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Human-related problems affecting wild dolphin populations in the Pacific Coast of Guatemala

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Many cetacean species are found along coastal areas, and thus are vulnerable to a variety of human activities. As part of a study examining the diversity, abundance, and distribution of costal cetacean species in the Pacific Coast of Guatemala, I have been able to identify two problems affecting small cetaceans' populations in the country: entanglement of dolphins in fishing nets and dolphin harpooning. Dolphins are harpooned to use their meat as shark bait. Interviews with fisherman indicate that the harpooning is a relatively common practice, which is used in two situations: 1) when fishermen do not have enough bait to catch sharks and 2) when sharks do not seem to like the non-dolphin bait provided by fishermen. Shark fishing is one the main practices used in some coastal towns. Shark fishing uses a technique called "cimbra", a pelagic longline that can be up to 10-15 km long and have a variable number of hooks. A cimbra can use a combination of bait. When only dolphin meat is used, this requires the killing of three dolphins. A cimbra that uses a combination of non-dolphin meat and dolphin meat requires killing one dolphin. Harpoons used to kill dolphins are long metal bars approximately 2 m long with a detachable sharpened head. In 2005, 353 fishermen were registered to have at least one cimbra in approximately 255 km of coastline. It is estimated that approximately 468,735 pounds of sharks are caught annually. Another problem faced by small cetaceans includes the incidental entanglement in fishing nets. On March 14, 2009, three dead dolphins were entangled in a ghost fishing net approximately 200 m long. According to the fisherman who works in the project, this type of net is used illegally to capture swordfish (*Istiophorus platyperus*) in offshore waters. The net probably floated with the currents close to shore as it was found at 3.5 nautical miles from the coast. Two of the dolphins, a male and a female, were in advanced stage of decomposition and were tentatively identified as *Tursiops truncatus*. Based on their size, they were probably adults. The third dolphin was a fresh carcass that probably got entangled that day. A necropsy revealed that this dolphin was a juvenile female *T. truncatus* 204 cm long in good health condition. A few days after the incident, a local fisherman reported to have seen at least 10 more dead dolphins in another location. Those animals were not entangled; just floating in the water at approximately 10 miles from shore. The fisherman who saw them said that they were in advance stage of decomposition and thus, their identification was not possible. Since it is uncommon to see these high number of dead dolphins in an area, it seems that their death was human related. One fisherman reported that around 20 dolphins get entangled in his net on a monthly basis. Mortality rates due to entanglement or harpooning have not been quantified or even studied in the country. Thus, their effects on local cetacean populations are unknown, but these preliminary reports indicate that the problems are potentially serious and should be studied. The documentation of the problems can help to raise awareness because the government has not taken any actions to try to resolve them.

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