SEA WOLVES

At Canada's western edge, beachcombing wolves swim between islands, eating whatever the sea serves up.

This wolf took a break from eating herring roe to investigate a half-submerged object: the photographer's camera.

IAN MCALLISTER, PACIFIC WILD

Tides dictate coastal wolves' foraging habits on British Columbia's ocean islands. What morsels will wash ashore? Tide pools offer crabs, clams, barnacles, and other tidbits. A whale carcass can feed a family of wolves for a week.

By Susan McGrath
Photographs by Paul Nicklen

Smaller than their inland kin, wolves like this once roamed much of the West Coast. Today they're found only in British Columbia and southeastern Alaska.

"You feeling lucky?" Ian McAllister calls.

We're standing on a speck of an island, eight miles west of the British Columbia mainland. Wooded, windswept, it's one of thousands of islands along this storm-scoured coast, naught but a series of seal-draped rocks between this one and Japan. The April wind whips away my bark of disbelief that luck would come my way, and besides, McAllister—environmental activist, photographer, wolf whisperer—has already made up his mind. He settles into the windrow of bleached driftwood at the high tide line, and so do I. Before us, a gravel tide bar some hundred yards long connects our little island to another. Ensconced in our bony nests, we scan the far island's twisty green-gold Sitka spruce and cedar, the bladder wrack and eelgrass. And just like that, luck strikes.

A pale stick figure of a wolf steps out of the salals and picks its way down the bank to the beach opposite us. With its muzzle, it pokes at the eelgrass. It plants a paw on something, tears at it with its teeth—a dead salmon maybe. Then another wolf materializes alongside the first. The two touch muzzles, turn to the gravel bar, and begin to plod across its tide pools in our direction.

In our collective imaginations, wolves lope across the tundra after caribou or weave through timber in Big Sky country or stalk stray sheep. They're carnivores, hunting deer, moose, mountain goats, caribou, and anything else running about on hooves. Indeed, wolves barely more than howling distance inland make their living that way. But not out here. On the outer coast of British Columbia, whole generations of wolves have never seen a mountain goat or a moose. Some may have never seen a deer.

For decades headlines across the West have howled about wolves—their comebacks, their setbacks, the debate about whether and how to manage them. They've been studied, profiled, vilified, and glorified. You'd think by this time we'd know all there is to know about them. But aside from *Homo sapiens,* there are few mammals more adaptable or more diverse in their habitats than *Canis lupus.* And these wolves of the British Columbia coast appear to be unique.

Chris Darimont, from the Raincoast Conservation Foundation, has spent over ten years developing a fine-grain picture of coastal wolves, which he lightheartedly calls "Canada's newest marine mammal." New to science, he means.

Halfway across the land bridge now, the pair of unlikely marine mammals paces into focus. The wolf on the right is nearly white with age. "Alpha female," McAllister calls out. The fur on her face is worn to fuzz, like a child's old stuffed toy. Her eyes are bald, round buttons. The other wolf, an alpha male, is an Adonis—tawny, with a loose mantle of black-tipped fur. The wolves reach our beach. Closer. Bigger. At last the matriarch stops, looks up. She coughs a growly, hostile chuff and disappears up the beach.

Adonis raises his head, loses his slump, pins me with his amber eyes—and keeps coming. Slow, deliberate, bold—ignoring McAllister and coming straight at me.

An island pack devours a dead sea lion. Wolves can't catch sea lions and seals in the water; instead they swim out and snag them as they're hauled out on rocks. These wolves, unlike inland ones, don't need to rely on deer for food but will hunt them where they're plentiful.

IAN MCALLISTER, PACIFIC WILD

EVEN IF YOU OFFERED the prize of a pound of smoked salmon, most Canadians couldn't tell you much about British Columbia's remote coast. Vancouver Island bookends it to the south, the big Haida Gwaii Islands and southeast Alaska to the west and north, respectively. In between, open to the full fury of the Pacific, lies this coast. It stretches 250 miles as the raven flies. But glaciers raked deep fjords here during the last ice age, gouging a steep-sided labyrinthine and fingerlike tidal coastline. Icy, plankton-rich ocean currents bathe it, sustaining an extraordinary abundance of life in the sea—whales, seabirds, salmon, sea lions, seals—and on land, grizzly and black bears, including the fantastic white variant, the Kermode, or spirit bear. A misty temperate rain forest of conifers shrouds it all, from waterline to Coast Mountains crest. It's roughly 25,000 square miles in area—a Switzerland-and-a-half of forest—one of the biggest swaths of its kind left in the world. It's called the Great Bear Rainforest.

These wolves are beachcombers. They chew barnacles, scarf up the roe that herring lay on kelp, and feast on dead whales.

In the early 2000s Ian McAllister and Canadian wolf biologist Paul Paquet became intrigued when they saw coastal mainland wolves eating salmon. With local First Nations' support, they recruited graduate student Chris Darimont to investigate. Darimont narrowed his study area to Heiltsuk First Nations territory on the central coast—one-third of it water, the rest largely roadless, dense with towering Sitka spruce and cedar, and often extremely steep. Darimont and Paquet ditched the traditional approach of collecting blood and hair directly from the animal.

"We collected poop," Darimont tells me. Wolf scat, he means, and also wolf hair, veritable libraries of data about home range, sex, diet, genetics, and other variables. "Wolves are deliberate poopers, not random like deer," Darimont says, "and they use travel corridors very reliably." Wolves' anal glands add oily deposits to scat, appending messages intended for other wolves. They favor posting their messages conspicuously, especially at trail intersections, where one missive gets twice the readership.

"I'd throw a mountain bike out of the boat onto a logging road or game trail and spend ten sweaty hours scat hunting," Darimont says.

Ten years, innumerable poop jokes, more than 3,000 miles, and 7,000 samples later—autoclaved, washed, bagged, labeled, and eventually stored in Darimont's mother's basement—the feces began to deliver the facts.

The data from coastal wolves along the mainland quantified what many locals already knew: Wolves eat salmon. In spawning season the fish make up 25 percent of these wolves' diet.

The shocker came from the rest of the data. Going in, Darimont and Paquet had assumed that the coastal wolves on the islands were simply normal wolves that moved between islands and the mainland, pushing on whenever they'd polished off the deer. Instead the data showed that wolves can spend their whole lives on outer islands that have no salmon runs and few or even no deer. These wolves are more likely to mate with other islanders, not with salmon-eaters. And they're beachcombers. They chew barnacles. Scarf up the gluey roe that herring lay on kelp. Feast on whales that wash up dead. Swim out into the ocean and clamber nimbly up onto rocks to pounce on basking seals. "As much as 90 percent of these wolves' diet can come directly from the sea," Darimont says.

Most extraordinary is the wolves' swimming prowess. They often swim across miles of ocean between islands. In 1996 wolves showed up on Dundas Islands for the first time in the Tsimshian people's long collective memory—eight miles from the nearest land.

Paquet says these types of coastal wolves

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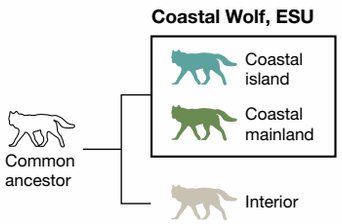
COASTAL CANINES

Gray wolves have adapted to the diverse ecosystem of British Columbia's Coast Mountains since the end of the last ice age. In the temperate rain forests' outer shores live two types of coastal wolves that researchers suggest diverged from a common gray wolf ancestor into what's called an evolutionarily significant unit, or ESU, worthy of conservation.



Genetic differences and factors like diet and habitat are weighed when defining ecological types. Coastal wolves, with small genetic differences but strong environmental adaptations, likely constitute a separate group from interior wolves.

MATTHEW TWOMBLY, NGM STAFF; EVAN APPLEGATE

SOURCES: CHRIS DARIMONT, RAINCOAST CONSERVATION FOUNDATION; VIOLETA MUÑOZ-FUENTES AND JENNIFER A. LEONARD, DOÑANA BIOLOGICAL STATION; ALASKA GAP ANALYSIS PROJECT; BRITISH COLUMBIA MINISTRY OF FORESTS, LANDS, AND NATURAL RESOURCE OPERATIONS; NATURAL RESOURCES CANADA; U.S. FOREST SERVICE

Relatives babysit youngsters at rendezvous sites, and their parents bring them food until they're old enough to hunt—and beachcomb—with the pack. Coastal wolves can get as much as 90 percent of their food from the sea.

aren't an anomaly, they're a remnant. "There's little doubt these wolves once lived along Washington State's coast too. Humans wiped them out. They still live on islands in southeast Alaska, but they're heavily persecuted there." British Columbia permits almost unfettered hunting of wolves, but the vast, nearly roadless forest, low human population, and First Nations' tenure along this coast have made the Great Bear wolves' chances for survival look halcyon compared with the outlook for southeast Alaska's wolves.

Despite these advantages, and despite the wolves' impressive adaptability, their prospects are changing.

An energy project aims to run pipelines from Alberta's tar sands. The specter of the Exxon Valdez *disaster haunts many on this coast.*

A controversial energy project called the Northern Gateway Pipelines aims to bring twin pipelines from Alberta's tar sands across the Coast Mountains and down to a new terminal on a fjord far up into the province's northern coast. With the pipelines working at capacity, nearly every day a tanker could be making the perilous inland passage. At the same time multiple shipping terminals for liquefied natural gas from Canada's fracking fields are on the drawing board, promising even more tankers in these waters. The oily specter of the 1989 *Exxon Valdez* disaster in Prince William Sound haunts many on this coast. In a rare display of accord, dozens of First Nations bands officially opposed the Northern Gateway project last year. Will they have the clout to stop it? "Our Nations have been stewards of our homelands since time before memory," says Jessie Housty, a young Heiltsuk Tribal Council member who's actively opposing the project. "Northern Gateway can't break 10,000 years and more of guardianship."

The wolves will scarf down whole salmon but often eat just the nutritious brains. Biologist Chris Darimont says salmon offer more protein and fat than deer—and they don't kick.

CRISTINA MITTERMEIER

The photography of **Paul Nicklen,** a frequent *National Geographic* contributor, focuses on the delicate relationship between healthy ecosystems and marine wildlife—particularly in polar environments.

Were the wolves difficult to photograph? Contrary to our perceptions, the wolves were incredibly shy. I would sleep by the river, after seeing nothing all day, and often hear the wolves chasing salmon at night. I had only three days of productive shooting over three months of trying.

Nevertheless, at such times, an ancient, rugged coast can suddenly appear fragile.

THE MALE WOLF STALKS nearer, closer. Bigger. My eyes flicker over to McAllister. His expression: impassive. Has he brought pepper spray? I don't think so. I review in my mind what I know about wolves. Does one look a wolf in the eye? The wolf is close now, 20 feet from me and still coming. Staring. Staring.

Then, as if breaching from the waves, a third wolf porpoises up from below the driftwood directly in front of me—a younger, redder replica of Adonis. It slams an adoring cheek against the male's, whimpering ecstatically, nuzzling his face from below in an exuberant display of affection. For a moment longer Adonis's gaze stays locked on mine. Then he turns to greet the joyful youngster. The younger wolf ambles toward the water and lies down on the sand. As my eye follows the youngster, the alpha male vanishes. And just as suddenly reappears at my left, downwind of me, on my drift log. My breath catches. He sniffs the air. Drills me with his eyes. Then he abruptly loses interest in our conversation. He steps down to the beach, lies down near his offspring, and gazes out across the wild gray Pacific Ocean, where food comes from. ▯

Coastal wolves live mostly unmolested in a wild landscape—for now. Sixty percent of Great Bear Rainforest's old growth is open to logging, and energy giants want to send huge oil and gas tankers through the coast's winding channels.