

REVIEW OF APPLICATION FOR RE-CERTIFICATION BY THE LOW IMPACT HYDROPOWER INSTITUTE OF THE TALLASSEE SHOALS HYDROELECTRIC FACILITY

Prepared by Patricia McIlvaine
July 2, 2019

I. INTRODUCTION

This report summarizes the review findings of the application submitted by Tallassee Shoals, LLC, (Tallassee or Applicant) to the Low Impact Hydropower Institute (LIHI) for re-certification of the 2.3-megawatt Tallassee Shoals Hydroelectric Project (P-6951) (Tallassee Shoals or Project), located on the Middle Oconee River near Athens, Georgia. The Tallassee Shoals dam was constructed between 1898 and 1902 and was operated by Athens Railway and Electric, then by the Georgia Power Company until 1962. After a dam breach in 1964, the Project was restored by replacing the dam and powerhouse superstructure in 1985. It resumed operations by Oglethorpe Power in 1986. Ownership was transferred to Fall Line Hydro Company, Inc. in 2003 and subsequently to Tallassee Shoals, LLC on August 18, 2008.

The Project operates under a 40-year License from the Federal Energy Regulatory Commission (FERC), issued on October 24, 1983. It is currently in the early stages of re-licensing. The Notice of Intent and Pre-Application Document dated September 30, 2018, were provided to LIHI as a supplement to the application for re-certification.

The Project was initially certified by LIHI as Low Impact effective April 23, 2004 when owned by Fall Line and was renewed for a second and third term in 2009 and 2014, respectively. This re-certification review was conducted in compliance with LIHI's Handbook, 2nd Edition, Revision 2.03: December 20, 2018 (i.e. the "current" Handbook).

The Project's 2014 certification had one condition:

"There are active and evolving efforts to restore migratory fish populations in the Oconee River basin that may eventually interact with the facility at some point in the future. Therefore, the owner shall monitor the progress of these efforts on a regular and continuing basis, and participate in them when appropriate. Fish species of concern include the robust redhorse, but also all anadromous, catadromous, and diadromous species in the basin as well as state-listed, riverine species such as the Altamaha shiner. Both state and federal fisheries resource management agencies are involved in the recovery efforts, so strong relations with all must be maintained between the owner and the agencies. The owner shall submit a summary report to LIHI on an annual basis, describing the current status of these efforts, the relation between those efforts and the vicinity of the Tallassee Shoals facility, and how the owner is participating in them. This report shall accompany the annual compliance statement to LIHI."

Review of the 2017 and 2018 compliance reports to LIHI indicated currently there are no active recovery efforts in the project vicinity. This was confirmed by Georgia Department of Natural Resources in an email dated June 28, 2019 (see Appendix A).

II. RECERTIFICATION PROCESS AND MATERIAL CHANGE REVIEW

Under the current LIHI Handbook, reviews are a two-phase process starting with a limited review of a completed LIHI application, focused on three questions:

- (1) Is there any missing information from the application?
- (2) Has there been a material change in the operation of the certified facility since the previous certificate term?
- (3) Has there been a change in LIHI criteria since the Certificate was issued?

In accordance with the Recertification Standards, if the only issue is that there is some missing information, a Stage II review may not be required. These standards also state that "material changes" mean non-compliance and/or new or renewed issues of concern that are relevant to LIHI's criteria. If the answer to either question (2) or (3) is "Yes," a more thorough review of the application using the LIHI criteria in effect at the time of the recertification application, and development of a complete Stage II Report, is required. As a result, all Projects currently applying for renewal must go through a full review unless their most recent certification was completed using the current Handbook.

A review of the initial application, dated February 18, 2019, resulted in a Stage I or Intake Report, dated April 2, 2019. The Stage I assessment found there were no "material changes" at the Project. The response to the Stage I Report was provided in the form of supplemental information in an email from the Applicant on April 26, 2019, rather than in a revised application. The initial application was complete enough to be posted for public comment since only a limited amount of data was missing.

This Stage II assessment included review of the application package, re-licensing Notice of Intent and Pre-Application Document, public records in FERC's eLibrary since the last LIHI certification in 2014, including those related to re-licensing, and the annual compliance statements received by LIHI during the past term of Certification.

III. PROJECT'S GEOGRAPHIC LOCATION

The Tallassee Shoals Project is located in Georgia, on the Middle Oconee River near the city of Athens, about 0.5 mile downstream (south) of Georgia Highway 330 in Athens-Clarke County and Jackson County.

The Tallassee Shoals Project is the only dam on the Middle Oconee River, but is upstream of three other hydroelectric facilities located on the Oconee River (See Figure 1). The Barnett Shoals Dam is privately owned by Star Thread Energy Partners. Wallace and Sinclair Projects are owned by Georgia Power. The Sinclair Project reservoir also serves as the lower reservoir for the pump storage unit operations at Wallace Dam. Releases from Wallace Dam flow directly into Lake

Sinclair. There is no intervening reach or bypassed reach of river between Wallace Dam and Lake Sinclair. Distances to these dams, none of which are LIHI Certified, are:

- 21.8 miles to Barnett Shoals Dam (Not licensed by FERC)
- 66.6 miles to Wallace Dam on Lake Oconee (FERC No. 2413)
- 89.2 miles to Sinclair Lake Dam (FERC No. 1951)

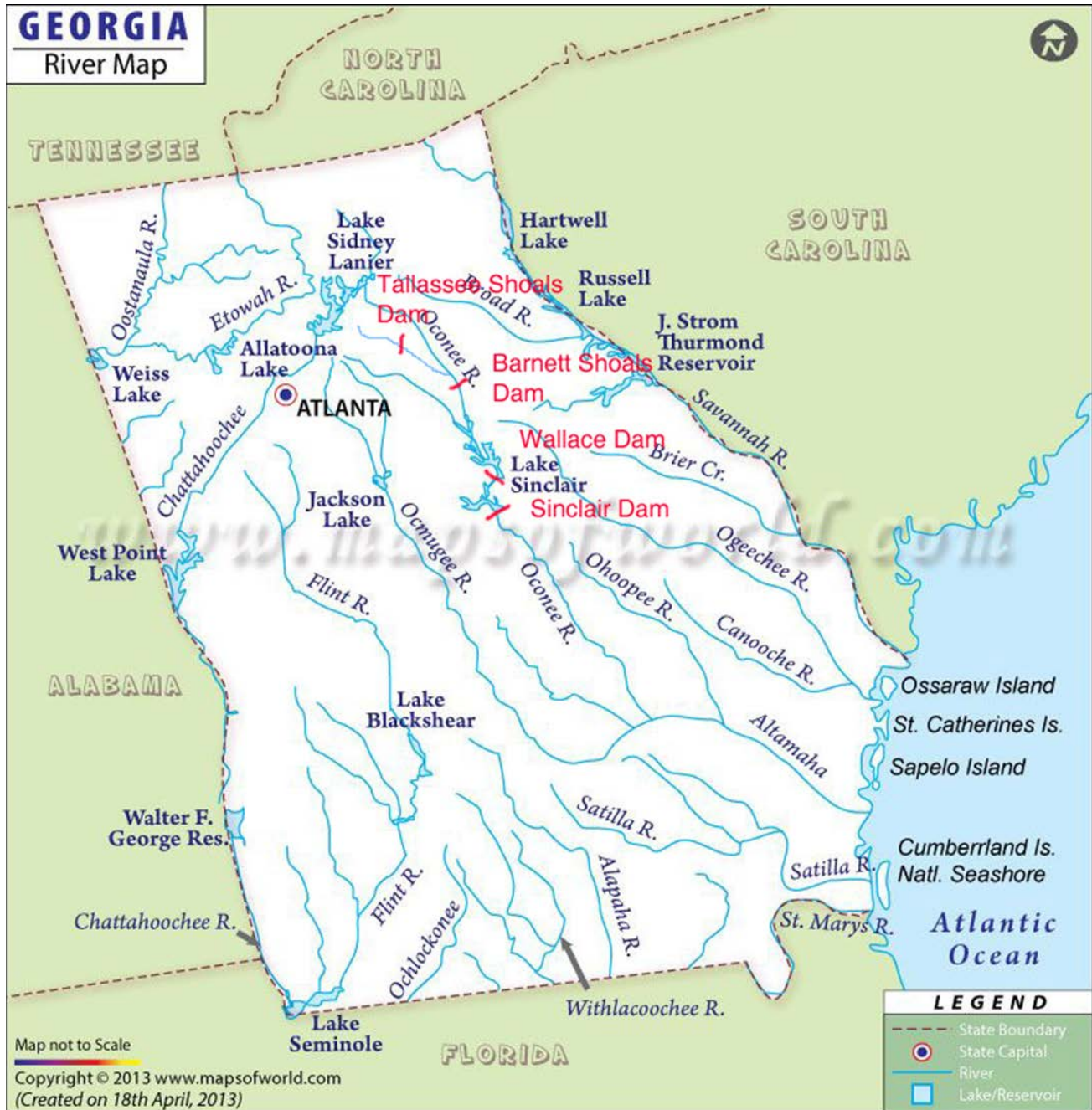


Figure 1 – Projects on the Middle Oconee and Oconee Rivers

IV. PROJECT AND IMMEDIATE SITE CHARACTERISTICS

The Project consists of a concrete dam; a 100-kW fixed Kaplan unit within the dam; a 1,400-foot-long headrace from the dam to the powerhouse; one 11-foot-diameter penstock; trashracks with clear spacing of 2 inches in front of the dam and 4 inches in front of the penstocks; a powerhouse with a 2.3-MW adjustable Kaplan unit; a 750-foot-long tailrace; and a 2,100-foot bypass reach of the Middle Oconee River between the dam and tailrace confluence. There are no fish passage facilities.

The Project dam creates a narrow, 23-acre reservoir extending 1.1 miles upstream. The Project operates in a run-of-river mode and provides a continuous minimum flow release of 70 cubic feet per second (cfs) to the bypass reach (138 cfs during the month of May) as measured below the tailrace confluence to protect sunfish and bass spawning habitat.

The FERC Project boundary encompasses 24.1 acres around the dam, Project works, tailrace, bypass reach, and a portion of the reservoir to 200 ft upstream of the dam. The Project boundary contains about 10.2 acres of the river and 13.9 acres of land. No federal lands or reservations are occupied by the Project.

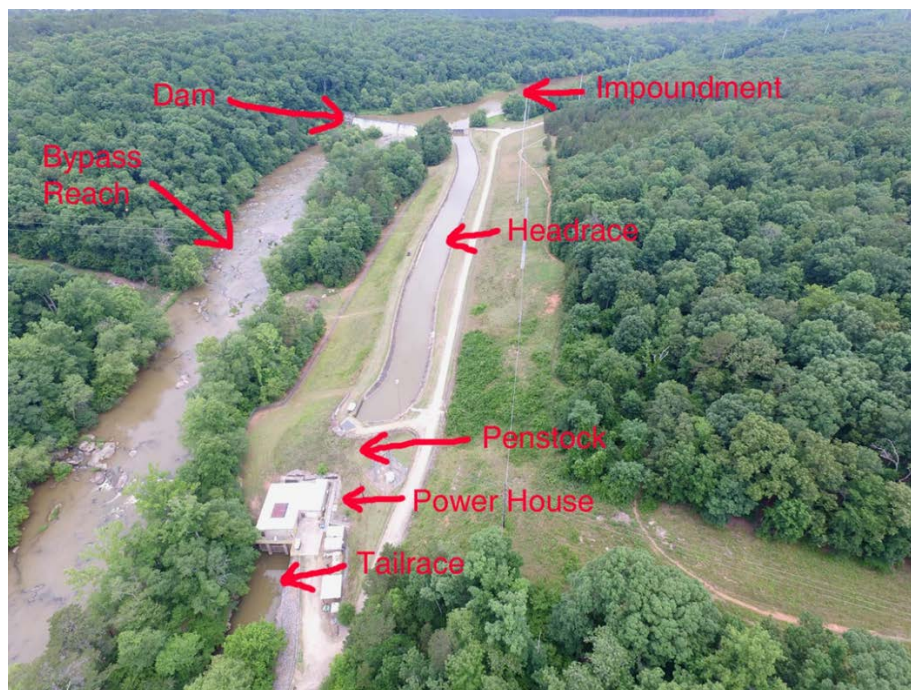


Figure 2 -Tallassee Shoals Project



Figures 3 and 4 – Photographs of the Headrace, Bypass Reach, Dam and Spillway

V. ZONES OF EFFECT AND STANDARDS SELECTED

Three Zones of Effect (ZOE) were appropriately designated by the Applicant and are shown on Figures 5 through 7.

- ZOE #1 – Impoundment (Figure 5)
- ZOE #2 – Bypass Reach (Figure 6)
- ZOE #3 – Headrace, Tailrace and Regulated Reach (Figure 7)



Figure 5 – Impoundment (ZOE #1)

Zone 1, the impoundment, covers about 23 acres extending from the dam to 1.1 miles upstream.



Figure 6 – Bypass Reach (ZOE #2)

Zone 2 is the Bypass Reach beginning at the dam and extending downstream 750 feet to the confluence with the tailrace.



Figure 7 – Headrace, Tailrace and Regulated Reach (ZOE #3)

Zone 3 encompasses the headrace, tailrace, and 500 feet of the Middle Oconee River past the tailrace/bypass reach confluence.

The Tables below show the selected Standards and my recommended changes for Threatened and Endangered Species Protection criterion. I believe Standard F-2 is more appropriate for all ZOE's as one state-threatened species is likely in the area, but no impacts are expected (denoted in red).

Details of compliance with the criteria are presented in Section IX.

ZOE #1 – Impoundment

Criterion		Alternative Standards				
		1	2	3	4	Plus
A	Ecological Flow Regimes	X				
B	Water Quality	X				
C	Upstream Fish Passage	X				
D	Downstream Fish Passage	X				
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection	X	X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources		X			

ZOE #2 – Bypass Reach

Criterion		Alternative Standards				
		1	2	3	4	Plus
A	Ecological Flow Regimes		X			
B	Water Quality	X				
C	Upstream Fish Passage	X				
D	Downstream Fish Passage	X				
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection	X	X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources		X			

ZOE #3 – Headrace, Tailrace and Regulated Reach

Criterion		Alternative Standards				
		1	2	3	4	Plus
A	Ecological Flow Regimes	X				
B	Water Quality	X				
C	Upstream Fish Passage	X				
D	Downstream Fish Passage	X				
E	Watershed and Shoreline Protection	X				
F	Threatened and Endangered Species Protection	X	X			
G	Cultural and Historic Resources Protection	X				
H	Recreational Resources	X				

VI. REGULATORY AND COMPLIANCE STATUS

The Project operates under a 40-year FERC license (P-6951) issued on Oct 24, 1983. As the license expires on Oct 23, 2023, the Applicant has initiated re-licensing activities including filing of the Notice of Intent and Pre-Application Document (PAD) on September 30, 2018.

A Water Quality Certification (WQC) was issued for the Tallassee Shoals Project on February 10, 1983 by GA Department of Natural Resources (GADNR) as denoted in the FERC license. However, the Applicant reported that a copy of this WQC was never provided to them from Oglethorpe Power, the owner at the time of initial FERC licensing, and that a copy is not available on FERC eLibrary. I contacted GADNR to obtain a copy but did not receive a response.

A review of the FERC database from January 2014 through June 30, 2019 found no reported compliance issues. My review also confirmed that no material changes in the facility design or operation have occurred since the previous LIHI review.

VII. PUBLIC COMMENT RECEIVED OR SOLICITED BY LIHI

The deadline for submission of comments on the LIHI Certification application was June 28, 2019. No comments were received directly by LIHI.

I contacted the following stakeholders with specific questions. The response received from C. Canalos of GADNR is in Appendix A. I did not conduct generalized outreach as agency representatives are often reluctant to comment on Project impacts during re-licensing activities. I did however review stakeholder comments made on the PAD to obtain possible insight on agency concerns with Project operations.

- Mike Phipps, GADNR, Watershed Protection Branch, to obtain a copy of the 1983 WQC, and to seek his opinion on any water quality issues that may exist at the Project. (No response received.)
- Chris Nelson, GADNR, Wildlife Resources Division to confirm if the robust redhorse has recently been stocked downstream of the Project and that fish passage facilities are not currently needed. (Question answered by C. Canalos)
- Chris Canalos, GADNR, Wildlife Resources Division, as to potential project operations impacts on state-protected species. (Response discussed under applicable criteria.)

VIII. DETAILED CRITERIA REVIEW

A. ECOLOGICAL FLOW REGIMES

Goal: The flow regimes in riverine reaches that are affected by the facility support habitat and other conditions suitable for healthy fish and wildlife resources.

Assessment of Criterion Passage

The Applicant selected **Standard A-1, Not Applicable/De Minimis** for ZOE #1, the impoundment and ZOE #3, the Headrace, Tailrace and Regulated Reach. **Standard A-2, Agency**

Recommendation was selected for ZOE #2, the Bypass.

There have been no changes in Project operations or flow requirements since it was re-certified by LIHI in 2014. Tallasse Shoals operates as a run-of-the-river plant with computerized controls to maintain a FERC-licensed minimum flow of 70 cfs, and 138 cfs in May, or inflow, whichever is less, into the bypass zone.

The following excerpt, taken from the initial 2004 LIHI reviewer's report, details the background of the minimum flow requirement.

“Though licensed in 1983, final resource agency recommendations regarding flows were issued in 1989. At the time of licensing the original facility owner pressed for a minimum bypass flow of 53 cfs. While GADNR concurred with this level of flow (contingent on mitigation in the form of expanded access for recreational fishers), US Fish and Wildlife Service (FWS) disagreed, saying that minimum flows of 70 cfs (138 cfs in the month of May) were required to protect aquatic resources. FERC decided in favor of the FWS, incorporating the FWS levels in Article 29 of the license (the May flow on an interim basis) and requiring that the licensee conduct a study to assess pre- and post-construction impacts on aquatic resources below the project. After the study concluded in 1988 the licensee asserted that its results justified a 53 cfs permanent minimum flow. In a 1989 letter FWS disputed the licensee's interpretation of the data from the study and argued for the retention of its original recommended flows. FERC again found in favor of FWS, denying the licensee's 1990 amendment request and making the FWS recommended flows permanent requirements.”

Neither the Applicant nor the FWS (see 2014 FWS letter to LIHI in Appendix A) have a copy of the in-stream flow study that was performed pursuant to Article 29 of the FERC license. Thus, the scientific or technical basis for the minimum flows cannot be assessed. The Applicant has proposed to perform new flow studies as part of the re-licensing studies. PAD comments received to date from the US Environmental Protection Agency (USEPA) and GADNR Wildlife Resources Division support performance of such studies.

Review of the FERC eLibrary documents confirmed compliance with minimum flow requirements during the past five years. Based on my review, I believe that the Project is meeting its current flow requirement and will satisfy this criterion provided a condition is established requiring submission of the planned in-stream flow evaluation results to LIHI. The re-licensing schedule included in the PAD shows all studies to be conducted/completed between April 2019 and March 2020, with completion of the draft Application and study results filed by Aug 31, 2020. Thus, this data would be available within approximately one year from re-certification.

This Project Conditionally Passes Criterion A – Ecological Flow Regimes

B. WATER QUALITY

Goal: Water Quality is protected in waterbodies directly affected by the facility, including downstream reaches, bypassed reaches, and impoundments above dams and diversions.

Assessment of Criterion Passage

The Applicant appropriately selected **Standard B-1, Not Applicable/De Minimis Effect** to pass this criterion for all ZOE's.

A WQC was issued for the project in 1983, however a copy was not in the Project files provided to Tallassee Shoals from Georgia Power Company, as noted in the LIHI application. The FERC license does not specifically address water quality issues, but simply mentions that the WQC was issued by GADNR.

The overall river water quality is good except for elevated concentrations of fecal coliform bacteria related to urban runoff and non-point source pollution. Dissolved oxygen concentrations in the Middle Oconee River, both upstream and downstream of the Project, never dropped below 7 mg/L.

The specific water quality criteria for dissolved oxygen in Georgia for waters classified as fishing is a greater than 5 mg/L daily average. This information was noted in the application, along with supporting data from sampling locations eight miles upstream and downstream:

- USGS Station, Middle Oconee River near Arcade, Georgia (USGS No. 02217475) – about 8 river miles upstream of Tallassee Shoals dam at the Highway 82 bridge; intermittent and limited water quality data from 1994, 1996, 1999, 2000, and 2004.
- GAEPD Station, Middle Oconee River at Mitchell Bridge Road near Athens, Georgia (GAEPD No. 0301030709) – about 8 river miles downstream of Tallassee Shoals dam; intermittent and limited water quality data from 2009

No onsite sampling data is available.

Georgia Environmental Protection Division (GAEPD), Department of Natural Resources (GADNR) publishes the 305(b)/303(d) integrated report in their report titled “Water Quality in Georgia”. The 2016 report was approved by the US EPA on October 4, 2018. GAEPD (2016) lists the segment of the Middle Oconee River at the Tallassee Shoals Project as not supporting its designated use due to fecal coliform violations and macroinvertebrate community impacts. The elevated levels of fecal coliform are unrelated to the Project operations and are likely the result of urban runoff and non-point source pollution. In 2002 and 2007, the U.S. Environmental Protection Agency (EPA) developed a total maximum daily load (TMDL) for fecal coliform for this reach of the Middle Oconee River. Consistent with the 303(d) listing, numerous tributary streams to the Middle Oconee River upstream of the Project are listed as not supporting their designated uses due to fecal coliform violations and macroinvertebrate community impacts, again with urban runoff and non-point source pollution the likely causes of impairment for each of these streams. Review of the draft 2018 report shows the same parameter non-conformance issues.

Tallassee Shoals LLC is proposing to conduct water quality sampling as part of re-licensing activities. PAD comments from USEPA and GADNR Wildlife Resource Division supported such studies and made some specific recommendations for additional study. As previously noted, the re-licensing schedule included in the PAD states that all study results will be filed by Aug 31, 2020, which is about one year from now. I believe this criterion has been satisfied provided a condition requiring submission of future water quality study results is incorporated and that those studies confirm that state standards are being met.

This Project Conditionally Passes Criterion B – Water Quality

C. UPSTREAM FISH PASSAGE

Goal: The facility allows for the safe, timely, and effective upstream passage of migratory fish. This criterion is intended to ensure that migratory species can successfully complete their life cycles and maintain healthy, sustainable fish and wildlife resources in areas affected by the facility.

Assessment of Criterion Passage

The Applicant has appropriately selected **Standard C-1, Not Applicable/De Minimis Effect** for all ZOE. The FERC license does not include any discussion of a need for fish passage facilities.

The application notes that the Oconee River basin supports a diverse fishery, consisting of about 79 species of warm-water fishes in 17 families. The Middle Oconee River and its tributaries in the vicinity of the Tallassee Shoals Project support about 40 species of fish. The principal sport fishes inhabiting the Middle Oconee River and tributaries include largemouth bass, spotted bass, black crappie, channel catfish, and a variety of sunfishes. The Project is located about 400 river miles upstream of the Atlantic Ocean and more than 100 river miles upstream of the Fall Line Hills District between the Piedmont and Coastal Plain provinces. During the Mesozoic Era the Fall Line formed the shoreline of the Atlantic Ocean and since the ocean receded, forms rapids and waterfalls that block fish passage.¹ Wallace Dam and Sinclair Dam, also situated above the Fall Line, impede or block diadromous and other migratory riverine fishes from migrating upstream into the Project area.

The robust redhorse (*Moxostoma robustum*), a Georgia endangered species, is a large, long-lived member of the redhorse sucker family. The robust redhorse was discovered in the Yadkin River North Carolina in 1869. The fish remained unknown to scientists until individuals were captured in the Oconee River, Georgia in 1991. It is a migratory riverine species that inhabits the Oconee and Ocmulgee Rivers in the Altamaha River basin. A population currently occurs in the Oconee River downstream of Sinclair Dam and the species is not known to occur upstream of Wallace Dam. Robust Redhorse recovery efforts are ongoing through the Robust Redhorse Conservation Committee and a management plan has been developed for this species, which at one time included possible reintroduction of this species to the Middle Oconee River. Recent communications from Chris Canalos of GADNR Wildlife Resources Division indicated that there are “no active plans for Robust Redhorse recovery efforts in the Middle Oconee River at this time”. Appendix A contains Mr. Canalos’ email response to my questions to him and Chris Nelson, also of GADNR.

¹ <https://www.georgiaencyclopedia.org/articles/geography-environment/fall-line>

The historic range of the American eel likely included the Middle Oconee River in the Project vicinity; however, the Wallace Dam and Sinclair Dam are barriers to passage of this fish to upstream locations, including the Middle Oconee River. No American eels have been reported from the Middle Oconee River. The 2009 LIHI re-certification report noted discussions with Mr. Biagi, Fisheries Chief, GADNR, in which he reiterated his earlier comments that if downstream barriers were not present, American eel would be able to pass above the existing Project without fish passage facilities based on the species passing a larger dam in an adjacent river basin having similar habitat conditions. In 2014, communications between LIHI and the USFWS Field Supervisor Donald Imm stated that they were not aware of records for diadromous fish species above a series of hydroelectric facilities that are located downstream of Tallassee Shoals. Mr. C. Canalos of GADNR stated that fish passage would not be required for diadromous species until such passage exists at the downstream Barnett Shoals dam.

None of the PAD comment letters identified fish passage concerns. I believe the Project satisfies this criterion with a recommended condition for the Project owner to notify LIHI if they receive agency direction to implement fish passage for diadromous or riverine migratory fish species potentially in the Project area.

This Project Conditionally Passes Criterion C – Upstream Fish Passage

D. DOWNSTREAM FISH PASSAGE AND PROTECTION

Goal: The facility allows for the safe, timely, and effective downstream passage of migratory fish. For riverine (resident) fish, the facility minimizes loss of fish from reservoirs and upstream river reaches affected by Facility operations. All migratory species are able to successfully complete their life cycles and to maintain healthy, sustainable fish and wildlife resources in the areas affected by the Facility.

Assessment of Criterion Passage

The Applicant has appropriately selected **Standard D-1, Not Applicable/De Minimis Effect** for all ZOE. There are no fish passage requirements identified in the FERC license and currently there are no diadromous species in the Project area as discussed above. Robust redhorse, a state endangered species, is a migratory riverine species found in the Oconee River but is not found in the Project area at this time.

None of the PAD comment letters received identify fish passage concerns. I believe the Project satisfies this criterion with the same recommended condition as above regarding possible future fish passage.

The Project Conditionally Passes Criterion D – Downstream Fish Passage and Protection

E. SHORELINE AND WATERSHED PROTECTION

Goal: The Facility has demonstrated that sufficient action has been taken to protect, mitigate

and enhance the condition of soils, vegetation and ecosystem functions on shoreline and watershed lands associated with the facility.

Assessment of Criterion Passage

The Applicant has appropriately selected and demonstrated compliance with **Standard E-1, Not Applicable/De Minimis Effect** to pass the Shoreline and Watershed Protection criterion for all Project ZOE's.

No conservation buffer zone, watershed enhancement fund nor a shoreland management plan were required by FERC for the Tallassee Shoals Project. The FERC Project boundary encompasses 24.1 acres around the dam, Project works, tailrace, bypass reach, and a portion of the reservoir to 200 feet upstream of the dam. The Project boundary contains about 10.2 acres of the river and 13.9 acres of land. The Tallassee Shoals shoreline is characterized by diverse landforms including steeply sloped mountain-like terrain to gently rolling topography in most areas. The shorelines exhibit low potential for erosion or other forms of instability due to a high degree of vegetative cover and/or the presence of rock outcroppings that function as naturally occurring shoreline stabilization features. Land use around the Project, is generally a rural residential mix composed of low-intensity urban, forested lands, and row crop/pasture lands. It does not appear that Project lands include any areas of significant ecological value.

None of the stakeholders who submitted comments on the PAD raised issues on the need for shoreline protection around the Project. Based on this review, I believe the Project passes this criterion.

The Project Passes Criterion E – Shoreline and Watershed Protection

F. THREATENED AND ENDANGERED SPECIES PROTECTION

Goal: The Facility does not negatively impact listed species.

Assessment of Criterion Passage

I believe **Standard F-2, Finding of No Negative Effects** is more appropriate to pass this criterion for all ZOE's rather than **Standard F-1, Not Applicable/De Minimis Effect** that the Applicant selected. One state endangered fish species is expected to be in the Project area, but applicable agency representatives, as noted below, have stated that the potential for impact to this species from Project operation is still being evaluated “given the downward trend of mean annual streamflow in the region expected”. Nonetheless, sufficient data was collected to demonstrate compliance.

Four federally threatened and endangered species, listed below, potentially occur within the 2-county Project vicinity. However, none are known to be found with the Project area and critical habitat has not been designated for any of these species.

- Pool sprite (or little amphianthus) (*Amphianthus pusillus*) – threatened
- Black-spored quillwort (*Isoetes melanospora*) – endangered
- Mat-forming quillwort (*Isoetes tegetiformans*) – endangered.

- Gray bat (*Myotis grisescens*) – endangered

Four state plant species listed as endangered or threatened were identified to be potentially in the two-county area near the Project. Of these, only Indian olive (*Nestonia umbellule*) and Mountain catchfly (*Silene ovata*) are known to be in the Middle Oconee watershed near the Project. However, the application states that based on available information, no state protected plant species are known to occur within the Project boundary.

One state-protected wildlife species, the endangered Altamaha shiner (*Cyprinella xaenura*), potentially occurs in the Project vicinity. The Altamaha shiner is endemic to the Piedmont of the upper Altamaha River Basin in north-central Georgia and inhabits small streams and rivers, where they are most often found in small pools with rocky and sandy substrates. The species presently occurs in the Upper Oconee River basin and has been reported from relatively recent collections in the Middle Oconee River both upstream and downstream of the Tallassee Shoals Project and in upstream tributaries. When contacted in 2009 by LIHI, Brett Albanese, Ph.D. of the Nongame Conservation Section of GADNR indicated that “although the Altamaha shiner persists upstream and downstream of Tallassee Shoals, the continued operation of the Project would not negatively affect this species.” In response to my inquiry, Mr. C. Canalos of GADNR, Wildlife Resources Division reported that “given the apparent downward trend of mean annual streamflow in the region, we are reassessing our position on the project operation’s effects on the Altamaha Shiner.”

None of the stakeholders, including GADNR Wildlife Resources Division, who submitted comments on the PAD raised concerns about impacts to federal or state protected species. Based on this review, I believe that the project passes this criterion.

The Project Passes Criterion F – Threatened and Endangered Species Protection

G. CULTURAL AND HISTORIC RESOURCE PROTECTION

Goal: The Facility does not inappropriately impact cultural or historic resources that are associated with the Facility’s lands and waters, including resources important to local indigenous populations, such as Native Americans.

Assessment of Criterion Passage

The Applicant has appropriately selected and demonstrated compliance with **Standard G-1, Not Applicable/De Minimis Effect** to pass the Cultural and Historic Protection criterion for the Project for all ZOE’s.

Cultural resource investigations required by the FERC license prior to construction activities have been completed. The license also states that the State Historic Preservation Officer must be contacted if undiscovered resources are found in the future during onsite activities. Tallassee Shoals dam and powerhouse was one of three turn-of-the-century hydroelectric facilities built in the area. Constructed between 1898 and 1902, the dam and powerhouse were originally built to provide electricity to the electric street railway, but the Project was soon providing power to Athens businesses and residents. Tallassee Shoals represents the beginning of electrical power usage in

Athens, therefore the dam and powerhouse complex were judged to be eligible for listing on the National Register at the local level of historic significance.

The GDNR Historic Preservation Division confirmed in a letter dated March 05, 2004 to LIHI that “no historic properties or archaeological resources that are listed or eligible for listing in the National Register will be affected by this undertaking [project]” (i.e. project operations). No onsite activities were conducted during the past five years that could affect cultural or historic resources. Based on this review, I believe the Project satisfies this criterion.

The Project Passes Criterion G - Cultural and Historic Resource Protection

H. RECREATIONAL RESOURCES

Goal: The facility accommodates recreation activities on lands and waters controlled by the facility and provides recreational access to its associated lands and waters without fee or charge.

Assessment of Criterion Passage

The Applicant has selected and demonstrated compliance with **Standard H-2, Agency Recommendation** to pass the Recreational Resources criterion for the Project for ZOE #1 and #2. **Standard H-1, Not Applicable/De Minimis Effect** was selected for ZOE #3.

There have been no changes in recreational requirements during the current LIHI term. Zone 1, the impoundment area, is only accessible through private property or from locations further upstream. However, public usage of the impoundment is not restricted except within 200 feet of the dam for safety reasons. In coordination with FERC, public access to waters within the Project boundary is via access to the bypass reach (Zone 2). Tallassee Shoals provides a small fenced public parking area, a pathway along the Georgia Power right-of-way, and stairs at the steepest decent giving access to the shoals for fishermen and others using the river. The headrace and tailrace are not open to public use for safety and security reasons. The 500-foot section of the Middle Oconee River downstream of the tailrace/bypass reach confluence is served by the recreational facilities at the bypass reach.

Tallassee Shoals, American Whitewater and the Upper Oconee Water Trail are jointly planning to construct a portage path around the west side of the dam, if feasible. The required 70 cfs overflow provides adequate water for canoes; however, when Project operators are aware of canoe passage, additional water is released to enhance the experience.

There have been no FERC recreation and environmental inspections at the Project since last certified by LIHI. Regarding PAD comments, American Whitewater suggested that improvements to river access should be assessed during re-licensing. GADNR Wildlife Resources Division also made recommendations for assessment of recreational use improvements. Neither stakeholder identified problems with the existing facility maintenance. Thus, I believe the Project meets the requirements of this criterion.

The Project Passes Criterion H – Recreational Resources

GENERAL CONCLUSIONS AND REVIEWER RECOMMENDATION

Based on my review, I believe that this Project conditionally meets the requirements of a Low Impact facility and recommend it be re-certified for a five-year period with the conditions noted below. This will ensure satisfaction of the criteria addressing Ecological Flows, Water Quality and Upstream and Downstream Fish Passage.

- The Facility Owner shall provide LIHI with a copy of the agency and FERC-approved study plan for the upcoming in-stream flow evaluation and water quality studies, the final study results, and agency comments on these documents, as part of the annual compliance submittals to LIHI. Based on the PAD re-licensing schedule, it is expected that the study results will be available in 2020. LIHI reserves the right to modify conditions and/or reassess Certification in light of study results, or if a new license changes Project operations related to the LIHI criteria.
- The Facility Owner shall notify LIHI within 90 days if state and federal fisheries resource management agencies require the Owner to undertake actions at the Project for upstream or downstream fish passage. Such notification shall include a copy of the agency(ies) requests, the Facility Owner's response, and the plan and schedule for implementation.

APPENDIX A

Stakeholder Letters and Other Key Correspondance



United States Department of the Interior
Fish and Wildlife Service
105 West Park Drive, Suite D
Athens, Georgia 30606

West Georgia Sub Office
P.O. Box 52560
Ft. Benning, Georgia 31995-2560

Coastal Sub Office
4980 Wildlife Dr.
Townsend, Georgia 31331

May 29, 2014

Ms. Dana Hall, Deputy Director
Low Impact Hydropower Institute
P.O. Box 194
Harrington Park, New Jersey 07640

Re: Tallassee Shoals Hydroelectric Project, FERC # 6951
FWS Log No. 41460-2009-FA-0731

Dear Ms. Hall:

The U.S. Fish and Wildlife Service (Service) has reviewed your April 14, 2014, request for comments regarding the eligibility of the Tallassee Shoals Hydropower Project (TSHP) for re-certification as a "Low Impact Hydroelectric Facility" by the Low Impact Hydro Institute (LIHI). The LIHI is a non-governmental, non-profit organization. Certification would allow electricity produced by the facility to be marketed and sold as "green power." The project is located on the Middle Oconee River in Clarke and Jackson Counties, Georgia. We provide comments that address three of your eight criteria for LIHI certification: 1) river flows, 2) fish passage and protection, and 3) threatened and endangered species protection. We submit the following comments and recommendations under the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*), and the Federal Power Act (16 U.S.C. 791a, *et seq.*).

River Flows

In the October 24, 1983, TSHP license, Article 29 provides for a permanent minimum flow release of 70 cubic feet per second (cfs) from the project dam; an interim release of 138 cfs as measured below the project tailrace during the month of May; and a minimum flow study to assess the relationship between streamflows and available aquatic habitat below the project. The study results were meant to provide the basis for further instream flow negotiations between the licensee at that time, Oglethorpe Power Corporation (OPC), and the resource agencies. In the Federal Energy Regulatory Commission (FERC)'s August 20, 1990, Order Denying Request To Amend Article 29, FERC states that the licensee submitted a May 21, 1984, minimum flow study report, and requested the minimum flow requirement be reduced to 53 cfs. In a September 18, 1989, letter, the Service disagreed with the licensee, and stated the data from the study did not support the licensee's request to amend the minimum flows. After reviewing the variable study conditions in the licensee's study plan that resulted in variable fish capture efficiency, and the October 24, 1983, license conditions, FERC denied the licensee's request to amend Article 29,

and ordered the original license requirements to stay in effect due to a lack of data.

The Service does not have a copy of the 1984 minimum flow study, nor do we have new information available to evaluate if the licensee is meeting their instream flow requirements. The closest United States Geological Survey (USGS) gage is 9 miles downstream (USGS Gage 02217500, Middle Oconee River near Athens, Georgia); flows at the gage encompass tributary inflow between the TSHP and the USGS gage and are not an accurate estimator of TSHP releases. For the project to be re-certified, we recommend the applicant provide documentation to LIHI regarding how minimum flows are calculated at the TSHP as well as records of their compliance with those minimum flows. As stated above, we do not have a copy of the 1984 flow study and cannot comment on the protectiveness of minimum flow requirements on downstream aquatic resources.

Fish Passage and Protection

Several dams downstream of the TSHP serve as present-day barriers to upstream passage of migratory fish species. We are not aware of post-construction location records for diadromous fish species above a series of hydroelectric facilities that are located downstream of the project. Native populations of American shad (*Alosa sapidissima*), American eel (*Anguilla rostrata*), Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*), and striped bass (*Morone saxatilis*) are currently located below Sinclair Dam. Striped bass are also stocked in Lake Oconee, formed by Wallace Dam, but their upstream spawning migrations are limited by Barnett Shoals Dam, which is located downstream of TSHP. The robust redhorse (*Moxostoma robustum*), a Federal species of concern and a State-endangered species, is currently located below Sinclair Dam between Milledgeville and Dublin, Georgia. A small population may also be present in the Little River, below Wallace Dam.

The Service, along with the Georgia Department of Natural Resources and the National Marine Fisheries Service, has developed an American Shad Management Plan for the Altamaha River Basin, Georgia (GDNR, NMFS, and USFWS 2013). Likewise, the Robust Redhorse Conservation Committee (RRCC), of which the Service is a member, has developed a Robust Redhorse Management Plan for the Oconee River (RRCC Oconee TWG 2010). While the robust redhorse and American shad are not currently in the project area but likely could have been in the area historically, future recovery activities may include reintroducing these species to the Oconee River drainage above Wallace Dam. If the project is re-certified, we recommend the applicant continue to submit documentation relating to the status of the robust redhorse and American shad recovery activities as they may or may not affect the facility.

Threatened and Endangered Species Protection

The Service would not expect the continuing operations of this existing project to affect federally-listed species in Clarke and Jackson Counties, Georgia. The State-threatened Altamaha shiner (*Cyprinella xaenura*) is found in the Middle Oconee River, both above and below the TSHP. The Service has been petitioned to list this species and the robust redhorse under the ESA, and has issued a positive 90-day finding stating that a status review is warranted (76 FR 59836).

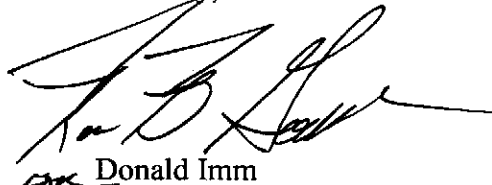
The TSHP and other reservoirs have cumulatively contributed to elimination of riverine habitat, fragmentation of habitat and aquatic populations, and/or altered flows. As such, riverine species including the Altamaha shiner are at greater risk. We reiterate the need for LIHI to verify compliance with the FERC minimum flow requirements at this facility.

Summary

In summary, we are not able to evaluate the protectiveness of instream flows for aquatic resources at the TSHP. Although migratory fishes including as the American shad, American eel, and robust redhorse likely were present in the project area historically, they are blocked from currently reaching the TSHP by several hydropower projects located downstream. Lastly, the Service would not expect the continuing operations of this existing project to affect federally-listed species in Clarke and Jackson Counties, Georgia.

We appreciate the opportunity to comment on this project. If you have any questions, please contact staff biologist Alice Lawrence at (706) 613-9493 ext. 222.

Sincerely,



for Donald Imm
Field Supervisor

cc: file

Kimberly D. Bose, FERC, Washington, DC
Thom Litts, GDNR, Social Circle, GA
Chris Nelson, GDNR, Social Circle, GA
Jimmy Evans, GDNR, Fort Valley, GA

References

Georgia Department of Natural Resources, National Marine Fisheries Service, and United States Fish and Wildlife Service. 2013. Priority Restoration and Management Actions for the American shad in the Altamaha River Basin, Georgia. 32 pp.

Robust Redhorse Conservation Committee Oconee River Technical Working Group. 2010. Management Plan for the Oconee River Robust Redhorse Population. 22 pp.

United States Fish and Wildlife Service. 2011. Endangered and threatened wildlife and plants; partial 90-day finding on a petition to list 404 species in the southeastern United States as endangered or threatened with critical habitat; proposed rule. September 27, 2011. Federal Register 76 (187): 59836-59862.

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Priority: Normal
Date: Friday June 28 2019 10:52:24AM
RE: Fish Passage and Protected Species Issues at the Tallassee Shoals Project

Pat –

Our response below. Let me know if more detail is needed.

- Chris

1. It is unlikely there are Robust Redhorse present in the Middle Oconee system, particularly the project area. We do not have any active plans for Robust Redhorse recovery efforts in the Middle Oconee River at this time.
2. In terms of migratory fish, this project should implement fish passage if/when passage is implemented at Barnett Shoals Dam. There are no current plans to stock above Barnett Shoals Dam. However, restoration of stream network connectivity beneficially impacts non-migratory species as well, and we would not discourage implementation of fish passage to enhance locally important recreation and conservation species of concern like the Altamaha Bass and Altamaha Shiner.
3. Given the apparent downward trend of mean annual streamflow in the region, we are reassessing our position on the project operation's effects on the Altamaha Shiner.

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To: Nelson, Chris; Canalos, Chris
Subject: Fish Passage and Protected Species Issues at the Tallassee Shoals Project

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Dear Sirs

I am the independent reviewer for the Low Impact Hydropower Institute (LIHI) for the application submitted by Tallassee Shoals LLC for their Tallassee Shoals Project. The application submitted to LIHI for re-certification noted that there are no fish passage requirements for this Project and that there are no active recovery efforts in the Project area for the robust redhorse, American eel, or any diadromous species. I understand that there were plans at one time to stock the robust redhorse above the Barnett Shoals Dam, but I am wondering if you can confirm if this was done, and if so, when it was done, or if it is planned for the near future.

Also, I am interested in knowing if you have any concerns about the operation of the Tallassee Shoals facility on state protected species, especially fish species, such as the Altamaha Shiner. Discussions in 2009 between LIHI and Brett Albanese, Ph.D. of the Nongame Conservation Section indicated at that time, that project operations should not affect the Altamaha Shiner. However, I was wondering if you can confirm if this is still your agency's position regarding this species or any other state-protected species.

7/1/2019

RE: Fish Passage and Protected Species Issues at the Tallassee Shoals Project

I would appreciate any information you can share with me regarding my questions. Thank you in advance for your time.

Pat McIlvaine