York River Study Committee / ORV Subcommittee Meeting
Topic: Natural Resources – Fish, Wildlife and Habitats
Thursday, November 9, 2017, 10:30 a.m. to 12:30 p.m.
York Public Library Community Room

Meeting Notes

Attendees:
York River Study Committee members: Karen Arsenault, Paul Dest, Cindy Donnell, Claire Enterline, Thom Kearns, Joan LeBlanc, Jennifer Hunter, and Chuck Ott

Presenters: Jake Aman – Wells National Estuarine Research Reserve; Amanda Shearin and Bill Hancock – Maine Department of Inland Fisheries and Wildlife

Other participants: Hilary Clark – York Land Trust & White Pine Programs; Priscilla Cookson – York Conservation Commission & YRSC advisor; Dave Gittens – York Harbor Board & YRSC advisor; Doreen MacGillis – York Land Trust; Deborah McDermott – Seacoast Media Group; Suzanne Petersen – Lamprey River Wild & Scenic Partnership; Paula Sewall – YRSC advisor; Karen Young – MtA2C & YRSC advisor

- **Welcome/introduction – Jennifer Hunter**

Jennifer welcomed meeting participants. The York River Study Committee has organized a series of meetings on specific topics to gather and share information to help characterize watershed resources and develop management plan actions and recommendations. Experts, project managers, and others interested in topics are invited to provide input and share ideas, information, and concerns at these meetings. She reminded people that they are seeking feedback and additional input on the Draft Management Objectives and Actions document that has been developed thus far: http://www.yorkrivermaine.org/wp-content/uploads/2016/04/Preliminary-Draft-Management-Recommendations-Outline-October-2017.pdf
Resource priorities for the management plan include three broad topic areas: natural resources, economic resources and community character, and cultural and historic resources. Today's meeting will help further develop what will be the natural resources section of the plan. Participants introduced themselves.

- **York River Study: Fish Species of Greatest Conservation Need – Jake Aman, Wells Reserve**

Story map presentation: http://arcg.is/0Kneq9

Jake reported on the 2017 fish study that was done by the Wells Reserve for the York River Study. The goal at the outset was to develop a more robust picture of estuarine and migratory fish in the York River system, building on the earlier study that was more broad-based. The current study covered species of greatest conservation need (SGCN), including two diadromous fish species in particular: rainbow smelt and alewives. SGCN merit particular management considerations because of their life histories and impacts over time. The survey also focused on other diadromous species such as sea lamprey, American eel, and blueback herring. Jake noted that the survey covered the time from early April to early June – it did not cover the full runs of all the diadromous fish species.

The story map that Jake used for the presentation is an interactive format that allows users to zoom in and out of maps, open pictures, and pull up data associated with the features that are mapped.

The four sampling sites were a subset of previous sites: Dolly Gordon Brook, downstream of Beech Ridge Road; York River, downstream of Birch Hill Road; Smelt Brook downstream of Route 91; and Bass Cove Creek, downstream of Route 91. The Bass Cove site was relocated early on in the survey slightly further downstream.

Site locations were set, in part, based on ease of access since all four sites had to be reached on a sampling day, and were intended to be close to head of tide but below the first potential barrier. Fyke nets were used. Nets were in the water for two full tidal cycles between sampling. Mortality in nets can be an issue, especially at sites where green crabs were present. Nets were set on Mondays, then sampled on Tuesday, Wednesday, and Thursday each week. In total, fishing occurred for 2,678 hours (how long nets were in the water); there were 111 sampling events over 26 days; and 4,706 fish were caught. Water quality monitoring at the sites included salinity, depth, and temperature. Methods used are standardized with those used in other Maine and Massachusetts rivers.

Jake's presentation includes a list of species and number of each found at each site, including six SGCN found at the sites. Rainbow smelt is a highest priority SGCN. He noted bluegill is an invasive species. Comparisons cannot be made between this list and those species found in the previous survey because different locations were sampled using different methods and different levels of effort. He noted the habitat above the Dolly Gordon site is not particularly good for smelt. Alewives like pond habitat for spawning; although there is much pond habitat in the watershed, the alewives cannot access it. In York River, there are a series of partial barriers above Frost Hill from historic mill dams, so there is not consistent access there. No blueback herring were caught. Brook trout were found, but they are likely not sea run brook trout. There is good brook trout habitat, especially in Smelt Brook. There is some stocking in the York River. The smaller sizes of brook trout found indicate they are reproducing naturally in the system. Tomcod were present – they are a diadromous species, though not a SGCN.

Jake indicated he was surprised by the number of alewives and rainbow smelt that were caught. Rainbow smelt in the York River system represent the largest run in York County, and as such represent an "ORV" for the York River. Alewife numbers also were more than he expected but they were relatively small compared to other systems because of lack of access to ponded habitat. Building fish ladders to get to existing potential alewife habitat would be a large and likely prohibitive cost. Fewer than expected American eels were caught. Those that were caught were adults.

The researchers looked for suitable smelt spawning habitat near the sites, and found three areas with good spawning habitat – riffle habitat over gravel bottom. The sites were on the York River, Smelt Brook, and Bass Cove Creek. They found eggs at Bass Cove, but many were dead because they were above the water line. The weirs leading to the Bass Cove/Route 91 culvert are a little helpful, but overall the culvert likely is not regularly passable so smelt aren't getting upstream to their ideal spawning habitat.

Wells Reserve is still conducting a GIS-based analysis of the condition of riparian buffers along the survey sites and spawning habitat.

The Maine Stream Habitat Viewer with culvert information is now available on-line.

Comments/questions:

- Freshwater flows were very unpredictable and flashy this spring.
- The alewife run was early this year.
- Should examine fish runs in Long Cove Creek in the future. Many fish were spotted there this year.
- Q: Were overall weather conditions recorded for the survey? A: No, weather conditions and precipitation were not recorded and analyzed.
- There were and are many opportunities to expand the study to more sites and for a longer time to capture the full run; and to conduct additional analyses. However, the study that was just completed was limited by budget. York River Study and Maine Coastal Program provided funding. The scope covered as much as possible within the available budget.

- Q: What does the presence of rainbow smelt tell you about the health of the river? Can you draw any conclusions about climate change impacts from the study findings? A: The species richness in the York River is very good, but we really don't have a reference site in southern Maine for comparison. The overall lack of development in the riparian zones and targeted land conservation have maintained good fish habitat conditions. The presence of rainbow smelt shows that the overall condition of the river is good, especially for southern Maine. From this study, inferences about climate change cannot be made.

➢ **Wildlife Habitat Information for the York River Watershed – Amanda Shearin and Bill Hancock, Maine Department of Inland Fisheries and Wildlife**

Presentation: http://www.yorkrivermaine.org/wp-content/uploads/2017/11/YorkRiverBwH-Nov9-2017.pdf

Amanda gave an overview of the agency and the Maine Wildlife Action Plan. MIFW focuses on inland species; diadromous fish, for example, would fall under Department of Marine Resources. In Maine, over 15,000 species are managed; there are over 33,000 when you add in marine species. The Wildlife Action Plan (WAP) covers non-game species and is updated every 10 years. It was very recently approved by the US Fish and Wildlife Service. Over 100 partner agencies and organizations contributed to plan development. There are three levels of WAP priorities – 58 species are a level 1 priority; 131 species are level 2; and 189 are level 3 – that represent the 378 species of greatest conservation need (SGCN). Climate change vulnerability factored in to this version of the plan in assigning priorities to the species. SGCN are identified so actions for protection and management can be prioritized. The vast majority of SGCN currently have not been listed by state or federal agencies for protection. Some key SGCN in the York River watershed include great blue heron, salt marsh tiger beetle, New England cottontail, Blanding's turtle, and spotted turtle. The watershed has a wide diversity of habitats. Some key habitats are salt marshes, oak pine forests, vernal pools, and early successional forests. The WAP identifies stressors to SGCN and habitats. Habitat shifts and development are the greatest stressors to SGCN, and invasive species and habitat shifts are the greatest stressors to key habitats. The WAP includes over 300 actions for conservation of species and habitats. All actions in the WAP are non-regulatory. The Maine Warden Service and Department of Marine Resources cover enforcement actions and needs.

Amanda introduced the Beginning with Habitat (BwH) program. The York River watershed is in the area of Maine with the highest biodiversity and also the greatest development pressure. York River watershed remains largely intact. Many species require sizable undeveloped habitat blocks that are now threatened. BwH provides data and tools to help communities conserve species and habitats.

Bill Hancock provided an overview of the data, maps and tools that are available through the BwH program and on the BwH website (http://beginningwithhabitat.org/). There are three key data maps: wetlands and riparian habitats; rare species and communities; and undeveloped blocks and connections. The third map is updated regularly. He updates conservation lands four times per year. Other maps are available or can be created, including the co-occurrence maps that show concentrations of natural resource attributes.

Bill gave a demonstration of how to access maps online for the town of York. He also produced and displayed paper copies of the maps for the York River watershed area. He is able to support the York River Study with maps for the watershed, and can provide KML files for use on Google Earth, if needed. The online maps and tools can be queried by town, not by watershed. Map Viewers are available on the website where custom data layers can be viewed, and features can be clicked on for information, including type of feature and acreage. Summary statistics are not available by watershed, only feature by feature. He hopes to add a SGCN data layer to the viewer.

- **Questions, comments and additional discussion:**
  - There needs to be a stronger link between the natural resource information and enforcement. The information and maps are not being used by the towns and the public to identify and protect resources. Game wardens need to be involved in discussions.
  - Q: The Wildlife Action Plan and the BwH program both include management actions and recommendations. Which is more relevant for development of a York River watershed management plan (which would provide more relevant recommendations)? A: BwH is more relevant to local approaches to resource protection.
  - A committee member thanked Jake for his work and presentation, and Amanda and Bill for attending the meeting and sharing data. Everyone's time and efforts are greatly appreciated, and all the information will be useful as we develop the management plan.
  - Next steps for the committee should involve reviewing in detail the WAP and BwH information and merging this information with the build-out study to look at potential development impacts on highest priority resources.
  - The fish study should be expanded to a multi-year effort, especially for smelt, and include ongoing smelt spawning habitat assessment and monitoring as part of that effort – all with the goal to develop and refine management actions.
    - Jake Aman noted that there are some efforts underway, including an upcoming project Wells Reserve is working on in Casco Bay, to develop DNA testing protocol to survey smelt, in particular, which might end up being a cheaper and more efficient way to survey fish in the future.
  - A prioritization of barriers (culverts) for improvements should be done.
    - Jake Aman reminded meeting participants of the culvert assessments that were previously done and presented last March. He would be happy to work with the group to help refine the prioritization with the new information from the fish study.
  - Suzanne Peterson from the Lamprey River Wild and Scenic Council suggested comparing the York River smelt run to other regional rivers. In their case, the Lamprey had the strongest run of alewives of all Great Bay rivers, so that helped them define it as an "ORV" for their designation. They have successfully utilized volunteers from the Stewardship Network of New England for ongoing Lamprey River fish sampling, as a way to keep costs down for long-term monitoring.

- **Next steps:**
  - Notes and presentations from the meeting will be made available on-line in the next couple of weeks.
  - A subgroup of the York River Study Committee is meeting later in November to better organize the natural resources section of the management plan. The next version of the "Draft Management Objectives and Actions" for the management plan should be available in December.
  - We are aiming for a presentation and discussion of preliminary results from the build-out study in December. A meeting will be announced when known.