The Arctic Irony

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It's ten-thirty at night and, in the bright light, the wet caribou comes over the rise and rolls her eyes at me. Thirty more caribou does and calves follow, their knee joints popping and hooves clicking on the loose gravel of the hilltop. Frozen in place, I watch the caribou walk steadily past, nose-to-tail, shaking off fur still damp from their river crossing in the valley below. Brown with lighter spots on top and with short, fuzzy horns, the animals are so near and yet seem oblivious to our presence. Their breath hangs in the air, shot through with buzzing flies. The enchantment lasts until one nearly steps on my knapsack and the camera inside. I take an involuntary step forward, my shadow crosses the face of one of the mothers, and the herd takes off—thundering down the slope and across the mountain bowl faster than seems possible. In their wake, a few long, thick hairs settle down onto the rocks at our feet and we gaze after the herd, watching mothers and babies scatter across the bowl like so many white ants on a dull green background.

The Arctic National Wildlife Refuge (ANWR (pronounced "AN-wahr")), traditional home of the Gwich'in, "people of the caribou", sits atop what may be billions of barrels of potentially recoverable crude oil. A portion of the refuge lies above the northern Alaska oil field that includes the hugely productive Prudhoe Bay well fields along the southern edge of the Arctic Ocean. The Fish and Wildlife Service, which manages ANWR with very

little developed infrastructure, has tracked between 1000 and 1300 known visitors each year over the past ten years. Estimating liberally, about 0.000004% of the population of the United States visits the refuge annually. I didn't go there, either.

I did, however, go to nearby Ivavvik National Park. Ivvavik (pronounced "ih-VAH-vick") is in Canada's Yukon Territory, permanently protected from oil exploration, and not subject to Congressional debates and filibusters. It is north of the Arctic Circle, and very, very far away. The park abuts Alaska's eastern border and is contiguous with ANWR itself. An old land of low, rugged mountains and deeply scoured river valleys, the Northern Yukon is home to the calving grounds of the Porcupine caribou herd, historically over a hundred thousand strong but recently declining in numbers. The herd travels a loop around the extreme northern edges of western Canada and eastern Alaska, retreating each winter to the uplands and returning to birth their young on the coastal plains of ANWR and Ivvavik every summer.

The caribou I saw on that little ridge beside a nameless mountain bowl were wet because they had just crossed the Firth River, which my family and I were rafting down on an unguided ten-day journey to the Arctic Ocean. Only 120 kilometers long, the Firth drains the center of Ivvavik and comprises four distinct stretches, or "reaches": Aufeis, Mountain, Canyon, and Delta. In the first stretch, my parents, brother, and I had to navigate our raft past sheets of ice (called aufeis) that spread across the river from each bank, sometimes leaving only a narrow channel in between for the bulky red craft to squeeze through. In this forbidding Aufeis Reach we saw very little vegetation or wildlife. Then, late in the afternoon (or was it midnight?) while we were having lunch on a gravel bar, the huffs of a grey wolf pacing back and forth on the opposite bank sent shivers down our spines. Later that day two more wolves graced the slope above our campsite, smoothly traversing the steep hillside and disappearing over the ridge.

As we arrived in the Mountain Reach we began to see caribou. Many, many caribou. We began rounding bends and the vistas that unfolded before us contained more caribou than we could possibly count—like ants swarming from a nest, a New Zealand sheep rancher's proudest year, a pointillist painting of off-white caribou. They crossed and recrossed the river seemingly without reason, churning the rapids with their long legs and knobby knees. Calves were swept downstream and we cheered when they finally dragged themselves up the opposite bank and shook themselves off to go look for their mothers. The animals leapt into the river from great heights, swam across it in singles and pairs, and occasionally by the hundreds. The valleys were on the move with pulsating streams of Porcupine Caribou.

To get to Ivvavik National Park: two buses from western Massachusetts to Boston. Over-

night in a hotel. Meet up with brother. Fly to Dallas/Ft. Worth. Meet parents. Two margaritas in a Tex-Mex bar. Fly to Calgary, Alberta (home of the Calgary Stampede later that week, "The Greatest Outdoor Show on Earth"). Overnight in a cheap motel too far from the airport. Five hours of sleep. Next day fly to Edmonton. Then on a jumbo jet with stops in Yellowknife and Norman Wells. Finally arrive in Inuvik. Exhaustion. Rustic lodge with large pack of snow-white sled dogs in kennels. Howling and barking accompanies perpetual daylight. Several days (nights?) getting outfitted with raft gear, buying food, emergency supplies, swatting mosquitoes. No darkness, hard to sleep. All the shops open 24/7. Lots of liquor for sale. People up late (early?) being rowdy in town, enjoying summer and the contrast to the long dark winter. Everything very expensive. Caribou burger rather dry. Finally on to a twelve-seat propeller plane with raft, oars, barrels, coolers, dry bags all loaded in behind the pilots for a two hour flight over the Mackenzie River delta. Eerie, even grey light. Bumpy landing on a desolate airstrip among low mountains. Aufeis Reach and ice across the Firth River.

After a cup of tea our last motorized link to civilization left, buzzing off over the ridges, our eyes straining to keep it in sight.

The preternatural light all day and all night made it hard to sleep, so I lay in my tent on the banks of the river reading library books on Alaska and the wildcat days of oil exploration. Pioneers and speculators made millions of dollars on hunches and lost it gambling, found themselves in inconceivably harsh conditions, and performed heroic acts to save themselves and others. No thought was given to the health of the ecosystem, the stability of the permafrost, the livelihoods of the First Nations people, the majesty of polar bears, or to the massive caribou herds that migrate back and forth from the coast every year.

The Porcupine Caribou herd is very sensitive to human activity, and their summer feeding grounds span both Ivvavik and the coastal area of Alaska's ANWR that has been most sought after for oil exploration, the so-called 1002 area. I learned from my library books that on-land oil exploration in the region is a self-destructive cycle, with impacts to the permafrost opening up thawed gaps that never fully refreeze or grow over, given the slow pace of vegetative growth in a land with eight months of darkness. During the summer these open areas melt quickly, increasing the size of the gashes and spreading unstable thawed mush underground beneath the foundations of the roads, rigs, platforms, buildings, and other infrastructure required to drill below the earth for oil. Then the oil companies need to move their buildings, reinforce them, opening up ever-larger wounds in the permafrost which is now dripping into the sea. The infrastructure and melted permafrost disrupt the delicate landscape that the caribou herds rely upon during a crucial part of their migration cycle.

The refuge is so remote and gets so few visitors that it is really an abstraction: an idea of wilderness upon which we all project the views that have in large part defined the American enterprise from the beginning. Should we preserve the wilderness untouched, or extract its resources to power our economy? How should we value it? In the case of ANWR, these questions are complicated by the presence of the one thing that many Americans agree we need to maintain our quality of life: oil.

In 2005, not for the first time, drilling in ANWR came up for debate in Congress. Republicans sought to pass the measure while Democrats threatened a filibuster, preventing debate and precluding a vote on the issue. I was in college and remember 2005 as the year of the filibuster, with Princeton students protesting in support of the legislative tool and Republicans threatening to roll back opportunities for its use. The high-profile nature of the ongoing ANWR debate has established oil drilling as a partisan issue and descended in a direct line to the chants emanating from Saint Paul, Minnesota during the Republican convention in 2008 to "drill, baby, drill!"

Environmental economist Matt Kotchen has performed a thought experiment on the value of ANWR to society. There may be more than 7 billion barrels of oil in the ground within the refuge, or, enough to power our national addiction for all of the heady pre-recession year of 2007. It can't be extracted all at once; so opening the area to drilling would offset at most only about 3% of America's oil demand each year. What may be more important, however, is the dollar value of that oil, which will increase over time—the refuge holds hundreds of billions of dollars worth of oil, which at current taxation rates would provide enormous pots of money to the federal and Alaskan treasuries. The Sierra Club and most other environmental organizations are militant in their opposition to drilling, but countless other parks and wilderness areas around the country are aching for preservation and restoration funds and are much more accessible to our largely urban population. Our climate change programs are drastically underfunded. We could use some high-speed bullet trains. We could create refuges to protect the last of America's large animal populations. You get the idea.

Back at Ivvavik, I had ample opportunity to observe many large animals, known as "charismatic megafauna" by those who work to preserve them. There were caribou and wolves engaged in that great dance of predator and prey, juicy little drowned baby caribou morsels no doubt like candy to the carnivores, but there was so much more. We saw a moose, standing in solitude in the river as we pulled into our campsite one evening. It had a full rack of antlers and wheeled away with a snort of indignation when our red rubber monstrosity floated into view. Way up on the side of what appeared to be a sheer vertical cliff overhanging that very same campsite we saw a trundling lump that, upon closer

inspection with some high-powered binoculars, turned out to be a musk ox with uncannily perfect balance. In the Canyon Reach mischievous Dall sheep skipped over the rocks with vertical bounds, pure white fleece on the dark canyon walls. My dad caught fish for lunch. My brother and I found polar bear tracks bigger than our heads stamped terrifyingly into the mud of the braided Delta Reach. Golden eagles perched far overhead in giant nests that have been under construction by generations of related birds for decades, if not centuries. Other raptors wheeled above us as we made our way out to sea, and a grizzly bear crossed the far side of that same mountain bowl where my parents and I had been mesmerized by thirty damp caribou.

All four of us rowed, my brother guiding us masterfully down the canyon rapids, the son taking his arthritic father's place. My mom navigated. I took naps atop the gear in the back of the raft. We huddled together to shelter from the fierce winds that whistled up the river, hiked over alpine tundra and dwarf shrubs, and discovered unimaginably ancient Native sites of sacred circles and bone middens. We found rusted metal sieves and shovels, the desperate discards of solitary gold miners, and carried our containers and towed our raft across a sand choked lagoon for an endless day where the water was less than three inches deep and the grey coastal sky blended with the sandy delta so that we could not tell where air ended and water began. The sun neither rose nor set. We traded novels; the constant light inducing insomnia gave us plenty of time to read before bed. Our parents built a bonfire on the beach to warm my brother and me after we ran, shrieking, in and out of the ice-dotted Arctic Ocean clad only in our swimsuits. We cooked three-course meals on camp stoves. Once we ran out of cooking gas, we had to cook over damp driftwood fires, the smoke stinging our eyes and blackening our pots. We watched unsuccessfully for whales on the frigid coast while waiting a day and a half for the clouds to part so our plane could return and ferry us back to Inuvit, and we walked miles along the rocky beach to a forlorn roofless shack once belonging to the coldest, loneliest whaler in the world. I found the sole of his shoe.

My trip to the Arctic reminded me of why I have chosen to dedicate myself to environmentalism. My mom and dad raised me and my brother canoeing and camping in the Everglades of Florida, and we left town and went paddling as many weekends as we could and often one full week in a year. I loved the coast, the beach, sailing, and exploring the mangroves and canals that line the edges of Miami's city streets. This trip down the Firth, our first trip with just the four of us as adults, in as remote a setting as seems at all plausible, was a moment of reckoning for me. My parents brought me to this point: my family gave me the gift of wilderness that drives my choice of career, that charts my life. The thrill of seeing those megafauna and the rush of whitewater down the canyon will always be with me.

Kotchen's thesis presents us with a Solomonic choice: invite mechanical intrusion into an isolated wilderness in order to save many other natural areas. I'm not sure that humans have the right to make those kinds of choices. It's like the fable of the altruist who is willing to throw himself in front of a train in order to save the children playing farther down the track, except in this case ANWR is the dumb and mute altruist and we stand behind it, poised to shove it forward onto the rails of progress. The very forces that cause this dilemma are the same ones that sent me to the Arctic—we humans use energy for everything, for work and pleasure, comfort and productivity, food and travel, survival and leisure. I flew 10,549 miles round trip for this journey, adding up to over two tons of carbon emissions. Each of those carbon-intensive activities is part of what makes us human and defines our very lives, yet the energy supply we rely upon most for all of them is petroleum.

How do we resolve this conflict? I, for one, will not give up having adventures, or traveling to the parts of the world that I am fortunate enough to visit. But I will ask myself more questions, think carefully about the need for and circumstances of any future trips, and more than anything, I will enjoy them. We have to keep working on solutions to change our fossil-fuel economy, all of us, environmentalists and engineers, wind turbine technicians and home energy auditors—and we have to have inspiration to do so.

My trip was worth it. Especially for the wet, wild-eyed caribou, walking sedately past me on a ridge in that fuzzy twilight (midday?) of the Arctic in summer.