

Salmon Farming Harms Other Marine Life

Hundreds of thousands of factory farmed salmon, packed together in sea cages, inevitably attract natural predators. To deter them, salmon farmers employ four methods: steel nets around and above cages, acoustic devices, shooting, and even plastic models of killer whales. All of these take their toll on birds, seals, porpoises, and other marine mammals. A study of a single salmon farm in British Columbia, Canada, found that over a four-year period 431 harbour seals, 38 sea otters, 29 sea lions, one harbour porpoise, 16 herons, and one osprey were killed by anti-predator devices.¹

Anti-Predator Nets

Italian scientists, studying the attraction of bottlenose dolphins to cages containing sea bream, theorized that “dolphins learn to jump into the cages or damage them to gain access to the farmed fish.”²

This problem is well-known in South Australia where at least 13% of all dolphin carcasses recovered there are believed to have died as result of entanglement, often in the anti-predator nets.³ The same cause of death occurs in South Africa. A salmon farm off Dyer Island, southeast of Cape Town, is situated within one of the most sensitive and important wildlife areas in the world. Thousands of captive fish in the middle of habitat for their natural predators represents a recipe for disaster. The area is home to a permanent colony of 60,000 Cape fur seals, the mating and breeding area for Southern Right whales; the migration route of Humpback whales; in the path of four species of dolphins; and in the middle of the most important Great White shark breeding and feeding area in the world.

In Scotland, anti-predator nets have taken a toll on birds. Three endangered eider ducks, apparently attempting to feed on mussels growing on the anti-predator netting of a salmon farm, were snared and killed in the strands of wire in 2004, prompting an investigation by police.^{4,5} Eider ducks are protected by British law, and killing them is a crime.

Acoustic Harassment

Many salmon farmers use Acoustic Harassment Devices (AHDs) to deter predators. These machines, targeted specifically against seals, emit a high-pitched noise (198 decibels—equivalent to the sound of a jet engine at take-off) that causes physical pain in the animal’s ears. Unfortunately, AHDs also harm dolphins, porpoises, and whales. Studies in Canada found that the intense pitch scared off harbour porpoises and killer whales at a range of up to 10 kilometres.

A witness of AHDs in operation wrote, “The moment the [AHD] devices were turned on harbour porpoise evacuated the [Broughton Archipelago in British Columbia] . . . and tried to move into Dall porpoise territory in the deeper waters of Blackfish Sound and Queen Charlotte Strait. The orca [also] left, displaced from over 150 square kilometres of their traditional territory.”⁶ Another study on the impact of AHDs in the

Bay of Fundy, New Brunswick, confirmed that noise pollution—audible to a distance of 20 kilometres—harmed harbor porpoises, forcing them out of their native habitat.⁷

Shooting Predators

According to a major international insurer of salmon farmers in the UK, Ireland, Canada, the U.S. and Australia, seal attacks on salmon farms represent a leading cause of claims, accounting for about 12% of those filed in 1999.⁸ To remedy this problem, salmon farmers in Scotland shoot sea lions, a practice begun in the 1970s. Annually, an estimated 3,500 seals die from gun shots.

The practice of shooting predators has been documented in other parts of the world:

- By one account thousands of sea lions in Chile, mostly males, die each year near salmon farms, shot by guards ordered to kill any spotted around salmon farms.⁹
- In Canada, salmon farmers are obliged by law to kill harbour seals, California sea lions, and Steller sea lions.¹⁰ In 2000, a mass grave containing 15 sea lions was discovered in the Clayoquot Sound UNESCO Biosphere Reserve.¹¹ Over 5,000 sea lions and seals have been killed since 1990 by fish farmers in British Columbia.¹²

Overall Cost to Marine Species

Although shooting, acoustic harassment, and entanglement all inflict inhumane deaths on predators, species dependent on salmon face a much graver threat. Native Atlantic and Pacific salmon are being supplanted by farmed Atlantic salmon. Wild Atlantic salmon are all but extinct, and the process has begun in the Pacific as salmon farms spread and increasing numbers of genetically uniform fish escape into the ocean. No one knows if all the species that rely on natural Atlantic and Pacific salmon will readily adapt to the intruder species. If not, they may lose a critical food source. More telling, native marine mammals and whales are being forced out of their historic habitat by salmon farms, denying them access to migration routes, essential spawning grounds, and foraging areas. The long-term prognosis for this loss of habitat could be disastrous for many threatened or endangered marine mammals, birds, and whales.

¹ B. Würsig and G. A. Gailey, "Marine Mammals and Aquaculture: Conflicts and Potential Resolutions," *Responsible Marine Aquaculture*, R.R. Stickney and J.P. McVey (Eds), CAB International, 2002, p. 49.

² G. Bearzi *et al.*, "Bottlenose dolphins foraging alongside fish farm cages in Eastern Ionian Sea coastal waters," *European Research on Cetaceans*, 15 (2004) pp. 292-293.

³ C. M. Kemper and S. E. Gibbs, "A study of life history parameters of dolphins and seals entangled in tuna farms near Port Lincoln, and comparisons with information from other South Australian dolphin carcasses," [Unpublished report to Environment Australia], 1997.

⁴ Pete Bevington, *The Shetland News*, <www.shetland-news.co.uk/archives/pages/news%20stories/2004/july_2004/salmon_farm_duck_deaths_%E2%80%93_police_investigate.htm>.

⁵ British Divers Marine Life Rescue, press release, July 13, 2004, <www.bdmlr.org.uk/pages/sealtrap.htm>.

⁶ Raincoast Research Society, "What Is Wrong with Salmon Farming?" <www.raincoastresearch.org/salmon-farming.htm>.

⁷ D. W. Johnston, "The effect of acoustic harassment devices on harbour porpoises (*Phocoena phocoena*) in the Bay of Fundy," *Biological Conservation*, 108 (2002), pp. 113-118, <www.imma.org/sanpedro.pdf>.

⁸ Tony Flaherty, "Seals and Fish Farms Don't Mix," Marine and Coastal Community Network, <www.mccn.org.au/article.php/id/334/>.

⁹ Fundación Terram, "Chile's salmon farming controversy," <www.terram.cl/index.php?option=content&task=view&id=1885&Itemid=2>.

¹⁰ Fisheries and Oceans Canada, "2001 Marine Mammal Predator Control," <www.portaec.net/local/death_to_sea_lions/fisheries_and_oceans_canada.html>.

¹¹ For video footage see: <www.portaec.net/local/death_to_sea_lions/index.html>.

¹² The Canadian government collects information under the 'Marine Mammal Predator Control Statistics.' In the United States, predators are protected and salmon farmers are prohibited from shooting seals and sea lions.