

MEMORANDUM

TO: Sport Fisheries Advisory Commissioners and Bass Tournament Directors

FROM: David Blazer, Director of Fisheries



DATE: March 15, 2016

RE: Action to improve largemouth bass fisheries in tidewater

Summary

Due to more than 3 years of poor catch values in the Potomac River, further management action is dictated by the Tidal Bass Fishery Management Plan. Actions were also suggested at an annual stakeholder meeting (black bass roundtable) on February 4th because of concern with the fishery. Beginning with permits issued March 2016, tournament permits will limit anglers to a 12 inch minimum size and a possession limit of 5 bass (largemouth and smallmouth combined), only one of which may be over 15 inches (per angler, per day) for tournaments held between June 16 and October 31. This action will reduce the number of big fish coming to scale and lower fishing mortality. This action will be required in the two largest tidewater fisheries, Potomac River and upper Chesapeake Bay.

Background

Largemouth bass is one of Maryland's most popular sport fish and is Inland Fisheries' largest catch-and-release fishery. Surveys of angler catches and preferred targets have consistently indicated largemouth bass is the most targeted sport fish in Potomac River. Because the fishery provides economic support for the State, quality of life for its citizens and sporting opportunities, the Department developed cost-effective fishery dependent and independent surveys that culminated into a Fishery Management Plan that helps govern the fishery with significant input from stakeholders.

Annual fishery independent surveys of Potomac River have reflected lower than average catch of age 1+ fish for 4 years (Figure 1). After 3 years of poor catch values, actions were taken as dictated by the Tidal Bass Fishery Management Plan. These actions were also justified by concerns expressed by some anglers, particularly during the fall fishing season. Despite these concerns, fishery dependent data delivered from tournament reports to the Department indicated normal levels of catch averaged among tournaments. However, in 2013 and 2014 it was noted that reported catch began differing more often among tournaments, particularly during fall. In 2015, reported catch averaged among tournaments declined from 3 bass/angler to 2 bass/angler, which was the first notable decline in average catch reported by tournament directors over the past decade.

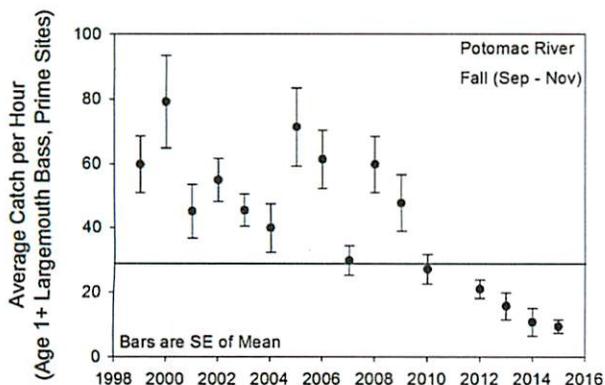


Figure 1. Average catch of Largemouth Bass (age 1+) for sites surveyed each year (1999 - 2015; data not available for 2011) for tidal freshwater of shoreline habitats in Maryland's Potomac River. Line represents the fishery reference point, below which values are poor.

Possible hypotheses that explained changes in fishery independent and dependent indices were intensively studied over the past 3 years. Hypotheses that were eliminated included ones related to disease, intersex, and prevalence of Largemouth Bass Virus. The hypotheses with the greatest support to explain changes in fishery independent and dependent indices are related to a period of greater than normal fishing mortality followed by a period of poor recruitment caused by natural habitat loss.

Greater levels of annual and fishing mortality between 2008 and 2010 were associated with high levels of catch and a large number of anglers (recreational and tournament). There was an apparent loss of age 2 and older fish that was not replenished by natural reproduction and recruitment. Juvenile indices were lower than reference points following 2011, when tropical storms caused massive loss of submerged aquatic vegetation in tidal freshwater habitats of Potomac River.

Scientific Work

Preventing death of adults in a population has been a goal of the State and tournament organizations for decades. Maintaining oxygenated conditions in live wells has been cited as a problem for keeping adults alive by the Department since at least 1990. Live wells can experience significant drops in oxygen when not properly maintained (Hartley et al. 1993). While stressed fish may survive a weigh-in, mortality may not be observed until 48 - 72 hours following release. Because tournament anglers typically weigh the biggest fish caught, problems with live well maintenance that lead to death of the fish can also lead to the death of the largest and least common adults in the population.

Total bass mortality (both at scale and delayed) measured by the Department in July 1989 was 19.1%. More recent studies conducted by the Department in July 2011 and June 2012 with the Paralyzed Veterans of America was approximately 25% total mortality, with 22% delayed mortality. Delayed mortality during summer (water temperatures > 80° F) may reach 34% and is much lower during spring (2.9%)(Gilliland 2002). Total mortality increases with water temperature and average surface water temperature in tidal freshwater of Potomac River during summer and fall in 2015 (June - October) was 77° F and reached 84° F. To help reduce total mortality, recommendations by B.A.S.S. include chilling live wells, continuous recirculation and water exchanges, especially during summer (> 80° F). These recommendations are not required and cannot be adequately enforced during a tournament.

Reducing the number of large fish in a live well should help minimize the need for expert attention to a live well. Heavy bass require more oxygen (Beamish 1970; Burlison et al. 2001). Largemouth bass that range between 12 inches (305 mm) and 15 inches (381 mm) are predictably between 1 - 2 pounds, but bass greater than 15 inches are heavier and vary more in weight. Bass greater than 15 inches are also more likely to be photographed, prolonged exposure to air, held without supporting the back, and possibly greater stress.

Heavy bass tend to die more than smaller bass during tournaments. In an analysis of length data collected during Potomac River bass tournaments (1990, 2003, 2008), an average 31% of the total catch included fish that were 15-inches or larger during the 12-inch season. During a tournament, 70% of the fish that die are 15-inches or larger (Figure 2). Thus, while only 1/3rd of the catch is expected to be 15-inches or larger, the vast majority of mortalities are suffered by fish that are 15-inches or larger.

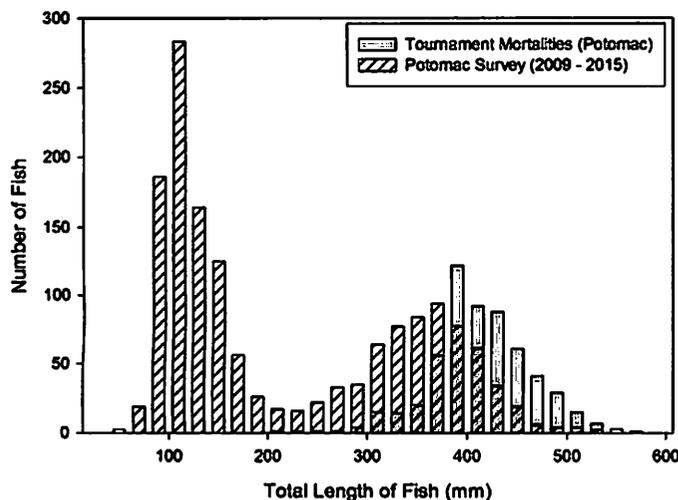


Figure 2. Length-frequency histogram of number of largemouth bass caught during fall Departmental boat electrofishing surveys in the Potomac River (hashed bars) compared with a length-histogram for a number of tournament mortalities collected following tournaments (gray bars).

Action

In order to lower fishing mortality, the Department is implementing a new condition on tournament permits. Beginning with permits issued March 2016, tournament permits will limit anglers to a 12 inch minimum size and a possession limit of 5 bass (largemouth and smallmouth combined), only one of which may be over 15 inches (per angler, per day) for tournaments held between June 16 and October 31. This time period includes approximately half of tournament angling effort. Some tournaments received their permits for this year prior to this possession restriction decision. In recognition of the population problem and the conservation ethic of these tournaments, the Department will be asking these tournament directors to adopt the new possession restriction. To ensure consistency and to ensure population concerns are addressed in the Upper Bay as well, this action will also be applied to tournaments held in the upper Chesapeake Bay (i.e., Susquehanna River, Northeast River, Elk River, and Susquehanna River flats). This action will continue to allow a "lunker weigh-in" per angler. The action has been approved by the Secretary of the Department of Natural Resources.

The Department has committed to additional actions in 2016 to accelerate the recovery of the tidal bass fisheries. Additional actions include: 1) circulating outreach/educational material; 2) working with tournament directors to implement best management practices that improve fish survivorship; 3) stocking young largemouth bass; and 4) habitat enhancement efforts (Smoots Bay Reef Project: <http://dnr2.maryland.gov/fisheries/Pages/smoots-bay.aspx>). The Department is also considering catch and return areas as an additional management action. The scoping comment period has closed on that action and the Department is currently reviewing the comments.

Review of Action

The Department will continue surveys to evaluate size structure and catch of largemouth bass in Potomac River, including new studies to estimate population size, recreational fishing effort, and catch-and-release mortality. In addition, the Department will work with Paralyzed Veterans of America to determine, as a result of this action: 1) the reduction in the number of fish that are 15 inches or larger brought to scale; 2) the quality of fishing experience from anglers; and 3) if total mortality is lessened from 25% by this strategy. Data will be compared with previous years of work conducted by the Department.