MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Chesapeake Bay Finfish and Habitat Investigations
Summary of 2008 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 (MD DNR) 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**.**

Resident / premigratory striped bass present in the Chesapeake Bay during the summer – fall 2007 pound net and hook and line commercial fisheries ranged from 2 to14 years of age. Four year old striped bass from the 2003 year-class dominated samples taken from pound nets, composing 51% of the sample in 2007. Check station sampling determined that the majority of the pound net and hook-and-line fishery harvest was composed of four and five year old striped bass from the 2002 and 2003 year-classes.

The 2007-2008 commercial striped bass drift gill net fishery harvest was comprised primarily of fish between 4 and 7 years old from the 2001, 2002, 2003 and 2004 year-classes. Striped bass from the 2003 year-class comprised 51% of the total drift gill net harvest. Year-classes 2004, 2002, and 2001 (ages 4, 6, and 7) made up 35% of the total harvest while age 8 to 14 year-old fish contributed 13% to the total. Striped bass present in commercial drift gill net samples collected from check stations ranged in age from age 3 to14 (1994 – 2005 year-classes).

The spring, 2008 spawning stock survey indicated that there were 15 age-classes of striped bass present on the Potomac River and Upper Bay spawning grounds. These fish ranged in age from 2 to 18 years old. Age 4 (2004 year-class) and age 5 (2003 year-class) male striped bass were the most abundant component of the male striped bass spawning stock. Age 12 (1996 year-class) females were the major contributors to 2008 total female abundance. Age 8 and older females comprised 95% of the female spawning stock in 2008. The Chesapeake Bay striped bass spawning stock remains healthy and is closely monitored by MD DNR biologists in partnership with other coastal states through the Atlantic State's Marine Fisheries Commission (ASMFC).

The 2008 striped bass juvenile index, a measure of striped bass spawning success in Chesapeake Bay, was 3.2, below the long-term average of 11.7. During the survey DNR biologists collected 422 young-of-year (YOY) striped bass. Healthy striped bass populations are known for such highly variable spawning success. This is only the third time in the past decade that striped bass reproduction in Maryland's Chesapeake Bay has been below average. Two of the most successful spawning years ever documented (2001 and 2003) also occurred during this past decade. Typically, several years of average reproduction are interspersed with occasional large and small year-classes.

Poor reproduction was also observed for other spring-spawning species such as white perch and American shad, leading biologists to suspect that large-scale environmental factors were responsible. Heavy rains in early May resulted in decreased water temperatures on major striped bass spawning grounds. The spring water temperatures fell below levels known to be lethally cold to striped bass eggs and larvae, and survival of these sensitive life stages is a major determinant of spawning success.

During the 2008 trophy season, biologists intercepted 271 fishing trips, interviewed 329 anglers, and examined a total of 200 striped bass. The average total length of striped bass sampled was 920 mm TL (36.2 inches), and the average weight was 7.8 kg (17.2 lbs). Most fish sampled from the trophy fishery were between nine and twelve years old. The 1996 year-class (age 12) and 1997 year-class (age 11), were the most frequently observed year-classes, constituting 45.6% of the sampled harvest. Average catch rate based on angler interviews was 0.3 fish per hour a drop from the catch rate of 0.5 fish per hour in 2007.

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.