York River Study Committee / ORV Subcommittee Meeting
Topic: Water Quality and Fish Habitat
Tuesday, February 13, 10:15 a.m. to 12:15 p.m.
York Public Library Community Room
Meeting Notes

Attendees:
York River Study Committee members: Karen Arsenault, Paul Dest, Cindy Donnell, Claire Enterline, Joan LeBlanc, Mike Masi, Jack Murphy, Jennifer Hunter, Chuck Ott, and Judy Spiller

Presenters: Angela Brewer and Robert Mohlar, Maine Department of Environmental Protection; Jake Aman, Wells National Estuarine Research Reserve

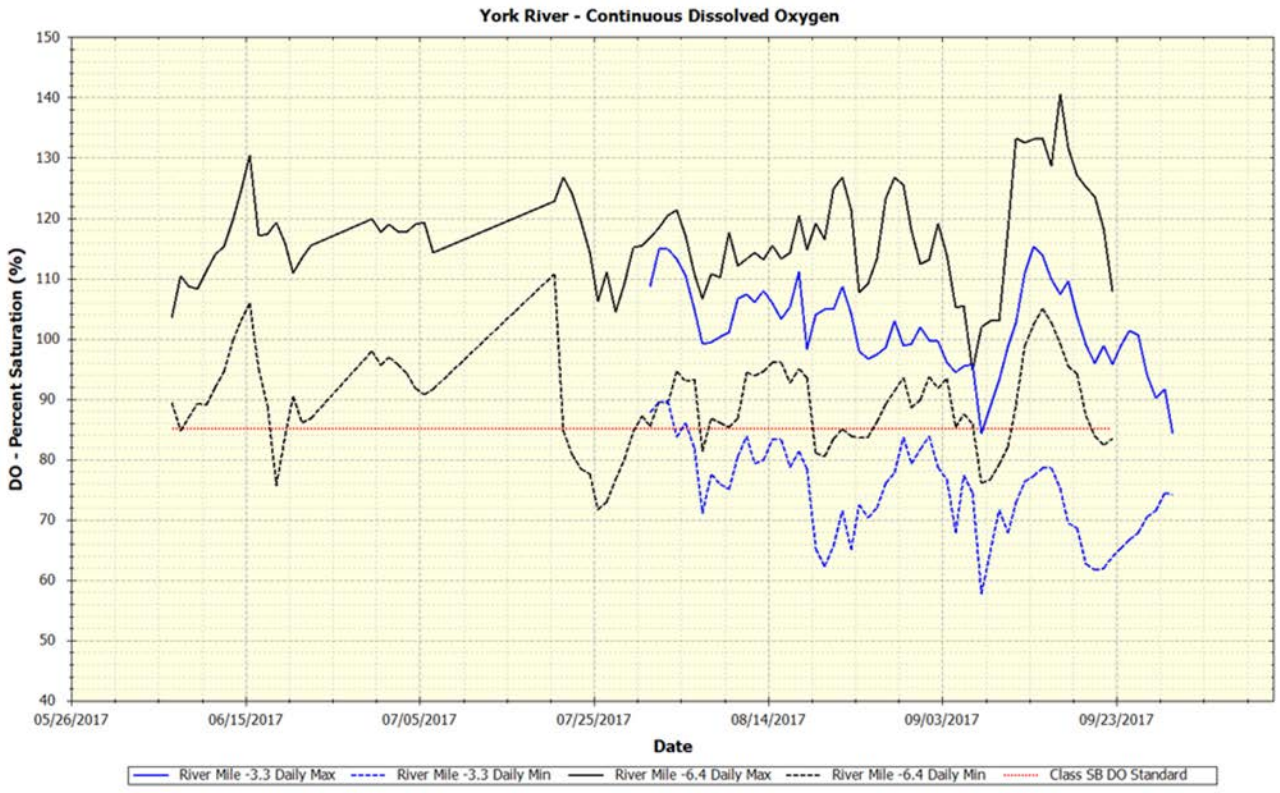
Other participants: Joey Donnelly, Ted and Sue Little, York residents; Leslie Hinz, Town of York Stormwater Coordinator; Kristin Feindel, MDEP; and Karen Young, MtA2C & YRSC advisor

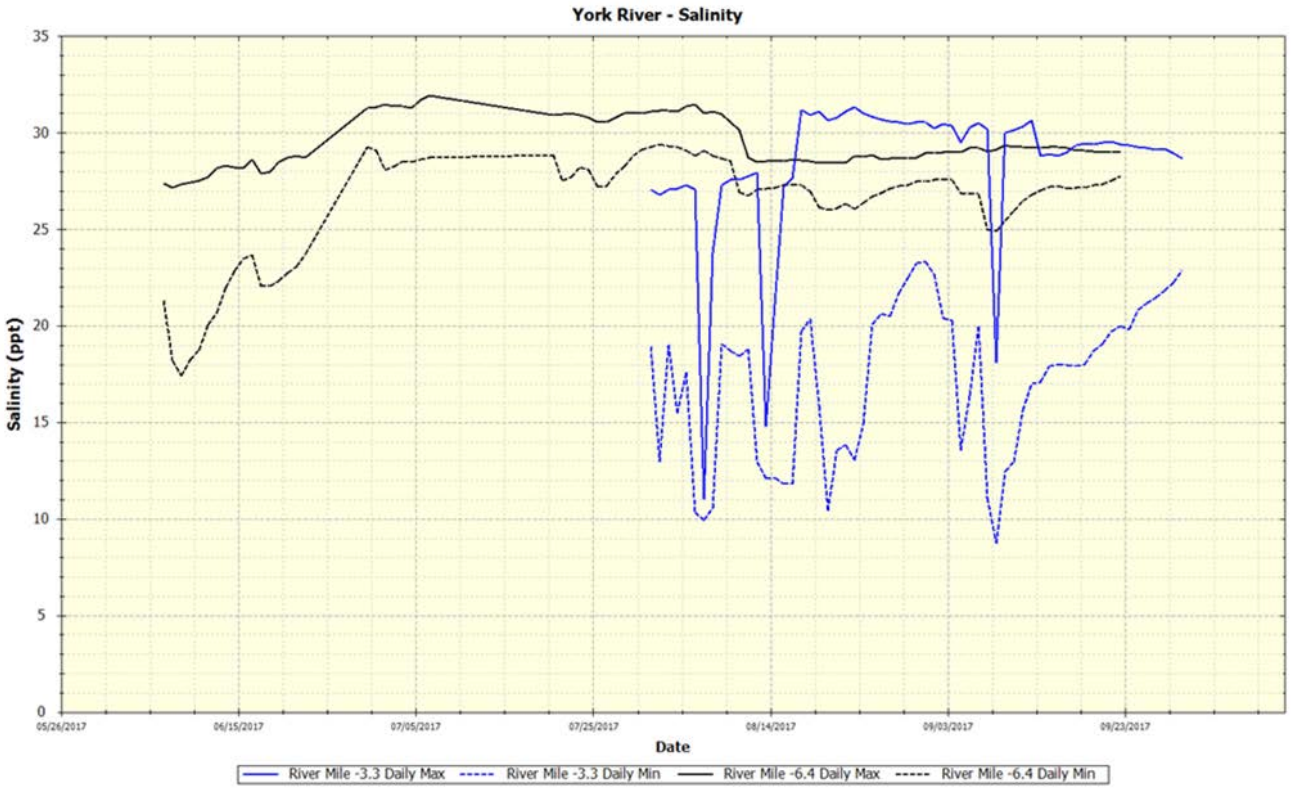
- ***2017 York River Estuary Water Quality Characterization*** by Angela Brewer and Robert Mohlar, Maine Department of Environmental Protection

Angie spoke about the sampling program, data findings and conclusions, and suggestions for additional monitoring in the York River (see presentation link). Rob presented the continuous data obtained from datasondes (see graphs below). The information is based on one summer season of sampling at six sites from head of tide to the mouth of the river. The continuous sondes were at two sites: Scotland Bridge and a private dock further downstream close to golf course.

Presentation: http://www.yorkrivermaine.org/wp-content/uploads/2018/02/YRSC_Brewer_021318.pdf

Continuous data plots for dissolved oxygen and salinity:





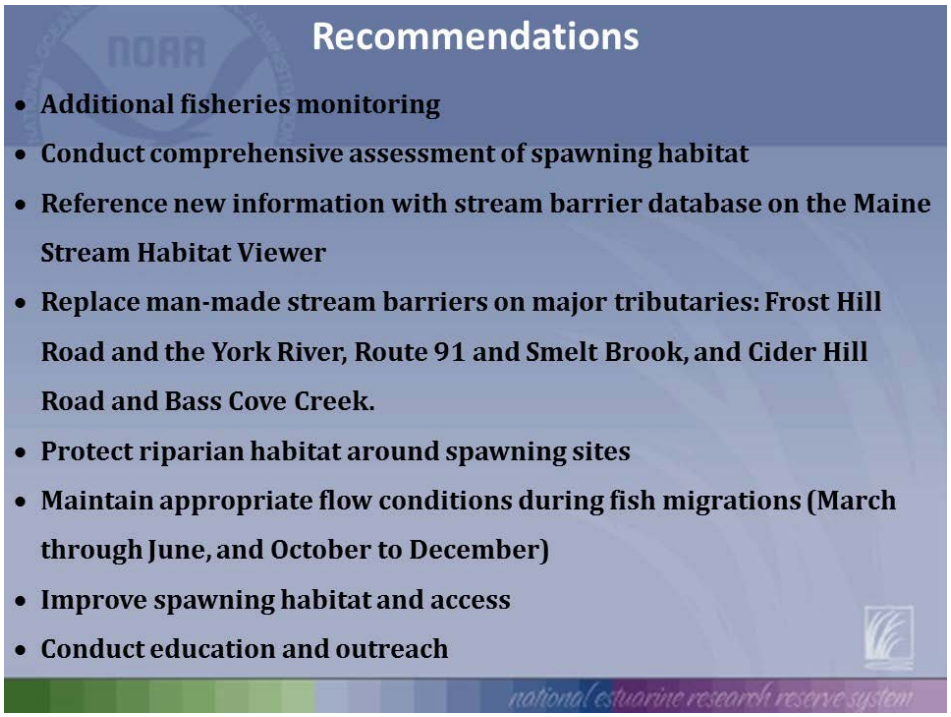
Highlights, additional information, and discussion:

- The 2017 data will be used in Maine DEP's 2020 assessment report for the state's rivers. York River estuary is an "SB" rating in the state's classification for marine waters. An 85% saturated dissolved oxygen (DO) level is the standard for class SB waters.
- From continuous data – there is lots of noise in the findings based on tidal and diurnal cycles. Lower DO conditions were found at the Scotland Bridge site which was often below the standard. Though the down river site dipped below the standard at times as well.
- Estuary is well mixed. Surface grab samples are representative of water column. TSS and TN higher at head of tide sites, with TSS affecting water clarity. TSS predominately from sediment, not chl-a. York system is a marsh dominated system, so source could be natural sedimentation. Further assessment is needed.
    - Maine DMR likely conducting sediment monitoring in 2019 or beyond as part of marsh elevation research.
- DO and pH were good throughout the system, though sampled during peak productivity.
- Smelt Brook site had higher than expected nutrient readings (TN and DIN). Further assessment is needed to determine if problem exists and potential source.
    - Smelt eggs are particularly sensitive to high nitrogen conditions, which stimulate detrimental algal growth on eggs.
- Overall, values were appropriate for the York River. It is not an impaired system and is considered a reference site.
- It was a very dry summer. Only one rain event was captured for the first sampling day in June. Additional monitoring that covers more rain events is needed.

➢ ***York River Habitat and Fisheries Analysis*** by Jacob Aman, Wells Reserve

Story map presentation on York River Habitat Assessment: http://arcg.is/1DzuLC

Recommendations slide:



Highlights, additional information and discussion:

- Habitat assessment found quality spawning locations, but eggs only found at one site.
- Researchers walked upstream from survey site to first potential spawning habitat (riffle habitat with gravel substrate in higher gradient streams) – was done twice during survey.
  - Smelt Brook site was about a 2km stretch from Cider Hill Road to Linscott Road, had the most impacted buffer (tree clearing in residential areas), and culvert likely limiting fish access
  - York River site was fully accessible
  - Bass Cove site included habitat below and above the Route 91 culvert; below was not ideal habitat and above was limited by accessibility due to culvert
- McIntire Junkins Brook is noted by Maine IFW as important brook trout habitat.
- Riparian buffer characterization – very coarse analysis of land cover; doesn't include buffers around wetlands; did not include analysis of potential development; looked at minimum buffer areas from State shoreland regulations – 250 feet around coastal waters, 75 feet around streams.
- More information needed on instream flows and how flows relate to habitat needs, especially for spawning.
- Improving habitat can involve restoration, not just conservation – to restore buffers or instream habitat (replanting, adding woody debris, etc.).
- Should investigate alternatives to replacing culverts in cases where it's unlikely culverts will be replaced soon but are limiting fish passage.
  - Smelt Brook culvert – high priority for replacement
  - Bass Cove Creek culvert is relatively new but is limiting fish passage; retrofits are not helping
- Should look at impervious surfaces by subwatershed to help focus recommendations and conservation activities (build-out study should provide this analysis).