**MEETING NOTES**
**Stevens Creek Hydroelectric Project (FERC No. 2535)**

**Dominion Energy South Carolina, Inc.**
**Fish Passage Technical Working Committee**

**January 27, 2026**

Final JAG 8/16/26

## MEETING ATTENDEES[1]:

Ray Ammarell – Dominion Energy
Will Barnes – Dominion Energy
Jason Bettinger – SCDNR
Amy Bresnahan – Dominion Energy
Caleb Gaston – Dominion Energy
Aaron Gray – GAWRD
Jenn Güt – Kleinschmidt
Andy Herndon – NMFS
Fritz Hoogakker – Dominion Energy
Alison Jakupca – Kleinschmidt
Jordan Johnson – Kleinschmidt
Stephanie Krug – NMFS
Bjorn Lake – NMFS
Kevin Mack – NMFS
Paula Marcinek
Elizabeth Miller – SCDNR
Melanie Olds – USFWS
Bill Post – SCDNR
Andrew Rollins – Dominion Energy
Paul Vidonic – Dominion Energy
Ellen Waldrop – SCDNR
Keith Whalen – USFS
Brooke Winsmann – Dominion Energy

Not in Attendance: Not Applicable

*These notes are a summary of the major points presented during the meeting and are not intended to be a transcript or analysis of the meeting.*

**MEETING PURPOSE**: The purpose of the meeting was to review the 2025 American Eel Survey Report and Study Plan for 2026 surveys, discuss Habitat Suitability Survey results, and plan for regulatory requirements/prescriptions (Rx) for the Stevens Creek Hydroelectric Project (Stevens Creek Project or Project).

Alison Jakupca, Kleinschmidt, began the meeting with a welcome and safety moment for Fish Passage Technical Working Committee (FPTWC) members (also referred to herein as group or committee). Introductions for meeting participants were made.

[1] Abbreviations/Acronyms: GAWRD = Georgia Department of Natural Resources, Wildlife Resources Division; Kleinschmidt = Kleinschmidt Associates; NMFS = National Oceanic and Atmospheric Administration, National Marine Fisheries Service; SCDNR = South Carolina Department of Natural Resources; USFWS = United States Fish and Wildlife Service; USFS = United States Forest Service

During the meeting Paula Marcinek indicated that Bryan Bowen was no longer the Point of Contact for the GAWRD Freshwater Biodiversity Program and that Matt Rowe[2] is the new Program Manager.

## Regional Fish Passage Updates

Andy Herndon, NMFS, provided an update on fish passage at NSBLD[3], which is the most downstream obstruction to fish passage in the Savannah River. As discussed in previous FPTWC meetings, new language in the WRDA[4] 2024 has instructed USACE[5] to "fully repair" the "lock and dam structure" which will allow for construction of a fishway in a bypass channel on the SC[6]-side of the dam. USACE has contracted with a third party to conduct a full assessment of the lock and dam structure and NMFS has provided a list of experts on fish passage design to USACE.

Paula Marcinek asked if there was a threshold for rather the lock and dam would be repaired versus torn down based on the assessment of its current condition. Bill Post, SCDNR, informed the group that through his discussions with USACE, a summary of information that leads to USACE's decision on the new design application would be made publicly available.

Jenn Güt, Kleinschmidt, noted that there has been recent activity on the FERC[7] docket regarding the Augusta Canal Project (AC Project), which is located one mile downstream from the Stevens Creek Project and is upstream from NSBLD: 1) an Additional Information Request from FERC related to updates regarding the AC Project since the EA[8] was issued in 2006 and 2) a request to USFWS for concurrence with a supplemental Endangered Species Assessment. These two actions appear to suggest movement with FERC issuing the license for the AC Project, which is to include a fish passage Rx. Kevin Mack, NMFS, added that based on the timeline of FERC issuances, a license for the AC Project may be issued in 2026. NMFS has provided everything required to FERC, so it is now on FERC's timeline.

## American Eel Studies

Caleb Gaston, Dominion Energy (DE), presented results from the Spring 2025 Eel Sampling Study Report.

[2] Matthew.Rowe@dnr.ga.gov
[3] NSBLD = New Savannah Bluff Lock and Dam
[4] WRDA = Water Resources Development Act
[5] USACE = United States Army Corps of Engineers
[6] SC = South Carolina
[7] FERC = Federal Energy Regulatory Commission
[8] EA = Environmental Assessment

Executive Summary: DE staff executed a sampling plan to investigate the American eel population in the vicinity of the Stevens Creek Project in March through early June 2025. Boat electrofishing below the dam yielded 195 eels with total lengths ranging from 110 to 720 mm[9]. Deployment of eel pots above and below the dam captured no eels in 77 pot nights. A temporary eel ramp installed below the powerhouse collected 29 eels with total lengths ranging from 119 to 242 mm. All eels were marked with coded wire tags and released below the dam. No recaptures were detected. CPUE[10] and TL[11] data indicate that concentrations of upstream migrating eels may be present at the GA[12] shoreline of the tailrace, near the navigation lock, and downstream of the section of the dam topped by five-foot flashboards.

Kevin commented that DE did a great job with the survey, and that he agrees with the conclusion that certain locations are likely to be more suitable for sighting. It is common that non-volitional sampling (electrofishing) tends to capture larger size classes that are already mature and it thus makes sense that the smaller size classes were collected via the temporary eel ramp. Based on the results, Kevin suggested that the group consider extending ramp operation through the fall as it will be beneficial to know when eel presence tapers off as there is typically a lull in the summer.

Kevin asked if it is the intent that the Spring 2025 Eel Sampling Study Report is filed with FERC. Alison responded that she believes it would be worthwhile filing reports and meeting notes with FERC as they show due diligence in the committee working on fish passage for the Project. Although FERC has not officially approved the Fish Passage AMP[13] yet, if the FPTWC is hoping that FERC accepts it as-is, the filing of history and results of what the group has been working on might encourage FERC to not make changes.

Kevin asked what the horizontal lines on the eel violin plots represent. Fritz Hoogakker, DE, replied that the lines represent median values.

Kevin asked a question specifically of SCDNR and GAWRD regarding their interest in conducting age analysis for eels. Bill responded that there are SCDNR staff that have aged eels, primarily in the Winyah Bay/Cooper River area and he can reach out to them to determine interest. Aaron Gray, GAWRD, also replied that he can consult internally to inquire about interest within his agency. Keith Whalen, USFS, asked that because one of the main purposes of the eel surveys is to determine if they are traversing the dam, if it makes sense to remove eels from the study area for aging. Bill replied that that is certainly something to

[9] mm = millimeters
[10] CPUE = catch per unit effort
[11] TL = total length
[12] GA = Georgia
[13] AMP = Adaptive Management Plan

consider. Aaron asked if there had been previous eel aging studies conducted in the southeast, which was believed to be some.[14]

A timeline for FPTWC members providing comments on the Spring 2025 Eel Sampling Study Report was set for 30 days (by February 26, 2026).

Caleb presented the Spring 2026 Eel Study Plan to the group.

Executive Summary: The sampling efforts in Spring 2026 would include boat electrofishing above and below the dam and a temporary eel ramp installed below the powerhouse that would operate from May 1 through June 30. All eels captured below the dam would be marked with coded wire tags; those captured above the dam would be fin clipped, and all eels would be released at the site of capture.

Elizabeth Miller, SCDNR, suggested that information on which eel fin is being clipped be included in the study plan. It was clarified that the fin clip location be different for each study year.

Bill noted that there are eel ramps in the southeast that operate year-round, and in all of them, there tends to be a pulse of eel that comes in during the fall. He suggested that the committee consider running the eel ramp year-round as opposed to cutting it off in June to capture this pulse. Or, alternatively, potentially stop in the summer and then start back up when water temperatures begin to cool down.

Alison asked if there was a specific temperature range that they observe the fall pulse come in. Bill noted that he would look at the data and let the group know. Fritz indicated that DE observes the fall pulse at the Roanoke Rapids and Gaston Hydropower Project (Roanoke and Gaston Project) and would also provide temperature data.

Caleb asked regarding summer sampling if there was a delta or absolute water temperature that DE should shut off the eel ramp. During the Spring 2025 sampling period, the temperature in the holding tank remained relatively similar to the Project tailrace. Kevin responded that it is a good idea to have a temperature threshold although he is not certain of the exact temperature. Bjorn Lake, NMFS, said that he believes there has been a temperature trigger identified for eel in the Susquehanna River and will reach out to appropriate person for the number. Alison noted that the next FPTWC meeting would likely be in the April/May timeframe and the temperature/summer sampling could be something they actively discuss during that meeting as well.

[14] Confirmed eel aging studies conducted in the southeast United States were in Louisiana (otolith aging), South Carolina (multiple aging methods compared; multi-method aging guidance), and Florida (multi-method aging guidance).

Kevin commented that he agrees with discontinuing the pot sampling. He is also in favor of adding electrofishing sites in the reservoir and the locations are adequate. Kevin believes it is a good idea to log CPUE both above and below the Project dam.

Caleb pointed out that he is removing the vacant bays from electrofishing efforts and adding a site at the junction of "debris island."

Kevin asked if it was feasible to electrofish further upstream Stevens Creek than presented in the study plan. Caleb replied that while possible, the biggest consideration is travelling time as they can only operate the boat at idle speed through Stevens Creek. Kevin stated that he is amenable to see how many eels are collected at the lower Stevens Creek site in 2026 and discuss sites further upstream afterwards.

Kevin is of the opinion that it would be best to run the eel ramp until there are no more eels collected but is accepting of the study plan as currently written. Paul Vidonic, DE, would prefer to get through June and then go from there so as not to extend resources.

A permit from GAWRD is required prior to surveying, and therefore, Caleb is requesting any comments to the Spring 2026 Eel Study Plan by February 13.

**American Shad Studies**

Fritz presented on the Stevens Creek American Shad HSI[15] Study.

Proposed Study: 1) target median flows to survey habitat sites at regular intervals in Stevens Creek, Turkey Creek, and sites from the 2005 Plan[16] and use a 1D[17] hydrologic model to predict suitability at multiple flow levels; 2) fit data to habitat suitability curves presented in Hightower et al. 2012[18]; 3) temperature not to be modeled as it is expected to vary widely during the shad spawning period; and 4) develop predicted habitat suitability for each site to assess the watershed as a whole.

[15] HSI = Habitat Suitability Index

[16] U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2005. Diadromous fish restoration plan for the Middle Savannah River: strategy and implementation schedule. Charleston, South Carolina. August 2005.

[17] 1D = one dimensional

[18] Hightower, J.E., J.E. Harris, J.K. Raabe, P. Brownell, and C.A. Drew. 2012. A Bayesian spawning habitat suitability model for American shad in southeastern United States rivers. Journal of Fish and wildlife Management 3(2):184-198. doi: 10.3996/082011-JFWM-047.

Results: Suitability distribution at "medium" flow[19] was 58 percent "poor" habitat suitability, 23 percent "marginal," and 19 percent "moderate."

Key Takeaways: 1) factoring in substrate, existing shad habitat is almost exclusively in the uppermost reaches of the study area; 2) the upper reaches contain habitat of marginal to moderate quality, but little to no excellent habitat anywhere; 3) substrate is a defining factor in assessing suitability; 4) below the USGS[20] Modoc gage, the system is entirely sand/silt and largely under reservoir influence; 5) there are unstable/reversing flows in the lower reaches of the study area due to backwater effect; 6) the system has changed considerably since the 2005 Plan was made; and 7) 2025 spawning season simulation and Robust Redhorse analysis is upcoming.

Discussion Points:

- Will passing shad from the Augusta Shoals habitat into Stevens Creek habitat increase their population? The Augusta Shoals hold a large quantity of high-quality habitat. If the Augusta Shoals are not operating at carrying capacity, will passage/transport of shad be a net loss?
- Does the weir at Modoc constitute a serious barrier to massage? At what flows is passage possible?
- Does the reservoir influence / backwater effect in the lower reaches affect the upstream signal passed shad would receive? Will shad find their way to the upper reaches that contain habitat?
- Do the lower reaches of Stevens Creek and the Project reservoir pose survival barriers to eggs and juvenile shad? There are seasonal water quality issues. Eggs may settle out in the lower reaches/reservoir and suffocate.

Regarding the Modoc gage, it was noted that the weir does extend all the way across the creek but loses elevation closer to the east side. Amy Bresnahan, DE, commented that the gage was damaged in 2014 and DE assisted with repairing it so USGS could obtain accurate measurements. Elizabeth asked if the weir was captured during the HEC-RAS modeling. Fritz replied that they surveyed a site just downstream of it. The weir is located approximately 100,000 feet up the main channel at an elevation of approximately 205-210 feet. Fritz added that the scour pool was approximately hip to thigh deep and not more significant than any other pool they observed in the system.

Paula asked for clarification about the Price's Mill Dam, which was the most upstream survey site, and whether that was the dam blocking passage of non-native Alabama Bass and

[19] "Medium" flow = 50 percent exceedance and approximately 175 cubic feet per second (cfs); "low" flow = 90 percent exceedance and approximately 35 cfs; "high" flow = 10 percent exceedance and approximately 1,000 cfs.

[20] USGS = United States Geological Survey

Bartram's Bass. Fritz replied that the Price's Mill Dam is the structure that blocks fish passage in Stevens Creek and that there is also another mill dam further upstream.[21]

Keith requested that the HSI study results presentation be shared with the FPTWC.

Keith asked if it is likely that shad would move from those sections of the Augusta Shoals where habitat is good to seek out potentially better habitat in Stevens Creek. Fritz replied that shad are highly migratory and push through bad habitat to get to where they need to go; however, the bigger concern with shad migration up Stevens Creek is if the eggs and juveniles can migrate out.

Keith asked the group to consider if it would be worth removing Price's Mill Dam to open even more seemingly good habitat. Elizabeth noted that SCDNR would not necessarily be in favor of removing Price's Mill Dam as it is currently a barrier preventing non-native bass from moving upstream.

Bjorn requested to know what the downstream boundary condition was set for the HSI analysis. Fritz responded that the boundary was set at 180 feet, which is in the middle of the Project's operating range. Bjorn suggested that DE also set the boundary at lower and higher elevations to also evaluate habitat suitability at the different Project operation levels, to which Fritz agreed.

Bill commented that at the St. Stephen Fish Lift, there is a canal that when fully operational provides a backwater effect that typically dissuades shad from migrating up the Cooper River, and there appears to be a similar situation at the Project that may be an issue for shad movement up Stevens Creek. Bill added that it has been documented that shad spawn below NSBLD, and when passage is possible, will come up to the Augusta Shoals and likely spawn some there as well. The Augusta Shoals is likely a good spot to spawn and it has been observed that shad do not necessarily move from that area once present. It would be years before it is known if the shad population would increase with passage provided up Stevens Creek; all spawning conditions would have to be ideal.

Bjorn commented that shad historically traveled up the Stevens Creek system. He continued that providing passage may have minimal value for population effects but could result in higher distribution of the species. Bjorn agrees that the biggest concern is how the backwater effect and water temperature may affect juvenile shad; water quality is also a concern.

Fritz explained that at the Roanoke and Gaston Project, they have noticed that placing shad manually upstream may increase their recovery time.

[21] Approximately 6.7 miles.

Kevin stated his appreciation of the work conducted for the HSI study and explained as far as metrics that water quality, including DO[22], is ranked near the middle. DO was not collected for this effort but it was discussed that the water quality data collected as part of the Project relicensing could likely be incorporated into the HSI study report. Fritz noted that the most upstream data collected for the water quality study did not quite reach the Modoc gage which may lead to a data gap. However, there is improvement in DO as one travels further up Stevens Creek to where it is likely not an issue. According to the Hightower et al. 2012 model, habitat suitability drops to zero if DO is less than 5 mg/L[23].

Caleb asked if it were possible to use a lot of the same data collected for the HSI study to determine habitat suitability scores for when larval and juvenile shad would be present. Fritz explained that the data could be used for analyzing larval and juvenile habitat suitability, but the more important factors for that situation are temperature and DO. Bill indicated that there was a published article that included larval stage information for shad.

Fritz will target distributing the draft HSI Study Report to the FPTWC in March/April before the committee meets next.

**Draft Preliminary Fishway Prescription(s)**

Alison noted that the Stevens Creek Project is currently awaiting the REA[24] Notice from FERC, and it appears the agency is moving towards that as indicated by recent filings regarding hiring a contractor.

Kevin stated that there are no major changes or updates to the NMFS fish passage Rx to what was presented during a previous FPTWC meeting. He did share two changes that have occurred in the NMFS internal process: 1) the approval process for Section 18 components has moved from the regional to headquarters level, which may result in two separate documents being filed with FERC including a) 10(j) recommendations and b) Section 18 Rx and 2) guidance has been issued limiting what can be shared with outside entities prior to approval being received.

Melanie Olds, USFWS, stated that there are no updates on her agency's fish passage Rx.

The next in-person meeting was scheduled for May 14, 2026, in the Augusta, GA area. Exact location TBD.[25]

The meeting was adjourned.

[22] DO = dissolved oxygen
[23] mg/L = milligrams per liter
[24] REA = Ready for Environmental Assessment
[25] TBD = to be determined

**ACTION ITEMS:**

- FPTWC members to provide any comments on the Spring 2025 Eel Sampling Study Report by February 26, 2026.
- FPTWC members to provide any comments on the Spring 2026 Eel Sampling Plan by February 13, 2026.