Fisheries GIT Member Updates

December 2014 Meeting – Day 1

- PRFC – Triploid Oyster Program Update
- CBF – Vertical Relief in Oyster Restoration
- USACE – Oyster Restoration Update
- NCBO – Oyster Reef Ecosystem Service Projects
- MAFMC – Ecosystem Approach to Fisheries Management
- VA Sea Grant/NCBO – New Ecosystem-Based Management Post Doc
- VMRC – Various Fisheries Updates
- DE DNREC Updates
- CBC – Livestock Stream Exclusion Update

Potomac River Fisheries Commission – Triploid Oyster Program Update

Update on PRFC's program, and the struggles to obtain triploid larvae in 2014. Hopefully this past year's production issues will be a one-time concern, but I want to make sure the demand for this product and the fragile/limited infrastructure for producing it stays on minds of those that can help address it. PRFC was only able to obtain 119 million of our target of 148 million triploid larvae.

Chesapeake Bay Foundation - Vertical relief in oyster restoration

This is a follow-up to the update from the June meeting. In June, I described a sampling trip to evaluate concrete reef balls that had been on the bottom in Tangier Sound for 11 years, and we now have a video from that trip. This update also includes data collected by University of Maryland biologists that compares oysters on the reef balls to those on the bottom. See additional graph attachment.

USACE – Oyster Restoration

USACE Baltimore District awarded a substrate/reef construction contract in July 2014 to Argo Systems, LLC for construction of 57 acres in Harris Creek and 24 acres in the Tred Avon River. Construction will start in December and proceed through March.

USACE Norfolk District currently has a solicitation open for construction in the Great Wicomico River and is working on the planning documentation in order to construct in the summer of 2015 in the Piankatank, in partnership with TNC and VMRC.

NOAA Chesapeake Bay Office – Oyster Reef Ecosystem Service Project Updates

See additional attachment.

Mid-Atlantic Fishery Management Council – Ecosystem Approach to Fisheries Management Initiative

Upcoming Council Meeting

The Council is scheduled to meet December 8-11, 2014 in Baltimore, MD. The agenda will include a discussion of the Council's Ecosystem Approach to Fisheries Management Document (including drafts of the Forage Fish and Climate Change white papers), an update on the Habitat Pilot Project, a New

England Fishery Management Council Meeting public hearing on their Omnibus Habitat Amendment, as well as other fisheries actions. The meeting is open to the public or can be listened to via webinar. The agenda, meetings materials, and webinar connection details are available at: http://www.mafmc.org/briefing/december-2014

Recent Workshops

In March 2014 the Council convened a workshop in Washington, D.C. to explore the existing and potential climate-related impacts on the management and governance of East Coast marine fisheries. The purpose of the workshop was to provide East Coast fishery managers, scientists, and decision-makers with a shared frame of reference regarding the potential impacts of climate change on managed fisheries. The final workshop report is now available: http://www.mafmc.org/workshop/climate-change-governance

Magnuson-Stevens Act (MSA) Reauthorization

In June 2014, the Council Coordination Committee (CCC) submitted a comment letter to Senator Mark Begich and US Representative Doc Hastings conveying their consensus positions on the House and Senate discussion drafts for the MSA reauthorization. Transcripts of the Congressional hearings and testimony, as well as letters from the councils to the House and Senate are available at: http://www.mafmc.org/legislative/

Ecosystem Approach to Fisheries Management

The Council is currently developing an Ecosystem Approach to Fisheries Management (EAFM) Guidance Document. Rather than drastically change the Council's management approach, the final product will serve as a non-regulatory umbrella document to guide policy decisions as the Council transitions from single-species management toward an ecosystem-based approach. The Council defines EAFM as a fishery management approach that recognizes the biological, economic, social, and physical interactions among the components of ecosystems and attempts to manage fisheries to achieve optimum yield, while taking those interactions into account. This document will be developed around 5 core areas: Climate Change, Forage Fish, Habitat, Species Interactions, and Socioeconomics. The Council will be working to develop this document with its Committee's through 2015, and it is on the December 2014 agenda for discussion (see above).

Habitat Pilot Project

The Council has initiated its pilot project working with NOAA Fisheries Habitat Division to address a number of objectives during 2015. While this is a multifaceted project, one of the main goals is to link habitat protection with fishery management objectives, and use this project to support the Councils EAFM activities.

The Fisheries Leadership & Sustainability Forum (aka Fisheries Forum) has been selected as the contractor for the initial stages of this project. A Project Oversight Team was formed and met in October and November via webinar and conference call to provide the contractor with direction. The Oversight Team members have a broad range of expertise on habitat issues in our region and includes: NOAA Fisheries Habitat Division (Terra Lederhouse and Dr. Howard Townsend), NOAA Fisheries Northeast Fisheries Science Center (Dr. Vince Guida and Dr. Beth Phelan), NOAA Fisheries Greater Atlantic Region (Lou Chiarella and Dr. David Stevenson), and Council staff (Chair, Jessica Coakley). During 2015, the Council will develop policy documents that focus on the following major core areas of activity in our region: Energy, Marine Transport, Coastal Development & Maintenance, Offshore Mining, and Fishing

Impacts. The Council will receive an update of this project during the Ecosystem and Ocean Planning Committee Meeting at its December 2014 Meeting (see above).

Virginia Sea Grant/NOAA Chesapeake Bay Office – New Post Doc

Amy Freitag has just started as the new Ecosystem-Based Management Fellow, jointly funded by Virginia Sea Grant and the NOAA Chesapeake Bay Office. During her fellowship, Freitag will work to advance ecosystem-based fisheries management (EBFM) in the Chesapeake Bay. Ecosystem-based management is an environmental management approach that recognizes the full array of interactions within an ecosystem, rather than considering single issues, species, or ecosystem features in isolation. Freitag will work to improve the understanding of fisheries by analyzing the connections between fisheries, land-use changes, habitats, and the ecosystem services they provide, rather than looking at these elements separately.

Virginia Marine Resources Commission – Various Fisheries Updates

VMRC continues to work with the NMFS Protected Resources staff to complete the Section 10 a(1)B Permit process for takes of any endangered Atlantic sturgeon. The final phase of the permit development before final submission for review is developing the conservation plan. The conservation plan includes both an estimated number of takes per year, and plans for mitigation and monitoring of takes. VMRC is working toward development of a large-scale mitigation project (funding dependent) that would examine the use of raised foot-ropes on gill nets to reduce interactions with sturgeon. VMRC is also working on development of a monitoring (observer) program for inland waters to enhance conservation planning and take estimates in the future.

VMRC will soon award a contract to deploy up to 3,800 tons of complex concrete material (pipes, culverts, man-holes) across four Chesapeake Bay artificial reefs along the Eastern Shore of Virginia. (Anglers Reef, Nandua-Pungoteague Reef, the Cell Reef, and Cherrystone Reef). VMRC will follow up with a second RFP for similar materials in the upcoming months. Funding for these deployments are being provided through various sources, to include Wallop-Breaux and Virginia's Saltwater Recreational Fishing Development Fund.

VMRC's Crab Management Advisory Committee will be examining short-term and long-term management ideas during the upcoming meetings. These include examination of the current blue crab sanctuary areas, sponge-crab regulations, and effort-controls. The committee will also consider a proposal from VIMS (Dr. Lipcius) to require all recreational crab pot harvesters to use a turtle BRD (Bycatch Reduction Device). This proposal is only focused on establishing BRDs in the recreational crab pots, because they are primarily set in areas more likely to encounter turtles.

Delaware Division of Fish and Wildlife-DNREC

- All of the watersheds in DE that drain into the Chesapeake Bay are freshwater (tidal and non-tidal)
- Commercial fishing (primarily drift gillnet, hook and line) is minor (1-3 watermen) with a small striped bass, white perch and catfish fishery on the Nanticoke River. There is no commercial fishing and no blue crab or oyster fisheries
- Fish passage-there are no in-stream dams, but rather historic mill dams that created impoundments now owned privately or by the state and managed for fishing. Dam removal is not a feasible option; state hesitant to install fishways on many impoundments because of uncertainty about effective

contribution to target population (river herring/shad) and passage of nuisance fish species. Efforts more likely to include culvert retrofits and restoration of channelized streams.

American Shad restoration

- Between 2000-2014, over 6 million American shad fry were stocked into the Nanticoke River system. The fry are derived from brood stock collected in the river and taken to the Division's hatchery. All larvae receive an OTC mark by immersion.
- Juvenile and adult shad monitoring is conducted annually to assess reproduction and recruitment. Hatchery reared fish comprise 12-17% of the population; returning adults with OTC marks highly variable between years (0%-44%). Documented increase in total length, especially of females (last 5 yrs.), which can indicate progress in a species undergoing restoration.
- American shad will continue to be stocked into the upper Nanticoke River until either natural reproduction is determined to be capable of sustaining shad populations or no improvements in the number of juveniles or returning adults are noted.

Largemouth bass recreational fishery

- Monitoring and management of tidal bass populations are a high priority because of heavy fishing pressure; survey of licensed anglers revealed largemouth bass are the most sought species; the Nanticoke River system (including tributaries: Marshyhope & Broadcreek) support the highest number of bass fishing tournaments. Over 50 bass clubs including those from surrounding states, conduct bass tournaments in Delaware.
- long term (1995 to present) monitoring program implemented to manage population
- 1.2 million advanced fingerlings have been stocked to supplement natural reproduction to sustain fishery; annual stocking of about 10,000 fingerlings on-going.

Watershed Assessment

- *National River and Streams Assessment (NRSA)*

NRSA surveys were conducted on the Nanticoke River in 2013 from Middleford to the MD/DE state line. Surveys included biological, chemical and physical data collection using methods established by the EPA.

- *WIP (Watershed implementation plan)* for Chesapeake drainage-includes TMDLs targets/goals for local jurisdictions, pollution reduction targets by area and source; DE beginning to develop phase II which is pollution reduction strategies at the local level; BMPs to landowners, stormwater retrofits. More info. at website: http://www.dnrec.delaware.gov/swc/wa/Pages/Chesapeake_WIP.aspx

Species inventories

- We have in-house element occurrence (EO) data for state rare fish, freshwater mussels, SAV for most streams. Data collected using NatureServe methodology[1] and mapped in biotics.

- Over next 5 years Division will be updating inventories of all streams for fish/macro invertebrates in an effort to update inventories conducted 1986-1991. Discussions underway about methods & outcome goals; will consider collecting habitat data along with fish species occurrence & abundance

[1] NatureServe. 2002. Element Occurrence Data Standard. In cooperation with the Network of Natural Heritage Programs and Conservation Data Centers. (Appendix E. Element Lists and Ranking, page 186). http://www.natureserve.org/prodServices/eodata.jsp

Delaware Wildlife Action Plan (2007):
Each state is required by congress to have an action plan to address conservation of both common and uncommon species. Regarding habitat specifically, the plan includes species/habitat associations and key habitat maps. Each habitat type is described, there is a list of species associated with each habitat, threats to the habitat are identified and specific actions to address those threats are listed. Delaware's plan is currently undergoing an update which includes the gathering of numerous agency experts, data sets, etc. to produce the information included in the plan.

Chesapeake Bay Commission – Livestock Stream Exclusion Policy Report
Livestock stream exclusion practices, and the riparian buffers that are typically a part of implementing the practice, make up a significant part of the agricultural reduction commitment of the Bay states. There are few best management practices that offer such a broad suite of benefits for livestock health, farm production, water quality improvement and for aquatic life. Understanding each state's policies and practices for accomplishing the exclusion of livestock is critical to evaluating additional incentives or other policy needs that could accelerate implementation.

Commission staff have begun work on a tri-state assessment (Maryland, Pennsylvania and Virginia) of livestock stream exclusion policy and practices. The core assessment work is being accomplished in partnership with Dr. Lara Fowler, Penn State Dickinson School of Law and should be completed during December, 2014. The report will explain the challenges and opportunities of stream exclusion and identify specific actions that will support the achievement of each state's Watershed Implementation Plans and improve success in correcting related local water quality impairments. In Virginia there are currently 232 locally impaired streams (statewide) that have livestock exclusion practices as a necessary component of the plans for reducing water quality violations.

As the attention of the Sustainable Fisheries GIT continues to expand into the headwaters of the Bay, it is important to recognize that key benefits of livestock stream exclusion include the rapid improvement in stream health; both the water quality and aquatic life benefits. Reductions in direct nutrient introduction and reductions in excess sediment accompanied by stream shading can result in significant improvements in the composition of the benthic community and fish assemblages. Improving the quality of headwater streams is an important component of restoring the living resources throughout the Bay watershed. The Commission has received funding support for the Livestock Stream Exclusion Policy Report from the Virginia Environmental Endowment, the Keith Campbell Foundation and the Foundation for Pennsylvania Watersheds.