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Source Identification of Multinational Abandoned, Lost, or Discarded Fishing Gear from the Eel and Hagfish Trap Fisheries throughout the North Pacific Ocean

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Supplemental Material 1. Selected recorded impacts of eel trap entrances (ETE) and eel trap tubes (ETT) on animals in the North Pacific Basin.

Figure 1: Two Hawaiian monk seal pups with eel trap entrances stuck on their snouts, making them unable to feed. Photos courtesy of U.S. NMFS under Permit #848-1695 and Permit # 848-1335.

Figure 2: A spinner dolphin *(Stenella longirostris)* was observed off Hawai`i Island with a basket on its snout, which it self-released (Bradford and Lyman [44]).
Photo courtesy Joi Petrik.

Figure 3: Eel trap entrances from the gut of a dead sperm whale that washed ashore on Kaua`i. Dr. Kristi West, Univ. of Hawai`i Health & Stranding Laboratory. Photos courtesy of Hawai`i. Department of Land and Natural Resources.

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Figure 4: Pieces of "fingers" from an eel trap entrance found in the gut of a deceased northern California elephant seal pup. Photo courtesy of Mariah Tengler, Marine Mammal Center Sausalito, CA.

Figure 5: One half of an eel trap tube from the gut of a pilot whale found dead in Kāneʻohe, Hawai'i. Courtesy of Dr. Kristi West, University of Hawai'i Health and Stranding Laboratory.

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Figure 6: Photographs of Blackfoot and Laysan albatross nesting on Midway Atoll in the northwestern Hawaiian Islands show abundant TE among nesting sites, potentially blocking nesting. Photos courtesy Jonathan Plissner.

Figure 7: Photographs of Bonin petrel nesting tunnel entrances partially blocked by ETE. One on left showing down feathers stuck to the ETE. Photos courtesy Jonathan Plissner.

Figure 8: Eel trap tube with a piece missing thought to be due to a bite by a shark. Photo courtesy Dr. Sarah-Jeanne Royer.

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Footnotes:

1) Based on Moore et al. (2001), the average mass of a plastic microparticle in the North Pacific Central Gyre is 0.0153 gm. Each new plain type ETE weighs approximately 50 gm, therefore each has the potential to break into at least 3,278 microparticles with hazardous chemicals inherent in its composition or adsorbed to its surface, This project removed 21,458 pieces of ETE from the Pacific Ocean and its shores, potentially preventing 70 million plastic microparticles from doing harm to marine life via ingestion or general environmental contamination. Hopefully this project will increase public awareness of the hazardous impacts of ETE leading to continued ETE removal throughout the North Pacific. Moore CJ, Moore SL, Leecaster MK, Weisberg SB (2001) A Comparison of Plastic and Plankton in the North Pacific Central Gyre Mar Pollut Bull 42(12): 1297-1300.

2) A recent paper has shown that macro-litter accumulations alter spatial distribution of nesting sites on beaches, reducing the availability of suitable habitat, perhaps as shown in Figures 6 & 7. Guedes DDS, Marco A, Medina M, Bessa F, Sillero N (2026) Marine litter can shift sea turtle nests toward the shoreline. Oikos e11975.

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