A Wolf on the Hunt: Researcher Relates Intimate Encounter

Symposium Attracts World-Renowned Wolf Experts
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Features

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Close Encounter of the “Wolf” Kind
Wolf Researcher Amy Jacobs describes her incredible experience with wolves during her research in Yellowstone, where she almost got “run over” by a wolf!

Amy Jacobs

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Beyond 2000: Realities of Global Wolf Restoration
Many of the world’s pre-eminent wolf researchers, managers, advocates, and federal and state representatives came together in February to discuss the realities of wolf restoration world-wide during a symposium that attracted approximately 600 people.

Cornelia Hutt and Steve Grooms

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On The Cover
Cover and interior artwork by Eva-Lena Rehnmark. Rehnmark is an artist living in California who has focused her creative talents on environmental subjects. Rehnmark’s first published book, Neither God, Nor Devil, Re-Thinking Our Perspective of Wolves will be published this fall by Pomegranate Communications.
Letters

Wildlands

I was thrilled to read that the center is proposing to change your mission to include the importance of wildlands to the wolf's survival. As the wolf recovery coordinator for the group RESTORE: The North Woods, we have also been striving to get this message out to the public. RESTORE is not only working to restore the wolf to the Northeastern United States, we are also proposing the creation of a new 3.2 million-acre Maine Woods National Park by purchasing land from the private paper companies that own most of the potential wolf habitat in northern Maine. This national park would be the “Yellowstone of the East” by providing a sanctuary where wolves and the whole range of native wildlife could recover and flourish.

In the last decade, it seems as if the debate about the connection between wolves and wilderness has shifted. As wolves began to be restored to parts of their former habitat, scientists realized that wolves do not technically require wilderness to survive. However, this finding has implied a divorce between the age-old union between wolves and wilderness; as a result, many wolf advocacy groups are reluctant to support wildlands restoration for fear of muddling their message and mission.

International Wolf Center has the ability to lead the way in the next phase of wolf conservation, by encouraging all wolf advocates to support wildlands preservation and restoration as part of their wolf efforts. Only through this broader vision will the public understand that the goal of wolf recovery is not only to ensure the survival of one species, but to restore the health, biodiversity, and wilderness of the land.

For all things wild and free, Kristin DeBoer RESTORE: The North Woods

Wolves do not exist in a vacuum. I fully support the expansion of the International Wolf Center’s mission statement to include teaching the importance of the wolf’s need for wildlands. As protected wolf populations continue to grow and begin to press against human-dominated landscapes, the very real danger exists that a backlash of public sentiment against wolf-caused domestic animal mortality might result in anti-wolf prejudice that the IWC, among others, has worked so hard to overcome. Wolves that are acceptable in a wilderness area or backcountry national forest become much less popular when Fluffy or Rover turns into some wolf’s dinner. The concept that people living in semi-wild areas need to accept certain risks and modify their behavior correspondingly is one that certainly could be a challenge for the Center to get across in its teachings.

Education almost always includes advocacy. We would still believe the continued on page 26
After years of planning and countless preparatory meetings, the International Wolf Center’s third international wolf symposium is now history. Nearly 600 participants from 44 states and 29 countries gathered in Duluth in late February to learn and share their wolf knowledge, experiences and perspectives. We were especially proud to sponsor the IUCN World Conservation Union’s Wolf Specialist Group meeting under the umbrella of the symposium. The global look at wolf issues brought varied and rich perspectives to the seemingly eternal debate on wolf and human coexistence. Many important sponsors and contributors (see page 11) made the symposium possible, and we are most appreciative of their support.

Our third international symposium was indeed a milestone for us this year, but what is even more significant is that we are celebrating our fifteenth anniversary as an organization. From the catalyst of the Science Museum of Minnesota’s donation of the Wolves and Humans exhibit to the International Wolf Center in 1985 to this year’s symposium, many good things have happened at the Center in the intervening years. First and foremost, the dream of building an interpretive center with exhibits, a resident pack of wolves, a range of programs and multitudes of visitors from around the country and globe, became a reality in 1993 with the opening of its doors to the world. Visitors have come in the thousands and now, hundreds of thousands (see Notes From the Field, page 12 for a detailed timeline of events over the past fifteen years).

A number of accomplishments have carried us toward our goals, including our symposia, publications, educational programs, field trips, the many visitors to our Center or Web site, and even the questions from school children we answer. Dr. Djuro Huber, a wolf researcher from Croatia, affirmed our greatest hope during a recent visit to our facility that the success of the Center stands as a beacon of hope for a day when wolves and humans will coexist around the world.

The global look at wolf issues brought varied and rich perspectives...

From the Executive Director

The International Wolf Center supports the survival of the wolf around the world by teaching about its life, its association with other species and its dynamic relationships to humans.

Educational services and informational resources are available at
1396 Highway 169
Ely, MN 55731-8129, USA
1-800-ELY-WOLF
1-218-365-4695
e-mail address:
wolfinfo@wolf.org
Web site:
http://www.wolf.org
During all my wolf watching in Yellowstone National Park, I never thought I’d almost be run over by a wolf. But that’s exactly what happened.

Winter is the best time to observe wolves in Yellowstone. Twice a year, the Wolf Project conducts a 30-day intensive monitoring study primarily to determine, from the air and ground, kill rate of the reintroduced wolf packs. Crews of two people are assigned to each of the three packs on the Northern Range in the northeastern corner of the park. Starting well before sunrise, we work until nightfall, monitoring the wolves’ movements, recording kills and behavior, and collecting specimens. Monitoring flights take place daily, weather permitting, to locate the Northern Range packs as well as wolves whose territories in the interior of the park are not visible from the road. I have participated in five such studies, and have been very fortunate to observe some amazing interactions with the wolves. My favorite encounter occurred on December 14, 1998, in Lamar Valley while watching the Rose Creek Pack.

The Rose Creek pack

The Rose Creek Pack at that time consisted of 21 wolves, including the famous matriarch of the park, wolf 9 and her mate, wolf 8. At 7:50 a.m., my partner and I located the Rose Creek Pack by radio telemetry in one of its regular travel routes. Chances of actually seeing the wolves in this area are average, so my partner went to collect specimens from a wolf-kill with another project volunteer, while I climbed up the hill to try to see some wolves. When I reached the ridge, I listened for signals by radio telemetry. This useful scientific tool picks up signals from radio collars worn by some of the wolves. The receiver and antenna were registering loud, clear
beeps, telling me that the wolves were within the line of sight and not traveling. I quickly set up and spread out my gear, then put on extra layers of clothing. Within minutes I spotted the 21 wolves, bedded on a slope about a mile away. I began to record data on my Dictaphone, holding it close to the scope so I could talk and watch the wolves simultaneously.

The chase

The wolves started to stir and by 8:15 a.m. they were up and traveling toward a big herd of elk cows and calves. A chase began, and I focused on a gray wolf testing a group of elk that had broken away from the main running herd. I was too far away to positively identify any of the wolves. As I scanned ahead of the gray wolf, I saw that a calf had left the main herd and was running with a black wolf hot on its trail. The chase was still about a mile away but headed in my direction. The wolf and calf disappeared into a gully, and when they reappeared, the calf seemed to trip, and I saw through the scope the black wolf clamp onto its hindquarters.

At this point the plane arrived and was circling the main pack and elk herd. I radioed the aircrew to alert them that I had seen a black wolf attack a calf, but they were now out of sight. Not a second later, the calf was again in my scope and running with the black wolf right behind it. They were heading toward me, about a half-mile away. Again the two disappeared, and I radioed the plane inquiring if they had seen the chase as I frantically searched for the animals in my scope.

Suddenly I heard a noise and looked up to see the calf 50 yards from me and still running in my direction! After staring in disbelief for what seemed like an eternity, I realized that the calf was heading right for me. I jumped up, dropping the Dictaphone beside me. This action startled and stopped the calf, allowing the black wolf to catch up and grab its hindquarters again.

On the run

Now I really couldn’t believe my eyes. There I stood, gear and contents of my pack spread in a circle around me, the elk calf with a black wolf attached closing in. I yelled and waved my arms, but the calf continued toward me. Realizing I had no time to get out of the way, I ran a few steps, then ran back, grabbed the 2-way radio and sprinted to a boulder about 15 feet away and jumped on top. When I turned around, I could see the calf with the attached wolf running right over my gear and directly under the rock I was sitting on. It happened so quickly, I did not realize I was clutching the radio in my hand, asking the aircrew if they were watching any of this.

By this time, the two animals were right under me. I must have moved, or the wolf must have noticed me then because it released its grip, and the calf escaped down the trail. The wolf, now as stunned as I was, spun around, and instead of rejoining the rest of the...
pack, ran full speed back to where they had been bedded that morning.

No one else witnessed my experience, except for a coyote that had been sitting behind me all morning. The best part of the encounter was that in all the excitement, I had accidentally left the Dictaphone running. The tape recorded my initial response when the calf first showed up, then the wolf, then the calf bellowing as the wolf grabbed it, me rustling around to get out of the way, and then the chase running right through my whole set-up. You can clearly hear the calf getting closer and closer and the wolf panting as it ran right over the Dictaphone.

The whole experience lasted about five minutes. In all my time working with wolves in Yellowstone, I have been fortunate to see rare occurrences, like wolves playing with black bears, or killing elk, yearlings sliding down the snow, and pups playing in front of the den, but never before have I almost been run over by a wolf.

Amy Jacobs has been working with wolves, captive and wild, since 1992. She began work in Yellowstone with the Wolf Project in January of 1997. She is currently working on a Master’s Degree with Dr. Rolf Peterson, studying leadership behavior in wolf packs in Yellowstone National Park.

Suddenly I heard a noise and looked up to see the calf 50 yards from me and still running in my direction!
A highlight of the symposium was the premier showing of a new National Geographic documentary, Return of the Wolf. The film depicts the lives of wolves with great authenticity. The wolf on the left, called ‘Cinderella’ by the filmmaker, is an “omega” or “scapegoat” wolf.

BY CORNELIA HUTT AND STEVE GROOMS
If you weren’t lucky enough to attend the recent symposium in Duluth, \textsc{Beyond 2000: Realities of Global Wolf Restoration}, you might wonder what you missed. Though it isn’t possible to summarize a four-day conference in a few words, we can share some highlights and attempt to convey the sense of the excitement this event created.

was Beyond Terrific

\textbf{So many rooms, so many views}

In one room Paul Paquet is about to discuss the feasibility of reintroducing wolves to the Adirondack Park. Meanwhile, in another room, Brian Kelly is rising to describe the extraordinary challenges facing managers trying to save the red wolf from coyote hybridization. In yet another room, also at the same moment, Tom Stillday is telling stories about historical interactions between wolves and some indigenous peoples. And in a nearby room, at the very same time, Christoph Promberger is at the podium to give a fascinating talk on large predators in Romania.

So many intriguing presentations! So little time! And you can only be in one place at a time. \textit{Beyond 2000} was a huge success. It attracted about 600 attendees, and those people were a remarkably diverse lot. Included were many of the world’s pre-eminent wolf researchers, managers, and advocates. Others were simply outdoor-minded folk who find wolves cool.

Presenters were equally diverse. They came from all over the United States and from such countries as China, Sweden, Spain, Croatia, Mexico and Mongolia. In all, 29 countries were represented. The symposium included more than 130 papers. The topics varied, but most presented either fresh perspectives on wolf management or the latest wolf research findings; some dealt with wolf advocacy or wolf education issues.

\textbf{Larger than life}

Virtually every attendee made time to see two remarkable wolf films. One was an Omnimax presentation of \textit{Wolves}, a film by the National Wildlife Federation. Because of the unique Omnimax screen, viewers were treated to close-ups of wolves that appeared to be the size of bungalows, and if you looked closely you could see fleas the size of beagles squirming through their fur. The film included footage shot underground in a den as a wolf nursed her pups.

The other movie was the world premier screening of \textit{Return of the Wolf}. Filmed in Yellowstone Park by Bob Landis for National Geographic, \textit{Return of the Wolf} will air on public television sometime this fall. Wolf fans will definitely want to record it.

As wolf researcher Dave Mech pointed out, this film sets a new standard for showing wolves interacting

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image1.png}
\caption{A “bounty hunter” advertises during the member luncheon hosted by the International Wolf Center.}
\end{figure}

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\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{image2.png}
\caption{A “bounty hunter” advertises during the member luncheon hosted by the International Wolf Center.}
\end{figure}
naturally with prey species and with other wolves. It simply wasn’t possible to photograph such scenes until wolves were returned to the open vistas of Yellowstone Park and became accustomed to the presence of human observers. “Return of the Wolf” presents unforgettable sequences of wolves hunting elk. Many researchers have studied wolves for a lifetime without witnessing an entire chase and kill, so they joined other attendees in rapt attention as dramas of life-and-death contests played out on the screen. A major figure in the film is the wolf Landis called ‘Cinderella’, a low-ranking female who was barely tolerated by other wolves in her pack. In one gripping sequence, a careless coyote pays the ultimate price for trying to filch a meal from one of the packs’ elk kills.

Scenes never before seen
In any symposium, a buzz goes out about which presentations are must-see events. At this symposium, some informed attendees told friends that Dan MacNulty’s research on wolf-elk interactions was a talk they didn’t dare miss.

MacNulty, working with raw footage shot by Bob Landis, analyzed the ways healthy elk signal to wolves that they aren’t worth chasing. It is not in the interest of either species for wolves to expend energy chasing elk that are so fit they cannot be caught. By studying film of chases, MacNulty proposed that healthy elk adopt a highly stylized head-high trot when closely pursued by wolves. This is actually an inefficient way for elk to run, and that is exactly the point. The message these elk might be sending to wolves is clear: You might as well look somewhere else for your next meal because you’re never going to catch me!

Conversely, unfit or injured elk didn’t seem capable of running with the stylized trot of vigorous elk. They kept their heads more level and galloped as fast as they could. Wolves in the film clearly spotted this sign of weakness and targeted these elk, often successfully.

In an evening session, researcher Christoph Promberger entertained attendees with footage of the nocturnal activities of a wolf pack in Romania. The film was shot by a BBC crew using special night vision cameras. Although this pack lived in mountainous terrain most of the year, each summer, it established a den close to a sizable city so pack members could conduct nightly raids for food in town. The special cameras used light from the night sky to follow wolves trotting by shopping malls, crossing highways by using overhead bridges, and waiting for trains to roll by so they could cross the tracks. The wolves typically checked a sheep pen in town to see if the guard dogs were alert and then, if all other options failed, they foraged for offal in the town dump. Promberger’s witty commentary kept the audience laughing throughout his presentation.
It is difficult to convey the energy and level of audience interest in these presentations. Ed Bangs, a charismatic speaker and the team leader for the federal effort to restore wolves in the northern Rockies, had to give his talk earlier than the program indicated. When a crowd showed up on schedule to hear Bangs’ speech and found him just finishing instead, they were so disappointed they staged a noisy protest. Bangs jumped back on the podium and delivered his presentation again, flashing slides on the screen with stroboscopic speed.

**Howling participants and cookie jars**

A multi-day wolf symposium like this is a large, complex event. This one offered a great variety of experiences, assuring that there was something fun to do for all attendees at any given moment.

At an auction, wolf fans bid on such rare items as a radio collar from a Yellowstone wolf and a spiked guard dog collar, or Carlanca, from Spain. Spirited bidding on these and a few humorous objects raised funds to support International Wolf Center programs.

Wolf-related merchandise from the Center’s store was offered for sale. Attendees could buy wolf sweatshirts, books, videos, stuffed toys and art. A popular item was a wolf cookie jar that howled when opened. Wolf authors made themselves available one evening to sign their books for wolf fans.

One large room was mostly filled with poster presentations of wolf research and political activities. Wildlife photographer and renowned bear researcher Lynn Rogers sold his photos there. Several nearby booths demonstrated the activities of advocacy groups and wolf centers.

A panel of participants in the Minnesota Roundtable wolf management plan discussed their positions and accepted questions from the audience. Representatives from the Minnesota Department of Natural Resources (including Commissioner Allen Garber), the U.S. Fish and Wildlife Service, and the Minnesota Legislature talked about prospects for achieving consensus on a Minnesota wolf management plan. The main points of agreement were that compromise on a plan will be difficult, but most participants recognize the urgency of creating a plan that is acceptable to the legislature and federal administrators.

The last day was devoted to educators. Teachers and community outreach specialists discussed the most effective ways of communicating facts about wolves to youngsters and concerned citizens.

After the regularly scheduled events, participants had a chance to take part in field trips. Some went to Ely to visit the International Wolf Center, where they took part in a variety of adventures and enjoyed a sumptuous wild game dinner. Others viewed wolf habitat in northwestern Wisconsin and howled to wolves with researcher Adrian Wydeven.

The people attending the symposium, from famous researchers to average outdoors-minded folks with a special interest in wolves, all seemed to enjoy this special opportunity to meet and share their enthusiasm about wolves. Wolf advocates drew energy from each other, scientists shared cutting edge research results, and everyone came away with new perspectives on one of the world’s most interesting and complex animals.

Since a symposium like this only happens every five years, it isn’t too early to begin anticipating the next one.

Cornelia Hutt is a wolf advocate, educator, and International Wolf Center board member who lives in Purcellville, Virginia. Steve Grooms, a writer living in St. Paul, has recently revised his book, The Return of the Wolf.

Our special thanks to the following contributors and sponsors who made possible the International Wolf Center’s Beyond 2000: Realities of Global Wolf Restoration symposium:

**Contributors include:**
- Target Stores
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**In addition to the International Wolf Center, sponsors include:**
- University College at the University of Minnesota Duluth
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- Minnesota Department of Natural Resources
- Michigan Department of Natural Resources
- Wisconsin Department of Natural Resources

We extend a heartfelt thank-you to the Center’s volunteers, and those who spontaneously helped where needed. In addition, we thank the many generous organizations and individuals who donated items for the silent and live auctions.

For abstracts describing what each expert presented at the symposium, please visit our Web site, at www.wolf.org.
15 Years and Still Howling!

It’s amazing to think that the International Wolf Center is celebrating its 15th anniversary! What a howl it’s been! The timeline that follows recaps some of the highlights over the years from the development and evolution of a wolf center with an international perspective to the International Wolf Center as we know it today.

So when in the timeline of 15 years do you fit in? Were you one of the first members to join in 1989 when there were only about 1,150 members whose support laid the foundation of what has grown to a membership base of around 9,500? Did you attend the first International Wolf Symposium in 1990 where you met colleagues and made friends who you saw again at the 1995 Wolves and Humans 2000 and the recent Beyond 2000 symposia? Maybe you’ve visited the Center in Ely since its grand opening in 1993 and watched Kiana, Lucas, MacKenzie and Lakota grow from fuzzy pups to magnificent adults? Perhaps you’ve searched the Center’s Web site since 1995 for a wide variety of information or a little bit of shopping? Or, are you a member of the Speakers Bureau or a volunteer whose contributions have been invaluable over many years? Whenever you joined the International Wolf Center, your presence in this timeline has made a difference!

1985
- A committee for an international wolf center forms, led by renowned scientist L. David Mech, when the Science Museum of Minnesota agrees to donate its Wolves and Humans exhibit for a permanent display.

1987
- Ely, Minnesota, is chosen as the site for a flagship educational facility.

1988
- The first paid staff person is hired in Minneapolis.

1990
- The Minnesota Legislature grants $1.2 million for construction of the International Wolf Center.
- The committee hosts an international wolf symposium in St. Paul, Minnesota.
- The inaugural issue of International Wolf is published.

1991
- The International Wolf Center office in Minneapolis, Minnesota moves from the basement of a staff person’s home to commercial office space.

1992
- The International Wolf Center breaks ground for its Ely facility.

1993
- The Center opens to rave reviews with 60,000 visitors its first summer. Kiana, Lucas, MacKenzie and Lakota are brought in at three weeks of age to become the Center’s resident wolf pack.

1994
- Anders Bjarvall travels from Sweden to become the Center’s first of several international guest speakers.
- The Center is featured on NBC and CBS national television news.
1998
➤ Web site tallies 3.5 million hits.
➤ A $750,000 expansion to the Center adds a 125-seat wolf-viewing theater and classroom.
➤ Kiana, the beta female of the resident pack, dies unexpectedly of natural causes.

1999
➤ The Minnesota Legislature approves funding for a teacher curriculum, workshops and a traveling exhibit.
➤ Year-round staff grows to 20 positions.

2000
➤ The Center and the University of Minnesota, Duluth hosts its third international symposium, Beyond 2000: Realities of Global Wolf Restoration, in Duluth, Minnesota.
➤ Excitement builds around plans to introduce arctic wolf pups to the Center's resident pack in the summer and a new exhibit for children.

Romancing the Wolf

Husband and wife team Perry and Terra Crampton, International Wolf Center members since 1993, surprised Wolf Den store manager Carol Kramer with tattoos of the running wolves from the International Wolf Center's logo on their respective right upper arms at the Beyond 2000 symposium. Carol commented, “I am not really into tattoos, but the detail on them was wonderful!” Perry and Terra’s home base is Flagstaff, Arizona, where they have made it their mission to support and volunteer for Mexican wolf recovery.

When asked about the reason for their tattoos, Terra commented, “As unusual as it may seem, we wanted a way to keep the wolves foremost in our thoughts and decided that a wolf tattoo would be a constant reminder of their precarious state and our commitment to help restore them.”

At the symposium, Terra and Perry covered presentations and sessions by dividing up during the day, and shared information in the evening over a glass of wine. Immediately after the symposium, they flew to New Mexico to participate in meetings concerning Mexican wolf recovery. Of their purpose, they added, “People need to understand the natural keystone role wolves play in many ecosystems.” Perry and Terra got their wolf tattoos on Valentine’s Day, 1999.
Long-Distance Learning

This past winter, chaperone Larry Ross took Caitlin Ross, age 10, and four of her schoolmates to the International Wolf Center in Ely, Minnesota. They had made it their goal to learn about wolves and promote wolf reintro-duction in Maine. At the Center, the group studied telemetry and went on a howling expedition. “It was eerie, magical and fun to hear the wolves howl back. It felt like we were surrounded by them,” Caitlin said.

Initial inspiration to get involved in wolf issues came when Caitlin heard an educational speaker at school. Caitlin realized, “I could be a person that would help wolves get back in Maine…the more I know about wolves the more I could help.” She was accompanied to the Center by fellow Canaan Elementary School students: Matthew Chamberlain, age 10, Jake Burrill, age 10, and Chantelle Natale, age 9. When asked what she had learned about the wolf controversy in Maine, she replied, “The wolf debate in our region is very complicated, almost like a see-saw.

Since the trip, Caitlin said, “We shared what we learned by doing a slide show at our school. I also plan to write a letter to Governor Angus King.”

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Wolf Organizations Meet

A special Wolf Organizations Meeting at the Beyond 2000 symposium brought together representatives of wolf organizations from across the nation and around the world. Forty-two participants representing 24 unique wolf organizations gathered to share information and to engage in a discussion regarding global wolf restoration.

The discussion questions were: “What are the barriers to global wolf restoration?” and, “What are solutions to overcome those barriers?” Each table of participants brainstormed, recorded their ideas, and shared their top responses with the group. The general responses (not ranked) are:

**Barriers**

- Negative attitudes, continuing and new myths, misinformation
- Livestock/people conflict
- Continuing habitat change
- Thinking in terms of numbers, not ecology
- Increased human population, decreased available wildlands
- Cultural realities differ; global economies vary
- Lack of non-lethal control methods
- International political boundaries
- Fear of government

**Solutions**

- Increase educational efforts:
  - use new cutting edge technologies
  - develop partnerships among advocates
  - educate politicians and media
  - coexistence
- Identify and promote acceptable control methods
- Habitat conservation, create wildland corridors, develop land purchase/lease/use partnerships
- Shift education from species focus to systems focus
- Learn cultural and economic issues of other countries—go beyond Sister Cities to Sister Bioregions
- Expand research

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**News Flash: Wolf Management Plan emphasizes four key areas**

Minnesota’s Senate and House passed a wolf management plan during the 2000 legislative session. After further negotiation, possible change, and signing by the governor, the bill could become the basis for state wolf management and federal removal of the Minnesota wolf from the Endangered Species List. The main features of the plan are (1) a 5-year moratorium on public taking of wolves except to protect property, (2) the need for the Minnesota Department of Natural Resources and Department of Agriculture to implement a more detailed plan to ensure wolf survival and minimize conflicts with humans, (3) continued federal and/or state wolf depredation control and state compensation payments for livestock lost to wolves, and (4) division of the state into a wolf zone and an agricultural zone with different regulations for each. At this writing, it was not clear whether the governor would sign the plan.

The next issue of *International Wolf* will focus on public attitudes toward wolves and will cover legislative developments in greater detail. Please visit our Web site, at www.wolf.org, for the latest breaking news.
Volunteer Lisa Heilman stands with a radio collar as fellow volunteer Jim Bray smiles on at an auction that was part of the Wolf Center's symposium, Beyond 2000: Realities of Global Wolf Restoration.

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The Pack and the Staff Are Digging Dens

by Nancy jo Tubbs

One cold February morning, Wolf Curator Lori Schmidt walked the fence line during a regular check of the wolf enclosure at the International Wolf Center and spotted a sprinkling of sand on the top of a snow bank in the woods. When Schmidt looked closer she found a den the wolves had dug into a sandy slope. The opening was partly obstructed with balsam roots, but was big enough for a wolf to enter. The den was about six feet deep and ended with a raised chamber, which would be high enough to keep a mother wolf safe from water that might seep into the hole.

Although MacKenzie, Lakota and Lucas have dug shallow openings in the enclosure before, none of the previous holes approached the sophistication of this one. Schmidt speculated that, although the Center’s wolves are neutered and can’t have puppies, they may have been stimulated by a chemical trigger to prepare a den after seeing and smelling a wild female wolf in heat outside the fence. Or maybe den digging does not depend on the sex hormones that neutering removes. Breeding packs in northern Minnesota usually prepare a den in spring in preparation for pups to be born in April, although wolves sometimes dig dens even in fall.

Tracking the Pack

…the new Center den will be large enough to hold the three existing members of the pack, plus two young wolves who will be introduced to the pack in late summer.

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Digging a new permanent den

Center staff are planning a new den for the wolves too. A temporary wood-framed underground den built in 1991 is beginning to sag with age. In fall 2000, construction will begin on a permanent den, waterfall and pond outside the wolf watching windows. While dens in the wild are birthing chambers for a mother wolf and her pups, rather than refuge for the entire pack, the new Center den will be large enough to hold the three existing members of the pack, plus two young wolves who will be introduced to the pack in late summer. U.S. Department of Agriculture regulations mandate that shelter be large enough to hold all the resident wolves. Improvements to the wolves’ enclosure will be funded by $58,000 in state bonding money.

The new den opening will be easily visible from the Center’s auditorium. Slabs of local granite and greenstone will frame the den and create a high vantage point where the wolves can romp or bask in the sun. A waterfall will cool nearby rocks in the summer, making an enticing resting spot in the heat of the day. Visitors to the Center can watch the wolves splash in a little stream and pool, explore an island and chase birds around new plantings of mountain ash and berry bushes. The enclosure improvements are designed to make life more pleasant for the wolves and to make visitor viewing even more of an adventure.

Sarah, the alpha female of a captive pack in Fillmore, CA, dug this den at the age of 18 months. Breeding packs usually prepare a den in spring, although wolves sometimes dig dens even in fall. The Center’s resident wolves are not a breeding pack.
Wolves of the World

NORTHEASTERN NORTH CAROLINA AND THE RED WOLF
A Cautious Optimism

“It is an ancient terrain, yet a land of beginnings.”
ROD HACKNEY, PRESIDENT, RED WOLF COALITION

He is now 11 years old, the only living free-ranging red wolf born in captivity. Once the alpha male of the Milltail pack in the Alligator River National Wildlife Refuge, this venerable patriarch was deposed two years ago when his mate, the alpha female, died. Yet he remains with the pack, tolerated by the other members, interacting with pups and serving as a surrogate grandfather.

The other estimated 95 wild red wolves in coastal North Carolina know nothing of life behind a chain-link enclosure, the first home of the old wolf. They were all born free in this land of peat bogs and marsh grasses, home to other endangered and threatened species like the bald eagle and the red-cockaded woodpecker.

The red wolf Species Survival Program success story lends encouragement to restoration efforts for other critically endangered animals such as the Mexican wolf.

Although red wolf numbers continue to rise slowly, the future of this shy and tenacious predator is far from secure. First, few options exist in the Southeast for new release sites. Second, because of their limited numbers in the wild and the presence of coyotes within their range, the potential for hybridization with coyotes threatens the red wolf’s genetic integrity. It was such genetic “swamping” that originally endangered the red wolf.

Red wolf recovery is, however, gaining momentum and popularity. Plans are underway by the Red Wolf Coalition to build an education center in the heart of wolf country.
The Coalition is also developing strategies to encourage its members and the public as well to get involved in land conservation and water quality control efforts. In addition, the North Carolina Zoo’s innovative Web site (www.nczooredwolf.org) features an interactive program, The Red Wolves of Alligator River, that allows users to participate in the program to save red wolves and to learn about this beautiful “land of beginnings.” School children can interact with biologists and veterinarians in the field and participate in on-line discussion groups.

Of intense interest now among researchers and managers is the question of whether the wolves of Algonquin Provincial Park in Ontario and the red wolves of northeastern North Carolina are the same wolf. Canadian studies suggest remarkable similarity between the two, although some scientists disagree. If the Canadian studies hold up to peer review, are replicated and withstand challenge, restoration plans for the red wolf may need to be revised.

**The Southwest and the Mexican Wolf**

**Triumph and Trial for El Lobo**

“It is such a big landscape. There is a chance they will make it.”

**Rick Bass – The New Wolves**

Since March 1998, 34 Mexican wolves have been released into the wild in the Apache-Sitgreaves National Forest in eastern Arizona. One pack, the Hawk’s Nest, continues to successfully hunt elk in the region. Some of the wolves, however, have been recaptured because they have killed cattle. In addition, two wolves have been killed by cars, and several have been shot.

Despite these setbacks, the Mexican wolf recovery program has achieved a number of important goals in captive breeding, education and outreach, and research. Substantial challenges remain, however. More captive breeding facilities are needed. In addition, managers are concerned that dispersing wolves may have difficulty finding other wolves to establish new packs. Also, there has been a tendency for some captive-raised wolves to approach domestic dogs and to show little fear of humans. Recent livestock depredations have caused resentment among some local ranchers, and a wave of negative publicity about the recovery program has been in the national news spotlight.

Four wolves from the recaptured Mule pack were translocated in March to the Gila National Forest in New Mexico. The Mule Pack wolves will be the first to be released in New Mexico as part of the federal reintroduction program. Hopes are high among wolf managers for the success of this release, especially since the alpha female is expected to give birth to pups in early April. A second pack, known as the Pipestem, will be held in acclimation pens in this remote region until they are acclimated to the area.

**The Northern Rockies and Yellowstone, Central Idaho, Northwestern Montana**

**After Five Years**

“The wolves are here to stay.”

**Mark Van Putten President, National Wildlife Federation**

Science-based wildlife management has been responsible for some major achievements in wildlife and habitat conservation. Among the greatest mile-

continued on next page
Russian Federation

What Good Is a Wolf?

"The wolf is viewed as an enemy."

Nikita G. Ovsyanikov -
Wolf Specialist Group, IUCN

Nikita Ovsyanikov, eminent scientist and bear researcher, is one of the relatively few people in Russia who speaks for the wolf. Wolves in Russia are protected only in a few nature reserves; elsewhere throughout the country, they are routinely persecuted, and in some regions, bounties are paid. Federal law prohibits poisoning, but this practice is still carried out in some areas, especially in the Lake Bakal area and in the Russian Northwest stones in species restoration and recovery is the return five years ago of the wolf to Yellowstone and central Idaho.

One of the original wolves brought from Canada to Yellowstone is wolf 9 who became the founding female of the Rose Creek pack. Wolf 9, called "the poster child of the Yellowstone wolf program" by National Park Service wolf recovery leader Doug Smith, gave birth to eight pups just after her equally famous mate was illegally killed in the spring of 1995. In the years that followed, wolf 9 produced four more litters of pups fathered by a wolf designated as 8. Now silvery gray and ostracized from the Rose Creek pack by her daughter, wolf 9 was recently observed living alone on the fringes of the park. Although researchers acknowledge that such a fate is common in wolf society, park managers found it hard to view wolf 9's remaining days with detachment. Then on Valentine's Day, the famous wolf was discovered to have companions! Excitement has soared over the recently discovered pack, unofficially named the Valentine pack. The new family consists of wolf 9, another female thought to be one of 9s daughters from the Rose Creek pack, and two black males.

Wolves are doing well in the park and on immediately adjacent public lands. National Park Service wolf recovery leader Doug Smith said he expects wolf numbers in and around the park to level off at about current numbers, although other biologists are not so sure. The 1999 year-end population numbers for Yellowstone were down from the estimated spring high of 160. Contributing to the decline was high pup mortality. In addition, a number of adults were missing, either from mortality or because of dispersal to areas outside the park.

The late 1999 estimates for central Idaho are also encouraging. Approximately 147 wolves comprising 10 packs are believed to inhabit central Idaho, and another 64 are estimated in northwestern Montana.
Federation. Although only a small percentage of the nearly 15,000 wolves killed in 1999 were poisoned, Ovsyanikov is seeking ways to have this practice stopped. Wolves in Russia are also killed for their pelts, a practice encouraged by a recent rise in the price of pelts.

The current wolf population in Russia is thought to have stabilized at a high level. An estimated 40,000 to 50,000 wolves survive in Russia, but their numbers vary from region to region. More wolves live in the northern latitudes and in the Arctic where the ungulate population is high and where there are few people.

In rural areas where wolves live near farmers, the wolf is viewed as vermin, and ancient myths of wolf predation on people are prevalent. Many farmers, living on the brink of survival, are not concerned about conservation, so economic incentives must accompany education about the reality and the possible benefits of large carnivores.

Spring 2000 Question:
What is the wolf’s main prey in Yellowstone National Park?

Answer:
The wolf’s main prey in Yellowstone National Park is elk. Elk form by far the greatest number of prey available, some 10,000 or more, depending on the area and time of year. Numbers of other prey such as bison, deer, pronghorn, bighorn sheep, moose and mountain goats together do not total as many as elk. Wolves do also kill these animals but in fewer numbers.

New Question
How do Arctic wolves differ from other wolves?

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The Wolf in Early Scientific Literature

by Jay Hutchinson

“Acting on the hint of an old trapper, I melted some cheese together with the kidney fat of a freshly killed heifer. I inserted a large dose of strychnine. During the whole process, I wore gloves steeped in the hot blood of the heifer. I made a 10-mile circuit, dropping a bait each quarter mile, taking care not to touch any with my hands.

“I soon came on the fresh trail. An ordinary wolf’s forefoot is 4 1/2 inches long, but Lobo’s, as measured a number of times, was 5 1/2 inches from claw to heel.

“Lobo had come to the first bait, sniffed and finally picked it up....the second bait was also gone. I followed to find that the third bait was gone...on to the fourth to learn that he had not really taken a bait at all, but had merely carried them in his mouth. Then having piled the three on the fourth, he scattered filth over them to express his utter contempt for my devices.”

From Seton, Ernest Thompson. “Lobo, the King of Currumpaw,” in Wild Animals I Have Known. Charles Scribner’s & Sons, 1898.

Writings like Seton’s and a few other texts on natural history, along with a handful of scattered notes in journals largely based on fortuitous observations of hunters, trappers and woodsmen composed the “scientific” literature on the wolf before Adolph Murie’s classic book, The Wolves of Mount McKinley, published in 1944. A brief look at some of the early literature can show us the fits and starts of a maturing science, which began as descriptions of chance wolf encounters, often given in excruciating detail.

Feeding and hunting

Early literature often described wolf feeding and hunting. In 1912, Charles E. Johnson was canoeing with a friend in northern Minnesota when,

“Peering through a little opening [we] saw a timber wolf taking savage bites at a large body afloat but anchored in the stream. [It] proved to be an adult cow moose, recently dead in a pool. Whether the moose had accidentally drowned or had suddenly died from some natural cause is a matter of speculation. In the back a large deep hole had been eaten into the carcass...here the wolf was feeding when surprised. No other part bore any sign of attack.”

F.M. Fryxell in the Journal of Mammalogy, 1925, described a Wyoming wolf catching live prey:

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time came the same low-pitched sound from the throat of a choking animal. In its rapid gyrations the fur mass edged toward the brink of an incline. Over this it finally toppled, falling upon a mat of flat-topped timberline trees below. I followed the course of the combat. The sounds from the choking animal became fewer...occasional forced wheezes. Suddenly all sounds ceased. Then out of the foliage leaped a timber wolf holding the limp body of a dead marmot.

Historical truths and inaccuracies

Some of the early literature was remarkably accurate. A 1934 note in the Journal of Mammalogy described a wolf pair in Mt. McKinley National Park in Alaska covering "100 to 150 square miles of territory while foraging for their young." These figures, while at the small end of the spectrum for Denali’s wolves, are supported by modern research.

Sometimes, however, one journal would begin building a false scientific case by touting findings given in another journal as “conclusive” when in fact the original finding was not based on especially good evidence at all. This happened in a 1938 issue of the Journal of Forestry regarding the size of wolf “packs numbering from five to 30.” This “conclusive evidence” was based on a statement in a note in Ecology in 1938 by Minnesota’s Sigurd Olson: “Packs vary in number from five to 30, the smaller group being by far the most common.” Olson had made six firsthand observations of wolf pack sizes that ranged from four to 20. In this note in Ecology, however, he also included unreliable hearsay observations of three trappers—of packs with 18, 20 and 24 wolves. But he never documented where he got the “30.” (The largest Minnesota pack documented recently was 23. See Fall 1999 International Wolf).

Olson’s detailed early observations and reports from the 1930s, however, were the best science available at the time, and were reasonable first approximations, especially when one remembers that all observations were made on the ground without benefit of airplanes or radio-tracking.

Because Olson could only base his reports on winter tracking, kills, and ground sightings on frozen lakes and rivers, he had no way of accurately knowing the size of what he called the “beat” or “hunting range” of packs. He wrote, “The course a pack travels is in the shape of a great, uneven circle, the diameter of which is often 30 to 50 miles.” Sixty years later, thanks to aerial observations and radio-tracking, we now know that most Minnesota wolf packs have territories that range from about 40 to 100 square miles, instead of the 700 square-mile territories that Olson’s “great uneven circles” might have included.

It would be a decade after Olson’s 1938 Ecology note appeared, however, that low-flying aircraft were used by Minnesota’s Milt Stenlund to check wolf kills and document wolf pack movements, thus introducing modern technology to the study of wolves.

Jay Hutchinson is a freelance writer on natural history subjects who lives in St. Paul, Minnesota. He is retired from the U.S. Forest Service’s North Central Research Station.

Further Reading

Chapman, H.H.

Olson, S.F.

Johnson, C.E.

Dixon, J.S.
“Mother Wolf Carries Food Twelve Miles to Her Young,” Journal of Mammalogy (1934): p. 158.

Fryxell, F.M.

Aerial observations and radio-tracking are modern methods of studying the wolf that have aided scientists in determining the territory and habits of wolf packs.

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White Wilderness Sled Dog Adventures
News and Notes

The dispersing wolf from Camp Ripley, Minnesota, which was mentioned in previous News and Notes, was illegally killed east of Camp Ripley. The perpetrator sank her collar in a mud hole, but it continued to send a few transmissions to the satellites. By tracking the transmissions, biologists were able to find the collar and determine many details about when and where the wolf was killed. Conservation officers have narrowed the range of suspects but have not yet made an arrest.

Two wolves were seen killing a cow musk-ox on Ellesmere Island during one of the few such observations ever reported. Wolves prey regularly on musk-oxen in the High Arctic, but rarely does anyone get a chance to watch them. After the pair killed the musk-ox during a five-minute attack, the female wolf gorged herself and then headed off to regurgitate into caches over a mile away from the kill. The incident was detailed in the October-December 1999 issue of Canadian Field Naturalist.

Wolf numbers and distribution in Lithuania were assessed by Petras Bluzma, Institute of Ecology, Vilnius, Lithuania. Bluzma’s findings indicated wolves were widely distributed throughout this Baltic country. Wolves permanently inhabit about 20 percent of the forested area, and because of conflicts with humans, Bluzma believes that their numbers should be held to 100 to 300 animals. Bluzma’s article was published in Acta Zoologica Lithuanica volume 9 (1999).

Wolves and railroad trains have not been getting along well in Montana. According to the U.S. Fish and Wildlife Service, at least three wolves have been killed by trains in the Wolf Prairie area. Apparently wolves find railroad tracks easy to walk along and because they never evolved with such a hazard, lack the ability to deal with the concept of a train bearing down on them. Entire packs in Minnesota have been similarly wiped out by trains.

A wolf increase in Norway has been accompanied by an increase in wolf biologists. At least 12 Norwegians attended the International Wolf Symposium in February to exchange information with other wolf workers. Norway now has 62 to 78 wolves, and their main prey, summer and winter, is moose. However, they also prey on domestic sheep, a trait that is causing great concern among local farmers.

Isle Royale wolf numbers are up again to 29, according to Dr. Rolf Peterson, Michigan Technological University, who just returned from his annual aerial count of wolves and moose on this Lake Superior island. The wolves live in just two packs. Some 850 moose were also counted.

Alpha wolves are the subject of a recent article in which arguments are made that the term “alpha” is not usually appropriate; instead such animals should be called “breeders” or simply “parents.” See “Alpha Status, Dominance, and Division of Labor in Wolf Packs” in Canadian Journal of Zoology 77: pp. 1196-1203.

Journey by Horseback Through Wolf Habitat Deep in the Heart of the Idaho Wilderness

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Cindy Gorman, an International Wolf Center member since 1992, brought International Wolf magazine with her while visiting the city of Jerusalem. “I’ve been such a big fan of the International Wolf Center and the work they do to educate people about the wolf, I thought I’d bring the magazine with me on my tour of Israel,” she said.

Cindy has been a long time animal lover and a life long student. During some course work at Metropolitan State University in Minnesota, she went on a weekend wolf tracking expedition. She didn’t see any wolves, but did see tracks. From her reading about wolves, Gorman concluded that “wolves and humans are a lot alike and more can be done to ensure that we coexist peacefully.”

Please send photos or slides of you or a friend reading the magazine in a favorite or far-off place to magazine coordinator, International Wolf Center, 5930 Brooklyn Blvd., Suite 204, Minneapolis, MN 55429. Identify the person pictured and include their permission to use the photo, the photographer’s name and the location. Regrettfully, we are unable to return slides or prints.
earth was flat if the concept of a round earth had not been advocated by Copernicus based on his factual observations. The advocacy of sound science and policies based on that science is what good education should be all about.

Axel Ringe
New Market, TN

I believe in educating the community [about] the importance of wildlands to the wolf. However, there are numerous organizations already established to educate and protect the parks, reserves and other wildland areas, many more organizations than there are protecting Wolves.

I would like to see the mission of the Wolf Center remain centered on the wolf, its life and behaviors. I would support the inclusion or linkage of web sites, references to other organizations or inclusion of their materials at the center, but I would not like to see our resources diluted to encompass wildland preservation.

Roberta L. Phillips
St. Paul, MN

Predator Control
I am simply aghast at the International Wolf Center's spring 2000 “Into the Millennium” issue. Any reputable organization working towards “the survival of the wolf around the world” (taken directly from the IWC mission statement) should be ashamed to allow the article by Steven Fritts to present such a black and white case in favor of lethal predator control. I am deeply disappointed that Fritts, an experienced and well-respected wolf biologist, would condone the use of lethal predator control without giving more credence to the potential of developing effective non-lethal control strategies.

To put the icing on the cake, you juxtapose the article detailing the depredation of Cheryl Dahl's horse in the same issue! While I agree that it is important to create a dialogue discussing the challenges that some people face living with wolves... you should have included an article outlining current research in the field of non-lethal predator control to accompany both the Dahl and Fritts articles. Your readers deserved a balanced view on wolf management in this issue. The claim that “killing problem wolves is the most effective tactic available” stems from a culturally ingrained acceptance of lethal predator control and an aversion of our government and wildlife managers to really take wolf management “into the millennium” through investing valuable resources into developing viable alternatives to lethal wolf control.

Pamela Uihlein
Missoula, MT

Technical Editor's Note: The problem is lack of suitable non-lethal methods of alleviating wolf depredations. The federal government has exhausted many millions of dollars attempting to solve this same problem with coyotes, but so far, with little to show for it, they still find it necessary to kill coyotes.
Home Sweet Home

by Nancy jo Tubbs

Imagine you’re a furry newborn wolf pup. You weigh just a pound.

At home in your den, you’re snuggled up against your mother and four brothers and sisters. You may not yet know where you are, because you’re blind, deaf and nearly helpless. You wiggle around and find your mother’s nipple. You drink milk from her warm body.

The dark, quiet den will be home, safe home, for the first two months of your life. Two weeks will pass before your eyes open and three weeks before you can hear. At that time, you’ll take your first wobbly steps outside the den.

Your mother picked this place. She dug a hole about 10 feet into a sandy hillside. Roots overhead keep the dirt roof from falling in on your head. At a high spot at the end of the hole, where no rain or wind can reach, is the place where your mother gave birth to you.

When you are about eight weeks old and used to playing outside, your pack may move to a new place away from the den. This is called a rendezvous site. Here you and the other pups will play, explore and sleep outside. You have left your den for now, but may return with the pack next year. Then you’ll wait outside to hear the first puppy whimpers of a new litter of wolf youngsters.

Wolves can make a den out of an old fox burrow, a hollow log, a small cave, an abandoned beaver lodge or nearly any protected spot. Within their territory, they pick a site near water so the mother doesn’t have to go far for a drink. The adult wolves hunt near the den and bring food back for the mother and pups. The den is a good hiding place for pups, who are easy prey for predators, such as owls and eagles.
A Look Beyond

By Cornelia Hutt

For many years, wolf organizations, advocates and biologists have worked with dedication and courage on behalf of wolves. These groups and individuals have persisted in the face of daunting obstacles, and their achievements are indeed remarkable. In several regions, wolves are approaching recovery levels, and there are proposals to restore them to additional parts of their former range.

Research has revealed a wealth of information about wolves. Education has improved understanding and changed public attitudes. Once feared and vilified, the wolf has now garnered a strong and vocal constituency. No doubt about it, people are fascinated by the beauty, intelligence and tenacity of this charismatic predator.

Interest in wolves is as complex as the wolf itself. Wolf books fill shelves in stores and libraries. Artists and photographers by the dozen try to capture some aspect of the wolf’s essence. Consumptive users such as hunters and trappers see the wolf as a worthy quarry. The International Wolf Center enhances the local economy by $3 million per year through visits by wolf aficionados. Gift shops everywhere feature wolf coffee mugs, jewelry and apparel. Howling cookie jars were an immediate sellout at Beyond 2000, the international wolf symposium in Duluth in February. The wolf has also bolstered the popularity of ecotourism, a hot new travel trend.

Wolves have benefited from the support of dozens of organizations, all of which share strong commonalities. Perhaps the most important of these is the evolving realization that wolves, although flexible enough to live near people if they are tolerated, thrive best in large areas of wild land. This awareness has prompted wolf supporters and groups to ask themselves a key question: What is our next step?

One answer is for wolf organizations to expand their missions by using the wolf as a motivator for a much larger objective – wild lands conservation. Individuals and groups have begun to see the need to focus on the survival of the wolf in its natural environment and to teach about the wolf’s dependence on wild lands. Conserving wild land for the wolf has the added benefit of providing habitat for its wild prey and for a long list of other interesting species as well.

How each organization responds to this exciting challenge depends on many things. But all organizations, no matter how large or small, can begin to focus on topics related to the environment wolves need and to shift their efforts to wolf habitat preservation. The same techniques and strategies that worked for wolf recovery can work for habitat and wild lands conservation. Leaders and members alike in wolf groups have educated and motivated themselves and others. Their efforts have replaced centuries-old fear and hatred with respect and appreciation.

They are well-qualified to dedicate their knowledge, resources and energies to developing and implementing strategies not only for wolf conservation but also for conservation of the land the wolf best inhabits.

Cornelia Hutt is a former public school teacher from northern Virginia. She currently writes education programs for conservation organizations and acts as an advisor for curriculum planning. She serves on the board of directors of the International Wolf Center and the Red Wolf Coalition and presented a paper, “The Wolf As a Keystone for Expanded Conservation Initiatives,” at our international symposium in Duluth.
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In mid-May we will be celebrating the birth of our two arctic wolf pups. These rare wolf babies will be introduced to our ambassador pack in Ely, MN in early July.

Make your mark! Here’s your chance to make history, help us name our rare arctic wolf pups.

Get your creative juices flowing and in the next month check out our web site at www.wolf.org for an opportunity to submit your suggested name for our new arrivals.

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Relax to a Melodic Wolf Song.

Dine in Candlelight.

Durable and elegant, chimes and votives are available in brick or pine green.

Many more values available online!
Whether it's a breezy 65°F or a tropical 90° this summer, you can learn firsthand about the arctic tundra without the -100° temperatures (Brrrr!).

Get a taste of tundra starting in early July, when our naturalists introduce two cute, fuzzy arctic wolf pups to our ambassador pack. Learn how these rare wolf pups play, eat, and communicate, as well as how they would adapt to a chilly arctic environment.

And once you’ve encountered *Canis lupus*, you can sign up for a behind-the-scenes look at how our staff meets the wolves’ growing needs. Or take an abandoned den hike, and discover even more about how wolf pups are raised in the wild.

Meet the pack, and our new pups (they won’t be pups for long). There’s an adventure for everyone in your family!

Plan your trip to wolf country today.

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www.wolf.org