Who will decide the fate of Russia's biggest bears?

Giants under siege

By Gleb Raygorodetsky Photographs by Steve Winter

The bear's head swings from side to side like a metronome as he lumbers across the slope. A week or two out of hibernation, he's spent the day filling his belly on the first lush greens of spring in the Valley of the Geysers on Russia's Kamchatka Peninsula. Struggling to keep his eyes open, he stumbles a few yards to the top of a knoll and crashes, resting his massive head on his front paws, and immediately nods off. The long winter over, all seems well.

Not so. A new season has arrived filled with perils for Kamchatka's brown bears, the largest in Eurasia. During the Soviet era, when I was growing up here, access to the 750-mile-long peninsula was tightly restricted by the military, and there was plenty of federal money for wildlife management. As many as 20,000 bears roamed this

Marked with a yellow ear tag by researchers, a seven-foot brown bear feeds on salmon in Kronotsky Reserve.

wilderness. After the Soviet Union collapsed, international trophy hunting came to the region, oil exploration and gas development and gold mining increased, and fish and wildlife poaching grew rampant. The bear population fell to about 12,500.

Today international organizations such as the Wildlife Conservation Society, for whom I work as a biologist, are helping Russian wildlife managers. But here in Russia's untamed frontier, far from Moscow's prosperity, with the local economy still in a slump, the future of the bears is up for grabs—dependent on people with different stakes in the animals. To the hunting guide the bears are a source of income. To the scientist they're a key part of Russia's wilderness. To the poacher they're competitors for salmon (and lucrative caviar). And to the reindeer herder they're wise and powerful neighbors. Whether the giants survive or fade away depends on who prevails.

Hunting Guide

The revving of snow machines outside the cabin announces their return. Victor Rebrikov strides through the door, pulling off his snowmobile goggles, raccoon-eyed from the sun and wind, aglow with sunburn and satisfaction. He's spent the day recovering the carcass of a bear shot by one of his clients, an American trophy hunter. The bear had tumbled into a gulch, and to reach it Rebrikov and two guides had rappelled down a steep slope. They'd skinned the frozen carcass and carried the heavy bearskin back out.

"Now my client will go home happy," he says, warming up with a cup of soup in the kitchen.

A former veterinarian who spent many years working in small villages across Kamchatka, Rebrikov is one of two dozen or so outfitters who organize bear hunts throughout the peninsula. The five log cabins in his camp are a short walk from Dvukhyurtochnoye Lake, more than five square miles of salmon spawning grounds wedged between two eastward fingers of the Sredinny Range, backbone of the Kamchatka Peninsula. Two thousand feet above the camp, miles of wind-packed snowdrifts blanket mountain plateaus—an ideal setting for tracking brown bears in early May as they emerge from winter dens to find fresh greens and pursue mates.

About a third of the 500 bear-hunting permits given to Rebrikov and other outfitters by the Kamchatka Department of Wildlife Management have been used in the spring for foreign trophy hunters, who pay as much as $10,000 each. In a region larger than California, with bear habitat from one end to the other, such a harvest might be sustainable. But a survey in 2002 estimated that an additional 445 bears were killed illegally that year by poachers. Researchers already report fewer older large bears.

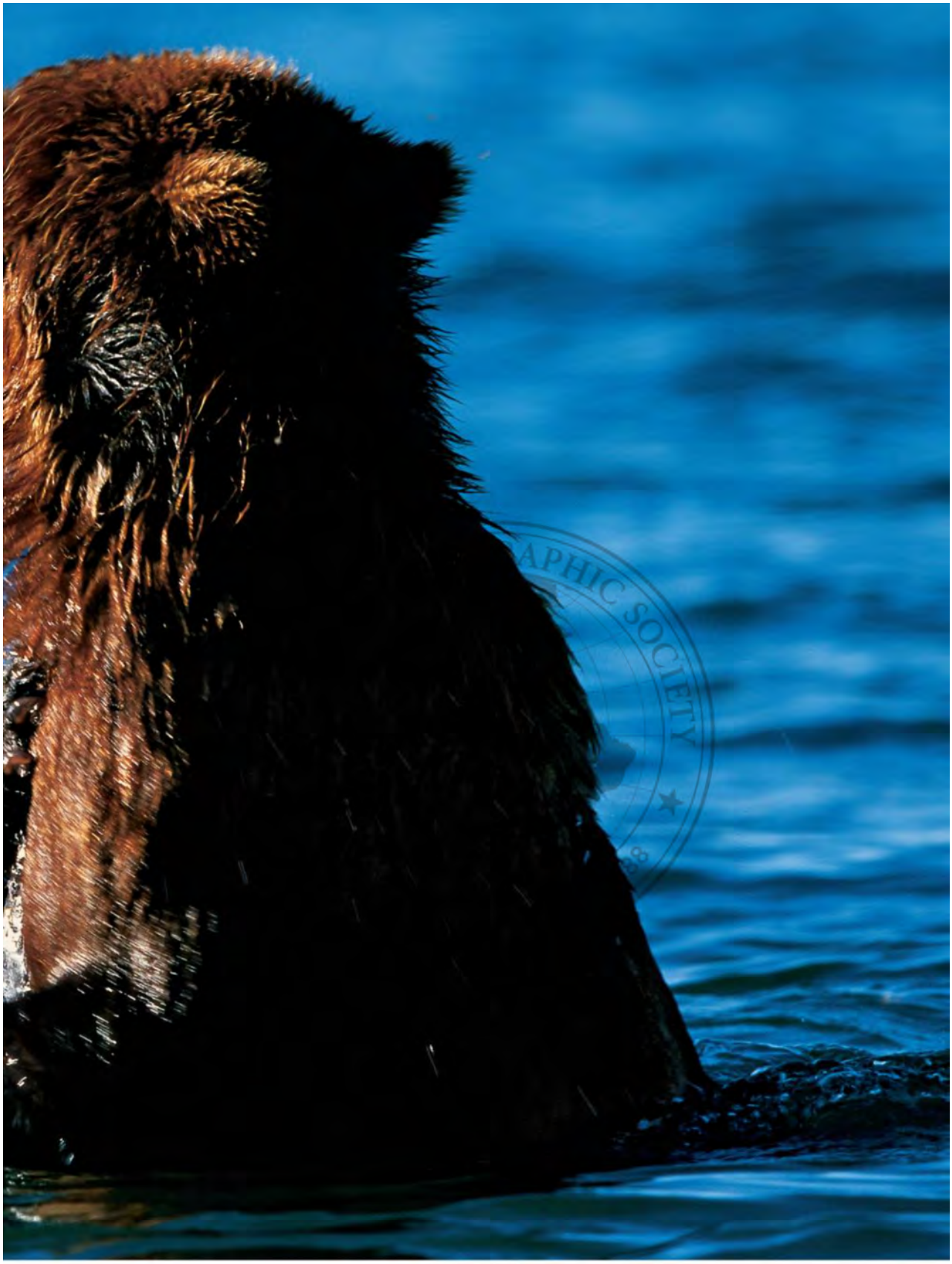
In mid-2004 the governor of the peninsula's southern administrative region banned all spring bear hunting. (Hunting is still permitted in the fall, when the bears are harder to find.) The ban, not supported by local wildlife managers, may have been aimed at conservation-minded voters in the city of Petropavlovsk-Kamchatsky, where the majority of the peninsula's 360,000 people live. But if the ban is upheld in court, it could cause the bears more harm than good, Rebrikov warns, because outfitters won't be able to afford to keep private wardens in their hunting areas.

"If I don't have a warden or two looking after my territory, somebody's bound to start fooling around out here," he says, referring to poachers and military personnel he's run into around Dvukhyurtochnoye Lake. "And if the wardens get laid off, guess what they're going to do then." Rebrikov says, raising his arms in resignation. "The wardens will go after the bears. They have to make a living somehow."

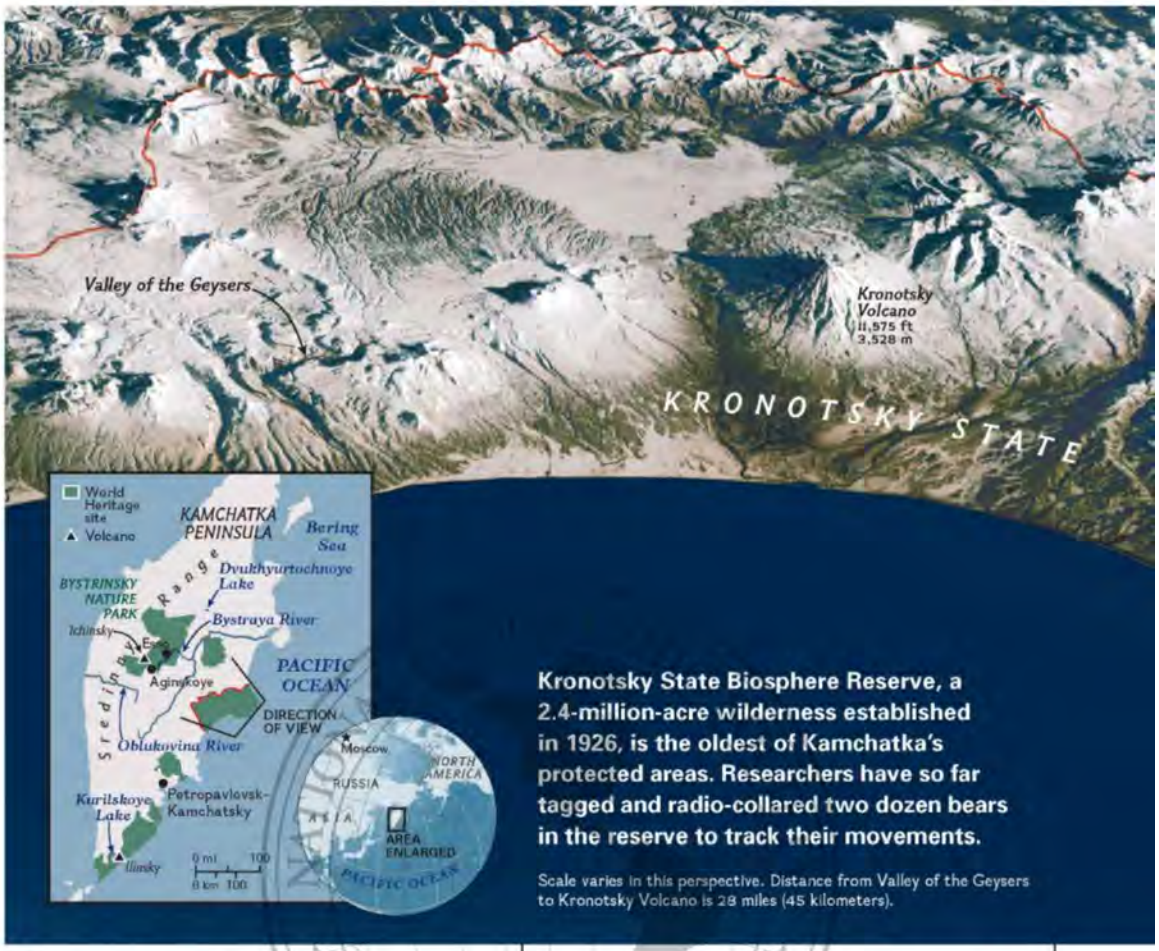
Earlier that day at Rebrikov's camp, a gleeful Russian client posed for pictures clad in a new camouflage suit, holding a high-powered rifle next to his first bear trophy from Kamchatka. "It all happened too fast," he said. "Just after we

A brown bear snags one of two million salmon that migrate each summer to Kamchatka's Kurilskoye Lake. The largest bears in Eurasia, their numbers on this volcanic peninsula have fallen from 20,000 to 12,500, mostly due to an increase in hunting and poaching since the Soviet Union's collapse in 1991.

Sparring partners In Kurilskoye Lake, roaring young bears play-fight, which



helps establish hierarchy. And what punch: Males can tower 10 feet tall and weigh over 1,200 pounds.



Kronotsky State Biosphere Reserve, a 2.4-million-acre wilderness established in 1926, is the oldest of Kamchatka's protected areas. Researchers have so far tagged and radio-collared two dozen bears in the reserve to track their movements.

Scale varies in this perspective. Distance from Valley of the Geysers to Kronotsky Volcano is 28 miles (45 kilometers).

left camp, my driver suddenly stopped our snow machine and pointed to a bear crossing the slope a hundred yards above us. I jumped off, pulled my rifle out, and kept shooting until I ran out of bullets!"

"You're bad," the hunter's girlfriend scolded as she ran her bejeweled hand through the dead animal's fur. "You killed such a pretty bear!" She straightened and planted a kiss on the hunter's lips. The man knelt by the fallen beast, fiddling with his sunglasses as his personal assistant covered up drops of blood in the snow. What would look better, shades on or off?

A light breeze stirred the bear's silver-tipped mane. His eyes were closed, as if the king of this domain were taking a nap, stretched in the sun to soak up the long-awaited warmth of spring.

Scientist

"Shass, Aiko, down!" John Paczkowski commands, snapping his fingers and pointing at the ground. His two black-and-white Karelian bear dogs—50-pound balls of energy with pointed ears and coiled tails—freeze in mid-run and drop onto their behinds. The husky-like Karelians were originally bred in Finland to help hunters pursue bears. Paczkowski has been using them for personal protection in his bear-capture research. The dogs loyally follow him as he checks snares along bear trails at least twice a day.

Leaving the dogs behind to avoid disturbing a snared bear, Paczkowski, a Canadian biologist with the Wildlife Conservation Society, walks a little way along the bear trail to the edge of a clearing. Through binoculars he spots a dark shape moving in a grove of birch trees on the other side. "We've got a bear!" he says into a walkie-talkie, giving his colleagues at camp a heads-up to prepare for immobilizing the animal. Then he returns the dogs to camp.

Soon after, as Paczkowski and his three-man capture crew approach the snared bear, an

IMAGE SOURCE: INTERNATIONAL SPACE STATION PHOTOMOSAIC BY NASA JOHNSON SPACE CENTER. PROTECTED AREA SOURCE: UNESCO WORLD HERITAGE CENTRE
NGM MAPS

occasional whoosh escapes from the animal's nostrils, but he's calm. This one is a large boar. The wire snare, taut around his outstretched left front paw, is fastened to the base of a thick birch. After readying the dart gun, Paczkowski slowly approaches. His Russian colleague, Ivan Seriodkin, is two yards behind, a loaded shotgun pointing at the ground. Paczkowski aims the dart gun, then lowers it, takes a few more steps around the bear for a better angle and pulls the trigger. The dart hits the boar's left shoulder, delivering five milliliters of Telazol solution. Paczkowski and Seriodkin retreat and wait. Six minutes later the bear is still, and the men get to work.

Seriodkin measures the animal: seven feet from tip of nose to base of tail. Estimated weight: 600 pounds. (The largest bears in Kamchatka stand nearly 10 feet tall and weigh more than 1,200 pounds.) The boar's neck is too thick for the researchers to put a VHF radio collar on the animal as they had planned. Paczkowski attaches a bright yellow tag with an identification number to one ear and tattoos the same number inside the bear's upper lip. Then he uses a dental instrument to pry out a premolar tooth that will be sent to a lab in the United States to determine the bear's age. Information about the age of the living bears—whether they're younger or older than bears killed by hunters, for example—could help researchers determine the impact of the harvest and the effectiveness of protected areas.

After removing the snare and leather hobbles the team had put on the bear just in case, Paczkowski injects a stimulant in its neck. A few minutes later the animal moves his enormous head. The capture team can now return to the camp. In less than an hour, the bear will waddle away from the capture site, and in the evening the team will return to reset the snares.

Back at the camp, stirring a steaming pot of porridge and leftover fish for the dogs' dinner, Paczkowski talks about the research challenges.

Respect Men of the Even, one of Kamchatka's indigenous peoples, re-create a traditional

dance honoring a dead bear. About 1,500 Even fish, hunt, and herd reindeer, but rarely kill bears.

Since the spring of 2002, when his team started working in the Kronotsky Reserve—one of the six protected wildlife areas in Kamchatka that have been designated a World Heritage site—they've equipped 24 bears with conventional VHF radio collars. But these haven't been very useful in the rugged inaccessible terrain. To get a reliable fix on a bear's location, the researchers must triangulate its position—get at least three readings of the collar's location from different directions. They've been able to do this only along a narrow band of habitat beside the riverbanks and along the ocean. Tracking bears on foot through pine brush and alder thickets is too difficult, and following them by helicopter—the only aircraft for hire in Kamchatka—is too expensive.

So Paczkowski and his team are reorganizing the project, using a new generation of radio collars with a built-in global positioning system (GPS), which automatically record the locations of the bears every hour. This eliminates the need for daily tracking. "We're hoping the data from the GPS collars will show us what we've been unable to learn from the VHF collars: the size of the bears' territories, extent of their travels, and importance of different habitat types and landscapes," Paczkowski says. How much time do they spend in berry patches and how much catching salmon? Do bears inside the protected areas wander outside? Are they affected by the growing numbers of tourists in the parks?

The scientists need better data on reproduction rates and family structure as well. Surveys in the 1990s, conducted mainly from aircraft, suggested a population growth rate of at least 15 percent, which seems encouraging, but these studies are controversial and need to be verified and updated. "Until we have a better grip on such basic, yet essential, information," Paczkowski says, "the Russians can't develop a sound management and conservation program for the bears."

Poacher

A swift current eddies around Yuri Koerkov's hip waders as he reaches into the weir, yanks out a large female chum salmon by the tail, and knocks it unconscious with a wooden club. With a few slits of a sharp knife, he separates the backbone and head from a pair of fillets and two hefty sacks of crimson roe. The head and bones go into a bucket for the dogs, the fillets into a pile for his family, and the roe into a "for sale" bucket.

"If I followed the law, I'd have to keep the tail and throw the rest back into the river," he jokes.

The government in Kamchatka regulates native hunters on the river with a heavy hand, limiting them to an annual quota of 220 pounds of salmon, a tiny fraction of what Koerkov's family and dogs need during the winter. His fish trap is hidden from helicopters carrying fisheries inspectors by the large crown of an overhanging tree. Ignoring regulations is Koerkov's way to survive, and poaching is his way of life—not only of salmon but also of everything else on the land. Trapping more than the permitted five to ten sables a year enables him to cover the cost of fuel and snowmobile repairs; stockpiling a supply of caviar, which fetches six to eight dollars a pound, provides a reasonable amount of cash; and trapping salmon helps feed his family through the winter, as does shooting a few bears.

As a native hunter, or *traditsionnik,* Koerkov holds a long-term lease to a territory where local

An American hunter bags a bear—a female, not the big male his guide thought it was. The outfitter, in white, is one of two dozen who legally guide 200 hunters a year for up to $10,000 per trip, income now at risk because of a controversial spring hunting ban.

authorities allow his family to maintain a traditional way of life. This year he and his extended family—some two dozen adults and children—arrived at their summer fishing camp on the Oblukovina River at the end of August for a two-month stay. (The river's name has been changed, as has Koerkov's.) Delayed by heavy rains and swollen rivers, they'd left the village of Esso, leading a dozen horses laden with supplies along bear trails and abandoned roads past towering Ichinsky volcano to the river's headwaters.

Koerkov and his family take wildlife mainly for subsistence. Even when they sell some, it's only to maintain their traditional way of life. In contrast, dozens of poachers—mostly from Petropavlovsk and large villages in the region—descend on the Oblukovina every summer like prospectors panning for gold, hoping to strike it rich with a small fortune in salmon roe. If they can collect enough caviar, they'll be able to buy a car or even an apartment.

Despite upbeat reports by authorities about apprehending scores of poachers and confiscating tons of caviar each year, the tributaries of most major waterways in Kamchatka are littered with cut-up salmon carcasses. Taking their business to extremes, some poachers even hire huge Mi-8 Russian helicopters, at $1,400 an hour, to ferry up to three tons of caviar out of the wilderness to the nearest road. One helicopter load of caviar, worth at least $40,000 at a local market, represents about 90 tons of salmon caught, slit, and discarded. The meat is too cheap to sell or fly out.

Brown bears also hunt salmon here. "They come up the creek once in a while, but they aren't a big nuisance to us," says Koerkov, throwing another quivering fish on the cutting board. "We keep this place clean, and there's enough fish for the bears. We just let each other be, if we can."

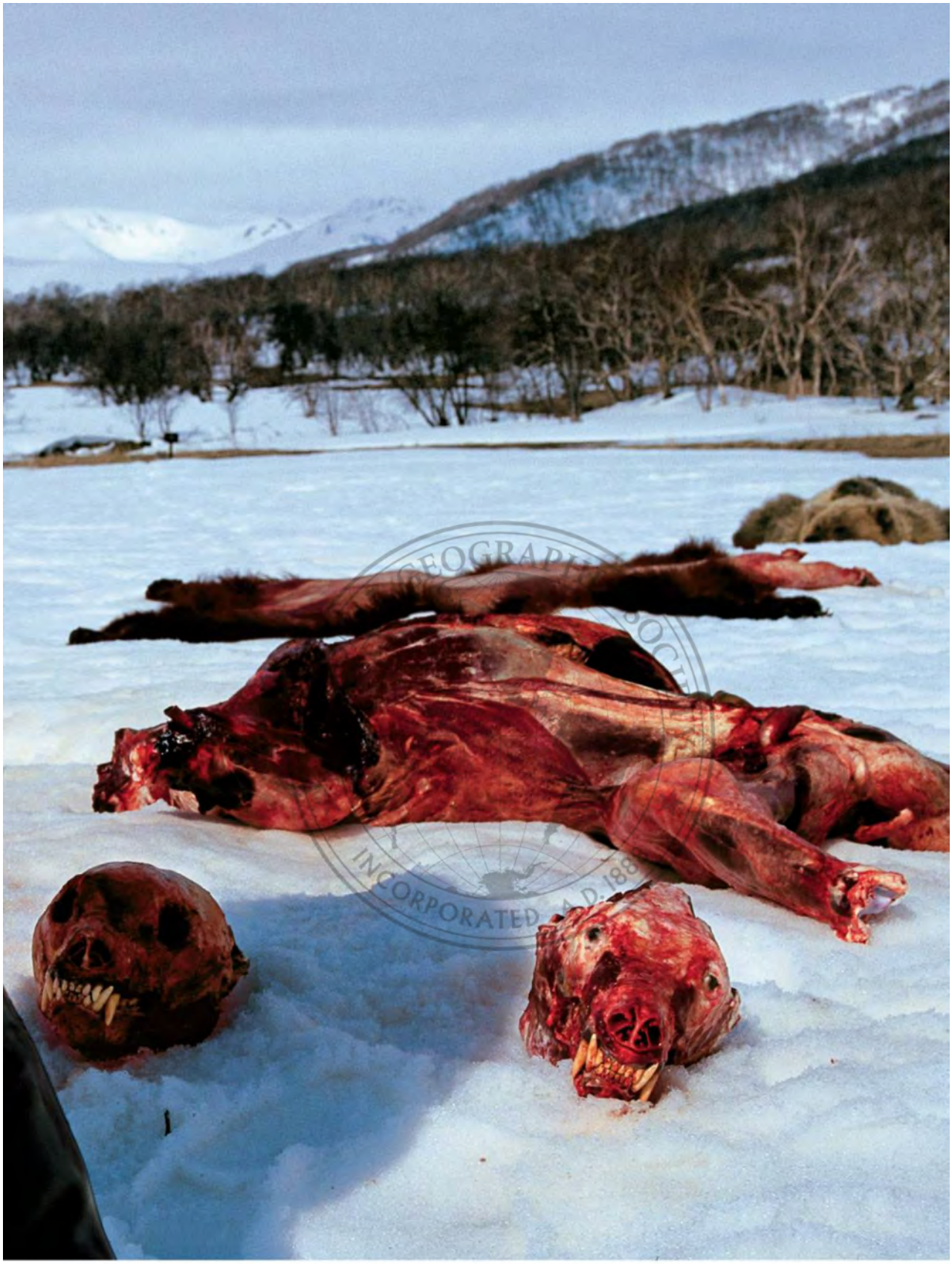
But downstream from his camp, salmon poachers set neck snares for bears that destroy nets getting to fish, their main food at this time of year. Such bear kills probably account for most of the illegal harvest. "Often the poachers just take the paws and gall bladders and dump the rest," he says.

Reindeer Herder

Inside the smoke-filled cooking tent Liuba Adukanova is frying *lepeshki*, small flatbreads, while cutting meat from a young reindeer steer, killed for food last evening. Tossing a couple of dry branches on the fire, she repositions the crackling frying pan and flips the flatbread golden side up. Then she slices meat off the reindeer's backbone to get to the long sinews she will later dry, pound into separate fibers, and weave into threads to sew clothes and footwear for her husband and sons.

Her niece, Dasha, slips on a pair of reindeer boots and goes to fetch water from a creek. Bearskin soles keep these boots from slipping on ice and snow, and they're tough enough to last through a year of traveling over the steep terrain where Liuba's husband, Kiriak, herds 2,000 head of reindeer. Liuba looks up from her work.

Trophy shot Skulls and skins, once boiled and cleaned, will adorn a hunter's home.



Russians and foreigners legally kill some 330 bears a year, but a larger number probably are poached.

"Check if you can see the herd," she says. Kiriak had been due to arrive two hours ago with the reindeer. Dasha returns and pours fresh water into a simmering pot of reindeer soup. Still no sign of the herd.

An hour later, Liuba's 19-year-old son, Ilia, who's been working outside, sticks his head inside the tent and grunts, "They're here."

The clicking of reindeer hooves fills the air as the herd moves toward the edge of a clearing. There, before the onset of the rut in a couple of weeks, Kiriak Adukanov and his men will wrap up a season of castrating bulls and cutting off antlers. Wearing a tattered jacket of faded canvas, with a lasso and a pair of binoculars over his shoulder, Adukanov, who is 53, has the weathered face of a 70-year-old. He is the leader of a small group of reindeer herders who belong to a people known as the Even and who roam the valleys and plateaus of Bystrinsky Nature Park in central Kamchatka.

"The national symbol paid us a visit last night," Adukanov says. In the Even way, he does not name the bear out of reverence for the natural world. To the Even the brown bear is a sometimes kind, sometimes wrathful neighbor, ever aware of humankind's transgressions—and a formidable predator to be reckoned with.

"It took us a while to figure out what happened and find the steer's remains," he says. The bear had apparently stalked the reindeer through the tall grass to deliver a lethal blow. Then it ate half the animal on the spot. It must have still been working on the carcass when the herders approached, because the remains were lying in the open, not covered with a pile of branches and dirt the way bears normally cache their kills for a later meal. Adukanov decided not to chase the bear but to keep pushing his herd toward camp.

"It's unusual to have these problems now," he says. "In the spring we may lose one or two calves or weaklings to bears. But in the late summer and fall there's usually plenty of food for the bears. This year has been poor for berries and pine nuts, and the salmon run's not good either."

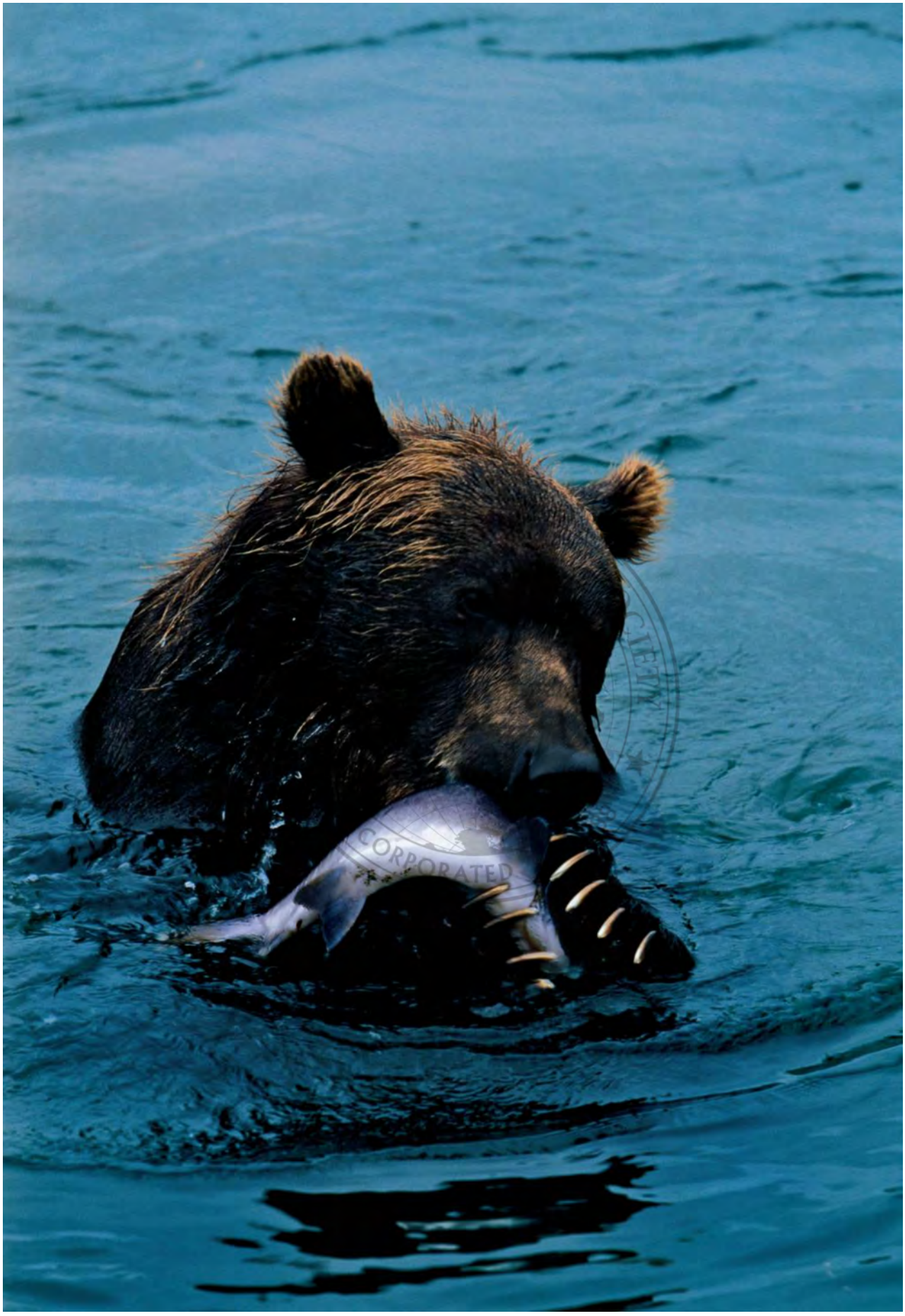
Two months ago while walking with his reindeer, Adukanov was charged by a bear, which he shot just before it reached him. The bear's meat ended up in a cooking pot for the dogs, except for the gall bladder, which was dried as a medicinal aid to treat stomach ailments. Nomadic herders like Adukanov are often blamed by local wildlife managers for poaching bears and other wildlife. But Adukanov says he tries not to kill more than a couple of bears a year, since it's hard to move from one camp to the next with an extra load of meat and skins. This fall, he says, he'll probably take just one more bear.

With claws like four-inch fishing hooks, a hungry bear faces only one limit when catching salmon: caviar poachers who kill bears that get in the way. This cross fire now poses the most dire threat to Kamchatka's giants.

The next morning, Adukanov prepares to move the camp into the mountains nearer the Bystraya River Valley, where they'll spend the early winter. The higher they go, the farther they'll be from the road to the Aginskoye gold mine, which cuts straight through the heart of the herd's summer pastures. The roar of trucks hauling earth and gravel for the road's extension to a proposed nickel-copper-cobalt mine 25 miles away scatters reindeer on both sides of the road, making it difficult to pull the herd back together without losing any animals. The road also intrudes on prime bear habitat, as do gas pipelines elsewhere on the peninsula—a potential threat to all the animals.

Getting his reindeer through the winter is a matter of survival for Adukanov and his family. A time of howling blizzards, towering snowdrifts, and razor-sharp snow crust, it's also the season to mend boots with new bearskin soles—and to tell stories about bears.

One tale is about a mighty hunter named Torgani, who lived long ago. Torgani killed Nakat, his twin brother bear. And as the animal lay dying, it spoke to him: "You bettered me, Torgani. Fulfill my wish, lay me respectfully to rest. Organize an *urkachak*, a celebration for all people to partake of my flesh. Then your people will always have plenty of bears around."

Will Nakat's promise hold true? The answer lies in the bear's unfolding relationship with the people of Kamchatka—not only Torgani's descendants, the herders and the native hunters, but also the trophy hunters and poachers and the scientists who struggle to control its fate. □

TOOTH AND CLAW Experience the Sights & Sounds of Kamchatka's brown bears with photographer Steve Winter. Then see these powerful giants in action and browse a portfolio of online-exclusive images at **ngm.com/0602**.