Partnership 1st Quarterly Meeting

March 18, 2022

Lock and Dam 1 Fish Passage Improvements- Dawn York, Partnership Coordinator

- Cape Fear River Watch evaluated upgrades to provide a more gradual and uniform loss of energy along pathways
- Design Rationale: nature-like passages should allow full suite of native fish species, Fishways should be passable over the range of seasonal flow conditions, should be geomorphic ally like natural river channels
- Engineering and design started in 2018 and construction initiated last summer, completed modification in November 2021- monitoring will start this spring
- Three notches in crest of the dam were constructed
- Patrick from Cape Fear River Watch flew drones to take pictures of completed
- Next steps for Lock and Dams 2 and 3: fish passage, lock chamber, dam removal
- Press event in mid-April at Lock and Dam 1.
- The USACE is on hold with the disposition study. Currently the Corp is still the owner for Locks 1,2 and 3.
- Alternatives is partially based on if the Corps still owning, cannot submit anything that would hinder the authorization.

NC Wildlife Action Plan 10 Year Review and Revision- Cindy Simpson, NC Wildlife Resources Commission

- the State Wildlife Grant Program (SWG)- grants money to the states, tribes, territories, to non-game
- Federal match and nonfederal match excludes use of funds for plant SGCN
- SWG requires have a 10-year state action plan
- Recovering America's Wild Act (RAWA) provides permanent funding, with North Carolina likely to receive $20 million dollars a year for permanent funding
- Can spend money on conservation education, related recreation funding historically underserved areas, Invasive species management, and law enforcement
- RAWA will add plants into species of conservation need- 5% bonus- additional million dollars for plant conservation
- Requirement to submit 2025 Plan to USFWS by October 1,2025
- Plan will take 3 to 3.5 years to complete with public review opened from 2022-2025.
- Land snails or aquatic snails are needed
- Andy Wood is a snail expert

The Sustainable Rivers Program: Cape Fear River, North Carolina- Julie DeMeester, The Nature Conservancy

- TNC works with Wilmington USACE with the Sustainable Rivers Program.
- Nation wide effort- over 40 rivers to identify, refine, and implement environmental strategies are Corps water infrastructure.
- Literature review in 2019 identified healthy flood plains, water quality, fisheries to focus on.

- 2019- multi day technical eflow workshop to create prescriptions
- The Crops determined they can conduct pulses out of Jordan to help fish get up stream, miniature pulses to help water quality
- 2021- successful pulse
- Pulses- great tool but not only tool
- 2022 researchers prepping for the season
- How can we get pulses out of Jordan to impact the the lower cape fear river basin?
- Pulses impact for sediment movement such as bedforms and erosion
- Is there communication with downstream utilities/pfas researchers?
- Get notification for pulses

Fish Passage Update (2021/2022)- Aaron Bunch and Troy Farmer, Clemson University

- uses acoustic telemetry to determine passage success, determine effects of environmental flow, individual covariates (size, sex) influence passage success
- study design: fine-scale movement and passage
- study species- American shad, striped bass, and sturgeon
- HR3 Acoustic array at LD1- 23 total, seven upstream, 13 downstream
- -HR3 array development- welding and creating mooring for HR3 receivers
- Striped bass example- tags ping every 2 seconds, single day movement
- Only 9-12 fish passed last year, but have data of how the fish respond when they are unable to pass
- 2021 results- 41 American shad, 37 striped bass, 5 Atlantic sturgeon during the pulse
- 2022 design: eDNA collections
- Future: tag 53 more American Shad and 21 more Striped Bass, weekly eDNA water collections, coordination with Kyle Rachels for electrofishing

Cape Fear Anadromous Survey-Kyle Rachels, NCWRC

- For 2 decades, fish assessment has been conducted by NCWRC in the Cape Fear River to understand relative abundance, size structure, age structure, parentage- based tagging,
- American Shad0-Pre rock Arche rapids and post rock Arch rapids- similar catch rates at Lock and Dam 1, but larger catch rates at LD2, LD3
- Striped bass higher CPUE at LD1 and lower CPUE at LD2 and 3
- Between 2015-2019, 353 hatchery stocked phase-1 fish (1-2 inches), 368 (hatchery stoked as phase-11 fish (5-7 inches), 107 (Hatchery) unknown size-at-stocking
- PBT samples are taken below all three dams

eDNA Processing Update – Heather Evans, Ph.D., NC Wildlife Resources Commission

- Five sampling sites during 2021, March 15th to May 3rd with a total of 114 samples
- eDNA collection includes weekly water samples, water filtering, and eDNA extraction
- No hits during the week of 3/15, but every other week samples at LD1
- Hits at surface in all instances so Van Durn samples not necessary
- Lous Plough developed Shad probe
- 2022 sampling- expanded from 4 to 11 sites, February 4th through first week of May with a total of 477 samples

Striped Bass Fisheries Management Plan/Cape Fear Sustainable Harvest Update – Joe Facendola, NC Division of Marine Fisheries

- Striped Bass Amendment out for public review
- Striped Bass up for review for allowing harvest.
- DMF recommends keeping the harvest closed to allow stock to repopulate, any harvest during the spawning season may target any fish that make it to the spawning grounds
- WRC would like to see harvest in the system, provide angling opportunities to a hatchery supported stock.
- WRC will continue to stock 150,000 phase 1 fish in 2022

Attendance:

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