

2011 Vertical Profiler Summary – Curtailed Monitoring Season Records Presence of Bay “Dead Zone”

After mechanical issues twice delayed deployment earlier in the year, DNR’s vertical profiler, which monitors water quality throughout the water column, was deployed just north of Kent Island on August 9th, 2011 (Figure 1). This location was chosen to allow DNR to monitor the seasonal “dead zone” that forms in the mainstem Bay in early to mid-summer. Unfortunately, the profiler stopped functioning completely on August 18th and had to be pulled from the water. The vertical profiler was, however, able to capture the presence of the “dead zone” over these nine days (Figure 2). Between August 11th and August 14th, hypoxic conditions were observed at approximately six meters below the surface and anoxic conditions were seen beginning at around seven meters.

DNR is currently exploring options for repairs and upgrades to the profiler that will make it more reliable in the high current waters of the Chesapeake Bay, and allow scientists and managers to more thoroughly track the Bay’s “dead zone” in 2012.

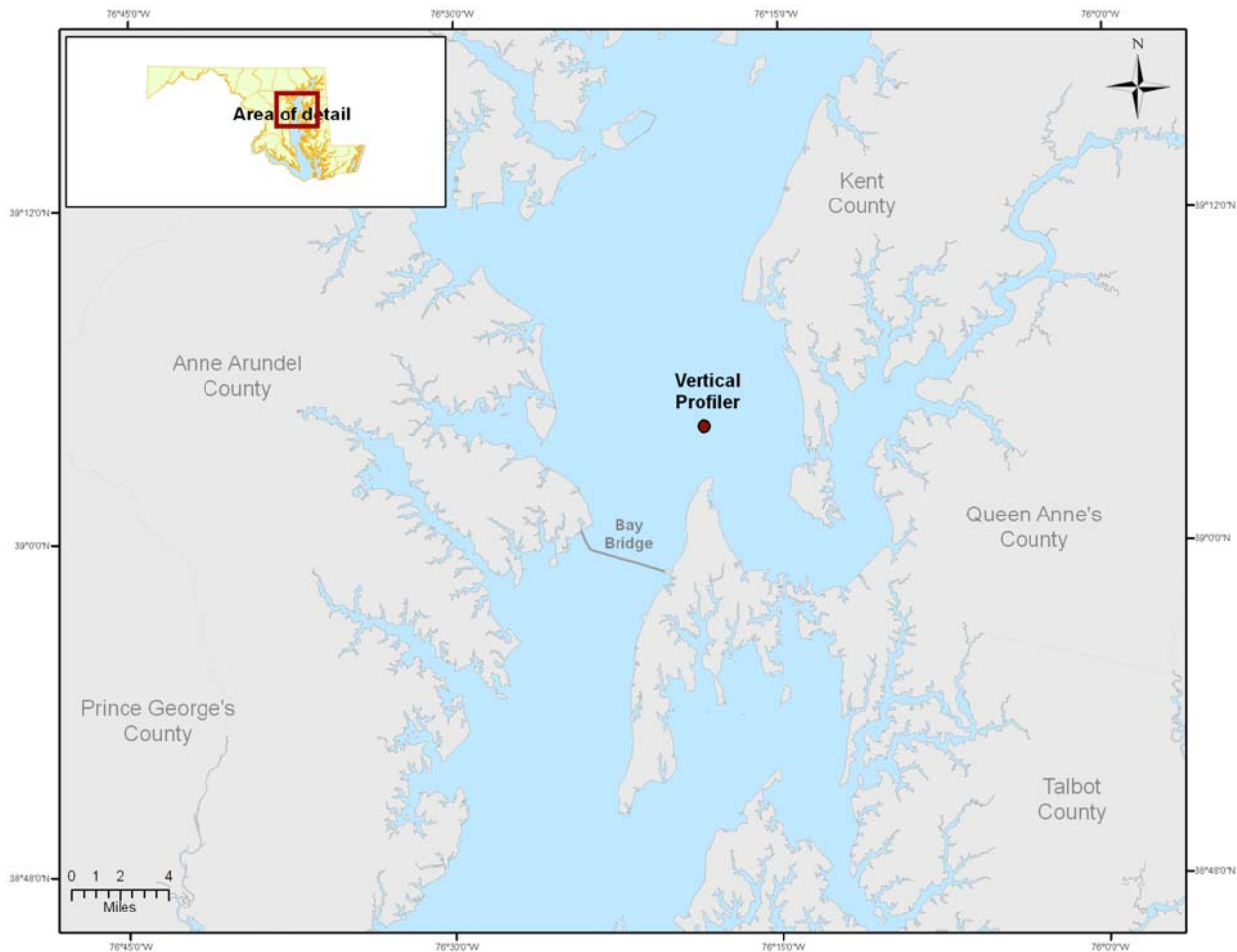


Figure 1. Map showing the deployment location of DNR’s vertical profiler in 2011.

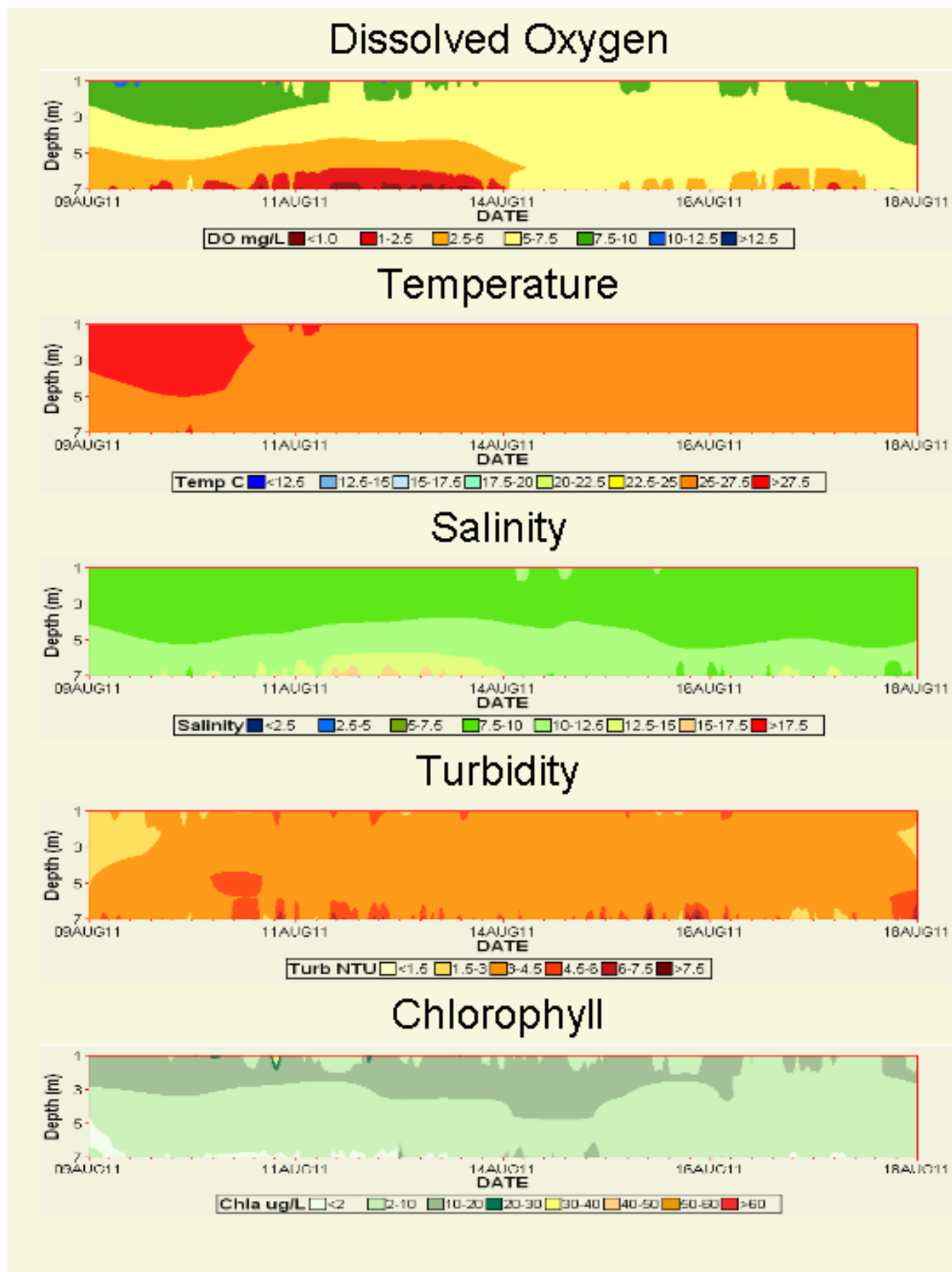


Figure 2. Contour plots of water quality data collected by DNR's vertical profiler in 2011.