MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Chesapeake Bay Finfish Investigations
Summary of 2012 Maryland Striped Bass Stock Assessment Surveys
Natural Resources Article § 4-746

The primary objective of the Striped Bass Program of the Maryland Department of Natural Resources was to monitor and biologically characterize the striped bass population in the Maryland portion of the Chesapeake Bay and to assess the status of Maryland's striped bass spawning stock. Striped Bass Program surveys provide information regarding: recruitment, relative abundance, harvest, age structure and growth, mortality, and migration. The data generated are utilized in both intrastate and interstate management processes and provides a reference point for future Atlantic coast striped bass management considerations**.**

The spring, 2012 spawning stock survey indicated that there were 18 age-classes of striped bass present on the Potomac River and Upper Bay spawning grounds. These fish ranged in age from 2 to 19 years old. Male striped bass ranged in age from 2 to 15 years old, with age 8 and age 9 fish (2004 and 2003 year-classes) being the most abundant component of the male striped bass spawning stock. The majority of females were ages 9 to 14, with most female collected at age 9 (2003 year-class). During the spring, 2012 spawning season, the contribution of age 8 and older females to the female spawning stock increased to 80%.

The 2012 striped bass juvenile index, the annual measure of striped bass spawning success in Chesapeake Bay, was 0.9, the lowest index measured in survey's 59-year history. This is significantly lower than the long-term average juvenile index of 12.0. Highly variable spawning success is a hallmark of striped bass populations. Typically, several years of average reproduction are interspersed with occasional large and small year-classes. Spawning success is heavily influenced by environmental conditions such as flow rates and water temperature. In 2011, biologists documented one of the most successful striped bass spawns on record and these 1-year-old fish are very abundant. The successful spawning years of 1989, 1996, and 2001 were also followed by below-average or poor years.

Several other species of anadromous fish, such as white perch, yellow perch, and river herring, experienced low reproductive success in 2012, pointing to large-scale environmental conditions as the probable cause because warm winters and dry springs are unfavorable spawning conditions for anadromous fish. However, the survey documented increased reproduction of species that spawn offshore or in higher salinity bay water, like Atlantic croaker and bay anchovies. During this year's survey, biologists identified and counted more than 31,000 fish of 54 different species. DNR biologists have monitored the reproductive success of striped bass and other species in Maryland's portion of the Chesapeake Bay annually since 1954

During the 2012 trophy season, biologists intercepted 209 fishing trips, interviewed 447 anglers, and examined 130 striped bass. The average total length of striped bass sampled was 863 mm total length (mm TL) (34.0 inches). The average weight was 6.7 kg (14.7 lbs). Striped bass sampled from the trophy fishery ranged in age from 5 to 17 years old. The 2003 year-class (age 9) and 2004 year-class (age 8) were the most frequently observed cohorts. Average catch rate based on angler interviews was 0.2 fish per hour.

In summary, Maryland commercial and recreational striped bass fisheries have been concurrently managed by the MD DNR as part of the Atlantic coastal stock under the auspices of the Atlantic States Marine Fisheries Commission (ASMFC). Data collected by MD DNR biologists are used in the management of both the recreational and commercial fisheries.