



REPORTING AND DOCUMENTING WHALE DEPREDATION

Conflicts between fisheries and marine mammals are increasingly common. A growing problem in British Columbia is depredation – the removal of fish from fishing gear – by killer whales and sperm whales. Depredating whales mainly target commercial longline and troll vessels, pursuing Chinook salmon, sablefish, and Pacific halibut. Although depredation in B.C. is not at a critical level yet, it is wide spread and damaging to many fisheries around the world.

In Alaska's Bering Sea, killer whales depredating longline fisheries can stalk boats for miles, reducing overall catch rates by up to 30% and individual sets by up to 100% – making some productive fishing grounds unusable!

The Problem

Around the world, including neighbouring Alaska where depredating whales are a major problem, fishermen have struggled to control the issue.

Toothed whales are highly intelligent, social mammals, capable of learning complex behaviours. This means that once a feeding behaviour like depredation is learned it is very difficult to extinguish, and worse, can spread quickly from a couple individuals to an entire population.

Thousands of dollars in fish are lost and all fishermen can do is watch and pull up empty or damaged hooks. Expensive gear modifications and deterrent devices have had limited or temporary effect on depredating whales. With little success at stopping depredation, fishermen, managers, and researchers agree the best course of action for B.C. needs to be preventing the problem from becoming established here.

What's at Stake

Around the world depredation has caused:

- **Substantial economic loss** – Depredating whales targeting longline and troll vessels reduce CPUE, decrease accuracy of fish stock assessments, increase operating costs (approx. \$500 per day for extra time, fuel, and gear to out run whales), and damage gear.
- **Injury or mortality to whales** – Whales are at greater risk of vessel strike, entanglement, conflict with fishermen, and altered foraging strategies. Both killer whales and sperm whales are protected species under the Species-at-Risk Act.
- **Depredation is only likely to get worse with time and habituation!** Anti-depredation efforts must be unified within the commercial and recreational fishing industry to stop depredation from becoming the costly and impactful issue that it has become in Alaska and other parts of the world.

FLOSSING

Flossing, as it's nicknamed, is a feeding technique on longline fishing gear where a whale takes a branch line in its mouth and follows the line until it finds hooked fish to consume.

Killer whales typically find a main line and floss their way down each branch line, feeding continuously until the entire set is hauled, leaving only heads and lips for the fishermen!

Depredation is so profitable to whales that a sperm whale is willing to swim up to six hours to depredate a longline, taking 30-50% of the catch off a main line. Sperm whales can tear the body off a hooked fish or shake a whole fish off a line, making depredation harder to quantify.



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Video footage from Scripts Institute shows a sperm whale using its long jaw to create tension on a branch line and snap fish off a hook.

PREVENTING DEPREDAATION – WHAT TO DO!

Changing fishing practices to avoid depredating whales can be a tough choice; however, in the long run the consequence will end up costing more if depredation becomes further entrenched in British Columbia. If you are fishing and whales appear:

- **Stop fishing** – Currently in B.C., killer whales typically do not follow or stay near fishing vessels, but rather take fish opportunistically. They rarely take fish from lines on the bottom, but instead take them when gear is being hauled. Fishermen should only resume fishing when whales have left the area. Enforce a strict 'do not reward' policy and the whales will learn it's not worth their while to follow boats.
- **Don't set or haul gear when whales are present** – Whales typically pursue vessels when they are hauling gear, detecting the sound of the engine shifting gear and the subsequent propeller cavitation. Refrain from setting or hauling gear when whales are present. Consider trolling valves or circle tows to quiet the vessel.
- **Fish in a different area** – Avoid depredation 'hot spots'. Share whale sightings and avoid areas where whales are. If a depredation event has occurred, other boats in the area should move to another location too.
- **Don't discard fish or offal in the presence of whales** – Refrain from discarding offal overboard during active fishing and/or when whales are present. Habituating whales to a free meal may also impact their natural foraging behaviour and increase their pursuit of fishing vessels.
- **Do not harass or shoot at depredating whales** – Apart from it being illegal, extreme measures to deter or stop depredating whales have been found ineffective in other areas.
- **Report all depredation events** – It is vital not only to work to mitigate this problem, but also to track the onset and spread of depredation behaviour in B.C. Depredation is best understood by fishermen who ultimately have the most to lose.

Record depredation events in your logbook and report them to the Fisheries and Oceans Canada confidential reporting email:

marinemammals@dfo-mpo.gc.ca

What to Record

YOUR LOCATION (Latitude/Longitude coordinates if possible)

DATE AND TIME

WHALE SPECIES

SPECIES DEPREDATED

How many damaged fish

TYPE OF FISHING GEAR

WHALE'S BEHAVIOUR

WHALE'S DIRECTION OF TRAVEL

NUMBER OF OTHER WHALES AND VESSELS IN THE AREA

BEHAVIOUR OF OTHER WHALES IN THE AREA

SEA CONDITION

TAKE PHOTOGRAPHS Identifying the whale species and individual whale ID

If the marine mammal is entangled, sick, injured, or distressed please also immediately contact the B.C. Marine Mammal Response Network Incident Reporting Hotline

1.800.465.4336 or VHF Channel 16

SPECIES ID



Killer Whale

Orcinus orca

LENGTH

6-8 m / 20-26 ft

APPEARANCE

Black body with white underside; grey saddle patch behind dorsal fin; white eye patch. Dorsal fin black, triangular in females and calves, distinctive in adult males.

BEHAVIOUR

Usually in groups of 3-25. Active surface behaviour includes breaching, spy hopping, tail slaps.



Sperm Whale

Physeter macrocephalus

LENGTH

11-13 m / 36-42 ft

APPEARANCE

Dark brownish-grey body, distinct, huge square-shaped head. Blowhole located very far forward on left side of head. Skin appears wrinkled.

BEHAVIOUR

Usually solitary. Lifts broad triangular tail flukes high before diving.

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