



The interface between rain forest and ocean provides habitat for many species of wolf prey.

PROLOGUE

## Apex Predator

IT WAS very near the end of the spawning season, and I was trying to squeeze in every last day of photography and observation before the salmon were completely gone. The peaks surrounding Dean Channel on the central coast of British Columbia were shining bright with a fresh layer of snow. The feet of my waders were deep in the mud, covered in a mixture of decaying fish, rich alluvial silt, fish scales, and bones. The gut-wrenching stench of tens of thousands of spawned salmon permeated the valley. Spruce needles and leathery flaps of salmon skin floated by in the tannin-tinted waters. Maggots, submerged by the tide, rolled around like rice kernels, devouring the grey slime that only weeks ago was a silver, powerful salmon. I tried not to remember that I drink from this river at other times of the year.

A five-year-old male grizzly bear sniffs out a visitor. Coastal grizzlies display surprising tolerance of humans.

About 50 metres (160 feet) upriver, an old friend was busy sucking on the decaying corpses like an overgrown child surrounded by Häagen-Dazs ice cream. Only this diner, with white flesh smeared across his lower jaw, was a big old grizzly bear, mostly black, weighing close to three hundred kilograms (seven hundred pounds)—probably 25 per cent heavier than when I had first seen him in the spring. His belly was so distended that it dragged along the ground. I once heard that scientists analysing tissue samples from bears at this time of year find more traces of salmon than they do of the bears.

It was a lazy afternoon. I had counted a dozen grizzly bears here overall in the previous few weeks, including a mother with three of the year's cubs feeding near the lower river. I saw tracks of black bears but rarely saw the bears; they preferred to feed at night or at the less desirable fishing spots—away from the grizzlies. All had been feeding on salmon for close to four months, recently for almost twenty hours a day, and were very near the caloric Zen state that bears need to reach just before heading into the snowy mountains to hibernate for the winter.

I was feeling somewhat in a Zen state myself and sat down in the mud, leaning my head back against a rain-

soaked cedar. As I was about to close my eyes, I suddenly saw the grizzly stiffen and stand up on his hind legs, dropping his headless salmon. His nostrils flared, and he made a loud woofing sound. I followed his gaze to the other side of the estuary.

As if appearing in a dream, a stream of wolves emerged from the forest edge. By the time I counted thirteen of them, they had covered a quarter of the distance across the estuary. With their heads and tails up and ears forward, they fanned out across the mud flat, moving quickly and purposefully towards the grizzly. There was no question of what their intent was.

And they were beautiful. The family was at its fullest, before winter, disease, old age, or an errant deer or mountain goat hoof killed some of its members and before next year's pups were born. The pack coordinated their movements, running with a rhythm, with discipline, confidence, and a touch of attitude. The adults took the lead, and the pups, with their disproportionate clown feet and oversized ears, more like teenagers now, held back slightly.

Moments later, the wolves splashed through the shallow water and broke into a full sprint, ravens and gulls spilling





Each morning, this pack's adults and pups joined for bonding and playtime, a ritual that helps establish the social hierarchy that structures wolf families.

out of their way. When they were sixty metres away, the grizzly dropped down on all fours and took off like a racehorse bursting out of the gate. The huge bear galloped across the river, his salmon-filled belly swinging.

By the time I realized that I was situated directly between the bear and the nearest stand of trees, exactly in his path as he headed for cover, it didn't matter: I couldn't have moved in time if I had wanted to. Putting my hands in front of my face, I felt mud spraying across me and smelled the bear's breath, foul from his weeks of consuming rotting fish. Ten metres past and behind me, he smashed headfirst into the trees and underbrush. Afterwards I found an alder, fifteen centimetres (six inches) in diameter, broken in half and shattered.

Less than a minute earlier, I had been almost asleep.

As the next collective 450 kilograms (1,000 pounds) of carnivore headed my way, I was relieved to see the wolves slow down, their job apparently done. Once my breathing started up again, I found what followed even more astounding.

The pack reassembled in the middle of the mud flat, and a large, dark alpha male, the leader, began howling. Within seconds, every other member joined in. The sound

was like a victorious battle cry, and it seemed to silence every living thing in the valley. Even the songbirds stopped their singing to listen. I think the wolves were just ensuring that the bear would not have any second thoughts about fleeing, but I doubt that he did.

Then, as quickly as the chase had started, the wolves began playing with each other. Subordinate pups lay on their backs while their dominant siblings jumped over and on top of them. The youngsters chewed on each other's ears and legs, as well as on driftwood, seaweed, and other treasures washed up on the estuary; ran in circles, playing a sort of wolf tag; peed, and scratched the ground. They tripped over their floppy feet. The adults vacillated between indifference and full attention, and all of this had meaning, as individuals—adults and pups—worked to sort out their places in the very social and hierarchical world of wolves. It was tough for me to keep track of all this tomfoolery. Eventually the adults lay on the cool ground, barely panting, watching the pups at play.

It was as if the recent attack on a full-grown grizzly bear was just a typical event in a day in the life of this pack of rain forest wolves. With demonstrably little effort, they had

A “spirit” or Kermode bear cub stays close to its mother. Kermodes are a subspecies of black bear and may be black or white.

sent one of North America’s largest and fiercest land mammals packing. The grizzly did not hesitate when he registered what was coming his way; this was not the first time such an onslaught had happened.

I was amazed, almost as much by the bold, premeditated attack as by the nonchalance of the wolves afterwards. Clearly, they knew their place here.

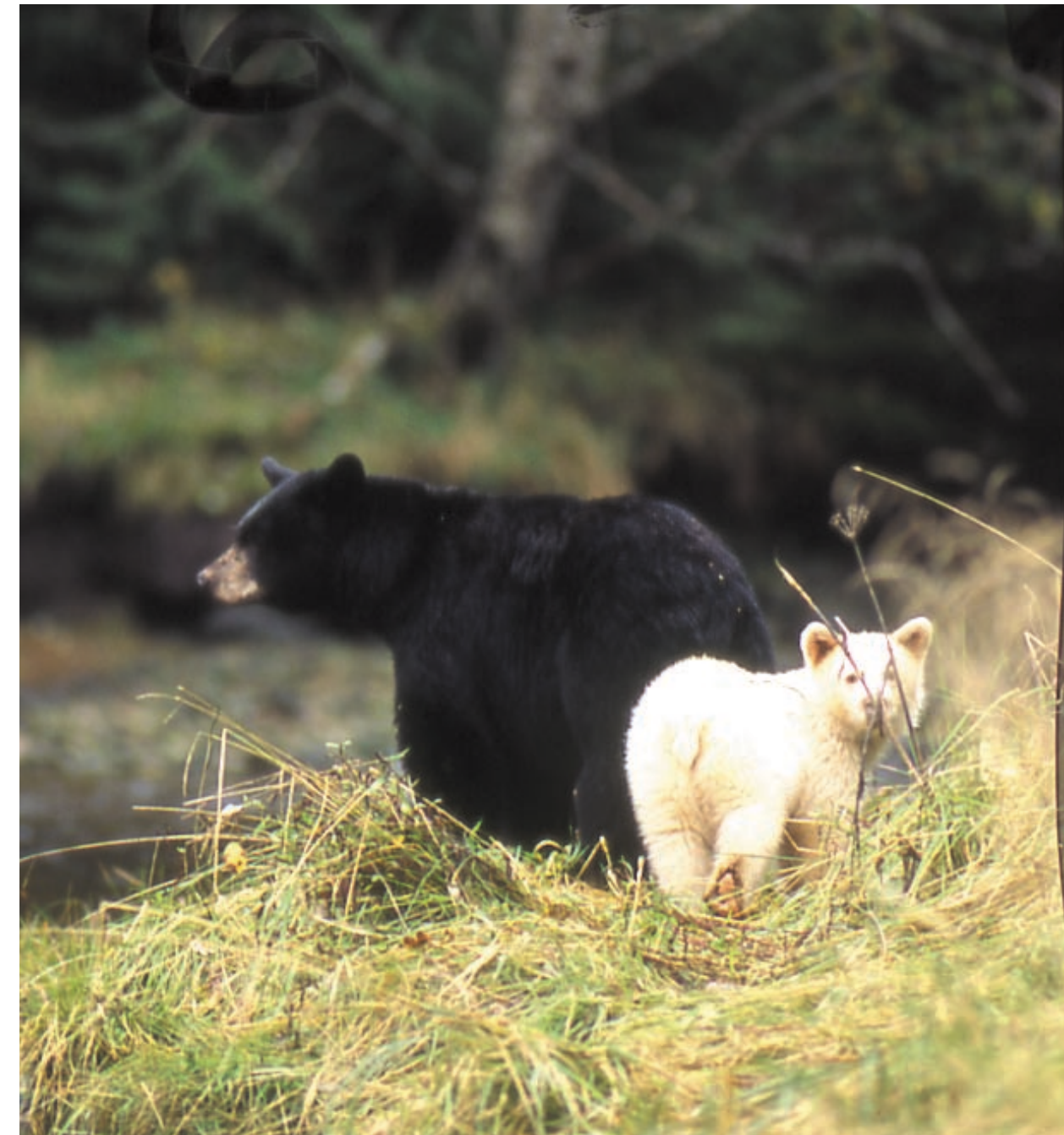
A few years earlier, in the early nineties, I had studied the coastal rain forest from the perspective of the grizzly bear. Now I suddenly realized that I had missed out on an entirely different world. But I could count on my fingers the number of times I had encountered wolves, and the length of those encounters was often measured in seconds. How could a more dedicated study of them even be possible?

WHEN I FIRST started exploring what has since become known as the Great Bear Rainforest, I rarely saw a wolf. Kilometre after kilometre, month after month as my time in the forest turned into years of exploration of its many river valleys and offshore islands, the rain forest wolves remained hidden. I had only an occasional glimpse late in the evening.

Sometimes when my wife, Karen, and I were on a bluff overlooking an estuary, waiting for a bear—grizzly, black, or the white “spirit” or Kermode bear, a subspecies of the black bear—to show itself, a wolf trotted out. It stuck to the tall sedges in the low depressions carved by the river in flood, hidden but for its ears; we followed its movements only by the sway of grass and sedge. Then it disappeared into the forest.

More often than not, the wolves showed themselves in other ways—a track etched in the mud, a few scats here and there, the well-chewed, moss-covered bones of a Sitka black-tailed deer, and, most frequently and possibly most grand of all, a late-evening chorus of howls heard from the deck of our boat at a lonely anchorage. The sound echoed softly off the high granite walls of some slope or side hill, somewhere where the wolves hunted in the vast sea of verdant rain forest.

I knew that wolves were among the planet’s most elusive animals and that they were capable of travelling great distances—more than 70 kilometres (43 miles) in a day, or more likely during the night; the longest known trek was 177 kilometres, but that was in flat country. I thought they



Fishing wolves are all business,  
but vigilance continues.



were opportunistic hunters, always on the move, searching for prey, and therefore unpredictable. I certainly didn't think they would tolerate a human being in close proximity for long.

I believed that wolves moved randomly and that my early encounters with them had been coincidental. And since they had no discernible patterns, I thought they could not be studied or observed without the use of invasive techniques such as radio and satellite telemetry—especially not by a relatively slow and clumsy (and, from a wolf's perspective, excessively smelly) night-blind human.

But was it the wolves that were random? Or was it my search pattern that was all wrong? In addition, this wasn't the tundra, where you could sit on top of a mountain undetected and with a telescope to observe wolves clearly from many kilometres distant. Visibility in the coastal rain forest is often measured by the extent of your arm and the way sound and wind carry over the water.

The more I travelled the extremes of the north coast of British Columbia, from the windswept offshore islands to the icefields of the Coast Mountains range, the more I

understood that wolves dominate the landscape in a way that grizzly bears cannot. Grizzly bears provide arguably one of the best portals into the salmon forests that characterize the larger B.C. mainland watersheds. As an "umbrella" species, they indicate functioning ecosystems, and by their sheer size and spirit, they remain a top-level icon for rain forest wildness.

As omnivores, they also are more adaptable to different conditions than are wolves; grizzlies have developed more plasticity, or options for survival. As well, because they sleep through the less productive winter, they are virtually seasonal residents of the coast.

Wolves, in contrast, are dedicated carnivores; when prey (meat) cannot be hunted (or scavenged), they die. And often they are providing not just for an individual or a small pack, but for an extended family. Nor do they sleep through lean times. Since cougars are rare in or absent from many areas of this coast, wolves are *the* apex predator here. They trump all others.

Wolves are also different from grizzlies in how they roam the coast. I have found wolf tracks high on ridge lines,

Two grizzly bear cubs of the year learn from mom as she searches the flats for clams, crabs, mussels, barnacles and other intertidal critters.

at eighteen hundred metres (six thousand feet), following in the footsteps of their mountain goat prey. I have found them at sea level on the outer coastal extremes, separated from the mainland by kilometres of open ocean. Wolf packs, with their deadly efficient, strategic, and co-operative hunting techniques, have penetrated every niche of the coastal rain forest in ways that the more solitary and omnivorous grizzly bears cannot.

From almost the beginning, in a relatively short period of time, grizzly bears allowed me close access to observe their world. It did not take long to figure out the best habitat in which to find them. Their needs are relatively well documented; there are literally rooms full of reports, films, documentaries, and books on coastal grizzly bear ecology.

By contrast, I had a tough time finding any scientific information about the status or ecology of the wolves of B.C.'s north coast, though there was much to read about other wolves, including those to the north in Alaska. The rain forest wolf remained unstudied and mysterious outside First Nations culture. Science offered little, museums had no information, and even industry, which had plans to "develop" the coast, could provide no data or biological studies.

Here was the largest intact temperate rain forest left on the planet, harbouring a species whose North American range has been reduced by 40 per cent and individual numbers by 80 per cent in little over three hundred years, and yet the wolf's status, ecology, and behaviour remained largely unknown. Coastal wolves in North America once ranged from Mexico to Alaska, but by the 1920s they had been extirpated south of the Great Bear Rainforest.

When I visited First Nations communities or attended potlatches, however, I noticed signs of wolf everywhere. Wolf plays a large role in the people's lives. Wolf masks, poles, and art are prominently displayed alongside cultural crests of other important animals such as the blackfish, grizzly, and raven. When I talked to elders or was fortunate enough to listen to their stories, I heard wolves being described not as indiscriminate killers, an undeserved reputation for which they were savagely killed by those newcomers who settled continental North America, but as providers and protectors. In the remote Native communities of coastal B.C., wolf society and culture are revered.

Families describe their relationship with wolves over millennia with pride and clearly consider themselves privileged





K'visl, the Wolf Dance, is performed by Heiltsuk youth at K'vai big house.

if they belong to the Wolf clan. People are elevated in stature when their family holds the Wolf crest. Wolf (*K'visl* in the Heiltsuk language) is ever-present. Some nations, like the Heiltsuk, turn to members of the Wolf clan for support or direction in troubling times, such as in wars or famines of the past. The Nuxalk describe the wolf as having sacred powers. The common theme in the old stories is that

the wolf was willing to help humans and frequently transformed humans into wolves.

These are people who have lived near and with wolves for thousands of years and are very comfortable with them. Yet in the rest of North America, wolves are too often viewed with such unwarranted hatred or fear that many people kill them—not just to rid the land of wolves but

also to exact vengeance, torturing them to make them “pay” for being wolves. These perspectives are so utterly at odds with each other that it is difficult to imagine they are held by the same species, on the same planet and the same continent.

An animal cannot maintain such a layered reputation through so many centuries, encoded in myth, misconceptions, and lore, without possessing an immense spirit, mystery, and intelligence. Would these rain forest wolves, having hidden from the terror wrought upon their continental kin, open their world to me? These were the thoughts that perplexed and intrigued me.

IT IS NOW more than a decade since I watched those wolves chase that grizzly off into the trees. The seasons that followed have reshaped my understanding of wolves and the role they play in the temperate rain forest. I named that wolf family the Fish Trap Pack, and I have watched them successfully raise a new generation of pups every year since. They were among the first to introduce me to their culture, their society.

Although no research technique can replace direct observation, some critical questions about coastal wolf ecology remained as elusive as the wolves themselves. How are the wolves related genetically to the rest of the wolves in North America? They certainly look different from wolves that I had seen elsewhere, and they live in an environment that is unique on this planet. How many wolves lived in the rain forest? I wondered. How large was each pack's range? What was the extent of the wolves' diet? And, most important, what was necessary to protect them in the face of a rapidly changing coastline? Land use plans for the Great Bear Rainforest were being developed without taking into account the wolf.

When studying a species (such as bears) that sleeps throughout the winter, one can get away with a seasonal approach. But with wolves it was different. In 1998, Karen and I moved full-time to a house on Denny Island, across from the Native community of Waglisla (Bella Bella), in the heart of the Great Bear Rainforest, to expand on our work with the Raincoast Conservation Society, the wildlife conservation group we helped co-found in 1990.



Springtime is devoted to protecting the den site while ensuring the mother and pups remain hidden, fed, and secure.

With the benefit of local knowledge, in particular from the Heiltsuk Nation, I was able to spend more focussed time with the wolves year-round. Our place quickly became a call centre for wolf sightings by locals and passing mariners. This community-based approach greatly increased our knowledge of wolves.

A chance encounter with wolf expert Paul Paquet in 1998 alerted me to the fact that these were the least studied wolves in all of North America. In particular, little was known about their genetics and feeding ecology. Paul introduced me to Chris Darimont, an undergraduate student at the University of Victoria, who had just finished a season volunteering on another wolf research project in the Rocky Mountains; his task had been to locate and follow radio-collared wolves from his truck. More often than not, he ended up finding them dead—shot, trapped, poisoned, or run over by cars or trains. Chris told me that he felt more like an undertaker than a wolf researcher.

I had learned by then that it was possible to follow the rain forest wolves and to observe them with minimal impact. But a more intensive study using traditional scientific methods meant capturing them, collaring them, and following

them by plane or helicopter. These techniques were intrusive and answered only a limited set of questions. However, Chris and Paul assured me that recent advances in molecular research techniques, using only what the wolves leave behind—scat and hair—would provide the same answers and more. Although this data-collection method was more labour intensive for the researchers, the wolves would not be harmed or harassed in any way.

The Raincoast Conservation Society and local First Nations launched the Rainforest Wolf Project in 2000. The study area is huge—about 65,000 square kilometres (25,000 square miles) of the central and northern B.C. coast—and while information on wolves was gathered throughout this region, a subzone of some 3,000 square kilometres near Bella Bella was chosen to allow a more intensive and manageable core study area. This book reveals the groundbreaking findings from this research, as well as my own personal experiences with and observations of some of the wolf packs.

As I gained the confidence of the Fish Trap Pack and learned more about them, I became aware that another population of rain forest wolves lived in a very different

A grizzly bear greets the *Companion*. My wife, Karen, and son, Callum, watch from the wheelhouse.

way and hidden far from people on the extreme outer coast. They made their living as much from the ocean as from the land, and I called them the Surf Pack. If I could gain the trust of these wolves, a more complete picture of coastal wolf ecology might emerge.

I must say a word about the photographs in this book. Not all packs have allowed me to observe and photograph them fishing as much as the Fish Traps have. The obtrusive process of entering and leaving a river to observe wolves fishing often provides enough disturbance to push them farther upriver, so sometimes I spend the night in tree platforms that I built earlier in the season over their favourite fishing spots. Because the wolves are often nocturnal, there is only a narrow window after sunrise and before sunset in which to view them. They are active at night and rest during the day. It is exciting but often frustrating to lie awake in my sleeping bag all night, listening to the splashes, the growls, the shattering sound of bones being crunched and gnawed, the playing and yelps; wolves can be noisy at night. Salmon after salmon is caught and consumed within sixty metres of my platform, yet when daylight slowly arrives and

I start to think of taking a picture, the pack drifts one by one back into the forest, where I won't see or hear from them again until that evening.

These nocturnal habits are why many people that I talk to, even those born and raised on the coast, have never seen a wolf. Just seeing a wolf in the rain forest is a gift, never mind photographing one.

The pictures in this book are the product of hundreds and hundreds of days and predawn starts that included many during which I never saw a wolf. For every day that I was able to capture an image on film, a week and sometimes several went by with no such luck.

Although this book draws from my own observations of more than forty packs observed over a seventeen-year period between Knight Inlet and the Alaskan panhandle, the following pages mostly describe the Fish Trap Pack and the Surf Pack. It is my hope that they will help serve as ambassadors for all the wolves of Canada's North Pacific coast.

