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RESCUE OF TWO SEA TURTLES FROM ABANDONED, LOST, OR OTHERWISE DISCARDED FISHING GEAR DURING SURVEY OF THE SOUTHEAST COAST OF INDIA

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Abandoned, lost, or otherwise discarded fishing gear (ALDFG) poses a significant threat to marine wildlife, particularly endangering sea turtles, fish, and marine mammals worldwide (Macfadyen *et al.*, 2009; Wilcox *et al.*, 2013; Azevedo-Santos *et al.*, 2021; Gunasekaran *et al.*, 2024). Fishing gear is typically made of non-biodegradable materials like polyamide (PA), polyethylene terephthalate (PET), and high-density polyethylene (HDPE) (Gunasekaran *et al.*, 2024). Once lost or discarded, it can persist in the environment for years to decades (Battisti *et al.*, 2019; Gilman *et al.*, 2022; Thomas *et al.*, 2023) and result in “ghost fishing”.

During a marine mammal survey cruise by the Central Marine Fisheries Research Institute (CMFRI) on 20th February 2024, three olive ridley turtles (*Lepidochelys olivacea*) were found entangled in ghost nets. Two turtles were entangled in one net and the third turtle in a different net. The entangled turtles were observed on the southeast coast of India, at the locations 11.9565° N, 80.0059° E and 12.2180° N, 80.1433° E (Figure 1). Two of the three entangled turtles were alive, and the third was dead. The water depth at both locations ranged from 30 to 40 metres, and the water temperature was between 30 and 32°C.

The first observation was of two turtles entangled in the same ALDFG, which included cans, bamboo poles, trays, broken buckets, and dead fish. Some plastic bottles were tied together in the ALDFG, potentially to function as a makeshift fish aggregating device (FAD) for cuttlefish. The vessel stopped close to the entangled turtles and two hook poles were used to hold the ALDFG on the starboard side of the vessel. The turtles and ALDFG were not brought onboard for further examination. Each turtle was entangled by the head, fore-flippers, and hind-flippers. The net was carefully cut with a knife to free the live turtle, while a second turtle entangled in the same net was found dead. The live turtle was released back into the water without further injury. The second

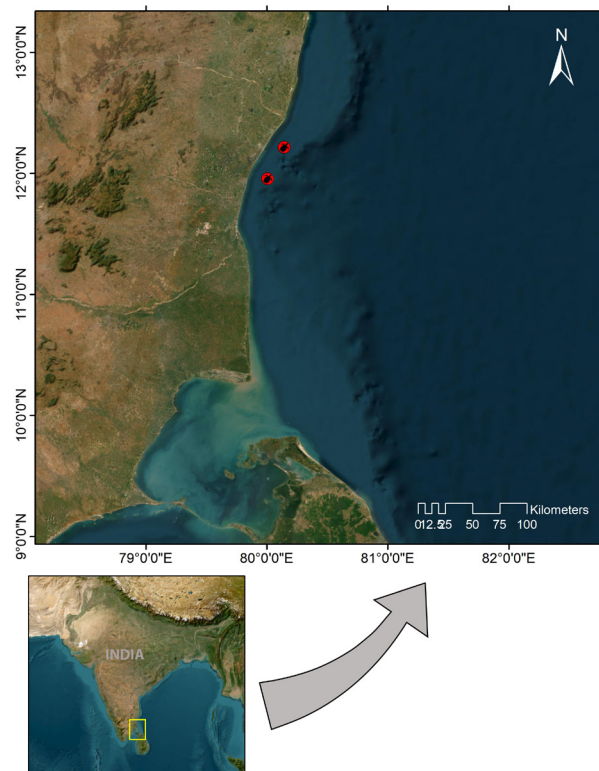


Figure 1. The location of olive ridley turtles entangled in ALDFG off the Tamil Nadu coast of India.

observation was of a turtle entangled in what appeared to be a monofilament net with a white piece of thermocol (polystyrene), which acted as a float, preventing the live turtle from diving. The vessel crew used a knife attached to a pole to free the turtle.

Morphometric measurements of all turtles were taken using a flexible 1 metre measuring tape and the number of costal and vertebral scutes were counted (Table 1). The live turtles did not have any severe injuries or deep wounds. However, due to the tightening and rubbing of the net, the joints of the fore and hind flippers were

Table 1. Morphometrics of olive ridley sea turtles entangled in ALDFG. CCL: curved carapace length; CCW: curved carapace width; L: left; R: right.

#	CCL (cm)	CCW (cm)	# Vertebral Scutes	# Costal Scutes (L/R)	Live/Dead
1	60.2	63.4	7	8/8	Live
2	62.0	65.3	7	8/8	Dead
3	63.5	66.0	7	6/6	Live



Figure 2. A floating mass of ALDFG and two (one live and one dead) olive ridley turtles. (Photo credit: Zainul Abid P.M.)



Figure 3. A live olive ridley turtle entangled in ALDFG and unable to dive. (Photo credit: Alvin Anto)

reddened. The dead turtle had sharp bite marks on the fleshy areas. The live turtles were released, and actively swam from the vessel.

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