What is included

This field guide includes quick facts about the marine mammals most commonly encountered in Clayoquot Sound and Barkley Sound.

When sharing space with marine mammals, please ensure you are aware of all the legal and best-practice regulations in the area. Always maintain a distance of at least 100 metres from all marine mammals and 200 or 400 metres away from killer whales, depending on location. Remember to give resting animals, or animals with young, 200 metres of space at all times.

www.simrstofino.org

250-266-9090

Animals included in order of appearance:

- Grey Whale (*Eschrichtius robustus)*
- Humpback Whale (Megaptera novaeangliae)
- Bigg's Killer Whale (*Orcinus orca*)
- Resident Killer Whale (*Orcinus orca*)
- Steller Sea Lion (*Eumetopias jubatus*)
- California Sea Lion (*Zalophus californianus*)
- Pacific Harbour Seal (*Phoca vitulina*)
- Sea Otter (*Enhydra lutris*)

GREY WHALE

Eschrichtius robustus

Status: Threatened (SARA); Pacific Coast Feeding Group Endangered (COSEWIC)

Nuu-chah-nulth name: Maʔak (also general name for whale)

Size: Adults 11-12m (35-40ft) or 1 bus length; Calf 4-5m

Weight: Adults 35,000 kg (77,162 lbs); Calves 700-9000 kg (1,543-19,842 lbs)

Lifespan: Not well known. At least 40 years, possibly reaching 80 years

Sexual maturity: 5-11 years of age

Gestation: 12-13 months (females typically give birth every 2 or more years)

Nursing time: 7-8 months (milk is up to 53% fat)

Feeding grounds: Shallow coastal waters from Northern California to Alaska; primarily Bering and Chukchi seas.

Breeding/Calving grounds: Primarily in the lagoons of Baja California, Mexico, although both have been observed during the migration. Peak birth is around the January 27th.

Breathing: 3-5 breaths each at 15-30 second intervals, submerge for about 4-6 minutes (15min max)

Speed: 4.8-9.6 km/hr

Populations: the Northern Pacific migratory population (largest), Western Pacific population (282 individuals), and the Pacific Coast Feeding Group (PCFG) (243 individuals). Total population ~22,000-24,000.

Migration: Along the North American Pacific Coast between arctic seas and the lagoons of Baja California, Mexico. The round trip is ~20,000km, the longest for any mammal. Each leg takes 2-3 months, one tagged whale averaged 74km a day with the final days being 127 km per day, eager to mate or give birth. Whales migrating north begin to be seen off the Vancouver Island coast in mid February, peaking in March.

Characteristics: Grey with white mottling on its skin. White barnacles and orange whale lice. 6-12 knuckles on the dorsal ridge (no dorsal fin). 2-5 throat grooves. 130-180 baleen plates hang from the upper jaw on each side. Many have “rake” marks on the tail or back, these are usually scars from Killer Whale attacks.

Diet & Feeding: Small crustaceans such as amphipods and crab larvae, as well as benthic tube worms. Whales dive to the bottom, rolls on their side and draws bottom sediments and water into their mouths. As they close their mouths, water and sediments are expelled through the baleen plates, which trap the food on the inside near the tongue to be swallowed. Grey Whales can consume up to 1.3 tons of food in a single day in their feeding grounds.

Breathing: Can expel 387L of air in a single blow. Unlike humans, whales don’t keep oxygen in their lungs. Instead, their bodies have extremely high levels of oxygen-storing proteins (hemoglobin and myoglobin) in their blood and muscles. Why do whales not get the ‘bends’? In Humans, nitrogen & other gas bubbles dangerously enter the blood when diving, in whales nitrogen is absorbed in their blubber and also trapped by foamy oil in their sinus’s nasal sacs. Nitrogen is finally expelled in their blow.

Evolution: Like all extant whale species, Grey Whales evolved from terrestrial mammals ≥50 million years ago. Hippos are now the closest relatives to whales, part of the ‘Artiodactyls’ (hoofed animals). The Elephant Shrew is a modern day species that may resemble early terrestrial ancestors of whales.

Exploitation: Commercial whaling rapidly brought both Pacific and Atlantic populations to near extinction. International conservation measures were enacted in the 1930s and 1940s to protect whales from over-exploitation, and in the mid-1980s the International Whaling Commission instituted a moratorium on commercial whaling. Grey Whales earned the nickname “devil fish” because of their aggressive reactions when harpooned. Mothers were particularly fierce and would destroy small whaling vessels to protect their harpooned calves.

250-266-9090

www.simrstofino.org

HUMPBACK WHALE

Megaptera novaeangliae

Status: Special Concern (SARA); Special Concern (COSEWIC)

Nuu-chah-nulth name: ʔiiḥtuup (iihh-tuup)

Size: Adults 7.6-17.1m (26-55ft), Calf 4.0-4.6m (13-15 feet)

Weight: 40,000kg (88,185 lbs), Calves 680 - 900 kg (1499-1984 lbs)

Lifespan: ~80 years (not well understood)

Sexual maturity: 5-9 years

Gestation: 11.5 months

Nursing time: ≤1 year; however calves can likely feed independently at 6 months.

Feeding grounds: Humpback Whales have adapted to exploit different prey species in a variety of habitats. In British Columbia they can be found throughout inshore, outer coastal, continental shelf and offshore waters.

Breeding/Calving grounds: Four main breeding areas in the North Pacific: Hawaii, Mexico, Central America (to Costa Rica) and Asia (islands south of Japan, Taiwan, the Philippines and Mariana Islands).

Breathing: Average 5-8 breaths after 8-10 minute dives; this can vary based on behaviour. Humpbacks can hold their breath a maximum of ~60 minutes.

Populations: Humpback whale populations differ in genetic structure throughout the ocean, a result of strong maternal fidelity to breeding and feeding grounds. Humpbacks in the northern and southern hemisphere differ in size and colour pattern, but not enough to be considered two subspecies. A low population estimate for the North Pacific is 21,000 individuals, of which over 2,000 are identified in BC waters. Humpback whale populations are estimated to be at 40% of their pre-whaling numbers and are continuing to recover each year.

Migration: Of Humpbacks that feed off southwestern Vancouver Island 58% migrate to Mexican breeding grounds, 36% to Hawaii and 6% to Central America. Humpbacks elsewhere in BC have the same breeding grounds but have different preferences proportionally. Migrating whales cover large distances very rapidly and can travel nearly 4,500 kms in a little over one month. The reason Humpbacks migrate is still up for scientific debate; however, thermal advantage and predator avoidance (Killer Whales) for calving likely plays a role.

Diet & Feeding: Famously ‘lunge’ at dense patches of prey with their mouths wide open, they also have many other feeding methods such as flick-feeding, bubble netting, and trap feeding. Their prey is mostly krill (euphausiid crustaceans) but also includes a variety of schooling fishes. Off of Northeast Vancouver Island, Humpback Whales rely on juvenile herring for ~50% of their energetic requirement. In Clayoquot and Barkley Sound, sardines have been a particularly important part of the Humpback Whale diet. When open, their mouths can fit enough water inside to fill a small pool (around 20,000 litres), however their esophagus is no more than 12-15 inches wide.

Behaviour: Humpback Whales are well known for their acrobatics, including pectoral slaps, tail lobbing and breaching. It is unclear for the specific purpose of these behaviors as they often occur in varying social and environmental contexts. Male Humpback Whales sing long, complex songs which are hypothesized to attract females and sort dominance among males. Interestingly, all males in a breeding area mimic one other and sing the same song. Males spend a significantly longer time in breeding grounds than females do and often compete in aggressive heat runs to win the rights to breed.

Exploitation: The Humpback Whale was the most important of the great whale species to Nuu-chah-nulth hunters. Due to their near coastal abundance and relatively low travel speed, Humpback Whales were one of the most heavily targeted species by commercial whalers worldwide. In 1966 they received global protection by the International Whaling Commission; however, an additional ~21,000 were taken illegally by Soviet whalers until 1971, around 14,000 of which were from the North Pacific.

250-266-9090

www.simrstofino.org

BIGG'S KILLER WHALE

Orcinus orca

Status: Threatened (COSEWIC)

Nuu-chah-nulth name: K'aka'win “something stuck on its back”

Size: Female: 5.6-6.7m (18-22 feet); Male: 6.81-7.95m (22-26 feet)

Weight: Female: 4,700 kgs (10,360 lbs); Male: 6,600 kgs (14,550 lbs)

Lifespan: Female: 50-90 years; Males: 30-60 years

Sexual maturity: Females: 10-13 years old; Males: 15 years old

Gestation: 15-18 months

Nursing time: 1 year

Feeding grounds: Bigg’s Killer Whales are widespread and do not show marked seasonal shifts in distribution; however, there is a peak in their occurrence around Vancouver Island during August and September when Harbour Seal pups are the most numerous and vulnerable.

Breeding/Calving grounds: Killer Whales will breed and calf anywhere within their ecotype’s range. Unlike many baleen whale species, there is little evidence to suggest that they are migratory.

Breathing: Breathing cycles are typically 3-5 minutes apart while the animals are traveling. Killer Whales can hold their breath for a maximum of about 15 minutes.

Speed: Are able to reach speeds in excess of 30 knots (56 km/h) in short bursts; however, generally cruise ≤7 knots (about 13 km/h).

Populations: There are several different populations of Bigg’s Killer Whales that can be found within British Columbia. The population of Bigg's Killer Whales that inhabits the inshore waters of British Columbia the most frequently have been recorded from Glacier Bay, Alaska to Oregon. Additional populations that are seen infrequently around Clayoquot Sound include animals typically encountered west in Alaska, south in California and outer-coast Bigg’s Killer Whales. These different populations have, on occasion, been seen interacting and traveling with one another.

Characteristics: Bigg’s Killer Whales are the largest and most robust ecotype of Killer Whales found within British Columbia. They have wide, always closed saddle patches and wide triangular dorsal fins and their eye patches tend to slant at a downward angle. Bigg’s killer whales typically travel in small, gangs of 2-6 members.

Diet & Feeding: Eight marine mammal species have been recorded as prey for Bigg’s Killer Whales within British Columbia waters. Of the recorded kills, over half were Harbour Seals. One quarter was either Harbour or Dall’s porpoise with the remainder consisting of Steller Sea Lions, Pacific White Sided Dolphins, Common Minke Whales, California Sea Lions and Northern Elephant Seals. Attacks on larger whale species are rarely observed; however, several attacks on Grey Whale calves have been observed in British Columbia but no kills have been confirmed. Squid beaks belonging to several different species have also been recovered from the stomachs of stranded Bigg’s Killer Whales, indicating that cephalopods make up a portion of their diet in addition to marine mammals. Bigg’s Killer Whales have also been observed killing numerous species of sea birds but their remains have never been discovered in the stomachs of stranded whales.

Evolution: Genetic work indicates that Bigg's Killer Whales in the northeastern Pacific are by far the most genetically divergent ecotype and likely split from other Killer Whale lineages around 700,000 years ago. Bigg's, as well as Antarctic type B and C are sufficiently distinct that all should be considered a separate species of Orca. Pending genetic analysis on Type Ds may yield similar results.

Behaviour: Bigg's Killer Whales have a much more fluid social structure than that of their Resident counterparts. Upon sexual maturity, it is common for female Bigg's Killer Whales to disperse from their natal groups and travel with other gangs for extended periods of time or permanently. Male dispersion happens as well, but less frequently. In contrast with Residents, Bigg's are not acoustically subdivided into clans but rather share a distinctive set of calls within a population.

250-266-9090

www.simrstofino.org

RESIDENT KILLER WHALE

Orcinus orca

Status: Northern Resident - Threatened; Southern Resident - Endangered (COSEWIC)

Nuu-chah-nulth name: K'aka'win “something stuck on its back”

Size: Female: 4.7-6.4m (15-21 feet); Male: 6.1-7.25m (20-24 feet)

Weight: Female: 4,700 kgs (10,360 lbs); Male: 6,600 kgs (14,550 lbs)

Lifespan: Female: 50-90 years; Males: 30-60 years

Sexual maturity: Females: 10-13 years old; Males: 15 years old

Gestation: 15-18 months

Nursing time: 1 year

Feeding grounds: Mainly coastal waters in Summer and Fall months to coincide with the salmon run. Large knowledge gaps remain concerning their winter distribution and diet.

Breeding/Calving grounds: Killer Whales will breed and calf anywhere within their ecotype’s range.

Breathing: Breathing cycles are typically 3-5 minutes apart while the animals are traveling. Killer Whales can hold their breath for a maximum of about 15 minutes.

Speed: Are able to reach speeds in excess of 30 knots (56 km/h) in short bursts; however, generally cruise ≤7 knots (about 13 km/h).

Populations: Resident Killer Whales in British Columbia are split into two populations: the Northern and the Southern Residents. Northern Residents are primarily found from the entrance of the Juan De Fuca Strait to Glacier Bay, Alaska. Their critical habitat is defined as the Johnstone Strait off of northeastern Vancouver Island. The Southern Residents range from Monterey, California to Chatham Strait, Alaska. Critical habitat of the Southern Residents includes Juan De Fuca Strait, Haro Strait, the southern Strait of Georgia, Boundary Pass and Active Pass. Although the range of the Northern and Southern Residents overlap, they have not been observed interacting or traveling together.

Migration: The movements of both Northern and Southern Resident Killer Whales coincide with the movement of their preferred prey, Chinook Salmon. During the summer and fall, Resident Killer Whales congregate in coastal waters as salmon migrate inland to their spawning grounds. It is not totally clear where Resident Killer Whales overwinter once they depart coastal areas; however, there is no evidence to support that they travel far offshore to the continental shelf.

Characteristics: Resident Killer Whales typically have thin falcate dorsal fins and can have both open or closed saddle patches. Their eye patches may be straight or angle slightly upward. Resident Killer Whales often travel in large pods or clans divided by matriline. When feeding or traveling, individuals may be widely distributed. Resident Killer Whales are highly vocal and can maintain an acoustic connection to one another over 10-25 kms.

Diet & Feeding: Resident Killer Whales primarily feed on Chinook Salmon, the largest and fattiest of the Pacific Salmon species found within British Columbia. Chum salmon are also important to their diet during the fall and several species of ground fish and cephalopod have been found in the stomachs of stranded Residents; however, it is unclear how important these other fish are to their diet year round.

Evolution: Residents Killer Whales have smaller, less robust, and dense teeth compared to Bigg’s Killer Whales. They also evolved to have lighter jawbones best suited for capturing fish. Along with cultural limitations, these physical characteristics hinder the Resident Killer Whale’s ability to prey switch to marine mammals like their larger, more abundant cousins.

Exploitation of Killer Whales (Bigg's & Resident): Killer Whales have been the target of directed hunting, culling and capture in British Columbia. In the 1960s a live-capture industry was developed to supply aquariums with Killer Whales. Over 60 whales were captured and and unknown number of whales died during capture efforts. Killer Whales were rarely exploited by First Nations hunters in British Columbia.

250-266-9090

www.simrstofino.org

HARBOUR PORPOISE

Phocoena phocoena

Status: Special Concern (COSEWIC)

Nuu-chah-nulth name: Hicwin

Size: Male: 1.27-1.86 m (4.2-6.1 feet), Female: 1.24-1.9 8m (4.1-6.5 feet)

Weight: Male: ~50 kg (110 lbs), Female: ~60 kg (132 lbs)

Lifespan: Average 8-12 years, maximum 24 years

Sexual maturity: 3-4 years

Gestation: 10.5 months

Nursing time: 8-12 months

Feeding grounds: Cool temperate to subarctic coastal waters in the North Pacific. Generally inhabit near coastal waters less than 150 meters but occasionally can be found in deeper water over the continental shelf.

Breeding/Calving grounds: Likely ubiquitous within their range

Breathing: Generally dive for periods of less than 2 minutes and take 3-4 breaths before sounding; however, some dives exceed 5 minutes.

Speed: Typically travel at about 5km/hour

Populations: Harbour Porpoise populations are divided into genetically distinct subunits along the west coast of North America. For example, there are a few genetic differences between Harbour Porpoises found around Haida Gwaii and the ones found around southern Vancouver Island. Genetically, Harbour Porpoises are closely related to Dall's Porpoise which is consistent with the frequent hybridization that occurs between the two species. Although there is no official estimate of the total number of Harbour Porpoise throughout their range, select regional studies estimate a range-wide population of over 700,000 individuals.

Migration: Harbour Porpoise are not believed to be a migratory species. In fact, some individuals may restrict their movements to stay within preferred foraging grounds. For example, a tagged female Harbour Porpoise remained within an area of 65 kilometres squared for more than six months.

Characteristics: Harbour Porpoise are the smallest Cetacean found within British Columbia. Harbour Porpoise are relatively easy to identify, however may be difficult to spot in choppy conditions due to their small size and low-profile behavior. They have a stocky body, short-beaked head and broad-based triangular dorsal fin. Their counter shaded bodies are generally medium to dark grey or brownish on the back, lighter grey on the sides and white on the belly. Harbour Porpoise generally travel alone or in small groups of 2-5 individuals.

Diet & Feeding: . The diet of the Harbour Porpoise varies regionally but is generally composed of small fish and squid like Pacific Herring, Blackbelly Eelpout, Walleye Pollock, Eulachon, Pacific Sand Lance, Pacific Hake, Northern Anchovy and Opalescent Inshore Squid. When feeding, Harbour Porpoise generally stay within depths of 10-20 meters but can dive as deep as 200 meters.

Evolution: Porpoises likely split from dolphins during the Miocene, about 15 million years ago. One of the main distinguishing features of porpoises from other dolphins and toothed whales are their teeth. Porpoise have flat, spade- shaped teeth whereas most other toothed whales and dolphins have cone-shaped teeth.

Exploitation: In British Columbia, Harbour Porpoise were widely hunted for subsistence by First Nations hunters until about the 1900s. There has been no other directed killing of Harbour Porpoise in British Columbia since then. They were not targeted by commercial whaling efforts, nor have they been the target of culling efforts.

250-266-9090

www.simrstofino.org

STELLER SEA LION

Eumetopias jubatus

Status: Special Concern (COSEWIC)

Nuu-chah-nulth name: Tukuuk (Sea Lion)

Size: Male: 2.7-3.1m (8.8-10.2 feet), Female: 2.1-2.4 m (6.9-7.9 feet)

Weight: Male: 400-1100 kg (882-2,425 lbs), Female: 200-300 kg (441-661 lbs)

Lifespan: 20-30 years

Sexual maturity: Males: 3-7 years, Females: 3-6 years

Gestation: 8-9 months

Nursing time: 1-3 years (the majority of pups are weaned by their first year)

Feeding grounds: Cool temperate to subarctic coastal waters of the North Pacific; Southern California to Hokkaido, Japan

Breeding/pupping grounds: In British Columbia there are 6 main breeding areas: Scott Islands (north western Vancouver Island), Kerouard Islands (Haida Gwaii), North Danger Rocks (Hecate Strait), Virgin Rocks (Queen Charlotte Sound), Garcin Rock (Haida Gwaii) and Gosling Rocks (central mainland coast).

Diving: Compared to other Pinniped species, Steller Sea Lions typically have short, shallow dive times. Most dives are between 15-50 meters deep and 1.5-2.5 minutes long.

Characteristics: The Steller Sea Lion is the largest of the eared seals (otariids) in the world. Mature males and females an easily be distinguished from one another due to this specie's high level of sexual dimorphism. Males can grow to be three times the size of females and develop a thick neck and mane as they mature. They are generally blonde to rusty brown in colour and have large, wide heads and muzzles. Acoustically, Steller Sea Lions are distinguishable from other Pinnipeds in BC by the deep roaring vocalizations they make.

Populations: There are two recognized subspecies of Steller Sea Lion. In the past, they have been referred to as the eastern and western populations. The Western Steller Sea Lion (*E.j.jubatus*) ranges from Asia to the Aleutian Islands, Alaska. Loughlin's Northern Sea Lion (*E.j.monteriensis*) is distributed from southeast Alaska, throughout British Columbia and into California.

Migration: Steller Sea Lions are non-migratory; however, individuals may disperse a considerable distance from breeding sites. Found mostly within 60km of shore in summer but may venture 200km offshore in winter.

Diet & Feeding: Steller Sea Lions are generalists and are known to feed on over 50 species of fish and invertebrates. Their diet varies regionally and seasonally depending on prey availability. They have also been recorded praying on Harbor Seal and Fur Seal pups and gulls. In British Columbia, salmon represent about 10% of the Steller Sea Lion's diet.

Behavior: Both males and female Steller Sea Lions tend to have a strong site fidelity to breeding areas. As adults, they typically return to the same rookieries that they were born to breed. Adult breeding males will defend a territory of up to 200 meters squared on rookery sites and may not leave this area for up to two months at a time. After mating, the development of fertilized ovum is delayed for about three months. This ensures that pups are all born at the same time the following summer. After the breeding and pupping season, adults without dependent young may spend extended time at sea between visits to haul out sites.

Exploitation: Sea lions were a food source for First Nations in British Columbia since time immemorial. Viewed as a nuisance species by the commercial fishing industry, British Columbia initiated a "predator control" initiative and commercial hunt. From 1912-1968 estimated 54,800 animals were killed. As a result of this culling, entire rookeries were extirpated. By 1970 the population was about one quarter of its original numbers. Steller Sea Lion populations are still just recovering from this culling effort today.

250-266-9090

www.simrstofino.org

CALIFORNIA SEA LION

Zalophus californianus

Status: Not at Risk (COSEWIC)

Nuu-chah-nulth name: Tukuuk (Sea Lion)

Size: Male: 2.0-2.5m (6.5-8.2 feet), Female: 1.4-1.7m (4.6-5.6 feet)

Weight: Male: 200-390 kg (441-860 lbs), Female: 70-110 kg (154-243 lbs)

Lifespan: 15-24 years

Sexual maturity: 4-5 years

Gestation: 9 months

Nursing time: 10-12 months but as long as 2 years

Feeding grounds: Found in coastal waters from northern Mexico to southern Alaska

Breeding/Calving grounds: Breed and calf at rookeries on islands off the coast of Southern California and Baja California, Mexico.

Diving: On average, males dive to 32 meters for 1.9 minutes; however, they can dive to 575 meters for a maximum of 20 minutes. Diving behavior varies according to prey being sought out.

Characteristics: Only male California Sea Lions typically migrate into BC waters. Mature males are generally dark brown in colour and they develop a pronounced sagittal crest (a ridge of bone running lengthwise along the midline of the top of the skull) on top of their head which creates a prominent forehead. California Sea Lions can further be distinguished from Steller Sea Lions acoustically by the very distinctive loud barking noise they make.

Migration: Male California Sea Lions often make long northbound migrations from breeding colonies during the winter whereas females and juveniles remain close to their breeding areas. Until the 1960s, California Sea Lions were considered rare in British Columbia but have been recolonizing this area as their populations recover.

Populations: California Sea Lions comprise five genetically distinct populations: the United States population (U.S. or Pacific Temperate) that breeds on offshore islands in California; the western Baja California population that breeds offshore along the west coast of Baja California, Mexico; and three populations (southern, central and northern) that breed in the Gulf of California, Mexico.

Diet & Feeding: California Sea Lions are generalists who feed opportunistically on a wide variety of prey items. Their diet varies greatly based on seasonal and regional availability. In British Columbia scat studies in the 1980s determined they were primarily feeding on: Pacific Herring, Pacific Hake, Pacific Spiny Dogfish, salmon (not identified to species), cephalopods, Eulachon, Sand Lance, skates and Lingcod off southern Vancouver Island. In Santa Monica Bay, California foraging California Sea Lions will follow schools of dolphins to exploit their superior ability to locate prey via echolocation.

Behaviour: California Sea Lions and Steller Sea Lions have similar mating and pupping behaviors. Male California Sea Lions will establish and defend territories on traditional rookery sites and females experience delayed implantation of fertilized ovum. In the United States, NOAA researchers use branding studies to track California Sea Lions. Branding helps researchers create re-sight histories over the lifetime of individual animals. These histories can be used in models to estimate survival, reproduction, and longevity and describe how these vital rates are affected by changes in the ocean environment, diseases and body condition. This practice is currently not employed in Canadian waters.

Exploitation: The remains of California Sea Lions have been found in First Nations archeological sites on Vancouver Island, from Hesquiat to Barkley Sound. Following colonization, uncontrolled exploitation of California Sea Lions in California and Mexico drove the population down to only about 1500 animals by 1920. Since being protected in 1972, their populations have strongly recovered. California Sea Lions have never been hunted commercially or culled in British Columbian waters.

250-266-9090

www.simrstofino.org

PACIFIC HARBOUR SEAL

Phoca vitulina richardsi

Status: Not at Risk (COSEWIC)

Nuu-chah-nulth name: k?ilanuus OR kuukuḥẇisa

Size: Male: 1.3-1.7m (4.2-5.6 feet), Female: 1.3-1.6m (4.2-5.2 feet)

Weight: Male: 43-136 kg (95-300 lbs), Female: 43-81 kg (95-179 lbs)

Lifespan: 20-30 years

Sexual maturity: 2-6 years

Gestation: 10.5 months

Nursing time: 4-5 weeks

Feeding grounds: All coastal areas in British Columbia. Usually seen within 20km of shore but have been seen as far as 100km offshore. Although primarily a marine dwelling organism, they can also be found in several river systems and year round in accessible lakes in British Columbia.

Breeding/Pupping grounds: Mating and pupping can occur either on land or in water. During the breeding season, males form aquatic territories near haul out sites or along traffic corridors to maximize their exposure to receptive females. Males compete for access to females and often perform visual and acoustic displays to attract females and ward off other males.

Diving: Harbour seals are capable of diving to 500m, but typically do not exceed a depth of 100m. Dives are usually less than 5 minutes; however, they can stay submerged for 30 minutes at a time.

Characteristics: It is the only small true (“earless”) seal in British Columbia. They have a large head, short limbs, large eyes and “v” shaped nostrils. The coat of the Habour Seal varies greatly in pattern and colour regionally and between individuals. They may be greyish-white, dark brown or black in colour with spots, rings and blotch markings that help them camouflage against the rocks at haul out sites. Pups generally shed their silvery-white lanugo coat before birth, thus resembling adults.

Migration: Non-migratory species but have local movements associated with tides, food, reproduction and season.

Populations: In 2008, the total population of harbour seals in British Columbia was estimated to be around 105,000 individuals. Regional studies done in British Columbia indicate that harbour seals reached carrying capacity in the 1900s after being protected in 1970.

Diet & Feeding: Harbour seals are generalist predators. Their diet varies regionally and seasonally but is primarily composed of medium-sized schooling fish. A study in the Strait of Georgia found that harbour seals feed on 48 different fish species from 20 different families as well as invertebrates (like cephalopods, echinoderms and shrimp), and even birds. 1.5-3 months after weaning, harbour seal pups primarily feed on benthic crustaceans, predominantly shrimp.

Behaviour: At haul out sites, harbour seals form social hierarchies where the slightly larger males exert dominance over females and juveniles. When harbour seals are not hauled out, they become solitary with the exception of lactating females with pups. Tagging studies indicate that harbout seals display high levels of site fidelity and generally forage within 10-20 kms of their preferred haul out site. Adults generally spend 20% of their time hauled out on land. If haul out sites are crowded, Harbour Seals may rest on the sea floor and surface every 5-7 minutes to breathe.

Exploitation: Harbour Seals were exploited for sustenance by First Nations communities throughout British Columbia; however, they were far less important to Nuu-chah-nulth hunters than Northern Fur Seals. Following colonization, harbour seals were commercially hunted for their pelts and systematically culled as a “nuisance” species to fisheries. By the late 1960s there were fewer than 10,000 harbour seals in British Columbia. Since their protection in 1970, their populations have rebounded to pre-harvest levels, a rarity amongst marine mammals.

250-266-9090

www.simrstofino.org

SEA OTTER

Enhydra lutris

Status: Endangered (IUCN's Red List) Special Concern (COSEWIC)

Nuu-chah-nulth name: kʷakʷaƛ (k' wak'aa)

Size: Male: 1.3m (4.3 feet), Female: 1.2m (3.9 feet)

Weight: Male: 27.9 kg (61.5 lbs), Female: 22.3kg (49.2 lbs)

Lifespan: Male: 10-15 years, Female: 15-20 years

Sexual maturity: Male: 5-6 years, Female: 3-5 years

Gestation: 6-7 months including a 2-3 month period of delayed implantation post mating

Nursing time: Nurses exclusively for 1 month and is completely weaned by 4 months

Feeding and Breeding Grounds: Mostly shallow waters (<50 m) within one or two kilometers of shore. Kelp beds are favored by mothers and pups.

Diving: Dives to obtain prey usually only last between one and three minutes and rarely exceed depths of over 60m; however, dives lasting seven minutes and reaching 100m have been recorded.

Populations: Three subspecies of Sea Otters are currently recognized: Enhydra lutris lutris in Russia, E. l. Kenyoni from the Aleutian Islands, Alaska to Washington (including British Columbia), and E. l. neries in California. These subspecies are differentiated genetically as well as based on skull morphology.

Characteristics: Sea Otters have a robust body, a paddle-like shaped tail and large backward oriented and flattened hind-limbs adapted for swimming. Their body is nearly covered in a thick coat that may have as many as 125,000 hairs per square centimetre, the densest of any mammal. Sea Otters do not have a thick layer of blubber to keep them warm. Instead they rely on their thick pelage and fast metabolism. Sea Otters may spend up to 10% of the day grooming and maintaining their fur to maintain its insulative properties. They usually rest, feed, and swim floating on their backs at the surface.

Migration: Migration: Sea otters are non-migratory and individual otters display a strong site fidelity to a small home range. These ranges can vary from a few to tens of kilometres of coastline.

Diet and Feeding: Over 150 species have been identified as prey items for the Sea Otter. Their diet is mostly bottom dwelling invertebrates such as urchins, crabs, clams, abalone and snails. Their diet varies based on region, individual preference and population status. In the Aleutian Islands, Sea Otters have been observed preying on fish in addition to invertebrates. Sea Otters have an extremely high metabolic rate, roughly three times that of a terrestrial animal, and need to consume about one quarter of their body weight per day. In order to achieve this, Sea Otters may feed for up to 12 hours a day and make 150-250 dives per day in search of food. Sea Otters are one of the only known non-human mammal species to use tools. They often carry rocks to break open the hard shell of their prey items, using their chest and stomach like a table. Due to their high energetic requirements, Sea Otters are considered a "keystone" species and can have major influence on the structure and function of the ecosystems they inhabit. For example, an absence of Sea Otters may result in an "urchin barren" where left unchecked, grazing urchin populations can decimate coastal kelp beds.

Behaviour: Males and females are usually segregated from one another. Until sexual maturity, young males may group together in bachelor rafts. Once they have reached maturity, males establish a territory, often overlapping with the home ranges of several groups of females for mating. Mating encounters are often quite vigorous with the males biting down on the nose of the females to position them accordingly. As a result of this behaviour, mature females often have characteristic scars across their face and noses.

Exploitation: Sea otters were hunted by First Nations for millennia. Europeans hunted sea otters to extirpation in BC. Sea Otters were absent in BC until translocations from a relic population from Alaska occurred. From 1969-1972, 89 Sea Otters were reintroduced to BC and have since expanded rapidly.

250-266-9090

www.simrstofino.org

STRAWBERRY ISLE
MARINE RESEARCH SOCIETY

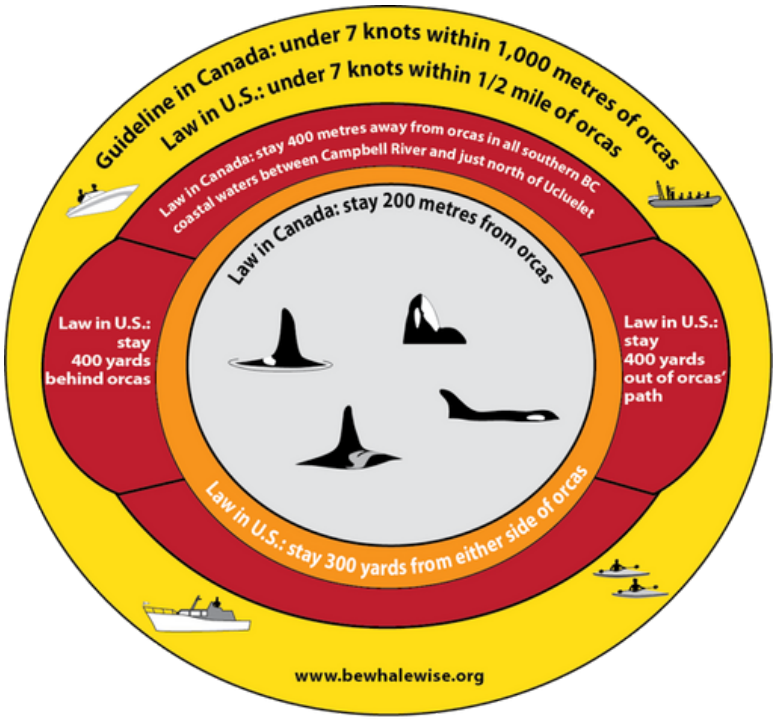
www.simrstofino.org

250-266-9090

MARINE MAMMAL REGULATIONS

The Marine Mammal Regulations are set out by the Government of Canada through the Fisheries Act. The law is as follows:

No person shall approach a marine mammal to, **or to attempt to:**
(a) feed it;
(b) swim with it or interact with it;
(c) move it or entice or cause it to move from the immediate vicinity in which it is found;
(d) separate it from members of its group or go between it and a calf;
(e) trap it or its group between a vessel and the shore or between a vessel and one or more other vessels; or
(f) tag or mark it.



Keep 200 metres away from whales, dolphins or porpoises if they are resting or with their calf; and 100 metres/yards no approach zone for all other marine mammals in US & Canada.

Approach Distances to Marine Mammals:

- **200 m*** for all Killer Whales in BC (see below for more details)
- **200 m** for whale, dolphin, and porpoise species with calves or in resting position
- (the whale will look like it's not moving and will be floating at or near the surface)
- **100 m** for all other whales, dolphins and porpoises
- When viewing marine mammals from the air using a drone: (1) maintain a **1,000-foot minimum altitude** within a **0.5 nautical mile (approx. 3,000ft radius)** of a marine mammal; and (2) **avoid** flight maneuvers around marine mammals (on land or in the water), as these actions may cause stress or alter animal behaviour. Know and follow all local regulations.

*Mandatory **400 m** vessel approach distance for ALL killer whales in southern BC coastal waters between Campbell River and just north of Ucluelet.

It is mandatory to report *any accidental contact between marine mammals and a vehicle or fishing gear to DFO (**1-800-465-4336** or DFO.ORR-ONS.MPO@dfo-mpo-gc.ca).*

STRAWBERRY ISLE
MARINE RESEARCH SOCIETY

www.simrstofino.org

250-266-9090

MARINE MAMMAL RESPONSE

What to do if you find an entangled whale:

- With great urgency, **report the entanglement** with location to the DFO Incident Line / VHF 16 or call **1-800-465-4336**.
- If at all possible, **remain with the whale** at a distance until trained help arrives or another boat takes over tracking, otherwise the chances of relocating the whale are greatly diminished.
- Take whatever video/photos are possible but maintain a distance that doesn't stress the whale.
- **Do NOT attempt to remove any fishing gear or rope** from the whale as it risks human and whale safety. Professional training and equipment are needed to assess the entanglement and proceed safely with the greatest chance of success. Often, much of the fishing gear in which the whale is entangled is not visible at the surface.
- Trailing gear at the surface provides the opportunity for trained responders to attach a tag to track the whale and/or to attach floatation to maintain contact with and slow down an entangled whale. Loss of this gear can significantly reduce rescuers' ability to save the whale.

Please report all marine mammals and sea turtles found entangled, stranded, distressed, or dead.

Call the toll-free marine mammal incident reporting hotline 24 hours a day, 7 days a week at **1-800-465-4336, use VHF Channel 16 (Coast Guard), or email DFO.ORR-ONS.MPO@dfo-mpo.gc.ca**. We also encourage you to report inappropriate or illegal human activity, contamination and disturbances to marine environments. To report healthy marine mammals in Clayoquot Sound please email **info@simrstofino.org.**

Marine Mammal Rescue Center
(for Pinniped rescue and response):
(604)-258-SEAL (7325)

STRAWBERRY ISLE
MARINE RESEARCH SOCIETY

www.simrstofino.org

250-266-9090

CITIZEN SCIENCE REPORTING

Get involved with citizen science and report your sightings by using one of the following platforms:

1. Call/text us at (250) 266-9090
2. Email us at info@simrstofino.org
3. Fill out a sightings report form on our website

When collecting data in the field, please try to include:

1. Date and time of encounter
2. Location description
3. Latitude and Longitude
4. Species
5. Number of individuals
6. Suspected gangs/individuals
7. Behaviour
8. Viewing platform
9. Vessel and company name (if applicable)
10. Photographs*

*Photos will only be shared publicly given permission and proper accreditation to the photographer.

You can further your impact as a citizen scientist by also reporting your sightings on the B.C. Cetacean Sightings Network's WhaleReport app!

Tips for photographing marine mammals:

Many marine mammals can be identified via photographs. For cetaceans, it varies by species where on the animal's body we look for identifying markings. Below are the markers we look for in order of importance/ease:

Killer Whales:

1. Saddle patch
2. Dorsal fin
3. Eye patch

Grey Whales:

1. Port/Starboard flank
2. Tail fluke (underside)
3. Evidence of past engagement or injury

Humpback Whales:

1. Tail fluke (underside)
2. Dorsal fin
3. Evidence of past entanglement or injury

To ensure you get the best images possible in a wide range of light and weather conditions, set your f-stop to 8, shutter speed ≥ 1/800 and leave your ISO on auto.

STRAWBERRY ISLE
MARINE RESEARCH SOCIETY

www.simrstofino.org

250-266-9090

RESPONSE & CITIZEN SCIENCE

Please report all marine mammals and sea turtles found entangled, stranded, distressed, or dead.

Call the toll-free marine mammal incident reporting hotline 24 hours a day, 7 days a week at **1-800-465-4336, use VHF Channel 16 (Coast Guard), or email DFO.ORR-ONS.MPO@dfo-mpo.gc.ca**. We also encourage you to report inappropriate or illegal human activity, contamination and disturbances to marine environments. To report healthy marine mammals in Clayoquot Sound please email **research@simrstofino.org.**

Marine Mammal Rescue Center (for Pinniped rescue and response): (**604)-258-SEAL (7325)**

Get involved with citizen science and report your sightings by using one of the following platforms:

1. Call/text us at (250) 266-9090
2. Email us at research@simrstofino.org
3. Fill out a sightings report form on our website

When collecting data in the field, please try to include:

1. Date and time of encounter
2. Location description
3. Latitude and Longitude
4. Species
5. Number of individuals
6. Suspected gangs/individuals
7. Behaviour
8. Viewing platform
9. Vessel and company name (if applicable)
10. Photographs*

*Photos will only be shared publicly given permission and proper accreditation to the photographer.

You can further your impact as a citizen scientist by also reporting your sightings on the B.C. Cetacean Sightings Network's WhaleReport app!