



# The Commonwealth of Massachusetts Division of Marine Fisheries

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August 11, 2023

## Marine Fisheries Advisory

### **Notice to lobster trap fishermen and other interested parties: Seasonally Recurring Low Oxygen Zones Detected in Cape Cod Bay**

Environmental sensors deployed by the Cape Cod Bay Study Fleet and by the Center for Coastal Studies, who are working cooperatively with DMF, have once again detected low oxygen zones in Cape Cod Bay. Data indicate that dissolved oxygen (DO) levels are low (< 4 mg/L) at several locations in the northeastern portion of Cape Cod Bay, between Provincetown and Wellfleet, and in the southern portion of Cape Cod Bay near Barnstable. Data collected by the Cape Cod Bay Study Fleet and by the Center for Coastal Studies show levels near the seabed of < 4.0 mg/L in several locations (see maps below); values less than 4.0 mg/L are considered mildly hypoxic, and values less than 2.0 mg/L are considered severely hypoxic.

These low values of DO that we've observed are concerning, particularly since it is relatively early in the season compared to the timing of previous years. We suspect this is related to the extremely stratified water column; surface temperatures in Cape Cod Bay are in the mid to upper 60's while bottom temperatures are around 50° F or lower in some places. Lobster fishermen working in or near the affected areas should be aware of signs of hypoxia, which include blackened mud or scum on groundlines or traps and unusual amounts of lethargic or dead lobsters, crabs, or finfish in the traps.

Many mobile bottom dwelling animals like lobsters will move to avoid hypoxic conditions when they can, but will die if captured in traps and exposed to hypoxia for more than a few hours. DMF recommends fishermen check traps frequently, and possibly consider moving gear out of the affected region to prevent trapping lobsters or crabs in hypoxic conditions. DO conditions can change rapidly based on weather conditions (wind and waves) and it is difficult to predict exactly where or when hypoxic conditions will occur. We will continue to monitor the situation with the help of our partners at Center for Coastal Studies as well as members of the Cape Cod Bay Study Fleet. For more information on hypoxia and to see recent conditions as recorded by the Study Fleet, please visit [www.mass.gov/capecodbaydo](http://www.mass.gov/capecodbaydo).

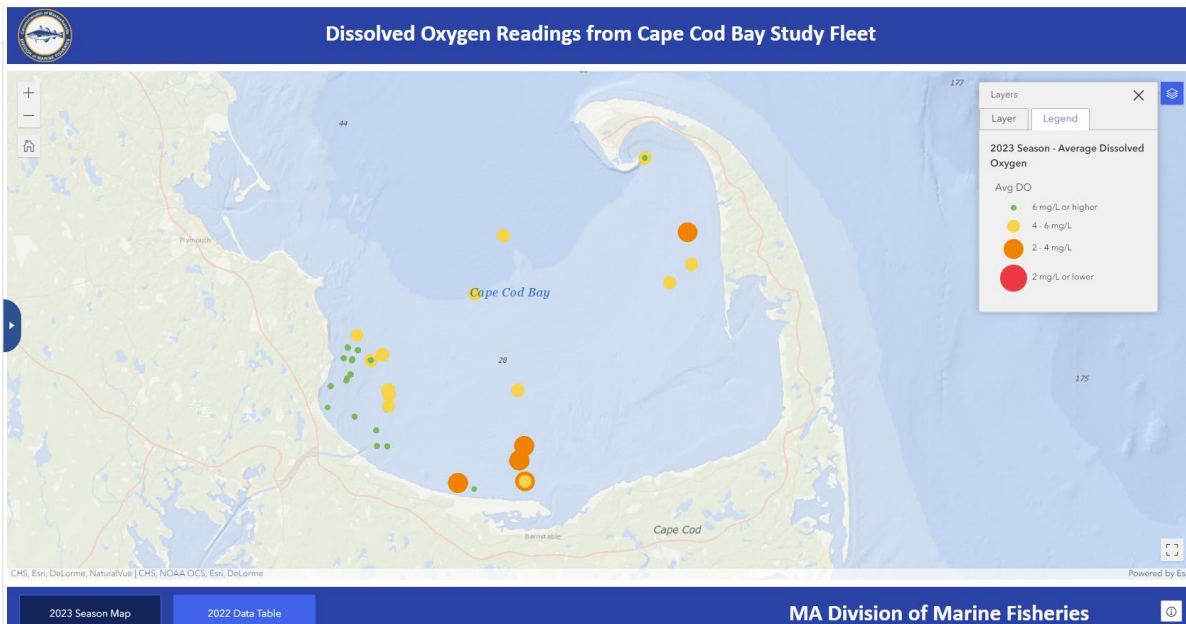


Figure 1. Dissolved oxygen levels recorded by Cape Cod Bay Study Fleet participants over the past 10 days. Values less than 4.0 mg/L (orange) are considered mildly hypoxic, and values less than 2.0 mg/L (red) are severely hypoxic.

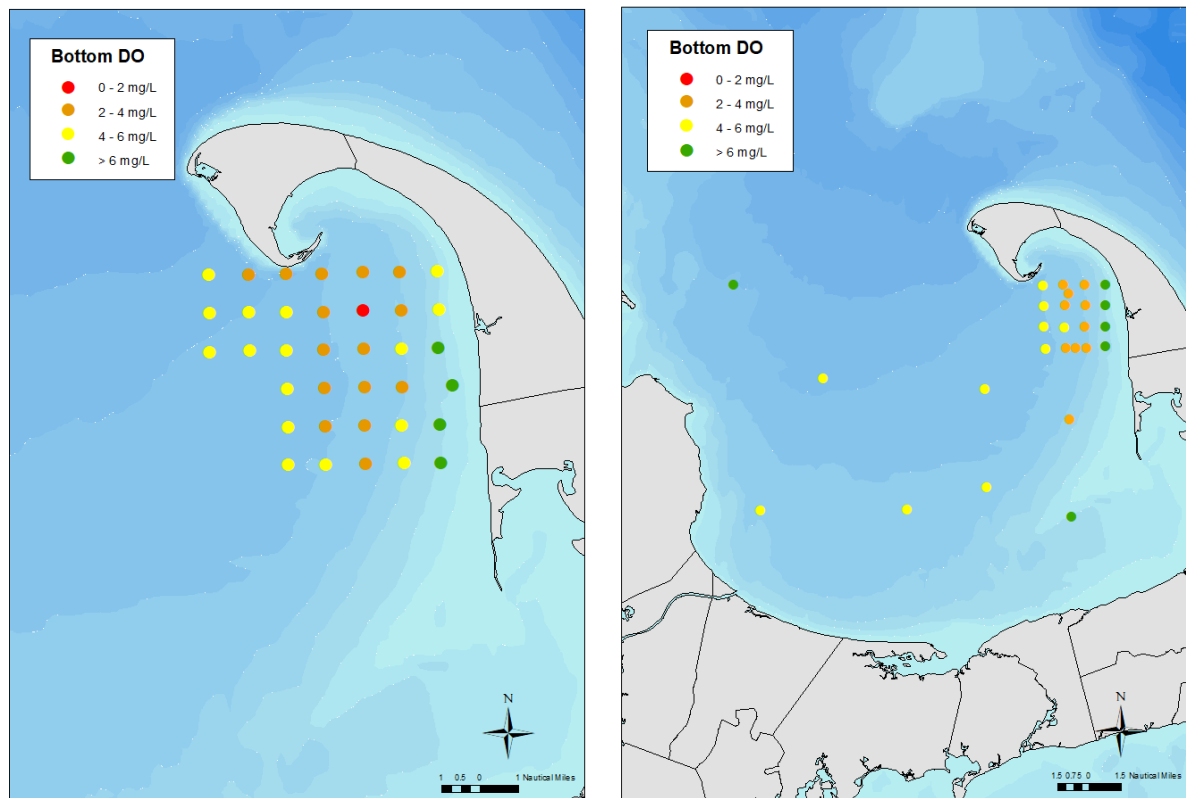


Figure 2. Dissolved oxygen values recorded by Center for Coastal Studies on Aug 2, 2023 (left) and Aug 7, 2023 (right).