INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER
SPRING 2013

What's new in wolf research? PAGE 4

What's going on with the Malberg pack? PAGE 8

What we can do when emotions, facts and values collide PAGE 12

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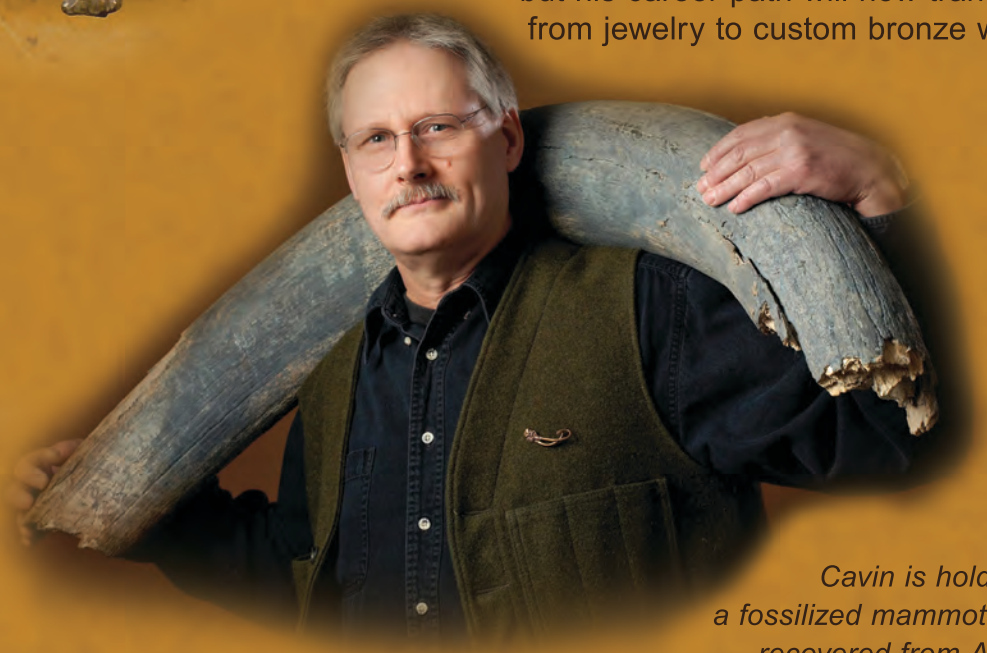

Cavin is holding a a fossilized mammoth tusk recovered from Alaska.

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INTERNATIONAL
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THE QUARTERLY PUBLICATION OF THE INTERNATIONAL WOLF CENTER
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Features

What's New in Wolf Research?

World-renowned wolf expert and researcher Dr. L. David Mech talks with award-winning author Steve Grooms about the latest developments in wolf research, including studies coming out of Yellowstone National Park.

By Steve Grooms

Malberg Mystery

What's going on with the Malberg pack? In the span of two weeks two active radio collars have gone into mortality mode. Could the sibling wolves still be alive?

By Shannon Barber-Meyer

Should Emotions, Values or Facts Drive Wolf Management?

When competing interpretations, values, emotions and facts are on the table, finding a scientific or technically correct solution to an issue is nearly impossible. That's because science can't select the most "appropriate" set of feelings or values. What can we do then when faced with contentious issues of wolf management?

By Nancy jo Tubbs

Departments

3 From the Executive Director

14 Tracking the Pack

17 Wolves of the World

20 Personal Encounter

22 Wild Kids

24 A Look Beyond

On the Cover

First Snow, oil on canvas, by Keith Grove

First Snow depicts a pair of playful wolves disrupting a raven. The artist, Keith Grove, an award-winning former commercial illustrator, today specializes in painting nature and wildlife. He travels throughout the United States taking photographs of animals and scenery to use in his realistic paintings. To see more of his work, go to www.grovenatureart.com.

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PHOTOS: Unless otherwise noted, or obvious from the caption or article text, photos are of captive wolves.

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I am proud to recognize a very special act of generosity by a longtime friend to the International Wolf Center, Sexton Printing. Sexton agreed to sponsor the cost of full color throughout this issue.

Sexton has been our magazine's printer of choice for many years and has worked closely with us to continue to improve both the look and the production process—always with sensitivity for financial stewardship in mind.

I knew when I approached Sexton's owners, they would understand the gravity of shifting to full color on the membership experience and the enhanced ability of the Center to educate all who come in contact with the magazine. Be that as it may, it is uncommon for businesses fighting off a recession to extend such benevolence.

Please join me in congratulating Sexton for its uncommon commitment and generosity. I hope you will also consider rewarding Sexton's support with your patronage.

With deepest gratitude,

Tom Myrick, Publications Director

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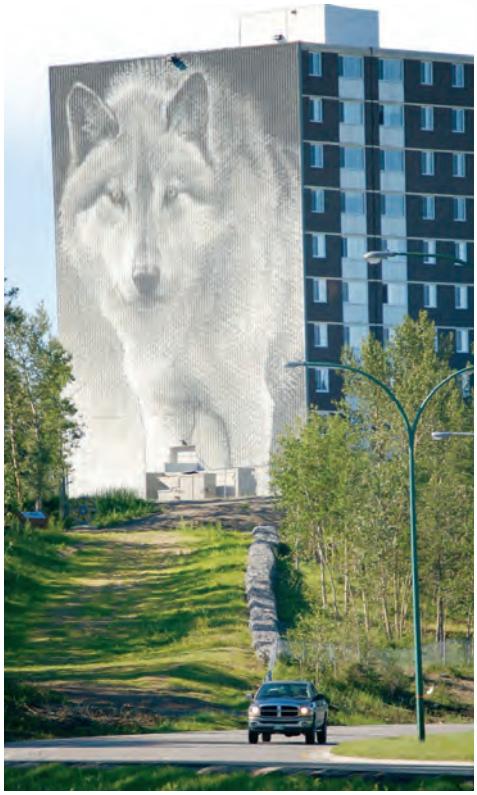
Life is Different at the End of the Road



A few months ago I travelled to Thompson, Manitoba. Surrounded by boreal forest, this northern mining community is known for its harsh winters—with temperatures falling so low that automobile and aircraft engine manufacturers test their products there in some of the world's most extreme weather conditions. It's the most northern Canadian city connected by road in the region, where civilization ends and an untamed wilderness begins.

Arriving in Thompson, it's clear to me that the people who live here have tremendous respect and appreciation for wolves. Streets and a walking path called the "Spirit Way" are lined with statues of wolves painted by local artists, a 10-story apartment building proudly overlooks the city, sporting a massive lighted mural of a wolf, and the city's mascot is a spirited gray wolf named "Timber."

Rob Schultz

Despite Manitoba laws that allow for the hunting of wolves from August through March, a flourishing wolf population surrounds the city. Sightings of wolves are common, and few of the people I spoke with could understand why anyone would want to hunt these magnificent animals. On popular local Web sites, Thompson residents and tourists post photos and videos of their wolf sightings. This community lives up to its claim of being the "Wolf Capital of the World."

But what makes Thompson so different from other wolf-rich environs? The remoteness of the region and its harsh living conditions undoubtedly prevent the wolf-human conflict that commonly results from livestock and human population densities.

But credit also needs to be given to a local organization, Spirit Way, which has raised more than $1.5 million to promote ecotourism and cultural heritage in Thompson. Its work appears to be changing local attitudes toward wolves by teaching people to value the wolf as an important natural resource.

Thompson's celebration of the wolf is an excellent example of the environmental and economic success that can be achieved when we work to enrich public attitudes toward wolves through education. While local culture and remoteness give this community an advantage, its success has been fueled by committed volunteers and community leaders who teach respect and understanding of the important role wolves play in a balanced environment. ■

Rob Schultz, Executive Director

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Mark Weber

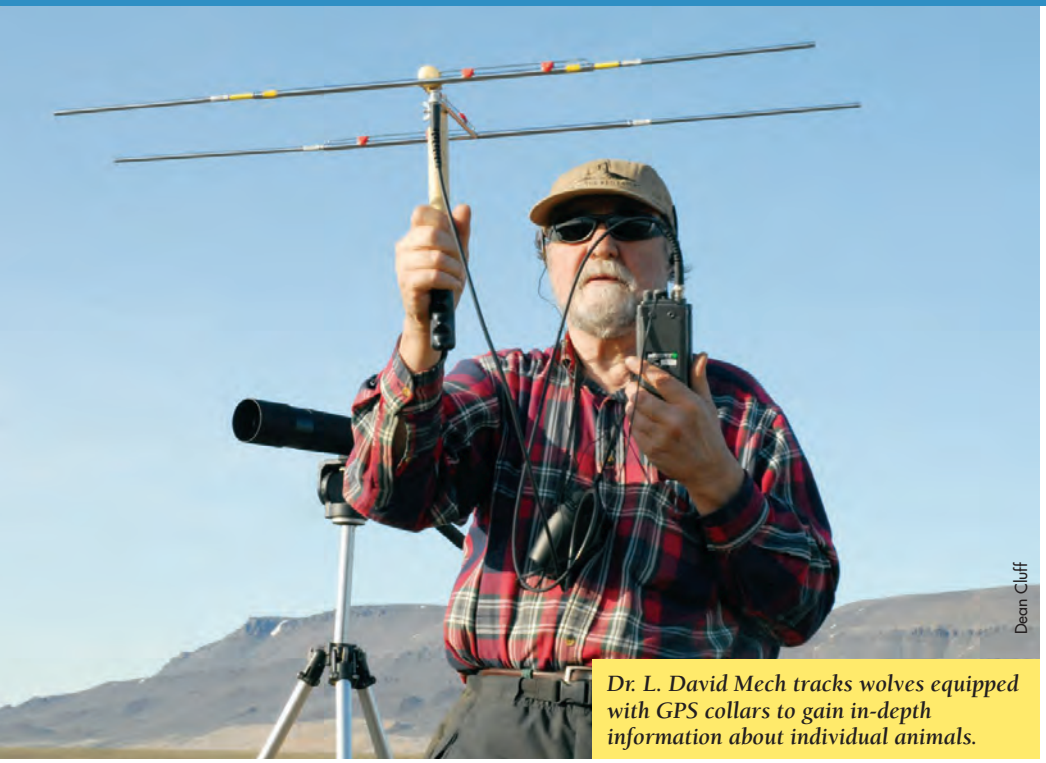
What's New in Wolf Research?

A Conversation with Dr. L. David Mech

by STEVE GROOMS

US Fish and Wildlife Service

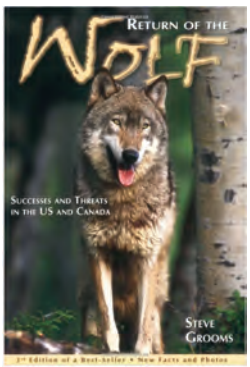
John Dykstra Photography/ johndykstraphotography.com



Dean Cluff

Dr. L. David Mech tracks wolves equipped with GPS collars to gain in-depth information about individual animals.

EDITOR'S NOTE: International Wolf *covers wolf research in almost every issue, yet it is useful to step back now to consider wolf research in a broad historical perspective. Nobody is better qualified to do that than Dr. L. David Mech, founder of the International Wolf Center and one of the world's foremost wolf researchers. Mech recently answered questions about wolf research put to him by Steve Grooms, author of the award-winning book* The Return of the Wolf.



Grooms: Which wolf research findings in recent years have surprised or excited you the most?

Mech: My answers might disappoint you. Wolf research is all interesting to someone like me, and it moves more by increments than dramatic leaps. Still, some research is particularly dramatic. Many strong studies are coming out of Yellowstone National Park (YNP) these days.

Grooms: What about YNP makes that possible?

Mech: When wolves were translocated to Yellowstone in 1995 and 1996, most researchers—and I was prominent among them—were confident that wolves would thrive in the park because of its abundance of prey, but we didn't think people would see them often. We could not have been more wrong about that.

Several factors combined to produce a dramatic new opportunity to observe wolves living day to day. The YNP landscape has a mix of timber and open vistas. Roads give wolf-watchers access to many places where they can sit with spotting scopes. The biggest surprise was how readily these wolves accepted the presence of humans. They aren't "tame" or "habituated" to humans. They just seem unconcerned with them. Wolves in many areas where they are harassed do much of their hunting at night, which makes observing them difficult, but the Yellowstone wolves hunt in daylight as well as at night. All these wolves were radio-collared, too, which helps researchers locate them. YNP is now a unique laboratory for watching, filming and analyzing wolf behavior that was extremely difficult to observe—especially hunting—before wolves went to Yellowstone.

Grooms: What are some examples of the research results?

Mech: A recent study analyzed the ideal number of wolves required for a pack to hunt elk efficiently. People used to think that wolves live in packs because having many available killers gives them an advantage while hunting, but we now know that a single adult wolf in good condition is capable of killing even the most dangerous species of prey alone, as long as the prey are old or otherwise weak. It turns out that the magic number for efficient hunting is about four wolves. Having more wolves doesn't help and can even reduce efficiency.

This study analyzed why that might be so. People have hypothesized that having a lot of wolves fighting prey is inefficient because the youngsters "get in the way." But that doesn't fit the facts. It seems that when wolf packs

get larger than the ideal number of four, killing efficiency does not increase because more wolves become "free-riders," choosing to be cheerleaders rather than actively participating in the hunt. And that makes sense. Wolves don't hunt for fun, and fighting with prey is risky. With large packs more wolves make the rational decision to be free-riders.

Another study researched the effects of aging on hunting effectiveness. As you'd expect, pups are not skillful at capturing or killing prey. Young wolves become proficient quickly, until they reach a peak at 3 years of age. After that, growing older makes wolves gradually lose hunting effectiveness. This is just what you would expect of any aging athlete, human or animal. Wolves 5, 6 or 7 years old can still survive in a pack if there is enough prey, but wolves older than about 3 years of age are not usually as proficient at hunting as they once were.

Another recent study found that being large helps wolves deal with prey. The most efficient hunters are the heaviest wolves, usually 3-to 4-year-old males. This was a little surprising. Many researchers assumed that bigger wolves would be more efficient when fighting prey, but their bulk would be a disadvantage when chasing prey. The study basically found that the advantages of greater size mostly outweigh any disadvantages. This probably reflects the way wolves divide responsibilities while hunting, with the younger, lighter wolves doing most of the work of chasing prey.

US Fish and Wildlife Service

U.S. Fish and Wildlife Service Refuge Biologist Dom Watts and Alaska Department of Fish and Game Biologist Lem Butler collect data from a tranquilized wolf on the Alaska Peninsula.

Grooms: There have been many innovations in research tools, such as GPS collars. Have new research tools produced data that differ from what we learned with older technologies?

Mech: The new tools don't produce "different" data so much as they offer unprecedented detail of aspects of wolf behavior that we had a more gross view of. For example, within the overall territory of a wolf pack there will be

Watts and Butler weigh a wolf.

US Fish and Wildlife Service

several home ranges maintained by white-tailed does in summer. Does less than 3 years of age do not produce as many fawns as older does. In many areas, fawns are the most important food source to wolves in early summer. Thanks to the precision of GPS collar information, we know that wolves make more visits to the ranges of older does than they do to the ranges of young does that will not produce as many fawns.

John Dykstra Photography/
johndykstraphotography.com

The magic number for efficient hunting is about four wolves. Having more wolves doesn't help and can even reduce efficiency.

Grooms: Another new tool is our ability to work with DNA data to learn more about how wolf behavior is affected by issues of relatedness.

Mech: This is another example of how new tools give us more precision. DNA analysis allows us to assess relatedness and genealogy in packs. As one example, a student of mine is studying wolf-to-wolf conflict. Sometimes a wolf pack will tolerate the presence of "alien" wolves (wolves that are not pack members). Often a pack might tear apart such an intruder. One possible explanation for the examples of tolerance might be that the outsider wolf is related by blood to the home pack. Thanks to DNA analyses, we can study this.

Grooms: Sometimes it seems that modern research is giving us more and more information about individual wolves, whereas earlier research techniques could only produce data about what wolves do as groups.

Mech: I don't see any end to the need for more information about how wolves behave in groups, for they live in groups, but newer techniques do allow us to study the behavior of individuals. Radio-tracking collars and DNA analyses give us in-depth information about individual wolves. Some individual researchers are able to identify individual wolves with great precision. Rick McIntyre, biological technician for the Yellowstone Wolf Project, has been observing wolves every day almost since they were released into the park. He knows each of his many study wolves by sight and has thousands of days of consecutive observations of how they behave. Rick has maintained copious notes, and I fully expect that in the future there will be many studies made based on this unique database of direct observation.

Grooms: Wolf research is expensive. In many areas states are taking over wolf management from federal control. Are you concerned that these changes will result in less funding for wolf research?

Mech: It is hard to predict. The operating budget for wolf research in YNP, for example, has been funded through donations by private parties through 2015. I don't know the future after that. I guess I am concerned, not knowing how well states will be able to fund wolf research.

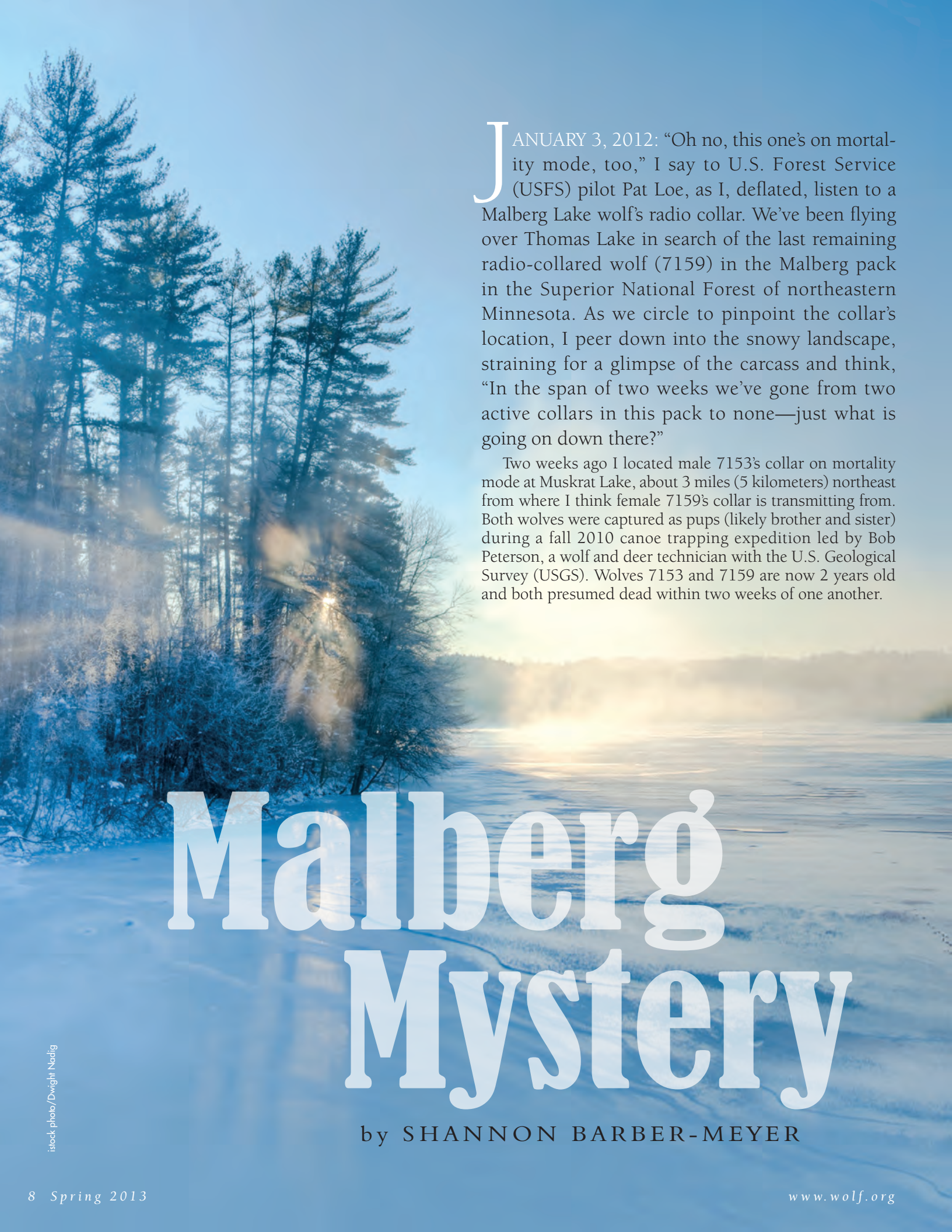
Grooms: Looking ahead, what issues do you feel are most urgently in need of research?

Mech: Of course, my life is wolf research, and I cannot imagine we will ever have all the important knowledge that would be desirable for managing such a fascinating and potentially troublesome species. Many important issues need to be studied. I'd like to see research to develop less expensive ways of managing wolves, such as cheaper ways to get accurate census data. We don't know what we should know about the summer diets of wolves. We don't know what we should about mange.

Some potentially useful research will probably never be done. I've always been curious about whether wolves exhibit preference for particular prey based on palatability. We know from studies of other animals that they simply prefer some foods to others, quite apart from issues of availability. I've played with this in my head, and I can't imagine a way of studying this issue that would not be prohibitively expensive.

Finally, we have a huge need for information that would allow us to prevent livestock depredations. Ideally such information would greatly help improve the image of the wolf for many of its present detractors. ■

Dr. L. David Mech is a senior research scientist for the U.S. Geological Survey and founder and vice chair of the International Wolf Center. He has studied wolves for more than 50 years and has published several books and many articles about them.



Malberg Mystery

by SHANNON BARBER-MEYER

JANUARY 3, 2012: "Oh no, this one's on mortality mode, too," I say to U.S. Forest Service (USFS) pilot Pat Loe, as I, deflated, listen to a Malberg Lake wolf's radio collar. We've been flying over Thomas Lake in search of the last remaining radio-collared wolf (7159) in the Malberg pack in the Superior National Forest of northeastern Minnesota. As we circle to pinpoint the collar's location, I peer down into the snowy landscape, straining for a glimpse of the carcass and think, "In the span of two weeks we've gone from two active collars in this pack to none—just what is going on down there?"

Two weeks ago I located male 7153's collar on mortality mode at Muskrat Lake, about 3 miles (5 kilometers) northeast from where I think female 7159's collar is transmitting from. Both wolves were captured as pups (likely brother and sister) during a fall 2010 canoe trapping expedition led by Bob Peterson, a wolf and deer technician with the U.S. Geological Survey (USGS). Wolves 7153 and 7159 are now 2 years old and both presumed dead within two weeks of one another.

istock photo/Dwight Nadig

As we bank away from Thomas Lake, I ponder how long it will be until I can get in on the ground and determine cause of death. Because Thomas Lake is in the Boundary Waters Canoe Area Wilderness, "minimum tools" are required to venture into the area on the ground—meaning no snowmobiling or landing on the lake with the plane. Considering the distance, I might not get a chance to examine the carcasses until late spring or early summer when the ice breaks up and a canoe can get in there.

Luckily, the USFS is mushing two sled-dog teams toward Thomas Lake on a separate mission, and I've been invited along to search for the two collars and wolf carcasses.

JANUARY 26, 2012: "Watch your head, pull your hand in, lean this way, hard, harder! Jump! NOW!" I land on all fours in the soft snow as the sled whizzes past me. I crane my neck around to see John Pierce, with the USFS, mush the dogs past a boulder, around a downed spruce and over rocks, plunging out of sight. Portage crossings are absolutely thrilling!

I'm incredibly fortunate to be going out with the crew that is leading this trip. John Stetson, Epic Sled Dog Adventures, Duluth, Minnesota, (Note: Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. government) and a USFS volunteer, owns the dogs. He is mushing one of the teams, has raced the Iditarod and has worked for Will Steger (along with John Pierce) on numerous sled-dog expeditions around the globe. Tom Roach, with the USFS, also owns sled dogs and is an experienced musher. I couldn't be in more capable hands.

We arrive at Thomas Lake, after covering approximately 11 miles (18 kilometers) with just enough time to set up camp before nightfall, so both collars will have to wait until tomorrow.

JANUARY 27, 2012: (Recognize the date? Minnesota's wolves were delisted from the Endangered Species Act on this date). After a quick breakfast Tom and I set off in search of 7159's collar.

Photo courtesy of Shannon Barber-Meyer

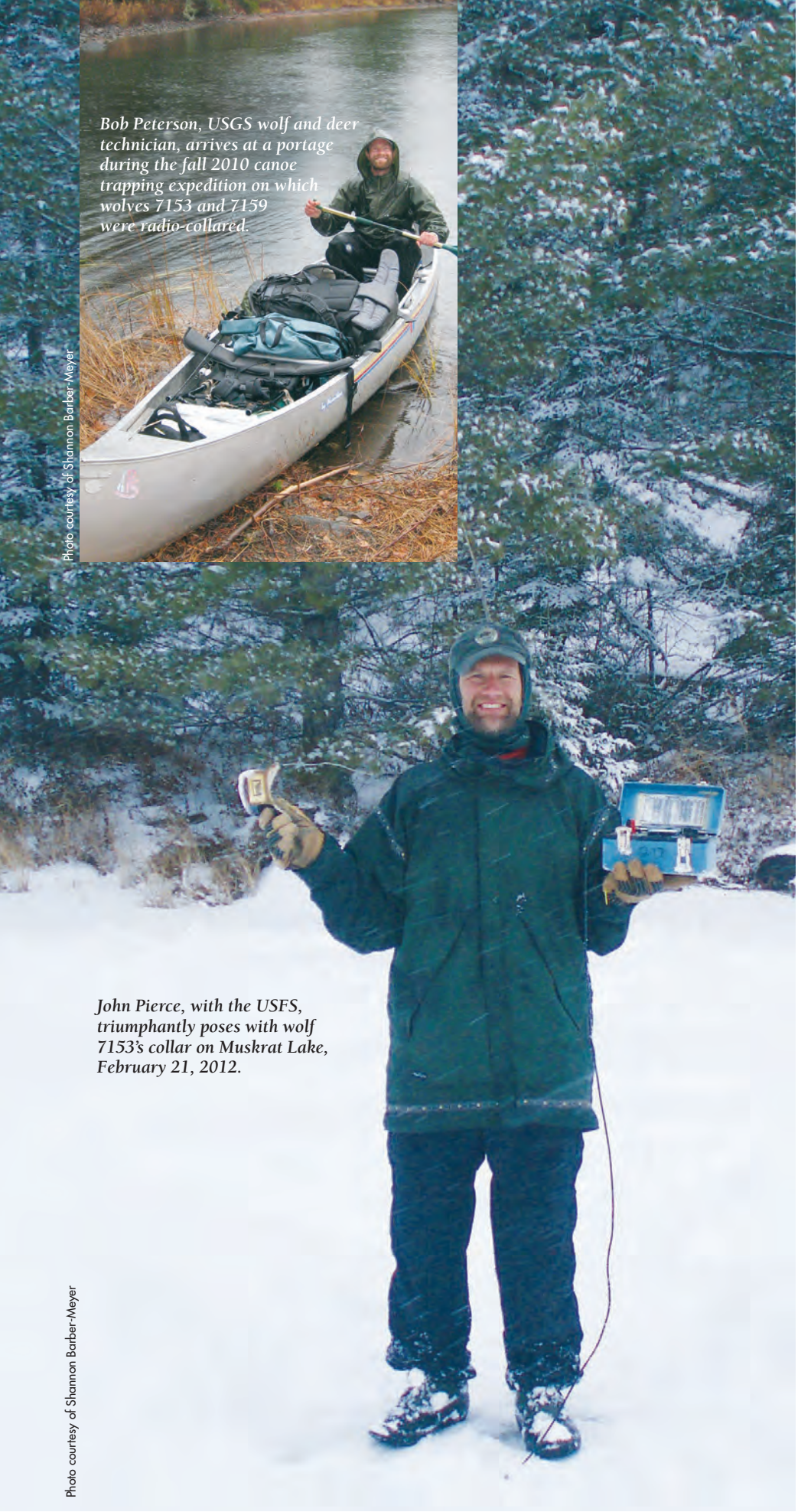
Dr. Shannon Barber-Meyer, with the USGS, conducts aerial telemetry to track wolves and deer during the winter of 2012, while her supervisor, Dr. L. David Mech, also with the USGS, looks on.

Photo courtesy of Shannon Barber-Meyer

John Stetson, Epic Sled Dog Adventures, Duluth, Minnesota, and his sled dogs race toward Thomas Lake, January 26, 2012.

Bob Peterson, USGS wolf and deer technician, arrives at a portage during the fall 2010 canoe trapping expedition on which wolves 7153 and 7159 were radio-collared.

Photo courtesy of Shannon Barber-Meyer



John Pierce, with the USFS, triumphantly poses with wolf 7153's collar on Muskrat Lake, February 21, 2012.

Photo courtesy of Shannon Barber-Meyer

Graciously, after our arrival yesterday Tom broke trail to Cacabic Lake. Now that we're off the portage trail and hiking in snow up to our knees through the tangle of live and downed trees, the going is much slower. I'm towing a sled in case we are lucky enough to find wolf 7159's intact carcass, so I can transport it back to the lab for in-depth necropsying. Sweaty and thirsty, Tom and I make it to the GPS coordinate I marked from the plane. After precise ground telemetry we're standing right on top of where I think the wolf is buried beneath snow. Excitedly, we dig—only to very quickly hit ground. We expand our search radius. Still nothing. I get out the receiver again and confirm that where we were first standing is where the collar should be—but there doesn't seem to be anything down there. We continue to dig, down into thick, matted grassy patches. Finally I spot a small heavily chewed transmitter box, antenna and screw plate frozen slightly into the ground. We dig the surrounding area to try to locate the carcass. Nothing, not even tufts of fur. We glance at our watches. If there is any hope of getting the other collar today, we've got to move quickly as we still have a long hike back.

At camp, we learn it is too late to try for the Muskrat Lake collar. We'll have to make good time just to be back at Snowbank Lake before dark. As we speed across frozen lakes, I wonder if wolves killed 7159. Maybe they carried her collar away from the kill site, playing with it like a chew toy. I wish we could have made it to 7153's mortality site. It will be at least late spring before I can canoe into Muskrat Lake to examine the carcass.

We're in the truck driving away from Snowbank Lake, daylight is fading and dogs are contentedly resting in their carrier compartments. We're happily munching on leftover cheese from last night's campfire cookout, when suddenly a silver wolf with black undertones enters the road crossing slowly. It's wearing a collar! I beg John Pierce to pull over. He has to pick up his son soon. (It has to do with a hockey tournament, and hockey in

these parts is not to be messed with.) I promise him it will only take two or three minutes. He relents, and I burst out of the truck, tear out the receiver and assemble the antenna as fast as I can. I quickly burn through the list of wolf frequencies—those still active—and those signals we've lost presumably due to dispersal. It's none of them. So with a thrill I suspect this is legendary female wolf 955 of the Moose Lake pack. She was radio-collared as a pure-black, 2-year-old during the summer of 2005. Locals still report seeing her with packmates from time to time—but her collar no longer transmits, likely expired (our radio collars usually last about six years). This is my first (presumed) sighting of 955. What a beautiful gift to end our action-packed, 48-hour adventure.

I report my findings to my supervisor, Dr. L. David "Dave" Mech. Dave carefully listens, pauses thoughtfully, then slowly says, "I wonder if that wolf is still out there…alive." Dave surmises this wolf's packmates might have chewed its collar off. He says it has happened before—not often—but it has.

FEBRUARY 16, 2012: John Pierce and I are outside the USFS headquarters in Ely, Minnesota, listening to the beep, beep, beep of the receiver he's holding. I'm doing my best to train him to conduct ground telemetry in just 30 minutes. He's hot on the trail of a collar I've hidden. John's headed out on a USFS mission toward Muskrat Lake. Only one dogsled will be going, so there isn't room for me, but he's willing to try to retrieve 7153's collar and carcass. Finding a collar that has been out there for about six weeks and one that is thoroughly snow-covered—not to mention the signal bounce he'll be dealing with near the steep shore's edge—won't be easy. If John finds 7153's collar, it will be only the second collar that he's ever homed-in on. The other one I hid less than 5.5 yards (5 meters) into the woods. My fingers are crossed.

FEBRUARY 21, 2012: I'm walking from the truck back to my office after a long day in the field live-trapping deer. John walks toward me smiling. He holds what is left of 7153's collar. I scream with incredulous delight! This collar is even more chewed than 7159's collar. I ask about the wolf and a similar story unfolds: no carcass, nothing except this chewed collar, buried by snow on Muskrat Lake 69 yards (63 meters) from the point I marked from the plane—located not on the shore but out on the lake, directly under where they parked the sled!

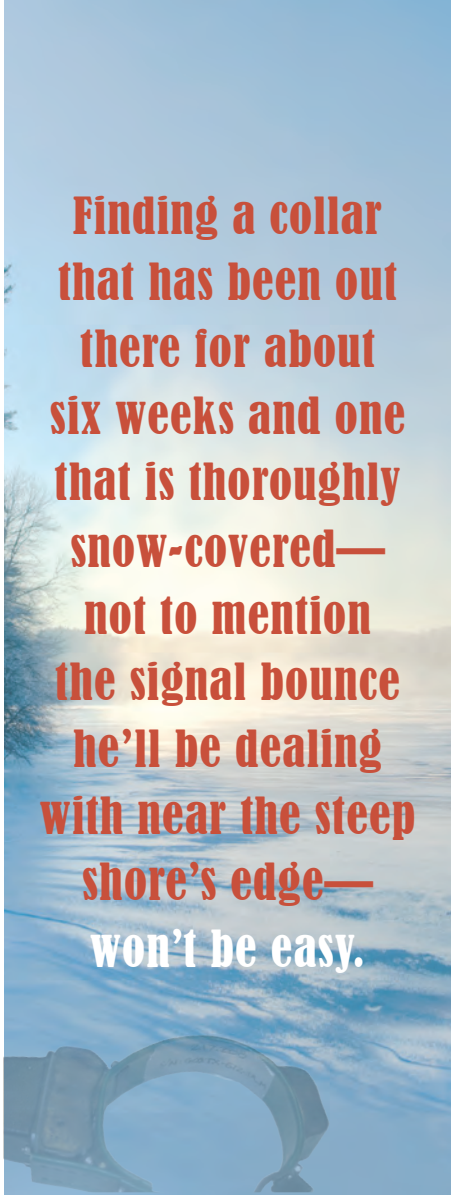
Could Dave's hypothesis be correct? Could these sibling wolves still be running around out there?

MARCH 1, 2012: USFS pilot Wayne Erickson points ahead to a ruddy spot on Alice Lake. We fly in for a closer look. It's a recent deer kill. From tracks, we estimate six wolves departed the kill. Alice Lake is right in the heart of Malberg territory. Do some of those tracks belong to 7153 and 7159?

This fall we will be canoe trapping the Malberg territory again. Both 7153 and 7159 have green ear tags from their original captures. Just maybe we'll get lucky and recapture one of these siblings.

Since the 2010 captures, we've learned a lot about the Malberg pack regarding morphology, genetics, diseases, movements, associations, pack size, kills, dispersal, etc. Yet after all the work that has gone into gathering data on 7153 and 7159—retired USGS wildlife biologist Dr. Michael Nelson's aerial detection of tracks that revealed areas used by these wolves, successful captures in 2010, aerial telemetry locations from then until the mortality signals and two sled-dog trips to retrieve the collars—we still don't have the answer to this Malberg mystery, and that's exactly what makes wildlife research so exciting. I can't wait for the fall 2012 canoe trapping season.

OCTOBER 19, 2012, UPDATE: After three separate trapline attempts to collar wolves in the Malberg pack this fall, female pup 7203 was finally captured near Thomas Lake. Our crew never saw any adult wolves, but they heard them howling near where the pup was captured and came across numerous wolf scats. The Malberg mystery lives on. ■



Dr. Shannon Barber-Meyer is the U.S. Geological Survey (USGS) wildlife biologist implementing the Superior National Forest (SNF) Wolf and Deer Project under the direction of Dr. L. David Mech. Prior to joining the USGS Northern Prairie Wildlife Research Center, 1393 Hwy 169, Ely, Minnesota, she taught graduate students in Grand Teton National Park, researched tiger conservation in Asia, emperor penguin populations in Antarctica and elk calf mortality in Yellowstone National Park and helped reintroduce Mexican gray wolves into the Southwest. In 2001 and 2002, Barber-Meyer researched optimal foraging of wolves in the SNF as a graduate student working with Mech. Ten years later she is more than thrilled to be back—this time with her family (husband, John, and daughters, Sova and Etta).

Mark Weber

Should Emotions, Values or Facts Drive Wolf Management?

BY NANCY JO TUBBS

The 1930's diarist Anais Nin was famous for writing erotica, but she could have just as well penned the observation above about wolves.

We, the public, have cooked up a spicy stew of opinions about the latest issues surrounding wolf hunting and trapping seasons in many states, including Minnesota where the first season since wolves were removed from the Endangered Species List was initiated last fall. While a democratic society requires that individual voices be heard when we make public policy, those voices are often raucous and contradictory. Here are several responses to a Minnesota Public Radio commentary on the state's wolf seasons that are rife with opposing emotions and values:

"I love the wolves and it hurts me to hear that they are being hunted," says one person.

Another writes, "116 trapped and killed wolves in less than three weeks of the second season…WAY TO GO TRAPPERS!!!"

Yet another writes, "The way they trap animals is inhumane and not right. We should be protecting the wolf instead of killing the wolf."

Still another says, "There are too many wolves up here now. We see them almost daily, and they are not afraid of you or me."

We even disagree on the usefulness of key information. Fact: A wolf hunt will reduce the number of wolves that kill livestock and pets. Fact: Many wolves killed will not be those near ranches and homes where livestock and pets need to be protected.

We also disagree on the meaning of established policy. For example, the understanding was that Minnesota's wolves would not be hunted for five years following their switch from federal protection to state management. The five-year, no-hunting period was an agreement set by a roundtable of stakeholders on all sides of the issue when wolves were first delisted. However, wolf advocate members of the roundtable sued, delaying the delisting twice, and the five-year agreement was considered by some to be nullified by the delays. Minnesota wolves reached their prescribed recovery level in 1978, and were ultimately delisted and hunted in 2012. Pro-hunting and pro-wolf advocates disagree about when the five-year period should have started.

When competing interpretations, values, emotions and facts are on the table, we can't find a scientific or technically correct solution to the issue. That's because science can't select the most "appropriate" set of feelings or values. Many people believe wolves are too beautiful, interesting and sacred to be killed for sport or for any other reason. Others believe that hunting and trapping are valuable cultural traditions and that all animals belong to

the state and its citizens to be used as natural resources within the law. Animal rights organizations choose to protect every animal, while conservation organizations work to conserve populations of wolves.

While science can't tell people how to feel, it can inform our opinions and decisions. Pop quiz: Will the wolf seasons increase or decrease wolf populations over time? The majority of people would say, "decrease." Wildlife biologist Rolf Peterson tells us that wolves will respond to any reduction in their numbers by having more wolf pups. Peterson, who has studied wolves on Isle Royale for 40 years, thinks the hunt could split wolves into smaller packs, allowing more pairs to mate and thereby increase reproduction.

"It's sort of if you kill one wolf, two come to the funeral," Peterson says. "I mean that's just a common sense way of expressing the ability of wolves to respond to any sort of increase in mortality." Not all biologists agree, however.

Could it be that well-managed seasons for wolf hunting and trapping might not harm wolf populations in the long run? Or will they?

For some people, the age-old fear of the predator wolf is at the core of their support of hunting and trapping wolves. Pop quiz: Are you more likely to be killed by a wolf or a deer? According to the National Highway Traffic Safety Administration, about 1 million car accidents caused by deer result in more than 10,000 personal injuries and kill about 200 Americans a year. Only two recorded wolf attacks in all of North America have caused human deaths in recent years, one in 2005 in Saskatchewan, Canada, and another in 2010 at Chignik Lake, Alaska.

Fact: The real wolf is rarely harmful to humans.

We are bombarded by emotional advertising. Almost everyone's heartstrings are tugged by pictures of wolves dying in traps, but are we willing to consider scientific facts, practice a little critical thinking and then act politically and personally?

Could landowners preserve land for wildlife through a conservation easement? Does a livestock producer's respect for wolves result in attempting non-lethal methods of wolf-depredation control? Is one willing to participate in the legislative process to try to shorten the wolf hunt? Lengthen it?

Mark Weber

Once we make up our minds on the wolf hunt, what can we do? Information from the International Wolf Center advises us to participate in the ongoing debate and take action in the following ways:

- Educate yourself on wolves and wolf management using science-based resources, not propaganda from groups with their own agendas.
- Provide feedback to your state legislators, the governor and the Department of Natural Resources.
- File suit against the state legislature if you believe the law violates state or federal law or constitution.
- Lobby state legislators to change or support the law during the next legislative session.
- Vote for or against state legislators in the next election based on their stance on wolf policy.

Our emotions and values lead us to see wolf issues as we are. But we can challenge Anias Nin's view and help wolves by also considering facts that help us see the wolf as it truly is—and then act. ■

Nancy jo Tubbs is a resort owner who lives in the midst of the Burntside pack near Ely, Minnesota. She also chairs the board of directors of the International Wolf Center.

Has it Been a Year Already?

by Lori Schmidt, wolf curator, International Wolf Center

We are nearing the one-year mark of our 2012 pup year with Boltz and Luna. As I've written before, every pup year is different, and the 2012 pups brought many challenges. The first challenge was the early whelping period. With Boltz born March 17 and Luna born March 25, our growth charts from all of our previous litters needed to be modified to offer realistic comparisons. While the 2012 pups initially didn't grow as fast, by 8 months of age, Boltz was nearing 90 pounds (41 kilograms) and Luna had reached 70 pounds (32 kilograms), well on their way to becoming formidable adults. When studying wolf pup development, many researchers accept the work from Scott and Fuller (1965) that defines four periods of pup development:

- **Neonate period:** birth to eye opening
- **Transition period:** eye opening to 20 days
- **Socialization period:** 20 days to 77 days
- **Juvenile period:** 12 weeks to maturity (18–24 months)

Previous "Tracking the Pack" articles have focused on the first three periods. This article focuses on the juvenile stage, which is best known for gradual changes, developing motor skills and imitating adult pack members.

In our observations of Boltz and Luna, we clearly noticed an increase in confidence with food possessions. While the adults continued to give the pups a lot of latitude in feeding in the fall, as winter approached and temperatures decreased, the pups needed to become more forceful in keeping their possessions. In our Exhibit Pack, Luna clearly had better skills at food defense than Boltz, but by 8 months of age, both pups had become quite adept at threat displays and lip curls to keep possession of carcasses and bones.

Imitation is another trait of the juvenile wolf. It's an interesting concept, where pups observe adults and then tend to display similar behavior, often the same body postures and mechanisms. In our observations, imitation seemed to be strongly correlated with social alliances. Luna was far more socially interactive with Aidan than Denali, the Exhibit Pack members born in 2008. Whenever Aidan, the dominant pack leader,

International Wolf Center staff

Juvenile wolves learn a lot by imitating the adults. Boltz (right) follows Aidan's lead.

was showing active dominance over Denali, Luna was right in the mix doing a scruff bite on one side of Denali, while Aidan did a scruff bite on the other side. It wasn't long before Luna would initiate the behavior, building her skills as the dominant female in the Exhibit Pack. Of course, that's not much of a challenge when she is the only female, but clearly her status and paired dominance with Aidan as the dominant male created an increased dominance response in Luna. Boltz remained submissive throughout most of the fall but wouldn't miss an opportunity to ride-up on the back of a distracted adult wolf.

Maturing pups change the dynamics of a pack, and the juvenile stage is filled with opportunities to see the intrinsic social skills that are necessary to form pack bonds. To see some of these behaviors, tune into our YouTube channel for weekly videos at www.wolf.org. ■

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Right: By early winter Boltz had become much more effective at guarding food resources from Denali.

Below: Luna follows Aidan's lead as they assert dominance over Denali.

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The End of Little Red Riding Hood: Wolves in Germany Today

by Elke Duerr

I grew up in the heart of Little Red Riding Hood country in Germany, and my childhood was laced with stories of little girls eaten by wolves, goats conned by wolves, trains stopped by wolves and poor innocent citizens, mostly of Russian origin, getting attacked by wolves left and right. Back then I did not buy into any of these fearsome fabrications and actively cheered for our wolves whenever I got a chance to stand up for them.

Now, many years later, I live in New Mexico and work for the recovery of Mexican gray wolves, but really, I work for the recovery of all wolf species in the Northern Hemisphere, including those in Germany. Hence, last summer I decided to go back to Europe for an outreach tour. I figured Little Red Riding Hood started there, and now it was time to end this dismal story on the same ground that brought it forth. What better way to help accomplish this goal than by giving educational wolf outreach presentations to a wide audience and by showing the Mexican gray wolf documentary film that I had produced, "Stories of Wolves—The Lobo Returns" or "*Wolfsgeschichten*" in the German version. My aim was to gather as much information about European wolves as possible and to start an international collaborative process for the preservation of wolves in Germany and their habitat. I have returned from Germany and it has been an amazing journey.

Veer.com/scusi

Yes, "Little Red Riding Hood" is still present, but now it is counterbalanced by a different story—the story of collaboration, fearlessness, education, willingness to coexist and an excitement about the return of the wolves that I saw in the different areas of Germany where I gave my outreach talks. Of course, there are those who still cling to the notion of the "Big Bad Wolf," but they seem to be in the minority these days. Not only are children fearless when they talk about wolves, but also many of the adults in areas now inhabited by wolves have changed their minds and are willing to endorse the return of the wolf even though they might be affected by wolf depredation of their livestock. Livestock loss compensation programs are in place in Germany.

Management practices in synch with wolf research have proven to be very effective. It pays to put sheep in an enclosure at night or employ Great Pyrenees, sheepherding dogs raised with a flock when they are puppies and that develop a sense of care for, and belonging to, their wooly charges. Their mere presence is often enough to keep wolves away. The same holds true for people's pets. The more humans keep them inside at night, the less often territorial disputes between them and the wolves arise. Wolves in Germany mainly eat deer and wild boar, which are thriving in the areas settled by

wolves and which do not come close to human habitations. When there is a wolf sighting, it is usually by humans who venture out into the forest or who drive through wolf country. In fact, the number-one killer of wolves in Germany is vehicular traffic.

Wolf hunts have been organized in Germany since the times of King Charlemagne, 1,200 years ago. Then in the 1700s efforts were made to extirpate the wolf. Local peasants were recruited by land barons—under threat of harsh punishment for noncompliance—to partake in winter hunts, when tracks are more easily seen in the snow, to flush the wolves out of the forest. These ill-equipped hunters sadly often froze to death during frigid nights in the forest instead of being killed by wolves as folklore might portray it. Subsequently, one by one, wolves vanished from the landscape for good. The last wolf native to Germany was reportedly killed in 1845.

In 1948, during the difficult times after World War II, a wolf returned to Germany, probably a disperser from Poland. Again a hunt was organized to kill it out of concern for the survival of local livestock. Yet many suspect that during these times of scarce food supplies, humans, not the lone wolf, preyed on the livestock of farmers since the dead livestock showed atypical signs for a wolf kill and instead pointed to human perpetrators. The occasional wolf that managed to cross into Germany from the east was killed. At least 28 wolves were killed between 1948 and 1990. Since the reunification of Germany in 1990, wolves are finally protected from hunting.

The first wolf sighting since 1990 was officially reported in 1996 in the state of Saxony. This wolf had crossed the border from Poland. Wolves naturally disperse in search of a mate and territory and are not aware of borders. For a long time crossing this particular border was difficult for wolves since there was a stronger-than-usual human presence along the river, which most likely prevented them from moving farther west. (Guarded borders have a tendency to dissect and divert the migratory patterns of wild animals.)

The sighting of the single wolf in 1996 has since turned into 18 wolf families that have formed in Germany and 5 single wolves. The first litter of puppies in the wild was born in 2000. Wolves reintroduced themselves without human interference.

Not only have the wolves from Poland established territories and families in Germany, but dispersers from wolf populations in other European countries like Italy might also be looking for mates and territories.

Wolves are starting to thrive again in Germany. This is a huge improvement from times past and very encouraging for the future of wolves in the wild. Even though it is still a common belief that a good compromise is to only preserve wolves in zoos and wildlife parks, people are now considering the benefits of wolves in the wild. The "wild" that wolves in Germany inhabit, however, is comprised of military training grounds where soldiers, tanks and wolves share the same land, an area where coal is being mined and, generally, a very densely populated landscape.

As one wolf educator put it, the most remote wolf den in Germany is usually not more than 2.5 miles (4 kilometers) away from the closest human settlement. Yet wolves are very shy around humans and do not show themselves readily. The occasional human who gets to see them can consider him or herself extremely

Mark Weber

lucky. Most photos are taken by hidden cameras or by people patiently waiting in a blind for weeks, sometimes even months.

Even though 18 families is a better option than no wolves, their numbers are still not viable. What happens when they disperse in search of a mate and territory is not very encouraging. Because Germany lacks a real wildlife corridor, and large human settlements span the wolf's entire former habitat, wolves must travel long distances to find a mate. They are extremely vulnerable without the safe boundaries of their territory and the protection offered by their family members, and often they find death, sometimes by poaching, instead of a new home.

During a recent visit to German wolf country, we climbed a tower and looked over the landscape dissected by signs of human habitation. There between fields and settlements lay a stretch of wooded area, part of a proposed wildlife corridor and subject to protection from logging. It is a glimmer of hope for wolves and for those who would like to see wolves in Germany become a viable, stable population and other wild ones return as well, animals such as lynx, moose, and bear. Their comeback depends on our willingness to make permanent space for all wild beings. The wolves are doing their part by returning to their former habitat and reintroducing themselves. Now we must do our part by allowing them to stay and coexist with us.

There are many success stories when everybody collaborates on a wolf issue. Farmers who use fencing to protect their livestock, especially sheep during the night, or who keep guard dogs in the flock and who are willing to lose an occasional sheep are just as important as wolf educators to dispel old fears and myths as are our children who can hardly contain their excitement and love of wolves when the topic comes up. A memorial honoring the return of the wolves was erected in 2008 in South Brandenburg.

The wolves of this world continue to thrive in often less-than-favorable conditions. Their resilience and adaptability are astounding, and sometimes I wonder if we deserve their return or if we are ready for them. But the enthusiasm for wolves shown in the faces of those who attended my wolf outreach talks proves hope prevails. And I know in my heart that in a few generations from now, no one will even remember who Little Red Riding Hood was. ■

Elke Duerr is a binational filmmaker, conservationist and teacher and the founder and director of the nonprofit Web of Life Foundation (WOLF), www.weboflifefoundation.net. She teaches and lectures widely on the importance of predators in the ecosystem and the preservation of the web of life. She works to foster a healthy coexistence between wilderness and civilization and the reconnection of humans to the natural world. She loves to teach children and debunk myths and preconceived notions about animals and the natural world and revolutionize the way we see and experience nature. Recently Duerr completed a short film, "Preserving Beauty," about endangered river otters. The film was screened at the New Mexico Film Festival and received the Aldo Leopold Southwest Legacy film award in the category of best adult short film. Her full-length documentary "Stories of Wolves—The Lobo returns" premiered in Santa Fe, New Mexico, in October 2011, and she is currently presenting film screenings and outreach talks in the United States and Europe and working on a documentary about endangered bison.

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Personal Encounter

Another Successful Hunt

by Laurie Lyman, Photos by Jeremy SunderRaj

When Dan and I awoke that August morning we had no idea whether female wolf 06 would have another adventure in store for us in Yellowstone National Park. We headed to the park but did not get far. After driving for about 20 minutes, we came to Round Prairie where the story would unfold before our eyes. Round Prairie is a large, grassy meadow bordered by conifers and the road. A bridge crosses Pebble Creek where it flows into the prairie.

It was very chilly, but we didn't even notice the cold when we realized that 06 was on deck and we were about to witness another one of her spectacular hunts. We were standing in a pullout when, from the Pebble Creek bridge, 06 came right toward us, hot on the heels of a cow elk. It was surreal as we, once again, watched this wonder wolf risk life and limb to feed her family. Lameness from an old injury to her back leg was not noticeable as she sprinted in our direction after the elk. The elk quickly headed for the creek as elk always do, hoping to fend off the wolf in the safety of deep water. It is difficult for a wolf to attack and tread water at the same time.

No other wolf was in sight as 06 went after her elk. When they hit the creek, the elk turned and flung her legs and hooves at 06. The wolf ducked and weaved to avoid the elk's best weapon. They were so close that we heard the animals panting and the thud of the elk's hooves in the shallow parts of the creek. We knew 06 must have been slammed with some of the punches; the elk's legs looked like egg beaters surrounding 06's smaller body.

The Origin of 06

Wolf 06 was the iconic breeding female of the Lamar Canyon pack residing in Yellowstone National Park's Lamar Valley. She brought two inexperienced young males to the Valley to form the Lamar Canyon pack in 2010. One of the males, 755, would become her breeding male, and his brother, 754, would become the beta male. Almost single-handedly, making many solo kills, 06 successfully raised three litters of pups and maintained a hold on her territory in the Lamar Valley.

In November 2012, 754 was shot and killed legally during the hunting season. He was about 12 miles (19 kilometers) outside the park boundaries in Wyoming where he had wandered, perhaps to hunt. Then on December 6 in the same general area, 06 was shot and killed 16 miles (26 kilometers) outside the park.

Wolf watcher Mike Bickley summed up the feelings of many people who have watched 06 with wonder and joy over the years. The life of 06, Bickley said, "revolved around her family, to provide, protect and teach. She triumphed over every obstacle nature could confront her with except the one thing her DNA had not prepared her for."

For more about 06, please see "Wolf 06 of Lamar Canyon" in the Spring 2011 issue of *International Wolf*. — L.L.

Her tail was up the whole time as she scampered through the water in pursuit of her elk. She lunged for the elk's throat several times only to be knocked about by flailing legs. She did get a brief hold a few times, bobbing about like a charm on a necklace.

It was incredible. The actual take down was behind the trees; we didn't see it, but in no time at all, we saw 06 leave the creek area and move into the trees. We were certain that she had taken the elk, but to make sure, Dan and I looked from another angle and saw the elk lying in the shallow part of the creek. Now 06 took a time out. I think that cars and people could have put her off a bit, but in the wild, wolves are often exhausted after the take down. I'm sure she was exhausted from her battle and headed to the trees and shade to rest.

The elk quickly headed for the creek as elk always do, hoping to fend off the wolf in the safety of deep water.

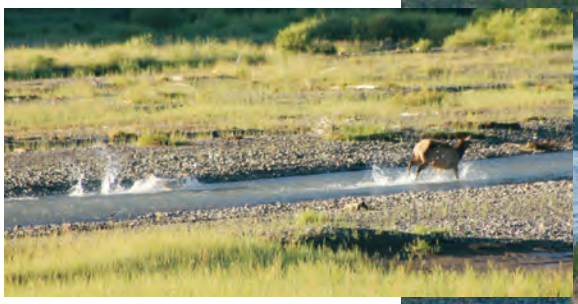
While the hunters rest, younger wolves often come in for the first feeding, dispelling the belief that the breeding wolves always eat first. Sometimes they do but not always. The one-year-old daughter of 06, named 820, was the first to come bopping along interested in seeing what her mother had been up to. Not sure of the whole story, she hesitated to approach the carcass. Often if wolves don't kill the prey themselves, they are cautious and do lot of observing before moving in to feed. They use a very different approach if they have taken an animal themselves.

Not long after, 06's mate, 755, and their big, black female yearling crossed in front of us near Pebble Creek and headed to the site. They eventually started to run, realizing the prize ahead of them. Becoming cautious, 755 would not go near the carcass either and bedded near his mate. The black female yearling was a bit hesitant at first but too hungry to care and dove into the carcass, opening it up.

Hungry pups waited for dinner. The conveyor belt back and forth to the den was soon up and running. Middle Gray, a 2-year-old female from 06's first litter, pulled out a nice internal organ for the pups and went home with it. Middle Gray's sister, 776, got the heart to take home. The hunter, 06, eventually got to the carcass. We saw her make three round trips to the den; each took two hours. The excitement attracted many watchers, some of who were there for nearly 16 hours documenting all the visits to the carcass. The wolves cleaned up almost all of the elk by evening, and the next morning there were only a few bones marking the spot.

Once again, 06 had fed her family by herself. She is beyond amazing as a powerful, solo hunter. Once again, we all felt fortunate to have been able to witness this incredible wolf behavior in the wild. ■

Laurie Lyman, a former teacher, is a veteran Yellowstone wolf watcher. Her knowledge about the wolf packs and of the individual wolves of the northern tier of the park has made her a valuable assistant to Yellowstone wolf researcher and expert Rick McIntyre.



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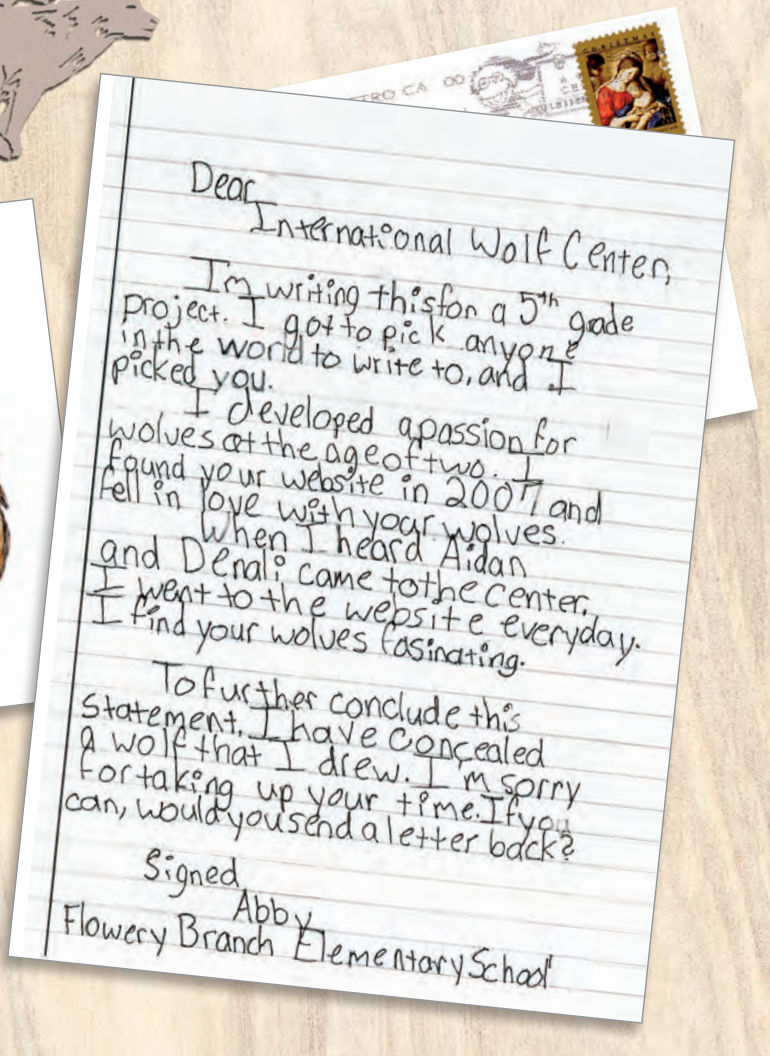

Dear International Wolf Center,

I'm writing this for a 5th grade project. I got to pick anyone in the world to write to, and I picked you.

I developed a passion for wolves at the age of two. I found your website in 2007 and fell in love with your wolves. When I heard Aidan and Denali came to the center, I went to the website everyday. I find your wolves fasinating.

To further conclude this statement, I have concealed a wolf that I drew. I'm sorry for taking up your time. If you can, would you send a letter back?

Signed,
Abby
Flowery Branch Elementary School

Notes from the Field

Spring, the season full of changes—temperatures rise, trees and plants begin to bud out, animals awaken from their hibernation, and migrating animals return home. For wolves, this is the time when babies are born. Adult pack members work together to raise their young. Litters average 4-6 pups. These pups need constant supervision to keep them fed and safe. Adults, which are often older siblings, have to work hard to find enough food to feed themselves and the growing pups. Have you ever had to babysit or help a younger sibling? ■

Vocabulary

Litter: a group of offspring (babies) produced at one time by a mammal

Pack: a family of wolves that lives and works together to hunt for food and take care of pups, typically consisting of a male and female (the breeding pair) and their offspring from one or more generations

Shadow

Shadow was born on May 8, 2000. He joined the Retired Pack in 2010 after 10 years in the Exhibit Pack. He represents gray wolves that live in the arctic regions of North America. Adapted to their northern climate, these wolves have rounder ears, shorter legs, shorter muzzles and more heavily furred paws than their southern relatives. These features help them conserve heat.

In recent physical exams, Shadow's weight was recorded at approximately 90 pounds (41 kilograms). His peak weight as a young adult was 95 pounds (43 kilograms); it is not uncommon for an older wolf to decline in weight. Shadow is a very intense wolf, and compared with other members of the pack he tends to be more alert and wary of strangers. If visitors hear a bark-howl, which is a wolf's way of sounding an alarm, chances are it came from Shadow. ■

International Wolf Center staff

Shadow!

Make-a-Word

How many words can you make?

Try making a two-, three- and four-letter word using the letters found in the terms below.

Example: Behavior

b e

h e r

h a v e

Habitat

Scavenger

Camouflage

Challenge: Find a five-letter word for each puzzle!

A Look Beyond

Paying the Cost for a Healthy Earth Home?

by Polly Carlson-Voiles

My husband and I are very spoiled by things that money can't buy. We live at the edge of wilderness and take for granted nights when we can step out into a new snowfall and listen to the howls of wolves ricochet across the lake—a peaceful prayer of listening. Yet even these moments of peace draw us into uncomfortable thoughts and questions. What is the true cost of these moments?

I think of the current harvest of the oil sands that lie beneath one of our planet's most important engines, the boreal spruce forest of northern Canada. Our exploding planet is hungry for oil. For this oil, we pay by losing trees that store carbon and produce the oxygen we breathe. We pay by endangering woodland caribou that cannot live without the undisturbed forest. Wolves have increased due to the deer that thrive on the land cleared for oil-sand extraction and have, incidentally, become a threat to nearby caribou. The chosen "solution" is to kill 25 wolves for each caribou calf to protect the animals we recently deprived of their habitat.

Again, in Idaho, woodland caribou are caught in this tug of war. A plan to reserve 375,000 acres (151,757 hectares) for the endangered woodland caribou was recently reduced to 92% (a reduction of 30,000 acres, or 12,141 hectares) after public input and strong opposition from the state snowmobile association. In Minnesota, the Department of Natural Resources has listed the moose as a state species of special concern, yet there is still a plan for bulls to be hunted. In the future will we have to think in a new way about hunting these iconic animals?

It is said that if every person on Earth were to live like an average American, we would need a total of 4.1 planets just like this one to provide the needed space and resources. What are we willing to give up? Must we replace our computers and smartphones every two years? Create large families? Build houses bigger than we need? Drive gas-guzzling vehicles? Tear up the Earth to find resources that eventually end up in landfills, because we are so unskilled at design and recycling? Can we begin to measure our wellbeing in a new way, rather than through sales growth and resource consumption?

Like Jane Goodall, can we work globally for change? As she travels the planet, Goodall explains that it is by encouraging and informing young people and giving them hope that we contribute to their future. With the help of science we are all beginning to understand problems we previously did not comprehend, and by this understanding we are beginning to generate new solutions. To teach this to children and to model for them how to love and care for creatures and our natural world is our awesome responsibility.

So, on winter nights listening to the ice sing and boom on the lake, our thoughts of beauty, northern lights and the heart-stilling wolf song that hangs in the air, we wonder: Is an undamaged natural world so much more than lovely moments? Aren't we all one fabric, a complicated linkage of biological miracles that keeps our hearts ticking, our minds creating, our souls refreshed? What can we live without to hear the howls, be awed by the intricate behaviors of a bower bird or the bejeweled beadwork of a panther chameleon, be stilled by the grandeur of woodland caribou slipping through trees at dusk or take a deep breath of clean, fresh air? ■

Polly Carlson-Voiles lives with her husband, Steve, on a lake overlooking the Boundary Waters Canoe Area Wilderness near Ely, Minnesota. She retired from teaching in the Minneapolis public schools a few years ago to live and write full time in this beautiful setting. Her first book, which she wrote and illustrated, is a picture book titled Someone Walks by; the Wonders of Winter Wildlife. *Her new book released in May 2012,* Summer of the Wolves, *is a novel for ages 10 and up that features a young orphan who has a life-changing encounter with a wolf pup. It explores experiences with wild and captive wolves, wolf research and the Boundary Waters Canoe Area Wilderness, while searching to find the fine balance between caring for wild animals and leaving them alone.*

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