



## **Chesapeake Bay Finfish and Habitat Investigations Summary of 2007 Maryland Striped Bass Stock Assessment Surveys Natural Resources Article § 4-746**

The primary objective of the Striped Bass Project 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 2006 pound net and hook and line commercial fisheries ranged from 1 to 14 years of age. Three year old striped bass from the 2003 year-class and 5 year old fish from the 2001 year-class dominated samples taken from pound nets, contributing 32% of the total sample in 2006. Check station sampling determined that five year old striped bass from the dominant 2001 year-class comprised 36% of the commercial hook & line harvest and 37% of the pound net harvest.

The 2006-2007 commercial drift gill net fishery harvest was comprised primarily of four, five and 6 year old striped bass from the 2001, 2002 and 2003 year-classes. Age groups 4, 5 and 6 contributed approximately 78% of the drift gill net harvest while age 7 to 14 year-old fish contributed 22%. Striped bass present in commercial drift gill net samples collected from check stations ranged in age from 4 to 14 (1993 – 2003 year classes)

The spring, 2007 spawning stock survey indicated that there were 16 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. Age 4 male striped bass from the 2003 year-class were the most abundant component of the male striped bass spawning stock. Age 11 (1996 year-class) and age 10 (1997 year-class) females were the major contributors to 2007 total female abundance. Age 8 and older females comprised 93% of the female spawning stock in 2007, a 9% increase from 2006.

The 2007 striped bass juvenile index, a measure of striped bass spawning success in Chesapeake Bay, was 13.4, slightly above the 54-year average of 12.0. During beach seine sampling, 1,768 young-of-year (YOY) striped bass were collected. The Upper Bay and the Nanticoke River both produced above-average numbers of YOY striped bass. Reproduction in the Potomac and Choptank rivers was below average. The healthy level of reproduction in 2007 follows a low index in 2006. Striped bass populations are known for this variable spawning success in which several years of average reproduction are interspersed with occasional large and small year-classes.

During the 2007 recreational trophy season, biologists intercepted 542 fishing trips, interviewed 809 anglers, and examined a total of 301 striped bass. The average total length of striped bass sampled was 861 mm TL (33.8 inches), and the average weight was 6.8 kg (14.9 lbs). Most fish sampled from the trophy fishery were between seven and eleven years old. The 2000 year-class (7 years old) was the most frequently observed year-class, constituting 21% of the sampled harvest. Average catch rate based on angler interviews was 0.5 fish per hour, a drop from the catch rate of 2.6 fish per hour in 2006. New 2007 size limits resulted in considerable change in length frequencies, catch rates, and age structure of the trophy season harvest.

A total of 1,142 striped bass were tagged and released for growth and mortality studies during the spring, 2006 sampling season. Of this sample, 772 were tagged with USFWS internal anchor tags. A total of 370 striped bass were sampled and tagged during the cooperative USFWS / SEAMAP Atlantic Ocean tagging cruise. A high reward tag (HRT) study was also incorporated into the spring fishery-independent spawning stock study in order to obtain a current estimate of reporting rate. Results were not yet available for this report. Specialized coded wire tag (CWT) sampling was continued on the Patuxent River during 2007. A total of 48 striped bass were scanned for the presence of CWT's , but none were found to be CWT positive.

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.