

INTERNATIONAL WOLF

A PUBLICATION OF THE INTERNATIONAL WOLF CENTER
SPRING 2006

WOLVES ON THE HUNT IN
YELLOWSTONE, page 4

RESTORING WOLVES
TO THE SOUTHERN
ROCKIES, page 8

INTERNATIONAL WOLF

THE QUARTERLY PUBLICATION OF THE INTERNATIONAL WOLF CENTER
VOLUME 16, NO. 1 SPRING 2006

Features



Peter A. Dettling/Terramegica.ca

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In March 2005, artist and photographer Peter Dettling and a colleague arrived in the Lamar Valley in Yellowstone National Park and saw a huge herd of elk gathered in a tight circle at the highest point of a prominent hill. Dettling shares their experience of this wolf-elk encounter.

Peter A. Dettling



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In the three-plus decades since Congress protected wolves by passing the Endangered Species Act, wolves have been repatriated to a few key parts of their former range. The Southern Rockies Wolf Restoration Project Steering Committee maintains that if we evaluate how much of the species' former range remains unoccupied, it becomes clear that much work toward wolf recovery is left unfinished. They describe what remains to be done.

*Michael Robinson, Dave Parsons,
and Rob Edward*

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On The Cover

"Alpha Kisses"
photographed by Monty Sloan
An alpha male is greeted by a
lower-ranking pack member.

Monty Sloan has been photographing
wolves since 1984. Monty has been
a handler, educator, researcher and
photographer at Wolf Park in Battle
Ground, Indiana, since 1988.

To view and purchase additional photog-
raphy, visit www.wolfphotography.com.



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

As A Matter Of Fact

Question: What is RLU?



International Wolf Center

Answer: RLU stands for Raised Leg Urination, which represents two forms of wolf communication: body language and olfactory communication. This raised-hind-leg stance is taken when a dominant wolf is marking its territory through urination. ■

New Question

**Are there any wolves
in Oregon?**

West Gate



From the Executive Director

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Of Wolves and Wild Lands

The headline in Minnesota's largest newspaper read "Land Rush . . . The 'For Sale' signs are everywhere." The article refers to the rapid increase in sales and subdivision of rural land in Minnesota's north country—the same area that serves as home to the largest population of wolves in the conterminous United States. And while no one is suggesting that this trend in development will threaten the wolf population in the near term, it does raise questions: What will the north-country landscape ultimately look like? Which species will adapt well to the changing landscape, and which ones won't? These are issues not only in northern Minnesota but in much of the country, but they are far overshadowed by other issues in the news everyday—energy policy, terrorism, politics and natural disasters.

Meanwhile development continues with little or no public policy framework that might enhance the protection of highly productive farm fields, that might protect forests threatened with fragmentation, that might save the scraps of wilderness remaining in this country, and that might look to future generations as the "customers" of our environmental decisions of today. Regrettably our national economic policy does not assign value to much of what we hold dear—a wilderness experience, a natural vista, wildlife (unless it is consumed) and plain old open space.

The mantras of "let market forces dictate" and "less government is better government" should not apply to environmental matters, especially those that define America's natural landscape. It is ironic that while we have invested in identifying and protecting endangered and threatened species (with more to come) on state and federal levels, the long-term threats of habitat loss remain a constant.

Those of us who care about the future of wolves and a host of other species can't separate their well-being from the land and waters on which they depend. Many groups are making significant progress acquiring land, negotiating conservation easements and working with governmental agencies to plan future development. Our challenge as citizens is to elevate the discussion about land protection and, in the case of wolves, wild land protection such that they become state and national priorities. ■



Walter Medwid



WOLVES ON THE HUNT

Text and photos by
PETER A. DETTLING



Artist and photographer Peter Dettling has traveled all over the world photographing and painting wildlife and wild places. He grew up in an alpine village in Switzerland, and although he remains deeply attached to that beautiful country, he has lived in Canada since 1996. From the rugged landscapes of the Yukon Territory in Canada to the Rocky Mountains of the western United

States, Dettling has found ways to combine his art with his commitment to the conservation of wild lands and the animals that live there. "To be able to go out hiking into these vast lands where the rivers still run wild, where the grizzly is still the lord of its kingdom, where the call of the loon still echoes from the serene lakes, and where the eagle watches the salmon run from high up on his perch is spectacular." In March 2005, Dettling and his Italian friend and colleague Milko photographed a wolf-elk encounter in Yellowstone National Park. Peter is glad to share this profound experience through his words and his pictures.

On March 16, 2005, my colleague Milko and I arrived in Yellowstone's famous Lamar Valley. About 10:30 in the morning, we saw from a distance many people standing beside the road, all armed with tripods, spotting scopes and binoculars. We knew they must be wolf observers and that they had located some canids.

When we arrived at the scene, we unpacked our binoculars and began to scan the steep slopes north of the road. The first thing to catch our attention was a huge herd of elk gathered in a tight circle at the highest point of a prominent hill. Like a fortress they stood there, motionless and tensely alert. We swept our binoculars along the lower slope and discovered the reason for the herd's behavior. There on a snow patch, a few hundred meters below the elk, a wolf pack was resting. Incredibly, the wolves didn't seem to be

interested in the elk but instead lay there enjoying their morning siesta!

After watching this scene for 15 minutes with no movement from either the elk or the wolves, I decided to talk to one of the other wolf watchers along the road. Why, we asked, were the elk clustered on the pinnacle while the wolves were sleeping below them? Why didn't the elk simply run away? It seemed a bizarre situation to us, almost as though the elk were patiently waiting for the wolves to attack. The wolf watchers had no ready explanation except that perhaps the elk knew the wolves were close by but could not figure out their exact location. Perhaps they were waiting in the best possible defensive position for the wolves to

appear. Perhaps an escape route over the ridge was impassable because of deep snow on the north slope.

The minutes dragged on into hours, and by 1:00 p.m., people started to leave the scene. Milko and I, tired from the long hours of working in the park, discussed our strategy. To leave the scene would be a crime in my opinion, and so we decided to wait. To kill some time, we discussed the possible strategy of the wolves should they decide to attack. Would they run straight up the slope toward the elk, or would they try to get as close as possible to the herd without being seen? Would anything happen at all?

About 1:30, the elk began to loosen their defensive circle. Spreading out in every direction, some began to graze

while others lay down to rest. "Milko, this is starting to get interesting. Let's get prepared," I said. We got out of our car, set up our tripods and readied the cameras.

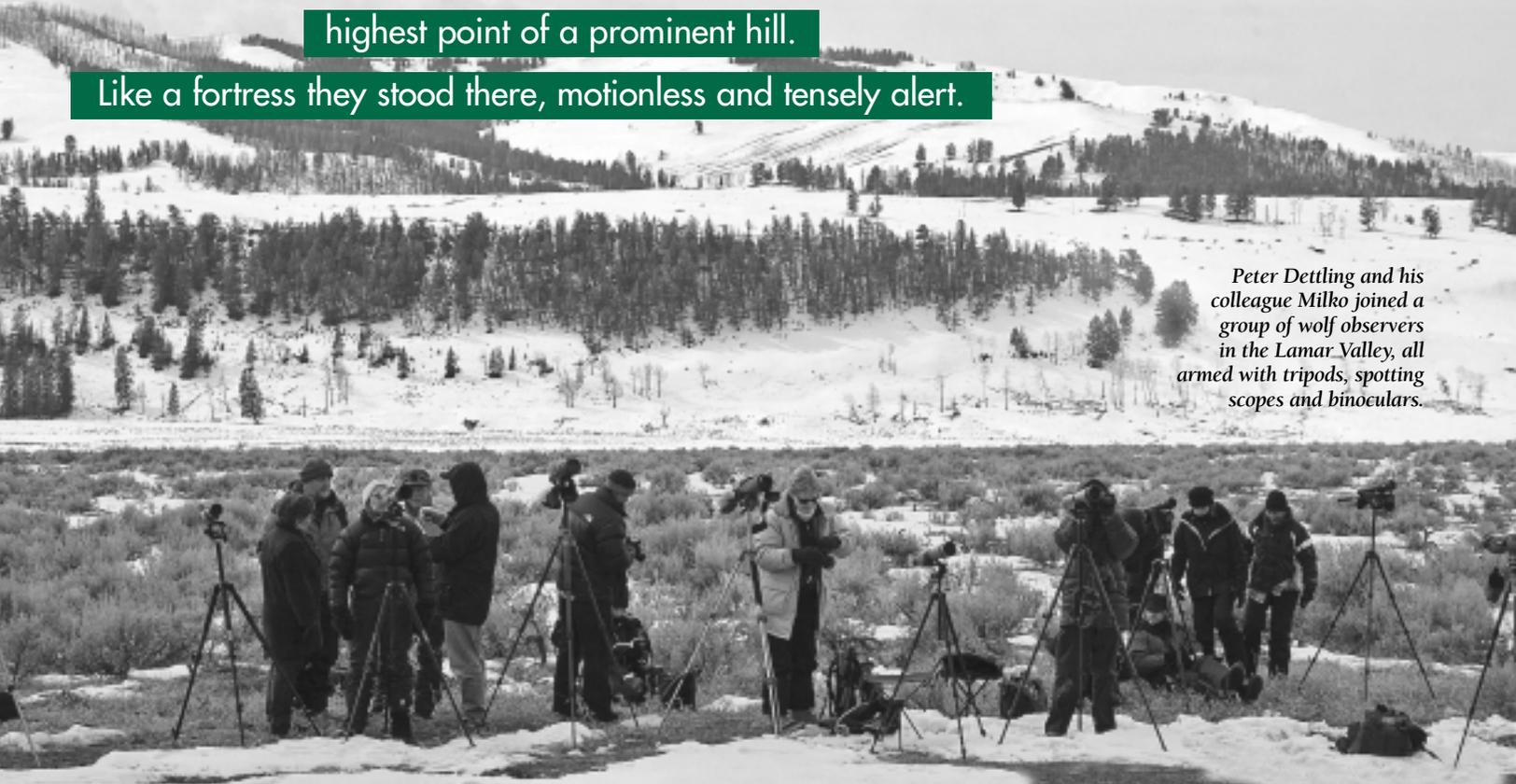
I wasn't quite ready when suddenly I heard someone behind me call out, "Here we go!" Quickly I snatched up my binoculars and saw some of the wolves getting up from their naps and stretching. Then one black wolf started to trot slowly in a straight line toward the herd. The elk, sensing the presence of danger, dashed back to their defensive position on the hilltop.

Great excitement overcame me, and with trembling hands, I rushed to finish setting up my camera gear. What if I missed this great photo opportunity? Camera on the tripod... focus... and I was ready for the show!

What happened next exceeded all expectations. The scattered elk ran

The first thing to catch our attention was a huge herd of elk gathered in a tight circle at the highest point of a prominent hill.

Like a fortress they stood there, motionless and tensely alert.



Peter Dettling and his colleague Milko joined a group of wolf observers in the Lamar Valley, all armed with tripods, spotting scopes and binoculars.



Above and opposite page top: The wolves charged the circle of elk until some of the elk panicked and tried to run. Each time this scene was repeated, the circle of defensive elk got smaller.

Each time a small group of elk peeled away from the herd
and rushed down the hill, a few wolves followed them.
No snow covered the ground on this south-facing slope,
so the elk were able to outrun their pursuers,
and the wolves returned to the main battlefield.

up to the summit of the hill with 11 wolves close on their heels. Turning to face the attack, the elk formed a massive wall of huge bodies and deadly hooves. How could the wolves possibly penetrate this fortress? Their strategy quickly became obvious. Surrounding the herd, some brave wolves ran directly into the circle, trying to separate a few animals from the group. At first, that strategy failed as the wolves were fought off by the strongest and most courageous elk at the front line of the defensive circle.

But the wolves didn't give up. One charge was followed by another and then another until some of the elk panicked and tried to run. Each time this scene was repeated, the circle of defensive elk got smaller. Each time a small group of elk peeled away from the herd and rushed down the hill, a few wolves followed them. No snow

covered the ground on this south-facing slope, so the elk were able to outrun their pursuers, and the wolves returned to the main battlefield.

About 2:00, a single elk bravely confronted an attacking wolf and suddenly found herself isolated from the herd. Realizing this, five wolves quickly attacked the lone elk. One big black wolf seemed for a moment to have grabbed the elk by the throat. The victim, realizing her mistake, changed strategy and managed to fight her way through the circle of attackers. Bursting away, she ran down the hill closely followed by the five wolves.

All of us standing by the road gasped as the elk and her pursuers disappeared behind a low ridge on the slope. We waited for them to emerge on the other side, but nothing happened, and someone said, "Looks like all the action is taking place

behind that little rise." But fortunately for the elk and for us, all the wolves reappeared and returned to the rest of the pack, which were still in full attack on the remaining 29 elk on the summit. Soon after, these elk broke the attackers' line and thundered down the hill to our left. It was now a few minutes after 2:00, and the wolves remained in hot pursuit until, after some distance, they gave up the chase.

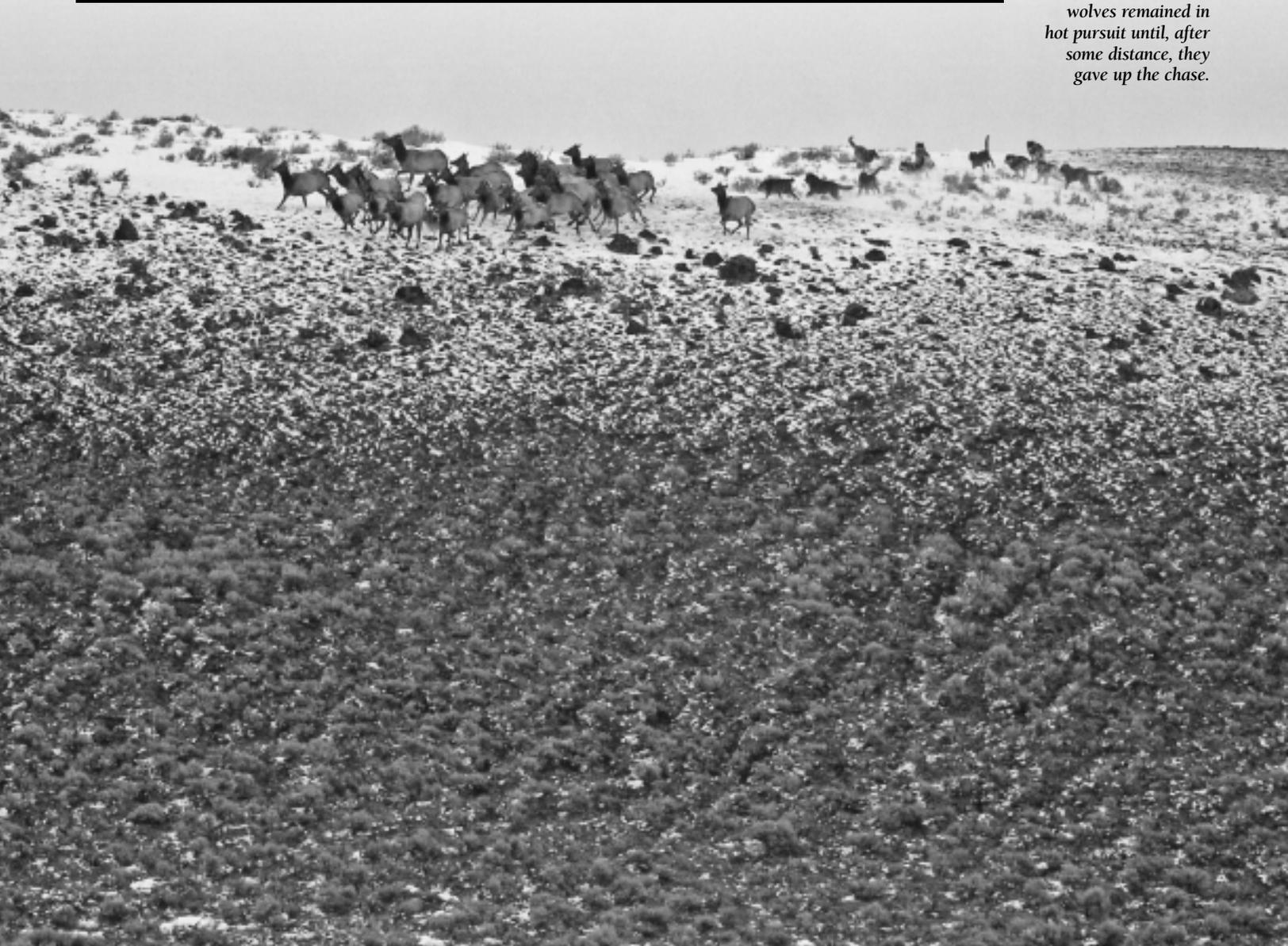
All that effort on the part of the wolves seemed to count for nothing, although they may have injured one elk and could return later to continue the hunt. But after watching all the wolves disappear over the hill in another direction, that possibility seemed unlikely.

After it was apparent that the chase was off, I could feel the excitement from the spectators gathered around me. Emotion overcame Milko and me, and we happily gave each other a huge high-five followed by yelps of pure enthusiasm.

This was one of the most exciting events of our nature photography careers. Incredibly, in the five days we were in Yellowstone National Park, we watched a total of 36 wolves. Where else on earth can someone observe something like that? ■



Below: Finally, the elk broke the attackers' line and thundered down the hill. The wolves remained in hot pursuit until, after some distance, they gave up the chase.





South From Yellowstone

Tom Schwab

What Remains to Be Done

by
MICHAEL
ROBINSON,
DAVE PARSONS,
and
ROB EDWARD

*(members of the Southern
Rockies Wolf Restoration
Project Steering Committee)*

In the three-plus decades since Congress protected wolves by passing the Endangered Species Act, wolves have been repatriated to a few key parts of their former range. Yet, if we evaluate how much of the species' former range remains unoccupied, it becomes clear that much work toward wolf recovery is left unfinished. In fact, by the measures established by Congress, progress toward recovery across the species' former range remains insignificant—literally. Two recent court rulings underscore this fact.

A Significant Shortfall

The Endangered Species Act defines a threatened or endangered species as one facing extinction throughout “all or a significant portion of its former range.” Wildlife managers have used this benchmark to declare victory for species including the brown pelican, peregrine falcon and American alligator.

Unfortunately, the U.S. Fish and Wildlife Service (USFWS) ignored Congress's emphasis on the word *significant* in 2003 when establishing a template for removing the gray wolf from federal protection. Wolves presently occupy less than 5 percent of their historic range in the lower 48 states, and would occupy only slightly more under criteria that would be developed under the USFWS's April 1, 2003, Federal Register rule (that was struck down in



Jacquelyn Fallon

two successive federal court decisions this year). By any reasonable standard, much of the remaining unoccupied 90-plus percent has to be considered a significant portion of historic range.

The USFWS must accomplish wolf recovery in new areas. Few places more poignantly highlight the shortfalls of wolf recovery than the southern portion of the Rocky Mountains, where the USFWS has not yet developed a wolf recovery plan, and in the arid Southwest, where the same agency ignores scientists' warnings that its management of reintroduced Mexican gray wolves jeopardizes the population.

A Mother Lode for Wolves

The Southern Rocky Mountains stretch from south-central Wyoming to northern New Mexico, encompassing nearly 41 million acres—25 million acres of which is public land. This vast landscape includes nearly all of the western third of Colorado and hosts North America's largest elk population (over 275,000 animals) and one of the largest deer populations (over 600,000 animals).

Two scientific studies concluded that the region could support over 1,000 wolves, and two associated public surveys revealed widespread urban and rural support for wolf restoration. Wolf scientist (and IWC board member) Mike Phillips described the Southern Rockies as "the mother lode for wolves." Unfortunately, the USFWS has actively sought to divest itself of its responsibility for wolf recovery in significant portions of the Southern Rockies.

The Land of El Lobo

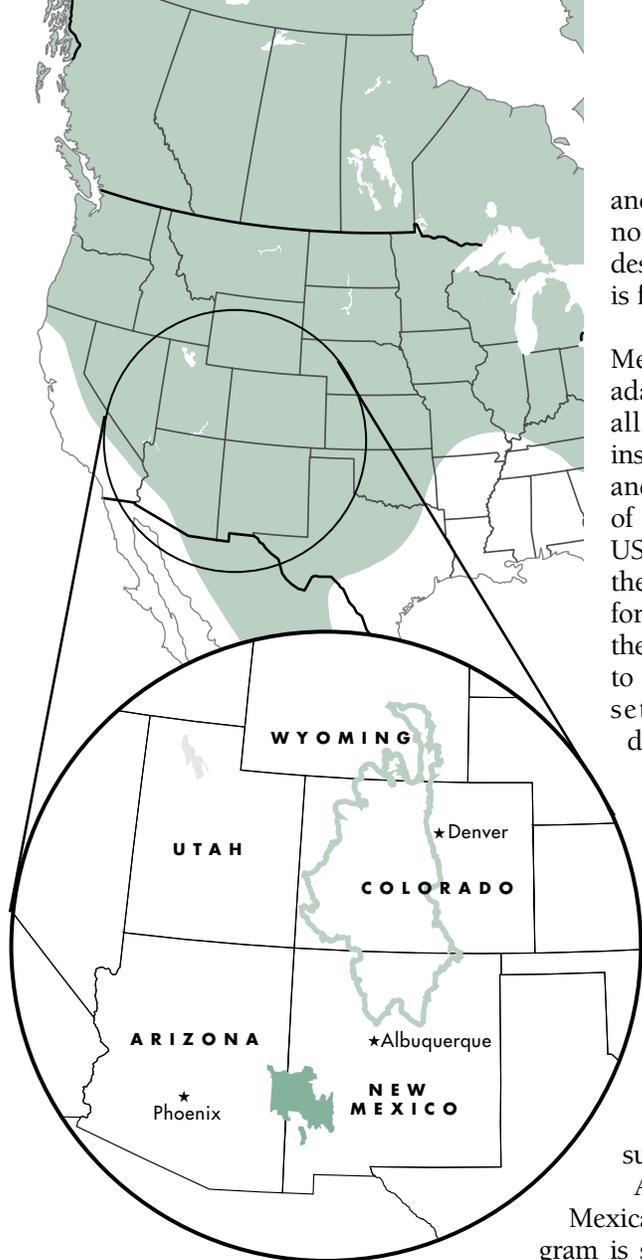
South of the Southern Rocky Mountains, the landscape transitions into rolling hills of piñon pine, ponderosa pine and juniper. Even farther south, in the desert mountains of Mexico and of southwestern New Mexico and southeastern Arizona, a distinctive wolf evolved. The Mexican gray wolf preyed on smaller animals and traversed prickly deserts, which helped shape the



Jacquelyn Fallon



George Andrejko, Arizona Game and Fish Department



Top: Historic range of the gray wolf in North America. Bottom: Southern Rockies ecoregion in Colorado, Wyoming and New Mexico and the Blue Range Wolf Recovery Area in Arizona and New Mexico.

“lobo” itself. The Mexican wolf is North America’s smallest gray wolf subspecies and, according to the scientist who first identified and named it, represents a “remarkably abrupt” morphological change from its neighboring subspecies.

In 1982, the USFWS finalized a recovery plan for Mexican wolves, which had been reduced to a small captive population descended from only seven wild ancestors. (No wild Mexican wolves are known to exist south of the border today.) In 1998, the USFWS began reintroducing these survivors’ progeny to the Blue Range Wolf Recovery Area of Arizona

and New Mexico, only slightly north of their native range. Yet, despite this effort, the program is failing to meet expectations.

Program failures lie not in Mexican wolves’ difficulty in adapting to the wild (almost all the captive-bred wolves instinctively know how to hunt and raise pups), but because of management dictated by the USFWS’s accommodations to the livestock industry. Unlike for other endangered species, the USFWS has required itself to remove Mexican wolves that set up homes outside the designated recovery area (even if they are on other public lands). Thus, in November 2001 a nonpredating wolf was run down by helicopter until he collapsed and died. And in April 2003, one of the initial wolves released in 1998 was recaptured for moving outside these arbitrary political boundaries; five of her wild-conceived pups subsequently died in captivity.

Another provision in the Mexican wolf reintroduction program is similarly unprecedented and detrimental to program success: Unlike rules pertaining to livestock carcass management for the Northern Rockies wolf recovery program, rules for the Mexican wolf reintroduction project do not allow managers to require improved carcass management as a prerequisite for control actions.

Wolves getting their first taste of beef from a carcass are highly likely to prey on livestock later, virtually ensuring they will be captured or killed. The December 2004 draft five-year review of the Mexican wolf reintroduction program documents that 91 percent of Mexican wolves that scavenge on livestock carcasses eventually prey on livestock.

In May 2003, the USFWS shot a Mexican wolf that was preying on cattle near where she had previously scavenged on a dead cow that was

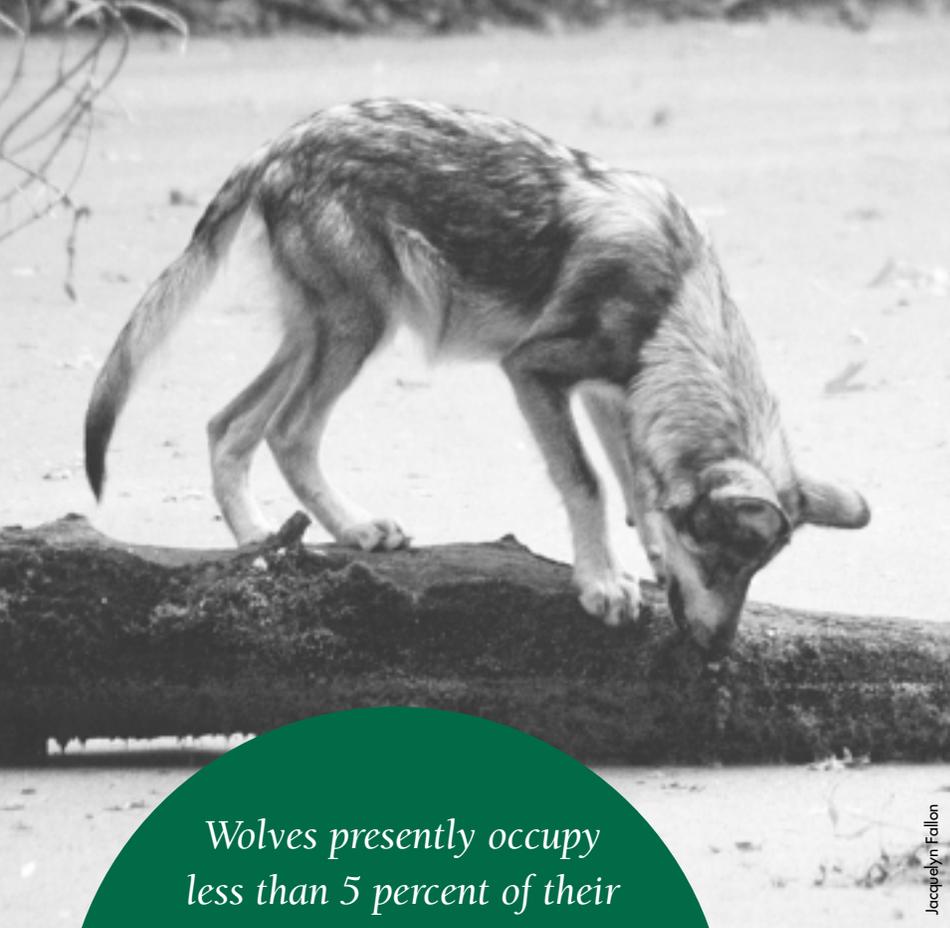
not killed by wolves; the owner had forbidden the USFWS to remove the carcass. The wolf that had lost her pups after being rereleased in 2003 was captured again for preying on cattle near where she had scavenged; she was accidentally killed in captivity.

In June 2001, four independent scientists led by Paul Paquet, Ph.D., recommended requiring ranchers to remove livestock carcasses (or render them inedible, as by lime) before wolves become habituated. Further, recognizing that wolves cannot read arbitrary lines on a map, the Paquet team recommended allowing wolves to roam at will unless they are creating problems. The team predicted that without these changes, the population would not meet projections. The USFWS did not act on the Paquet Report recommendations, and after eight years of reintroductions, the wild population of Mexican wolves (comprising five to eight breeding packs) is nowhere near the end-of-2005 projection of 83 wolves and 15 packs.

Significant Midcourse Corrections

For wolves to fill their ecologically vital role within a significant portion of their historic range, the USFWS should develop and implement a recovery plan for the Southern Rocky Mountains, a region with abundant habitat and prey for wolves. Likewise, if wolves are ever to roam a significant portion of their former range in the Southwest—places like the Sky Islands and the Grand Canyon ecoregions—the USFWS must allow them to roam freely, and the U.S. Forest Service, Bureau of Land Management and ranchers must manage livestock carcasses, which probably facilitate wolves becoming livestock killers.

Together, the Southern Rocky Mountains and the Southwest represent a tremendous opportunity to advance the stewardship of wolves—and to meet the hopeful promise of the Endangered Species Act. ■



Jacquelyn Fallon

Wolves presently occupy less than 5 percent of their historic range in the lower 48 states. . . . By any reasonable standard, much of the remaining unoccupied 90-plus percent has to be considered a significant portion of historic range.



The Southern Rockies Wolf Restoration Project is a coalition of regional and national conservation organizations (Defenders of Wildlife, The Center for Biological Diversity, National Wildlife Federation, New Mexico Wilderness Alliance, New Mexico Wildlife Federation, Sierra Club, and Sinapu) dedicated to the restoration of wolves to their full ecological role throughout the Southern Rocky Mountains. For more information, visit www.rockywolf.org.



Jacquelyn Fallon

Wolf Pelt Tells One Man's Tale

The donation of a wolf pelt to the International Wolf Center reveals the story of a man named Michael Sinko. Sinko was an experienced outdoorsman in northeastern Minnesota who, according to family members, respected and revered the woods he worked in.

Sinko's parents immigrated to the United States from Russia. He eventually lived in Winton, Minnesota, where he worked as a miner, game warden and trapper. He worked long traplines to earn money to put his daughter through college. She wanted to be a teacher.

Sinko trapped a wide variety of animals including bobcats, beavers and foxes. Around 1960 he caught the wolf whose pelt is now at the Center. The wolf was caught in a snare, and his ears were clipped to turn in for a bounty. Sinko would have received a bounty of \$35 at that time.

Sinko drowned while working on one of his traplines. His wolf pelt was passed on to his nephew

Tom Brady. Brady and his wife, Mary Ann, had the pelt hanging on the wall of their log cabin for many years before deciding to donate it to the Center, where it will now be used for educational purposes.

From 1960 to 1965 about 200 wolves were submitted for bounty each year in Minnesota. The last bounty paid on a wolf in the state was in 1965. Public harvest was allowed until 1974, when the wolf was protected by the federal endangered species list.



Mac Montgomery wears the predator-friendly sweater purchased for him by his wife, Carol, from the Wolf Den store.

Living Their Beliefs

Carol and Mac Montgomery of North Carolina are “living their beliefs.” A close encounter with wolves in Yellowstone moved them to learn more about the wild creatures and the problems surrounding them. The couple visited the International Wolf Center's interpretive center in Ely, Minnesota, to build on their base of wolf knowledge.

One issue they discovered was livestock depredation. The conclusion Carol and Mac came to was that cows are actually the introduced species. And based on that belief, Carol bought a gift for Mac from the Wolf Den store. The gift was a predator-friendly sweater created by livestock producers who use nonlethal measures to control and reduce depredation on livestock. Mac says he wears the sweater as frequently as weather in North Carolina allows.

The Montgomerys plan to continue building their wardrobe of predator-friendly products and supporting the push for a balance between wild and domesticated animals. Carol says that although she might find the products cheaper somewhere else, she will continue to buy from the Center to contribute to the mission of teaching the world about wolves.

Michael Sinko, shown here holding a coyote pelt, worked long traplines to earn money to put his daughter through college.

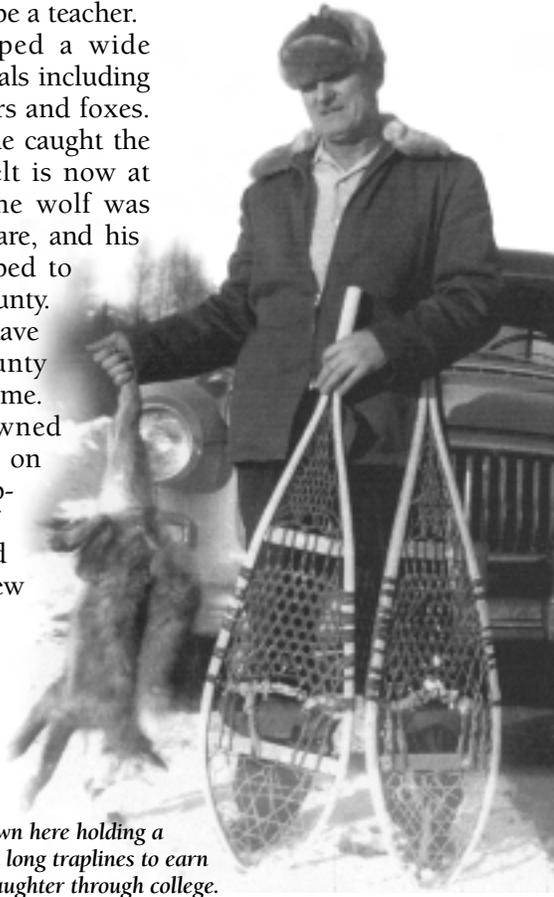


Image courtesy of Tom and Mary Ann Brady

Yellowstone National Park Wolf Project Funded

The International Wolf Center's conference "Frontiers of Wolf Recovery" in Colorado Springs, Colorado, in October 2005 was not only a success for the International Wolf Center but inadvertently helped give the Yellowstone National Park wolf research project a big boost.

A philanthropist who attended the "Values of Long-Term Research" session was so impressed that she committed a challenge grant of \$100,000 per year for 10 years to the project. Dr.

Doug Smith, Yellowstone wolf research project leader, will now work hard to obtain the matching amount, which will totally restore his recently cut operating budget.

In addition, the same donor committed \$40,000 per year for 10 years to Dr. L. David Mech for graduate students at the University of Minnesota who study in Yellowstone National Park.

The wolf conference and the long-term research session surely were the right catalysts at the right time.



Kelly Godfrey

Presentations like Doug Smith's at the "Frontiers of Wolf Recovery" conference inspired the donation of a challenge grant to the Yellowstone Wolf Project.

Center Board Member Is "Environmental Hero"

The Wilderness Society has recognized International Wolf Center board member Paul Schurke as an environmental hero. The award is given annually to individuals going above and beyond in their effort to support the environment in Minnesota.

Schurke is co-founder of the Ely, Minnesota, chapter of Northeastern Minnesotans for Wilderness, and he has testified before Congress to protect the Boundary Waters Canoe Area Wilderness from expanded motorized vehicle use.

As part of the award, Schurke was given \$1,000 to donate to a nonprofit of his choosing. The Center is the proud recipient of that donation. ■

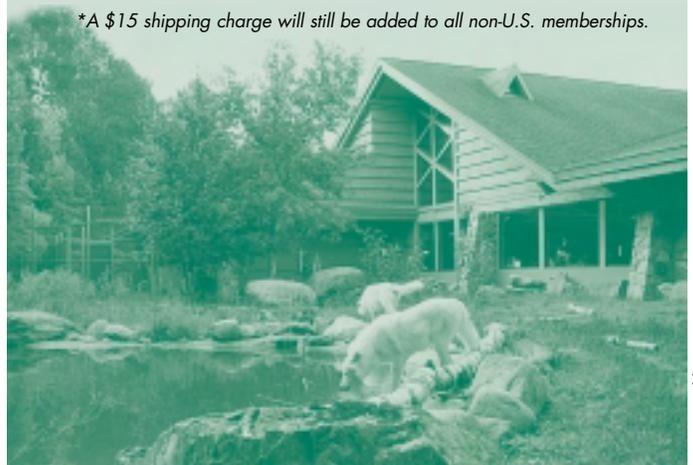
Thank you for your continued support!

Due to an increase in the cost of postage, utilities and operating expenses, our membership rates are increasing beginning January 1, 2006. The best way you can continue to support our work is by renewing your membership and continuing to make donations.

New annual membership rates are as follows:

Lone Wolf	\$ 35
Wolf Pack	\$ 60
Wolf Associate	\$ 115
Wolf Sponsor	\$ 500
Alpha Wolf	\$1,000

*A \$15 shipping charge will still be added to all non-U.S. memberships.



Nancy Jo Tubbs



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Tracking the Pack

The Establishment of the Omega Position

by Lori Schmidt, Wolf Curator,
International Wolf Center

Since Nyssa's death (see "Tracking the Pack" in the Winter 2005 issue), the International Wolf Center's Exhibit Pack has undergone some changes. Initially, the pack was very subdued, interacted little, and howled more than usual for several weeks after the loss of its omega pack member. As summer arrived, the wolves returned to early-morning bouts of stalking, chasing and displaying dominance to establish their position within the rank order characteristic of these social animals. The wolves swam in the pond, dove for minnows and chased ravens and each other in ambush scenarios likely stimulated by their predatory drive. As wolves in the wild do, they slept during the warmest part of the day to avoid overheating. Wolf care staff didn't observe any behavior that indicated a new omega position had been established, but behavior during this time of the year is generally less aggressive.

As fall and winter approached, behaviors changed. Researchers have long documented the influence of hormones on a wolf's behavior as the breeding season approaches. Even in an exhibit where wolves are spayed and neu-

tered, these hormonal influences are present—no doubt subdued but present. In October 2005, Shadow and Malik began posturing for dominance. These behaviors included hip slams, resting their chin on the back of the other wolf, holding their tails high when interacting, and slow and deliberate circling of each other. By November, the posturing included riding up on each other, in which one would put its forelegs on the back of the other in attempts to force submission. Scruff biting increased, and chases ensued, with the less confident wolf running away with pinned ears, a tucked tail and often a full hackle response, in which the hair on its neck,

back, rump and tail would stand up.

Shadow has clearly been more dominant in encounters with Malik since they were pups, but what has changed their interaction this year is the presence of Grizzer, now mature. When Shadow faces Malik, Grizzer rides up on Malik and attempts a scruff bite. For the first time in the Center's Exhibit Pack, there are three males all vying for status. One of the wolves will be at the bottom of the order, termed the omega position, and indications are that Malik will become the lowest-ranking wolf of the Exhibit Pack. Why not Maya, since she's the most submissive? She is the only female, and Shadow seems to guard her from the dominance

behaviors instigated by the other wolves. Thus she maintains a higher ranking in the pack.

These ritualized dominance behaviors can be noisy and quite intense but are generally short and don't result in injury. In fact, biologists believe that by clearly showing dominance in such ritualized displays, pack members avoid more significant fights. These behaviors are instinctual, derived from life in the wild and present in the captive wolves that serve as ambassadors. ■



Ritualized dominance behaviors can be noisy and quite intense but are generally short and don't result in injury.



Posturing for dominance includes riding up on each other, in which a wolf puts its forelegs on the back of another wolf in attempts to force submission.

Steve Lokker

Wolves of the World

WOLVES IN IBERIA—SPAIN AND PORTUGAL

The Hazards of Habitat Fragmentation: What Can Wolf Tracking Teach Us?

by Neil Hutt

In general our motto is not to oppose development or human activity (for example, by being critical of the construction of new roads or by blocking hunts) but to actively research the technical means for making activities like road construction or hunting compatible with conservation.

—Juan Carlos Blanco, member of Wolf Project, Conservation Biology Consultants, Spain

The main threats to the long-term survival of wolves on the Iberian Peninsula are the same ones faced by large carnivores everywhere in the world: destruction of natural prey and habitat fragmentation. Once numerous in Portugal, wolves were on the decline by the early 20th century. Fully protected since 1988, an estimated 250 to 300 animals occupy approximately 30 percent of their former range, mostly in the north. Grupo Lobo, a nonprofit

conservation organization, leads the effort to implement a comprehensive education program and to monitor wolf populations. The organization seeks solutions to some major challenges: What steps can be taken to reduce conflict with humans? What measures will improve habitat, reduce population fragmentation and minimize barriers to dispersal?

In neighboring Spain, wolves were severely persecuted until fairly recently. Subscribing to the old notion that a wolf-free country is a “civilized” country, Spain attempted to eradicate its wolf population. As in the United States and elsewhere in the world, the government distributed poison to landowners and paid bounties for wolves killed. Wolves in agricultural regions often became not so much predators as scavengers, adaptable opportunists that lived on garbage, rodents and dead sheep and cows. In mountain regions where the *campesinos* and *pastores* (farmers and shepherds) allowed livestock to range along the slopes and in the valleys, wolves killed vulnerable livestock in addition to their natural prey—red deer, roe deer, rabbits and wild boars.

But the view of the wolf as a scourge, a “beast of waste and desolation,” is changing. For one thing, the public is more conservation conscious. For another, fewer people now reside in the country, so in areas formerly devoted to livestock raising and agriculture, prey species such as roe deer and wild boars are on the increase. Wolves are increasing, too, even though the wolf is classified as a game animal north of the Duero River and hunting is legal. South of the river, wolves are fully protected by the European Union’s Habitat Directive.

According to current estimates (“Strategy for the Conservation and Management of the Wolf [*Canis*





Juan Carlos Blanco and Yolanda Cortés fitting a GPS GSM collar on a wolf.

lupus] in Spain,” December 2004) approximately 2,000 wolves live in Spain, and the population is stable, perhaps even growing. Spain has the largest wolf population in Western Europe, and on the European continent, only Russia and Romania have more wolves.

As wolves in Spain have begun to recover and to recolonize some of the more densely populated regions of the country, researchers are recognizing that data on population trends, distribution and the interaction between wolves and livestock are essential to developing a conservation and management plan for these controversial carnivores and for the endangered bear and the Iberian lynx as well. Gathering these vital data is especially important because of the on-going construction of fenced four-lane highways, many of which are being built in wolf range. For this reason, researchers

like Juan Carlos Blanco and Yolanda Cortés are using cutting-edge technology to discover the location of ecological corridors that link carnivore populations and to determine the effect of barriers like highways and rivers on animal movements.

In an effort to discover whether habitat fragmentation by fenced highways, along with natural barriers like the Duero River (see map), deters or delays dispersal of wolves and other large mammals, Blanco and Cortés are using radio-tracking collars for monitoring wolves in a project funded by the Ministry for the Environment. Since 1997, the research team has radio-collared 16 wolves, 2 of them with GPS GSM (Global Positioning System–Global System for Mobile Communication) collars. A GPS GSM collar records the wolf’s movements with the GPS and sends the locations over the mobile phones network (GSM) directly to

the researchers’ office via SMS (Short Message Service). Thus, the researchers can record the latest GPS position of the wolf. In the case of no network coverage, the GPS GSM collar will retransmit the stored SMS information the next time the GSM coverage is available.

The results of the study (“Wolf response to two kinds of barriers in an agricultural habitat in Spain” by Juan Carlos Blanco, Yolanda Cortés, and Emilio Virgos) were presented at the International Wolf Center conference in Colorado Springs, Colorado, in October 2005. The paper, published in the *Canadian Journal of Zoology* (2005), can be downloaded as a PDF file (see below). It is fascinating and well worth reading because it demonstrates the need for addressing the issue of habitat requirements in the debate over how best to conserve the great carnivores and other large mammals everywhere.

Blanco and colleagues discovered that highway barriers alone did not seem to delay or retard the expansion of an increasing wolf population in their study area, a flat, almost treeless agricultural region northwest of Madrid. This region is densely populated, and wolves are habituated to human activity. The study suggested, however, that the Duero River did, in fact, delay expansion for a period of 15 years. This was puzzling because the Duero in Spain is not much wider than a four-lane highway, although in Portugal, the river is wider where it enters the ocean, and the habitat on both sides is more disturbed by human activity than it is in Spain. The researchers concluded that habitat disturbance by humans on both sides of the river (two-lane roads, railroads, channels, small industry etc.) multiplied the barrier effect. In other words, one obstacle alone might not be formidable

enough to deter a wolf, but several close and parallel obstacles create a deterrent.

Blanco and colleagues conclude by recommending the construction of wildlife crossings on new four-lane highways, particularly with the increase in the number of gas stations, motels, restaurants and other facilities clustered along major roadways. Similar studies have been conducted in North America, demonstrating the critical importance of considering the subject of land use in the discussion of large carnivore conservation.

For the full paper "Wolf response to two kinds of barriers in an agricultural habitat in Spain," Canadian Journal of Zoology 83: 312-23 (2005), go to <http://www.environmental-studies.de/projects/26/wolves-4.html>, and click on the link on the last page.



Juan Carlos Blanco and Yolanda Cortés prepare to release a radio-collared wolf.

Image courtesy of Juan Carlos Blanco

*Close to home, their prints
darken the snow.
Come full moon,
the whole night is anguished—
cattle
stagger in their sheds
knocking the walls,
churning fodder and litter;
wide-eyed in lamplight
they buck and bruise.
Under Stalin
culls worked like clockwork—
wolves skinned from their pelts
were hung out to dry,
as cotton stretched to new horizons,
as Kazakhs ate the dust.
Now fences are mended
bolts shot home
and the shotgun propped
by the bed
is oiled and loaded.
But sleep, sleep is fitful
as the lost packs mass
on the steppes of Kazakhstan.*

WOLVES IN CENTRAL ASIA

The Eurasian Wolf in Turkmenistan, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan and Western China

by Neil Hutt

Wolves in Kazakhstan are known as "beasts," their menacing reputations fueled by stories of attacks on people and of human bodies consumed by wolves in wartime and during epidemics like the Black Plague. Severely persecuted throughout their extensive range, Eurasian wolves have suffered from reduction in natural prey and from land development—as have wolves almost everywhere in the world.

Wolf hunting in Central Asia was a profitable business under the government of the U.S.S.R., but in the beginning of the post-Soviet period, wolves were no longer routinely culled, and their numbers have increased dramatically. In many localities, shepherds are prohibited by law from carrying weapons while on duty

with their sheep. Domestic animals have become a major food source for wolves in some regions of Central Asia, and headlines hype the resulting anti-wolf sentiment. For example, an article with the title "Wolves Terrorize Northern Kyrgyzstan" reports that in one district, hungry wolves slaughtered 128 sheep in a single night.

Frustration and fear have mounted as reports abound of wolves approaching villages. "Mad wolves," those suspected of having rabies, are considered especially dangerous since they are thought to have little fear of people. Wolf-dog hybrids can pose an additional threat because of their boldness around humans.

In some villages, clusters of scarecrows demonstrate a futile effort to

—"Wolves Are Massing on the Steppes of Kazakhstan"
by Sarah McGuire, *Poetry Review*, Spring 2004

deter wolves. Shepherds, thwarted by the difficulty of getting permission to use firearms and by the expense of acquiring guard dogs, often take matters into their own hands. Some are even said to attempt an old method of trying to keep wolves from the door. According to an ancient belief, if a wolf is captured, dealt a disfiguring injury and then released to return to its pack, the other wolves will understand the warning and stay away.

Given the availability of natural prey, wolves generally avoid humans. But the winter of 2004-05 was severe in Central Asia, and wolves are reputed to have attacked 20 people in western Uzbekistan (2 later died according to reports). In Tajikistan, villagers live in fear of marauding wolves killing livestock—and perhaps the villagers themselves. In an interview with Radio Free Europe, one resident spoke with passion of the villagers' fears. "At night, the wolves own the village. First, they ate all the dogs. Now they have begun to eat sheep, cows and other animals. Wolves dig through mud walls, break into sheds and attack animals."

Reports of wolves taking a huge toll on livestock are coming also from herdsmen in western China and Mongolia. As recently as 40 years ago, wolves were randomly killed everywhere in China. Not anymore. Protected by laws reflecting the country's growing environmental awareness, wolves appear to have bounced back from a reported low number in the 1980s.

Are the tales of huge livestock losses and attacks on humans blown out of proportion to the truth? Perhaps some are. But exaggerated or not, such stories point out the need for governments to pay attention to wildlife and land-use issues and to work with local people on developing reasonable and workable management plans in regions where wolves and humans coexist. ■

Neil Hutt is an educator and International Wolf Center board member who lives in Purcellville, Virginia.



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Four Wolves Suspected in Man's Death in Remote Area of Canada

by Jess Edberg, Information Specialist

An apparent wolf attack has been determined as the cause of death for 22-year-old Kenton Joel Carnegie, whose body was found on Tuesday, November 8, at Points North Landing near Wollaston Lake in the Canadian province of Saskatchewan, about 450 kilometers northeast of La Ronge.

The main theory in this case is that Carnegie was attacked by a pack of four wolves seen in the area for some time that were showing signs of losing their natural fear of humans (an indication of habituation to humans), according to Saskatchewan Environment and Resource Management wildlife biologist Tim Trottier, who is investigating the case. There is also evidence that Carnegie and others had recently been interacting with the wolves at close range.

Canadian wolf biologist Dr. Paul Paquet has also been investigating the incident and says that evidence points to approximately four wolves, based on blood and tracks present in the area. Investigating conservation officers, given permission to kill any wolves suspected in the incident, have killed two wolves from the area. Dr. Paquet's examination of the animals

showed cloth, hair and flesh in the large intestine that resembled human remains and are being tested for human origin.

Paquet said that the wolves suspected of attacking Carnegie probably had prior human contact and that the attack was likely spurred by the animals' interest in discarded food or garbage.

"I suspect that ultimately we will find that these are garbage-habituated wolves that are either being inadvertently fed or intentionally fed in the area," he said. "That is the common thread to most wolf attacks that I've investigated."

If wolves are proven to have killed Carnegie, it will be the first documented case of healthy, wild wolves killing a human in North America.

Does this mean that all wolves should be considered a serious threat to humans living in or visiting wolf country? Not necessarily. Wolves and other wild animals have always been unpredictable. Bears, mountain lions, bison, moose and even domestic pets have been known to present a serious threat to people under certain circumstances. The danger may lie more in how we as humans behave in

the presence of a wild animal and not the other way around. Hundreds of thousands of human visitor days have been logged in wolf country without wolf attacks.

Like other wild and domestic animals, wolves are responsive to the actions of humans. Humans have a remarkable ability to influence and shape animal behavior, whether that involves a black bear harassing campers for food after being fed by an eager photographer, a raccoon rummaging through your trash can when the lid is not secured, or a chickadee feeding contentedly at a backyard feeder while you watch through your kitchen window.

Our actions have the potential to cause immediate and sometimes dangerous behavioral changes in wildlife. Wolves are probably no different from a chickadee in how susceptible they are to habituation. By avoiding contact with wildlife or providing negative stimulus in the presence of a bold animal (yelling, banging pots and pans, throwing sticks), also known as aversive conditioning, we may be able to avoid habituating animals to us.

Could this regrettable event have been prevented with appropriate waste disposal and aversive conditioning by those encountering wolves? We cannot know; we can simply be aware of the potential danger of habituating wild animals to us and take action against it in the future. ■



Related links:

-  The process of habituation in wildlife: <http://www.animalbehavioronline.com/habituation.html>
-  (Case Study) Wolf Habituation as a Conservation Conundrum by Diane Boyd: <http://www.sinauer.com/groom/article.php?id=24>
-  Wolf-human attacks in North America: http://www.wolf.org/wolves/learn/intermed/inter_human/wolf_human.asp
-  Wolves and Humans Series flyers: http://www.wolf.org/wolves/learn/basic/wolves_humans.asp

News and Notes

MICHIGAN WOLF killed illegally in the state's Upper Peninsula led to a \$910 fine, \$1,500 restitution fee, and three months probation for a resident of Manistique. The man pled guilty of shooting the wolf in fall 2004 during hunting season.

WOLF DELISTING, always controversial, was called for once more in a petition that Wyoming filed in August with the U.S. Fish and Wildlife Service. The state noted that the federal recovery goal for the West was 300 wolves and that there are now about 835. The U.S. Fish and Wildlife Service replied in October that "substantial information exists indicating that delisting of this population may be warranted." This finding is now being followed by a 12-month review.

WOLVES IN THE ARCTIC were one of the subjects of a new Wildlife Monograph, "Cumulative Effects of Human Developments on Arctic Wildlife" by Chris J. Johnson and six co-authors. Wildlife Monograph 180 covers the effects of mining, mineral exploration and outfitter camps on wolves, caribou, grizzly bears and wolverines.

POISONING WOLVES. Tim Sundles of Idaho has been charged with using the pesticide Temik on federal lands without a license. Sundles' Web site has long featured "How to Poison Wolves," and several dogs were found dead of the poison, possibly set out for wolves.

According to KPVI-TV, a U.S. Fish and Wildlife Service agent stated that "there was a considerable amount of physical evidence."

ETHIOPIAN WOLVES, which science cannot yet say are truly wolves or jackals, are the subject of a new Web site, by the Ethiopian Wolf Conservation Programme <http://www.ethiopianwolf.org/>.

WOLVES IN FRANCE are being poisoned illegally, along with eagles and other wildlife. Both strychnine and cyanide were being used, and four wolves and three golden eagles were found dead from them. ■



Dwight Andrews

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Personal Encounter

Wolf-Grizzly Interaction in Yellowstone National Park

Text and photos by Betsy Downey

Since the 1995 restoration of wolves to Yellowstone National Park, these new top carnivores have had significant interactions with the park's older top carnivores, grizzly bears, usually over food and young. Opportunists, grizzlies rarely hunt large prey, but they do feed on carcasses and other animals' kills, taking over wolf kills so often that Yellowstone's Wolf Project Director Doug Smith writes: "It's not a matter of *if* the bears will come calling after a kill, but *when*." Wolves rarely surrender their kills graciously, and both

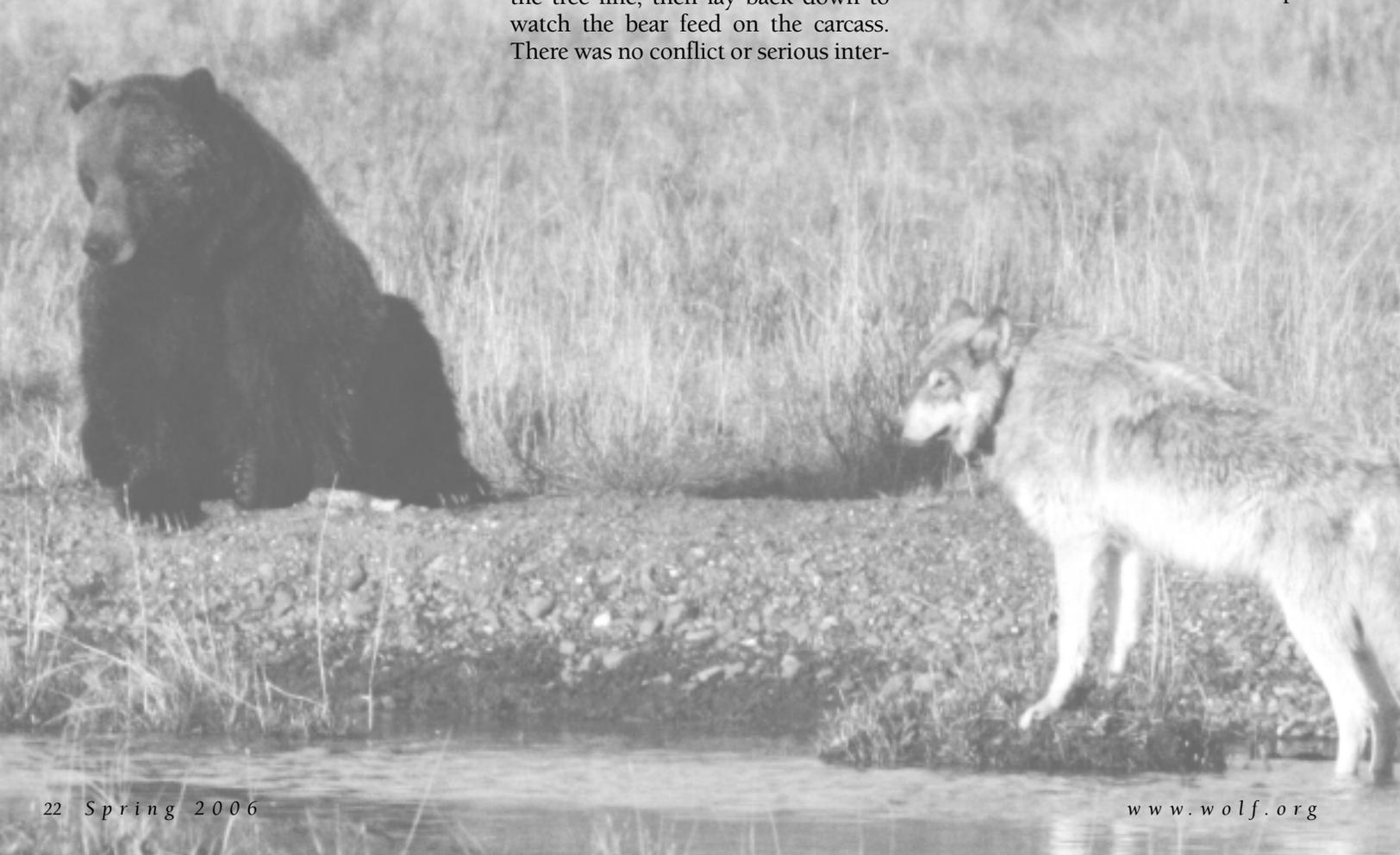
wolves and grizzlies vigorously defend their young. Conflict between them is common, often dramatic and frequently visible to visitors, especially in the park's northeast corner. I've been lucky to see many of their encounters. Two of them took place close enough to the road for good photographs.

The first wolf-grizzly interactions I saw involved feeding. One took place at Round Prairie in March 2004. The Druid Peak pack had killed and fed on a bison. While the wolves napped in the sun, a grizzly ambled out of the woods. The wolves went on full alert: several followed the bear along the tree line, then lay back down to watch the bear feed on the carcass. There was no conflict or serious inter-

action. Apparently the bison offered enough food for satiated wolves and the newly awakened bear.

Later that spring, at a Druid elk kill near Soda Butte Cone, I saw Thumper, a grizzly notorious for belly-flopping on tents and for once eating a stash of gummie bears and marijuana. Only a yearling wolf remained at the site; neither animal was confrontational. Thumper played with a stick; the wolf played with some grass. Both appeared to follow mutually accepted roles, avoiding risks and wasting no energy on aggression. The encounter ended when Thumper belly-flopped on the carcass and watched, head on paws, as the wolf left.

At the next encounter I saw confrontation. Druids had killed an elk in Soda Butte Creek and were having an after-dinner snooze when Thumper



appeared and began feeding (see photos on next page). At first Thumper's only challenger was wolf 21, the Druid alpha male and the last of the first pups born in 1995. The park's oldest wolf, he died, likely of natural causes, a month later (see "The End of an Era: The Last Days of Wolf 21" in the Winter 2005 issue of *International Wolf*). The old wolf tried several times to pass Thumper and get to the carcass. Thumper was determined to stop him but was not aggressive, though once he chased the snarling wolf into the trees. Wolf 21 pooped in the woods—a message perhaps—and returned to test the bear. Twenty-one and other wolves finally entered the water near the carcass, but Thumper ran them off and buried the carcass in the middle of the stream.

Another dramatic interaction occurred over a bison carcass near the east end of the Lamar Valley. Druid wolves and a black bear fed on the carcass and sparred until the bear simply went to sleep on it. The wolves left but returned later to resume feeding and skirmishing until a grizzly drove the black bear off. This bear was a more formidable rival, and the level of conflict escalated. The wolves went after the grizzly from several directions, feinting and nipping at it. The bear lunged at the wolves, swiping with its huge paws. The wolves appeared to take serious risks, but the bear didn't connect, not even with a bold yearling who had a broken leg. The wolves always jumped away just in time. The grizzly eventually left, and the black bear returned. After more skirmishing the wolves finally trotted off.

The most memorable wolf-grizzly encounter I witnessed in 2005 involved Druid wolf 302, a subordinate male, and multiple bears. Three of us watched a grizzly feed on a carcass in the Soda Butte Creek–Lamar River confluence while 302 dozed on a bank nearby. Suddenly two grizzlies started across the flats toward the feeding bear and sleeping wolf. Then a black shape popped up in the bushes near the carcass. "There's

another wolf," someone yelled, "Oh my gosh! It's a black bear!" Soon the "carcass grizzly" began to fight with an "intruder grizzly." Seeing this, 302 (an opportunist, famous for breeding with "unguarded" females) darted in to feed on the carcass. After driving off the intruder, the carcass grizzly chased 302 back to the bank, and as the wolf settled down for another nap, the black bear drove off the other intruding grizzly.

I have seen numerous interactions at wolf dens. I once watched Druid wolves chase off a grizzly who came too near their den. As with Thumper and the Druid yearling, the interaction seemed ritualized. The wolves ran at the bear; the bear swatted at the wolves; wolves and bear both took a "time out," lay down and then started in again. The wolves finally



Photos top to bottom: At a Druid pack kill, Thumper, a well-known grizzly in Yellowstone, and a Druid wolf move in tandem toward the elk carcass in Soda Butte Creek that Thumper has taken from the Druid wolves.

Not terribly troubled by the wolf, Thumper watches him and plays with a stick.

As the wolf comes closer, Thumper pays more attention.

Thumper pauses for a scratch as the wolf moves past him toward the carcass. Soon after Thumper lay down on the carcass and watched as the wolf retreated.





Left column, top to bottom: The grizzly Thumper feeds on the stomach of an elk killed by Druids in Soda Butte Creek.

Wolf 21 tries to get by Thumper, who is blocking access to Soda Butte Creek and the elk carcass.

Turned away from the carcass, wolf 21 snarls at Thumper.

Thumper takes offense at wolf 21's persistence and snarling and chases him into the trees.



ran the bear off without a real fight. In 2005, the natal den area of the Slough Creek pack was visible from the Slough Creek campground road; four females had bred, producing about 15 or 16 pups. We witnessed frequent dramas there as bears, mostly grizzlies, wandered too close. One grizzly actually stuck his nose into a den hole; he was lucky it didn't come out with a wolf attached! But it came out with the breeding female close behind, and she drove the bear off alone. The bears usually didn't get that close; whenever a bear appeared, wolves erupted out of nowhere and provided the bear with a barking, snapping escort out of their territory.

These interactions illustrate important patterns of wolf and grizzly coexistence in Yellowstone National Park. Dozens of encounters between them have been recorded since the 1995 restoration; most involve wolf kills and other carcasses and the young of both species. Occasionally well-fed wolves allow bears to feed without interference. Sometimes

wolves and grizzlies feed together uneasily. More often there is conflict. Skirmishes over food usually end with the grizzly driving off the wolves. The wolves control their

Right column, top to bottom: Undeterred, wolf 21 goes into Soda Butte Creek in front of Thumper.

Wolf 21 finally gets into the creek and approaches the carcass, but Thumper also gets in and starts to run after 21.

Thumper stands on the elk carcass, lunges at wolf 21 and runs him off.

risks, and the encounters rarely lead to physical contact. There are no known wolf fatalities caused by grizzlies in Yellowstone. Not surprisingly, no adult bears have been killed by wolves. However their young are vulnerable. So far, wolves have defended their young successfully. Grizzlies have not done so well; wolves have killed three cubs. Most recently, in 2004, seven Slough Creek wolves attacked a sow grizzly with three cubs in the Lamar Valley. The sow could not protect all three cubs, and the Slough Creek wolves got one. I was glad to miss that encounter, arriving just as the wolves disappeared over a ridge with tails held high.

Except for the cub fatalities, grizzlies seem to have the advantage in

sharing Yellowstone with wolves, since wolf kills give them convenient access to more protein. Precisely what this means for the park's ecosystem is not yet clear. Is it contributing to the growth and health of the grizzly population? To stabilizing the wolf population? Will sharing their kills with grizzlies pressure the wolves to kill more elk? More bison? Or will the bears and wolves take what they need, depriving scavengers farther down the food chain? What other ripple effects may occur? Park biologists continue to look for answers.

Meanwhile, many park personnel believe that one grizzly owes his life to wolves. As a "Problem Bear," Thumper was headed for removal—or worse—until he turned from a life of campground crime to stealing wolf kills. The animal watchers are delighted, but the wolves do not seem to appreciate their role in Thumper's rehabilitation. ■

Betsy Downey, who wrote "Wolf Moon Over Yellowstone" for the Spring 2005 issue of International Wolf, teaches history at Gonzaga University in Spokane, Washington, when she is not watching wolves and bears in Yellowstone. She thanks Doug Smith, Director of Yellowstone's Wolf Project, for reviewing this article. For more on Yellowstone's wolves, see Decade of the Wolf: Returning the Wild to Yellowstone (2005) by Doug Smith and Gary Ferguson.

Thumper stands over the Druid pack's elk kill, which he has taken over. A black Druid wolf watches from the grass between the right bank and the two trees.

Book Review

by Jim Williams, Assistant Director for Education, International Wolf Center

Predatory Bureaucracy: The Extermination of Wolves and the Transformation of the West

Michael J. Robinson

University Press of Colorado, 2005

In *Predatory Bureaucracy: The Extermination of Wolves and the Transformation of the West*, long-time wolf advocate Michael J. Robinson traces the development of the U.S. government's policies toward predators by following the evolution of the federal agency originally charged with executing those policies, the U.S. Bureau of Biological Survey. Progenitor of today's U.S.

Fish and Wildlife Service and U.S.D.A. Wildlife Services, the Bureau of Biological Survey was captured in the early 20th century by powerful western ranching interests intent on cleansing the American West of predators. Under the ranchers' sway, the agency indiscriminately killed hundreds of thousands of wild predators, eliminating wolves, lynx, grizzly bears, black-footed ferrets, lions, coyotes and other species from large portions of the American West.

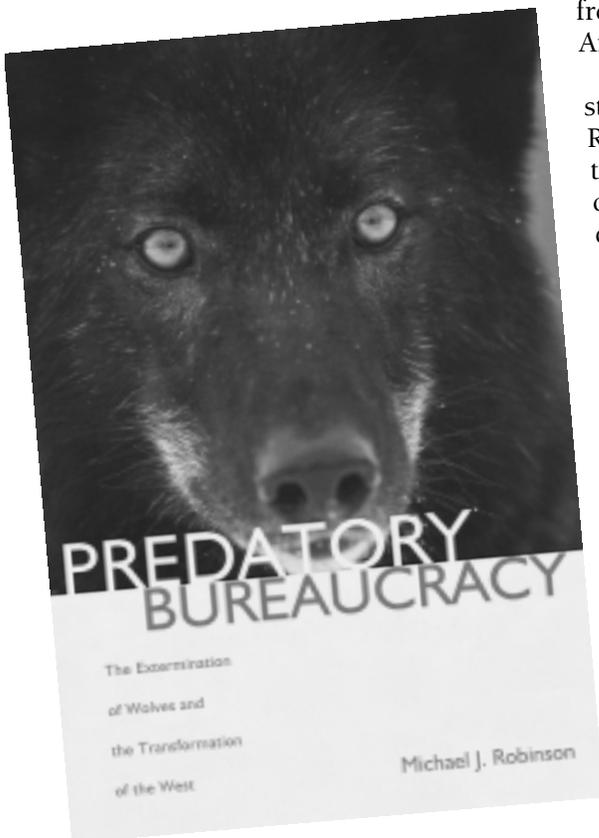
Many books have told the story of this mass slaughter, but Robinson's true subject is not the killing itself but the alliance of ranchers and bureaucrats that drove the killing. Political scientists have repeatedly shown that government agencies are often driven as much by the compulsion to perpetuate themselves as they are to fulfill their official mandates. In the early 20th century, the Bureau of Biological Survey was a tiny scientific research agency badly in need of a constituency to guarantee its survival. It walked the western ranching industry with a devil's bargain: bureaucratic power in exchange for killing predators. The tiny agency readily accepted, guaranteeing decades of growing

federal appropriations and dwindling predator populations.

Robinson is at his best when revealing the behind-the-scenes machinations and deft political feints that allowed the Survey to continue killing predators even as the tide of public opinion turned against them. By misrepresenting the tortuous death of poisoned animals as quick and painless, hiding information about the scale of the killing from lawmakers and citizens, promising reforms that never materialized, and forming strategic alliances with powerful figures at the local, state, and national levels, the agency was able to continue its practices virtually undeterred for more than 50 years.

Predatory Bureaucracy is, first and foremost, a work of tremendous scholarship. The wealth of insight into the workings of the federal bureaucracy is the product of 12 years of arduous historical spade-work in archives and libraries throughout the West. Surprisingly, it is also a beautifully written book that captures the feel of western landscapes and the ethos of early 20th-century America with an eloquence unusual for a weighty, scholarly book.

The one noteworthy flaw of the book is Robinson's subtle but pervasive tendency to let his pro-wolf, anti-ranching bias distort his analytical vision. Robinson's ahistorical moral judgments of people shaped in a different era, inadequate acknowledgment of the popular support for mass predator killing through the first half of the 20th century, and uncritical regurgitation of the sentimental folklore surrounding the last western wolves diminish what is otherwise an outstanding book. ■



Wild Kids



Open Wide!

by Kelly Burns

Remember your last visit to the dentist? Were you sitting in a big moving chair, light brightly shining, the dentist peeking into your mouth to examine your teeth? A dentist checks to make sure your teeth are healthy. Each tooth has to be inspected since each one plays an important job in how you eat your food.

Your teeth are your body's eating tools. Now I know what you are thinking, "Aren't my fork, knife, and spoon my eating tools?" These tools help out before the food gets into your mouth. Your teeth take over after that. Animals, on the other hand, have to do all the work with their teeth.

Teeth can do amazing things, like tear, hold, grind and rip. These actions help get food into an animal's body so it can be passed on to the stomach for digestion. The type of

preparation a piece of food must go through to be ready for the stomach depends on what food the animal is eating.

An animal eating grass or branches has to bite, hold and pull. The front teeth performing the bite are called incisors. Molars perform grinding and chewing; they are teeth with big flat surfaces. A plant-eating animal is called an herbivore.

If an animal has to catch another animal for food, it might need to hold the prey with long, pointed teeth and cut it with sharp-edged teeth. These pointed canine teeth are tools for holding or tearing meat. A meat-eating animal is called a carnivore.

Sometimes animals have pointy teeth for tearing, and flat teeth for grinding. These animals are omnivores and eat both plants and animals.

Chew your food:

Think about how you eat each of the foods on this list. Do you bite from the front or side or use your back teeth?

- Carrot
- Corn on the cob
- Popcorn
- Chicken wing
- Apple
- Ice cream cone

Count them out:

Count how many teeth you have.

Guess how many teeth a wolf has.

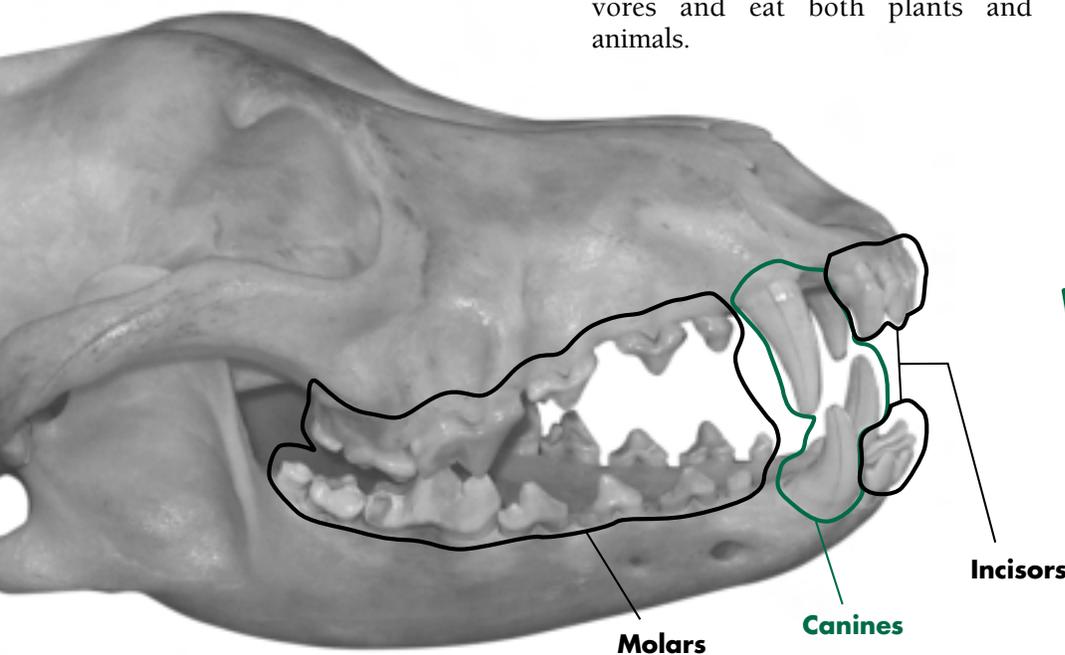
What difference does it make how many teeth an animal has?

Teeth are important keys to learning about an animal. By examining the teeth of an animal you can determine what kind of "eater" it is.

Once you know what food an animal eats, you can guess how it finds its food. A carnivore must hunt animals or find dead animals in order to eat. As long as the right plants are available, herbivores can graze or browse to get food. So the next time you walk outside, think about the kind of animal you would need to be to survive in your habitat. ■

Be a dental detective:

Take a look in the mirror at your teeth and compare them to the diagram. Do you have canine teeth? Molars? Incisors? Based on what you found, what kind of an "eater" is a human?



Counterpoint

Federal Courts Rebuff Attempts to Reduce Protections for Wolves Under the Endangered Species Act

by Jason C. Rylander

The gray wolf's recovery is one of the Endangered Species Act's (ESA) true success stories. Wolf resurgence in the Northern Rockies and the Great Lakes is the result of many years of coordinated efforts by federal and state governments, landowners and environmental groups. So why has the U.S. Fish and Wildlife Service (USFWS) repeatedly violated the ESA to reduce federal protections for the wolf?

What was once a faint hope—recovery of the wolf to the point where the protections of the ESA are no longer required—may come to pass, but USFWS officials should not profess shock that federal courts have overturned efforts to use successes in the Great Lakes and Northern Rockies as an excuse to eliminate needed protections in areas where wolves have not yet recovered. Three federal courts—in Oregon, Vermont and the District of Columbia—have now rebuked the USFWS for violating the ESA. What is shocking is not these rulings, but the USFWS's willingness to reduce wolf protections at the expense of the law.

The Oregon and Vermont courts both struck down the 2003 wolf reclassification because the USFWS abandoned efforts to recover wolves in New England and parts of the West that lie outside of core recovery areas. The changes in status were not based on sound science and conflicted with the ESA's goal to recover wolves in significant portions of their historic range. As the court noted, just because wolves have come back

in some areas does not mean our work is done.

Next, the USFWS tried to circumvent these rulings by issuing Wisconsin and Michigan permits in April under section 10(a)(1)(A) of the ESA to lethally take wolves that kill livestock. This provision allows limited take for scientific research, captive breeding and activities that enhance the survival and propagation of species in the wild. It was not intended for general wolf management or to replicate more flexible rules that apply to threatened species. Inexplicably, the USFWS violated the ESA by issuing these permits

without giving the public required notice and opportunity to comment. Not surprisingly, a Washington, D.C., federal judge struck down this action as well.

The ESA contains the necessary flexibility to restore wolves across their range and manage their growing populations, and the USFWS can explore changing the status of gray wolves in accordance with the ESA and best available science. What the USFWS can't do is violate the law and profess shock when the courts step in. ■

Jason C. Rylander is a staff attorney with Defenders of Wildlife in the organization's Washington, D.C., headquarters.

Editor's note: See "Gray Wolf Reclassification Derailed, Delisting in Eastern United States Delayed," in the Winter 2005 issue of International Wolf for an explanation of why the USFWS thought it was not violating the ESA.



Isaac Babcock