

**Roanoke Rapids/Gaston Hydropower Project  
American Shad and Eel Working Group Conference Call**

23 October 2017

**Minutes**

Participants: Jeremy McCargo (NCWRC), Fritz Rohde (NMFS), Tom Kwak (NC Coop Fish and Wildlife Unit), Todd Mathes (NCDMF), Holly White (NCDMF), Wilson Laney (USFWS), Corey Chamberlain (Dominion Energy), Liz McKercher (Dominion Energy), Pete Sturke (Dominion Energy), Bob Graham (Dominion Energy), Karen Canody (Dominion Energy).

**American Shad Working Group**

*Dominion Energy* - Pete indicated the results and data from bypass electrofishing and ichthyoplankton sampling conducted by Dominion Energy were not available at this time. Results will be presented at the regular annual meeting planned for the January/February 2018 time frame.

*NCDMF* – Holly presented results from the 2017 American Shad acoustic tagging effort supported by the NMFS. Seventy-five tags were put out, 38 before the commercial fishing season began on March 3, and 37 after it closed on March 24. There were 57 detections, with 31 fall back fish that made no spawning run. Twenty-six fish ascended the Chowan or Roanoke. Nine fish entered the Meherrin, 5 went up the Nottoway, and none went into the Blackwater. Ten of the fish that ascended the Chowan did not enter the Nottoway, Blackwater or Meherrin tributary rivers. Two fish went up the Roanoke, 1 to Gaston, and 1 only partway to Gaston. An interesting note was two fish were detected by coastal arrays off Virginia Beach and Delaware Bay.

Sixty-eight fin clips were taken. It was later determined from genetic analysis that 4 of the tagged fish were Hickory Shad, and one of those was one of the fish that entered the Roanoke. Due to transcription error, it was uncertain if the fish that ascended the Roanoke to Gaston was a Hickory or American shad. Accounting for the identification of Hickory Shad, 21 American Shad entered the Chowan. Of the 68 clipped fish, one was of hatchery origin.

There are 46 tags available for 2018. **Action Item:** Holly to send the 2017 report (completed 10/23/17).

*General Discussion* – Wilson reviewed a discussion he had with Chad Boyce, VDGIF. Chad indicated the American Shad fisheries in the Meherrin, Blackwater and Nottoway are robust. Given the tendency for American Shad to go into the Chowan and its tributaries, there may be opportunity for DMF to work with DGIF on research needs. Eric Brittle (VDGIF) has indicated he hopes to resume sampling of American Shad in these rivers in the near future.

There was additional discussion of cooperative opportunities and funding. Holly mentioned she hopes to get out more receivers this year. It was noted the fish lift at Emporia has a reputation for being ineffective for American Shad, and that the dam is a FERC-licensed facility. There may be some opportunity to work with VDGIF and/or the dam owners to improve the operation of the lift in the future, especially if the FERC license comes into play.

Wilson asked if WRC was running the hatchery production model in order to generate an estimate of American Shad run size. Jeremy said yes, but wasn't sure it had yet been run with the 2016 data. The 2017 genetic data are not in yet, which are needed for model runs.

NCWRC – Jeremy described the spring sampling conducted by Katy Potoka. There were low flows in March, average in the beginning of April, and in late April/May high flows. Katy and her coworkers collected 516 American Shad, CPUE of 46 fish/hour. About average, and nearly twice the record low CPUE seen in 2016. There were about 3 males to every female.

Brood fish were collected. Watha received 203 fish, and Edenton 110 fish. 2.4 million fry were released to Roanoke Rapids Lake. 257,000 fry to Weldon. The relatively low release at Weldon was due in part to cool weather inhibiting Edenton's ability to warm the water in broodfish tanks.

Katy has collected 45 juvenile American Shad thus far in the fall collections. In 2016, 83 juveniles were tested and 11 (13%) were of hatchery origin. Six had been stocked in Roanoke Rapids Lake, and 5 at Weldon. Jeremy noted one adult collected in Albemarle Sound by DMF had been stocked in Lake Gaston in 2013.

**American Shad FERC Recommendation** – Pete noted the decision to continue to suspend trap and transport of American Shad in 2017 was somewhat ambiguously worded in the previous meeting minutes, and he wanted to document that decision with the current minutes. Pete noted it is now only necessary to notify FERC when the suspension of upstream passage of American Shad has ended as per the FERC's recommendation in 2016.

### **American Eel Working Group**

*Dominion Energy* - Pete reviewed results from eel trapping and transport in 2017 to date. To date Dominion Energy has trapped and transported 52,501 American Eels at the three Roanoke Rapids Eelways.

- Grand Total at Roanoke Rapids – 52,501 with 9 mortalities
  - North Eelway – 9,830 spring run numbers may be lower due to the system failing right before the high water events.
  - South Eelway – 42,422
  - Tailrace – 249
- Grand Total at Gaston Eel Traps – 1,364
  - North Gaston Trap – 138
  - South Gaston Trap – 1226

He also noted that the North Eelway still captured eels as there was still surface flow on the eelway however the attractant flow was not functioning for the majority of the high flow events in April/May due to inability to repair for safety reasons. Of the 1,364 eels captured at the Gaston Traps, 150 per month were kept and given to Jesse Fischer at NC State for their studies. A discussion of conservation vs research ensued and it was decided that Dominion Energy would continue the 150/month allocation to NC State through 2017; the group would discuss this activity and its necessity further during the winter meeting.

**American Eel FERC Recommendation** - On October 10, 2017, Fritz had provided an email to the Dominion Energy members indicating the natural resource agencies were recommending that Dominion Energy design an upstream American Eel passage facility at Gaston Dam. Asked for his thoughts, Fritz noted that design had been scheduled for 2011 and the agencies had not requested design be developed due to the relatively low numbers that were trapped at the base of the dam in that year, and the ensuing years. Fritz went on to note that in recent years there has been a steady upward trend in the numbers of eels being trapped at Gaston Dam, and that the numbers were at levels commensurate with passage. He also noted that the number of American Eels captured at Gaston to trigger upstream passage design was identified in the license as 150 and while that number was arbitrary it has been exceeded annually since 2015. Wilson Laney indicated that the USFWS supported the recommendation, as did Todd Mathes of NCDMF, Tom Kwak of USGS, and Jeremy McCargo of NCWRC. Fritz noted agencies not present at today's meeting were also in support, and asked what position Dominion Energy took. Pete noted they would need to brief company management and need time to develop their decision. Similar to the American Shad decision, Pete noted that it was not discreetly published within the minutes from the spring meeting that design of upstream passage at Gaston was delayed until 2018 however all members were in accordance with the delay from the spring meeting.

**Action Item:** Dominion Energy is to notify the AEWG when it has briefed its management, and to schedule a meeting/call for the sole purpose to discuss the agency recommendation.

Bob noted that as part of designing the Roanoke Rapids eelways, Dominion Energy had hired a consulting firm with expertise in American Eel passage to conduct a study of feasible alternatives for upstream passage. The feasibility study provided Dominion Energy and the resources agencies with conceptual graphics, advantages and disadvantages of each approach, and cost estimates. Bob wanted to review this step used in 2004 as he felt it resulted in a more effective eelway at Roanoke Rapids Dam. Wilson noted he expected the Services to fund the participation of their fish passage engineers during the design process.

There was some discussion regarding the practice of providing eels trapped at Gaston to NC State. It was decided that the practice would be continued through the 2017 trapping season, and reviewed as part of developing 2018 and beyond research efforts at the winter meeting.

Wilson noted the USFWS will continue funding USGS/NC State in 2018 for eel work being led by Jesse Fischer.

Wilson and Todd provided an update on ASMFC activities. American eels are managed under a coastwide catch cap of 907,671 pounds (Florida to Maine). The yellow eel cap has two management triggers: (1) the coastwide cap is exceeded by more than 10% in a given year, and (2) the coastwide cap is exceeded for two consecutive years, regardless of the percent over. If either trigger is met, there is an automatic implementation of state-by-state quotas. The 2015 coastwide yellow eel landings were below the cap. However, 2016 landings were 925,798 pounds, which exceeded the cap, but by less than 10%. A new addendum (V) to the American Eel Fisheries Management Plan is in the works, and all management activities will be reviewed with potential for change in 2019. **Action Item:** Wilson is to provide the ASMFC American Eel Management Board actions from their meeting last week (complete 23 October 2017).

*PNNL* - This study was designed for two separate purposes. The first was for PNNL to validate the functionality and evaluate the performance of the new acoustic micro-transmitter in field environments and to examine fine scale spatial and temporal movements of American Eels in proximity to the Roanoke

Rapids Dam. The secondary study was to examine spatial and temporal movements of juvenile American Eels trapped and transported above Roanoke Rapids Dam into Deep Creek.

- A total of 116 American eels were tagged and released with ELT on two different days.
  - 28 June 2017
    - 91 fish
    - 6 release sites
      - Deep Creek
      - 5<sup>th</sup> street boat launch
      - Mid 5<sup>th</sup> street boat launch and forebay
      - Forebay South
      - Forebay Middle
      - Forebay North
  - 19 July 2017
    - 25 fish
    - 2 release sites (Deep Creek, 5<sup>th</sup>)
- A total of 22 JSATS autonomous receivers were deployed (Maps attached)
  - 11 near the face of Roanoke Rapids Dam
    - PNL1, PNL2, PNL3, PNL4, PNL5, PNL6, PNL7, PNL8, PNL9, PNL10, and PNL11
  - 4 near the 5<sup>th</sup> street boat launch
    - RR5 (RRapids 5<sup>th</sup> Street), RR5U (RRapids 5<sup>th</sup> street upstream), RR5D (RRapids 5<sup>th</sup> street downstream, RR5D2 (also near dam face nodes)
  - 5 in Deep Creek
    - DCRR – Deep Creek at Roanoke Rapids (no detections), DCLD – Long downstream (no detections), DCSD – Deep Creek Short Downstream, DCSU – Deep Creek Short Upstream , and DCLU – Deep Creek Long Upstream
  - 2 upstream of Roanoke Rapids Dam
  - RRGs – Roanoke Rapids Gaston South (no detections) and RRGn – Roanoke Rapids Gaston North (no detections)
  - 4 of the receivers never detected any fish
    - DCRR, DCLD, RRGs, and RRGn

106 of the 116 fish were detected. All fish detected were detected by receivers in close proximity to their release locations and generally not anywhere else within the array. However, a potentially large finding within this study was that of the 38 fish released into Deep Creek (at Rt 158 bridge), 36 were detected immediately upstream and one fish from each release event was detected at the Deep Creek Long Upstream location (Above Rt 903 bridge). A more detailed presentation will be provided to the AEWG if approved by PNNL in addition to a more in depth presentation will be available for the winter meeting.

**Action Item:** Pete to send out PNNL slides and data as they are received pending PNNL approval.

Pete ended the meeting by telling the group that Dominion Energy had received approval from management to proactively electrofish Deep Creek in a non-required year of sampling to monitor and collect any mature, maturing, or Silver Eels within the Roanoke Rapids Lake. Their intentions are to

mimic the semi-annual sampling methods with the addition of night time electrofishing to focus on Silver Eels. While the semi-annual sampling is conducted three times annually, this additional sampling will focus specifically on out-migrating Silver phase Eels in the October/November time frame.

