambassador wolves' "litter year," we refer to the year in which they were born and integrated into the Center's operation. The 1989 litter was unique in that those wolves were seasonal residents of the temporary exhibit in Ely and were housed off-site over the fall and winter.

By 1993, the Center's flagship educational facility was complete, and the June 1993 Grand Opening featured the first permanent, year-round ambassador wolves—MacKenzie, Lakota, Lucas and Kiana. An even-aged management plan, where a pack is composed of a single age structure or litter, resulted in a cohesive exhibit of these 1993 litter mates, but as they aged, management teams discussed options for bringing new life to the exhibit.

In 2000, the Center first integrated pups into a non-related pack of adults when arctic wolves Shadow and Malik joined the pack. This was uncharted territory; the potential for rejection by the pack was discussed, but the social nature of wolves dominated the introduction, making it a success.

Left: In our 30-year history of wolf care, Luna presented our greatest challenge and greatest lesson in perseverance.

Right: The Center manages three different subspecies, shown here in 2009 with Maya (great plains subspecies), Aidan (northwestern subspecies) and Malik (arctic subspecies).

Below: The 1993 pack, MacKenzie, Lucas, Kiana and Lakota

Right: Aidan adopted the 2016 pups, Grayson and Axel.

Strong social bonding has been the pattern with each subsequent pup introduction, now scheduled at four-year intervals. In 2004, we learned from Grizzer, Maya and Nyssa; in 2008, it was Aidan and Denali. In 2012, Luna and Boltz gave us insight on delayed socialization and nutritional variations. In May 2016 Grayson and Axel's arrival was a time for staff to compare notes on arctic pup development based on our 2000 litter data.

Wolf care staff comprises a dedicated team of employees and volunteers who have one goal—to employ the best possible management practices to support the ambassador pack as we continue to teach the world about wolves.

To learn more about wolf care at the International Wolf Center, consider checking out the Wolf Den store at www.wolf.org to purchase a Highlights DVD and watch a history of the Center's wolf care program. ■

Lori Schmidt has been associated with the International Wolf Center under contract or as an employee in the wolf care department since 1989. She has served as wolf curator since 2000.

Passion for Wolves, Passion for Teaching

Kathy Kneeland's Dedication to Wolves Shows in Every Part of her Life

By Susan Ricci

Photo courtesy of Kathy Kneeland

Kathy Kneeland has always been interested in nature and wildlife. A biology major in college, she had a particular interest in Minnesota wildlife. Her passion for wolves was fueled by her first visit to the International Wolf Center in 2008 when ambassador wolves Aidan and Denali were pups. After that she began following the Center online and participated in wolf ecology courses and webinars, and even took part in the Center's recent "Wine, Women and Wolves" event.

When Axel and Grayson arrived in the summer of 2016, Kathy served on the wolf behavior observation team. That, she says, is when she became "totally hooked."

"The pups were released into the exhibit pack, and we served in teams on a rotating schedule, interpreting their behavior, observing and recording everything. That was a really amazing experience." That experience also led Kathy to become one of the Center's valued volunteers at special events, including the 2018 International Wolf Symposium.

Kathy teaches environmental science and Minnesota ecology at Armstrong High School in Plymouth, Minn. Her passion for wolves has spilled over to her students. "I share with students my experiences and photos of what I learned over the years. I teach them a little bit about wolf ethology. We study the role of wolves as apex predators in an ecosystem. I also talk about the history of wolves in Minnesota, sharing much of the information I have learned from coursework at the International Wolf Center and sessions I have attended. I have several extremely interested students who ask questions outside of class."

Kathy's ecology students have taken a field trip to the International Wolf Center in Ely. "We did an overnight trip last year, and waking up to howling wolves in the morning was fantastic," she says.

Kathy is already working on getting the next field trip on the schedule.

Even Kathy's mom has "joined the pack."

"My mom loves watching the wolf cams. Every morning it's part of her routine—to watch the wolves. She will say to me, 'Did you see what Aidan did this morning?' and we will have a conversation about the pack. My whole family is interested now."

In addition to her interest in wolves, Kathy also loves photosphere (360-degree) photography and traveling. She met a personal goal by traveling to all 50 states before her 50th birthday. Kathy will participate in *Working for Wolves* events this spring and fall, and she also hopes to be part of the Center's wolf pup-care team in 2020. ■

Susan Ricci is the development director at the International Wolf Center.

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Heather Hoff

US Bank on behalf of
Cindy Carvelli-Yu

Thank You!


International Wolf Center

Paws and Effect:


Jennifer Ell

Wolves have fantastic feet with adaptations that set them apart from other animals in their environment. Wolves' very large feet help them move around confidently on harsh terrain. In the winter those big feet even double as snowshoes, keeping them from sinking down into the snow as much as do other animals.

They also have hair between their toes. These hairs have a very important job. When the wolf is out in cold, snowy winter weather, these hairs help stop snow from freezing in between their toes. (If snow gets between their toes, they can have problems or suffer damage to their feet!)

Wolves' feet also help make them excellent swimmers because of another adaptation called "interdigital webbing." This means they have a special piece of skin between their toes that acts like a flipper in the water. This interdigital webbing helps them swim more easily so they can chase swimming prey, like a moose or deer. ■


International Wolf Center

Meet the Pack:

Grizzer is 14½ - years old, making him the oldest wolf currently living at the International Wolf Center. He came to the center in 2004 with his littermate, Maya, and has lived in retirement since March 2011. Aidan and Luna live with him in retirement. He currently weighs 112 pounds.

Kelly Godfrey

Notes from the Field

Fall's arrival means that wolves need to get ready for the cold winter months ahead. One way they do this is by growing an undercoat (fur). The dense, thick hairs in the undercoat grow underneath the outer guard-hair layer. The undercoat has a very soft texture and acts as an insulating layer to help the wolves stay warm and dry in cold climates.

Vocabulary

Adapt To adjust or change in order to fit in a specific location or situation

Biologist A person who studies living organisms, life processes and/or the animal and plant life of a particular place. Biologists also study the relationships of living things to one another.

Carnivore An animal that eats meat

Ethogram A catalogue or table of an animal's observed behaviors and actions

Word Search

Words can go any direction

cache
play
pups
scent roll
undercoat
wolves
yawn
carnivore
den
habitat
howl
jawspar
pack

Q	M	Z	Z	M	S	E	Z	C	J	D	N	T	B	C
Q	Y	O	C	N	N	I	P	W	F	S	E	M	A	Q
O	Y	W	Y	U	K	K	Y	M	E	P	D	R	Q	G
Z	B	R	D	N	V	R	S	V	N	F	N	W	H	M
O	M	Y	U	D	I	D	L	R	H	I	L	Z	P	M
J	Z	A	P	E	Z	O	V	G	V	G	U	E	X	R
L	F	W	H	R	W	T	P	O	P	S	H	R	I	A
T	F	N	X	C	U	H	R	Q	W	A	G	E	T	P
Q	A	Z	B	O	Z	E	I	Z	C	X	C	W	R	S
S	D	T	H	A	O	P	M	A	K	W	S	K	T	W
E	P	O	I	T	L	L	O	R	T	N	E	C	S	A
W	W	U	U	B	C	A	C	H	E	D	G	F	Q	J
L	R	B	P	X	A	D	K	B	L	I	Q	L	P	G
B	Y	A	L	P	R	H	N	O	X	Y	M	A	Z	S
G	L	W	D	H	V	N	Y	U	U	G	D	I	D	Q

Worldwide, People Learn Strategies, Advantages of Living with Wolves

By Tracy O'Connell

SPAIN

Wolves are attracting tourists in Zamora province, located in Castile and León, one mountainous region in northwestern Spain near the border with Portugal. The *Huffington Post* notes that here, farming has fallen into decline, and locals are eager to explore the opportunities this new revenue source provides. With young people leaving small towns for jobs in bigger cities, the difficulties of farming in the area's harsh climate and poor soil, and the effects of the 2008 financial crisis lingering, much of the farmland is being returned to the wild.

Now Sierra de la Culebra, the region's 95 km (more than 59-mile) long mountain chain is believed to be home to about 60 percent of Spain's 2,000 wolves. It is considered one of the best places in the world to see wolves in the wild, and several wolf tourism companies host visitors from the U.S., Canada and the U.K., as well as Spain.

Spanish authorities had licensed about 140 hunters to kill wolves in the Castile and León region. Additionally, a study last year used data from several sources to show that more than 300 wolves in the region died in 2017—killed by hunters, poachers, poison and vehicle collisions, among other causes. For now, however, licenses have been suspended and hunting banned.

The Iberian Wolf Center in Castile and León, in the town of Robledo, opened in 2015. Its 100,000 visitors have learned that while the wolf has been expanding its territory and population recently, it is still subject to the destruction of natural habitat, fragmentation of its territories by highways and other infrastructure, and especially to poaching.

RUSSIA

Radio Free Europe reports that Christmas lights are being used to keep wolves away from the remote village of Morino in the western administrative unit, or oblast, known as Pskov, where wolves have snatched dozens of dogs. A 2013 wild boar hunt intended to prevent the spread of African swine fever has limited the wolves' former quarry, and local citizens fear that humans, especially children, may fall prey to the wolves, as the threat has worsened in recent years.

Adobe Stock/ ysbrandcosijn

Adobe Stock/ F.C.G.

Top and right: Iberian wolves

Residents cannot shoot wolves in a populated area, and in the wild, they must await snow for tracking—but winters have come later and are milder than in the past. In neighboring towns such as Seryodka, some prefer the traditional defense of leaving pitchforks along footpaths to use in the event of an attack. The report notes that officials have advised residents to build better fences and sturdier doghouses, and locals scoff since most are pensioners or earning minimum wage without even means to repair drafty homes. A schoolteacher was quoted saying she wears bright red mittens with a flashlight inside, in the hope it will produce a flare-type light to frighten the animals away.

UKRAINE

The war that has simmered for years between this country's military forces and Russian-backed separatists is having unintended consequences for residents of the border area, *The New York Times* reports.

To reduce confusion about who is shooting at what, hunting is prohibited as far as 40 miles from the front line, increasing numbers of both prey and predator, and more likely interactions with carnivores— possibly rabid ones—for area residents and their pets and livestock. While there have been some efforts to fight rabies by dropping doses of vaccine from planes or culling predatory animals, the measures have been called haphazard and inefficient.

Still, the region faces worse problems, the *Times* reports; more than 10,000 people have been killed and 1.5 million more displaced by the fighting, which began in 2014. Dogs and cats have been left behind when owners fled, and homeless dogs are a much worse problem than wolves, notes the head of the local hunting society.

INDIA

The nomadic Tibetan Changpa people of Leh, a town in the state of Jammu and Kashmir that was the capital of the Himalayan kingdom of Ladakh, deal harshly with wolves that kill their prized pashmina goats, stoning to death those caught in a traditional trap called a shang-dong, a pit made of stones, baited with meat and buried in the ground.

Here, more than half the families that live across 22,000 square km (nearly 8,500 square miles) depend on cashmere wool, or pashmina, for their income. As demand for the wool product increases, more wild lands have been turned over to pasture, intensifying the conflict with herbivores, that need grazing range, and with humans protecting their goats from predators. While 13 species of wild carnivores are at work in the region, including the snow leopard, wolves are said to be responsible for more than half the livestock depredation.

But last summer, TheHindu.com reports, Buddhist monks in maroon robes gathered around a trap whose walls had been torn down, and a revered monk consecrated a stupa—a structure used for meditation— next to it as a symbolic gesture to mark peace between man and wolf. The action was part of an effort by researchers to integrate "locally relevant religious philosophies" into conservation, after finding that the extent to which people practiced Buddhism affected their attitude toward carnivores.

The attitude change did not come rapidly; two years and seven rounds of discussion later, the Changpa people decided to tear down the four traps in the area, and villagers contributed to the construction of the stupa and the inauguration ceremony.

Udayan Rao Pawar / Snow Leopard Trust

Right: The stupa in Chushul, Ladakh.

Below: Pashmina goats

Adobe Stock/ bbThomas

JAPAN

A graduate student in Denmark has sequenced the genome of the Honshū wolf, an animal formerly found on the Japanese island of the same name, which farmers considered a benevolent forest spirit that kept wild boars from destroying their crops. But the wolves became rabid from contact with dogs in the 1800s and have since been shot and poisoned into extinction.

When they analyzed the genome of a Honshū wolf skeleton from the Natural History Museum in London, Jonas Niemann of the University of Copenhagen and his colleagues found that this wolf appeared to be a relic of an ancient group of wolves that ranged across the Northern Hemisphere until 20,000 years ago, according to sciencemag.org.

Momotarou

Japanese Wolf

The wolf's DNA more closely resembled that of a long-extinct wolf that lived in Siberia more than 35,000 years ago than that of living Eurasian and American wolves, Niemann reported at the International Symposium on Biomolecular Archaeology. Most ancient wolves died off more than 20,000 years ago when the mammoth and other large mammals they hunted became extinct. But some of their DNA lived on in the Honshū wolf, which could offer a new window on the evolution of wolves as well as dogs, says paleogeneticist Mikkel Sinding of the Greenland Institute of Natural Resources in Nuuk, who extracted the DNA.

Amir Hadhi Ebrahimi

IRAN

Wolf biologist Amir Hadhi Ebrahimi reports that villagers in Ghalatain near Saveh City rescued a wolf that had fallen into a trap (probably set by a farmer) and released it unharmed into the wild. Ebrahimi is always glad to share such examples as they come to his attention. Saveh City is the capital of Saveh County in the Markazi Province of Iran, about 100 km (62 miles) southwest of Tehran.

IRELAND

Wolves were extirpated from Ireland more recently (by nearly 500 years) than from England, and 100 years sooner than from Scotland, notes an article in AncientOrigins.net, an online source that seeks to reconstruct the story of humanity's past. Numbers of the canids ran so high in Ireland that the nation was known until the Middle Ages as Wolfland, the article relates, quoting a Shakespearean character in "As You Like It"— "Pray you, no more of this, 'tis like the howling of Irish wolves against the moon." Myth and folklore here and in other lands addressed the idea of wolves parenting human children and the existence of werewolves. Landowners were required to keep wolfhounds as protection against the predators, and ringed fortresses were seen as a guard against animal and human attacks. The article addresses discussions of rewilding the Irish countryside and the likelihood (or lack of it) that may exist in this landscape replete with farms.

That idea is still alive in some places, however, as last summer *The Irish Times* reviewed Spanish artist José María Yagüe Manzanares's exhibition *Wolf*, installed at a Dublin gallery and consisting of paintings, drawings, text, collages, maps, video and more. The artist has long been interested in the relationship between humans and animals, especially wolves, the article notes. He was moved, for instance, in 2008 by a photo of a wolf killed in a traffic accident in Spain and, knowing where it was buried, dug it up to claim the skull. Touring Ireland a few years later, he climbed Carrauntoohil in County Kerry, the island's highest peak (at more than 1,000 meters, or 3,500 feet) and there—as a symbolic re-introduction of the wolf to Ireland—interred the wolf skull close to the summit, knowing this may have been close to the place in which the last Irish wolf was killed in the late 1700s. ■

Tracy O'Connell is professor emeritus in marketing communications at the University of Wisconsin-River Falls, and serves on the International Wolf Center's magazine and communications committees.

Acts Like a Wolf, Misunderstood Like a Wolf—and Barely Surviving, a World Apart

Text by Nancy Gibson • Photos by Nicholas Dyer

I watch the silhouettes dashing across the tall grasses and think: *This could be a pack of wolves chasing elk in the Lamar Valley of Yellowstone National Park.* Instead, I am bouncing along in a jeep at dusk in Botswana, Africa. The animals weaving and darting in pursuit of an impala are wild canines, creatures with multiple names—African wild dogs, Cape hunting dogs, painted dogs and most recently, painted wolves. Despite all the monikers, *Lycaon pictus,* share a distant, common ancestor and many behaviors with *Canis lupus*—wolves.

There is one obvious exception, and "painted wolves" provides a hint. They are costumed in patches of white, black, brown, gray and everything in between. Their large, round ears are reminiscent of Disney's famed Mickey Mouse character. (Many African animals have large ears to radiate excess heat from their bodies.) This distinctive pelage allows researchers to easily identify each individual. The only consistency is the white tassel at the end of the tail. Closer inspection reveals four toes but no dew claw or thumb, making *L. pictus* unique in the canid family. Both species are long-legged, but adult gray wolves are larger than their African cousins that weigh between 44 and 66 pounds.

Even though the two species live on different continents, they share the same survival tools and denning behaviors. Painted "wolves" are mainly led by the breeding pair, but the female takes significant rank with hunting and pack management.

I was riveted when I saw my first painted "wolf" den in Moremi Camp, Botswana in 1994. There were 17 seven- or eight-week-old pups inside! It was puppy chaos when the adults returned with leftovers in their bellies. The begging for food by mobbing, licking, tumbling pups was short but intense. The yearlings pampered and played with the pups while older "wolves" surrounded the site like sentries to alert members of any imminent attack by lions, leopards or hyenas—all of which are a constant, deadly threat to helpless pups. The pack was incredibly tolerant of our clicking cameras and whispering voices as we tried to contain our excitement. I became expert at watching pups sleep in a pile for three days, but the raucous spurts of play made the memories. Overhead, vultures lurked in trees awaiting their duty as "nature's clean-up crew" by devouring pup scats and food remnants. All quite tidy.

As Dr. L. David Mech wrote in his 1975 paper about the hunting strategy of these two social canids, "they stand out in occupying similar ecologi-

cal niches…nevertheless both the wolf and the hunting dog face the same problem: securing a livelihood by preying on large ungulates."

New research states that most painted "wolf" packs need at least six members to hunt and reproduce successfully although like wolves, some smaller groups can survive. New data suggests the average adult needs nine pounds of food daily. Medium-sized antelopes like impala (*Aepyceros melampus*) and kudu (*Tragelaphus strepsiceros*) are their main food source.

Painted "wolves" are crepuscular hunters (active at dawn and dusk)—to my advantage as I watched the hunt that memorable evening in Botswana. I couldn't hear their excited communication but saw their exuberant movements and their round ears turning like disks in all directions. Eager noses, slightly smaller than a wolf's, sniffed the air. As their keen eyesight captured the slight movement of impalas cautiously grazing at the edge of a scrubby forest, the painted "wolves" quickly transitioned to stalking their prey. Once near, they erupted at full speed, expertly sorting out the most vulnerable antelope. Success!

Unlike wolves, which catch a breath of rest after their prey falls, these painted "wolves" burst into a feeding frenzy. One grabbed a chunk of food and retreated 15 feet, looking out for hyenas and lions. They took turns scarfing what they could, but when nightfall arrived, so did the hyenas. A guttural alarm call resonated a warning, but the ferocious fight for the carcass was instantaneous. Teeth gnashing, squeals and a cacophony of brutal sounds filled the night—the savage turmoil of survival. I returned at daylight thankful not to see a dead painted "wolf." The bent grasses and smears of blood were the only evidence of last night's struggle. Competition for food is intense in Africa.

By three months of age, pups graduate to their nomadic stage, moving with the pack at dawn, scouting for prey. In late afternoon, a babysitter is assigned and a safe location is secured for the pups. The predator-and-prey theatre begins once more at dusk. Strong bonds form among the pups, especially among same-sex siblings. By age three, brothers will link together as they disperse in small groups. The pattern is similar for sisters around age two. Leaving in small groups provides some security when trying to attract a new pack with unrelated siblings. This is a good but challenging plan, as forming new territories is fraught with snaring and other prevalent human hazards.

I repeatedly return to Africa with one goal: to see more painted "wolves." June 2018 took me to Zimbabwe. I met award-winning photographer Nicholas Dyer, who visited the International Wolf Center in late winter 2018 and detailed for staff the similarities between our gray wolves and the painted "wolves." His enthusiasm and stunning photographs of painted "wolves" sparked a return visit to Africa.

Africa is full of varied landscapes, but Mana Pools National Park in Northern Zimbabwe, where I camped, is serene and captivating in its remoteness, far-flung savannahs and wildlife. It borders the Zambezi River with views of the neighboring Zambian foothills to the north.

I prefer basic camping tents, fully open to the sounds and activity of wildlife, versus semi-insulated lodges, and on that trip it was the right choice. The river is home to hippos during the day, but our camp was clearly on the trail for night grazing. Elephants plucking ripe tree-fruit in camp were commonplace, and included a curious bull that surveyed our tent. Grazing antelope chose the protection of camp during the day, but the hyenas and lions came at nightfall— often together.

Painted "wolves" typically den in June, so our search for the pack began. We knew that the Nyamatusi pack was sometimes spotted along the Cheruwe River valley. The river bed is dry in summer, and thick sand made for arduous hiking. Additionally, we saw the tracks of numerous lions, leopards, hyenas and dangerous Cape buffalos crisscrossing the sand. The guide carried a gun for safety as we searched the valley. My instincts piqued with each venture into the thick scrub and tall grasses.

While painted "wolf" tracks were prevalent, there was no obvious trail to the den. But after trekking four kilometers, we spotted a well-worn path up a short ridge that landed us nearly next to the pack's deep den with five pups. A

glance to the right showed three adult animals hiding in the grass and one male standing his ground. I snapped a quick photo and then fled to avoid intrusion.

I later learned that the brave painted "wolf" distinguishable by his black shoulder pattern was named Tequila. He was one of six brothers who dispersed from their pack in 2015, met up with six sisters and formed the Nyamatusi Pack. Unfortunately, Tequila was likely killed by lions shortly after my encounter. Most of the pack, however, remains intact, and most of the attached photos are of his former pack.

Painted "wolves" produce a repertoire of sounds. Their twittering sound is like a bird call, but it indicates excitement, whether anticipating food, making a greeting or prepping for a hunt. Instead of howling, painted "wolves" emit a chorus of gentle "hooing" when searching for pack mates. The explosive alarm call is used for intruders. Their whines and head-lowering in submission are similar to wolf behavior.

The fortunes of wolves on all continents are subject to fearsome constructs of our own myths. The painted "wolves" are no different. Although livestock losses are rare, they are treated like vermin, often unintentionally trapped in deadly snares designed for bushmeat, poisoned in dens and killed on the roads. Rabies, distemper and other diseases are spread by domestic dogs. Once abundant south of the Sahara Desert, they exist only in protected areas. They are likely the most persecuted predator, challenged by intense competition from other predators inside the parks and humans outside the parks. Their population is just 6,500 animals.

This Zimbabwean adventure ended at the Painted Dog Conservation's center of operations, just outside Hwange National Park. The structure resembles a large, beautiful hut, and inside are engaging education exhibits. Led by its charismatic director, Peter Blinston, it employs 62 passionate staff of which 16 are anti-poaching patrollers. The center comprises more than 150 acres, an expansive "wolf" exhibit topped with a visitor walkway, and a rehab center for recovering, wild painted "wolves." Local school children stay several nights there in dorms, eager to spend days learning about painted "wolves" and other native wildlife. The center's efforts are not unlike ours at the International Wolf Center, and their younger generation holds the key to painted "wolf" survival.

When it was time to leave, Peter took me to see if any of the Destiny Pack members had returned to the nearby den. Outfitted with telemetry, we patiently waited, and once again, luck was on my side. Peering through thick brush, I saw first-time-mother Lucy returning. We tried to count pups as they were bursting out of the den. We estimated 10 pups—not an unusual number —in the flurry of bouncing youngsters ready to eat and anxious adults ready to play.

Sadly, none of those pups survived. In the fall of 2018, just as the pups were old enough to travel, a pride of 17 lions tracked the pack for three days killing the pups and one adult collared male. Three collared painted "wolves" have returned to the den area, but with their diminished pack numbers, survival is unlikely. While odds are poor for this species in general, sufficient habitat nourished by education and tolerance could easily change their fortunes. Their fate is inevitably tied to human efforts.

For more information, check out www.paintedwolf.org, where you can see pack updates and buy the new stunning book *Painted Wolves, A Wild Dog's Life* by Peter Blinston and Nicholas Dyer, whose photos are featured with this story. ■

Nancy Gibson is the co-founder of the International Wolf Center and serves on its board of directors.

Building Bridges through Education, One Interaction at a Time

By Misi Stine

International Wolf Center

Misi Stine, the International Wolf Center outreach director, presents about 350 school programs each year.

As an educator, I frequently meet people in my travels who ask me questions about wolves. Their curiosity is often driven by fairy tales, the media, the cultures they come from and their life experiences. From time to time I encounter a question or a comment that sticks with me in a captivating way. I'll share a few of them here and explain why they resonate with me.

Visiting a class of middle-school students, I talked about life in the pack and wolves as social carnivores—how a pack works as a family unit to feed its young. For the first three weeks of their lives, I said, mom provides milk from her body to nourish them, but as pups grow baby teeth, something changes. The whole pack, males and females alike, begin to regurgitate meat to provide their young with food they need to survive.

Looking around the class, I got the usual looks of surprise and horror from students who cannot imagine having to eat food that an adult just threw up! Then a young lady wearing a hijab, an immigrant to America, raised her hand anxiously, clearly concerned by what I was saying. She asked, "What do you mean by, 'the males feed the young'? That is the job of the females."

The culture this young woman comes from is traditionally patriarchal, and this fact did not make sense to her. On the other hand, I was not prepared for her question. In my culture, women are not expected to be the sole caretakers of children. I wanted to respect her culture and her thought process, and I also wanted to give her a good, science-based explanation. I explained that for wolves, everything is about survival, and it takes the entire pack working together to ensure the survival of the pups, so both males and females are needed to feed the young. With an average-sized litter of six animals, they cannot rely solely on mom to find all the meat that is needed; it takes every member of the pack.

I'm not sure she entirely understood, but I hoped the rest of the program would help her see that wolves don't live with the same social constructs as humans; their norms are determined by the need to survive in their wild environment. The experience reminded me that it is important, as an educator, to pay close attention to my audience and how their cultures influence the way they see the world and other creatures that live here.

Several months later, a tenth-grade student who lives and works on his family farm approached me after my program, extended his hand and thanked me for sharing *his* perspective about wolves—and not telling him how to feel about them. We talked for several minutes about his farm and how important it was to him. We talked about wolves, my presentation and the fact that I want to share diverse perspectives about wolves. It was genuinely rewarding to know that I connected with a student in a way that was important for him.

Finally, during a question break in an urban ninth-grade classroom, I was surprised by a student who raised her hand and said she didn't believe we should keep wild animals in captivity. It seemed to me that she was very young to be thinking about this aspect of how

we manage wolves, and I wanted to encourage her to continue her interest in wildlife. So we talked about important aspects of animals kept in captivity—how the practice must be undertaken with great care, thinking about the needs of the animals and their wild natures.

We recognize that some animals need to be protected due to illness, injury or being orphaned. In other cases (like the Mexican gray wolf or the red wolf) it is fortunate that zoos or wildlife parks were prepared to care for them back when they would otherwise have become extinct in the wild. Students like that girl—thoughtful animal lovers with big hearts—ask tough questions that an educator needs to prepare for. We must be respectful of their thoughts and feelings as we instruct them, and do our best give them a positive experience, leaving them with accurate information, new ways to think and a healthy curiosity about the world around them. ■

Misi Stine is the outreach director at the International Wolf Center in Ely, Minnesota.

Adobe Stock/ geoffkuchera

Ambassador wolves, Boltz, Axel and Grayson.

International Wolf Center

Photo courtesy of Narumi Nambu

Narumi Nambu presented with Who Speaks for Wolf Award at International Wolf Symposium

Tireless advocate for wolves in Japan accepts before her peers and heroes

Kelly Godfrey

Narumi Nambu

By Chad Richardson

It was clear to the entire audience that Narumi Nambu had just received the surprise of her life.

In a packed hotel ballroom in Minneapolis, Minnesota USA during the 2018 International Wolf Symposium, Nambu had just been named the recipient of the 2018 Who Speaks for Wolf Award presented by the International Wolf Center.

As she walked toward the stage to accept the award, Nambu's hands covered her mouth in excitement. "I thought it was a mistake when I heard my name, especially since Japan has not approached the world level of wolf conservation," she said. "Because my country no longer has any wolves, it can only take from the world but cannot reciprocate"

The Who Speaks for Wolf Award is given annually by the International Wolf Center for making exceptional contributions to wolf education by teaching people how wolves live, and placing wolves in the broader context of humans' relationship to nature. Nambu earned the award for her work with the Japan Wolf Association. She's an active member of the association, which aims to have wolves reintroduced in Japan. Nambu has translated multiple wolf books into Japanese, researches Japanese attitudes about wolves and their possible reintroduction there, speaks at conferences and publishes in a variety of forums.

"There were many researchers and educators from all over the world at the symposium," Nambu said. "I was walking on air when I could speak and talk directly with these people. There were many experiences and ways to learn at the conference other than from formal papers about human and wolf society. At the banquet many of my heroes were gathered."

Dr. L. David Mech, the founder of the International Wolf Center, had this to say about Nambu's efforts: "I have known Narumi since the Center's 2013 International Wolf Symposium, and she is one of the most passionate and enthusiastic supporters of wolf reintroduction into Japan."

This is the first time in International Wolf Center history that the Who Speaks for Wolf Award has been given to a recipient from Asia. The Center's Executive Director, Rob Schultz, was thrilled to see Nambu earn the award.

"Narumi's efforts in Japan illustrate that wolves across the world play a vital role in our ecosystems," he said. "The work she's doing there is all too familiar to those who have done similar work in North America. We're honored to present her with this award and thrilled to celebrate her success in front of her peers."

The Japan Wolf Association (JWA) was formed in 1993. The JWA estimates that animals with no natural predators left in Japan, mostly sika deer and wild boar, have caused the equivalent of $1.8 billion in agricultural and forestry damage to date.

Preserving the environment for future generations in Japan motivates Nambu to continue her efforts for wolf reintroduction.

"I love my own country, Japan," she said. "I want to leave the nature of Japan in a beautiful condition for the next generation. In biology I learned that wolves are important in nature. But Japanese society must learn how to relate with wild animals. I believe that connects with the happiness of people in the future."

Nambu was quick to point out that she's one small part of a big organization working hard at reintroducing wolves in Japan.

"More than me, there are other people in Japan who have worked longer and harder for wolf reintroduction—for example, Dr. Naoki Maruyama, leader of the Japan Wolf Association, along with my husband, Hiroshi Asakura, and local wolf educators," she said. "This award is not only for me but for all of them, as well. I hope to be only the representative. This award is not like the goal tape at the end of a race, but instead it is the starter gun." ■

Chad Richardson is the communications director at the International Wolf Center.

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International Wolf Center

1

Focus on the Night Sky
March 30, 2019
Saturday at 8 a.m. – 3 p.m.
Registration Deadline: March 16

Non-Member $75, Member $67.50

2

Tracking the Pack
April 26-28, 2019
Friday 5 p.m.– Sunday 10 a.m.
Registration Deadline: April 12

Non-member $135, Member $120

3

Jr. Wolf Biologist Mini Camp
June 10-11, 2019
8:15 a.m. – 3:30 p.m.
Registration Deadline: May 27

Non-member $60, Member $54

For more information, and to register, visit WOLF.ORG

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