

## Wolf

想看一只狼  
疑是雪皮梦  
鼻到尾快闪  
真假都一样  
反而贴在桑  
原来本身声  
如此人无家  
盲流无祖宗

*Xiǎng kàn yī zhī lǎng  
Yí shì xuě pí mèng  
Bí dào wěi kuài shǎn  
Zhēn jiǎ dōu yī yàng  
Fǎn ér tiē zài sāng  
Yuán lái běn shēn shēng  
Rú cǐ rén wú jiā  
Máng liú wú zū zong*

Thought I saw a wolf,  
Perhaps a snow-skin dream;  
Nose-tail flashed real-false  
Both the same it seemed.  
But it stuck in my throat  
My voice's predecessor,  
A floating labourer,  
With neither home nor ancestor.

STEVE NOYES



## (Not So) Terrestrial Mammals



Top: American mink | TIM IRWIN

Centre, left to right: Wolves | KLAUS POMMERENKE

Grizzly | ERIC SAMBOL

Below: Spirit bear with salmon | SHERRY KIRKVOLD

*A whiff of wolf* threw the dozing seal into full panic, sending him pinballing awkwardly down the barnacled rocks and into the safety of his watery world. Although her trespass on his small rocky refuge was detected, this top predator had found meals there before that more than compensated for the 200-metre swim. Today, however, the mother wolf needs to make up precious calories lost in the water.

After powerful strokes propel her back to her outer coastal island, her paws strike land. Only a quick shake reveals a transition from ocean to earth before she trots, nose down, along the shoreline.

Rufous coat against intertidal algae provides little visual clue to a nervous river otter moving from the forest to the shore. A stiff southeaster at the wolf's back grants the otter enough warning, however, to risk a stubby-legged undulating dash to the sea. The wolf does not give chase, confident that her nose will lead to an even bigger prize.

The wealth of salmon have come and gone for another year here, requiring the wolf and her family to roam more widely for a meal. Before long she reunites with her two young of the year. On a rocky headland, she finds the toddlers corn-cobbing mussels off a waterlogged hemlock trunk. Between each scraping mouthful, their pink tongues transfer stray morsels from muzzle to chops. This will tide them over until the next low water.

They don't know it yet, but the ocean will bestow something very special upon them tomorrow. A beached humpback whale, stricken by old age, will donate his largesse to this family and indeed the whole island. Wolves will feast on seafood for several months, sharing the wealth with other furred and feathered fauna.

*This geographical shoreline configuration—home to salmon streams, wolf pups, and everything in between—places this marine-terrestrial web in great peril in today’s world. Spilled oil has a tendency to settle on shorelines and beaches.*

This vignette could represent a typical day in the life of our atypical coastal wolf. In fact, when we speak of “wolves of the sea” here, two possibilities emerge: killer whales and grey wolves. Our First Nations friends on the coast have known for millennia that wolves here are part of the marine sphere.

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Raincoast’s body of scientific work—spanning more than a decade—has complemented this knowledge with some new insight and numbers. For example, chemical tracers examined in the hair wolves leave behind tell us that island wolves—like our family above—can make 50 to 75 percent of their living from seafood. Even family groups on the mainland largely forgo their staple of deer during autumn. When such a safe, nutritious, and predictable meal like salmon comes to them, who would want to behave like any old wolf?

Other so-called terrestrial animals are similarly charmed by salmon. Every member of the weasel family—from the little ermine that adorns the regalia of chiefs to the powerful wolverine—dines on salmon. In nearby Alaska, researchers have discovered that mink modify their reproduction in areas where salmon are plentiful, timing this bounty to the most energetically demanding part of motherhood: breastfeeding. We also know that the few cougars, or mountain lions, that slink through the dense rainforest surely eat salmon, but the precise relationship is still a mystery.

There is little unknown, however, about what salmon mean to bears. When salmon are scarce, so is reproduction, which demands so much energy. Therefore, when salmon are plentiful, mothers have

more cubs and populations exist at higher densities. Salmon is the currency of abundance for bears on this coast.

This silvery gold seems to have bought a white coat for a black bear. Dr. Tom Reimchen, friend of Raincoast and professor at the University of Victoria, has added new insight into this extraordinary bear, sometimes called spirit or Kermode bear. While surely first appearing as a mutation, or random genetic mix-up, the white colour should have gone extinct, unless it brought some value to bears in the area. Tom’s student, Dan Klinka, found that white bears have a slightly higher fishing success than their black brethren because they appear less threatening to salmon against the region’s typically overcast background. So it seems that salmon gifted this terrestrial animal with a look found nowhere else.

Although salmon are the flagship animals linking the ocean to terrestrial mammals, they offer only one of many possible foundations for such relationships. New research from Raincoast’s Caroline Fox is showing how herring eggs fuel intertidal invertebrate species such as sand fleas, on which black bears gorge during the spring. In a similar relationship, the black bears of Haida Gwaii—which are the largest in the world—chow down on the hard-shelled animals of the intertidal zone. River otters can live almost exclusively off intertidal and nearshore fishes and invertebrates. Marine carrion also feeds the many mammals that are renowned scavengers.

Why are these relationships between terrestrial animals and the marine environment so pronounced on BC’s coast? A big reason is

geographical. BC's modest 900-kilometre north-to-south distance between Washington and Alaska contains an astonishing 27,000 kilometres of coastline that jogs around hundreds of islands and dozens of inlets. This is clearly a lot of waterfront. Far from forming a boundary between land and sea, it is on these shores where a great mixing occurs. Molecules and energy swap—from leaves flowing down rivers and into the ocean to mussel particles finding their way into the mouths of wolf pups. As if on some giant conveyor belt, adult salmon return to their natal streams to spawn and die—pumping in nutrients for a whole coastal ecosystem. Sea and land interconnect in constant exchange.

This geographical shoreline configuration—home to salmon streams, wolf pups, and everything in between—places this marine-terrestrial web in great peril in today's world. Spilled oil has a tendency to settle on shorelines and beaches. The seafood buffets with which these remarkable creatures evolved could be spoiled for many decades. Precious spawning habitat for pink and chum salmon, which choose the lower intertidal reaches of streams to breed, would be certain casualties.

Let us not forget another land-based mammal with a lot at stake. As Jessie Housty so eloquently points out, her people—and all those along this coast—are people of the ocean. If we lose this battle and accept the gamble that a pipeline and tankers impose, we risk not only wildlife but also a piece of who we are.



Cougar | CHARLES BRANDT

**CHRIS DARIMONT** aims to practice acutely applied and socially relevant conservation science to serve the environment and people of the Great Bear Rainforest. The GBR has been his part-time home, classroom, playground, and place of worship since the late 1990s. Chris directs science for Raincoast and is the newly appointed Hakai-Raincoast conservation scholar and assistant professor in the Department of Geography at the University of Victoria.