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THE SIXTH EXTINCTION
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A fish

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River of the Black Dragon

*We've been bewitched by countless lies,
by azure images of ice,
by false promises of open sky and sea,
and rescued by a God we don't believe.*

—Yevgeny Yevrushenko, "Ballad about False Beacons"



It had been a cramped and creaky two-hour flight on a 174-passenger Ilyushin 62-M airliner from Seoul, South Korea, and even before the plane landed on the cracked and buckling runway at Khabarovsk Airport, the great unravelling of the Russian Far East was making itself obvious. As the Ilyushin banked to port on its descent, the sunset streamed through the windows and turned the passenger compartment an exceptionally brilliant blood red. It was because of a vast prism of smoke that rose on the horizon, caused by runaway

forest fires from all the illegal logging operations hacking their way across the taiga. During the 12 months prior to the lovely sunset that greeted Dalavia Airways Flight 301 on its arrival in Russia, an amount of timber worth an estimated \$120 million U.S. had been stolen from the forests around Khabarovsk.

As the plane came to a stop on the tarmac in front of the crumbling terminal, it was surrounded by soldiers in tattered and ill-fitting Soviet-era uniforms. They herded us into long lines on the runway while platoons of nurses ran toward us with armloads of gigantic thermometers, one for each passenger. The nurses gestured to indicate that we were to stick the thermometers' huge, cold metal tips into our armpits, and so we all stood in this absurd way, in queues that snaked into the airport's arrivals section. It was all in aid of showing some sign of vigilance following a SARS outbreak in China's Heilongjiang province, just a few kilometres away. After some chaos at a series of improvised medical stations, the passengers were hurried in the direction of the Russian customs desks.

While I was watching the ground crews out on the tarmac tossing our luggage from the cargo hold into the back of a rusted army truck with a big red star on the side of it, a wiry and frantic-looking man walked by. He was wearing a baseball cap from the St. Peter's Fly Shop in Fort Collins, Colorado, so he caught my eye. It turned out to be Misha Skopets, one of only a handful of people I'd ever met who lived anywhere near this part of the world. Misha lived 1500 kilometres northeast, in Magadan, on the Sea of Okhotsk. It turned out that he'd just happened to be in Khabarovsk, but he intended to stick around for the symposium on fisheries conservation that had brought me there. This was great luck.

I'd met Misha only once, a year before, at an international conference on salmon in Portland, Oregon, but he'd left an impression. Misha's like that. The 47-year-old fisheries biologist has been called the Indiana Jones of Russian fisheries conservation. Few rivers in the

Russian Far East are unknown to him. He has discovered several fish species, one of which—a salmonid—was so unusual that it warranted a completely new genus. He'd found it at the bottom of a subarctic lake inside the remote El'gygygyn crater, in Chukotka. Misha is good company, and I was pleased to see him, and so were several of my fellow passengers from Flight 301. About a half-dozen other North Americans had come for the symposium, and most of them had at least heard about Misha.

The year before, in Portland, Misha had delivered a sad but blistering account of what Russia's "shock therapy" transition from communism had meant for the country's Far Eastern rivers and for the marine ecology of its Pacific waters. I'd come to the Khabarovsk symposium mainly because the attendance list included just about everyone who would know about the great unravelling Misha had described. This isn't to say the tragedy is known only among a coterie of experts. It's just that the magnitude of what has been happening is largely unknown outside of Russia.

The day I arrived in Khabarovsk, there was an article on the front page of the *Pacific Ocean Star*, Khabarovsk's daily newspaper, about a police investigation into the assassination of Valentyn Tsvetkov, Magidan's state governor. The investigators were saying that Tsvetkov had been killed by the organized-crime bosses who had gained control of whole sections of the coastal fishing industry. But no one was certain, and nor could anyone say with any certainty who had murdered Major General Vitaly Gamov, the senior fisheries enforcement officer on Sakhalin Island. The year before, Gamov had begun a crackdown on high-seas poaching. Some said his assassins were from a Japanese organized-crime syndicate. Others pointed to the Japanese gangs' Russian-mafia clients. It was a mystery.

After we'd collected our luggage and made it through customs, we stood around waiting for our buses into town and the talk turned to a scandal within Khabarovsk's community of conservationists, fisheries

bureaucrats, biologists, and fishing guides. A series of photographs had been making their way around town. In the pictures, a well-known "new capitalist" from Khabarovsk, an avid sportsfisherman, was shown standing on a snow-covered riverbank, posing for the camera, holding up a giant, dead Amur River taimen.

Taimen are a kind of salmon, from the ancient genus *Hucho*, a race of giants that arose about 40 million years ago. They are known as the "tiger of ichthyofauna" because of their size and ferocity, and also because they were becoming as rare as tigers. The Amur taimen are the world's largest salmonids: an adult specimen looks like an Atlantic salmon but is the size of a full-grown man. Taimen have been known to weigh 100 kilograms, and to reach lengths of two metres or more. Tribal fishermen along the Amur were known to bait their hooks with dead dogs to catch them, but nobody was catching taimen very often anymore, at least not the big ones. The Amur's legendary taimen are rapidly disappearing, becoming as scarce as the Amur tiger, the largest cat species on earth, whose numbers have fallen below 500. It is mainly because of poaching.

What had got people talking about the photographs was that the fish was especially huge and it was dead. A broadly supported campaign had sprung up along the Amur to stop the killing of taimen, to allow only careful catch-and-release sportsfishing. The new capitalist in the photographs was popular in fishing-guide circles in Khabarovsk. He should have known better, everybody said, and showing off like that, with photographs, wasn't helping.

The Amur River is one of the ten great rivers of the world. It is also known by its more ancient name, the Heilongjiang, which means River of the Black Dragon. It has always been famous for its mysterious giant fish. Within its broad main stem and its tributaries, along with the taimen, is the Amur kaluga, the largest freshwater fish in the world. Found nowhere else on earth, the kaluga is a kind of sturgeon that can reach the weight of a dozen men, 1000 kilograms, and grow to

six metres. Both the taimen and the kaluga are revered characters in the mythologies of the Amur's aboriginal peoples: the Nanai, the Nivkh, the Udegei, and the Ul'chi. Taimen sometimes showed up in those stories as werewomen whom young men were prone to fall in love with. Kalugas showed up in stories in different ways. In one famous tale, a boy child, believed to have drowned in the Amur, was later discovered alive, having been raised by a kaluga who served as his stepfather.

Like the taimen, the kaluga was rapidly disappearing into the boiling cauldron of gangsterism and poverty that had made fish poaching, illegal hunting, and illegal logging the dominant industries in much of the hinterland of the Khabarovsk territory. It was a state of affairs that was making a lot of people very angry and positively nostalgic for the days before perestroika. It was also a central part of an important story rarely told in the triumphalist West, where the received wisdom was that the Russians were perfectly happy to have thrown off their totalitarian yoke. You didn't have to spend much time in Khabarovsk to figure out that the situation was a lot more complicated than that.

More than a decade after the close of the Soviet era, the City of Khabarovsk was a decaying but strangely genteel place. Along its tree-lined boulevards were huge tracts of ramshackle apartment blocks and loghouse-style frontier buildings with onion-domed roofs, all jumbled together on a series of hills overlooking a broad reach of the Amur River. The city is the capital of the sprawling territory of Khabarovsk Krai and home to about 750,000 people. It's closer to Vancouver than to Moscow and lies on almost exactly the same latitude, so its climate is more forgiving than that of most Russian cities. They say Khabarovsk is at its best in the early spring, during the week that begins with the old Soviet high holy day of May Day and ends with Victory Day, which commemorates the Great Patriotic War, as Russians call the Second World War. Most people try to take the week off; they trundle to and from their

dachas and vegetable plots out in the countryside, and most schools and universities are closed. There are concerts and marches and parades, and there's a good deal of vodka-drinking involved. As it happened, we'd arrived in Khabarovsk that very week.

Although Khabarovsk is a city of dreary Stalin-era office complexes, monuments to Bolshevik martyrs, and dirt-road ghettos where the Gypsies live, it is also a city of grand old Orthodox cathedrals, sprawling parks, museums, and galleries. A statue of V.I. Lenin still gazes out over Lenin Square, and city hall is still on Karl Marx Street, but there is a liveliness about the place. This is partly because of the city's multi-ethnic hodgepodge, and partly because 19 colleges, institutes, and universities are only a short, rickety tram ride from downtown. It's a bit of Prague in the 1960s, and also a bit like Chicago in the 1930s. There are sidewalk cafés everywhere, and college students engaged in animated conversation, but there are also hordes of grim-faced young men in crewcuts and black leather jackets, loitering on street corners or climbing in and out of flashy black limousines with smoked-glass windows.

During May Day week, the downtown streets were alive with buskers playing accordions and violins. Hawkers plied their trade at vegetable stalls and impromptu kiosks, selling milk and soft drinks and chocolate bars, and the magpies were building their nests in the trees. Children played in the parks and lined up in disorderly queues for reindeer rides and pony rides. And one morning in the Central Hotel, a crackerbox palace of crumbling plaster and broken elevators overlooking Lenin Square, I was awakened at dawn by a deafening noise. It turned out to be the sound of dozens of Russian tanks, troop carriers, and mobile missile launchers streaming through the city's streets. Columns of soldiers were marching in their thousands just below my hotel-room window, pouring into Lenin Square. It was all a bit comical, but sad, too. Throughout the day, thousands of people stood in dead silence, watching proudly as battalions of soldiers paraded

around the square. When the bands played the old Soviet anthem, legions of teary-eyed old men stood to attention in overcoats decorated with tarnished Communist Party medals. All day, women stood in a silent vigil around the square, holding aloft their old portraits of Khrushchev, Brezhnev, and Stalin.

The nostalgia made some sense. For the vast majority of Russians, the radical disassembly of the Soviet system had been a disaster. In the Russian Far East, the collapse of order had taken on a distinctive, wild-west character. The picture that emerged from the testimony of more than 40 senior government officials, fisheries bureaucrats, enforcement officers, biologists, conservationists, and aboriginal leaders at the symposium I'd come to attend was, if anything, worse than the portrait Misha had painted in Portland the year before. Sergei Zolotukhin, the Russian government's sober and heavy-browed senior salmon biologist for the Khabarovsk territory, offered a grim forecast over lunch one day. Without a radical change in the entire political and economic regime, the situation was pretty well hopeless, he reckoned. "It is always poaching now," he said. "The law has no teeth."

How things had gotten so bad so quickly is a story that begins with the rapid emergence of a criminal oligarchy among the higher ranks of the old Soviet *nomenklatura* after Boris Yeltsin seized state power in 1991. Yeltsin immediately put Russia on a "markets first" road, and within a decade, criminal enterprises dominated the oil industry, the real estate industry, the wholesale food business, the liquor trade, the aluminum industry, the hotels, and the restaurants. By 1997, the CIA quietly reported that about 40 percent of Russia's economy had fallen into the hands of about a half a million of Russia's 145 million people in a network of organized crime syndicates. The gangsters ran about half of Russia's 25 largest banks. The amount of currency that left Russia illegally during the 1990s has been variously estimated at \$220 billion to \$450 billion U.S. Entire industries were liquidated, the profits were reinvested outside the

country, and millions of workers were suddenly jobless. The entire country was looted.

Russia's annual gross domestic product fell by half during Yeltsin's regime. In the first half of the 1990s, hyperinflation wiped out all but about 1 percent of the savings and pensions of ordinary Russians. In their sad attempts to recover their losses, the people succumbed to a mania of investment funds. During the second half of the 1990s, the funds proved no better than elaborate pyramid schemes, and they collapsed upon millions of investors, one by one. Life expectancy among Russian males fell by seven years, to 57, roughly the same as in Sudan. The wave of premature deaths was matched by a rise in infant mortality. A demographic implosion spread throughout the country, and the population actually shrank by several million. The country had seen nothing like it since the Stalinist terror of 1937–38.

The situation in the Russian Far East was as bad as anywhere. Covering an area more than half the size of the European continent, the Russian Far East looks out on the Bering Sea and the Sea of Okhotsk in the north and the Tarrary Straits and the Sea of Japan in the south. It includes the huge Kamchatka Peninsula and Sakhalin Island, and from west to east it runs from the Mongolian frontier to a point only a few sea miles from Alaska. The largest of the region's ten territories is Khabarovsk Krai, which wraps around the northeastern tip of Manchuria and sprawls out to the north as far as Yakutia. About half of the Russian Far East's seven million people live in Khabarovsk Krai and in Primorye Krai, Khabarovsk's neighbour on the southeast. Primorye forms a north-south panhandle that takes in the rugged Sikhote Alin mountain range between China and the Sea of Japan. On its southern tip, the grim harbour town of Vladivostok, the region's second-largest city after Khabarovsk, looks out on the ocean just a few sea miles from North Korea.

In the late 1970s, the Russian Far East was a place of great promise. It was precisely the region's back-of-beyond appeal that had drawn

Misha Skopets from what could have been a perfectly boring life back in Yekaterinburg, in the Ural Mountains. When Misha set out for the Russian Pacific, he had high hopes, an enthusiasm he would later attribute to the Jack London novels he'd read when he was younger. Things were looking even brighter in the late 1980s, the first years of perestroika. Misha earned his doctoral degree in biology in Vladivostok, and his career trajectory took him on long journeys into the region's hinterland. Life was good. Then things started falling apart. The largest economic enterprises in the Russian Far East had been Soviet collectives, but during the 1990s most of them became private monopolies controlled by former Communist Party administrators, who had transformed themselves, almost overnight, into "new capitalists." Private businesses ended up with almost all the forest licences and most of the region's vast mineral deposits. Unemployment soared, wages were slashed, and workers routinely went months between paycheques. The forests that remained in public hands were being clear-cut by criminal outfits. Journalists who tried to report on the situation did so at the risk of their lives.

In 1994, armed thugs burst into Vladivostok's PKTV television station, shot and killed a technician, and destroyed the broadcasting equipment. Newspaper and radio reporters were routinely beaten and threatened. When Vladivostok's citizens elected a populist anti-corruption mayor, the state government sent a platoon of 200 police to city hall, where they broke down doors, evicted the mayor, and chased 120 senior civic officials out of the building. In response to the crisis, Russian president Boris Yeltsin appointed a new mayor—one nominated by the local crime bosses. By 1996, gangsters ruled the streets of Vladivostok, and living conditions were worse than they were even in the darkest days of the Great Patriotic War.

Russia's Pacific fish stocks were plundered. Fishing quotas were assigned to new quasi-legal corporations that slyly their shares to foreign fleets, mainly shady Japanese enterprises that counted, as a simple

cost of doing business, the lease fees they deposited into gangsters' foreign accounts. Russian naval and coast guard forces were powerless to stop what had degenerated into a massive poaching free-for-all. The naval base at Russky Island, which lies almost within sight of Vladivostok Harbour, was cut off from its basic food supplies; more than a thousand officers and crew had to be evacuated to the mainland to be treated for severe malnutrition. Four sailors starved to death.

Through the 1990s, Japanese and Korean fishing boats in the North Pacific and the Sea of Okhotsk were scooping up all the pink salmon runs bound for Sakhalin Island and Kamchatka. The salmon that made it through the high-seas fisheries gauntlet into the rivers of the region often fell to poaching syndicates, some of which were so well capitalized that they could afford to build roads to the more remote rivers. Roe-stripping—tearing egg sacks out of female salmon before they have the chance to spawn—became the main source of income in vast areas of the Kamchatka, Magadan, and Khabarovsk territories. The illegal sale of chum salmon roe to Japan became a multi-million-dollar business. The poachers' catch in the Russian Far East ended up eclipsing the legal catch by Russian commercial fishermen.

It was anarchy, Misha said. One sunny afternoon, to illustrate his point, he took me to the Khabarovsk central market, a half-hour's walk from the Institute for Water and Ecological Problems, where the symposium was underway. Half the market was a mayhem of open-air stalls, and the other half was only slightly more organized, inside cavernous buildings. The vendors were Russians and Mongolians, Manchurians and Gypsies. Some had sneaked across the border from China, and others were selling merchandise of dubious origin that they'd brought from as far away as the Caucasus Mountains. Everything was on offer, from motorcycle parts to clothes, plumbing supplies to canned vegetables, cars to school supplies. We spent the afternoon wandering among the fish stalls.

There were tonnes of fish for sale, from dozens of species. Most of the fish had been caught in the 4400-kilometre-long Amur. Because the river traverses both the Monsoon region and the Siberian region of the temperate climatic belt, the Amur is richer in its diversity of species than any other river in Russia. In its waters live 108 species from 79 genera, 23 families, and 10 orders from a bizarre blend of Sino-Indian and Holarctic types, including a whole range of species that occur nowhere else on earth and a dazzling array of relic species from the Pleistocene and Pliocene epochs. Laid out in trays in the Khabarovsk market's stalls were skygazers and pikes, rainbow smelts and river-horses, ciscos and carp, and catfish and barbel chubs. Among them, in their orderly little rows, the tragedy unfolded.

"There, a yellowcheek," Misha said. It was a juvenile, only about the size of a small salmon. It's a barracuda-like fish that can grow to roughly 50 kilograms. "This is red-book," Misha said, referring to Russia's "red list" of endangered species. He lifted it out of the pile, to take a closer look. "Definitely red-book. Very rare fish." He put it back in the tray with the others. "It is a great sports fish, too," he said. "It is fighting like crazy." We continued on around the stalls.

"This one is red-book," he said, pointing to a Chinese perch. We passed by pink salmon, chum salmon, and Pacific cod, "just like British Columbia," Misha said, and there were rockfish from Sakhalin Island, and flounder from the Sea of Okhotsk. We saw bigheds, burbots, and lenoks, then a Mongolian redfin, and a huge chunk of flesh that Misha pointed at and said, "kaluga." He shook his head. "It is very sad shape now. It is red-book." And then there was another big piece of flesh, with slightly different Cyrillic script on the piece of paper in front of it. "Amur sturgeon," Misha said, meaning the distant cousin of the kaluga that can reach three metres in length. They're found only in the Amur, nowhere else on earth. "It is also red-book." Then, among some saffron cod and black halibut and Amur pike, there was a black bream. "That is red-book also." We wandered through the crowded fish

market a while more. "And that's just what you can see," Misha said. "Ask any of these people, and they will get you any kind of caviar, or taimen, or anything you want."



The grim reality of the Khabarovsk fish market played itself out over the following days in a dimly lit seminar room at the Institute for Water and Ecological Problems, a long brisk walk down Karl Marx Street from the Central Hotel. Ostensibly, the conference delegates had gathered to discuss whether the relatively pristine areas remaining in the Russian Far East should be set aside entirely and permanently, inside heavily patrolled "protected areas," to preserve at least a representative fraction of the region's fish stocks, especially salmon. The idea was being pioneered by the Wild Salmon Center in Portland, Oregon, which had been generously supporting the work of Russian fisheries scientists in the wake of the Soviet Union's collapse.

The protected-area strategy was a bit of a doomsday scenario, based as it was on the assumption that the situation was indeed as hopeless as Sergei Zolotukhin, the big-browed government salmon biologist, made it out to be. But Russia was not Costa Rica, where a stable and relatively comfortable society had invested its hopes for the future in ecological restoration and a network of protected forests. Even in North America, the strategy of setting aside large parks and wilderness areas had not been a raging success, as William Newmark's research showed in the "Night of the Living Dead" chapter. "Faunal collapse" followed the creation of too few parks, too small and too isolated from one another.

Still, for the Russians, the idea had some gravity. For many, the establishment of protected areas, especially for salmon, was the only hope, so long as local people supported the zones. Obviously a lot more money could be made in ecotourism and in catering to well-heeled foreign anglers than in mining the region's salmon and sturgeon and taimen into extinction. But it was a complicated subject. Opinion was divided.

Sergei Makeev, chairman of the Sakhalin Wild Nature Fund and a senior fisheries biologist with the Sakhalin territorial fisheries department, argued there was a danger that salmon-protected areas would end up as special fishing preserves for the “elites.” Most people in the region had seen quite enough of that sort of thing. Makeev said, and without strong local support, a protected-area approach would fail.

Zolotukhin, meanwhile, proposed that the more remote salmon rivers be set aside for private tourism companies on long-term leases, in a quasi-privatization arrangement. That way, the companies, flush with hard, foreign currency, would have the motive and the wherewithal to control abuse. They could restrain poaching and support scientific study at the same time, he said.

Misha’s view was that there was no point in even trying the approach except in the most remote areas, and only if it provided some tangible benefits to the local people, particularly the “small nations,” as Russians call aboriginal peoples. The situation was actually worse than Zolotukhin was letting on, Misha said. Most of Zolotukhin’s enforcement staff lived in dire poverty, counting themselves lucky to earn the equivalent of \$150 U.S. a month, and there weren’t enough of them to control poaching anyway.

Most delegates were careful to point out that they did not mourn the demise of the Soviet system, but speaker after speaker described the desperation of the new epoch. “It has been like letting animals out of a zoo,” Misha said. “They have to find food for themselves somehow now. Everybody wants to earn some living. But you can’t, unless you break the law.”

Few placed much hope in emerging democracy, at least not the kind they were seeing. What was needed was some way to restore order to the region, but Moscow got what Moscow wanted, everybody said. It certainly didn’t seem to matter what the people of the Russian Far East wanted. In an in-depth public opinion survey the Khabarovsk Wildlife Foundation conducted in 2002, the people of the territory showed

deep concern about the ecological damage in the region. They were overwhelmingly in favour of greater environmental protection, and were particularly concerned about the unique forests of the Sikhote Alin mountains, where “protected areas” were turning out to be protected in name only.

The Sikhote Alin mountain range in Primorye supports possibly the strangest forests on earth, and they are especially at risk. Because of the mountains’ unique diversity, the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared the central Sikhote Alin range a World Heritage Site in 2001. The mountains were never glaciated during the Pleistocene ice ages, so the forests are a mix of taiga and subtropical. Amur tigers and Himalayan black bears inhabit the same forests as reindeer, wild boar, and one of the world’s rarest mammals, the Far Eastern leopard. But the Sikhote Alin had become one of the most endangered ecosystems on the planet, and the people wanted more and better wilderness reserves. In the Khabarovsk survey they demanded a crackdown on illegal logging and poaching and stricter wildlife-protection laws, as well as more rigorous and effective enforcement of those laws.

The public values evident in the Khabarovsk survey are remarkably similar to those of Canadians, on the opposite side of the Pacific. An April 2000 survey by Canada’s Habitat Conservation and Stewardship Program showed that a majority of British Columbians want salmon runs protected and salmon habitat conserved, even if it means higher taxes or a slowdown in economic development. Rural and urban British Columbians alike ranked the commercial value of salmon well below the contributions salmon make to the ecological health and “beauty of the region” and to the enhancement of “community involvement.”

The Khabarovsk questionnaire respondents were also given an opportunity to record opinions that they thought the survey’s questions didn’t adequately account for. The cumulative written responses read

like a manifesto. They called for a swift crackdown on illegal logging and on the corrupt police that provided “cover” for the operations. They wanted an end to the export of raw logs to Japan and China. They wanted a special reserve zone along the Kōpi River, a prohibition of all high-impact activities in specially protected areas, fair wages for conservation staff, a public-awareness campaign for children about the value of natural resources, a revival of the Soviet-era Young Naturalists organization, and an assurance that protected areas would be enjoyed by all people, not just “senior administrators.” These opinions came from people of all ages, throughout the territory, and there was no noticeable difference of opinion between urban and rural residents.

But the people weren’t getting what they wanted. A new criminal class was in control. Politics had become the hobby of choice for crime lords because elected deputies in the new Russian parliament were immune from prosecution. Votes were routinely put up for public bid. The going price for important votes could run as high as \$35,000 U.S., and the entrenched kleptocracy had become ever more immune from popular opinion as the years passed. The oligarchy held power so tightly that no scandal, no matter how outrageous, made any difference.

When Yeltsin handed the reins to Vladimir Putin, the spy-agency strongman who talked a rough line on corruption and organized crime, there was hope in Khabarovsk, Vladivostok, and Petropavlovsk. But it soon dimmed. In May 2000, Putin abolished the 200-year-old Forest Service. Then he abolished the State Committee on Ecology, the equivalent of the U.S. Environmental Protection Agency. He then handed the committee’s functions to the Ministry of Natural Resources, which was widely regarded as the main government conduit for the plundering of the Far East’s natural wealth. That same year, Putin visited Sakhalin Island to encourage oil companies that wanted to build offshore drilling platforms around the island. He

dismissed the concerns of the area’s conservation groups, accusing them of being nests of foreign spies. Former Russian prime minister Viktor Chernomyrdin accompanied Putin on the trip to Sakhalin and busied himself shooting bears in a “nature reserve” on the Krilyon Peninsula. Chernomyrdin’s conduct was an obscenely graphic illustration of the problem: when protected areas were established at all, they weren’t easy to protect, or even to keep.

In the Khabarovsk territory, there were 60 nature reserves. All but 10 existed only on paper. In Primorye, the Golubichnaya River watershed had been legally protected and was fully enclosed by a nature reserve in the Sikhote Alin mountains. In the 1970s, the river was reeming with char, taimen, and a variety of salmonids; by the late 1990s, the poachers had finished it off—the fish were gone. It was the same on the Bolchi River. Shortly after the Russian Far East was opened up to private logging corporations, the Bolchi, on the Primorye coast, was set aside to keep the logging industry out. The point was to save the fragile salmon habitat of the valley. Ten years later, the Bolchi was still pristine, but its spawning beds had been rendered almost barren of salmon, mainly by poachers. In 2001, the Sakhalin government abolished wildlife refuges in the Noglik and Smirnykhovskii districts. Then, in 2002, the reserve on the Krilyon Peninsula was turned over to a private hunting venture, the Sakhalin Krilyon Company. Those three acts of the Sakhalin government alone eliminated 182,000 hectares of protected area.

The same thing happened with fish species protected by Russia’s weakened endangered-species law. It didn’t even matter if they were protected by international law, through the Convention on International Trade in Endangered Species (CITES). That was a point Zolotukhin himself was prepared to make.

Take the Sakhalin taimen, in the rivers of the Khabarovsk territory, he said. Sakhalin taimen are an extremely rare type of Amur taimen that don’t spend their entire lives in rivers but also go to sea. They are

giants, too, and so rare and mysterious that the Japanese call them “ghost fish.” The numbers of Sakhalin taimen returning to spawn in Khabarovsk’s rivers had dwindled so sharply that Zolotukhin’s staff reckoned perhaps only 4000 remained. Of course they should be strictly protected by law, Zolotukhin said. But strict protection had been extended to Sakhalin sturgeon, another rare sea-going giant, which was also protected by international law. “What actual protection did such listing provide?” Zolotukhin asked. “None. It is almost disappeared in the coastal rivers.”

Zolotukhin certainly wasn’t being naive about how successful a network of small protected areas might be. In one of his submissions, he made the point clearly: “In conditions of unstable legal situation ... it is very difficult to expect that establishing a special regime of nature use would limit further robbing of natural resources.” It was just that he saw no other way. Save the last of the best, the reasoning went, and leave everything else.

This had a certain grim logic, because even when fisheries enforcement officers managed to do their work, their efforts often came to naught. In 2003, the Amur Fish Authority laid more than a thousand criminal charges against poachers. The overworked prosecutor’s office followed up on only 26 cases. Only a handful of those actually ended up in court. Fish inspectors on the Amur earned monthly salaries that amounted to less than \$100 U.S. Every night, from May to September, poachers in fleets of rowboats set hooks in the Amur River for kaluga. The caviar from a single fish caught in one night could easily yield a poacher the equivalent of a fish inspector’s annual salary. Bribery was commonplace.

Whatever the merits of the idea of protected zones around remote rivers, the approach was based on the grim and largely unspoken assumption that big rivers flowing through heavily populated areas were a lost cause. It was a hard thing for the Russians to accept, but the proposition also wasn’t easy to challenge. The Amur River, for instance,

had lost about 90 percent of its salmon, mainly during the 1990s. The salmon fed not only people, but bears, hawks, and giant fish like the taimen. More might have been preserved, but for about a thousand kilometres of its length, the Amur forms the border between Russia and China, and when it came to conservation matters, the two countries were barely on speaking terms.

Russian authorities fought hard to convince China to scale back its pollution of the Amur’s many Chinese tributaries. Chinese authorities responded by demanding that Russia curtail its illegal fishing. The two countries did form a special Amur fisheries commission in 1994 but then they spent the next decade arguing about quotas and net-mesh sizes. In the lower section of the Amur, which falls entirely within Russia, fishermen caught as many fish from migratory stocks as they could before the fish reached Chinese waters. At times the only thing stopping the Russian fishermen from catching everything in the Amur was the pollution from the river’s Chinese tributaries, which made the fish downstream inedible for months at a time.

But poaching was the main reason the great River of the Black Dragon was losing its giants, and all its smaller species, too. That was one thing everybody seemed to agree upon. One day when Mishka stood up to make a point about poaching, he put his notes down, set aside the language of environmentalism, and spoke from his heart.

“I think these poachers should be bombed,” he said. The hall fell silent.

“These protected areas are fine, but we need to send helicopters, military helicopters. But this does not happen. The Russian Far East is colony of Moscow. In Moscow, they take money from the oil industry, and from these fishing companies. We are an occupied territory.”

There was a hush in the hall.

“It is still an empire,” he said. “Maybe one day, they will not be able to rule us, these tsars from Moscow. Things are not getting better. They are getting worse.”

Later I asked Misha to elaborate. He said he was quite serious. "This is why some people are talking about having true independence in Khabarovsk."

But then he wanted to make a point about what he meant by "poaching," and he reiterated what I'd heard from just about everyone at the symposium. There were poachers, Misha said, and then there were poachers. There were the well-organized criminal gangs in Kamchatka that employed hundreds of people in clandestine robbing expeditions. There were also the quasi-legal coastal fishery enterprises that had won concessions and quotas by bribery and intimidation. But then there were the tens of thousands of poor people in the hinterlands who needed to fish just to survive. Those people were mainly from the small nations, peoples like the Nanai and the Nivkh on the Lower Amur. They were entitled to fish as their forefathers had, Misha said. It's what everyone said.

"It is not so simple," he remarked, and pointed to a tall man in a suit standing in the hallway outside in seminar room. "Him, he is not really a bad man. He was being ignorant. But things do not change overnight."

I didn't know what Misha meant. "It is the man in the photographs," he said, "with the big taimen."

Misha introduced us. The man handed me his business card, an outlandish-looking thing with a picture of an Amur tiger on it. Underneath his name, it said, "Extreme tourism, fishing, ecological tours, photo, video." This was the guy everybody had been talking about at the airport.

Over coffee he pulled two 8-by-10 glossy colour photographs from a little briefcase. "You can have," he said. In one photograph, a man in a red ski suit lies in the snow beside a giant fish that looks just like an Atlantic salmon, except it's as big as the man. In the background are a tent and a pile of camping gear on a gravel bar and an inflatable boat with two fishing rods leaning up against it. In the other photograph,

my coffee companion himself is standing in knee-high wading boots, in the same spot, in front of the inflatable boat. He's holding the taimen upright, by its gills, and he's straining under the weight of it. The taimen's tail is bloody, trailing in the snow. He told me he'd caught it at the mouth of the Anui River, at its confluence with the Amur, about 250 kilometres downstream from Khabarovsk. "It is my hobby," he said, smiling. He said he thought the photographs would be good publicity for his guiding business, a sideline to his real estate business. "I can't guarantee such big fish," he said, "but smaller fish, I can guarantee."

It was a difficult conversation. I tried to ask him what it was like, catching the fish, but my questions just confused him. I don't speak Russian, and his English was rudimentary. It was just as well, given what I learned later when I showed the photographs to two Russian taimen experts, Anatoly Semenchenko, co-author of *Taimens and Lenoks of the Russian Far East*, and Igor Parpura, director of the federal nearshore fisheries laboratory in Primorye. They were both mightily impressed with the size of the fish and similarly impressed with the quality of the photographs. But it didn't take Semenchenko and Parpura much close inspection to discern that the fishing rods in the picture were just for show. The prints were clear enough to reveal net marks on the taimen's head, meaning it had been caught illegally. I told Semenchenko and Parpura what he had told me—that he'd caught the fish during the first week of April, a time of year when taimen are still holding in deep cold pools below the ice, waiting for the spring. "That is the other thing that bothers me," Parpura said. "It is obvious they knew this was a wintering pool, and they just went out to get it."

But as Misha had said, there were poachers, and then there were poachers.

Later that week, Tatiana Kherani, chair of the Indigenous Small Nations of the North of Magadan Oblast, described to the symposium

how poaching had become a necessary way of life for so many of the small nations of the region. A small, dark woman who could have been Ojibwa or Cree, she took her place at the dais at the front of the room and spoke nervously, quickly, and quietly.

When the aboriginal collective-farm system in Magadan was dismantled in 1994, everyone was thrown out of work, Khetani explained. The amount of fish the aboriginal communities were entitled to catch had been 9500 tonnes a year, but the allocation was cut back, bit by bit, and gradually reallocated to new private businesses. By 2001, the aboriginal allocation had fallen to 486 tonnes, one-twentieth the amount it had been. The Even people, one of Magadan's small nations, started eating the reindeer they had formerly raised for cash, because there was no way to get their meat to market anymore. But they were eating too many reindeer to allow the population to maintain itself: the people started the post-Soviet era with about 100,000 reindeer; 10 years later, the herds had fallen to 17,000. For hundreds of aboriginal families, poaching was the only thing keeping them alive. The unemployment benefit for an out-of-work reindeer herder in Magadan was 120 rubles a month. For a single kilogram of salmon roe, he could earn three times that amount. "Of course, when merchants come to villages with food and suggest trade for caviar, people cannot resist," Khetani said. "When you have nothing to feed your children, you have little choice."

Then there was poaching of another sort altogether. It was the industrial-scale kind.

In an unusually frank assessment prepared for the symposium, Vladimir Belyaev, of Russia's federal fisheries institute in Khabarovsk, and G.I. Sykhomirov, of the regional Institute of Economic Research, explained that though the giants of the Amur River and its tributaries had been vanishing for generations, the really big losses came after Yeltsin seized power, when "the poachers became organized."

The giants' demise started soon after Russian, Manchurian, and Chinese settlers began to flood into the region during the eighteenth

and nineteenth centuries. In the dying days of the Romanovs, before the Great October Revolution of 1917, the all-species fisheries harvest from the Amur River sometimes reached a staggering 100,000 tonnes per year. That's the equivalent of the weight of nearly two million people.

Although the Soviet era brought with it many progressive reforms, as often as not central-state planning botched the job. But the Amur's great giants, such as the yellowcheek, the taimen, the sturgeon, and the kaluga, were at least nominally protected. Sturgeon farming, for the caviar industry, lifted the pressure from wild stocks. The Soviets banned kaluga fishing in the Amur in the 1930s.

Even during the darkest police-state tyranny of the Stalin era, there was poaching on the Amur, but the difference between the poachers of that time and those after the Soviet collapse was all about scale, power, and impact, Belyaev and Sykhomirov explained. The new poachers, the industrial-scale poachers, were of an order far more malevolent than anything that had gone before. "They have good transportation and communication equipment, weapons, protection, support from militia, fishing inspection, and other nature protection organizations," their assessment noted. "They have a good network for selling fish all over Russia, and in the countries of Southeastern Asia."

Ten years after communism's collapse, the Amur's all-species biomass had declined to perhaps 1 percent of its former abundance, Belyaev and Sykhomirov concluded. It was an ecological disaster comparable to the Soviets' willful destruction of the Aral Sea, a horror that has been widely reported outside Russia and often described as the worst environmental disaster in human history. And like the draining of the Aral Sea, the destruction of the Amur took an enormous human toll. On the Amur, the human cost was borne mainly by aboriginal communities.

Like their counterparts on North America's west coast, the aboriginal peoples of the Russian Far East have always been primarily fishing

cultures. While the Communist Party initially adopted an enlightened policy toward aboriginal peoples, favouring the persistence of indigenous culture, the later Soviets herded them into collective farms that were, at least at first, every bit as soul-destroying as the worst of North America's Indian reservations. Still, by the late 1960s 168 Nanai, U'chi, and Nivkhi communities persisted along the Amur. Their collective-farm economies were based on fishing, and an annual allocation of 30,000 tonnes of various kinds of fish provided them a reasonable livelihood. But within ten years of the Soviet collapse, the aboriginal allocation had been reduced by 90 percent, and only 55 Amur aboriginal communities remained. At least 25,000 people were living, at least on paper, with no means of support whatsoever.

But fish and the communities that had long depended on them weren't the only victims of the brave new world in the Russian Far East. Kamchatka's huge brown bears were slaughtered for their gall bladders, for which superstitious Chinese businessmen would pay as much as \$30 U.S. a gram in the hope of a cure for impotence. The Amur tiger—the world's largest—was hunted for the money that rich Chinese eccentrics were willing to pay for the tiger's bones, which were brewed into a broth that was said to contain the elixir of life.

And it wasn't just the Russian Far East that was being pushed to the brink of ecological collapse. In the most dramatic and rapid population crash biologists have ever observed among mammals, more than 90 percent of the world's saiga antelope were swept from the Russian steppes and the plains of Kazakhstan during the 1990s. When the decade began, more than a million saiga roamed the area, and for generations hunting had been sustainably managed. The saiga were so numerous that the World Wildlife Fund proposed that their horns could be marketed as an alternative to rhinoceros horns in the Chinese folk-medicine trade. By 2003, only 30,000 saiga were left. One giant herd in the Berpak-Dala region of Kazakhstan

suffered a 99 percent drop in its numbers. The herd began the 1990s with more than half a million animals; a dozen years later, only about 4000 remained.



The vanishing of the Amur giants was actually part of something else that was going on throughout the temperate world, and in that larger phenomenon, there were the same nuances of meaning, the same problem of terms that required some elaboration. There were poachers, and then there were poachers. There were proximate causes and ultimate causes.

There were global forces at work that weren't accounted for by either of the ideologies separated by the great gulf the Cold War had cleaved upon the earth. Those forces are present in the very nature of complex human societies. Left unchecked, powerful societies tend to draw down the biological capital supporting distant peoples, in distant places. In Russia, it was as Misha had said, about how the tyranny of the tsars was still a dark shadow on the waters of the Amur River. But around the world, those same forces were operating in different ways.

Among all the earth's species, human beings are especially good at allowing their reach to expand beyond their immediate horizons. Humans are very good at breaking out of the ecosystems that limit the growth of local human populations and limit consumption of natural resources. The old "feedback loops" that tend to restrain over-harvesting of local renewable resources—technological limits, and market limits that link local survival to sustainable harvests of local resources—are breaking down, all over the world. To watch those forces at their busiest, especially in the temperate world, the best place to stand is on a beach, or on a dock, looking out across a river, or out to sea.

Before the twentieth century, the total yearly catch of all species of fish from the world's rivers, lakes, and oceans had never exceeded

10 million tonnes. In the first half of the twentieth century, the world's fishing fleets switched to steam engines, then engines powered by fossil fuels, and quickly developed the capacity to haul unprecedented volumes of biomass from the sea. After the conflagration the Russians call the Great Patriotic War, heavy winches and high-performance diesel engines allowed the world's fleets to push farther offshore, where they could catch even more fish. By 1950, the annual global catch had doubled, to 20 million tonnes. Then came refrigeration technology and even better engines, and the fleets pushed even farther offshore and deeper into the world's more remote coastal regions. The fuel subsidies that the "capitalist" countries of the industrialized world provided their fishing fleets made the Soviets look like pikers.

By the end of the 1950s, the global fish catch had doubled once more, to 40 million tonnes. And by the end of the 1970s, the global fish catch was growing faster than even the rapid rate of human population growth: it doubled yet again, to 80 million tonnes. Increasingly, the catch was coming from places beyond the reach of law, beyond the regulatory zones of nation-states. Globalization allowed Atlantic bluefin tuna to find its way to the Tokyo fish markets in one day, and global capital made it even easier for the great powers to ensure that the costs of overfishing were borne by other people. But by the 1980s, the oceans were refusing to give up any more fish. Around the world, huge fish stocks were collapsing.

It is hard to say just how much of this is resulting in the absolute extinction of fish species. The oceans are believed to contain roughly half of the vertebrate species on earth, but comparatively little is known about the diversity of life in the sea. The International Union for the Conservation of Nature (IUCN) reckons, for instance, that almost all the world's bird species are already known, and that of the roughly 10,000 known bird species, 1 in 8 is threatened with extinction. Among the world's mammals, which aren't believed to be anywhere near as well documented as birds, about 5400 species are known. Scientists affiliated

with the IUCN had surveyed about 4800 mammal species by 2004, and found almost 1 in 4 threatened with extinction. Fish, however, are a thorny problem. A whopping 28,000 fish species have been described by scientists. That is an enormous inventory, but it is nonetheless considered a small sample of the number of species in the sea. Only 1700 of these had been surveyed by 2004, but almost half of that number are considered to be facing some threat of extinction.

During the early 1990s, the centuries-old cod fisheries of the North Atlantic collapsed almost overnight. But the boats kept fishing, because they could. When the big fish like tuna and cod became scarce, the boats started catching other fish, the ones the giants used to prey upon, small fish like sardines and anchoveta, and then the giants started to disappear. Fisheries scientist Daniel Pauly was the first to document the chain of events. Through the late twentieth century, global catches fell only slightly, but the big fish were being replaced by small fish. In the North Atlantic, the biomass of big fish declined by two-thirds during the second half of the twentieth century. Aquaculture production soared, but it wasn't relieving the pressure on wild stocks: it often takes four kilograms of small wild fish, which are caught and turned into feed pellets, to produce a single kilogram of big, farmed fish, like salmon. Still, the boats kept fishing.

By the first decade of the twenty-first century, the prestigious international journal *Nature* could confidently report that 90 percent of the giants of the watery part of the world simply weren't there anymore. All but gone were the big tunas, the marlins, the swordfish, the halibut, the sharks, and the skates. In each case, the time it took for each of the high-seas stocks of big fish to be reduced to roughly 10 percent of their former abundance was, on average, 15 years. It was roughly the same amount of time it took to almost completely empty the River of the Black Dragon of its raimen, its sturgeon, and its kaluga.

The *Nature* study was undertaken by Ransom Myers, of Dalhousie University, in Halifax, and Boris Worm, of the University of Kiel, in

Germany. Their findings were a shock, and initially many fisheries biologists had their doubts. But the data proved sound. According to Jeremy Jackson, of the Scripps Institute of Oceanography, the findings had been so hard to accept because everybody had forgotten what giants once lived in the seas. "We had oceans full of heroic fish," Jackson said, "literally sea monsters. People used to harpoon three-meter long swordfish in rowboats. Hemingway's *Old Man and the Sea* was for real."

With the giants gone, many fishermen were reduced to catching tiny shrimp, even jellyfish, and in the netherworld of fisheries-management regimes that had presided over all this, it was hard to draw clear lines between proximate causes and ultimate causes of the collapses, between what was poaching and what was lawful. Poaching wasn't happening only in the criminal state that Russia had become, or just in the so-called developing world. It was happening on the east coast of the United States, where Georges Bank cod were mined until their numbers were reduced to a fraction of 1 percent of their former abundance. On Canada's east coast, 99.9 percent of Newfoundland's northern stocks were hauled up out of the ocean. Up and down North America's west coast, rockfish, some more than a century old, were being dragged from the bottom of the sea in such numbers that no scientist could imagine their recovery. The fish were ancient mariners, as beautiful as their names. They were chillipeppers, auroras, and vermilions, dusksies, redbands, and red Irish lords. In the Indian Ocean, and off the coasts of Senegal and Guinea Bissau, and it was happening by trawling and gillnetting and longlining. The murkiest water lay between what was poaching and what wasn't. As I was writing this book, the world's largest fishing vessel was the *Atlantic Dawn*, a 144-metre ship powered by engines pulling 28,730 horsepower. The *Atlantic Dawn* fishes with a net that could engulf a football stadium. To evade European Union rules limiting the European fleet's catching power, the ship's owners simply regis-

tered the vessel as a merchant mariner and went fishing off the coast of Mauritania.

It was a much smaller vessel that pulled up on the beach one sunny afternoon at Sikachi Alyan, a Nanai village of about 300 people on the Amur River, about a hundred kilometres downstream from Khabarovsk. It was a shallow draft rowboat, built of rough boards. The man who had been rowing it hurried over and joined us.

I'd been walking along the willow-shrouded beach with Nina Ignatieva, the 48-year-old village chief. I'd been trying to explain that everything about the Lower Amur felt like the Bulkley Valley in northern British Columbia. The trees were smaller, and there were no mountains here except in the far distance, but the people looked like they could have been Athapaskans, which made some sense, since the Amur was a crucible of the peoples who eventually settled in North America. Sikachi Alyan was just like an old Bulkley Valley village, with little square-log houses strung out along a bluff above the river. Ignatieva had a fair command of English. She was fluent in Russian, and spoke Nanai and a bit of German, too. A small, sharp-featured woman, with thick black hair tied up in a bun and wrapped in a colourful silk scarf, she'd been a schoolteacher once. We were walking among Sikachi Alyan's riverbank stonehenge of petroglyph boulders, works of ancient art that had made the village famous in the Russian Far East. A group of us had come from the symposium to see them.

The man from the rowboat walked up the beach to us, smiled, and slapped me on the back. He was wearing a rattered grey windbreaker over a white shirt with two or three buttons left, and Ignatieva said the amulet that hung from his neck was the kind that warded off stomach ailments. The man smiled broadly, showing a few chipped teeth. We shook hands, and Ignatieva introduced us. He was another Misha, a 53-year-old father of four, with two grandchildren. "He is

an unemployed person from the village,” Ignatieva said. I thought this an odd way to describe him, since we’d just been talking about how nine of every ten adults in the village were unemployed. But calling Misha unemployed drew attention to the fact that he had just come from a small fishing boat, so I asked what he’d been doing. Ignatieva said that he had been checking whether any fish were caught on the hooks from the sunken set-lines he’d hidden out in the river.

Before the man from the rowboat arrived, Ignatieva had been talking about the old days, when people had jobs, Sikachi Alyan kept his own herds of cattle and horses, and her mother looked after the village pigs. Back then, fish were plentiful in the river, she said. “But after perestroika, everything fell apart, and it is different now,” she said, “and everybody is dividing into rich people and into poor.” For several years, the village had been allowed only a small subsistence fishery, mainly for chum salmon, so between salmon seasons the villagers fished illegally. “They catch the *bilaribisa*, the whitefish,” Ignatieva explained. “They get it from the river and they sell it to those who come here from Khabarovsk, because the fishermen, they have to poach. It is the single way to get some money, for bread and butter for their children.”

We continued on among the petroglyphs. The earlier ones are believed to have been carved at least 5000 years ago, and the place had been an important centre for shamanic ritual. Nobody knows much about the old ways anymore, but the Nanai are still fiercely proud of the place. The petroglyphs came from the time when the River of the Black Dragon got its name, in the days before the Manchus branched off from the Nanai’s ancestors. Almost every boulder was adorned with spiralled designs, anthropomorphic figures, and representations of birds and fish and moose, but it was getting harder to make them out, because the afternoon sun was slowly falling into the forests of the west.

The Nanai of Sikachi Alyan are only a shadow of the people the American adventurer Perry McDonagh Collins encountered while rowing down the Amur in 1857, and the Amur is no longer the salmon-rich river of Collins’s journals. Collins was scouting a route for a round-the-world telegraph cable, a vision that came to an end when the Atlantic was spanned by a submarine cable in 1866. When the Amur River turned north for its final descent to the Sea of Okhotsk, Collins was routinely greeted by boisterous Nanai women paddling alone in canoes. Strong and beautiful, they wore elaborate salmon-skin tunics trimmed with brass coins and seashells. They were adorned with several-stranded earrings and white-metal nose rings. These “laughing, frolicking damsels” were as “unabashed as any well-bred lady of London or Moscow,” and the men Collins met came in flotillas of canoes, bearing sable and black-bear furs to trade for silver. The country was like the tropics, Collins noted, “from the variety and the richness and the foliage of the trees.”

It’s too bad nobody remembers the stories about this place, Ignatieva said of the petroglyphs. Still, the fishermen and the hunters sometimes feed the spirits, she said. It is a simple ritual. “The spirits of the river, for example. Spirits of the forest. We put a little fire, and put some food in the fire and just feed the fire, and make a speech to the river. The fishermen and hunters, they do this.” But the meaning of the petroglyphs and of the old rituals that went on here have been forgotten. When Ignatieva was growing up, nobody was allowed to come near the place. “It was taboo,” she said.

There had been a time when the Soviets had printed books for the Nanai, in their own language, but after Stalin came to power the books were burned and the shamans were packed off to the gulags. Like their neighbours the Nivkh and the Ul’chi, the Nanai were, by the 1990s, in the midst of language extinction. Many of the older people spoke only Nanai, and the middle generation, people Ignatieva’s age, were usually bilingual. The children playing along the beach near the petroglyphs

that afternoon were the first Nanai people in history who could not speak their own language. They knew only Russian.

"This one, I think, is a tiger," Ignatieva said, running her small hands along the deep grooves of another petroglyph. The talk turned to the family of tigers that had lived on a nearby island in the river over the winter, and we came to another petroglyph. "Maybe this one is a bear," she said. "This one I think is a girl. Can you see it? Yes. I am sure." Misha from the rowboat pointed to another one, and spoke excitedly. "He thinks maybe it is a fish," Ignatieva explained. It did look like a fish, but Ignatieva said she had been told it was meant to be a deer.

I wanted to know how the day's fishing had been, and Ignatieva asked Misha for me. "He says there are no fish. He says he has no idea where they went." Ignatieva spoke sternly to Misha and then explained that she had told him it would be better for him to make something, to carve things, or make amulets that visitors might buy. I asked Misha why he was fishing. Ignatieva translated his reply: "Of course, the fishing is prohibited here. But how am I supposed to live? If I don't catch fish, I will not eat."

We walked on through the petroglyphs. "This is a mask," Ignatieva said. And then, at another boulder, "and this is a mask too." I could make out only what appeared to be concentric circles. "There is another like this. Would you like to see? Come this way."

We looked at some more petroglyphs, but the sun was now falling behind the willows. Misha was speaking again and he was gesturing as he spoke. I could see he wanted Ignatieva to tell me something. "He says there is supposed to be fish in the Amur River. He says he doesn't know where they went." Misha spoke again. "He says he will go fishing tonight," Ignatieva said.

"He says if he catches some fish, his children and his grandchildren will have something to eat tonight. If not, they will not eat."

A Lion

The Ghost of the Woods

Today, the thing that stares me in the face every waking hour, like a grisly spectre with bloody fang and claw, is the extermination of species. To me, that is a horrible thing. It is wholesale murder, no less. It is capital crime, and a black disgrace to the racks of civilized mankind.

—William Hornaday, head of the New York Zoological Society, 1913



On a perfectly ordinary late August afternoon in Port Alice, a pulp mill town on the northwest coast of Vancouver Island, David Parker decided to go for a walk. The retired mill maintenance foreman had been working on the roof of his small house when he felt a bit of a cramp in one of his legs. He reckoned a walk would do him good, so he set out on the route he was accustomed to taking on his evening strolls.

Parker headed out of town on a gravel road that connects Port Alice with the Jeune Landing log-sorting yard down at Nerours Inlet. Just over a kilometre from Jeune Landing it started to pour, and Parker