



SAVANNAH RIVERKEEPER®

P.O. Box 60 Augusta, GA 30903

Phone: 706-826-8991 | Fax: 706-826-8995

Toll Free: 844-263-1415

Email: info@savannahriverkeeper.org

Web: www.savannahriverkeeper.org

BY ELECTRONIC FILING

Savannah District U.S. Army Corps of Engineers
Planning Division, ATTN: Ms. Robin Armetta (PM-P)
Planning Division, ATTN: Ms. Julie Morgan (PM-P)
100 West Oglethorpe Avenue
Savannah, Georgia 31401-36046

Re: Savannah Riverkeeper comments on the Draft Integrated Post Authorization Analysis Report (PAAR) and Supplemental Environmental Assessment (SEA), Fish Passage at New Savannah Bluff Lock and Dam (NSBLD), and Draft Finding of No Significant Impact (FONSI) to evaluate proposed changes to the Fish Passage feature of the Savannah Harbor Expansion Project (SHEP).

Executive Summary

Savannah Riverkeeper and our expert colleagues believe that the best recommendation for the fish passage at New Savannah Bluff Lock and Dam is an adapted version of Alternative 2-3, detailed in the following comments, which includes a set of crest gates to allow for water control. This adaptation not only brings the project into better compliance with the WIIN act, but also satisfies the concerns voiced by the local community about pool level, flooding, and damage to the park. Other recommendations detailed herein include consideration for the safety of recreational users and the historical significance and future potential of the adjacent park as a community resource. We support plans for the removal of the current structure and implementation of a rock dam as a fish passage solution. We would like the Corps to consider and ultimately choose an alternative that passes fish successfully and meets the needs of the community invested in and affected by the project. It is our hope that the recommendations put forth below will assist in achieving that balance.

Background

These comments are being submitted on behalf of Savannah Riverkeeper, Inc. (SRK) and Waterkeeper Alliance (WKA). SRK is a 501(c)(3) nonprofit organization working to respect, protect, and improve the entire Savannah River Basin. We have over 4,500 members in Georgia and South Carolina and serve as a non-governmental liaison between the citizens who live in the watershed and government agencies. We represent more than 1.4 million people in both Georgia and South Carolina who rely on the watershed for drinking, fishing, recreation, and industry. WKA is a not-for-profit, member supported, international environmental organization which unites more than 300 Waterkeeper Organizations and Affiliates that are on the frontlines of the global water crisis, patrolling and protecting more than 2.5 million square miles of rivers, lakes, and coastal waterways on 6 continents. United as one powerful force, WKA fights for every community's right to drinkable, fishable, swimmable water.



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Savannah Riverkeeper has been heavily involved in all aspects of the Savannah Harbor Deepening Project (SHEP) since our inception in 2001. We served on the Environmental Impact Statement (EIS) stakeholder group throughout its existence, providing input along the way. We also are one of the parties to the settlement agreement related to the EIS and are intent on ensuring the efficacy of fish passage around the NSBLD.

Successful fish passage around the NSBLD is incredibly important not only for restoring anadromous fish access to the shoals above the City of Augusta, but the fish passage installation triggers improvements to two other structures at currently impassible dams located further upstream: the Augusta Canal Diversion Dam and the Stevens Creek Hydroelectric Dam. The two upstream dams are required to install fish passage per their licenses once NSBLD passage is complete. The successful installation of fish passages at the three dams would open up more than 36 miles of currently disconnected riverine habitat, much of the 36 miles is comprised of rocky shoals. If the entire 36 miles of river were restored, it would yield a whitewater canoeing and kayaking area that would be unmatched in the rest of the country. It would also restore vital habitat to a wide range of fish and other aquatic species. The Augusta economy would also benefit from these changes. It is for these reasons and others that we have been working so closely with the Army Corps of Engineers and other state and federal government agencies, as well as the Cities of Augusta and North Augusta, to design the project in such a way that the pool level is not significantly changed and fish passage is much more likely.

SRK has always championed a fish passage solution that incorporated a rock dam and, as a result, SRK was one of the driving forces behind the Water Infrastructure Improvements for the Nation Act of 2016 (WIIN Act). The WIIN Act made critical changes to the Water Resources Development Act of 2000 which allow for a project to be constructed in line with the SRK approach outlined below, in short, the 2.3 alternative with some modifications. SRK advocated so strongly for the WIIN Act because we are intent on seeing that every federal and non-federal dollar that is spent on this project yields the greatest positive impact on the river, the people living in the watershed, and the economies of both Georgia and South Carolina.

The original design of the project specified that 100% of the funds for the project would be spent on creating a fish passage structure on the South Carolina side of the failing dam, without regard to local considerations. That section would have been separated from the historic park located on the Georgia side. This would have disconnected the Augusta community from a large portion of their river and would have left the dam, already in a documented state of disrepair, to continue its downward spiral. If the NSBLD were to fail, it would be a catastrophe—the elevation



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of the upstream pool would drop precipitously, water supply intakes upstream would be left high and dry, and the efforts of upstream municipalities to encourage economic and recreational revitalization would slow significantly. Thus, it is extremely fortunate that Congress demonstrated its understanding through the WIIN Act that repairing the lock and dam may not be the best solution to solving the dam failure and fish passage challenges. Instead of insisting that the deteriorating and dangerous structure be repaired, Congress focused on maintaining the pool level to the extent possible and providing appropriate fish passage. In so doing, Congress left the door open to creative approaches to addressing these two issues, such as the rock dam, described below.

Regardless of the approach ultimately selected, it is crucial that any negative impacts on the community are mitigated to the highest practical extent and that some benefits to greater Augusta are also provided by the project. For instance, the historic park must be preserved or enhanced. The current chosen alternative requires much of the park to be excavated and turned into a flood control structure. Destroying the park is something we should avoid at all costs. We should also strive to maintain a reasonable pool level behind the NSBLD so that the recreational activities, and water intake structures that the pool supports are not eliminated or impaired.

The project must be designed in such a way that the surrounding communities feel that the project benefits them and is not being designed solely to benefit the Georgia Ports Authority, the citizens of Savannah, or the Atlantic sturgeon. If people within the greater Augusta area accept this “us versus them” narrative, it will be difficult to convince them otherwise and they will resent the project whether it is beneficial to them or not. This project must not be allowed to perpetuate the idea that it is the community vs. the fish.

Since our inception 18 years ago, SRK has understood that the most effective long-term way to get people to care about the health of the Savannah River is to encourage them to paddle and fish on it and swim in it. Recreation is key to developing ownership in the river. For this reason, we have held events on the water and fought for safe access to waterways throughout the Savannah River basin. River recreation is more than just a way to improve the health of the waterway; it can also be a major economic driver for a community.

For example, Columbus, Georgia credits its economic revival on the removal of two low-head dams. This restored rocky shoals habitat and fish passage along the Chattahoochee River. It also created an outstanding two-mile long white-water run that has drawn paddlers, rafters, and anglers to Columbus. Maximizing the river’s recreational and natural potential in this way has resulted in community growth and a vastly improved quality of life for all socioeconomic groups in the city. That economic boost has spurred millions of dollars in investments in both Columbus and Phenix City, Alabama, which lies directly across the river.



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Augusta's River Region could see an even greater resurgence if a white water component is included in the project. If the two small dams upstream of the NSBLD are modified in a manner similar to what we propose in these comments for the NSBLD, the shoals on the Savannah River could run 36 miles, a distance 18 times longer than the run in Columbus. This burgeoning "blue way" would attract paddlers from across the country. Successful fish passage and safe passage for recreational river users should go hand in hand, especially when the preferred fish passage can be readily adapted to meet the mandated needs of both.

While the currently recommended alternative, 2-6D, appears to meet the requirement for fish passage, it fails to maintain the current uses of the project area, that is, it would destroy the historic park. For this reason, we have been working to identify ways to adapt this alternative in a way that preserves the park, ensures adequate fish passage, creates safe passage for humans around the structure, and enhances the community by creating a white water course that would serve as a recreational magnet that will draw tourists to greater Augusta.

Shortcomings of the Recommended Alternative (2-6d)

The Corps is recommending Alternative 2-6d, despite its shortcomings which are detailed below.

The Historic Park

Under the WIIN Act, the historic park's current uses should be considered as part of the project. Alternative 2-6d, however, would allow the park to be destroyed. This would be a devastating loss to the South Augusta community, which has used the park for over 80 years. Because it is a federal park, the park was not segregated. For these reasons, the park is historically significant. Yet, under alternative 2-6d, the historic park receives no protection. Impacts to the many uses of this park should be avoided. With the modifications discussed below, the historic park could be preserved for future generations and the project could enhance the South Augusta community. These opportunities should be fully explored before any decision is made that would adversely affect the historic park.

Furthermore, the park has long been one of the few places in Augusta and North Augusta that cater to bank fishing. Although the area is not as heavily visited by regular park goers as in years past, there are very few times one can visit the park without finding numerous bank fishermen. The current plan destroys bank fishermen's access, which is in clear conflict with the intent of the WIIN Act to ensure current recreational uses of the river are maintained. The final plan must include mitigation, including reestablished bank fishing locations at the park, and this historic use of the park should be recognized in Cultural Resource Coordination.

We did not receive notice of the Section 106 Cultural Resources Coordination process and are appalled that all correspondences from agencies and other non-governmental organizations



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focused solely on the Lock and Dam structure. SRK requests that we be included in any continuing discussion about Section 106 Mitigation requirements, and strongly urge that any mitigation considerations moving forward include increased access for our fisherman, as well as recognition and protection of the historically significant uses of the park. We also request the South Augusta Neighborhood Alliance be included in those discussions moving forward.

The Historical Significance of the Park was highlighted in a recent request by the City of Augusta to develop a master recreation plan for the park and Augusta's River assets, quoted below. (RFP 18-300):

The plan must also incorporate multiple access points for anglers into the non-whitewater portion of the river. This site has been one of the main access points for bank fishing since at least the early 1950s, and maintaining that access is imperative to the community to maintain current uses and to avoid exclusion and gentrification. The two boat ramps that currently exist above and downstream of the dam are expected to undergo changes, however, maintaining motorboat access to the above and below portions of the river is also imperative. Access to navigation between the lock and dam to the Lower Savannah Region including to Savannah and the coast should not be impeded.

The New Savannah Bluff Lock and Dam (NSBLD) has historical race relations importance. During the 1950-70s when the majority of the City of Augusta was segregated, the park was not. It has served a social function as a gathering place for all of our citizens for over 65 years. Its pavilions have provided the location for hundreds if not thousands of family reunions, birthday parties, and civic meeting spots over time. It is an amenity that should remain with the community who has enjoyed it historically. That history and future use needs to be incorporated into the plan, ensuring the site's importance is recognized and maintained in the future.

The park is also home to many centuries-old large cypress trees and other protected wetland species whose protection merits strong consideration. We recommend working with local groups to identify species of interest. Plans must be designed to preserve as many of the existing trees in this category as possible. The site also includes challenges related to stormwater maintenance and control as much of the area is situated in flood zones and swampland. All future designs should allow for responsible stormwater retention, to incorporate innovative stormwater design features as well as strategic landscaping through bioswales, rain gardens, etc. Leaders and planners should seize the opportunity to implement green stormwater techniques and be recognized as a model site for river-friendly design that minimizes the impacts of runoff and pollution on the groundwater and waterway.

NSBLD park sits on the confluence of two emerging bike/nature/walking trails whose development is ongoing. The levee which starts above the remaining shoals in the river 17 miles upstream from the park creates an elevated path and contiguous trail through



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downtown Augusta ending at the park. Over 3/4 of this levee has been converted into a trail with remaining miles slated for conversion in the next few years. The Butler Creek trail starts at Lombard Mill Pond near Fort Gordon Gate 5 and running the length of the creek ending at the NSBLD park. That trail is 20% completed and is slated to be finished in coming years.

The overarching goals of the design should be to create connectivity among a growing metropolitan area and to provide opportunities for enhanced recreation and appreciation of our natural resources in ways that will contribute to improving the economy, pride, and quality of life for locals and visitors.

Mitigation for Lost Sea Connection

The NSBLD locks have provided a connection to the sea for upstream communities since the 1930s. Although the locks have been inoperable due to their deteriorated condition since 2014, it is clear the intent of the WIIN Act's inclusion of the lock wall in criteria to be assessed was based on the recognized importance of human passage around the structure. While we agree that motorized boat passage through the rock structure in the future is not a reality, we believe strongly that many non-motorized users will attempt to pass through the rock weir regardless of the configuration of the structure. *It is imperative that safe passage for in-river non-motorized recreational users be provided in this project.* It is for this reason, and for the safety of our citizens, that we strongly urge the Corps to consider a designated floodway/bypass channel that provides passage around the rock dam through the park, and that the project have minimal negative impact on boat ramp access and the possibility of improvements below the dam structure.

Upstream Water Level

SRK toured the entirety of the project area from the shoals to the dam almost daily during the Corps' recent demonstrated drawdown. We enlisted the help of a professional photographer to document drawdown conditions and impacts to the riverfront.

The following photos were taken between 9:00 am and 11:00 am on February 14, 2019. <https://brianphillips.zenfolio.com/p349061372>. The video taken that day is accessible here: <https://www.facebook.com/tonya.bonitatibus/videos/10155800554187455/>

River conditions during the drawdown created an emergent sandbar at the upper end of the Waters Edge subdivision and left a number of docks beached on the ground, with significant impacts to five private docks in the River North subdivision. Many public boat landings became unusable, with only the North Augusta Boat Ramp remaining functional throughout the entire drawdown. The training wall located through downtown Augusta was further exposed, blocking access from upstream to the docks below the training wall. It is almost certain that the larger boats at those docks would not be able to make it over the training wall to gain access to the river, rendering those docks useless. Currently, the Corps is only requesting that buoys be placed along the wall to mitigate the navigation hazard. We do not believe this is an appropriate mitigation; the wall presents a serious danger to river users and needs to be removed. It needs



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to be removed whether the elevation changes or not, as it is currently a hazard, the drawdown just exacerbated the issue. The drawdown exposed pilings from the wall well below the Boathouse in Augusta. If not removed, the newly exposed pilings will result in serious and potentially fatal accidents, as they are a new hazard previously unrecognized. The removal of the training wall will have many positive impacts on the river and the project, as it would eliminate the navigation hazard and the sandbar built up behind the wall will begin to assimilate back into the river. Considering the increased flow expected as a result of the project, it is likely that the sandbar will quickly decrease in size. This would help with the dock depths as well as the weed accumulation on the South Carolina side of the river. It is imperative that the training wall is removed as part of the project, it is currently a threat that will be exacerbated with any changes in water level.

The drop in pool elevation witnessed during the drawdown does not reflect the WINN Act's intended use of the pool. While we do agree the type of control currently enjoyed by the cities will change, the communities should be able to continue to use the resource above the dam as they did before this project. The EA designates 3' as the navigation channel to determine the availability of recreational use after the rock weir installation. Although we did not find any section of the river with less than 3' in the channel during the drawdown, we believe that this lower pool elevation would not support the same level of recreation that it does today. We also believe the goal of this project needs to be focused on retaining a 110-113' pool elevation, no more than a 2' drop in pool elevation at the dam. Our modifications to alternative 2-3, which are described below, would maintain such this pool elevation and thus would not deny upstream user current uses of the pool.

Fish Passage

SRK strongly supports rock dams as an appropriate technology for fish passage when complete dam removals are not possible. Rock dams have been used successfully throughout the nation, and the understanding of how best to design them is only improving with each implementation. One of the main challenges of ensuring successful fish passage is maintaining the appropriate depth (over 4') and velocity (no more than 5.0ft/sec) through the designated channels of the rock passage throughout crucial times of the year. We believe the addition of mechanized flow structures, which can be folded down completely to create a weir opening, can help significantly improve the effectiveness of the fish passage by allowing complete control of how the water flows through the passage structure. This also allows for greater flexibility to concentrate flow in the various channels through the rock weir and thus maximize fish passage. As explained below, we support alternative 2-3 with certain modifications. The modifications include the installation of crest gates in the rock weir. This refinement to the alternative not only allows for greater control of the water through the rock weir, it also leaves the pool higher upstream.

As this project moves forward, we believe it is incredibly important that the very best FWS and NOAA guidance criteria available be used in the design of the rock weir including the creation of pools large enough for the sturgeon, as well as channels for the other anadromous fish expected to make their return. The deficiencies and successes from the Cape Fear Lock and



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Dam #1 project should shape the design of this project. This will not only enhance the NSBLD project but also provide valuable information to inform the Cape Fear Lock and Dam #1 currently underway.

Our Suggested Path Forward: Adaptations to Alternative 2-3

SRK remains convinced the solution to meeting the requirements of the ongoing project is a rock weir. However, the currently proposed rock weir alternatives need to be modified. SRK along with a variety of fish passage experts have focused our efforts on an adaptation of Alternative 2-3 that includes the addition of gates and a bypass channel through the historic park (see Attachment 1). The adapted 2-3 has the lowest floodplain bench, thus, the historic park would not have to be used as a flood retention pond. However, the current design creates a significant drop in the pool upstream during normal conditions. Based upon the PAAR, we believe the solution to that issue is the installation of a series of crest gates, such as those described below, across the crest of the weir.

The fixed weir height set at 107 NAVD 29 could remain, but the addition of perhaps 6' crest gates (this height would need to be determined based upon refined design and modeling) would allow the ability to maintain a pool upstream in Downtown Augusta during drought within 1.5' of current conditions. However, with the excavation of a tiered channel through the historic park, the rock weir height could be raised slightly due to the floodway offset through the park. We believe this modification to alternative 2-3 would be the best solution. Much of the invert flood modeling will remain the same, and only slight modeling adjustments will be necessary to include our suggested adaptations. We would also like to request a 3D CFD model be used towards the completion of the design. This will provide the Corps with the information needed to facilitate construction and to minimize any adaptive management required in the future. Also, we believe strongly that the communities upstream be provided with consultants with suitable expertise on retainer and equipped with any necessary data if requested.

As stated, a bypass channel around the rock weir should be included in the project. This bypass can serve several important purposes:

1. It will provide crucial safe passage by humans in non-motorized boats around the structure. Note, however, that the rock weir will be a natural attractant to boaters, thus, warning buoys and markers must be deployed, as well as a bypass channel around the weir, with a series of additional buoys and appropriate signage that would require paddlers to bypass the rock weir. The bypass channel can also provide additional flood control and minor flow regulation to aid in upstream stabilization of pool elevations. If the channel were constructed with multiple tiers. The bottom tier could be used as a small-boat passageway, while the second tier would be available in times of flood. This tiered approach will provide even greater protection against flooding for the upstream communities and will allow even better control of rock weir flow velocities during high water events (see image 1.2).
2. The bypass channel can easily be adapted into a world-class whitewater course for Augusta's River Region, providing the community a desperately needed economic



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benefit. The vision of converting the historic park into a whitewater venue was adopted by the City of Augusta in its [Destination Blueprint](#) plan, and again in the recently commissioned *City of Augusta - River Vision Concept for the Savannah River* included in the City of Augusta's comments as an attachment.

- a. The 106 Mitigation or other mitigation funding should only include the excavation of the tiered channel, a bridge over the channel, and the installation of the crest gates at the channel's origin. This will provide low-hazard passage around the rock weir structure, and the ability to facilitate floodway control. The local municipalities can choose to move forward with creating additional features within the channel to maximize its potential as a recreational resource. It is our intent to advocate for, and belief that the cities will move forward with maximizing this recreational potential concurrent with the ongoing fish passage work.
 - b. This modified 2-3 alternative raises the level of the pool during low water periods as needed without increasing the flooding frequencies upstream. This prevents the need to mitigate or purchase easements upstream.
 - c. If the Corps chooses to move forward with this design, a stakeholder team should be considered to provide for greater sharing of expertise and design work. Recognizing the incredibly tight timeline, even if this group operates in an unofficial capacity, the sharing of data and design expertise can help greatly expedite this process. The stakeholder group should involve NOAA, USACE, FWS, and the local municipalities' fish passage experts.
3. Safe passage around this dam is crucial to unlocking the potential of the two imminent fish passage projects at the small dams upstream. The success of those projects and the community's acceptance of them will be framed by the success or failure of the NSBLD. The Corps of Engineers and Georgia Ports Authority have an opportunity to help ensure future projects geared towards increasing the viability of our anadromous endangered fish are able to move forward successfully. Allowing whitewater passage around the NSBLD achieves that goal, creating a win for our citizens and a win for the fish. It will keep individuals out of the fish passage, reducing any harassment of the fish, and will become a shining example of how projects like this can benefit all of our communities.

Design Considerations

The upstream entrance of the whitewater bypass channel would have a series of crest gates regulating the flow into the channel as required. The park channel would be designed to be operated over a range of flows. Typically this could be around 400-800 CFS and would include movable features that could be configured to allow extra water through the rock weir as needed. The tiered channel could be grass or made from rock and concrete to prevent fish from being trapped in the channel should they enter the channel during high water periods. We believe the best location for the end of the channel is one of the existing ephemeral ditches that terminate at Butler Creek. The increased flow into Butler Creek may serve to help build the gravel bar directly upstream of the creek's terminus at the river. The bypass channel could be operated as a whitewater channel outside of spawning periods, during spawning periods the



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gate at the top of the channel could be closed completely eliminating the possibility of attractant flows. A variety of techniques could be applied at the terminus of the channel to further reduce the possibility of attractant flows confusing spawning fish.

To prevent sturgeon from being trapped behind the gates on the rock weir on their descent, we suggest a variety of semi-separated parallel routes that would terminate at certain channels of the weir. These routes could be optimized for a wide range of flows. Specific sills downstream of the gates, located within the rock ramp, could serve to route sturgeon towards lowered gates.

Ensuring successful fish passage is not just science but an art. We recommend that an adaptive management approach be taken to include monitoring the passage of target species and making adjustments to improve such passage if necessary. The addition of crest gates will allow changes to flow rates and hydraulic conditions thereby enhancing the effectiveness of adaptive management and improving passage success.

Description of Crest Gates

There are a number of different types and brands of crest gates, also called automated flashboards, that could be used for the project. ([Video of Obermeyer system here.](#)) Obermeyer gates, which are pneumatically actuated gates, have become the industry standard flashboard/crest gate over the years, largely due to the simplicity and hardiness of their design. In fact, Obermeyer supplies the majority of gates for this type of application in the United States. This technology utilizes a combination of metal flap-gates and multiple small inflatable bladders to adjust the elevation of the gates as shown in Figure 4. The metal gate protects the inflatable bladders from debris, provides a much more predictable water surface elevation and discharge rate, and also provides a cover for the bladders when they are deflated. The gates could be installed in independently controlled 10'-15' sections, allowing for maximum control of flow through the fish passage structure. For safety and to prevent attractant flows the gates should not be significantly overtopped. Instead, gate sections would be folded down creating the weir length needed to route the flow through the intended zone or channel of passage needed to optimize the passage of sturgeon. It is highly likely the gates would not extend across the entire weir and would vary in height depending on the location within the structure. During normal and high flow, very few if any of the gates would need to be raised.

Obermeyer gates are economical to install and to maintain. Obermeyer gates will require periodic inspection to check the integrity of the air bladders and steel gates. The bladders are constructed of multiple plies of polyester and tire fabric which help protect them from tough environmental and vandal encounters. They are also UV and puncture resistant. The estimated life of the rubber hinge and bladder is reported by the manufacturer to be about 35 years. The life cycle cost of the Obermeyer gates greatly outperforms other gate systems on the market today. The Obermeyer gate air bladders can be connected to controls individually or in banks of multiple bladders to achieve virtually any desired gate operation scenario. Obermeyer gate set



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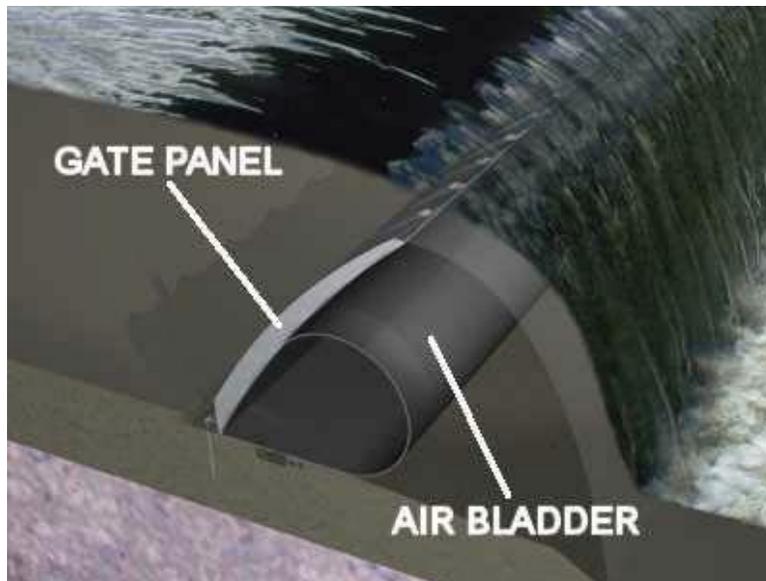
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up for low- hazard modulating sections will require separate sets of controls to adjust the air pressure in the support bladders.

The advantages of this modification of Alternative 2-3 are numerous. It allows for a great amount of control of the flows of water through the rock weir structure, making fish passage more effective throughout a wider range of flows. The gates would improve fish passage conditions by maintaining minimum target depths while reducing flow velocities. The gates would also cause a decrease in the variations of peak velocities for a wider range of flows. This highly adjustable control allows for the fine-tuning of the flow through the weir, allowing it to not only be maximized for sturgeon passage, but for other species as well.



The addition of the crest gates also allows for a reduced elevation change upstream during drought situations while providing crucial flood protection when needed. In a high flow or flooding event, the gates would simply fold down. However, in lower flow situations, some of the gates can be raised as needed to maintain the pool at a higher level, preventing negative impacts to upstream users.

Figure 4. Schematic of Water Flow Over



This technology has been in use for about 15 years and gates with heights of up to approximately 5.5 m (18 ft) have been installed. Until now, most Obermeyer spillway gates have been installed in the U.S., but with contracts in India, Peru, and Germany underway, its use will become as global as that of the inflatable rubber dam within a very short period (Obermeyer, 2006).



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An example of a Tiered Rock Channel: (Image 1.2) S20 Apple Valley Bank Stabilization

(From Union Street Dam Betterment Plan Traverse, City MI 2015): *Obermeyer has provided the unit cost information as a function of gate height. For gates between 2 feet and 4 feet high, the range in cost is \$450 - \$500 per square foot. For gates between 4 feet and 8 feet high, the range in cost is \$550 - \$650 per square foot. For gates between 8 feet and up, the range in cost is \$850 - \$950 per square foot. These costs include the gates, bladders, and control equipment delivered to the site. However, recent bids have shown these figures to be 8 to 40 percent low.*

Conclusion

The Corps' proposed project will improve fish habitats in the area but could have detrimental effects on recreational opportunities and water levels upstream. Having worked with experts as well as people in the community to provide informed comments within the required period, our goal is to help ensure recreational opportunities, such as those in our modified alternative 2-3, are implemented. In summation, Savannah Riverkeeper's requests that the chosen option:

- Successfully implements fish passage at the same level or better;
- Does not degrade, destroy or damage the current condition or potential for improvement at the historic park.
- Includes low-hazard passage for public use of non-motorized boats through or around the structure, as well as fishing access to the river, and;
- Leaves water levels significantly higher than the February 2019 test drawdown, between 111-113 ft., by use of installation of crest gates (adapted version of 2-3).

We can and must preserve the pool, free the fish, save the park, and improve recreation for the ecology, economy, and quality of life in Augusta's River Region. We believe that local compromise and the adaptations and recommendations detailed in these comments are the way to balance a complex set of needs.

Rock Ramp with Crest Gates & Recreational Bypass Option



Entrance Gate to Whitewater Course



Series of Crest Gates Along Crest of Rock Ramp



Buoys and signs to guide river users to Whitewater Bypass

ALTERNATIVES SUMMARY

1. Crest gates added along the Crest of the Rock Ramp
2. Recreational Whitewater Bypass Channel around Rock Ramp
3. Enhanced Usage and Accessibility of the Park

1" = 200 feet



support-savannah-riverkeepers-plan-for-lock-and-dam_041619

Number	Date	First Name	Last Name	City	State/Province	Country	Why is this important to you?
1	03-04-2019	Dana	Griffin	NORTH AUGUSTA	South Carolina	United States	I personally looked at the impacts and did not see anything of significant concern. I love the idea of protecting the local wildlife.
2	03-04-2019	Parin	Amin		Georgia	United States	
3	03-04-2019	jimmy	todd	belvedere	South Carolina	United States	recreation ,life in general
4	03-04-2019	Laurie	Moore	Evans	Georgia	United States	Augusta is trying so hard to improve its downtown area and the Savannah River is a major part of it. As a resident of Columbia County and a GA tax payer what strengthens Augusta increases my quality of life and property value. Certainly lowering the river to the Corps proposed level would make the river less of an asset for the city and all the surrounding towns whose populations view and enjoy the river daily. Given what the Port of Savannah's project is costing, Augusta's small portion of the cost to improve our lock and dam area in a way that will guarantee the Savannah River be maintained at a level no more than a foot below it
5	03-04-2019	E.	Richards	North Augusta	South Carolina	United States	
6	03-04-2019	Nancy	James	Augusta	Georgia	United States	Lock and Dam Park.
7	03-04-2019	Katerina	Richardson	augusta	Georgia	United States	I live near this river, i swim in it. It is important for Augusta - many awesome events happen on it and bring people to town
8	03-04-2019	Dennis	Patterson	Augusta	Georgia	United States	I think the rusted relic of a dam should've been removed years ago.
9	03-04-2019	Heather	Berry	Augusta	Georgia	United States	
10	03-04-2019	Greg	Sutherland	Dearing	Georgia	United States	
11	03-04-2019	kristen	tharpe	augusta	Georgia	United States	i am a homeowner on the river, with a dock and boat.
12	03-04-2019	Richard	Kamulda	North Augusta	South Carolina	United States	Investments and improvements in downtown Augusta and North Augusta would be rendered valueless if the pool is not maintained. The solution for the Lock and Dam must include a preservation of the pool. A passageway for
13	03-04-2019	Roger	Byers	McCormick	South Carolina	United States	
14	03-04-2019	Kevin	Fox	Evans	Georgia	United States	
15	03-04-2019	Ann	Sutherland	Dearing	Georgia	United States	
16	03-04-2019	Lawrence	Komp	Martinez	Georgia	United States	
17	03-04-2019	alicia	bible	Evans	Georgia	United States	
18	03-04-2019	Jonathon	Anderson	Augusta	Georgia	United States	I am avid Kayaker
19	03-04-2019	William	Pruitt	Martinez	Georgia	United States	
20	03-04-2019	Carol	Campbell	Augusta	Georgia	United States	Current plan by Corp of Engineers appear to care more for the fish than they do on the citizens and economics of the entire CSRA. The Corp plan will be extremely harmful for the economic environment and future of the area
21	03-04-2019	Amy	Corbitt	North Augusta	South Carolina	United States	
22	03-04-2019	Coy	Wehant	Tignall	Georgia	United States	
23	03-04-2019	Christina	MacPhee	Augusta	Georgia	United States	
24	03-04-2019	Loretta	Patterson	Augusta	Georgia	United States	
25	03-04-2019	Jessica	Badger	Thomson	Georgia	United States	
26	03-04-2019	Christina	Berkshire	Augusta	Georgia	United States	
27	03-04-2019	Mark	Peacock	Augusta	Georgia	United States	help the fish, but preserve pool of water upstream, no drastic lowering of water level
28	03-04-2019	Mike	W	Martinez	Georgia	United States	Augusta and North Augusta have both developed largely based on the "pool" the Lock & Dam created since 1937. Removing or significantly reducing the pool now, >80 years later, will have a lasting negative impact on fur
29	03-04-2019	Michael	Jones	North Augusta	South Carolina	United States	
30	03-04-2019	Gary	Elder	Tignall	Georgia	United States	I live on the Broad River.
31	03-04-2019	Joe	Hinely	Garden City		Georgia	
32	03-04-2019	Dave	McCluskey	North Augusta	South Carolina	United States	Water is life. Improve the river
33	03-04-2019	Jeremy	Hill	Bamberg	South Carolina	United States	
34	03-04-2019	Tyler	Farmer	Evans	Georgia	United States	Water is life.
35	03-04-2019	Tonya	Bonitatibus	Hephzibah	Georgia	United States	
36	03-04-2019	Josh	Williford	Greenville	South Carolina	United States	I want to see a restored Shad run and the Sturgeon rebound back from endangered status. I want people to allow the river to awe them with what she can do.
37	03-04-2019	Ron	Bryant	North Augusta	South Carolina	United States	I live on the River! New business and existing businesses depend on the current level. Drag boat races , regatta races , iron man competitions , amph theatre , concerts , etc. Surely this is not about the fish. We need to follo
38	03-04-2019	ken	lang			Canada	
39	03-04-2019	Sharon	Brooks	Augusta	Georgia	United States	I utilize safe navigation of the Savannah River above and below the Augusta lock and dam for recreational purposes. I would like to restore the natural spanning grounds of the Atlantic Sturgeon.
40	03-04-2019	Mary	Jacobson	Hephzibah	Georgia	United States	
41	03-04-2019	Jason	Jacobson	Hephzibah	Georgia	United States	Healthy water and fish
42	03-04-2019	lydia	piper	Augusta	Georgia	United States	I enjoy kayaking and support improving the recreational use of the river .I want a good balance between keeping the water levels adequate for fish access and navigation by non-motorized vehicles.I want to preserve the river
43	03-04-2019	Alex	Baker	North Augusta	South Carolina	United States	The Savannah River is a crucial part of life for the people of Augusta and North Augusta. Outdoor recreation is one of the main aspects of the river that the citizens of the CSRA can enjoy. The health of the river and the wildlif
44	03-04-2019	David	Hoel	Aiken	South Carolina	United States	I want to be able to kayak, canoe and fish rapids at the lock & dam
45	03-04-2019	Jonathan	Frazier	Augusta	Georgia	United States	To be able to go boating safely up river,swimming, fish,and other water craft activities.
46	03-04-2019	Patricia	Lynch-Hayes	Augusta	Georgia	United States	Our river is a tremendously important natural resource. It is vital to our community that we make the best possible decisions about its use.
47	03-04-2019	Craig	Wildi	Newington	Georgia	United States	
48	03-04-2019	nick	robley	manchester		United Kingdom	
49	03-04-2019	Jeff	Coffey	Augusta	Georgia	United States	I use the river for recreation.
50	03-05-2019	Sheldon	Yoder	Hephzibah	Georgia	United States	Because the pool level is important
51	03-05-2019	Joyce	Ramsbotham	Augusta	Georgia	United States	Why shouldn't it be important to us.Repair the Lock and Dam.Get out rather than setting behind your desk.LOOK OPEN YOUR CLOSED EYES.
52	03-05-2019	Justin	Martin	Liberty	South Carolina	United States	
53	03-05-2019	Marcia	Frank	Evans	Georgia	United States	
54	03-05-2019	Kyle	Daniel	Augusta	Georgia	United States	I fish frequently on the Savannah river in a kayak and enjoy the natural beauty this place has provided me. Even though I am moving from town soon, I want it to be preserved the way it is now for years to come.
55	03-05-2019	Brian	Allen	North Augusta	South Carolina	United States	For numerous reasons, the primary being riverfront property values,boating safety,aesthetics and bank integrity. It is entirely unfair to Augusta and North Augusta to implement change in favor of Savannah's bay project at the
56	03-05-2019	Terrie	Phenicie	ATHELSTANE	Wisconsin	United States	
57	03-05-2019	David	Mewborn	Savannah	Georgia	United States	It concerns the health and access to Savannah River
58	03-05-2019	Kelsey	Davidson	North Augusta	South Carolina	United States	
59	03-05-2019	Jason	Timmerman	THOMSON	Georgia	United States	I am a kayaker and love the river. Taking away the Locks would destroy the beauty we already have.
60	03-05-2019	Barbara	Barnett	North Augusta	South Carolina	United States	I live in this area and often enjoy kayaking and fishing on the river. Many of my friends enjoy boating on the river also.
61	03-05-2019	Laura	Phinizy	Augusta	Georgia	United States	The Savannah River has been the lifeblood of Augusta since its founding in 1736. The lock and dam originally enabled boats to reach the city as the decades went by. The pool the dam created has enabled Augustans to co
62	03-05-2019	Kathryn	Watkins	Augu	Georgia	United States	
63	03-05-2019	Keith	Mehlenbacher	N. Charleston	South Carolina	United States	
64	03-05-2019	Keri	West	Port Saint lucie	Florida	United States	
65	03-05-2019	Stephen	Scott	Appling	Georgia	United States	I have fished this river all of my life
66	03-05-2019	Varnell	Bentley	Grovetown	Georgia	United States	
67	03-05-2019	Lisa	Clarke	Evans	Georgia	United States	
68	03-05-2019	Jean	Yarsawich	Augusta	Georgia	United States	I visited downtown Augusta and spent time enjoying the riverfront area, years before I moved to this area - that visit stayed in my mind and heart. Years later I was thrilled to move here. Our riverfront is an asset for the entire
69	03-05-2019	Amber	Porterfield	Augusta	Georgia	United States	The preservation of the river is important to our county and the state. I want my grandchildren to be able to enjoy the Savannah river in all its natural, protected, HEALTHY glory.
70	03-05-2019	Michael	Neal	Savannah	Georgia	United States	
71	03-05-2019	Chad	Kimbrell	Aiken	South Carolina	United States	
72	03-05-2019	Ashley	Holmes	Augusta	Georgia	United States	
73	03-05-2019	Todd	Tharpe	Augusta	Georgia	United States	Protecting property values
74	03-05-2019	Angela	Carter	Beech island	South Carolina	United States	I spend my every off day on the savannahriverwith my kids. We gill and enjoy tge wild life and kayak as well as boat. Please its our only vacation from the n l rm of life where we can enjoy the scenery the sounds of the riv
75	03-05-2019	Ellen	Clark	Augusta	Georgia	United States	For the obvious reasons of course, we did not utilize the Savannah River like we need to and should! And doing that wall at the Lock and Dam is preposterous! The devastating effect it will have to all involved!
76	03-06-2019	Pamela	Bowe	North Augusta	South Carolina	United States	
77	03-06-2019	William	Stovall	Savannah	Georgia	United States	
78	03-06-2019	John	Cogley	Martinez	Georgia	United States	I wish to preserve the beauty of our downtown waterfront and protect the river for recreational use.
79	03-06-2019	Lawton	Hair	Clarks Hill	South Carolina	United States	
80	03-06-2019	Brad	Wittfeld	Savannah	Georgia	United States	
81	03-06-2019	Scott	Mann	Augusta	Georgia	United States	
82	03-06-2019	B.A.	Sikes	Augusta	Georgia	United States	
83	03-06-2019	Monica	Tatela	Augusta	Georgia	United States	
84	03-06-2019	kerry	chrisswell	graniteville	South Carolina	United States	
85	03-06-2019	Siera	Jensen	HOLLIDAY	Utah	United States	
86	03-06-2019	Richard	Kent	Augusta	Georgia	United States	
87	03-06-2019	Dawn	Smith	Lebanon	Tennessee	United States	
88	03-07-2019	Michelle	Watkins	Augusta	Georgia	United States	
89	03-07-2019	Nancy	Tomlinson	Williston	South Carolina	United States	
90	03-07-2019	L	H	Evans	Georgia	United States	
91	03-07-2019	Karmen	Giddens	Augusta	Georgia	United States	
92	03-07-2019	Michael	Friedmann	BRONX	New York	United States	
93	03-07-2019	Marie	Taylor	Millen	Georgia	United States	I am worried about down stream. We love to fish and they have the river down stream in a mess. How will this affect down stream?
94	03-07-2019	Steven	Hott	Augusta	Georgia	United States	Protecting our natural resources is important for future generations like our kids and their kids. Keep Georgia beautiful and
95	03-07-2019	mauricio	carvajal	santiago		Chile	
96	03-08-2019	Dana	Parish	Hephzibah	Georgia	United States	
97	03-08-2019	David	Caldwell	Lawndale	North Carolina	United States	For the river
98	03-08-2019	Frank	Sidener	Augusta	Georgia	United States	
99	03-08-2019	Leslie	Wright	Martinez	Georgia	United States	
100	03-09-2019	Jonathan	Fuller	Appling	Georgia	United States	

102	03-10-2019	Michael	Frazier	Augusta	Georgia	United States	
103	03-12-2019	Marilyn	McLeod	Martinez	Georgia	United States	
104	03-19-2019	Kimberly	Roberts	Savannah	Georgia	United States	I am excited about the newer technology that will preserve the natural beauty of the river, will benefit wildlife and promote recreational use of the river banks. The health of the Savannah River Watershed is important to the sta
105	03-19-2019	Jody	Tinsley	Mtn Rest	South Carolina	United States	I've paddled the whole length of the beautiful Savannah River, and one of the awkward parts was portaging this dam. An option that allows the passage of canoes and kayaks, as well as fish, is the right option. This isn't a p
106	03-19-2019	David	Dexter	Aiken	South Carolina	United States	This plan is all positives.
107	03-19-2019	chad	plumly	ATLANTA	Georgia	United States	
108	03-19-2019	Jessica	Yu	Augusta	Georgia	United States	It is life blood to Augusta. Events, walkways and businesses thrive on a healthy river level.
109	03-19-2019	Elizabeth	Goodson	Waynesboro	Georgia	United States	
110	03-19-2019	matt	lyon	North Augusta	South Carolina	United States	The river is the major attraction in Augusta. The degradation of this will affect the whole eastern side of Georgia economically. I work for the medical school and recruitment of students, residents, and faculty depends (in Aug
111	03-19-2019	Delores	Moxley	North Augusta	South Carolina	United States	To maintain recreational activities in the area and beautification. Realistic Tax-payer compromise!
112	03-19-2019	Paula	Wheatley	Guyton	Georgia	United States	
113	03-19-2019	Kevin	Ionno	Savannah	Georgia	United States	For the reasons outlined in the Savannah Riverkeeper's plan: • Successfully implements fish passage at the same level or better; • Does not degrade, destroy or damage the potential for improvement at the adjacent Lock & Dam Park; • Includes safe passage for public use of non-motorized boats through or around the structure, as well as fishing access, and; • Leaves water levels significantly higher than the Feb. 2019 test drawdown, lowering the pool no more than 1 foot.
114	03-19-2019	chris	owens	hoschton	Georgia	United States	I travel to Augusta once a month to paddle on the river
115	03-19-2019	Teddy	Forbes	Grovetown	Georgia	United States	Fishing, kayaking and public park access
116	03-19-2019	Victor	Yu	Augusta	Georgia	United States	River water level must not be drawdown to the level as tested in Feb 2019. It will ruin the economy of both Augusta and North Augusta.
117	03-19-2019	Tim	Neiken	Martinez	Georgia	United States	The simplicity of the rock dam, a copy of what nature does, and has been working for thousands of years, over repeating a failed project because maintenance did not keep up with deterioration. There will be maintenance re
118	03-19-2019	Mark	Stipsits	Evans	Georgia	United States	
119	03-19-2019	Charles	Busbee	Graniteville	South Carolina	United States	
120	03-19-2019	Steven	Joubert	Hephzibah	Georgia	United States	
121	03-20-2019	Angeletic	Swiecki	Beech island	South Carolina	United States	To preserve the rivers antural beauty, as well as allowing continuous usage for recreation and to preserve animal sustainability.
122	03-20-2019	Stuart	Thompson	Martinez	Georgia	United States	
123	03-20-2019	Nancy	Albert	Grovetown	Georgia	United States	Cost, fish and whitewater.
124	03-20-2019	Karon	Mansell	Augusta	Georgia	United States	Because I am a tax payer in an area that does not benefit from tax money.
125	03-21-2019	Jim & Elke	Slaughter	Dearing	Georgia	United States	It is part of Augusta history! It should be restored and maintained.
126	03-21-2019	Chris	Johnson	Dearing	Georgia	United States	Childhood memories
127	03-21-2019	Bj	Joubert	Woodstock	Georgia	United States	
128	03-22-2019	Melanie	Wade Larsen	Augusta	Georgia	United States	All of the progress that has been made downtown could be threaded by lowered river levels.
129	03-22-2019	R	M	Augusta	Georgia	United States	
130	03-24-2019	JAMES	BETZ	DEMOREST	Georgia	United States	
131	04-01-2019	Taylor	Stacy	North Augusta	South Carolina	United States	
132	04-05-2019	DONNA	GOINS	Martinez	Georgia	United States	This is an optimal opportunity to make this site the best it can be for wildlife and most user friendly for recreation.
133	04-05-2019	Henry	Smith	Hephzibah	Georgia	United States	
134	04-08-2019	Rebecca	Ricks	Augusta	Georgia	United States	
135	04-08-2019	Deborah	Brooks	North Augusta	South Carolina	United States	
136	04-08-2019	Freda	Tylor	Martinez	Georgia	United States	
137	04-14-2019	Rick	Marschalk	Augusta	Georgia	United States	Thanks for coming up with a better solution than what has been already proposed by Army Corps of Engineers.
138	04-14-2019	Richard	Pope	Appling	Georgia	United States	
139	04-15-2019	June	Visintainer	Augusta	Georgia	United States	The Corps of Engineers proposal is extremely damaging to the recreational aspect of the river, not to mention killing potential for boating events, half iron man, etc. This would effect downtown financially in a major way.
140	04-16-2019	Samantha	Pollock	Appling	Georgia	United States	As a current resident of Columbia county and former resident of Richmond county I have utilized various regions of the Savannah river for recreational activities. I would hate to see a change made that would negatively imp