



NOAA Chesapeake Bay Office

Derelict Fishing Gear Study

Derelict fishing gear, including lost or abandoned nets and crab traps, can create safety, nuisance, environmental, and economic impacts in coastal waters. The Chesapeake Bay blue crab fishery—the nation’s largest—uses traps as the primary method of harvest. Conservative estimates suggest that more than 500,000 commercial crab traps are deployed in the Bay on a typical day during the summer months. Information from the Chesapeake Bay and around the United States suggests that every year, each commercial fisherman may lose as many as 30% of their traps for a variety of reasons.

Crab traps in the Chesapeake Bay become “ghost traps” after their float line is severed by vessel propellers, chafed due to wave action, or affected by strong currents. Without floats, watermen and fishermen are unable to find their traps. When these traps remain in the water, they can trap, wound, or kill fish, blue crabs, birds, reptiles, and marine mammals; harm marine ecosystems and sensitive habitats; cause lost income and economic hardship for working watermen, wholesalers, and the restaurant industry; and form hazards to recreational, commercial, and military vessels.

What Is NCBO Doing to Help?

During sonar survey operations in the winter of 2005, the NOAA Chesapeake Bay Office (NCBO) Habitat Characterization and Mapping Program noticed that there were many derelict crab traps in parts of the upper Chesapeake Bay. To evaluate the scope of potential effects of these traps on living resources in the Bay, NCBO organized its Derelict Fishing Gear Program (DFGP), which operates in cooperation with a number of federal, state, and academic partners.

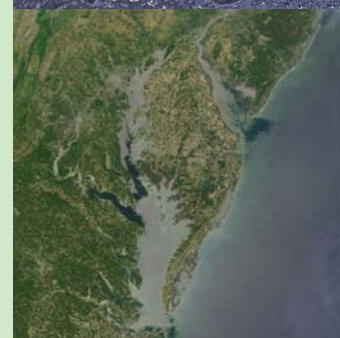
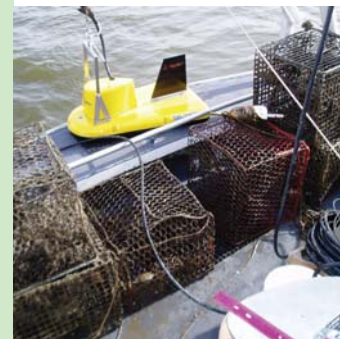
This program is working to quantify how many derelict crab traps there are in various parts of the Chesapeake Bay, and whether they adversely affect blue crab and other resources. DFGP uses side-scan sonar to accurately identify, locate, and quantify derelict crab traps, and has developed experimental and field methods to estimate the effects of ghost fishing derelict traps on blue crabs and other species. Suspected trap targets will be ground-truthed using underwater video cameras and trawls to verify the counts and locations of derelict crab pots and to prepare them for removal.

Surveys began later in 2005 in Virginia (York River and tributaries; surveys performed by the Virginia Institute of Marine Science’s Center for Coastal Resource Management), and Maryland (approaches to the Rhode, West, and South Rivers; work accomplished by NCBO’s Field Operations Team). Estimates of derelict trap densities for the surveyed portions of the Lower York River and the Chesapeake mainstem adjacent to the South River range from 20 to



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- Stewardship*
- Teamwork*
- Focus*
- Communication*



690 traps per square kilometer. Further research and analysis will refine these numbers and scientific understanding of how derelict crab traps affect living resources in the Chesapeake Bay.

Currently, NCBO is working on a detailed surveys of two areas representing a range of crab fishing pressure: the approaches to the Rhode, West, and South Rivers, and Herring Bay, both on Maryland's Western Shore. In October 2006, baited experimental traps were deployed in a variety of water depths to monitor the effects of derelict traps. In addition, non-fishing traps were deployed at each location to monitor the rate of fouling. Each site has been monitored on a biweekly basis since the traps were deployed; this study will continue through April 2007. Monitoring consists of retrieving each crab trap and measuring and identifying every species in the trap. Crabs and fish are measured, and variables including species mortality and water quality are also documented. This information will help scientists determine the numbers of living resources affected by ghost fishing. A companion study will continue with additional experimental traps deployed in other portions of the Bay during the next blue crab fishing season.

What Can You Do to Help?

NCBO is seeking the collected wisdom of commercial and recreational fishermen and women on this issue. NCBO's DFGP is trying to accumulate as much information as possible about blue crab fishing practices and other activities that could result in lost fishing gear. Following exhaustive analyses, should derelict trap ghost fishing result in significant adverse effects to the crab fishery and/or populations of their bycatch, NCBO will investigate the feasibility of developing specialized retrieval techniques and a retrieval and recycling program to mitigate potential effects. This effort will benefit immeasurably from the participation of Bay stakeholders—particularly watermen.

What Are the Next Steps?

Once the effects of derelict traps on Chesapeake Bay living resources and habitats are better quantified, DFGP can begin to engage in effective community-based removal, recycling, and gear loss prevention efforts with partners including commercial watermen, recreational fishers, resource managers, academia, and other stakeholders. Potential removal methods will be developed and tested in partnership with commercial crabbers, and programs featuring incentives for retrieving lost traps will then be evaluated. Other options to be discussed will include modifications to trap design, recycling programs for old traps, and outreach efforts to inform the industry and other key stakeholders.

NCBO and its DFGP partners are working to quantify how big a problem derelict fishing gear is in the Chesapeake Bay, which will help determine how best to tackle the issue. Minimizing the number and effects of ghost crab pots through loss prevention, removal programs, and other innovations will help the blue crab population in the Chesapeake Bay—and that will be good news for everybody.

NCBO Mission

To understand, predict, and explain changes in the Chesapeake Bay's environment, and conserve and manage coastal and estuarine resources to meet the Region's economic, social, educational, and environmental needs.



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