

2017 State of the Tidal Potomac River Largemouth Bass Fishery (Maryland)

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Background



- Targeted Black Bass Surveys
 - Markham et al. (2002); Love (2004)
 - Standard Operating Procedure
- Time Series - annual
 - 1984 to 2016 (fishery independent)
 - 1989 to 2016 (fishery dependent)
- Department Work
 - Regional Staff Experience (> 25 years)
 - Fishery Management Plan (Dept Approved)
 - Black Bass Advisory Subcommittee, SFAC, Public Input²

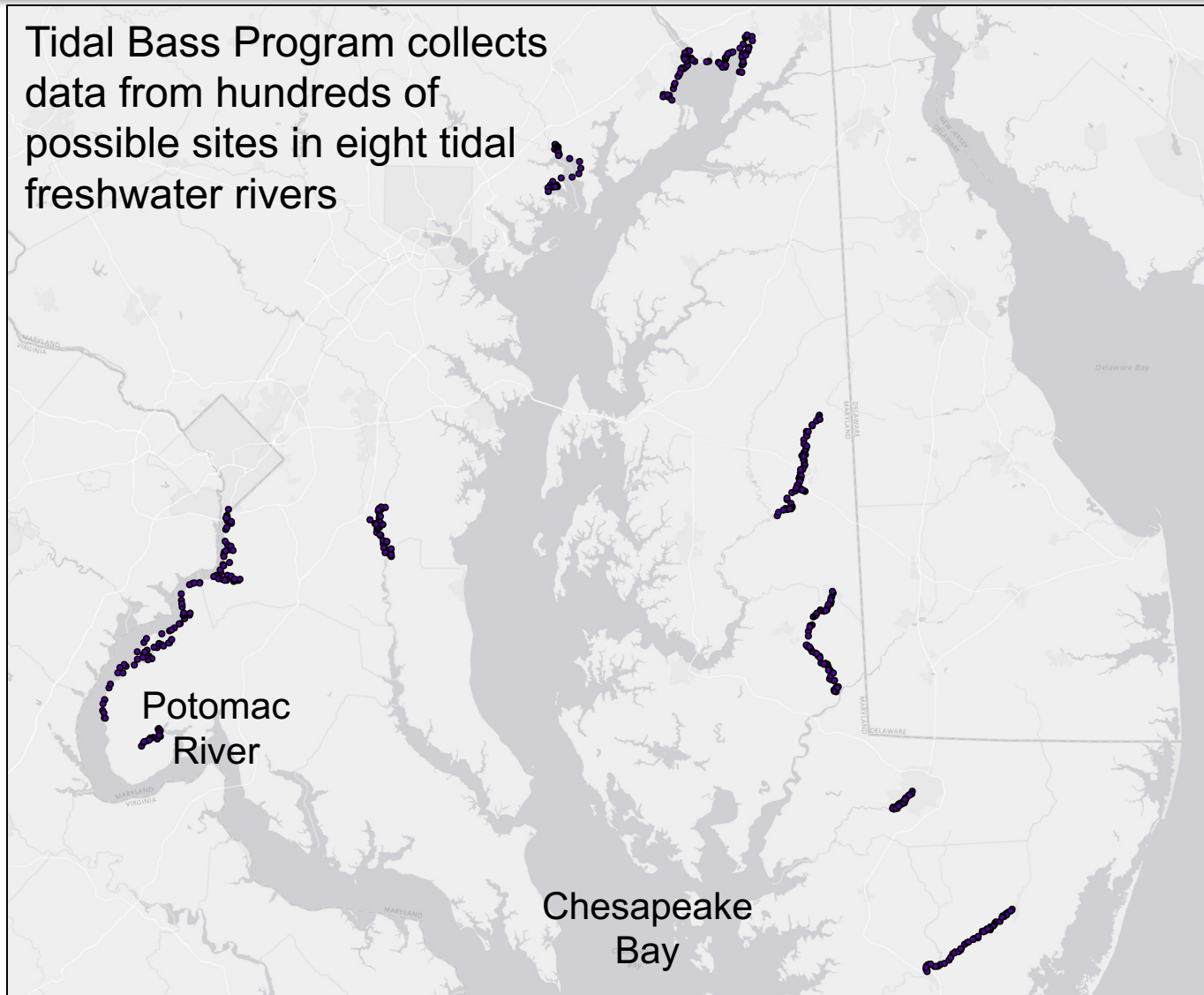
Methods



- Fishery Independent
 - Boat Electrofishing (31 – 55 sites/year)
 - Count, Measure, Weigh, Inspect, Release
 - Gross examination for age, diet, growth, health screening (1092 bass over 10 years– mostly tournament mortalities)
- Fishery Dependent
 - On-the-ground creel, web-based, permitting
 - Number of anglers, location, catch weighed, hours fished, weight weighed

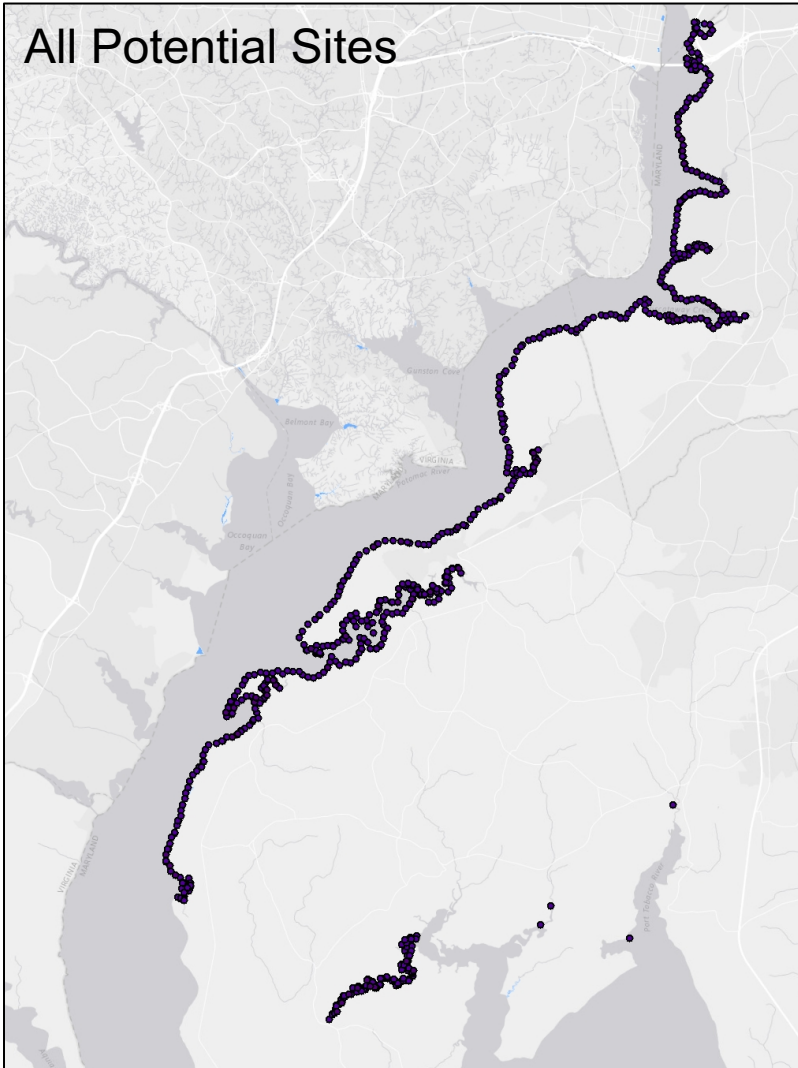
Map of Rivers

Tidal Bass Program collects data from hundreds of possible sites in eight tidal freshwater rivers

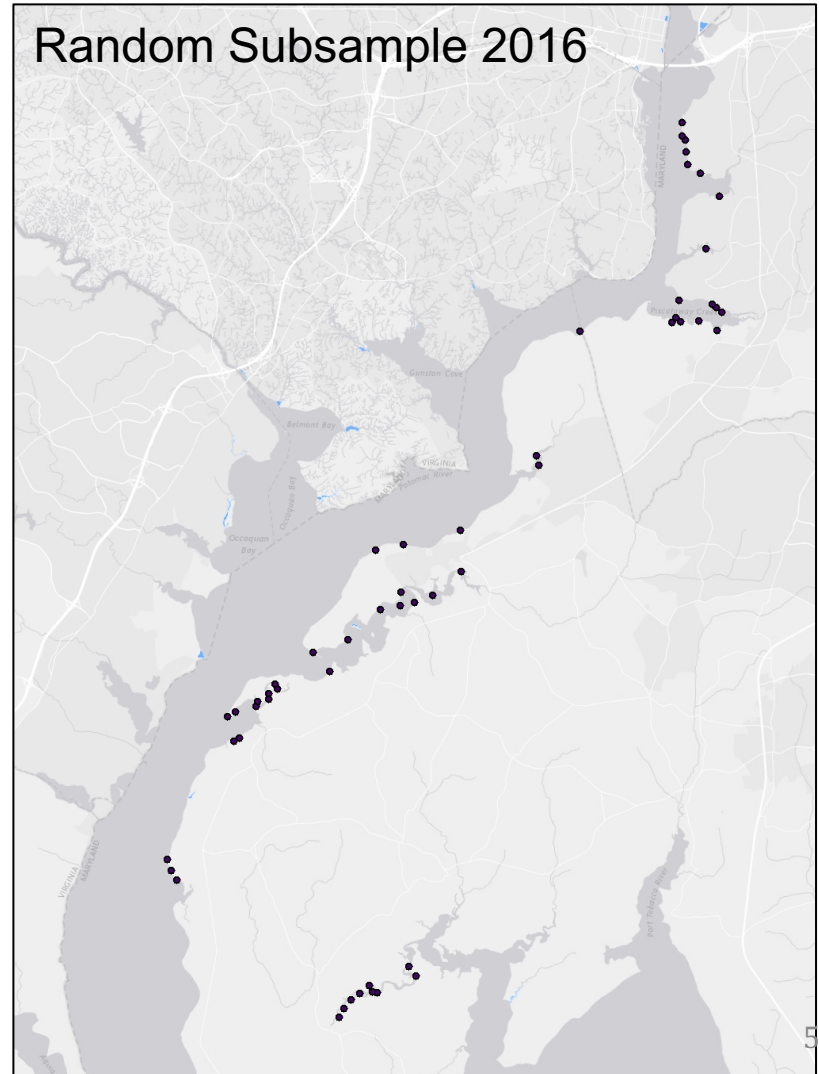


Map of Potomac

All Potential Sites



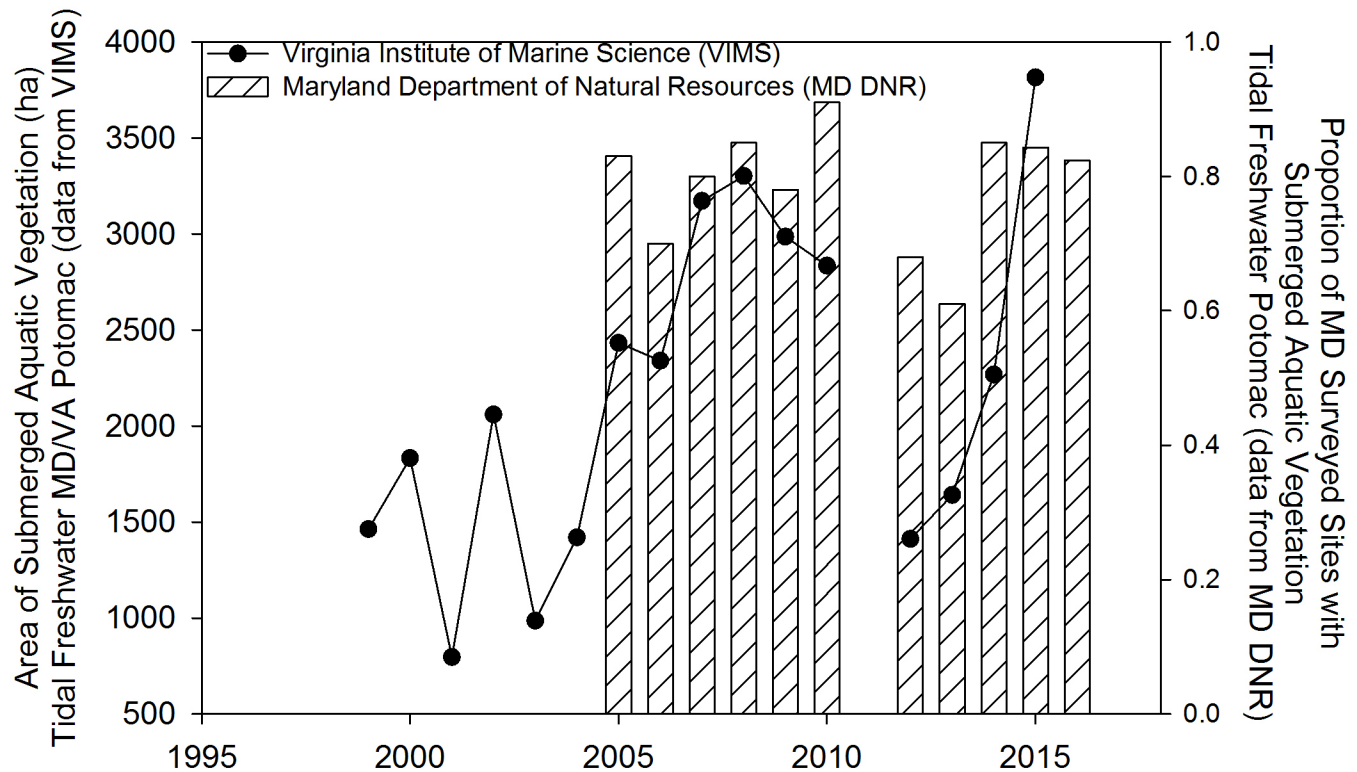
Random Subsample 2016



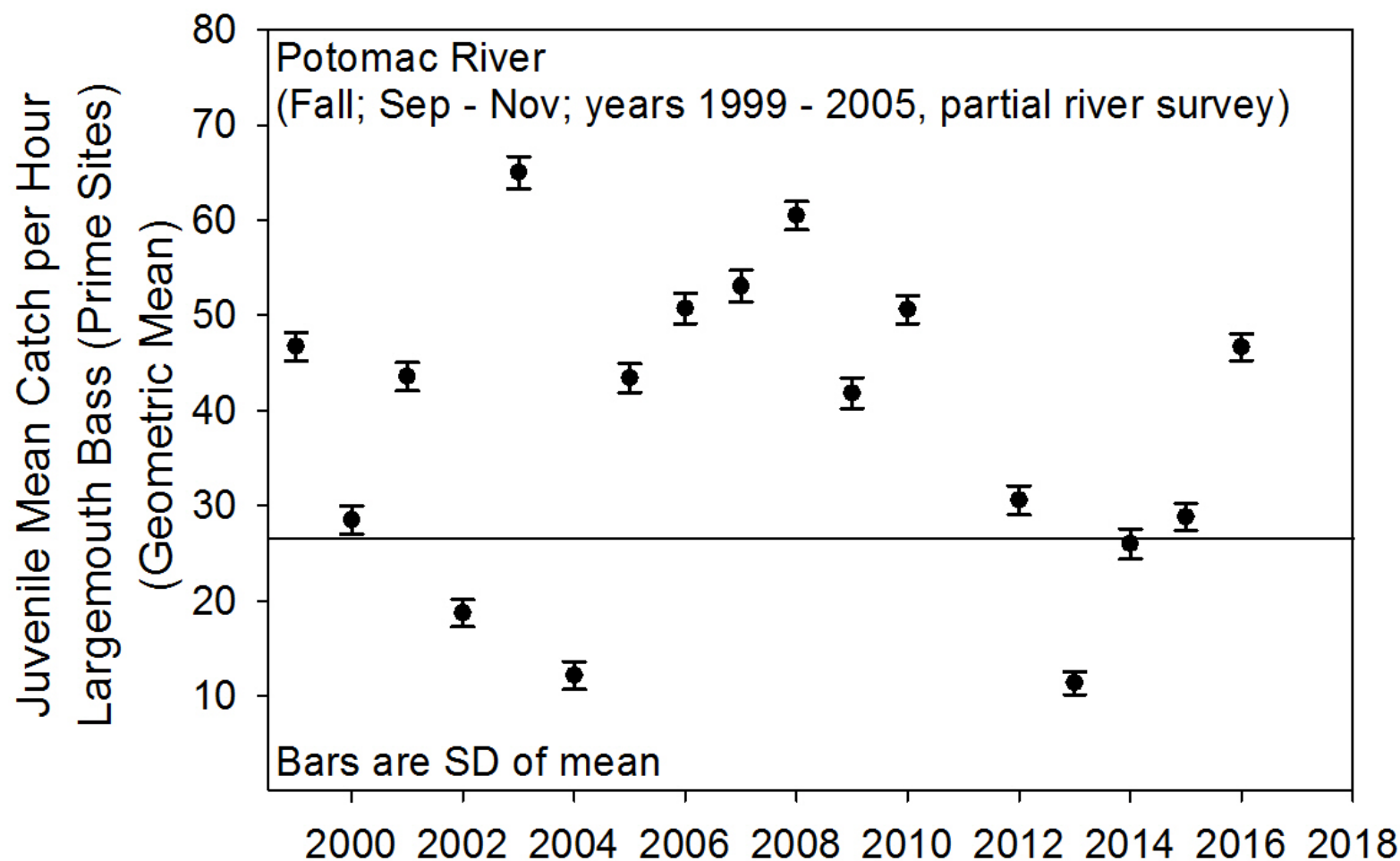
Habitat Quality

Water Quality at Sampling Locations

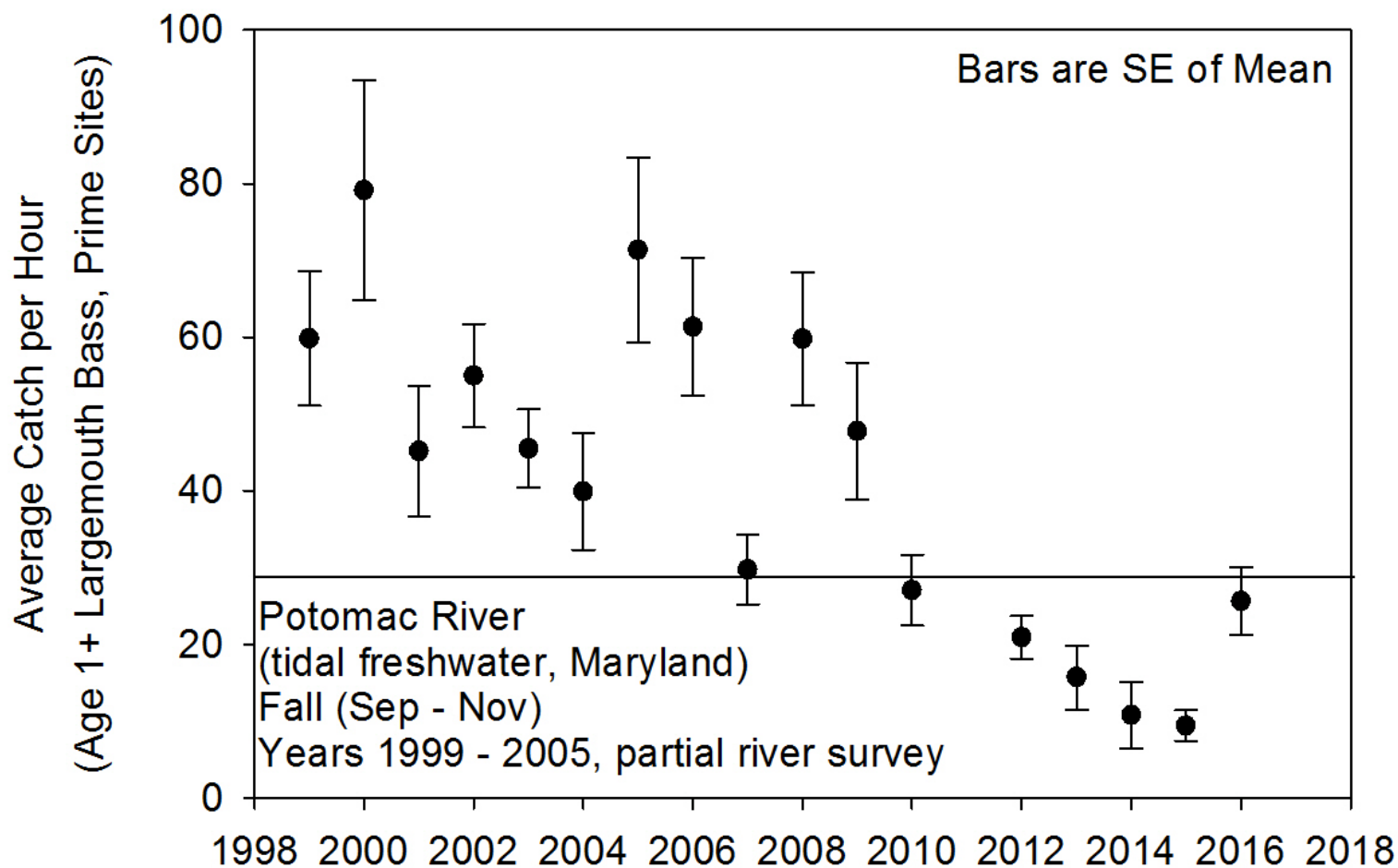
- Freshwater
(< 1 psu)
- Good oxygen
(~ 8 mg/l)
- Slightly basic
(pH = 7.9)
- High water clarity
(75% max dep)



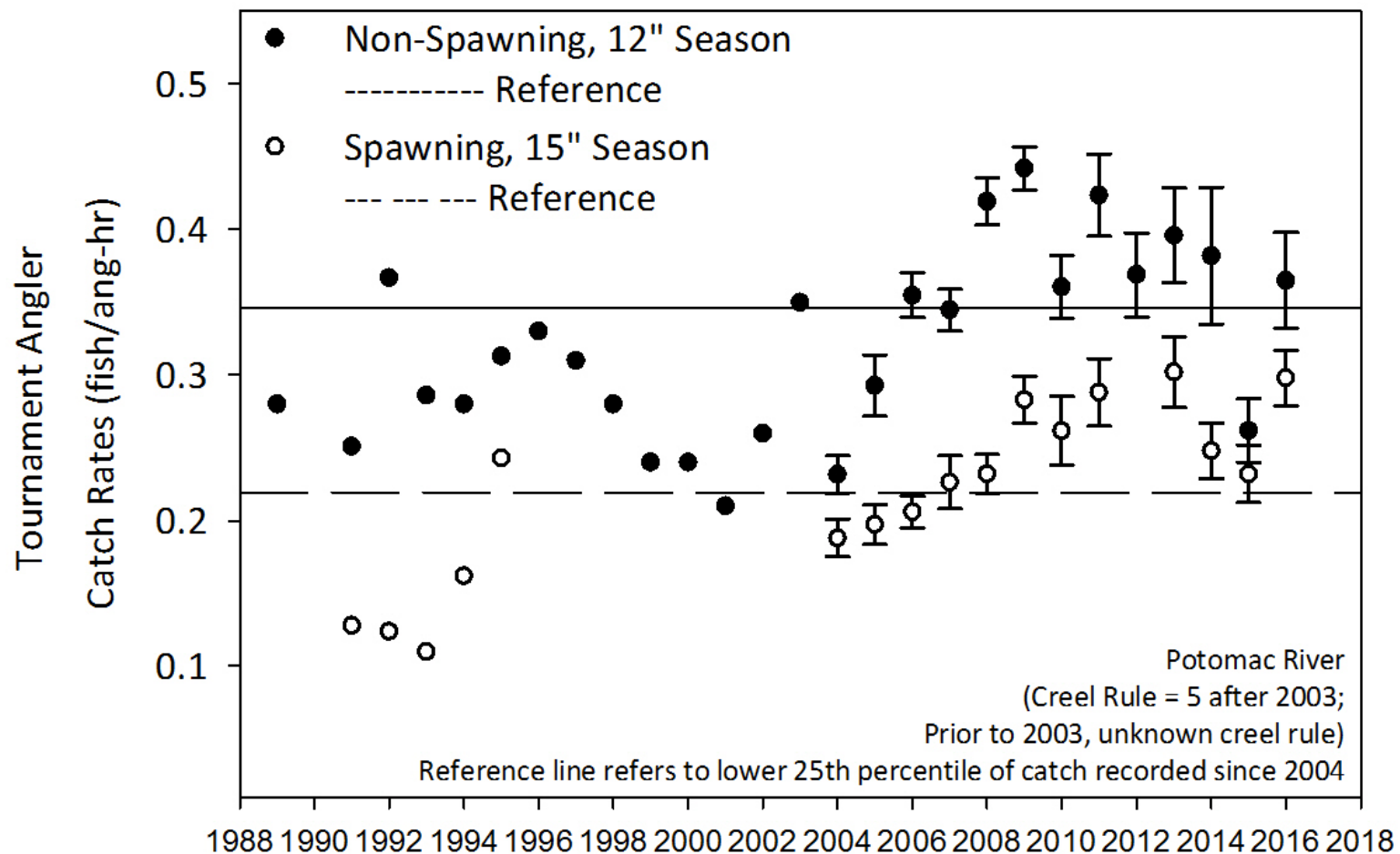
Catch – Electrofishing



Catch – Electrofishing



Catch – Anglers



Stock Assessment



River	Potomac
Number of Sites	51
Electrofishing Catch	73.65
Electrofishing Catch (habitat corrected)	49.03 (above target)
Electrofishing catch (age 1+)	25.63 (below target)
Proportion of 12" fish	0.63
Proportion of 15" fish	0.36 (above target)
Annual Mortality	-0.64
Growth Rates (method 1)	64.92
Growth Rates (method 2)	65.23
Body Condition (method 1)	3.19
Body Condition (method 2)	1.01
Body Condition (method 3)	1.00
Electrofishing juvenile catch	46.65
Proportion of juveniles	0.71 (above target)
Proportion of sites with juveniles	0.88 (above target)

FMP - Actions



- Fishable Slot/Permit Modification
- Habitat Enhancement & Protection
- Improved Stocking
- Outreach and Education

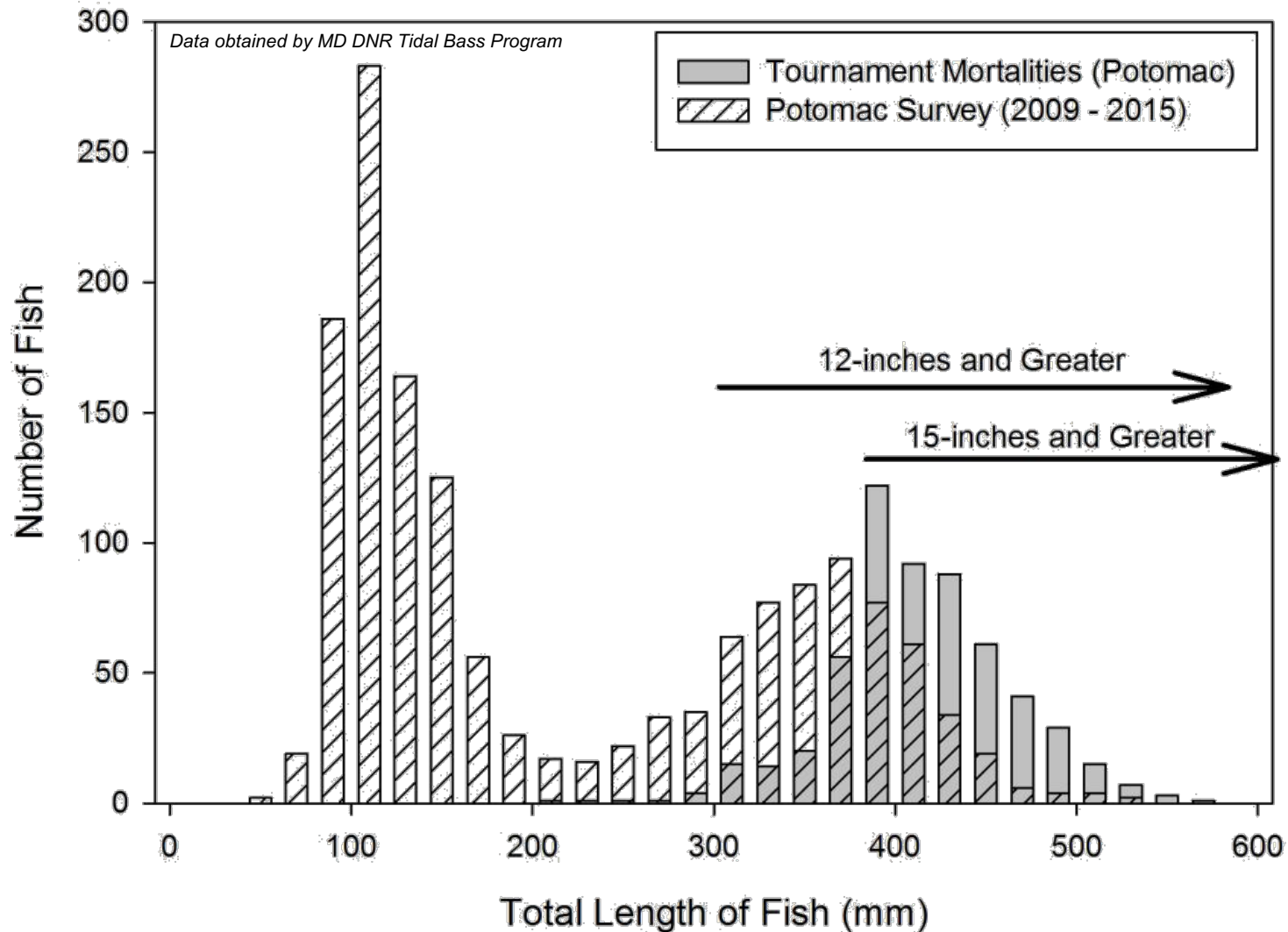
FMP - Actions



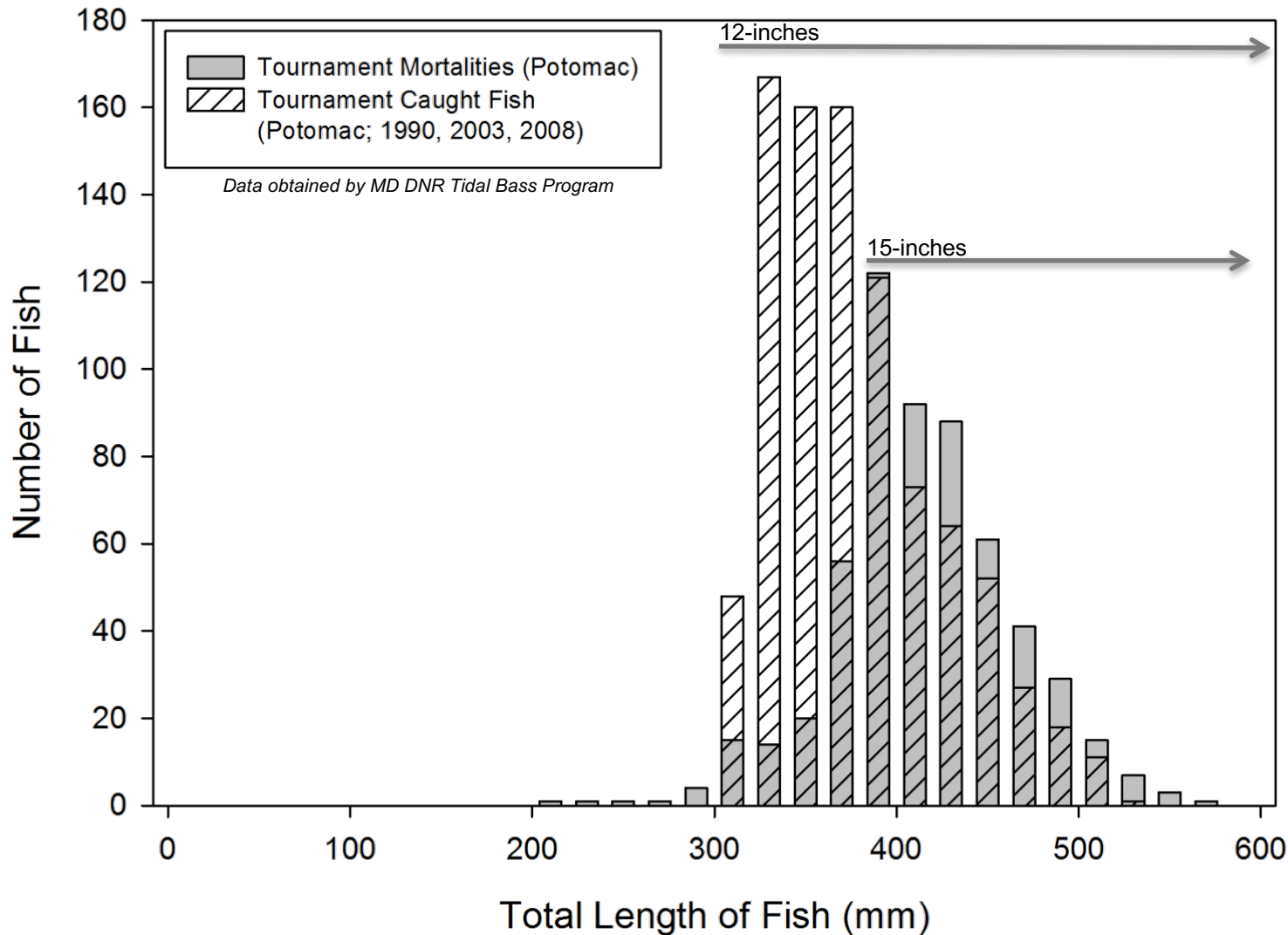
- Fishable Slot/Permit Modification

- Promoting survival and abundance of older, larger fish may be additionally accomplished by adjusting creel limits or size limits (Fishery Management Plan: Action 4.3.1) when
 - there are too few adults in the population...; and
 - catch rates for adults are too low to provide a quality fishery
- Black Bass roundtables/Black Bass Advisory Subcommittee
 - Multiple public input meetings since 2013 regarding black bass fishery on Potomac River
 - Actions implemented to address angling were voluntary
 - In March 2016, the department added special restrictions to Potomac River and upper Chesapeake Bay permitted tournaments to help promote survival of older bass
 - Allows a 5 fish possession with a 12-inch minimum, but only 1 of those fish may be greater than 15-inches between June 16 and October 31, unless
 - Tournament directors and anglers adopt baseline handling conditions for bass

FMP - Actions



FMP - Actions



FMP - Actions



- Fishable Slot/Permit Modification
 - June 15 to October 31
 - Adopt additional conditions for staging a tournament
 - “A culling system must be utilized that reduces fish handling stress and injury...[d]evices that require punching a hole in the fish’s mouth are NOT permitted.”
 - “Bass shall not be kept in water-filled containers longer than two (2) minutes prior to, during, and after weigh-in without supplemental aeration and/or water exchange”
 - “Tournament participants must ensure bass are recuperated before their release...[t]o allow for recuperation, tournaments shall have mobile holding tank facilities that provide high quality oxygenated and temperature conditions prior to release of the fish...ways that include, but may not be limited to, any of the following: 1) using live wells of bass boats...;2) using a pre-release tank...3) operating a release boat;...additional and alternative special conditions may be developed with assistance from the Department”

FMP - Actions

- Habitat Enhancement & Protection
 - Bass sanctuaries and slow speed limit areas during spawning season for bass
 - Smoots Bay reef project
 - Environmental Review (e.g., coal ash issues)
 - Mallows Bay sanctuary
 - Track fish health



FMP - Actions



- Improved Stocking
 - Improved bass stocking policy with a validated stocking formula that objectively prioritizes stocking locations
 - Stocked 104,268 largemouth bass (3 – 12”) to Potomac River using a minimal number of brood stock (n = 90)
 - Working with partners (2017) to develop additional hatchery pond dedicated to Potomac River fishery

FMP - Actions



- Outreach and Education
 - Black Bass Annual Review (Volume 9)
 - Investment in research to improve handling stress (H. Schraam) – Outreach Feb 2017
 - Fish handling conservation videos (R. Trageser, S. Chaconas, G. Gilliland)
 - Tournament directors
 - Widely circulated by email to over 30,000 MD licensed black bass anglers
 - Available on-line