

Bay feels effect of dry summer

Lack of oxygen a worry for marine life just offshore

By Matthew Sturdevant Caller-Times

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A hot, dry summer that has kept rivers across the nation from fully flowing has helped the Gulf of Mexico but has caused a slight detriment to a section of Corpus Christi Bay, scientists say.

When water is too salty and too warm, it loses its ability to hold oxygen produced by aquatic plants and single-cell organisms. This can be detrimental to oysters, crabs, fish and all aquatic life, which also are food for other fish and birds.

"It's a problem because the animals literally suffocate," said Paul Montagna, a professor at the University of Texas Marine Science Institute in Port Aransas. In some cases, mobile fish can swim out of the area, but that's difficult for immobile or slow moving creatures.

Montagna has been monitoring oxygen levels in Corpus Christi Bay since he first discovered low levels of oxygen in 1988 in a section that is approximately defined by a triangle from Fish Pass to Shamrock Island to Oso Bay.

"It looks like this is one of the bad years," Montagna said.

In the past the area has been hypoxic, meaning it has had low enough levels of oxygen that aquatic life might suffer significantly. This is the first year some sections have been anoxic, meaning there is no oxygen in those sections of water. The condition happens in July and occasionally in June and August.

Hot days and little freshwater inflows from rivers make that section of the bay saltier and warmer than normal. Montagna also has found that in 20 years of research, the bay's average temperature has increased one degree Celsius, or 1.8 degrees Fahrenheit.

"As it heats up, it's ability to hold oxygen decreases," said Ray Allen, executive director of the Coastal Bend Bays & Estuaries Program.

Allen said the area of the bay effected by the hypoxia has little impact to humans and exists on a low layer along the bottom of that section of the bay.

"It seems to be a natural phenomenon," Allen said, adding that he hasn't heard of any fish kills as a result of the bay hypoxia.

However, the hot, dry summer has had a positive effect on a low oxygen area of the Gulf of Mexico, called a dead zone, just south of the Mississippi River delta. Ironically, the low level of river runoff, which would help Corpus Christi Bay because there is not a seriously detrimental level of agricultural runoff, is helping the Gulf dead zone. The Gulf dead zone is deprived of oxygen because of fertilizer nutrients from agricultural run off that can cause algae blooms that choke the water, according to the National Oceanic Atmospheric Administration.

This summer's dead zone is predicted to be less than 1,400 square miles, which is about the size of Rhode Island. Typically, the dead zone has been about 4,900 square miles since 1990, according to NOAA research. NOAA researchers are mapping the dead zone to see if it mirrors their prediction, said Ben Sherman, a spokesman for the National Oceanic and Atmospheric Administration.

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