Fisheries Ecosystem Assessment Division

Last Month

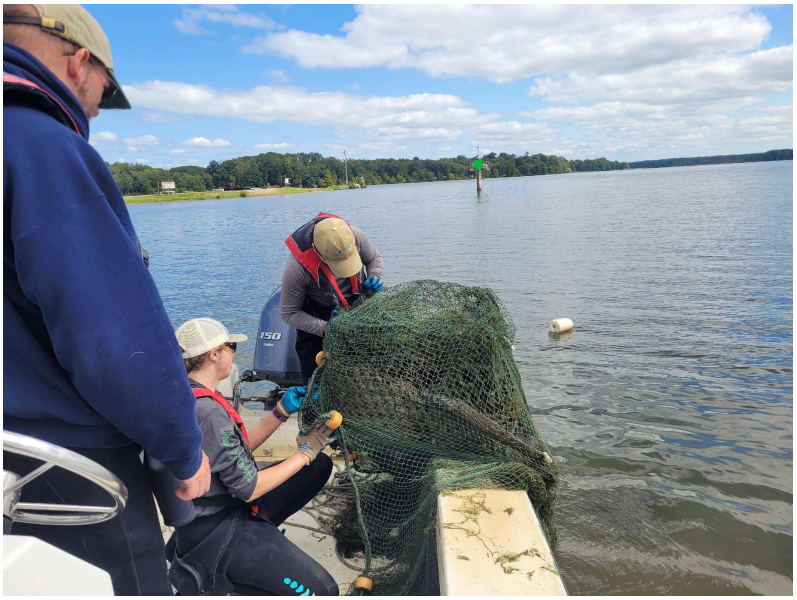
Federal Aid Report – The 2023 Federal Aid Report was submitted to USFWS. A copy of the report was also uploaded to the Fisheries Ecosystem Assessment Division webpage (https://dnr.maryland.gov/fisheries/Documents/FHEP-F-63-R-11_2023.pdf).

Staff participated in a meeting on 9/11 to discuss the 2024 Federal Aid Report.

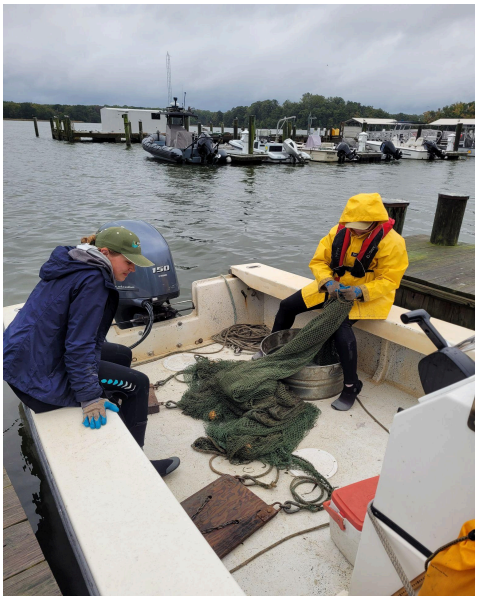
Ichthyoplankton Samples/Midwater Trawl - Staff completed picking ichthyoplankton samples from Mattawoman Creek and identified larvae and eggs found in these samples. A random subsample was selected for ID verification and completed. Sample processing for these samples is complete and data are being entered and checked; preliminary results show that herring/shad eggs were present in 77% of samples and herring/shad larvae were present in 45% of samples.

Staff are picking samples from the Midwater Trawl on the Choptank River to examine gut contents of feeding Striped Bass larvae.

Summer Fieldwork – Round 4 of summer fieldwork sampling started on 8/19 and was completed on 8/27. A total of 20,829 fish and crabs were captured during this round of sampling, comprised of 39 species. The Miles River had the greatest diversity of species (20). The top 5 species encountered in sampling were Atlantic Menhaden (9,131), Spot (7,494), Bay Anchovy (1,938), juvenile White Perch (603), and Atlantic Silverside (273). Atlantic Croaker dropped with only 180 caught. Round 5 of summer fieldwork sampling started on 9/3 and was completed on 9/10. A total of 14,706 fish and crabs were captured during this round of sampling, comprised of 40 species. The Miles and Tred Avon River had the greatest diversity of species (22 and 24, respectively). The top 5 species encountered in sampling were Spot (7,122), Atlantic menhaden (3,471), Bay Anchovy (1,992), juvenile White Perch (843), and Hogchoker (186).



Unintentional ghost pot removal in the trawl.



Getting the trawl ready for the last summer sampling day

Surface water temperatures were lower at all sites in Rounds 4 and 5 compared to the first three rounds. No sites had a surface water temperature above 30℃ in Round 4 or Round 5. Water temperatures ranged from 24.14℃ to 28.98℃ with an average of 26.48℃ for all systems in Round 4. Water temperatures ranged from 22.44℃ to 26.87℃ with an average of 24.48℃ for all systems in Round 5. The highest average surface water temperature in Rounds 4 and 5 was on the Tred Avon River (28.29℃ in Round 4 and 26.87℃ in Round 5). The lowest average surface water temperature was on Mattawoman Creek in Round 4 (24.28℃) and the West River in Round 5 (22.44℃).

Bottom dissolved oxygen samples were improving for Rounds 4 and 5 with some sites having anoxic conditions. Bottom DO ranged from 0.58 mg/l to 7.97 mg/l with an average of 5.01 mg/l for all systems in Round 4. The Magothy River had the lowest bottom DO (0.58 mg/l) and the lowest average bottom DO (3.26 mg/l). Mattawoman Creek had the highest average bottom DO for the fourth round (7.39 mg/l). Bottom DO ranged from 2.97 mg/l to 8.71 mg/l with an average of 6.11 mg/l for all systems in Round 5. The Rhode River had the lowest bottom DO (2.97 mg/l), but the lowest average bottom DO (3.94 mg/l) was in the West River. Mattawoman Creek maintained the highest average bottom DO for the fifth round (7.91 mg/l).

Surface dissolved oxygen was good at most sites in Round 4 and all sites in Round 5 (above 5 mg/l). Surface DO ranged from 4.66 mg/l to 13.54 mg/l with an average of 7.27 mg/l for all systems in Round 4. The Magothy River had the lowest average surface DO (5.94 mg/l). Piscataway Creek had the highest average surface DO for the fourth round (11.18 mg/l). Surface DO ranged from 5.92 mg/l to 12.18 mg/l, with an average of 8.04 mg/l for all systems in Round 5. The Magothy River had the lowest average surface DO (5.92 mg/l). Piscataway Creek had the highest average surface DO (12.18 mg/l).

Round 6 of sampling started on 9/16 and was completed on 10/1. Data are currently being entered and checked.

Science Week – Jim Uphoff and Shannon Moorhead participated in Science Week at the Cooperative Oxford Laboratory on September 25th. Jim and Mark Matsche, of the Fish Health Program, demonstrated a Striped Bass dissection for DNR Secretary Josh Kurtz and members of the DNR communications team. Jim's portion of the demonstration focused on Striped Bass condition, showing how we assess fish for presence of body fat, an indicator of health and energy storage, and examine their gut contents to identify prey items and estimate feeding success. Jim emphasized the importance of Atlantic Menhaden in the Striped Bass diet, especially for larger fish.

Webinars – Staff participated in the webinar "Understanding Climate Impacts on Stock Assessments in the US".

Meet the Scientist - Jim Uphoff volunteered for Meet the Scientist Day at the Oxford Museum on September 7. About 24 people wandered in all together and about half hung around for science. Those that stayed were pretty interested. Among subjects discussed were watershed development and fish habitat, Striped Bass forage, Atlantic Menhaden, and Blue Crabs. The latter two were more related to Virginia's actions.

Friends of Hunting Creek – The tax data extraction for Hunting Creek (Patuxent River) subwatersheds was completed and assembled into several watershed specific time series of percent impervious surface from 1935-2023. All estimates of percent impervious surface were uniquely calibrated to Chesapeake Conservancy impervious surface data for each subwatershed.

Impervious Surface Index – The 2019/2020 tax data have been processed and incorporated into the tax index of percent impervious surface. All impervious surface estimates for DNR 12 digit, MDE 8 digit, and composite watersheds in the time series are being calibrated with 2013 and 2018 Chesapeake Conservancy measurements of impervious surface.

Looking Forward
Summer fieldwork has been completed.

Staff will work with Cooperative Oxford Lab to examine stomach contents of Striped Bass.

Staff will begin data analysis for the 2024 Federal Aid Report

Staff will continue to pick Striped Bass larvae feeding samples and examining gut contents.