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Richie Moretti (L) and Ryan Butts check the heartbeat of one of several sea turtles recovering at the Turtle Hospital in Marathon, Fla., on Jan. 15, 2010.

Sea turtles' largest threat cannot be seen on land

BY MICHAEL HIRSHFIELD

Officials are calling this one of the worst years on record for sea turtle strandings in the United States. Approximately 2,500 sea turtles have been found wounded or dead as a result of cold-stunning in the increasing frigid waters of the Atlantic Ocean and Gulf of Mexico. Volunteers are busily scouring the coastline for sea turtles that can be rehabilitated and eventually released back into the wild, and rescue centers are becoming inundated with sea turtles fighting for survival.

To a scientist, it all makes perfect, if unfortunate, sense. Cold-blooded reptiles like sea turtles are simply unable to warm themselves in cold water. While sea turtles are commonly found in northern U.S. waters during the summer and early fall, they typically migrate to warmer climates by late October. Unfortunately, not all of them made it out before the area temperatures dropped to unbearable levels, and with a winter like we are having, it is bound to be a deadly scenario.

In any given year, hundreds of sea turtles (most commonly Kemp's ridleys, greens and loggerheads) can become cold-stunned along the Northeastern United States. While this is a serious issue, it is a relatively small concern when compared to commercial fishing. Although sea turtles have been swimming the world's oceans for more than 100 million years, humans, not nature, are pushing them to the brink of extinction. Today, all six species of sea turtles found in U.S. waters are listed as either "threatened" or "endangered" with extinction under the Endangered Species Act.

Technological advances in gear, navigation and vessel capabilities have contributed to making commercial fishing one of the largest causes of sea turtle mortality worldwide. In fact, commercial fishing is responsible for the death of thousands of sea turtles each year, in addition to the countless other sea turtles that are injured after interacting with destructive fishing gear such as scallop dredges and bottom trawls.

Dredges are often used to catch animals that live on the seafloor, such as commercially valuable scallops and clams. They work by dragging a heavy metal frame and bag made of metal chain links along the seafloor, bulldozing everything in their path and killing a wide variety of marine life, including corals and sea turtles.

You can only imagine what a several thousand pound dredge will do to a few hundred pound sea turtle. Fortunately, this is one problem with clear solutions: either make the gear safer for sea turtles or get it out of the water when and where they are present.

We can be happy about the recent rebound in Kemp's ridleys and greens. Once considered the most endangered sea turtles species in the world, Kemp's ridleys are finally making a comeback after improved protection of nesting beaches and the required use of Turtle Excluder Devices (TEDs) in all U.S. shrimp trawls. In their simplest form, TEDs are escape hatches for sea turtles. Unfortunately for other species of sea turtles such as loggerheads, as of 2009, the only federally managed trawl fisheries required to use TEDs are those targeting shrimp and summer flounder.

Loggerheads have not fared as well as Kemp's ridleys. Loggerhead nesting in Florida has declined by more than 40 percent since 1998, with 2009 being one of the worst years on record for loggerhead nesting from North Carolina to Florida.

Fortunately, some in the fishing industry (as well as increasing numbers of consumers) are beginning to recognize that fish are part of a delicate and complex ocean ecosystem and that everything in the ocean from sea turtles to dolphins and corals is vital to producing the fish that fishermen catch and we eat. There is an understanding that fish must be taken out of the ocean without disrupting the very system that makes fish production possible.

Whether they are bringing vital nutrients from foraging grounds to coastal habitats near nesting beaches, or eating sponges, seagrass and jellyfish, sea turtles play a critical role in maintaining the health of the oceans.

When sea turtles wash up on beaches, we should remember that their populations are in grave danger of extinction. Since sea turtles are unable to avoid natural causes of death like unusually cold winters, we need to do everything in our power to eliminate human caused sources of mortality. If not, we may well be looking at the disappearance of sea turtles from the ocean.

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