

\$6.95

INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER
FALL 2014

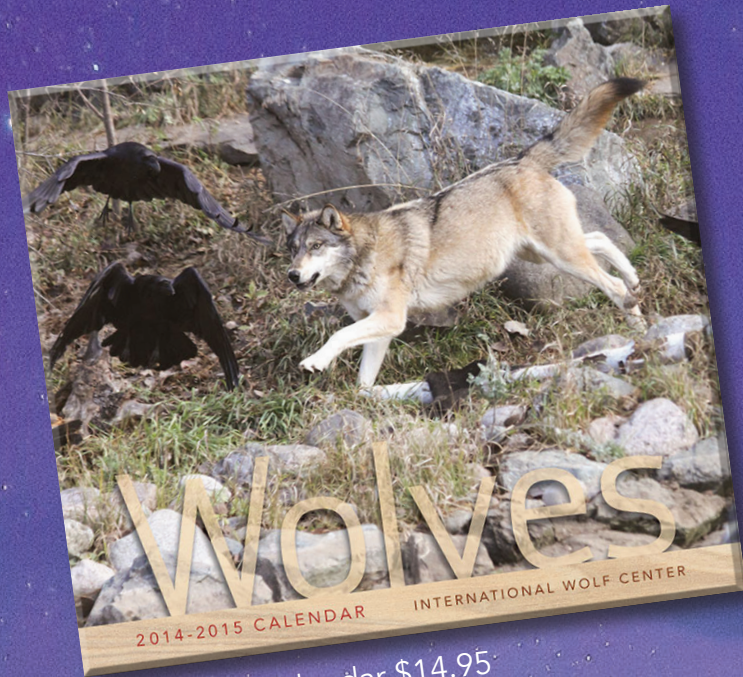
Seeking Wildlands,
Large and Small,
for Carnivores **PAGE 4**

Do Wolves Cause
Trophic Cascades? **PAGE 8**

Wolf Population Status
in Western United States:
A Summary of State Reports **PAGE 13**

Shop Our 2015 Calendars Today!

The Perfect Gift for Any Occasion.



16-Month Calendar \$14.95
Item # 3801



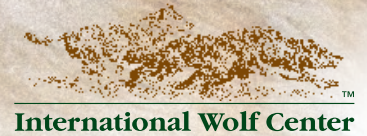
12-Month Calendar \$14.95
Item # 3803



Order today at shop.wolf.org or call 1-800-ELY-WOLF

Your purchases help support the mission of the International Wolf Center.

INTERNATIONAL WOLF



VOLUME 24, NO. 3

THE QUARTERLY PUBLICATION OF THE INTERNATIONAL WOLF CENTER

FALL 2014



4

Courtesy of Wildlands Network

Seeking Wildlands, Large and Small, for Carnivores

On the 50th anniversary of the Wilderness Act, the attention of many is turned toward ensuring adequate wildlands for future generations of animals and humans. John Davis, co-founder of the Wildlands Network, formerly the Wildlands Project, explains why this is an important goal, what is being done and what still needs to happen.

By Tracy O'Connell



8

National Park Service/Jim Peaco

Do Wolves Cause Trophic Cascades?

Ever since wolves were reintroduced into Yellowstone National Park, scientific studies have claimed that wolves were improving the ecosystem through "trophic cascades." A trophic cascade is a set of reactions down through a food pyramid starting with an animal like the wolf at the top, elk in the middle and plants at the base. Wolf expert Dr. L. David Mech addresses this issue in a Q&A with *International Wolf*.

By Dr. L. David Mech



13

Sherry Jokinen

Wolf Population Status in Western United States: A Summary of State Reports

The wolf population in the western United States is stabilizing and expanding its range. By 2012 wolves had been deemed recovered and delisted from the federal endangered species list in Montana, Idaho, eastern Washington, eastern Oregon, north-central Utah and Wyoming. This article takes an in-depth look at wolf populations in these states.

By Norman A. Bishop



On the Cover

Shadow
Photo: International Wolf Center

Did you know...

One easy way for you to help us conserve natural resources is to make sure we have your email address. Simply email your address to office3@wolf.org.

Departments

- 3 From the Executive Director
- 18 Tribute to Shadow
- 21 Wolves of the World
- 24 Personal Encounter
- 26 Wild Kids
- 28 A Look Beyond

INTERNATIONAL WOLF

Publications Director

Tom Myrick

Graphics Coordinator

Carissa L. Winter

Consulting Editor

Fran Howard

Technical Editor

Dr. L. David Mech

Graphic Designer

Tricia Austin

International Wolf (1089-683X) is published quarterly and copyrighted, 2014, by the International Wolf Center, 3410 Winnetka Ave. N., Minneapolis, MN 55427, USA. email: internationalwolf@wolf.org. All rights reserved.

Publications agreement no. 1536338

Membership in the International Wolf Center includes a subscription to *International Wolf* magazine, free admission to the Center and discounts on programs and merchandise.

Membership Levels: (in U.S. dollars)

- Wolf Pup \$25 (students age 21 and under)
- Lone Wolf \$40 (individual)
- Wolf Pack \$70 (family at same address)
- Wolf Associate \$125
- Wolf Tracker \$250
- Wolf Sponsor \$500
- Alpha Wolf \$1,000

For those outside the United States, please add an additional \$15 to Wolf Pup, Lone Wolf, Wolf Pack and Wolf Associate memberships.

Please mail membership payment to: International Wolf Center Administrative Office, Attn: Membership, 3410 Winnetka Ave. N., Minneapolis, MN 55427, USA. Please contact the membership department with questions: 763-560-7374 ext. 227 or office3@wolf.org.

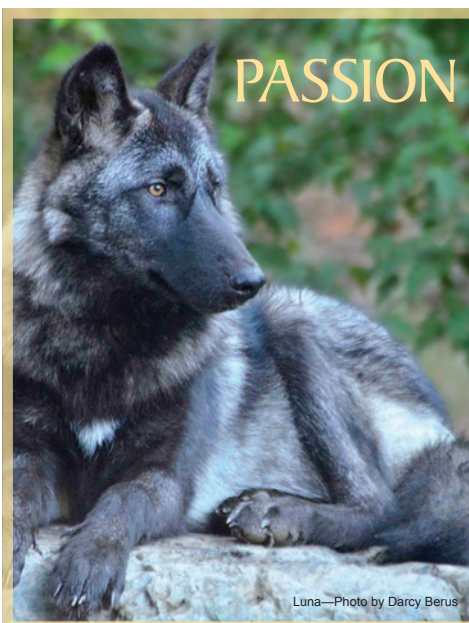
International Wolf is a forum for airing perspectives, science-based information and personal experiences about wolves. Articles and materials printed in *International Wolf* do not necessarily reflect the viewpoint of the International Wolf Center or its board of directors.

International Wolf welcomes submissions of personal adventures with wolves and wolf photographs. Prior to submission of other types of manuscripts, address queries to Tom Myrick, magazine coordinator.

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

International Wolf is printed entirely with soy ink on FSC® certified paper. We encourage you to recycle this magazine.

FSC logo here



Luna—Photo by Darcy Berus

LEGACY

Your passion for wolves can have a lasting impact beyond your lifetime.

By choosing to leave a planned gift to the International Wolf Center, you will help secure their future and become a member of the Alpha Legacy Society with all its benefits.

If you have already included the Center in your estate planning, we thank you and ask that you let us know about your commitment.

Call today to start planning your legacy. 763-560-7374 ext. 230. Thank you.

WOLVES AND POLAR BEARS... WHO IS CHASING WHOM?



YOUR SCHOOL COULD HELP US FIND OUT!

University researchers in conjunction with Manitoba government want to learn how two predator species interact at the edge of the Arctic. Do wolves predate on bear cubs as they come off the sea ice in July? Are mother polar bears affected? Is climate change and early melting ice a factor?

These questions may be answered from some fascinating research in an unstudied ecosystem. A few schools in North America can participate by sponsoring a GPS collar to track "their" wolf for a \$400 contribution. Students can learn about ecosystems, predators, biodiversity, GPS tracking, and link to participating schools. Deadline is Oct. 18, 2014. Research begins in 2015.

Participation is limited. Contact us for details ASAP:
Volker Beckmann, Project Director, Spirit Way Inc.
thompsonspiritway@gmail.com • 204-778-7434
www.thompsonspiritway.ca

From the Executive Director

Engaging the Next Generation

As a new school year begins we are preparing to launch an outreach initiative unlike anything we have done before.

Funded by a Minnesota Environment and Natural Resources Trust Fund grant from the Legislative-Citizen Commission on Minnesota Resources, this new program, known as The Wolf at Our Door, is aimed at helping children understand the complex issues and public attitudes that surround state management of wolves in Minnesota.

Following the removal of wolves from protected status in the Great Lakes region, public opinion has been sharply divided in states like Minnesota where wolf-hunting seasons have been implemented. Chasms divide people on all sides of the issue—rural, urban and suburban communities, hunters and non-hunters, trappers and non-trappers, and residents and non-residents of areas with wolf populations. And our children, who will be our future decision makers, have become confused by the polarizing debates they hear about wolf hunting in the media. This new program was created to bring clarity and facts to these young, impressionable minds.

Why are wolves important in some ecosystems? How will the loss of wildlands affect wolves and other animal populations? What role can children play in protecting the environment for future generations? These topics and more will be the core of an aggressive effort to educate our next generation of citizens about the challenges faced by wildlife in a rapidly changing world. Educating the public—especially young people—is more critical than ever.

The Wolf at Our Door will focus on delivering free outreach programs in 460 classrooms throughout the nine-county Minneapolis–St. Paul metro area over a two-year period. An International Wolf Center outreach specialist will present the in-person programs in each classroom, using Turning Point survey technology to collect data on student attitudes and knowledge about wolves and wolf management. This real-time feedback will provide context for a facilitated discussion about important issues affecting Minnesota wilderness and public opinions that impact the survival of wolves and their habitats. If successful, we hope that other states will provide funding to broaden the program to all areas where children are struggling to understand these issues.

We are excited to begin this initiative and look forward to getting an insight into the attitudes young people have in regard to protecting our natural resources. ■



Rob Schultz, executive director

INTERNATIONAL WOLF CENTER

BOARD OF DIRECTORS

Nancy jo Tubbs
Chair

Dr. L. David Mech
Vice Chair

Cree Bradley
Secretary

Paul B. Anderson
Treasurer

Rick Duncan

Nancy Gibson

Debbie Hinchcliffe

Judy Hunter

Deborah Wold Lewis

Dr. Rolf O. Peterson

Mike Phillips

Debbie Reynolds

Jerry Sanders

Paul Schurke

Dick Thiel

Ray Wells

Teri Williams

EXECUTIVE DIRECTOR

Rob Schultz

MISSION

The International Wolf Center advances the survival of wolf populations by teaching about wolves, their relationship to wildlands and the human role in their future.

Educational services and informational resources are available at:

1396 Highway 169
Ely, MN 55731-8129, USA
800-ELY-WOLF
218-365-4695

email address:
internationalwolf@wolf.org

Web site: www.wolf.org



★ Seeking Wildlands Large and Small, for Carnivores

by TRACY O'CONNELL

Editor's note: On this 50th anniversary of the Wilderness Act, the attention of many is turned toward ensuring adequate wildlands for future generations of animals and humans. John Davis, co-founder of the Wildlands Network, formerly the Wildlands Project, talked with International Wolf to explain why this is an important goal, what is being done and what still needs to happen.

John Davis has been termed a cross between a triathlete and pioneer conservationist and naturalist John Muir. He has trekked across major swaths of North America, alone and in the company of others, addressing the barriers faced by wildlife seeking to migrate. Why is this important? We need big areas of wilderness, he said, for many reasons. It is good for people, providing clean air. It stores carbon. And it is good for the large carnivores that require a big range.

Large carnivores like cougars, bears, wolverines and wolves are umbrella species, important for all of nature. Areas preserved for umbrella species tend to also protect habitat for the physically

smaller species that share their space. In addition, as keystone species they also fit into the cycle of many forms of life. In Yellowstone National Park, some claim that elk no longer graze the trees down to nubs allowing growth that protects waterways from erosion and provides homes to other species. (See also "Do Wolves Cause Trophic Cascades?" on page 8.) Davis said a similar function has taken place in the east, where deer no longer browse the hardwood forests as severely as they once did due to the re-emergence of large predators in their range.

Additionally, open areas are important to combat invasive species, which can be costly to live with and to eradicate. Such species typically thrive in narrow strips of land along roadsides or under power lines but less often move into wide areas of new land.

The Wildlands Network shows four regions on its Web site (wildlandsnetwork.org) in North America where animal movement patterns dictate the need for preservation of land. Some, like the boreal area of Canada and Alaska,

involve conserving existing areas rather than restoration because the region is sparsely settled with much open area. Still, threats abound, mostly from energy extraction: the mining of tar sands, logging and mining for minerals. "Much of northern Alberta is an industrial wasteland now," he said.

The Rockies, a second region of importance to ensure migration, is about two-thirds of the way toward the envisioned ideal of protection. The Atlantic region, where in 2011 Davis traversed 7,600 miles (12,231 kilometers) from the Florida Keys to Quebec in 10 months to much media attention in an adventure called TrekEast, is only about one-quarter of the way toward ensuring migration for the animals that live there. In 2013 Davis authored *Big, Wild and Protected*, a three-part electronic book published by Island Press, which recounts the trip and his vision for the necessary protection of the region.

The Pacific region is the fourth, where in 2013 Davis covered 5,000 "human-powered" miles (8,047 kilometers) in 10



Photos courtesy of Wildlands Network

Images captured on various over- and underpass trail cameras assure observers that the paths are being used.

months as part of TrekWest, beginning in Hermosillo, Mexico, and concluding in Fernie, British Columbia, Canada. This trip provided additional exposure to the need for protected land.

“Being out on a trek, you encounter surprises, or else confirmation of what you believe,” he said, making such forays vital for more than the media attention. “I was accompanied by regional experts, who taught me about the areas in which we were traveling,” he adds. This experience strengthened his knowledge base, which he uses to speak to groups.

What do these protected areas look like? They encompass everything from entire mountain ranges to a culvert under a road that lets wildlife access wider areas without having to cross barriers such as highways. Protected corridors also make it safer for people, and automobile insurance companies have reduced costs when there are fewer traffic accidents involving major wildlife, Davis noted. Corridors of this type also benefit plants, which along with animals will need to become established farther north or at higher elevations to deal with climate change, he said.

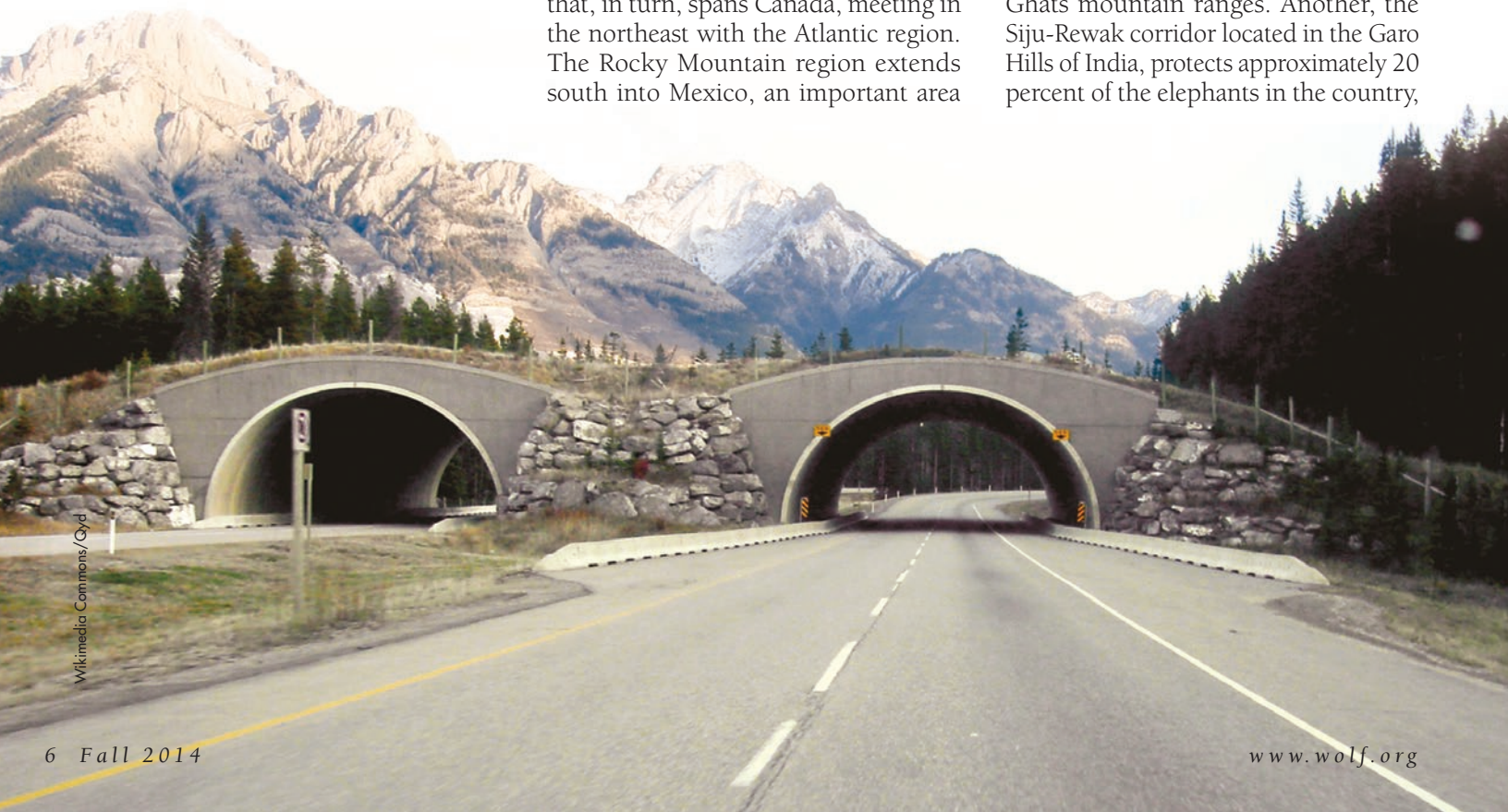
The envisioned Rocky Mountain and Pacific corridors merge at the north, moving into Canada together, where they then combine with the boreal region that, in turn, spans Canada, meeting in the northeast with the Atlantic region. The Rocky Mountain region extends south into Mexico, an important area

where, Davis noted, there is strong support among many organizations working together to ensure that passageways remain open for wildlife. A major threat there is the border wall, separating Mexico from the United States. “It isn’t stopping drug runners, but it does stop wildlife,” Davis noted.

Corridors aren’t new. This concept of linking patches of land with passageways to enable travel through areas that might otherwise be unsafe due to traffic or closed due to physical barriers or highly built-up areas, has existed for decades. *National Geographic* reported in 2006 that more than 800 organizations in the United States and Canada were using corridors to create webs of protected habitat between Yellowstone National Park and the Yukon.

Many more exist around the world. Conservationists in Chile’s Bío Bío region have been working to connect three established nature reserves with small private properties. Paseo del Jaguar (Path of the Jaguar) is a proposed system of refuges and conservation corridors running from the United States into South America.

In India a 37-mile-long, 6-mile-wide (60-kilometer-long, 10-kilometer-wide) corridor connects important tiger habitats in the eastern Himalaya and the Western Ghats mountain ranges. Another, the Siju-Rewak corridor located in the Garo Hills of India, protects approximately 20 percent of the elephants in the country,



Wikimedia Commons/Qyd

joining the Siju Wildlife Sanctuary and the Rewak Reserve Forest in Meghalaya State, close to the India-Bangladesh border. It contains at least 139 other mammal species including the tiger, clouded leopard and the Himalayan black bear.

The European Green Belt connects 24 countries. Almost 150 governmental and non-governmental organizations came together for this initiative, born in 2003. Other corridors exist, such as Ecologische Hoofdstructuur, a network of passages and habitats created for wildlife in the Netherlands.

Critics have pointed to the cost of corridors and lack of solid proof that they work. That's why excitement stirred when a team of scientists led by Ellen Damschen, an ecologist at the University of California, Santa Barbara, found a 20 percent increase in plant species occurred over five years where vegetation was given access to corridors than when it was not. The findings came after scientists carved a South Carolina pine forest into six 5,382-square-foot (500-square-meter) experimental plots for the comparison. The study ran from 2000 to 2005 and was reported in September 2006 in *Science* magazine.

An earlier study in 2001 of wolves and their prey in Jasper National Park in northern Canada looked at what happened when fencing, which had been erected to keep elk off a golf course in a part of the park heavily used by visitors, was removed. It was found, according to an article written by the Resilience Alliance and published in the *Encyclopedia of Earth*, September 23, 2008, that "wolves, elk and deer in this study changed their distributions within one year of corridor restoration."

This quick response was also observed in Banff National Park, the article continued, where in a similar study wolves frequently used an area in which they had not been observed the previous eight years. Together, these studies suggest that "corridor restoration can improve habitat quality and reduce fragmentation."

It takes animals time to find corridors once they are opened, Davis of the Wildlands Network said, but then the moms teach the young. The Problems/Solutions page of the Wildlands

The Wildlands Network envisions four corridors in North America where animal movement patterns dictate the need for preservation of land.

Network's associated Web site, westernwildway.org, offers a case study in Arizona, where three overpasses were constructed for bighorn sheep along Highway 93, a major north-south route that is part of the Mexican/Canadian shipping lane as well as a road used by Arizonans heading to Las Vegas. It was being widened from two to four lanes, and considerable study went into the planning of these overpasses.

Previously, approximately 10 sheep per year were killed in the route. By collaring animals with GPS units, scientists were able to identify key places to put the crossings. It was determined that overpasses for these animals were more popular than underpasses and also would be less costly to construct. Cameras enabled study of the animals and assured observers that the paths were used. Fences funneled animals toward the corridors, and escape hatches provided places for animals trapped on the highway side of the fence to get out. The effort is being cited as a model of inter-agency cooperation.

Another case study of efforts around Jackson Hole, Wyoming, points to the high cost of damage when traffic accidents occur, either from hitting wildlife

or swerving to avoid it. It was cheaper to build highway underpasses and overpasses than to deal with the damage to people and vehicles encountering deer, moose, elk, bear and other large wild animals. And, of course, it was much better for the wildlife. ■

Sources:



Duke, D., M. Hebblewhite, P. Paquet, C. Callaghan, and M. Percy. 2001. "Restoring a large-carnivore corridor in Banff National Park." Pages 261-275 in D. S. Maehr, R. F. Noss, and J. L. Larkin, editors. *Large mammal restoration: ecological and sociological challenges in the 21st century*. Island Press, Washington, D.C., USA.

Tracy O'Connell is a retired associate professor of marketing communications at the University of Wisconsin-River Falls and serves on the International Wolf Center communications and magazine committees.





Do Wolves Cause





Trophic Cascades?

Ever since wolves were reintroduced into Yellowstone National Park, scientific studies have claimed that the wolves were improving the ecosystem through “trophic cascades.” Popular videos and articles have now echoed, and perhaps exaggerated, those claims. “Trophic” refers to food; a trophic cascade is a set of reactions down through a food pyramid starting with an animal like the wolf at the top, elk in the middle and plants at the base. A Yellowstone trophic cascade, then, involves the changes in plants caused by changes in the elk population caused by actions of wolves. Wolves kill elk, which helps reduce their numbers. Wolves also might scare elk, making them change their behavior such as living in larger herds or in safer areas. Fewer elk and/or elk living differently on the land could change how plants grow. Those changes could affect other creatures such as birds that nest in trees or shrubs. How much of this theoretical cascading actually occurs in Yellowstone has been the subject of scientific controversy. To try to clarify the issue *International Wolf* interviewed Dr. L. David Mech, senior research scientist for the U.S. Geological Survey, who has written about the subject.

International Wolf: Do wolves cause trophic cascades?

Mech: Yes, they can. Science has long known that after wolves and other carnivores were exterminated from many areas, their prey such as deer overpopulated and overbrowsed plants. Researcher Rolf Peterson, Michigan Technological University, also demonstrated that balsam fir growth on Isle Royale was linked to how many moose wolves killed.

International Wolf: Why is there a controversy, then, about trophic cascades in Yellowstone?

Mech: Yellowstone is a much more complicated system. Not only do wolves prey on elk, but so, too, do black and grizzly bears, coyotes, cougars, and humans (when Yellowstone elk migrate out of the park). Thus scientists disagree on how much impact wolves have on the elk population. If wolves are not the main factor reducing elk numbers, then any effect that changes in elk numbers might bring cannot be attributed solely to wolves.

International Wolf: What are other changes in Yellowstone that some scientists have attributed to the wolf?

Mech: The return of beavers; reduction of coyotes and possible release of animals that coyotes kill and thus an increase in coyote competitors; improving the system for scavengers (ravens, eagles, coyotes, beetles) that feed on wolf kills; and others.

International Wolf: What does "release of animals that coyotes kill" mean?

Mech: Release means an increase in coyote prey such as mice and ground squirrels. With fewer coyotes, more such prey could support an increase in other creatures that feed on them such as hawks, owls, foxes and weasels.

International Wolf: Is there any evidence this has happened?

Mech: Not really. A few years after wolves were reintroduced, they did kill a lot of coyotes and reduced their numbers. However, there was no evidence of an increase in foxes or other carnivores. And more recently coyotes have increased again, although wolves still keep killing them.

International Wolf: What about improving the system for scavengers?

Mech: With or without wolves, everything dies, and scavengers feed on the dead. Many scavengers do feed on wolf kills, but if wolves reduce elk numbers, there would be fewer elk carcasses on which scavengers can feed, so that could be detrimental to scavengers rather than beneficial. Moreover, wolves usually eat almost all of a carcass, leaving far less food for scavengers than if the animal just died without wolves.

International Wolf: Are there other disagreements?

Mech: Several others. Although some scientists seemed to show increased plant growth after wolves were reintroduced, other scientists dispute those findings. Also some studies showed changes in elk

behavior after wolves, but other studies challenged those findings.

International Wolf: Why do scientists disagree so much about these subjects?

Mech: Scientists disagree on many things. That is the way science works. Science is self-correcting. One study concludes something; then other scientists scrutinize the study and sometimes see problems with the first study's methods, analyses, results or interpretations.

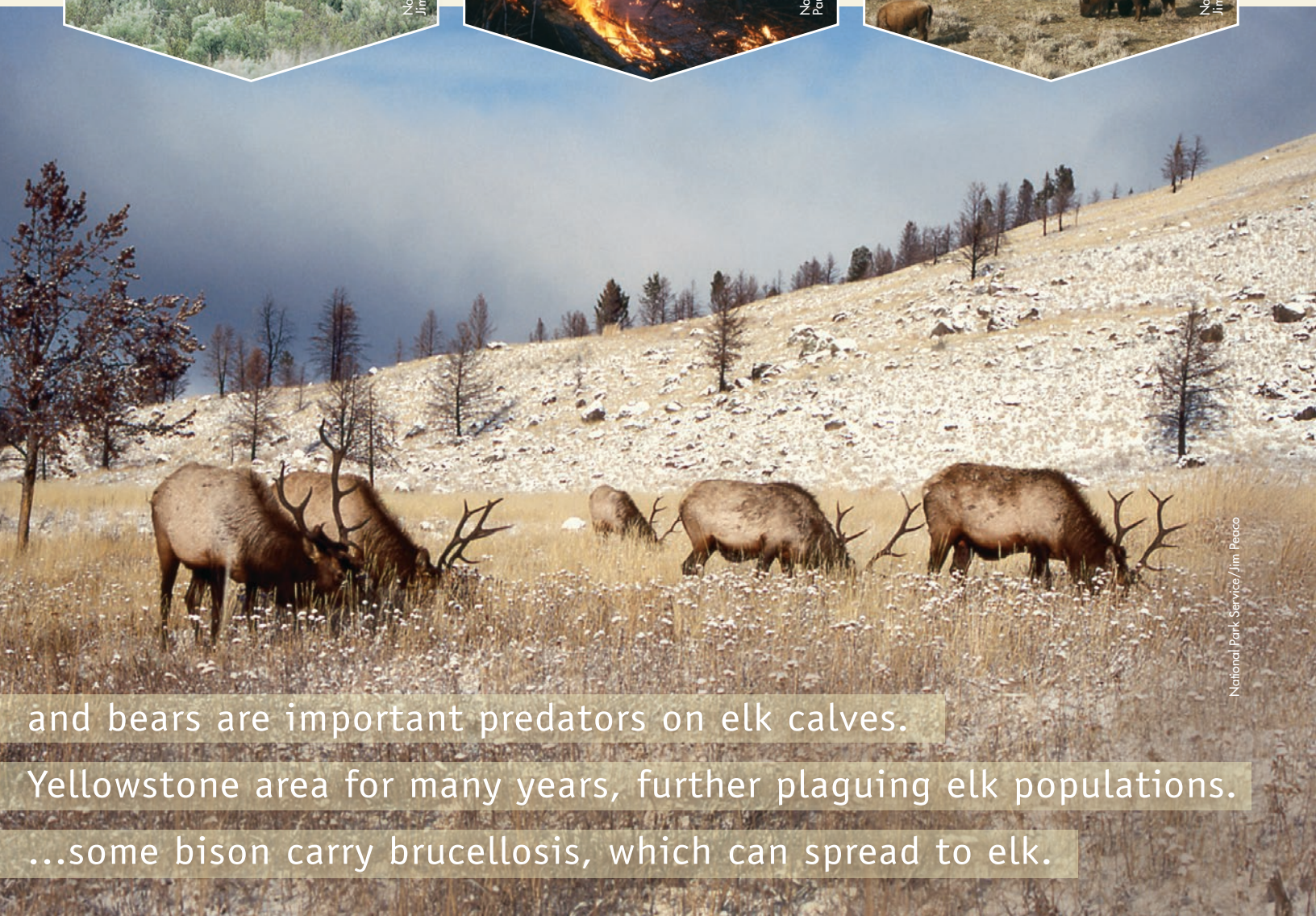
International Wolf: Can you give a specific example?

Mech: One of the biggest flaws in some of the Yellowstone studies has been some scientists concluding that because a change in something occurred after wolves were reintroduced, therefore wolves caused that change. In reality there could have been any number of other causes. Soon after wolves were reintroduced to Yellowstone, Doug Smith, who is project leader for the Yellowstone Gray Wolf Restoration Project in Yellowstone, put it this way: "The danger we perceive is that all changes to the system, now and in the future, will be attributed solely to the restoration of the wolf."

The number of grizzly bears has increased,

Drought has also affected the

In addition, bison numbers have doubled



and bears are important predators on elk calves.
 Yellowstone area for many years, further plaguing elk populations.
 ...some bison carry brucellosis, which can spread to elk.

International Wolf: So many of the changes that people think happened after wolf reintroduction included increases in the height and number of aspen trees and willows. What other types of causes besides wolves could bring major changes to plants?

Mech: Changing weather patterns. For example, since 1995 when the first wolves were reintroduced, the growing season has increased by about 27 days. Thus if any great increases in Yellowstone plant growth since 1995 are proven, the longer growing season could have caused them.

International Wolf: Have there been any other major changes in Yellowstone since 1995 besides wolves and growing season that might have caused changes that some attribute to wolves?

Mech: The number of grizzly bears has increased, and bears are important predators on elk calves. Drought

has also affected the Yellowstone area for many years, further plaguing elk populations. In addition, bison numbers have doubled, and they are distributed more widely in the park. Some bison carry brucellosis, which can spread to elk.

International Wolf: Is there good evidence that wolves have caused trophic cascades in any area other than the one you mentioned on Isle Royale?

Mech: Yes. There seems to be good evidence that wolves in Banff National Park, Canada, have reduced elk numbers, which increased willows and the songbirds that depend on them.

International Wolf: Most wolves live outside national parks. What about wolf effects there?

Mech: Unfortunately most areas outside national parks have been so comprised by human activities including agriculture, logging, grazing, pollution, mining, hunting and other development that any effect wolves might have on

these degraded ecosystems would be inconsequential.

International Wolf: Don't wolves sometimes help reduce deer herds?

Mech: Wolves can reduce deer herds, and that can release plants that deer depend on. However, compared with the effect of human activities, the results make little difference. This was recently shown in some Wisconsin studies.

International Wolf: Are there any other positive ecological effects of wolves that are well documented wherever wolves live, national parks or elsewhere?

Mech: For wolves to trigger a very effective trophic cascade they would have to live at a high density for a long period, which probably could only be the case in national parks. Wherever wolves live, however, they tend to take prey that is more feeble or debilitated, for example older animals, the very young and those that are diseased, parasitized or abnormal. In the long run, that is beneficial to prey populations. Also in national parks, which generally are as close to pristine as any area these days, at least in the lower 48 states, wolves fill out the natural complement of creatures, and I and many others consider that fact positive regardless of whether science can document any trophic cascades they might cause. ■



For a perfect example of the exaggerations that have been made about wolves and trophic cascades, see the YouTube video "How Wolves Change Rivers" at <http://www.youtube.com/watch?v=ysa5OBhXz-Q>.

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.



Wolf Population Status in Western United States: A Summary of State Reports

by NORMAN A. BISHOP

The wolf population in the western United States is stabilizing and expanding its range. By 2012 wolves had been deemed recovered and “delisted” or removed from the federal endangered species list in Montana, Idaho, eastern Washington, eastern Oregon, north-central Utah and Wyoming. That action transferred wolf-management responsibility to the states, and the Northern Rocky Mountain (NRM) wolf population now contains at least 1,691 wolves, 320 packs and 78 breeding pairs.

According to the U.S. Fish and Wildlife Service (USFWS), the NRM wolf population has exceeded recovery goals since 2002: “By every biological measure the NRM wolf population is recovered and remains secure under State management. The Service expects the entire NRM population to maintain a long-term average of around 1,000 wolves. These wolves represent a 400-mile southern range extension of a vast contiguous wolf population that numbers more than 12,000 wolves in western Canada and about 65,000 wolves across all of Canada and Alaska.”

Each year for five years after delisting the states must report on the status of their wolf populations. The summaries from the above-mentioned states and other states in the area follow.



(StockPhoto/designwest)



iStockPhoto/designwest

Controlling Wolves

Below are a few examples of recent legislative attempts to control wolves in Idaho and Montana.

■ Associated Press, March 22, 2014: "(Idaho) lawmakers pass wolf population control bill." House Bill 470 creates a \$400,000 fund and establishes a five-member board whose job it is to authorize the killing of wolves that come into conflict with wildlife or livestock. Idaho Gov. Butch Otter said, "We are of one mind, that Idaho wants to manage our wolves, and we want to manage them to a reasonable number so that the species don't [sic] get endangered again and the feds don't come in and take it over again."

■ Associated Press, March 26, 2014: Idaho's governor signed the new law. It is part of a broader effort to reduce Idaho's wolf population to 150 animals—the minimum to keep the wolf off the federal endangered species list in Idaho.

■ In Montana, four bills were introduced in the first week of the 2013 legislative session that dealt with wolf management. Another 12 were in draft. Nearly every bill was intended to increase the killing of wolves.

On the other hand, wolves are prolific, and harvesting many can be difficult. Wolf expert Dr. L. David Mech has written: "Within a few years after seasons are established, probably few people will have the motivation to trap, hunt or snare many wolves, although many hunters may persist enough to take a few."

So far this prediction has been borne out as states have increased the length of their seasons, individual quotas and methods of take to achieve the harvest results they desire. The states are also keenly aware that even if they succeed in reducing their wolf populations, they shouldn't allow wolf numbers to drop too close to federal recovery minimums because the U.S. Fish and Wildlife Service will then declare them threatened.



Idaho

In Idaho, the year-end wolf population included at least 107 packs with at least 659 wolves. In 2012 the estimate was a minimum of 683. Reproduction was confirmed for 49 packs that produced at least 166 pups. Of 473 documented mortalities in 2013, humans caused 466. The average December 31 pack size of 5.4 animals was 32 percent lower than that of the three-year pre-hunt period's average of 8.1 animals, probably due to harvest and increased control. The number of documented breeding pairs increased from 1995 through 2009 but has since dropped coincident with public harvest.

A hunter/trapper was sent into the Frank Church River of No Return Wilderness to kill two wolf packs. A Wildlife Services helicopter crew killed 23 wolves in the Lolo Pass area on the Montana/Idaho border. The goal in these cases was to reduce wolf predation on elk. However, the major factor in elk decline has been habitat-quality changes due to forest maturation, which reduced availability of shrubs and grasses central to the elk's diet. Idaho's statewide elk population of 107,000 has been growing since 2010.



Wyoming

The Wyoming Game and Fish Department reported at least 306 wolves in 43 packs (including at least 23 breeding pairs) inhabiting Wyoming as of December 31, 2013, compared to at least 277 in at least 43 packs in 2012, including at least 21 breeding pairs. Of those, 95 wolves in 11 packs (including 8 breeding pairs) resided in Yellowstone, 12 wolves and 2 packs (0 breeding pairs) in the Wind River Reservation, and 199 wolves and 30 packs (including 15 breeding pairs) elsewhere in the state.

Wolves killed 41 cattle and 33 sheep in Wyoming in 2013. Thirty-three wolves were removed to reduce livestock losses on the 1.3 million cattle and 365,000 sheep in the state. Wyoming, with the third largest wolf population in the western United States, reported its three largest elk harvests on record in the past five years, including 45 percent success in 2013. The 2013 harvest of 25,968 elk compares to 17,695 taken in 1995.

In 2013, Wyoming instituted a public wolf-hunting season to provide recreational hunting and to reduce the wolf population by about 5 percent in the northwestern corner of the state outside Yellowstone. Harvest was focused there to reduce livestock damage and excessive predation on ungulate herds. A quota of 26 wolves was subdivided between 12 hunt areas, and the season was open from October through December. Some 23 wolves were harvested. Outside that area, where they are designated as predatory

animals, wolves can be taken anytime in any legal manner, and 39 were killed.

Documented wolf mortalities in Wyoming amounted to 109 in 2013 (101 outside Yellowstone, 7 in the park, and 1 in the Wind River Reservation). Causes included 99 (91 percent) human-related (control, 33; hunting, 62; vehicles, 2; and illegal, 2); 8 (7 percent) natural; and 2 (2 percent) unknown. The 2013 wolf mortality rate in Wyoming was at least 26 percent.

In Yellowstone, the population declined from 171 in 2007 to 83 in 2012, probably the result of a decline in elk numbers. In 2012-13 hunts near the park boundary, several radio-collared wolves were killed, five of which were important members of the nine park packs. Three wore expensive GPS collars. In late 2013, 95 wolves survived in Yellowstone.

Montana

In Montana, 95 wolves were harvested during the 2012-13 season and 136 during the 2013-14 season for a total of 231. Known wolf mortalities in 2013 totaled 335, 329 of them human-related. According to Montana's annual report, "The minimum count of Montana wolves generally stayed stable from 2012 (625) to 2013 (627 in 152 verified packs). Twenty-eight packs qualified by the federal legal definition as breeding pairs (an adult male and female with two surviving pups on December 31)."

Fish, Wildlife and Parks director Jeff Hagener said, "Overall, Montana's wolf population continues a stabilizing trend that's likely a combination of suitable habitats being filled, smaller pack sizes, livestock-related removals by federal Wildlife Services and hunter and trapper harvests. When considered as a whole, it appears those factors are continuing to curb wolf population growth." Confirmed 2013 livestock depredations due to wolves included 50 cattle, 24 sheep, 3 horses and 1 goat in 2013, down 27 percent from 2012 losses. Cattle losses were the lowest in the past seven years. Montana harbors 2.5 million cattle and 225,000 sheep. Meanwhile, the Montana elk population numbers 148,648, and elk are at or above objectives in 81 percent of the hunting districts.



Oregon

Oregon's wolf population continues to grow, tripling over the last three years from at least 22 to at least 64. Known packs also increased from six to eight, although the number of known breeding pairs decreased from six to four. In March, tracks on the east flank of Mount Hood were confirmed to be those of a wolf, only the second known time a wolf had reached the Oregon Cascades since world-famous wolf OR-7 made his trek west.

Oregon's wolf OR-7 became the first confirmed wolf in California in 87 years when he crossed from Oregon into California on December 28, 2011. He stayed in California for 15 months and left in March 2013 but has returned for short visits several times since. The California Department of Fish and Wildlife has convened a stakeholder group that is working together to develop California's state wolf management plan.

The agency aims to have a draft for public comment late this year and to adopt it in early 2015. (<http://www.dfg.ca.gov/wildlife/nongame/wolf/>)

*Editor's note:
In May 2014
Oregon and
USFWS biologists
confirmed that
OR-7 had a mate,
a black female.
In early June
2014, two pups
were discovered.*

Washington

Washington's known wolf population, at least 52, remained about the same in 2012 and 2013. Pack numbers increased from 10 to 13 because 1 of the 10 packs from the previous year split up to form 4 separate packs. The Washington Department of Fish and Wildlife transferred responsibility for wolf management from its Endangered Species Division to its Game Division in 2011 soon after its original wolf plan was adopted, and the agency, the Fish and Wildlife Commission and the legislature have since amended the plan to allow more liberal taking of wolves in response to livestock depredations.

Elsewhere

Although a few wolves have appeared (and disappeared) in Colorado and Utah, those states cannot be said to have wolf "populations." Utah is considering a shoot-on-sight policy and allocating public monies to groups that target native carnivores with the aim of increasing populations of game species. Colorado has a wolf management plan, the product of a stakeholder collaborative group, in anticipation of wolves naturally recolonizing the state. At least three wolves are known to have dispersed to Colorado, but at least two of them were killed. Biologists believe that Colorado and other parts of the southern Rockies could support more than 1,000 wolves, 40 percent within protected areas and 47 percent on unprotected public lands.

All in all, we can be cautiously optimistic about the future for wolves in the western United States as wolves continue to recolonize the Pacific Northwest, where public sentiment is generally favorable toward wolf recovery. A recent poll showed that 80 percent of Californians, 63 percent of Oregonians and 72 percent of Washingtonians favor wolf restoration in their states.

For the full story on gray wolves in the Northern Rocky Mountains including Oregon and Washington, go to: westerngraywolf.fws.gov. ■

Norman A. Bishop was a national park ranger for 36 years and the principal interpreter of wolf restoration at Yellowstone National Park from 1985 to 1997, when he retired. He was a reviewer and compiler of "Wolves for Yellowstone?" and for the 1994 wolf Environmental Impact Statement. He led field courses on wolves for the Yellowstone Association Institute until 2005 and has received numerous awards for his work with wolves. The author would like to thank Amaroq Weiss of the Center for Biological Diversity for Washington, Oregon and California updates.

Major Contributors and Special Gifts

MARCH 2014 – MAY 2014

Major Donors

Michael Briselli and Jeannee Sacken
Sky Brooks
Catherine Brown
MaryAnn Canning
Robert Carlson
Melanie Donaghy
Todd Duyvejonck
Dorene Eklund and Jan Skovran
Nancy Gibson and Ron Sternal
Mark Jay Gittler
Nancy Harman and Terry Bryant
David Hartwell
Carla Hess
Jewish Federation of Cleveland
William Kelly
Jeanie and Murray Kilgour
Virginia Kluwin
Martin Kraimer
Dr. L. David Mech
Barbara Müller
Thomas and Victoria O'Connell
Ben and Lynn Oehler
Penny Pickard
Dana Pond
Debbie Reynolds
Michael and Elaine Ross
Lucy Rogers
Walter and Mardene Schuiling
Nan Snyder
Karen Sternal
Ms. Sweeney's biology students at Trinity High School, Pennsylvania
Leslye Teuber and David Albert
Nancy jo Tubbs
Audrey Wolf

Memorials

In memory of Patricia Gillespie:
Vickie and John Duke

In memory of Harold Griffiths:
Kathy Griffiths

In memory of Stephanie Howell:
Henry Howell

In memory of Walter Hripak:
Sandy Martin

In memory of Keila:
Susan Myers

In memory of Malik:
Robert Cohen
Joyce Eisold
Johanna Goering
Kenneth Housey
Marcia Mummau
Susan Myers
Dana Pond
Phyllis Price

In memory of Wyld Spirit:
Susan Myers

In memory of Greg Zaffke Sr.:
Maria Baratti
Ela Soccer Club
Susan Valentino

Honorary

In honor of the ambassador wolves' birthdays:
Betty Magnuson

In honor of all wolves everywhere:
Donna Duran

In honor of Boltz's and Luna's birthdays:
Marcia Mummau

In honor of James Brown:
Marisa Edwards

In honor of Debbie Hinchcliffe:
Erica Hinchcliffe

In honor of Pam Churn:
Lorianne Churn

In honor of Nancy Gibson:
Julie Steiner

In honor of Judy Hunter:
Risa Brandon

In honor of Christine Mikalson:
Amanda Mikalson

In honor of retired wolves Shadow and Grizzer:
Charlene Vasilievas

In honor of Alexandra Runnels' birthday:
Alexandra's family and friends

In honor of Lori Schmidt:
Partricia D'Antoni

In honor of Lori Schmidt's birthday:
Gail S. Ramee

In honor of Ron Sternal's retirement:
Tory Stempf

In honor of Amber Tamblyn:
Jeanne Gehrman

In honor of Joyce Wells:
Robert Cohen

Matching Gifts and Foundations

ACE Charitable Foundation on behalf of:

Richard J. Pikikero

Ameriprise on behalf of:

Erik Johnson
Christopher Lamere
Brian Ogren
Paul Trevizo

Corning on behalf of:

Wayne J. Cadden

Hospira on behalf of:
Stanley S. Lipinski Jr.

Caterpillar on behalf of:

Brian and Melinda Doerfler

Medtronic on behalf of:

Linda Brennecke

The Harold W. Sweatt Foundation

The Tantay Ventures Fund of the Minnesota Community Foundation

Thrivent on behalf of:

Tim Meehan

In-Kind Donations

Sylvia Bard
Helen Gulick
Judy Hunter
Dana Lee Pond
Jen Wagner
Kim Wheeler

Estates

Jeanne M. Turtzo

Sustaining Members/ Monthly Donors

Bob Akerley
David Albert
Mara Arico
Rebecca Becker
Robyn and John Bonson
James Brady
Michael Byrnes
Linda Dougherty
Matthew Dresnick
Martina Fehlhaber
Jennifer Herstein
Carol Hodges
Karen Hodsdon
Catherine Kling
Debbie Kowalski
Michael Pastorelli
Dana Pond
Nancy Powers
Bette Jean Rua
S. Schade
Pierre Schlemel
Rob Schultz and Andrew Engelhart
Catherine Shepard
Rebecca and Ronald Sinclair
Paul Smith
Peter Smith
Patti and Bob Sobbecke
Carol Lynn and Ronald Sokoloff
Lynn Streadwick
Walt Stump
Leslie Teuber and David Albert
Nancy Vanderwerft
Manuel Vazquez
Sandra Weiner
Steffanie Wiggins
Linda Williams
Jessie Wisdom

Thank You!

In Memory of Shadow

Shadow, a male resident arctic wolf at the International Wolf Center, was euthanized on Wednesday, July 2, after a significant physical decline in his overall condition. The 14-year-old wolf joined the Center's resident pack in 2000 with his brother Malik. He was euthanized in March after a similar decline in health. Shadow was the dominant pack leader in the Exhibit Pack from the fall of 2002 until his retirement in July 2010. The following are a few remembrances of Shadow from those who helped raise and care for him.

AFTER 14 YEARS, the memories are plentiful and are often accompanied by a smile; but to honor Shadow, where do we start? Because we study behavior, we will use the behavioral terms that most represent Shadow.

Direct eye stare and avert gaze: Shadow could control any wolf with just one look, and he knew when to avoid engaging in confrontations between juvenile or lower-ranking pack members.

Greeting: There has been no other wolf in the history of the Center's operation that could clean a face better than Shadow with his daily greetings (even if they did include a low-throated growl).

Invite chase: Pushing up from a play-bow into a full run away from another wolf, Shadow would invite him or her to chase. He even displayed this behavior in retirement; the chase was diminished, but the playbow was alive and well.

Chin rest: Who could forget the power of one chin on another wolf's back? Wolf Care staff borrowed this technique from Shadow and now use it to control young pups with a hand on top of the muzzle, neck or back.

Parallel gate: Shadow was the master at pair bonding, and the image of Maya and Shadow will forever be in our minds.

Howls: Who could forget the pack leader's howls and the bark howls that told us enough was enough?



Countless other memories remind us how honored we are to work with these complex, social predators. Shadow, you trusted our team. Every time you placed your head on one of our shoulders or gently rested your head against one of our heads, it reinforced that trust and our commitment to provide our wolves with the best care possible. Our greatest respect and heartfelt appreciation, Shadow, RIP our dear friend.

—Core Wolf Care staff in Ely, Minnesota

SITTING AS THOUGH he was gazing from his promontory, Shadow was a born leader. Although his rock happened to be a lawn chair at a few weeks of age, his assertive attitude was evolving. His weight was slightly less than his brother Malik's, but that never got in the way of Shadow's being the first to eat and first to howl. He even thought my Labrador needed a growl when it came to food.

Shadow eased into his leadership role within the Center's Exhibit Pack and held onto that position longer than many others that preceded him. His retirement



Doug Kautz

and separation from the pack was tough. He continued to lead the howls and seemed to even maintain order through the fence with the younger wolves.

Shadow and Malik taught me a lot. I was fortunate enough to be there when they opened their eyes, and they opened my eyes to how those first weeks leave a strong impression. They never failed to leap and lick my face on my trips to the Center; admittedly, that was the reason for my visit. His exhibit may be empty, our emotions may ache, but those memories will also evoke many smiles long into the future.

—Nancy Gibson, board member

ONE OF MY FAVORITE MEMORIES was the hide-and-seek game we played in the hostas one day. Shadow would get “lost” in the big leaves, and then Malik and I would try to find him, tumbling around together after the hiding place was discovered. I will miss those boys!

—Debbie Reynolds, board member



Jonathan Chapman



Sherry Jokinen

Wolf Curator Lori Schmidt (left), Shadow and Sherry Jokinen, who worked as a nanny for Shadow in 2000.



International Wolf Center

Shadow with board member Nancy Gibson.



Nancy Gibson



International Wolf Center



International Wolf Center

Instilling in Students an Appreciation of Wolves and Nature

by Darcy Berus, Development Director,
International Wolf Center

Susan Sweeney has taught high school biology at Trinity High School, in Camp Hill, Pennsylvania, for 36 years. She also is a long-time program participant and member of the International Wolf Center. She attended the 2013 International Wolf Symposium, participated in the Center's ethology course, and served on the 2008 wolf observation team when Aidan and Denali were introduced into the Center's Exhibit Pack (Sweeney tracked Malik's behaviors during the pup introduction).

Over the last decade, she has developed a yearlong wolf-tracking project for use in her classroom to educate students about

wolves, wildlands and ecology while sharing with young people her passion for these top predators. Utilizing content from the Center's *Gray Wolves*, *Gray Matter* curriculum, the Center's Web site (wolf.org), and *International Wolf* magazine, Sweeney's students analyze data provided on wolf.org to explore pack dynamics and changes, geographical movements and government management techniques.

"I think the Center's resources are a great way for teachers to include real-life scientific investigation in their class. It's not as if my kids could go out and

track wolves themselves, so these tools are useful to allow them to experience how it's done," said Sweeney. "I hope the wolf-tracking projects give the students an appreciation and love of nature and wild-

life, and I hope the experience helps them understand what role they play in maintaining a healthy environment on a worldwide basis."

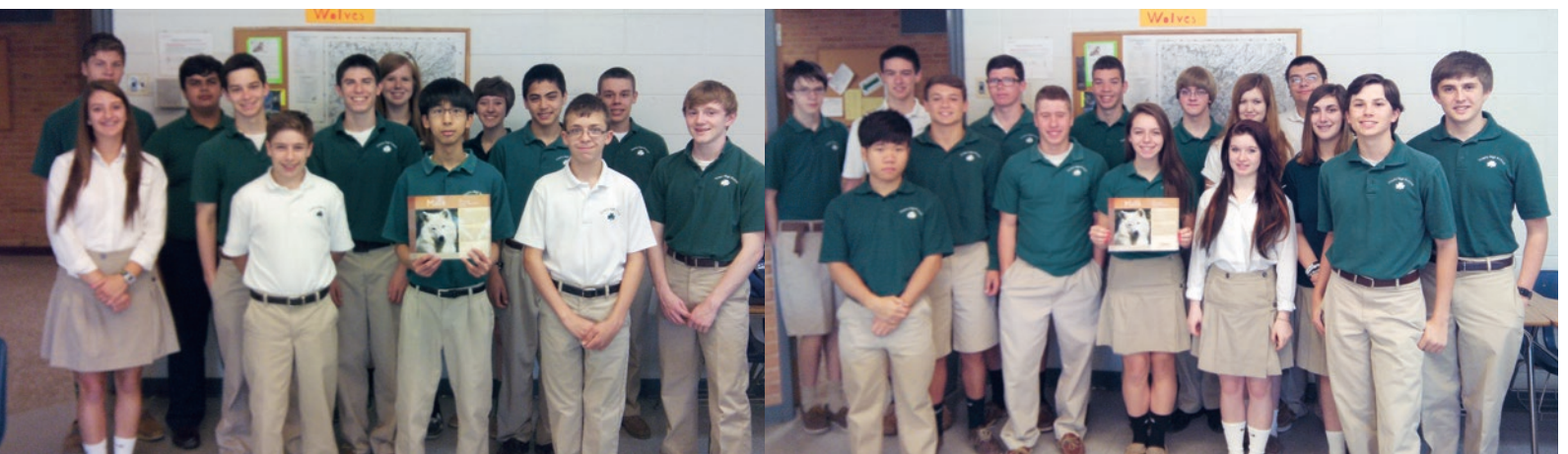
Helping students understand and appreciate the dynamics of nature, Sweeney also strives to foster environmental stewardship and critical-thinking skills in her classroom. "Making students scientifically literate is, I hope, my greatest contribution as a teacher," she said. "I want to help them learn to make scientific choices either personally or politically, so that they know how to go about finding and evaluating information before they make those important choices."

Sweeney's students not only have gained increased knowledge about wolves throughout regions, but they also have developed connections with the Center's ambassador wolves. Given their teacher's experience with Malik, the students were very saddened when they learned of his passing in April 2014 and made a class donation to support the Center's ambassador Wolf Care program in Malik's memory.

All of us at the Center are delighted that Sweeney and her students are finding meaningful ways to utilize resources offered by the Center in their biology class, and we are grateful to them for their generous donation to Wolf Care. ■

"After finishing the wolf-tracking project, I had a new respect for wolves. They aren't the blood-thirsty killers I originally thought they were. Rest in peace, Malik." —Payden M.

"After learning about wolves, I discovered a new respect not just for wolves but for all of wildlife." —Ben F.



Pictured are Susan Sweeney's biology students along with some of their thoughts on what they learned about wolves through their class projects.

Wolves of the World

Iranians Show Compassion to Wounded Wolves

by Tracy O'Connell

While wolves are hunted, legally or otherwise, in much of the world, Amir Mahdi Ebrahimi from time to time relates stories of everyday Iranians actually helping injured wolves recover and then releasing them back into the wild. A member of the International Union for Conservation of Nature (IUCN) Canid Specialist Group, Ebrahimi has studied wolves in Iran for many years, and in the past he has shared stories of the way Iranians have reached out to help the stranded canids. (See *International Wolf* Fall 2008 and Summer 2010.) Following are his newest reports:

A WOLF HIT BY A CAR in January 2012 in southern Iran sustained a broken leg. Those seeing the injured animal informed the Department of the Environment (DOE), prompting officials to capture the wolf and bring it to a veterinarian in the city of Shiraz for surgery. The animal recovered in about eight weeks.



Photo courtesy of Amir Mahdi Ebrahimi

LAST NOVEMBER, two wolves fell into a deep pool and were unable to escape. Trapped for about three days, they were rescued by DOE officials who heard of their plight from local people. One animal, remarkably, was in good condition and ran off after it was freed. The other, weakened by days of being exposed to cold weather and hunger, offered no attempt to get away. DOE officials took the shivering, exhausted creature to their car and covered it with blankets; then they fed and cared for the wolf until it warmed up, regained strength and could be released into the wild.



Photos courtesy of Amir Mahdi Ebrahimi

Edwin Winkler

LAST DECEMBER, two wolves were injured in two separate auto accidents in northeast Iran's Qazvin province. After being notified by area residents, DOE officials twice came to take these wolves to a local veterinarian for surgery. Both were later returned to the wild.



A WOLF FELL into a deep well in a village in western Iran's Lorestan province this past February. Villagers informed DOE officials of the need for help, but perhaps fearing the help would arrive too late, they rescued the animal themselves. When officials arrived, the exhausted animal was already freed, lying near a fire to warm up. It has since been returned to nature.



Photos this page courtesy of Amir Mahdi Ebrahimi

IN JULY 2013, a wolf attacked and killed six sheep in southern Iran. The rancher chased the animal, which fell into a pool trying to get away. The rancher took pity on the wolf and informed fire station officials, who rescued it from the pool and returned it to the wild.



While Ebrahimi has heard other stories of wolf rescues, he said they, unlike the stories above, are not sufficiently documented to be sure of their accuracy. In addition, he said, the kindness shown to predators in Iran has extended to the jungle cat (*Felis chaus*), also called the reed cat or swamp cat, a relative of the domestic cat found across Asia and as far west as the Nile River. Shot by a poacher in April of this year, an Iranian cat was found with injuries by a man who took it to a veterinarian and paid for its care with his own money.

"Although still much work is needed on wolf taxonomy in Iran," Ebrahimi said, "I think there are three subspecies in the country: the Caucasian wolf (*Canis lupus cubanensis*) in the north and northwest, the Eurasian wolf (*Canis lupus lupus*) in the northeast and the Indian or Iranian wolf (*Canis lupus pallipes*) in other parts of Iran." Some believe all wolves in Iran are a single subspecies, *C. lupus pallipes*, he noted, but he doubts that theory as wolves in Iran are highly variable in size, weight and coat color. Without a census, there is no way of knowing the number of wolves in the country. Past estimates have been between 1,000 and 6,000 animals.

Ebrahimi isn't sure what to make of these stories as far as revealing a national trend toward compassion for the wolf and other predators, since, as he noted,

feelings run differently among different people and in different parts of the country. But he hopes the attitudes of compassion reflected in these vignettes, especially among the rural people who have lost animals to wolf predation, will spread throughout the world.

Elsewhere in the world . . .

FRANCE:



Wolves are continuing to spread into new territory closer to Paris, France's English-language newspaper *The Local* reported. One wolf was captured on camera in May within 250 kilometers (155 miles) of the capital in the Meuse department of northeastern France; previously, another was killed only 160 kilometers (99 miles) from Paris in the Marne department. Since wolves crossed the Alps 22 years ago and entered France for the first time since 1937, it is now estimated there are 300 animals in 20 to 25 different packs in France.

As the predictable war between wolf conservationists and farmers who lose livestock to the packs heats up (5,000 farm animals are estimated to be taken annually by the canids), special hunts have been permitted in a nation where wolves are otherwise protected, as they are throughout most of the European Union. However, hunters have been unable to claim a single wolf in the culls, *The Local* reported. One effort brought 150 hunters to a region where 80 percent of the predation has taken place, with no success, leading to a call for hunters from the United States to be brought in for the job.

However, Greenfudge, which describes itself as a news portal dedicated to covering environmental news from around the world from a European perspective, has different information on the hunting success and the number of wolves in France, claiming in May that two wolves were successfully shot.

Greenfudge reported: "The government has already launched a regulation plan for a four-year period to follow wolves, protect flocks, deal with the

compensation of farmers and manage wolf populations. However, certain farmers think the plan is insufficient: they wish to increase the wolf hunt quota (which) has already doubled within one year from 11 animals in 2012 to 24 in 2013. That is 10 percent of the national wolf population."

ROMANIA:



Victoria Hillman, wildlife biologist and research director for the Transylvanian Wildlife Project, in April reported the first glimpse of a wolf on one of her group's camera traps. Her team is using the cameras for a 10-month research project on carnivores and biodiversity in what is called Europe's last great wilderness, the Carpathian Mountains, which stretch across central and eastern Europe. She reported that Romania, where more than half the Carpathians are located, is the European stronghold for the gray wolf. However, she noted that there seem to be huge discrepancies in total population figures, which range from 2,000 to 4,000, with the majority of animals living in the Carpathians.

Meanwhile, freelance investigative journalist Luke Dale-Harris, who lives in Transylvania, which is near the

Carpathians in Romania, addressed the disputed population figures on the *The Ecologist* Web site, which defines itself as "setting the environmental agenda since 1970." Dale-Harris found that the monitoring of wolf numbers is done by hunting associations; since hunting was privatized in Romania, there are 1,000 such organizations, which are concerned with the survival of the prey animals from which their revenue comes, rather than the wolf, which does not generate income for the hunting groups. They want to increase wolf culls, and therefore overreport numbers to the government, whose man on the job, Ovidiu Ionescu, is aware of the practice of inflating totals but is required to accept the data, which he then adjusts downward to a level he described as totally arbitrary.

Attila Kecskes of Milvus Group, a wildlife conservation group in Transylvania, told Dale-Harris that the overhunting of wolves results in changes in their behavior, which includes increasing incidents of breeding with wild dogs and habitation closer to human settlements. Concern with the status of wolves centers on many things including the health of the forest, which would be overbrowsed should the prey population

increase dramatically. Hunters argue they should be the ones to keep ungulate levels down, as is the model in much of the rest of Europe. But Dale-Harris reported that a comparison study of the German Alps and the Romanian Carpathians shows that the influence of hunters on ungulate behavior differs dramatically from the influence of wolves.

Though both areas have similar numbers of ungulates, Dale-Harris wrote that the German forests are failing to regenerate naturally. He claims that the ungulates concentrate in a single area until all the food is gone then move on and repeat the process, a behavior considerably at odds with what is known about ungulates in North America. In Romania, a concentration of ungulates quickly attracts wolves and other large carnivores, causing the grazing animals to move on before they deplete the forest resources.

Other wolf experts, in turn, argue claims such as this in popular literature can't always be verified. ■

Tracy O'Connell is a retired associate professor of marketing communications at the University of Wisconsin-River Falls and serves on the International Wolf Center communications and magazine committees.



with great surprise I realized what I was looking at; six sets of eyes were staring at me, only 100 feet away. And then, I heard a muffled half-bark followed by a deep, smooth, heavy sound rising into the air. None of the other wolves

Personal Encounter

High Drama in Yellowstone

By Kirsty Peake

Watching wolves in Yellowstone brings high drama, laughter and sorrow. When my husband and I left our Montana home on February 2, 2013, we had no idea that the next few days would be a roller-coaster ride of emotions we had never before experienced.

Events began on a clear day, which meant that Yellowstone Wolf Project leader Doug Smith and his tech team might radio-collar some wolves from the newly formed Junction Butte pack. The team spotted the pack from Hellroaring Overlook, a vantage point with a panoramic view of a valley with steep hills and rocky outcroppings beyond. Soon

the spotter plane found the breeding male (nicknamed Puff) and his mate, and the helicopter came in. Puff evaded Smith and his crew, but they were successful in capturing, collaring and releasing Puff's beautiful mate, who then officially became 870F.

For the next two days, we watched as Puff flirted with 870F. Finally she accepted his advances, and the pair remained tied after mating. The other wolves, watching from uphill, ran down and jumped on the tied pair, which disappeared, buried under the pack. The tie was broken during the melee, and 870F moved away and lay down, flat out. Puff settled down next to her, licking her face. Eventually the rest of the pack gathered around and bedded. As light was falling, we called it a day.

The next day, we arrived at Hellroaring, and I soon had my scope up. I immediately realized that Puff and a black female were standing over something. It was 870F, and she had hardly moved from the day before. Puff was pawing at her but getting no reaction. The pack began to move off toward the east, but Puff was reluctant to leave 870F. He repeatedly pawed at her in an effort to get her to move. Then he began to move away, glancing back at her. Two other females approached and sniffed her and then left, too. She remained still as Puff returned one more time, pawing her so hard that she rolled over and slid down the hill, where she lay unmoving. By this time tears were streaming down my face. I thought she was dead. All the while, ravens and magpies were on the ground near 870F. As the other wolves left, the birds moved in toward her.

The first raven landed on her side, but her head lifted and the raven flew off. Our tears turned into smiles. Then, with her drive to survive, 870F staggered to her feet and took a few shaky steps

Suddenly she was startled. Her head came up, and she jumped to her feet and looked behind her. Nothing was there, but just to see her able to move like that was a joy.

Roy Laible

before collapsing again. Puff had noticed, and he returned with the black female accompanying him. Then 870F tried to get up, at which time Puff tried to breed with her again, but she collapsed. Bit by bit she would get up, move a few feet and then fall, head and chest hitting the ground first. She would lie there for a few minutes and then try again, her head lowered as she tried to walk. As she made a great effort to climb a short incline, Puff mounted her again. She averted her tail, and this time they tied for 18 minutes. Within the first two minutes, 870F collapsed on her back and tried to get up, only to fall once more. Eventually both wolves, still tied, lay down. After they broke apart, 870F remained motionless. We thought she would not get up again.

But as the pack picked up the pace and moved off to the east, 870F rose to her feet and started to follow. Collapsing, she would lie still for several minutes before trying again to catch up with her family. Every now and then, a pack member would return to check on her. After traveling perhaps 2 miles (3.2 kilometers), the pack disappeared among the rocks. We followed 870F with our scopes until we could see her no more. Our feeling was that she had suffered some sort of traumatic spinal or neck injury when the pack had jumped on her. Gerry, a friend of ours, and I looked at each other as the wolves vanished from view, and he said, "Well, I never thought that would be the outcome." We were emotionally drained.

After several anxious days, we saw 870F again. She was lying down, still badly injured. Finding her after that was difficult and sporadic. She appeared to be staying near the pack but not necessarily with the others. Her injury excluded her from taking part in any hunting. When we did see her, she was always lying down. Then we realized that she was no longer with the pack. "She's out there on her own," we thought, with no ability to hunt. When we did spot her, she was on high ground—good for safety—and she was resting. Survival was her focus now.

The days passed, and finally in March we discovered 870F up and moving. She was still stopping and resting regularly, but she was moving at a trot! She was with two other wolves that must have been helping her, perhaps bringing her scavenged food. She was thin but not emaciated. As we watched, 870F gnawed a bone that she was determined to break. Suddenly she was startled. Her head came up, and she jumped to her feet and looked behind her. Nothing was there, but just to see her able to move like that was a joy. From then on until we left, we had occasional sightings of her and heard her howling.

She has since mated with 890M and denned in an area called The Trough. I am now anxiously waiting for news of her pups. If they have inherited her character, they will be noticed during their lives in Yellowstone. She has shown true grit to overcome the horrendous injuries that she suffered and has shown the incredible strength of a wolf's desire to survive. ■



Photo courtesy of Kirsty Peake

Kirsty Peake is a qualified Animal Behaviorist working in the field of companion animals, and in particular, with problem dogs. Her fascination with wolves and their behavior has stemmed from a lifetime of living and working with dogs. She is a specialist advisor with the UK Wolf Conservation Trust.



Doug McLaughlin

Birth Announcement

In late June 2014, Yellowstone wolf watchers saw five healthy pups, three grays and two blacks, playing at the Junction Butte pack's rendezvous site. What a happy outcome to a story that almost ended tragically.

Wild Kids



Vocabulary

Pack A family of wolves whose members live and work together, hunting for food and taking care of the pups. A pack usually consists of a male and female parent and their offspring from one or more annual litters.

Den A shelter, often a small cave or hole dug out of the ground, to protect the mother wolf and her young pups from weather and other animals.

Habitat The natural environment of a species (plant or animal) that provides food, water, shelter, or cover, and the space required for it to survive. Forests, deserts and lakes are examples of habitats.

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

What Inspires You?

Wolves often provide inspiration. Being inspired means that something or someone has influenced you in a way that makes you want to take action. Heidi Pinkerton, a photographer from Babbitt, Minnesota, found her inspiration in a wolf named Maya. After hearing that Maya, a former ambassador wolf, had passed away in March 2011, Heidi decided to try to photograph the *aurora borealis*, or northern lights. As she was setting up her camera, a lone wolf howled in the night air. Later that evening Heidi was able to capture pictures of the northern lights. Those pictures were the first of many northern light photographs that Heidi is famous for today.

Just like wolves inspired Heidi to begin a career as a photographer of northern lights and wildlife, wolves often inspire people to write stories or poems. Wolves also inspire people to advocate for wildlife. When you look at the photo of Luna, think about the ways that wolves inspire you and what you can do to make a positive difference in the world.



Luna came to the International Wolf Center in 2012. She is a Great Plains subspecies of *Canis lupus*, the gray wolf. Luna is the only female in the Center's Exhibit Pack. The last time she was examined, Luna weighed 91 pounds (41.3 kilograms), but she was still shedding her thick undercoat. Being a black color phase wolf, Luna enjoys lying in the shade on hot days, so she can stay cooler. Black hair tends to absorb more heat. Less than 5 percent of Minnesota's wolves have black coats.





Kelly Godfrey

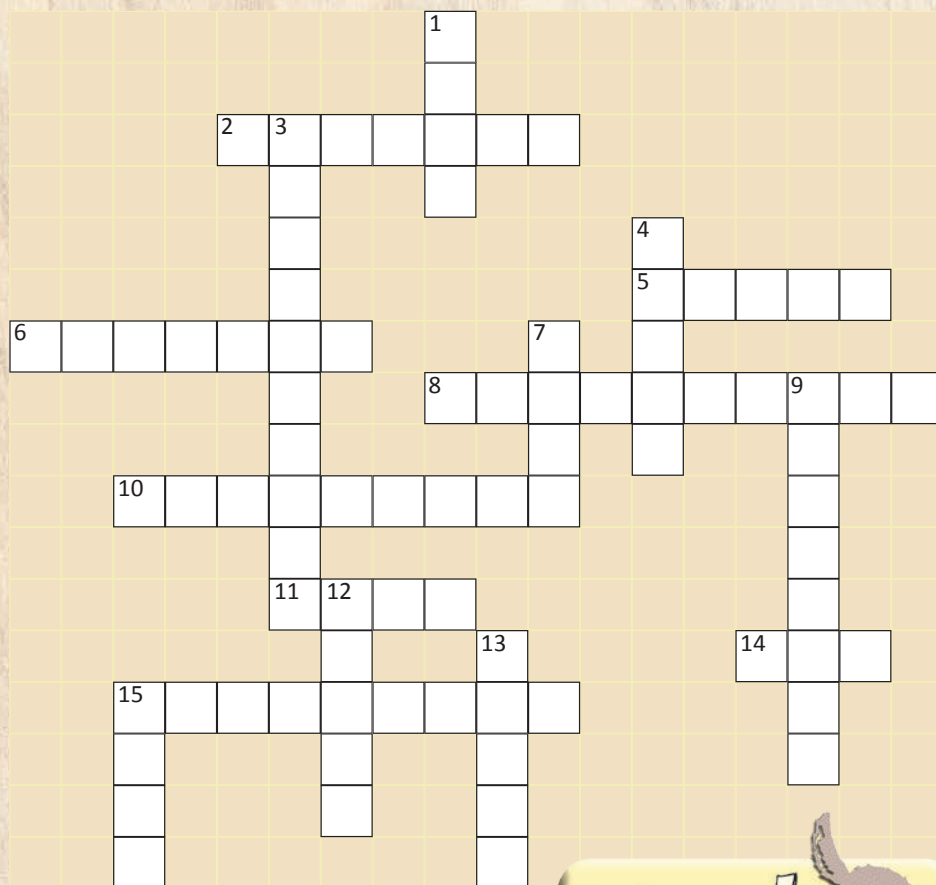
Notes from the Field

What were once known as the alpha male and alpha female are today called the breeding male and breeding female. This change in terminology is due to a shift in thinking about the behaviors of wolves and how they live as a social group, or pack. The wolf pack consists of a breeding pair, a mature male and female, who have come together to mate and raise pups. The next year the breeding pair will raise another litter of pups. The older siblings dominate the younger pups. As the older siblings mature, they disperse, or go out on their own, to find a mate and begin a new family. ■

Luna



Kelly Godfrey



Play!



Crossword Puzzle

Across

2. The ____ wolf once ranged throughout Mexico and the American Southwest.
5. The leader of a wolf pack was once known as the ____.
6. One way wolves communicate is by ____.
8. Flesh-eating animals, including wolves, cats and bears, are called ____.
10. A wolf pack establishes its own _____, an area in which it lives and hunts, and in which other packs are not usually allowed.

11. Wolves are related to ____.

14. The ____ wolf (*Canis rufus*) used to range throughout the southeastern United States.

15. A _____ is a lone wolf that has left its pack.

Down

1. Wolves are social animals that usually live in a family unit called a ____.
3. Throughout most of the United States, the wolf was once protected by law as an ____ species.

4. ____ lupus is the scientific name for the gray wolf.

7. A ____ animal is one that is hunted by a carnivore like the wolf.

9. Wolf _____ is the goal of efforts to return wolves to their historic range.

12. The lowest ranking member of a wolf pack is called the ____.

13. Both red wolves and gray wolves were once native to the state of ____.

15. Moose, elk and ____ are among the prey animals hunted by wolves.



A Look Beyond

50 Years of Wilderness

by Becky Rom

One of the most important educational messages of the International Wolf Center is that the long-term survival of the wolf depends on the preservation of wildlands. Fewer wolf-human conflicts occur there. Thus wolves have a greater chance of survival in wildlands, making this year's 50th anniversary of the Wilderness Act especially notable for anyone interested in wolves.

The Wilderness Act provided a way for Americans to have a say in protecting their nation's wildlands for future generations. The 1964 law created the National Wilderness Preservation System, which protects nearly 110 million acres of wilderness areas in states throughout the nation. Today the Wilderness Act is considered one of America's greatest conservation achievements.

Former Wilderness Society Executive Director Howard Zahniser drafted the bill in 1956 to protect some of the nation's remaining wilderness. After eight years and 66 revisions, President Lyndon B. Johnson signed the Wilderness Act into law on September 3, 1964. The million-acre (404,696-hectare) Boundary Waters Canoe Area of northern Minnesota was among the 9.1 million acres (3.7 million hectares) of lands added to the National Wilderness Preservation System that day.

The Wilderness Act was a landmark law and the first in the world to permanently protect public land as wilderness, making logging, drilling, road building

and most motorized vehicles off-limits in these areas. Americans own red-rock canyons, turquoise rivers, desert plains, jagged mountain peaks, arctic tundra, southern wildflowers and cool northern forests. The Wilderness Act protects some of the wildest of these places in our country, including significant portions of national parks like Yosemite, Grand Teton and Olympic.

Perhaps the most notable aspect of the Wilderness Act was the power it gave the American people to protect their public lands. The act made a fundamental change in how new wilderness areas were recommended and acted upon by shifting the responsibility from federal land management agencies into the hands of the American people and the legislative process. From 1964 on, citizens could develop their own wilderness proposals and submit them directly to a member of Congress. This has had a profound impact on the history of wilderness in the United States.

The U.S. public lands base includes 635 million acres (257 million hectares) of national parks, national forests and other federal lands collectively owned by all American citizens. These places are an essential part of our birthright and heritage. Well-managed wildlands purify the air we breathe and the water we drink. They give wildlife, especially wolves, bears, cougars, lynxes, and Wolverines the habitat they need to survive, and they afford people places for recreation and renewal.

They are central to tourism, local economies and our way of life.

Federal ownership itself does not always guarantee safe keeping. Many of our public lands continue to be leased for mineral, oil and gas, timber and other natural-resource extraction, and opened to road building, motorized recreation, grazing and development. Although a balanced, multiple-use approach to public lands management is appropriate in many places, some places are just too wild and too special to be exploited. These places are protected by the Wilderness Act.

Since the Wilderness Act was signed into law, the American people have written the history of wilderness in the United States. Still, wilderness will never be fully guaranteed. It took popular opinion to make it real in 1964, and the existence of wild places will only continue into the future with the same kind of public support.

As the 1964 Wilderness Act states: "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." ■

Becky Rom is a member of the Governing Council of The Wilderness Society, a leading conservation organization working to protect America's wilderness and preserve our country's rich wildlands legacy. Staff of The Wilderness Society contributed to the content of this article.

"I believe we have a profound fundamental need for areas of the earth where we stand without our mechanisms that make us immediate masters over our environment." — Howard Zahniser



the **BOUNDARY
WATERS
JOURNAL**

The Magazine of America's Favorite Wilderness Area

**Inspiring Wilderness Adventure
in Canoe Country Since 1987**



BWJ Subscribers crave the wilderness experience for its challenge, freedom, raw drama, connection with nature, and priceless spiritual fulfillment. Every issue of *BWJ* is packed with exclusive, in-depth feature articles and inspiring color photography to help make your next canoe country adventure the very best it can be. Get serious about planning your precious vacation. Subscribe to the adventure today:

www.BoundaryWatersJournal.com

1-800-548-7319

9396 Rocky Ledge Road Ely, MN 55731



from the heart of the city

MIDWEST MOUNTAINEERING

Find the best gear and clothing for
kayaking, canoeing, backpacking, hiking, climbing, adventure travel and Nordic skiing.

309 Cedar Ave. So. Minneapolis
612-339-3433 MidwestMtn.com
Ask us. We've been there.

**Coming: Outdoor Adventure
Expo, Nov. 21-23**



International Wolf Center

3410 Winnetka Ave. N
Minneapolis, MN 55427

NONPROFIT ORG.

U.S. Postage

PAID

Permit #4894

Twin Cities., MN

A UNIQUE ADVENTURE. EVERY TIME.

No matter how many times you've visited the Center you know anything can happen, and something new can always be learned.

Are you into photography? The northern lights? Tracking radio-collared wolves in the north woods? Want to see who blinks first, you or one of our ambassador wolves? Whatever turns on your wild side, you'll find a bucket-list adventure waiting for you, your family or your group at the International Wolf Center.



International Wolf Center

www.wolf.org



NEW ART EXHIBIT • FIELD TRIPS • OVERNIGHTS • DAILY PROGRAMS • SPECIALTY ACTIVITIES