Wendy Szaniszlo

Effects of entanglement and ingested fishing gear on seals and sea lions

WORLD ANIMAL PROTECTION

Entanglement in marine debris including fishing litter is a contributing factor to the mortality of pinnipeds (seals and sea lions) and a serious animal welfare issue. At least 22 out of 33 (67%) species of pinnipeds around the world have been documented entangled in marine debris.[1] Pinnipeds are particularly vulnerable to painful neck entanglements, where a loop of material encircles and constricts the neck. Neck entanglements typically involve monofilament net, monofilament line, packing bands (commonly used on bait boxes or other packaging), or rubber bands (used in crab traps), although flippers may also become entangled. When pinnipeds swallow hooks, lures, or fishing line, the ingested gear can cause internal damage, often leading to life-threatening injuries.

▶ worldanimalproection.org/seachange

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How many individuals are affected?

It is estimated that over 100,000 individuals in pinniped populations worldwide become entangled each year.[2] Juveniles are frequently reported as the most commonly entangled age group. One estimate found that for Northern fur seals, juvenile mortality due to entanglement during the first two years at sea could be as high as 15%.[3]

Certain species are known to suffer higher rates of entanglement, such as California sea lions in Baja California[4], or the grey seal in southwest England.[5] For endangered or critically endangered species, such as the Mediterranean monk seal or the Hawaiian monk seal, entanglements can be a major factor threatening the survival of the species.[6] Observed rates of entanglement are likely underestimated, as entanglements on land can be recorded but entangled animals at sea are often not known or documented.

Welfare impacts

Entanglement in fishing gear can result in severe injuries and prolonged suffering. Neck entanglements are constrictive, leading to difficulty feeding, starvation, severing of the carotid artery, strangulation, blood loss, open wounds, and infection. Entangled pinnipeds may have difficulty swimming and avoiding predators. Ingesting fishing gear can cause severe internal injury such as puncturing of the stomach or esophagus, leading to starvation, infection or organ damage.[7]

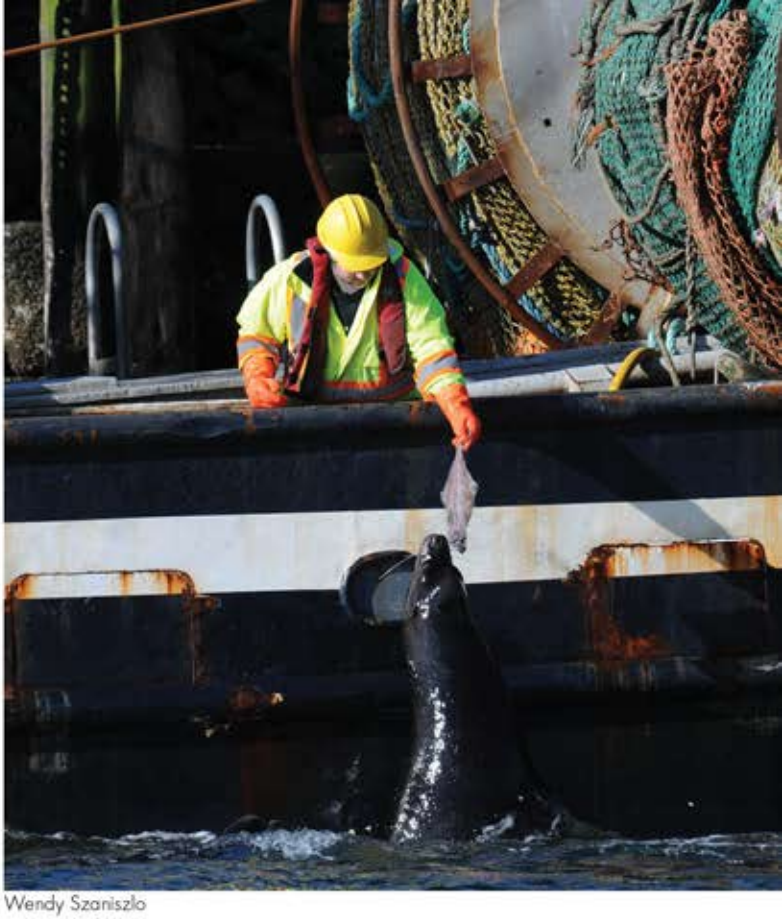
Mitigating pinniped entanglement

Preventing the loss of fishing gear, including fragments of net and line, as well as removal of derelict "ghost gear" from the marine environment is critical to preventing pinniped entanglement. Addressing the causes of marine mammal bycatch in active gear as well as improving the procedures that fishermen follow when pinnipeds become entangled in gear is also vital. Encouraging consumers and fishers to cut packing bands ("Lose the Loop"[8]) before discarding, as well as proper disposal, is also key. Regional fisheries management organizations could prohibit the use of packing bands, or make it mandatory to cut bands before properly disposing of them.[9]

All hands on deck

Working with the fishing industry is crucial to better understanding the causes of pinniped entanglements. Encouraging best practices which reduce seal and sea lion interaction with fisheries, such as not feeding animals, and not disposing of fish offal in marinas, benefits both animals and fishers.

The Global Ghost Gear Initiative (GGGI), a cross-sectoral alliance founded by World Animal Protection, is working with the fishing industry to better understand the ghost gear problem and develop collaborative solutions.



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[1]Gall and Thompson. (2015) Raw data from the author via personal communication, collected as described in "The Impact of Debris on Marine Life." *Marine Pollution Bulletin*. 92:170-179.
[2]World Animal Protection. (2014) "Fishing's Phantom Menace: How Ghost Fishing Gear is Endangering our Sea Life." World Society for the Protection of Animals, London. (See also: Campagna *et al.* (2007); Hofmeyer, G. *et al.* (2002); Page *et al.* (2004); Raum-Suryan *et al.* (2009); Waluda and Staniland (2013).
[3]Fowler, C.W. (1985) and (1987), as cited in NOAA Marine Debris Program 2014.
[4]Harcourt et al. (1994) "Entanglement of California Sea Lions at Los Islotes, Baja California Sur, Mexico." *Marine Mammal Science*. 10:122-125.
[5]Allen et al. (2012) "Entanglement of Grey Seals *Halichoerus grypus* at a Haul Out Site in Cornwall, UK." *Marine Pollution Bulletin*. 64:2815-2819.
[6]Karamanlidis et al. (2008) "Assessing Accidental Entanglement as a Threat to the Mediterranean Monk Seal *Monachus monachus*." Endangered Species Research. 5:205-213; National Oceanic and Atmospheric Administration (NOAA) Marine Debris Program. "2014 Report on the Entanglement of Marine Species in Marine Debris with an Emphasis on Species in the United States." Silver Spring, Maryland. Available at: http://marinedebris.noaa.gov/sites/default/files/publications-files/Entanglement_of_Marine_Species_Emphasis_Species_in_US.pdf (accessed november 24, 2015).
[7]Raum-Suryan, *et al.* (2009) "Entanglement of Stellar Sea Lions (*Eumetopias jubatus*) in Marine Debris: Identifying Causes and Finding Solutions." *Marine Pollution Bulletin*. 58:1487-1495.
[8]ibid
[9]Waluda and Staniland. (2013) "Entanglement of Antarctic fur seals at Bird Island, South Georgia." *Marine Pollution Bulletin*. 74:244-252.

Be part of the solution

Join the Global Ghost Gear Initiative – a cross-sectoral alliance committed to driving solutions to the problem of lost and abandoned fishing gear worldwide. The GGGI aims to improve the health of marine ecosystems, protect marine animals, and safeguard human health and livelihoods. Email our team to find out more.

▶ GGGI@worldanimalprotection.org

We were known as WSPA (World Society for the Protection of Animals)