

Fish Passage at the New Savannah Bluff Lock and Dam

Prepared By the Savannah District Team

US Army Corps of Engineers

26 June 2018

NOTE:

***Information Contained in this Document
is part of the USACE Pre-Decisional
Deliberative Process and Subject to Change***

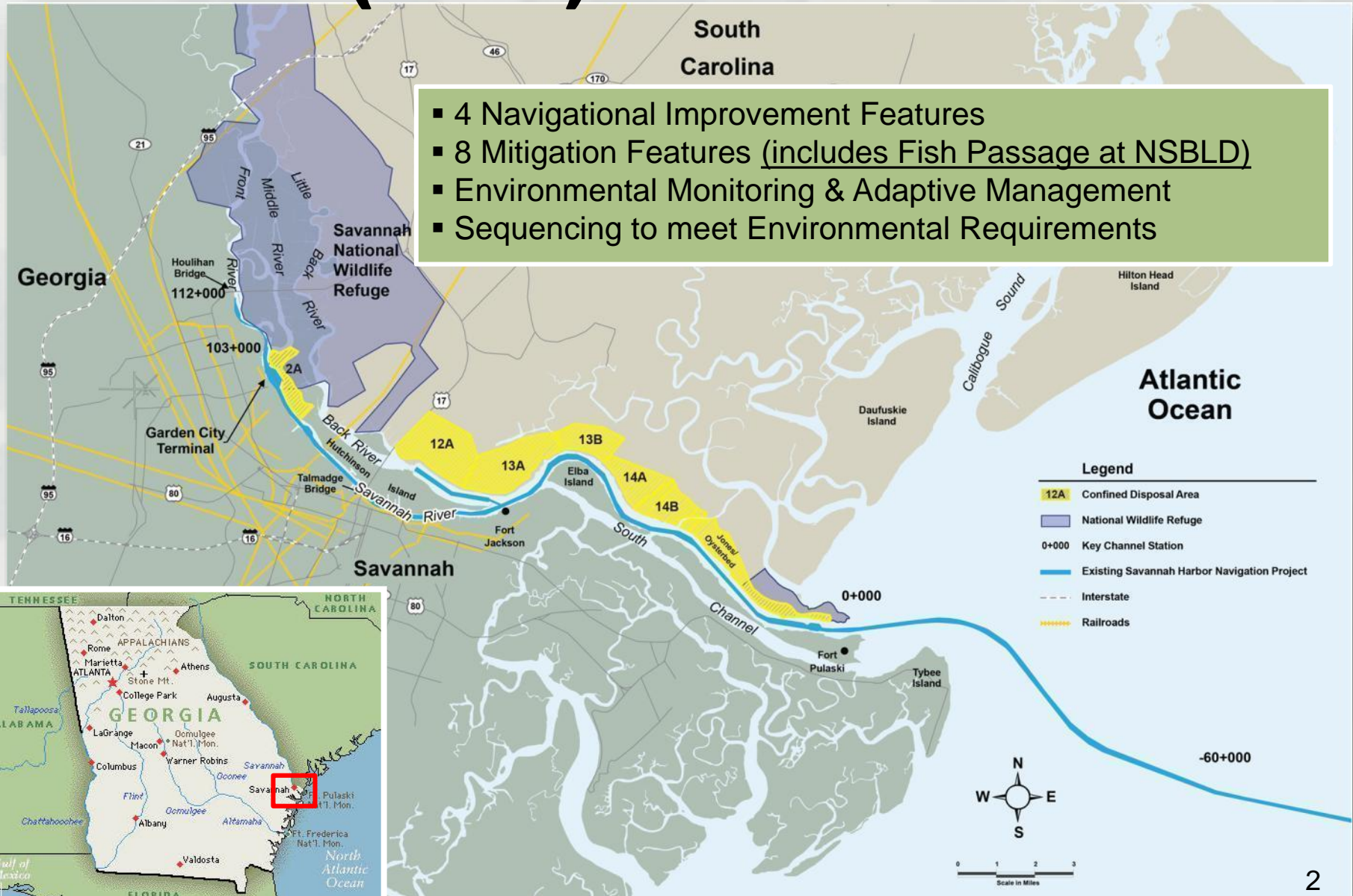
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Savannah Harbor Expansion Project (SHEP) at a Glance

- 4 Navigational Improvement Features
- 8 Mitigation Features (includes Fish Passage at NSBLD)
- Environmental Monitoring & Adaptive Management
- Sequencing to meet Environmental Requirements





Fish Passage Project Area



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NSBLD - Cracked and Aged



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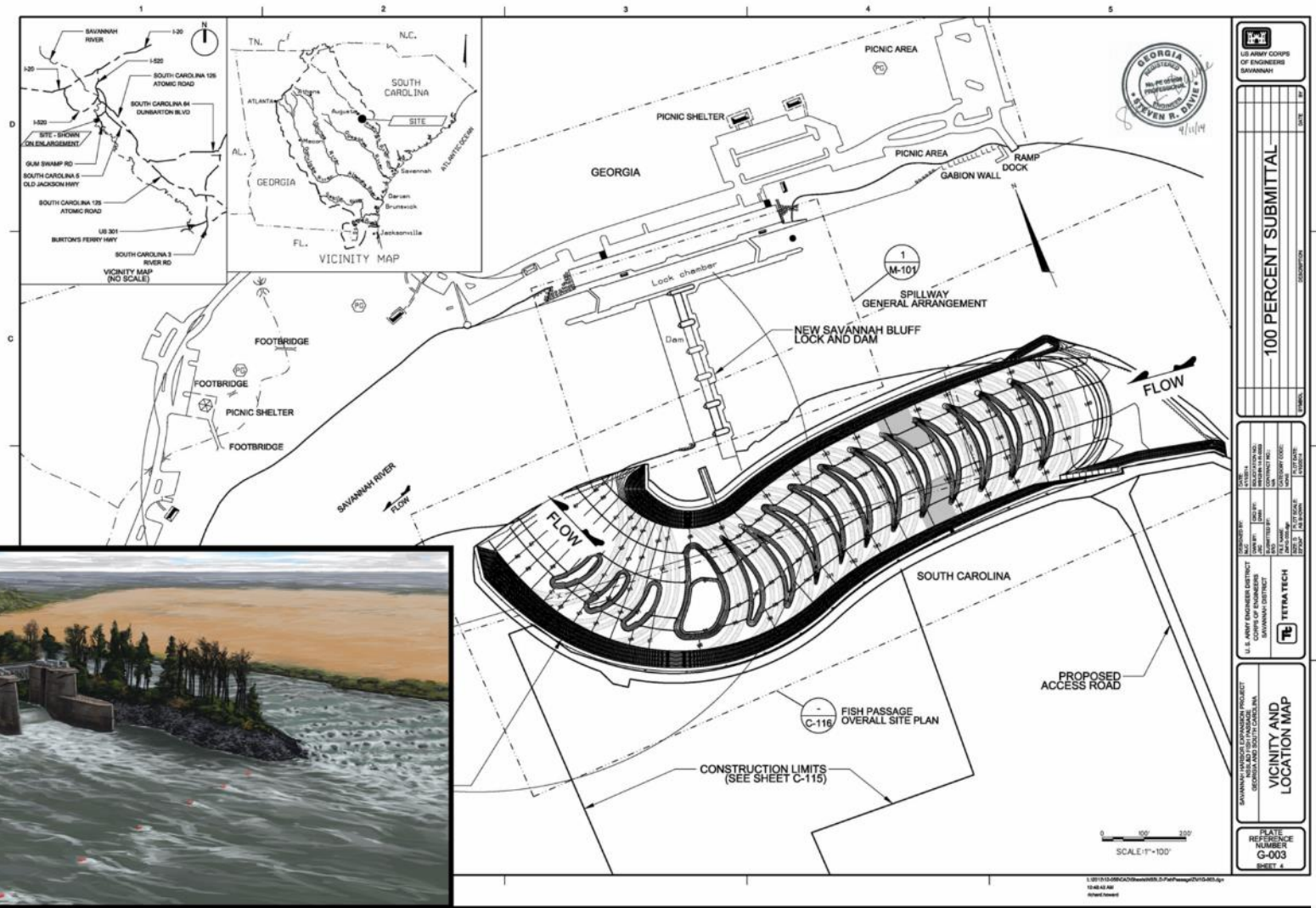
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Original SHEP Plan



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The WIIN Act (Dec 2016)



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- De-authorized the Lock and Dam
- Constructs an in channel fish passage
- Preserves upstream pool for purposes and function of navigation, water supply, recreation, and directs analysis of two options:

EITHER

Repair of the lock wall and modify the structure

OR

Remove entire lock and dam after constructing a water damming structure (or weir)



Addressing Concerns In Alternatives Development



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- Impacts from Low Water
- Impacts from Flooding



Corps Analysis Process



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Goal: Identify the most cost effective fish passage alternative





Evaluation Criteria



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1. Pass Fish
2. Cost
3. Navigation
4. Water Supply
5. Recreation



Example Evaluation Matrix: A Deliberative Process



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Alternatives	Ability to Pass Fish	Navigation in pool	Water Supply	Recreation	Additional Flowage Easements Required	Average Annual Cost Compared to Original SHEP Plan	Total Score	Total Annualized Cost (\$)
Example 1	-1	+1	+1	+1	+1	0		
Example 2	+1	+1	-1	0	+1	+1		
Example 3	+1	+1	+1	0	0	+1		
Example 4	+1	+1	0	+1	+1	+1		
Example 5	-1	+1	+1	+1	+1	-1		

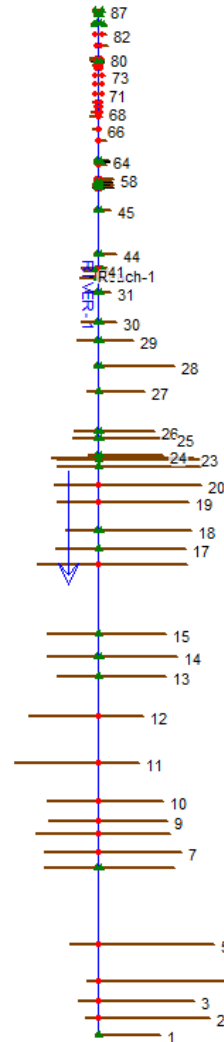
Note: Values for illustration only



Hydraulic Model Development



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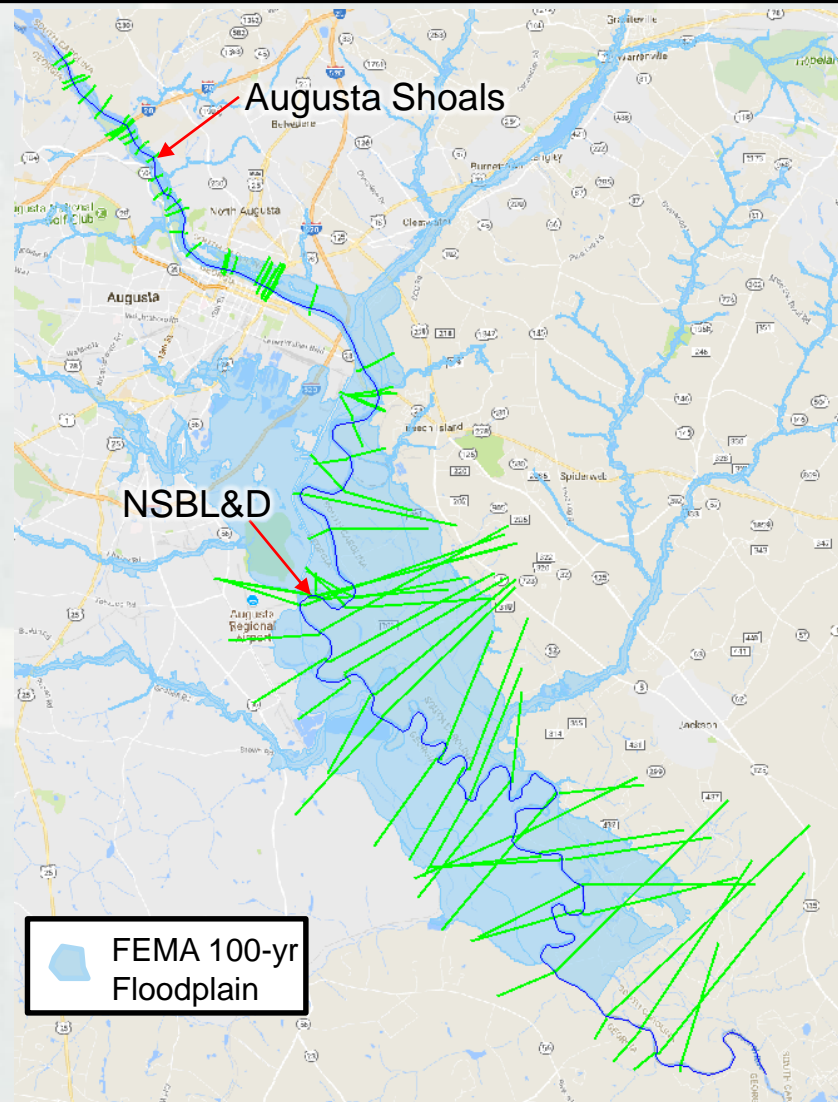
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- 2) Georeferenced HEC-RAS Model
- 3) Study Area
- 4) LiDAR Topography
- 5) Channel Bathymetry
- 6) Training Wall Survey
- 7) 2D HEC-RAS Model
- 8) Sample Inundation (10-yr Flood)



Hydraulic Model Development



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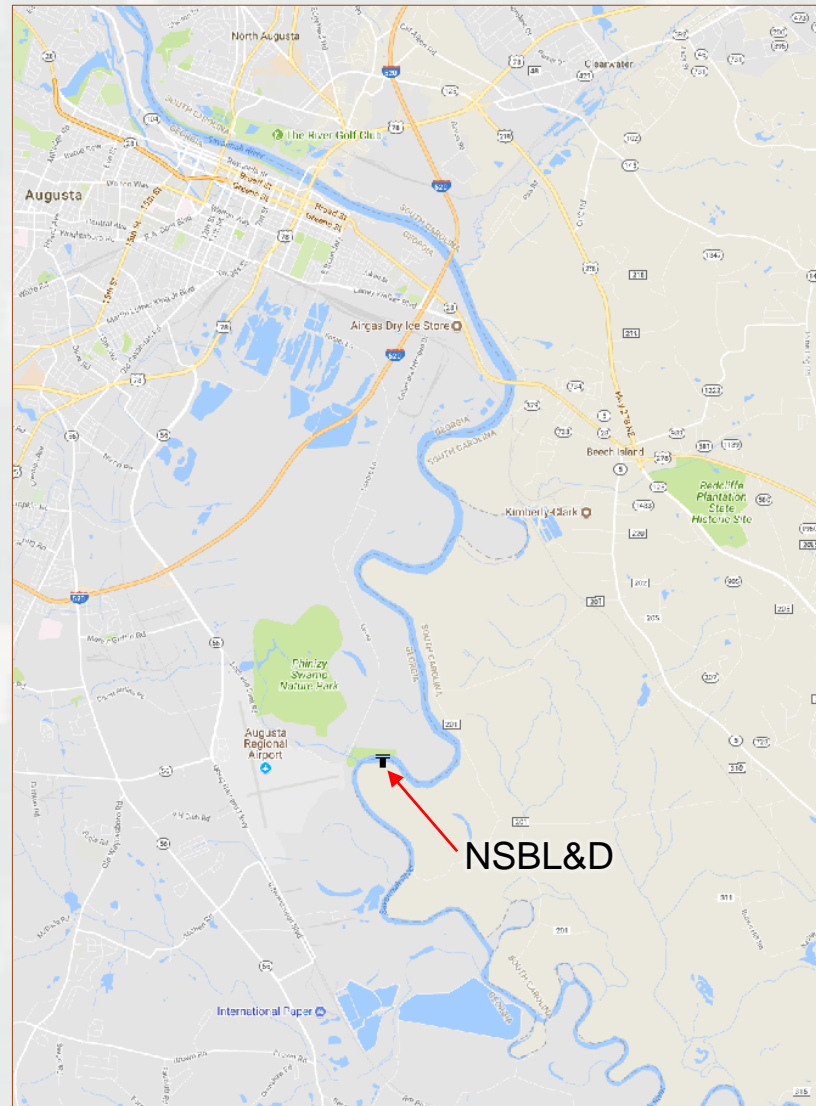
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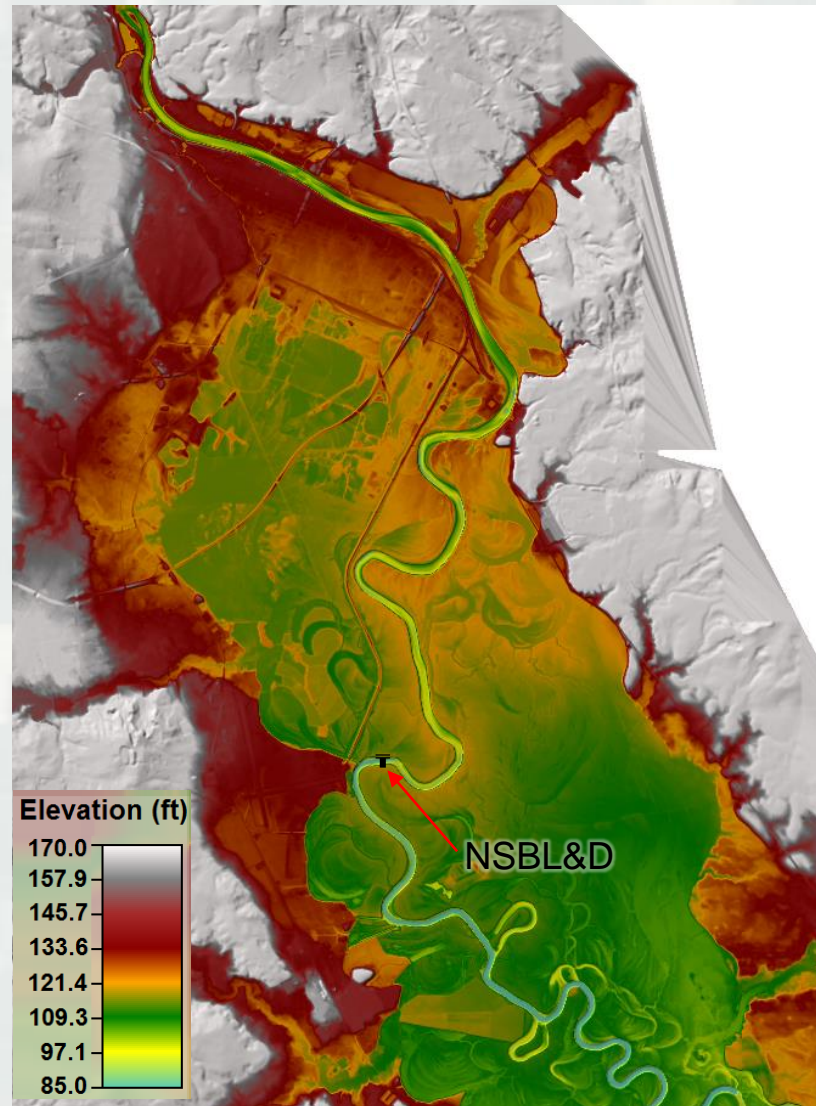
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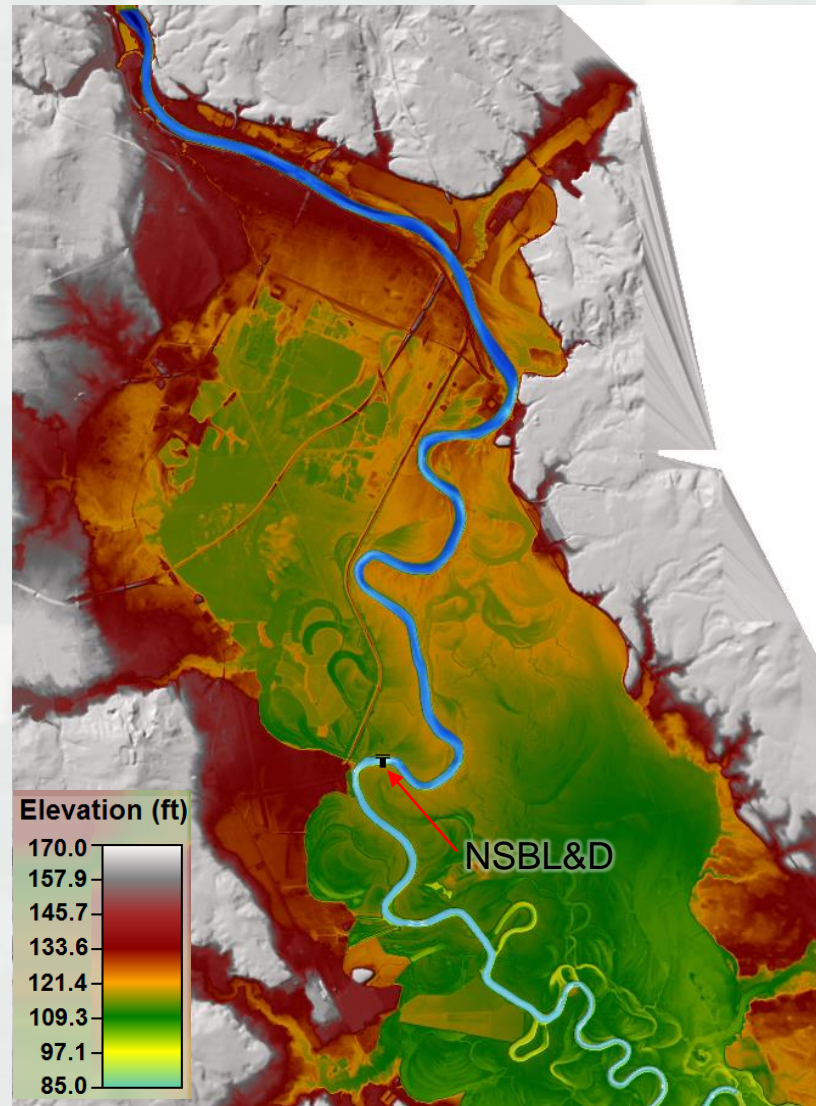
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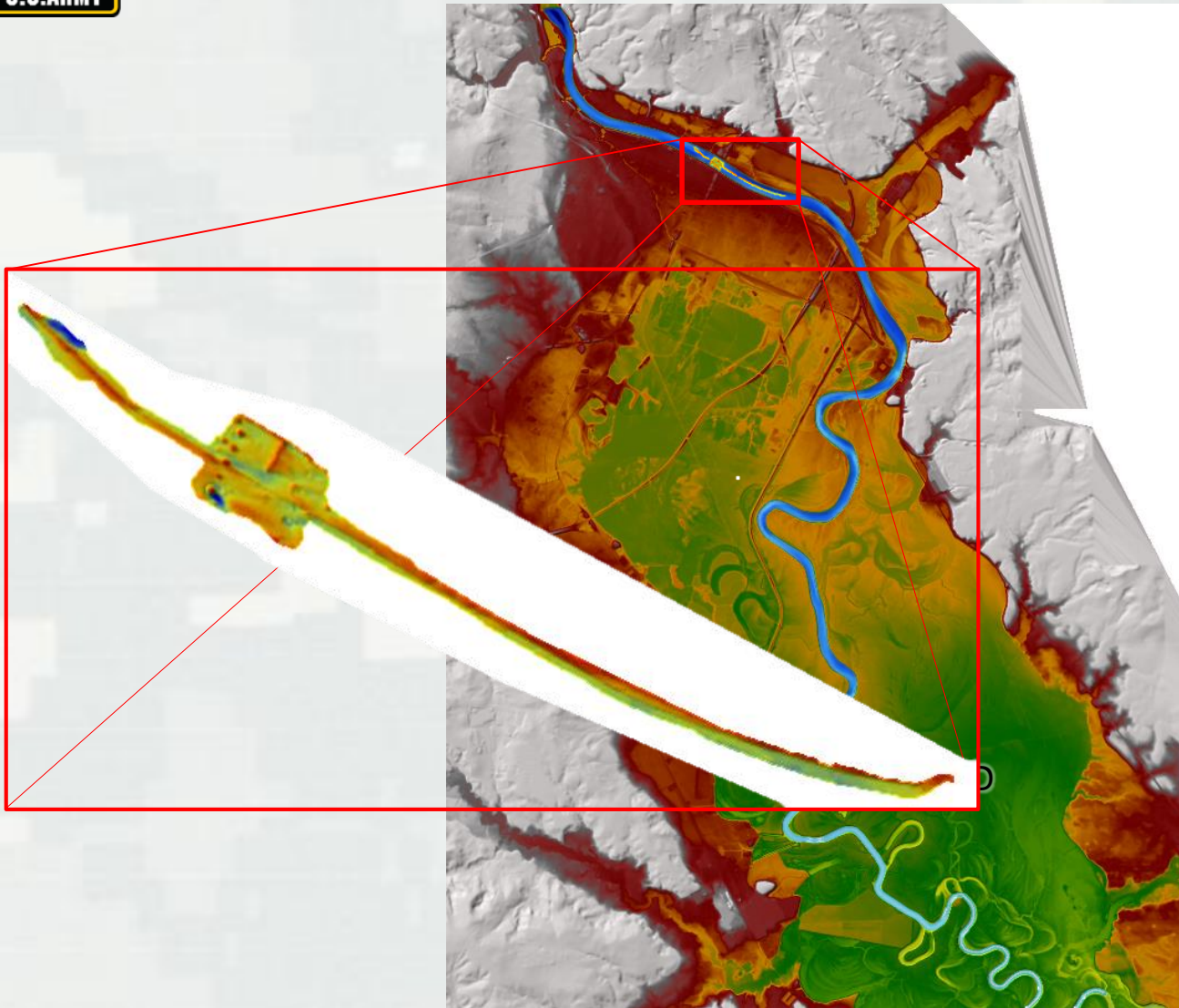
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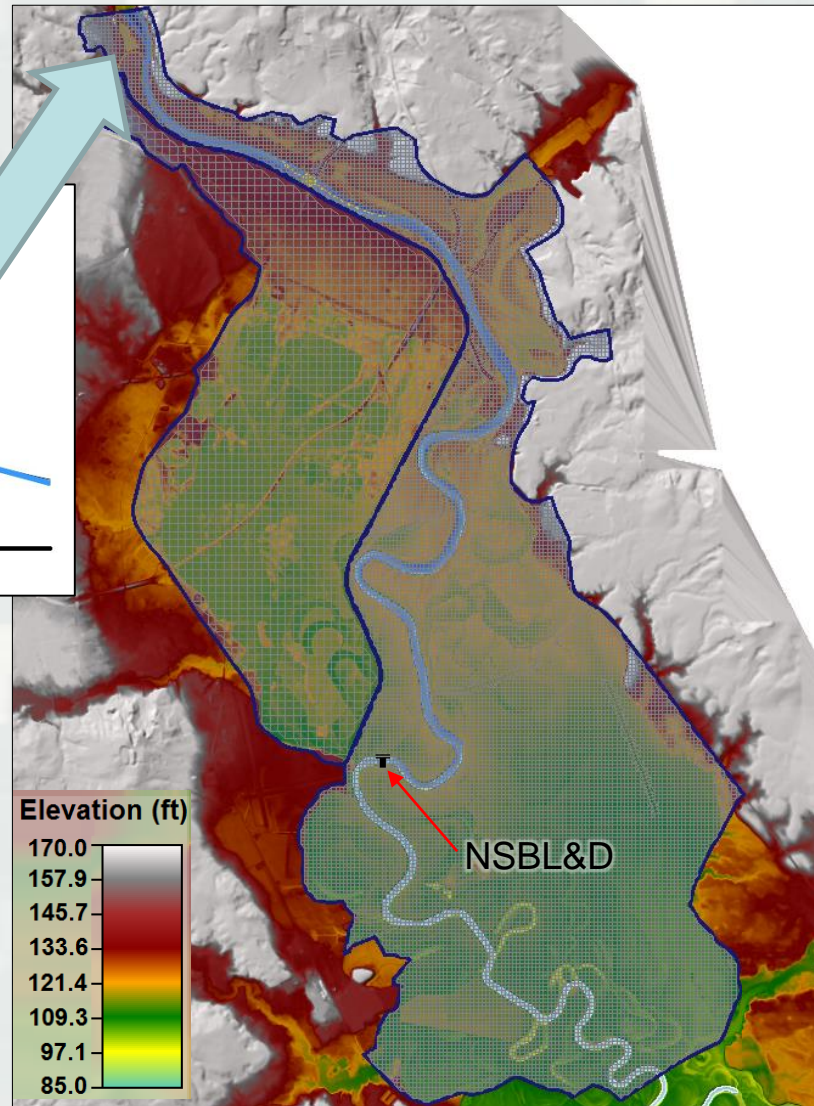
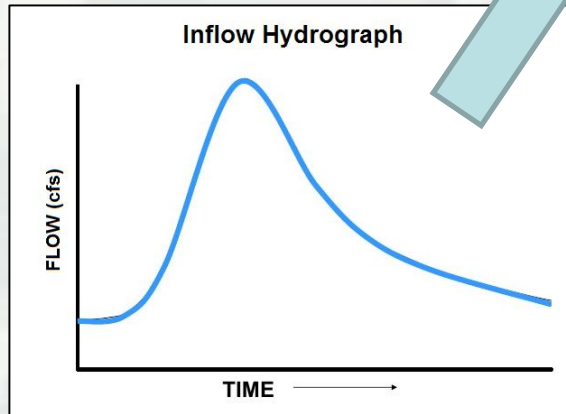
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Hydraulic Model Development



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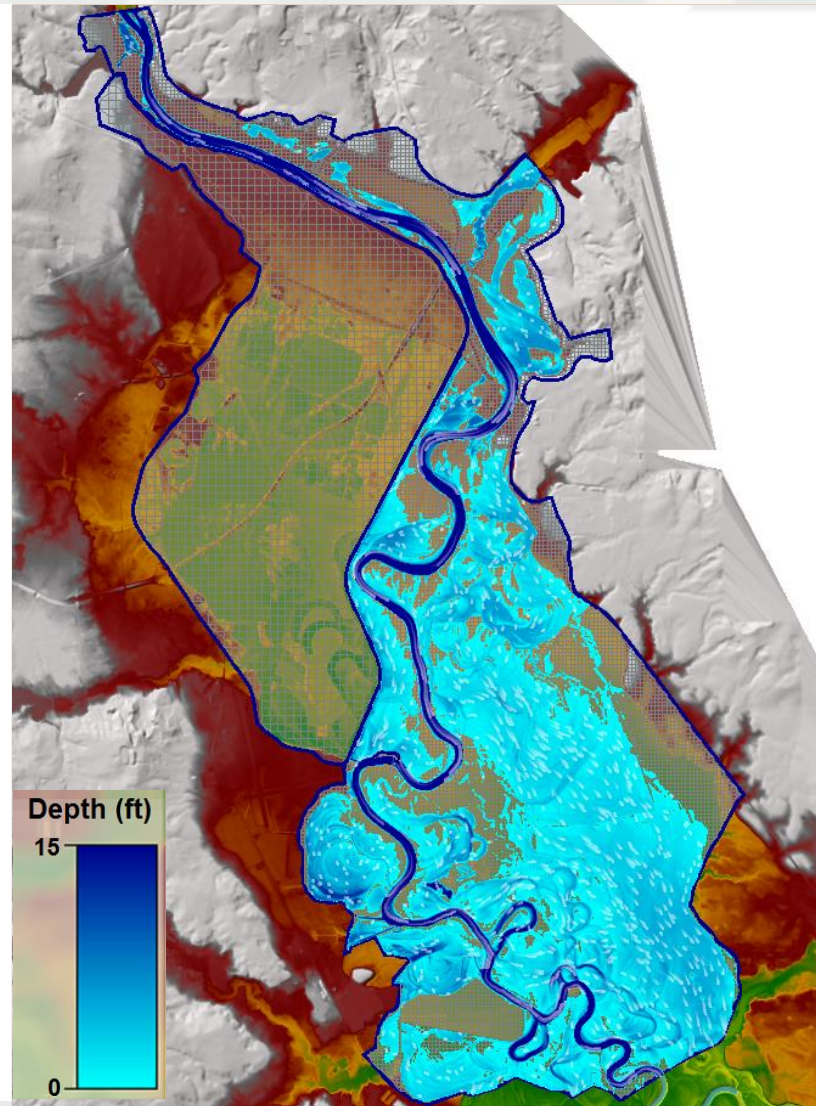
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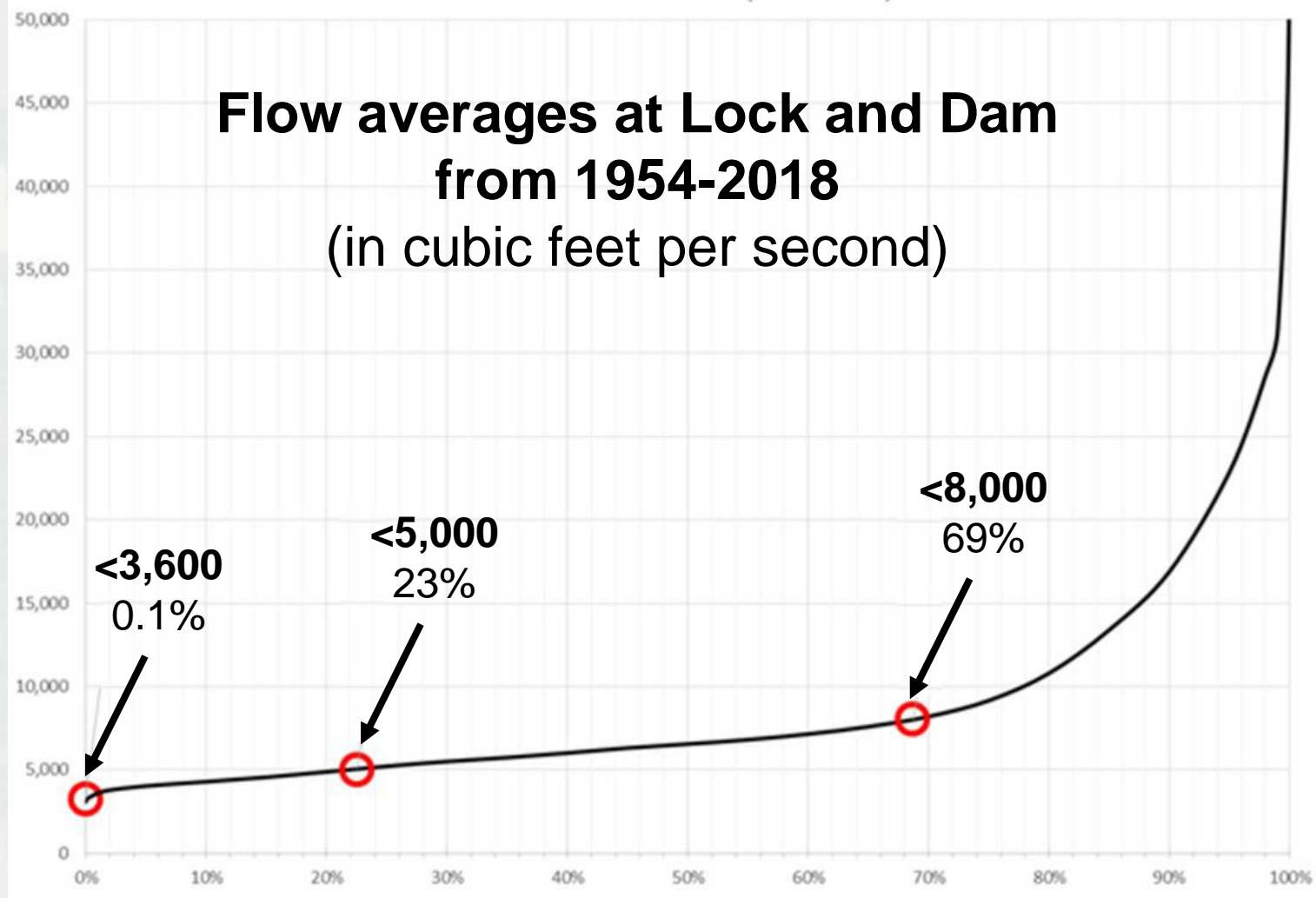
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Based on Flow Volumes



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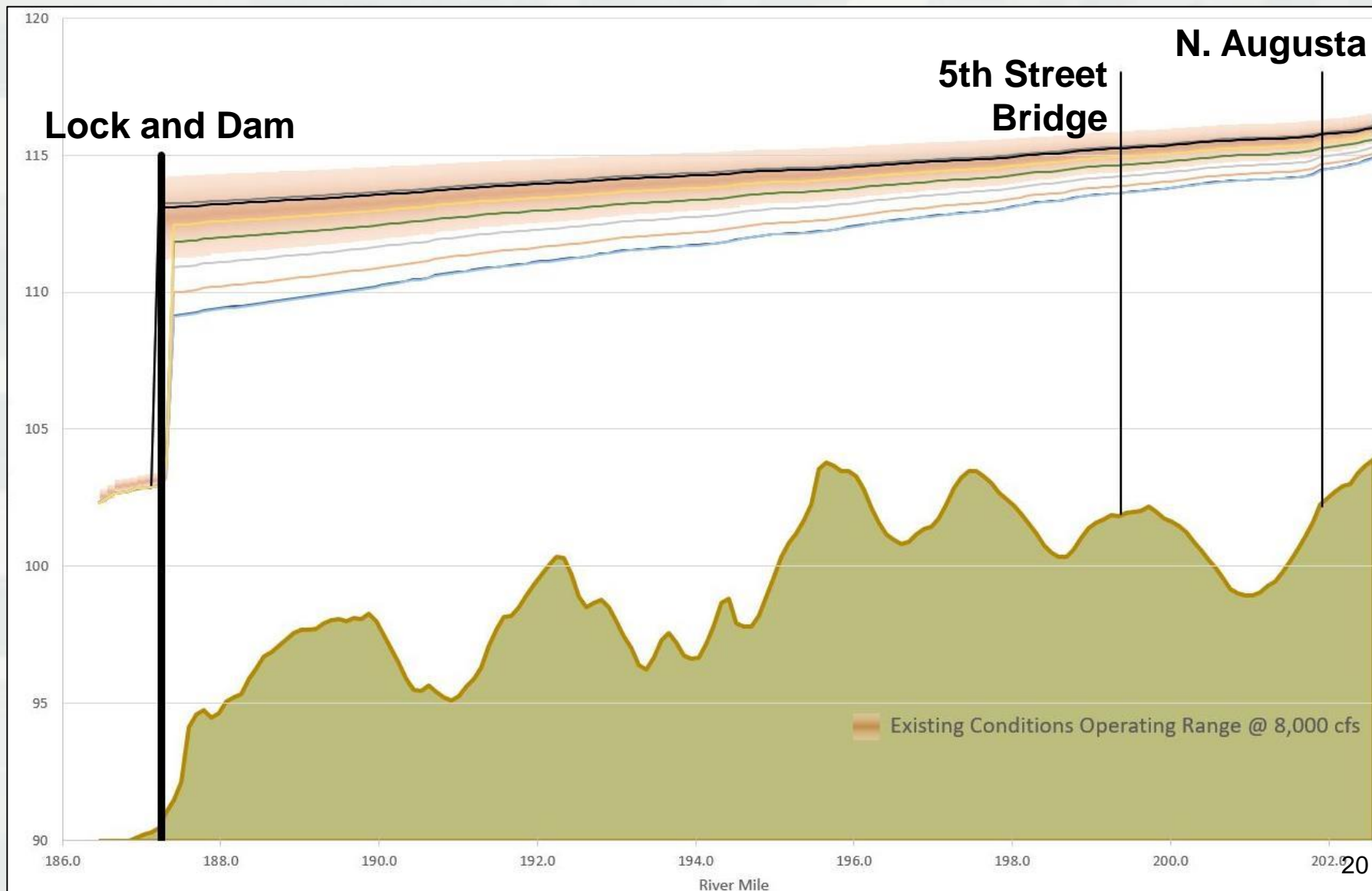


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Depth Attenuation



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Final WIIN Alternatives And Concept Designs Under Analysis



Retain Dam with GA Side Fish Passage



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Walkway for
accessing lock wall

Construct fish passage
on Georgia side

Repair lock wall
and retain gate
structure



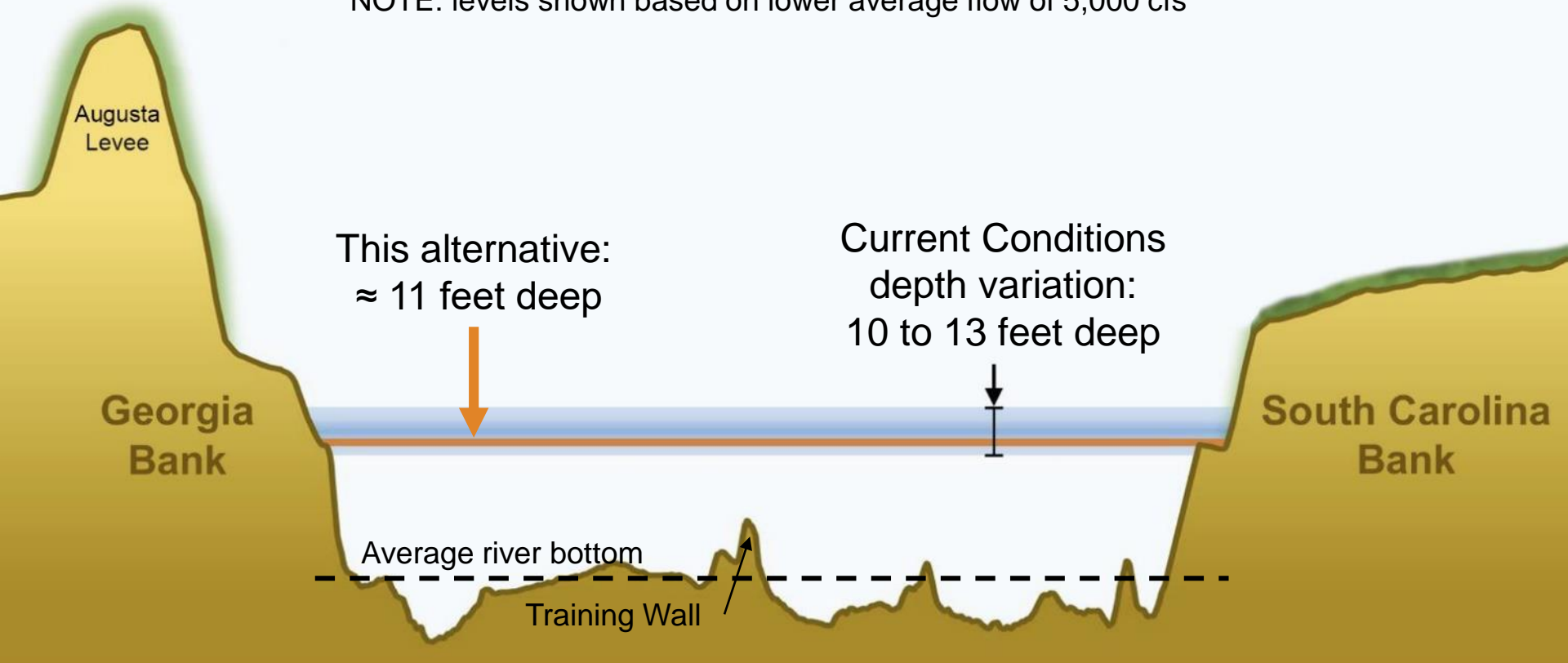
Impacts: 5th Street Bridge



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Retain Dam with GA Side Fish Passage

NOTE: levels shown based on lower average flow of 5,000 cfs

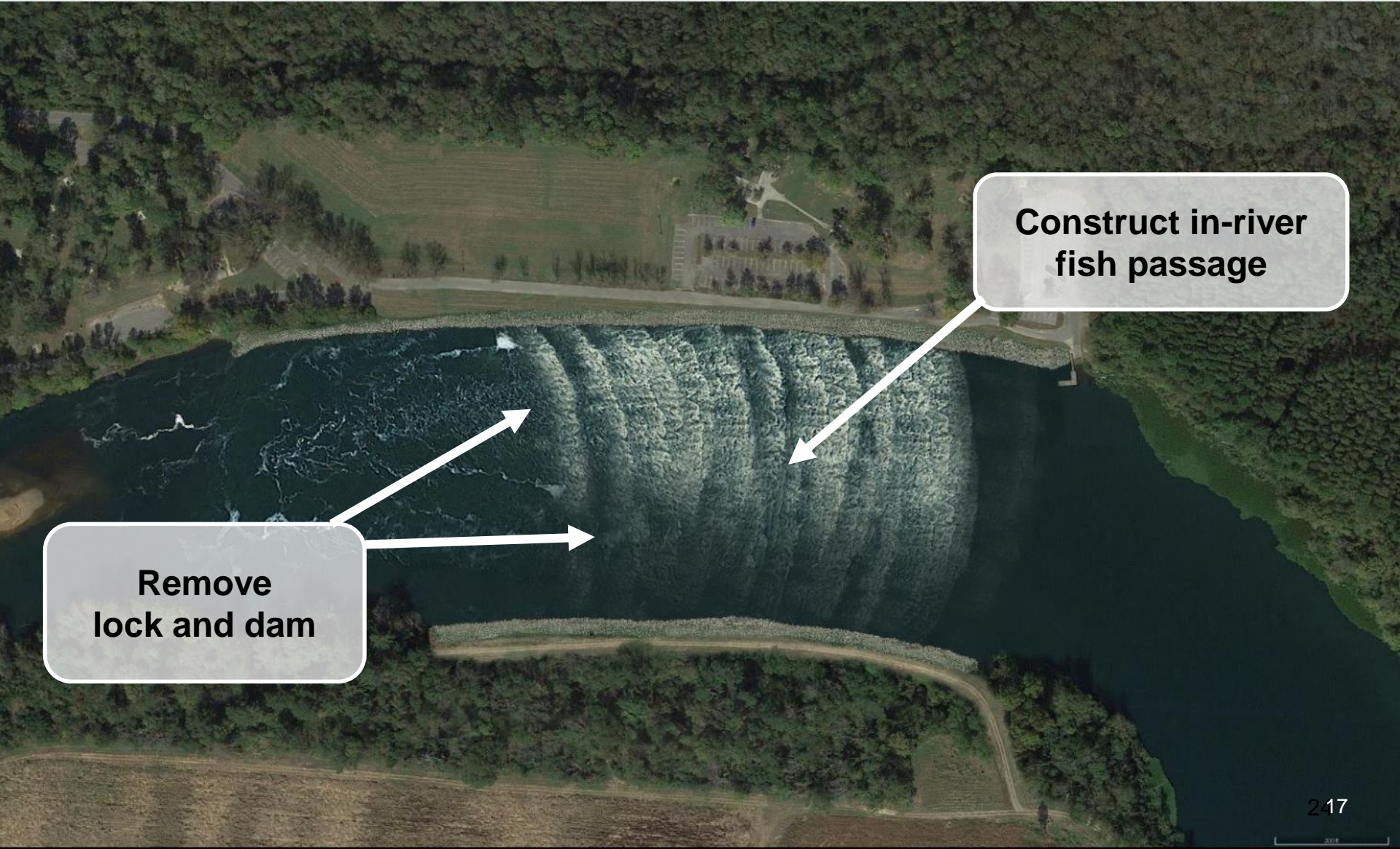




Fixed Weir



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Construct in-river
fish passage

Remove
lock and dam



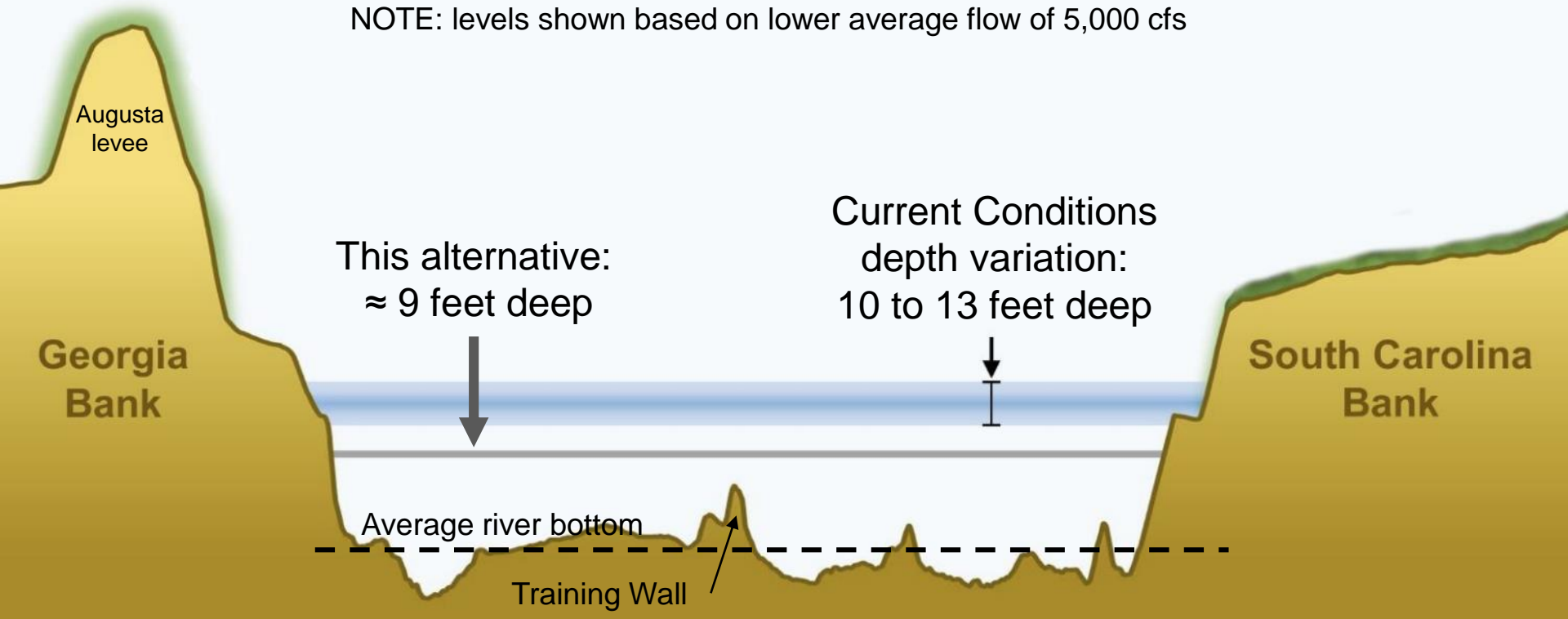
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Fixed Weir

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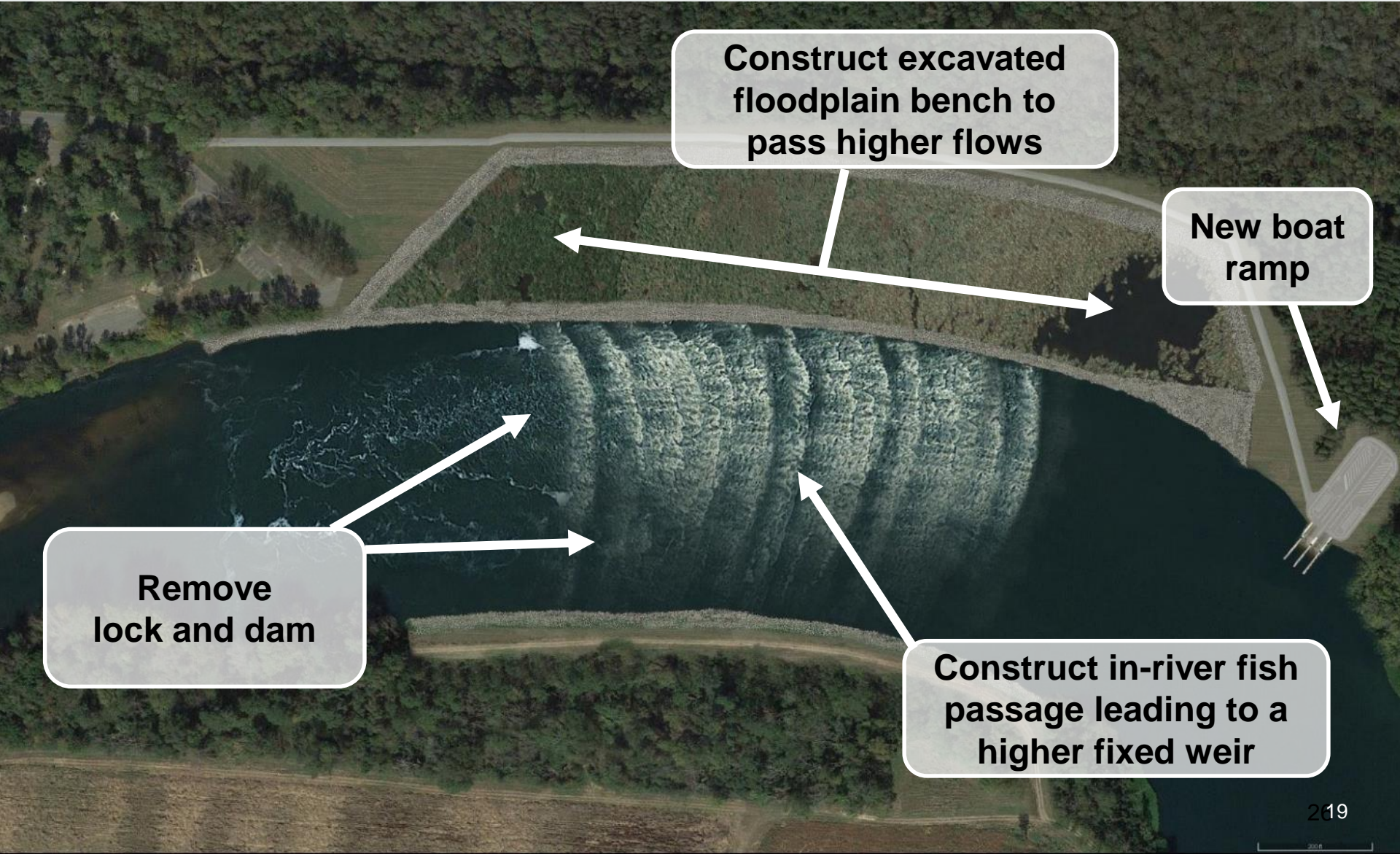




Fixed Weir with Floodplain



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Construct excavated floodplain bench to pass higher flows

New boat ramp

Remove lock and dam

Construct in-river fish passage leading to a higher fixed weir



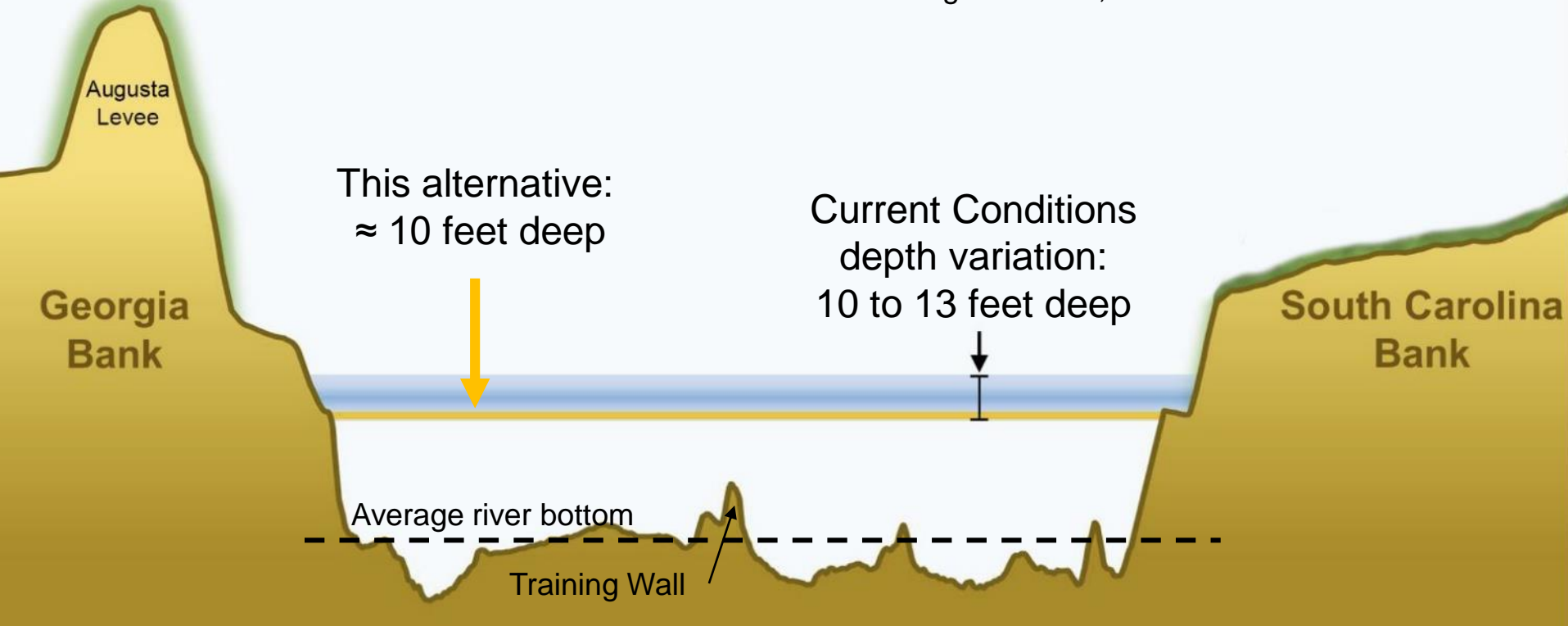
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Fixed Weir with Floodplain

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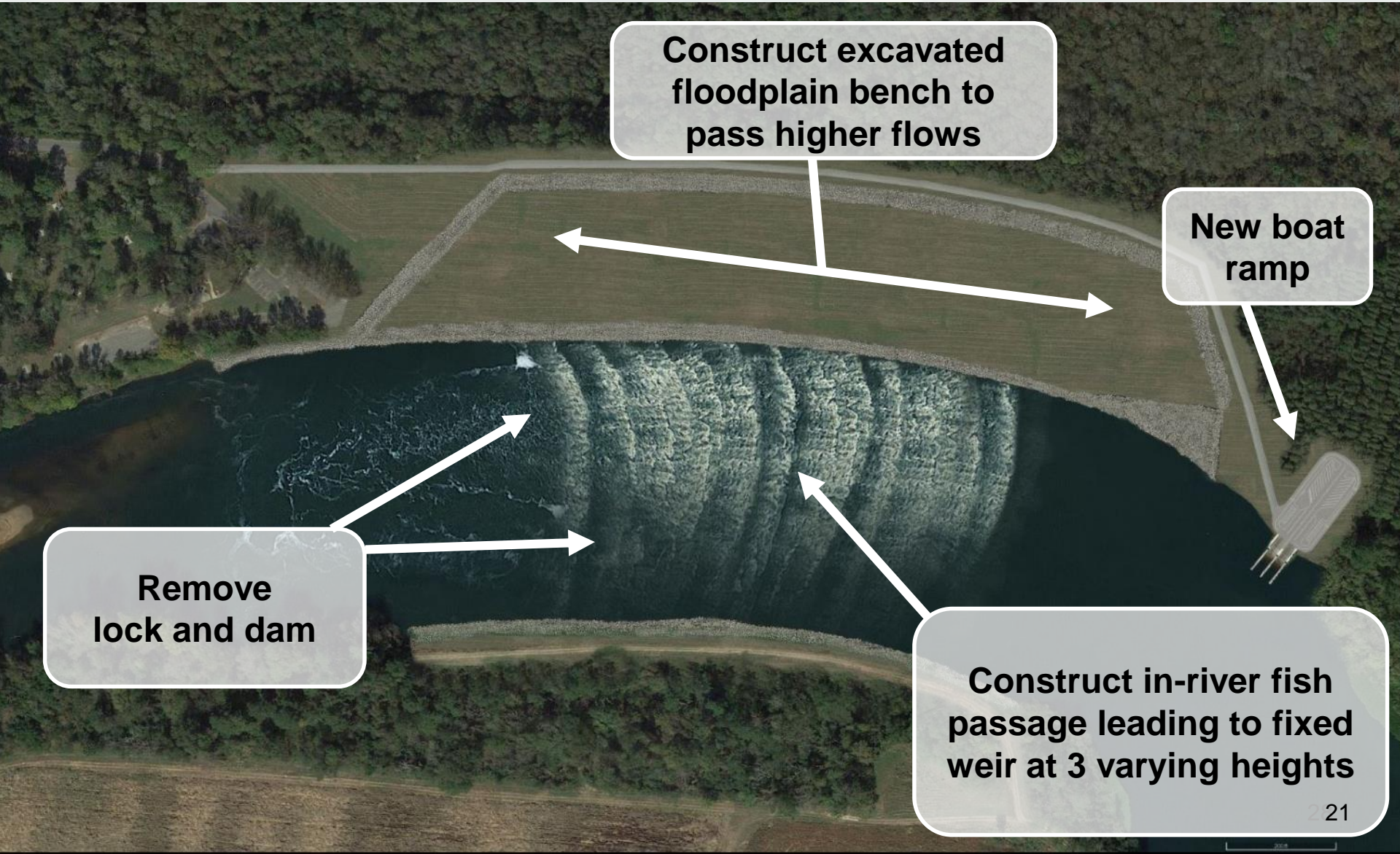




Fixed Weir with Dry Floodplain



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Construct excavated floodplain bench to pass higher flows

New boat ramp

Remove lock and dam

Construct in-river fish passage leading to fixed weir at 3 varying heights



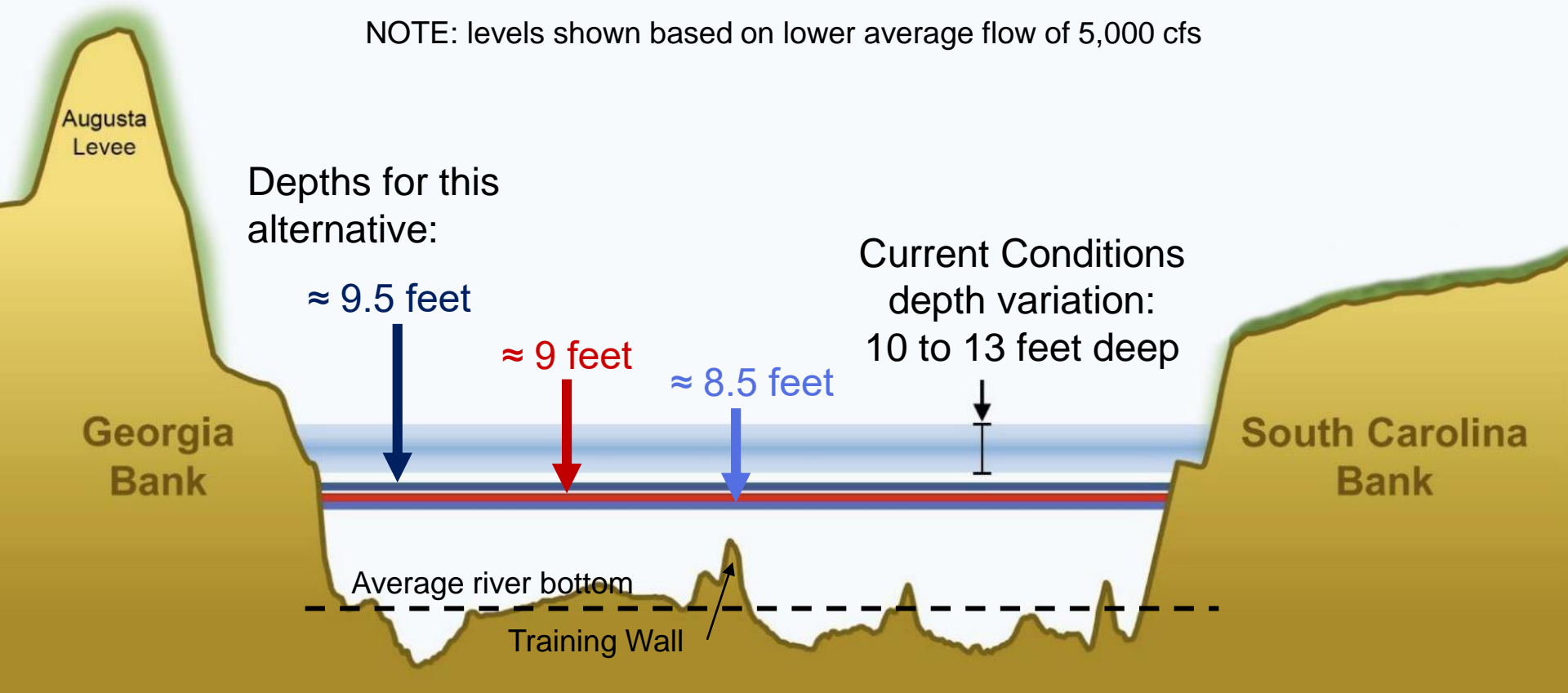
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Fixed Weir with Dry Floodplain: Varying Heights

NOTE: levels shown based on lower average flow of 5,000 cfs





Gated Bypass Channel



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Construct by-pass channel with two 50-foot gate structures to maintain pool

New boat ramp

Remove lock and dam

Construct in-river fish passage to crest weir



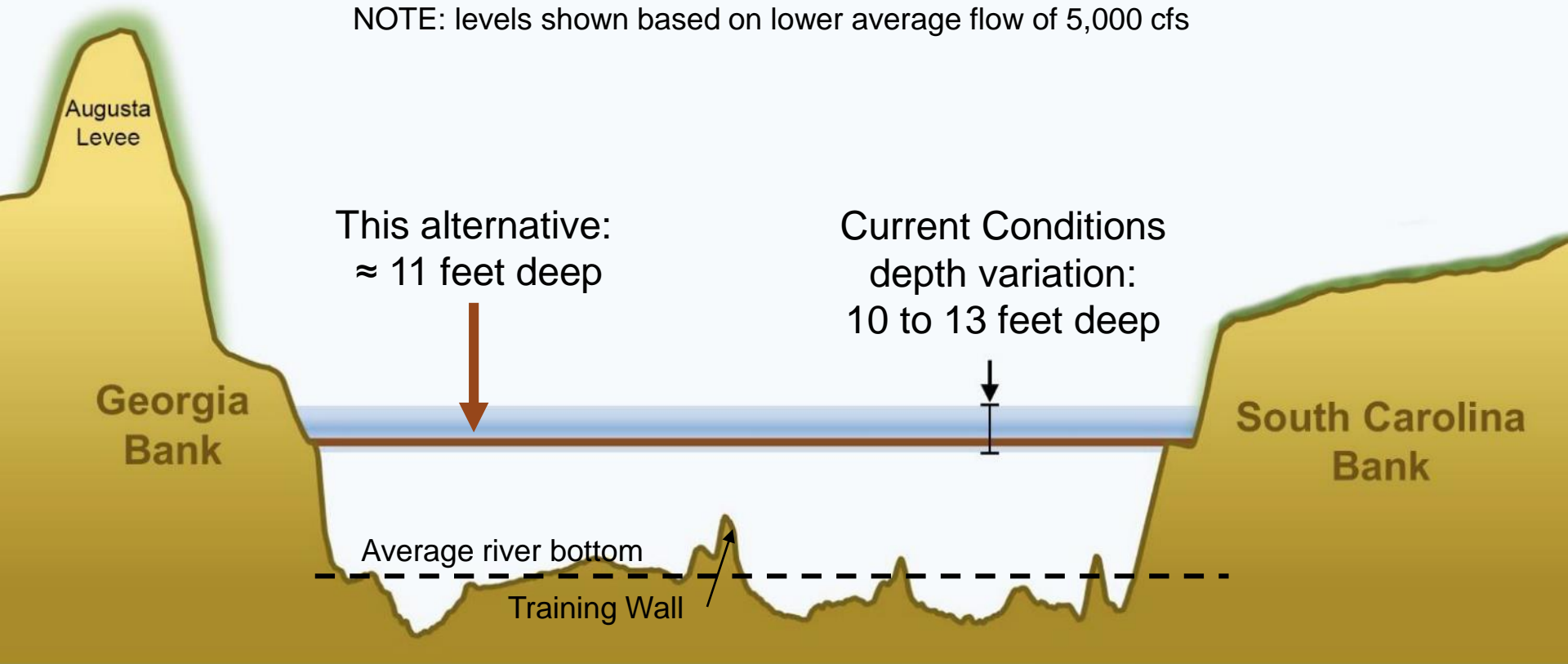
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Gated Bypass Channel

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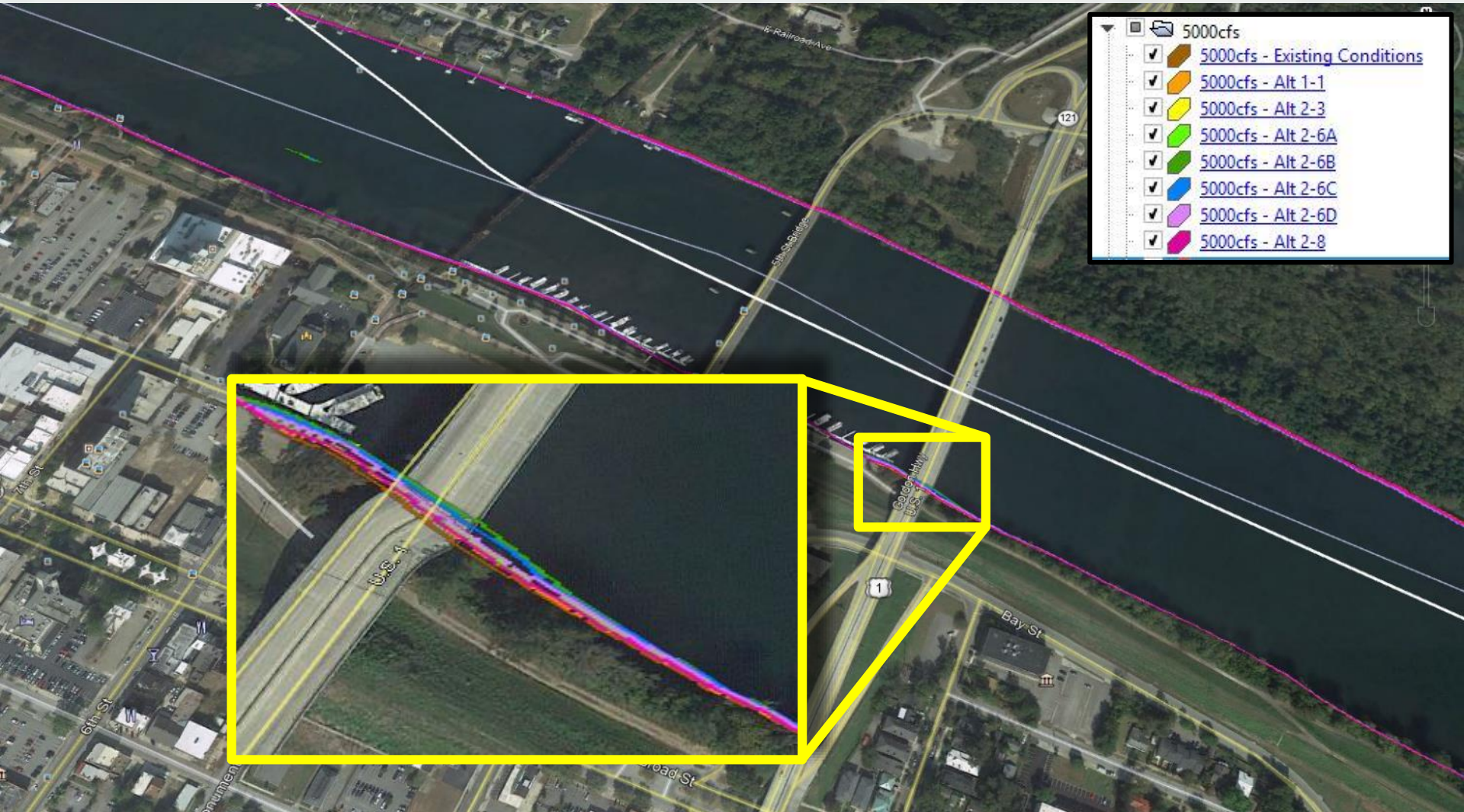




Shoreline Interactive Alternative Mapping



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Public Information



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The SHEP Fish Passage Web page went live in May and provides information and updates for the public

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SHEP Fish Passage at New Savannah Bluff Lock and Dam

Overview

The New Savannah Bluff Lock and Dam, operated and maintained by U.S. Army Corps of Engineers, opened in the late 1930s to aid in river navigation between Augusta and the deep water ocean port in Savannah. Commercial vessel navigation ceased in 1979. Since the cessation of commercial navigation, the lock and dam also ceased to deliver on its Congressionally-authorized purpose. As a result, funding for the project dwindled. The facility was moved into caretaker status in 1985 when federal funding was further curtailed. Today, the project incidentally provides a pool of water upstream of the lock and dam. This pool is used as water supply for municipal and industrial uses in Augusta, Georgia, and North Augusta, South Carolina. The pool also enables recreation and waterfront development. The project funding received on an annual basis allows for minimal maintenance of the lock and dam by the Corps' Savannah District. As a result, the lock and dam continues to deteriorate significantly.

The Savannah Harbor Expansion Project (SHEP), which lies 180 miles downstream of the New Savannah Bluff Lock and Dam, is currently under construction. In compliance with the Endangered Species Act, the Corps is required to reduce or mitigate impacts to sturgeon, a species of fish found in the harbor and listed as endangered under the Endangered Species Act. No mitigation solution could be implemented within the project's footprint. Therefore, the Corps was required to examine other opportunities to reduce impacts.

Removal of the New Savannah Bluff Lock and Dam would benefit sturgeon by providing access to historic spawning areas. This would satisfy the requirement to mitigate for SHEP's impacts on sturgeon. Click here for additional history on finding a fish passage solution.

Important Links

Getting to a Solution

Historic Overview

Stay Informed, Get Involved

<https://go.usa.gov/xQRwS>



Questions



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