# Don’t assume it’s ghost gear: accurate gear characterization is critical for entanglement mitigation

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Entanglement is a significant conservation and welfare issue limiting the recovery of many marine species, including marine mammals. It is important to specifically determine whether entangling gear was being actively fished or derelict when the entanglement occurred. Inaccurate identification can hamper efforts to reduce or prevent entanglements in the future.

## Accurately Characterizing Entangling Gear

**A recent review[1] of marine debris assessed 76 publications and attributed 1805 cases of cetacean entanglements in “ghost gear”, of which 78% (n=1413) were extracted from 13 peer reviewed publications. We examined the 13 publications[2] cited in the review and found:**

- ***Ghost gear assignment errors occurred in all cases in the review we examined.***
- **The papers reviewed were rarely about gear type, therefore specific gear type or status of gear involved in the reported events was rarely mentioned beyond the fact that it was fishing related.**
- **Although not reported, the authors confirmed that none of the publications reviewed specifically attributed entanglements to “ghost gear”.**
- **There were many cases included in the studies in which the gear owner either reported the entangled whale or was interviewed when the gear was retrieved or identified, confirming that the gear was being actively fished when the entanglement occurred.**


## Large Whale Entanglement Mitigation Efforts

**Actively fished gear is recognized as the primary source of entanglement risk[3,4], not ghost gear. Efforts to reduce entanglement risk to large whales in U.S. waters have focused on actively fished gear.**

**Efforts include:**

- **seasonal closures**
- **regional gear marking**
- **no wet storage**
- **no buoy float line at the surface**
- **broad scale use of sinking ground line**
- **vertical line reduction strategies**

**Ghost gear is defined as Abandoned, Lost or otherwise Discarded Fishing Gear (ALDFG)**

**Large whales are more often entangled in gear that is being actively fished[3,4]**

Conclusion: Determinations of ghost gear as the entangling material are very difficult and require dedicated research to accurately determine gear origin. In the North Atlantic, gear that was able to be adequately assessed was determined to be active gear in all cases. Hawaii remains the only region in which any entangling gear was positively identified as ghost gear.[4]

The implication that all fishery-related entanglements are attributable to “ghost gear” has the potential to hamper efforts to address the very real threat posed by actively fished gear. This could misdirect resource managers from addressing the appropriate issues, and contributes to an increasing public misperception that ghost gear is the primary marine mammal entanglement problem.

The habitat co-occurrence of commercially valuable fish and marine mammal prey likely exacerbates the entanglement risk to marine mammals. We recommend that those engaged in campaigns directed at reducing marine debris refrain from appealing to the public by broadly associating bycatch with marine debris. Campaigns to reduce entanglements should focus on mitigation efforts in active fisheries to reduce this significant threat.

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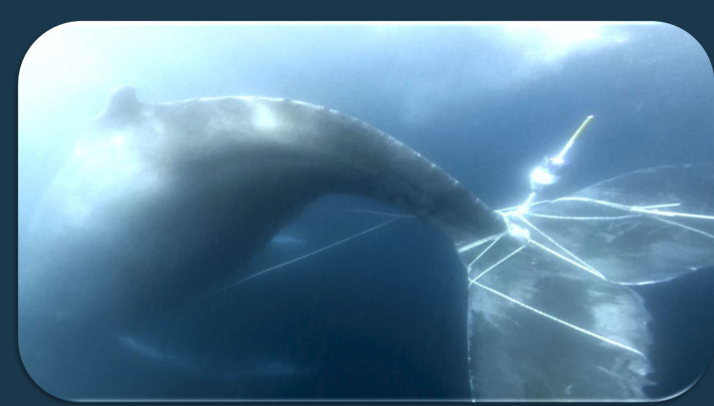

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