WILDLIFE CONSERVATION SOCIETY

NORTH AMERICA PROGRAM NEWSLETTER

FALL 2012

NOTES FROM THE FIELD

Trailing the Snow Oxen of Arctic Alaska into Arctic Siberia

by WCS conservation biologist Joel Berger

As the early morning sky transformed from darkness to a bluish tinge, I had zero incentive to leave my sleeping bag. The thermometer read negative 33, and over the next few weeks I'd ride some 700 miles by snowmobile along the shores of the Chukchi Sea in Arctic Alaska, but rarely on a trail.

I lay on the Arctic Circle, only 160 miles from the Russian coast, which is closer than either Anchorage or Fairbanks. The only lives my three-person team would see this week or next would be muskoxen—a poorly known, shaggy, supremely winter-adapted species. It was far too early in the year, too icy, and too cold for the Arctic's spectacular spring migrants to appear—snow geese, shorebirds, and neotropical warblers or the sea mammals—beluga whales, polar bears, and ringed or bearded seals. Even the caribou had moved en masse more than 100 miles south. Muskoxen however do not migrate. They remain to face the cold, the wind, and an uncertain future.

I'm here in March to kick off WCS's 6th year of fieldwork on muskoxen. Unknown to most Americans, muskoxen are the largest Arctic land mammal, weighing up to 800 pounds. They are Pleistocene relicts, survivors of an Arctic landscape that once connected North America to Asia. They roamed with wooly mammoths, wild horses, giant bison, sabered cats, and short-faced bears. More related to mountain goats than to bison, muskoxen ancestry is traceable to cliff-dwelling ungulates still living in the Himalayas. Yet, for reasons we do not yet fully understand, the modern distribution of native muskoxen is restricted to Arctic Alaska, northern Canada and Greenland. And, the Arctic lands that sustain muskoxen have the dubious distinction of hosting our planet's most rapidly changing climate. How muskoxen will fare with climate change is just one of the puzzles we are trying to solve.

WCS / Joel Berger

Female muskoxen with young.

In Alaska, populations total about 4,000 animals, barely larger than that estimated for the world's highly endangered tigers. The population in the Arctic National Wildlife Refuge plummeted from over 400 animals to less than a dozen in less than 15 years. At our two study areas in and around the National Park Service's Bering Land Bridge National Preserve and Cape Krusenstern National Monument, population growth that was once about 15% annually has slowed. Disturbingly, in February 2011, some 50 muskoxen became trapped in an icy lagoon and perished. Later that year, about 40% of our radio-collared females died within two months from an undiagnosed pathogen. There is no shortage of threats to the conservation of muskoxen, and we have yet to fully consider any changes in hunting regulations or domestic energy policy as additional stressors.

Where do these unsettling understandings of the plight of muskoxen leave us? To understand the prospects for the long-term persistence of muskoxen, we have partnered with scientists from Siberian Wrangel Island, only 500 miles to the northwest, to enable us to learn whether the introduced herd of muskoxen there—where impacts of climate change are projected to be much less than the Alaskan Arctic—will be less affected. Results will allow us to better respond to the needs of all muskoxen in a warming Arctic.

WCS is committed to borderless approaches to wildlife conservation—focusing on the ecological needs of wildlife and not the political constraints of national borders. This is especially important in and around the Chukchi and Bering seas where summer sea ice is rapidly disappearing, indigenous groups continue to rely on local resources for food security, and an onslaught of new industrial activities is emerging. In an area where wildlife is shared between the United States and the Russian Federation, WCS is expanding its efforts with the new Beringia Program to actively engage in bilateral research and conservation. This will include tundra nesting birds and a suite of marine mammals as they seek refuge in a warmer and busier Arctic.

CONSERVING OUR WILD BORDERS

The southern border region is one of the most bio-diverse areas in the United States and a crossroads for many carnivores. A recent study provided insight into the crucial role that movement corridors—the paths that wildlife follow to access seasonal resources such as food, water, and mating opportunities—play in ensuring the persistence of bears, jaguars, mountain lions, and other wildlife in this region.

The collaborative study, by WCS and federal and state land and wildlife management agency partners, found that bears in the southern United States are more closely related genetically to endangered black bear populations in northern Mexico than to those in central Arizona and New Mexico. These data suggest that bears and other carnivores are likely dependent upon cross-border corridors to travel between habitat in the region.

Corridors serve many species and purposes in the border region. Recent evidence suggests that jaguars and ocelots, for example, have begun to return northward from Central America and Mexico to reoccupy their former range in the United States. Other studies indicate that a number of species cross the border when times are tough (such as in drought years) and suitable habitat exists only on "the other side." And, our study showed that linkages across the border are essential in ensuring that bears and other species don't become genetically isolated.

Chuck Schwartz

Impenetrable border fence on the United States–Mexico border.

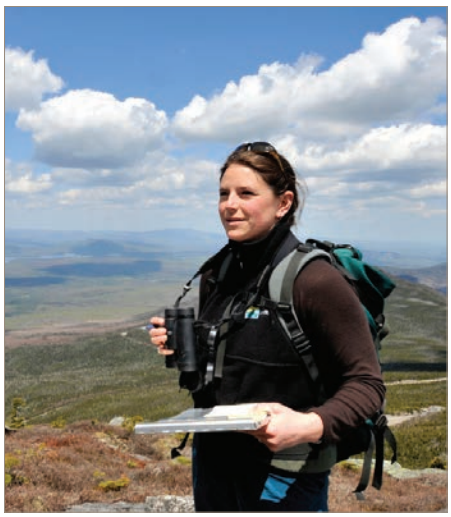
The current debate about whether to continue or expand a border fence out of legitimate national security concerns, combined with changing land-use patterns that have led to increased road-building and urban sprawl in previously wild places, makes a conversation about how all of this will impact wildlife more important than ever.

"WCS is encouraging conservation scientists, Homeland Security representatives, land and wildlife management agencies and the engineering community to look at innovative ways to allow animals, but not humans, to cross border barriers," says Jon Beckmann, WCS's Connectivity Program Manager and co-author of the border study. "One solution may be a combination of permeable fences combined with intensive remote monitoring at crucial wildlife corridor crossings." What happens along the southern United States will likely set the precedent for similar border security activities for our northern border with Canada.

NEW 25-YEAR VISION FOR ADIRONDACK PARK

Over the past year, more than 500 Adirondackers contributed to the creation of a twenty-five year vision for the Adirondack Park. The effort is an outgrowth of the Adirondack Common Ground Alliance—of which WCS is a core partner—and builds on decades of WCS's leadership to integrate conservation and economic development in the Adirondacks.

Through a series of 14 workshops and 120 interviews, a broad cross-section of the Adirondack community was asked to think about how the region's economy, water quality, natural resources, culture, and other amenities are connected and should contribute to the region's future. The final vision for the Park imagines a future where sustainable communities benefit from the region's natural environment, develop stronger economies, and enhance protection for threatened natural resources including intact ecosystems and water quality.



WCS / Julie L. Maher

WCS's Leslie Karasin on Whiteface Mountain in the Adirondacks. Science-based information will be key to implementing the new 25-year vision.

The vision recognizes the Adirondacks as one of the most important forests in the eastern United States and emphasizes that science should be an important part of shaping the Park's future. "As a large, intact and diverse landscape, we anticipate the Adirondacks to be an important laboratory for scientists to understand and track the effects of climate change," says Zoe Smith, WCS's Adirondack Program Director. "The vision makes it clear that as threats like climate change start to substantially alter the forest, we need to apply new science-based strategies to protect it."

Other core vision elements include reduced fossil fuel use, increased local food production, support of arts and education, enhanced ecotourism, and universal broadband accessibility. The vision also recognizes the surrounding natural resources as being beneficial to the health and wealth of the region. Wildlife corridors, intact forests, appropriate private land use, and water quality protection are some of the other conservation issues addressed in the vision.

The report is explicit: without community groups talking, listening, cooperating and moving forward together, we will not reach this vision. This effort challenges WCS and other leaders in the Adirondacks to work together to find common ground solutions to achieve this shared vision for the region. The full vision and details about the process can be accessed at adkfutures.org.

VOTE BISON: ELECT OUR NATIONAL MAMMAL

Bison are the largest land mammal in the United States. Once ranging from Oregon to New Jersey and Alaska to Mexico, bison herds inspired awe in western explorers, and were integrally linked with the economic, physical and spiritual lives of Native Americans. The value of bison was recognized in 1905, when the Wildlife Conservation Society—through its role in the American Bison Society—came together with men and women from all walks of life in a monumental effort to save bison from extinction.

Today, WCS again is working to restore bison to its proper place on the landscape and in Americans' hearts and minds. WCS, together with the Intertribal Buffalo Council, the National Bison Association, and others is supporting the National Bison Legacy Act that will designate the bison as the "National Mammal of the United States." Specifically, the Act would recognize bison's historical, cultural, economic, educational, and ecological significance to the United States. And, it will designate annually the first Thursday in November as a day to celebrate this American icon. To learn more about the National Bison Act and to encourage your members of Congress to support this measure, go to www.votebison.org.

WCS / Steve Zack

In addition to ensuring that bison get proper recognition as valued wildlife, WCS is working to restore bison to appropriate landscapes in the Western United States and Canada. "In Montana and Alberta, WCS continues to work alongside the Blackfeet Tribes to advance the Iinnii Initiative, which calls for land conservation and bison restoration along the Glacier Waterton Front," says WCS's Keith Aune. "We also are partnering with the National Park Service to help advance ecological restoration of bison at ten national park units and identify opportunities to reintroduce bison at other units." WCS also continues to advance bison restoration efforts in the Prince Albert region of Saskatchewan.

WCS has begun a captive breeding program at the Bronx Zoo that will restore bison with Yellowstone genetics to western landscapes. The very first calf was born in May of this year. The goal of this effort is to provide animals to a variety of restoration efforts in North America.

TRACKING RIVER OTTERS TO PROTECT AQUATIC SYSTEMS

River otters are frequently overlooked in conservation planning in North America because they are inconspicuous. What many people don't know is that they are the top predator in the aquatic food chain. Lessons from Europe and across North America have taught us that poor management of shoreline habitats threatens otters and may result in localized extirpations. WCS is working proactively in the Yukon to retain this important species in aquatic systems.

WCS / Biz Agnew

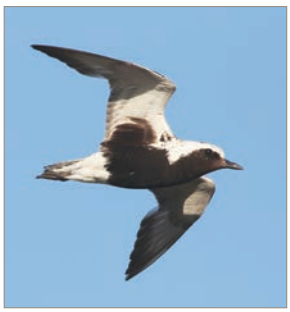
Dr. Don Reid in the field.

Many mammals (otters, mink, beavers), birds (sandpipers, ducks), and amphibians require a mix of water and land to satisfy their life cycles. WCS Canada has mapped the locations of corridors that are likely to satisfy movements for these species between wetlands and water bodies in south-central Yukon. Now—using river otters as a focal species—WCS is field testing our maps by detailing the specific locations and habitat features of otter routes as they move within and between water bodies and especially over land.

River otters require large areas, and move between different lakes and ponds frequently and in all seasons. They repeatedly use certain routes for their over land travel, and certain shoreline sites as "latrines" which act as communication centers. These routes and latrine sites are therefore key to the otters' energy budgets and social interactions. WCS's Dr. Don Reid is mapping these routes and latrines in one study area using snow tracks and shoreline surveys.

"From this information, we will derive relationships—or rules of thumb—that help predict where otters are most likely to travel or establish latrines in a landscape," says Dr. Reid. WCS will test these relationships in a second study area, with the aim of making them applicable more generally throughout the region. "Ultimately," concludes Dr. Reid, "the goal is to develop 'best management practices' for guiding activities around wetlands and river habitats to minimize human impact on wildlife—including river otters."

BALANCING CONSERVATION AND DEVELOPMENT IN THE ARCTIC



Cameron Rutt

Black bellied plover in flight.

On August 14, the U.S. Secretary of the Interior Ken Salazar announced a proposed plan for the National Petroleum Reserve-Alaska (NPR-A) that balances conservation and energy development and protects critical indigenous hunting areas in one of Arctic Alaska's most important landscapes for wildlife.

WCS's conservation science has consistently shown that wildlife in the NPR-A are best served by a development approach that balances wildlife protection and responsible oil and gas leasing. By protecting extensive coastal plain habitat around Teshekpuk Lake, and the foothills around the Utukok uplands, the most important Arctic wetlands and migratory corridor for caribou and migratory birds would be conserved.

"By keeping development and disturbance away from essential wildlife habitat, Arctic wildlife will continue to thrive," says Dr. Cristián Samper, WCS President and CEO. This move marks a significant step forward for the preservation of key habitats and species in the region and is a culmination of more than a decade of WCS efforts in Arctic Alaska. A final management plan for the NPR-A will be issued by the secretary this winter.

BUILDING TOWARDS CAREERS IN WILDLIFE CONSERVATION

WCS is partnering with the Hoopa Valley Tribe in Northern California to support a youth internship program aimed to provide educational and work opportunities for Tribal students aged 14 to 18. The three-year pilot program is designed to instill a desire among Tribal youth to pursue a college education and careers in natural resource management and wildlife conservation. In the next five to ten years, we hope to see many of the professional level positions within the Tribe's natural resources programs filled by qualified Tribal members.

Hoopa Valley Tribe

Ryan Matilton with a juvenile spotted owl on the Hoopa Valley Indian Reservation.

WCS's Sean Matthews says, "The internship program is already paying dividends. Six tribal youth participated last year and another two were in the field this summer." Robert Buckman and Ryan Matilton, both 2011 interns, were hired as Hoopa wildlife technicians for the 2012 summer field season. Also, Ryan was awarded a Gates Millennium Scholarship, which will fully support his studies toward a bachelor's degree at Humboldt State University and is good towards as many advanced degrees Ryan wishes to pursue!

SAVING WILDLIFE AND WILD PLACES WORLDWIDE

WCS/J. Larsen Maher

The Wildlife Conservation Society saves wildlife and wild places. We do so through careful science, international conservation, education, and the management of the world's largest system of urban wildlife parks, led by the flagship Bronx Zoo. Together, these activities change attitudes towards nature and help people imagine wildlife and humans living in harmony. WCS is committed to this work because we believe it essential to the integrity of life on Earth.

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