

## **Dominion Gooses Reef Buoy Geography**

Welcome to NOAA's Gooses Reef Interpretive Buoy, located in the Chesapeake's main stem between the mouth of the Little Choptank River to the east and Calvert Cliffs to the west, at 38 degrees 33.375 minutes North latitude, 76 degrees 24.882 minutes West longitude. It lies just east of what fishermen call the Gooses Bell Buoy, red marker number 78 along the Chesapeake's main channel.

The buoy sits in 35 feet of water on a relatively shallow shelf between the Bay's deep main channel and the channel flowing out of the big Choptank River. It probably was a large oyster reef reaching nearly to the surface when Captain John Smith and his crew first sailed by here on June 11, 1608, during their first exploratory voyage up the Bay.

The original reef has long-since disappeared, a victim of overharvest, pollution, and disease, but it lies in an area where powerful currents converge, driven by river flows, tides, and winds in this wide-open part of the Bay that is actually very much the tidal Susquehanna. Those currents make this a great spot for oysters. First, the currents scour the bottom, so it is firm, with no silt settling out. Thus it can hold the weight of generations upon generations of oyster shells growing on top of their forebears. Second, the currents bring plenty of food in the form of plankton to any oysters that might live here. Third, converging currents form eddies that tend to collect oyster larvae during a spawn, so that the reef can replenish itself. Over time, such a reef becomes a "keystone community" where millions of reef critters like barnacles, grass shrimp, anemones, mud crabs, worms, and small fish live together on the jumble of shells, attracting larger fish like Norfolk spot, Atlantic croakers, sea trout, flounder, and rockfish (aka striped bass). It will even attract occasional juvenile loggerhead sea turtles in summer and diving sea ducks like scoters and longtails in winter. This kind of "live bottom" community is immensely valuable habitat.

The great news is that this reef is now being re-born, thanks to a partnership between the NOAA Chesapeake Bay Office, Dominion Resources, the Maryland Department of Natural Resources, the Coastal Conservation Association of Maryland, the Maryland Artificial Reef Initiative, the Friends of the John Smith Chesapeake Trail, the Chesapeake Bay Observing System, the Chesapeake Bay Foundation, the Oyster Recovery Partnership, and other Chesapeake Bay organizations. Funds for the buoy have come from the Dominion Foundation, the philanthropic arm of Dominion Resources.

As part of the Maryland Artificial Reef System (MARI), the Dominion Reef at the Gooses holds approximately 80 acres of concrete removed from the old Woodrow Wilson Bridge over the Potomac near Washington, DC, carefully crushed into chunks, and barged here to be planted precisely on the footprint of the old reef. The grant from the Dominion Foundation covered preparation, transportation, and placement of the concrete, plus placement of oyster shell and spat (i.e., baby oysters) onto the reef site to jump-start the live bottom community there.

Dominion also paid for the buoy itself, which offers a number of interesting new features that include deep-water as well as surface water quality readings. Scientists have no doubt that the Dominion Reef Buoy at the Gooses will have many stories to tell.