Gulf wildlife ‘dead zone’ keeps growing

Scientists worry that oil spill will make dead zone even wider

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An over 7,000-square-mile wildlife "dead zone" located in the center of the Gulf of Mexico has grown from being a curiosity to a colossus over the past two decades, according to the National Wildlife Federation (NWF), and scientists are now concerned the recent oil spill and other emerging chemical threats could widen the zone even further.

The NWF describes the dead zone as being "the largest on record in the hemisphere in coastal waters and one of the biggest in the world."

During the summer months, it is nearly devoid of wildlife, save for the dead bodies of crabs, shrimp and other marine species that succumb to oxygen depletion in the polluted water.

Animal toxicology experts believe the Gulf dead zone is a man-made monstrosity.

"Outside of widespread impacts from oil release, the drainage of the Mississippi River into the Central Gulf has deposited massive amounts of agricultural chemicals and fertilizers from agricultural activities in the Central United States," Ron Kendall, director of The Institute of Environmental and Human Health, told Discovery News.

"Basically, this has created the large dead zone in the Central Gulf," added Kendall, who is chairman of Texas Tech's Department of Environmental Toxicology and was part of the assessment team for the Exxon Valdez.

He has just edited the first textbook -- "Wildlife Toxicology: Emerging Contaminant and Biodiversity Issues" -- to address environmental threats to wildlife in a single volume and recommend mitigation techniques to protect and sustain Earth's wildlife populations.

He and other scientists are particularly concerned now about sea turtles and certain bird and fish populations near the dead zone and within the Gulf region.

Many sea turtle species are endangered, and "if oil reaches the shore and exposes turtle nests, the eggs will probably not hatch." The eggs of terns and brown pelicans could also "be at great risk for reduced hatching rates."

"The blue fine tuna are also reproducing in the Gulf at this time," Kendall said. "Their populations are seriously low and any impact on hatching rates and/or survival will continue to depress their populations."

He believes the recent oil spill is "much more complex than the Exxon Valdez crisis," since marine areas, salt marshes and other contaminated regions cannot be cleaned without destroying the habitats themselves.

Richard Dodge, executive director of the National Coral Reef Institute, told Discovery News that "mangrove forests are at high risk because of their intertidal location" since "floating oil can enter, coat roots and cause forest mortality at a large scale." Slideshow Wildlife threatened by oil

Dodge, who is also a professor and dean at Nova Southeastern University's Oceanographic Center, is additionally worried about Florida's coral reef ecosystems, which "have been subject to a host of stresses that include the effects of a warming ocean from global warming, ocean acidification from dissolved CO2, and even from this past winter which was unusually cold."

Although climate change is often associated with global warming, it can result in such hot and cold extremes.

Dodge further said that development, fishing and pollution are other stressors to the reefs and the wildlife they support.

Kendall and his colleagues have determined that pharmaceuticals, including antibiotics and hormones, are getting into the environment and may cause impacts to fish and wildlife. Nanomaterials from the growing nanotechnology industry could cause "considerable" impacts, he believes.

But, as the Deepwater Horizon offshore rig off the coast of Louisiana continues to spew oil into the Gulf, experts must continue to focus their attention on the predicted summer dead zone growth and efforts to stop and contain the spill.

Kendall said, "If we cannot get the oil head shut off in the next month or so and a hurricane enters the Gulf of Mexico, the resulting impacts could be of major catastrophic proportion."

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