

Chattahoochee River Restoration

Aquatic Ecosystem Restoration



City Mills Dam



Eagle and Phenix Dam

Section 206 Program

U.S. Army Corps of Engineers

- Section 206, Water Resources Development Act of 1996
- Project cost-sharing
 - 65% Federal, 35% non-Federal
 - Work in-kind acceptable
 - Lands, easements, rights-of-way, relocations
- Limit on Federal project cost of \$5,000,000

Section 206 Project

U.S. Army Corps of Engineers

- **Purpose:** To breach the City Mills Dam and the Eagle and Phenix Dam to restore the Aquatic Ecosystem of the Chattahoochee River
- **Partners:** City of Columbus, GA and Phenix City, AL
- **Process:**
 - Plan Development
 - Issue Resolution
 - Report Preparation/Approval
 - Plan & Specifications (include temporary drawdown)
 - Construction (Phased/Adaptive Management)
 - Operation and Maintenance

Project Activities

- Ecosystem Restoration Report (approved Apr 05)
- Consult with FERC over decommissioning of power plant at Eagle and Phenix (ongoing)
- Consult with Georgia Power Company on mitigating impacts to their North Highlands Project (ongoing)
- Consult with USFWS, ALDCNR, & GADNR on detailed project design features (ongoing)
- National Historic Preservation Act, Section 106 consultation (ongoing)
- Develop Project Cost Sharing Agreement (Initiated Aug 05)
- Develop Project Plans and Specifications (Initiated Aug 05)

Cultural/Environmental Link for Fall Line Aquatic Habitat

- Creek Indian Period – Fish congregated at “Coweta Falls” (Eagle&Phenix Dam site) during spring spawning season
- One of the Richest Fishing Sites in North America, with Indians using Scoop Nets for shad, rock, perch, trout, catfish, and suckers (Hawkins 1797)
- Fish Trap below the “great falls” in Muscogee County in the 1800’s (Frazier)

Significance of Fall Line Aquatic Habitat

- Small area of steep, rocky habitat in Southeast US
 - About 30 miles on Chattahoochee River
 - Restoration involves 2.2 miles (7%)
- Majority of fall line habitat has been impounded
- Key Aquatic Species
 - Shoal Bass
 - Shoals Spiderlily
 - Bluestripe Shiner
 - Greater Jumprock
 - Various turtles and mussels

Fish Swimming Information

- Velocity of 4 feet/second acceptable for most adult migratory species for at least brief passage through shoals
- Velocity of 1-3 feet/second acceptable for passage of small-bodied and earlier life stage fish
- Maximum acceptable head drop ≤ 2 feet, for flow ranges up to 3 times the mean annual flow

Chattahoochee Fall Line Region

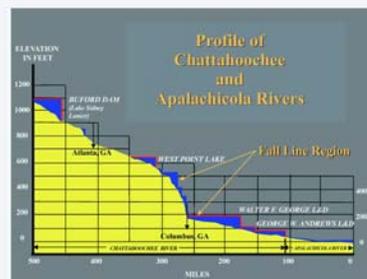
- The Fall Line region is characterized by steep gradients and extensive rock outcrops. The Fall Line often creates water falls and rapids in rivers that pass through the region.
- The rock outcrops create Fall Line Shoals Habitat.
- Fall Line Shoals Habitat is limited to 30 miles on the Chattahoochee River.
- All of the Fall Line Habitat on the Chattahoochee are impounded, some of it since the early 1800s.
- This proposed project would restore 2.2 miles (7%) of Fall Line Shoals Habitat.



The Fall Line is the interface between the Piedmont and Sandhills regions.



Current river conditions (impounding) above City Mills



Fall Line bedrock outcrops along the Chattahoochee River.



Fall Line Shoals Habitat

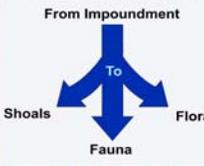
Ecosystem Restoration Benefits



- Proposed restoration of a portion of the Chattahoochee River will create a habitat for unique fish, invertebrates, and plant communities adapted to Fall Line Shoals.



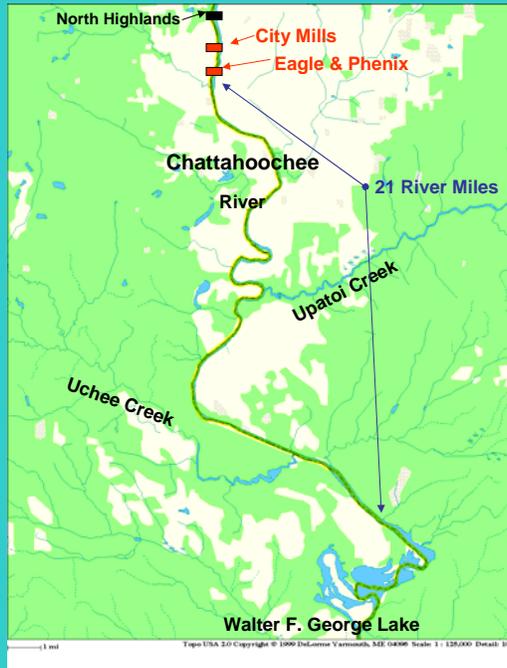
- Many of these plants and animals are intolerant of the impounded river conditions present today.



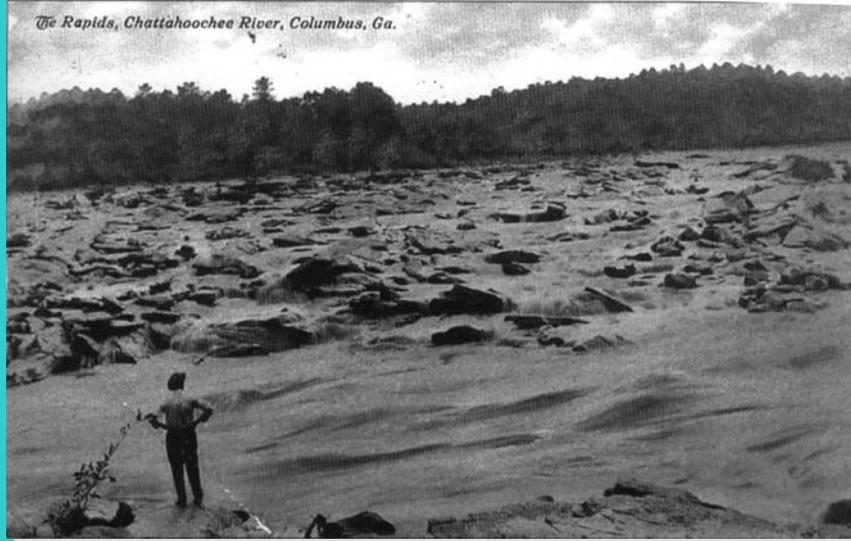
- Two of the most important species that will be restored to the Fall Line Shoals Habitat are the Shoal Bass and the Shoals Spiderlily.



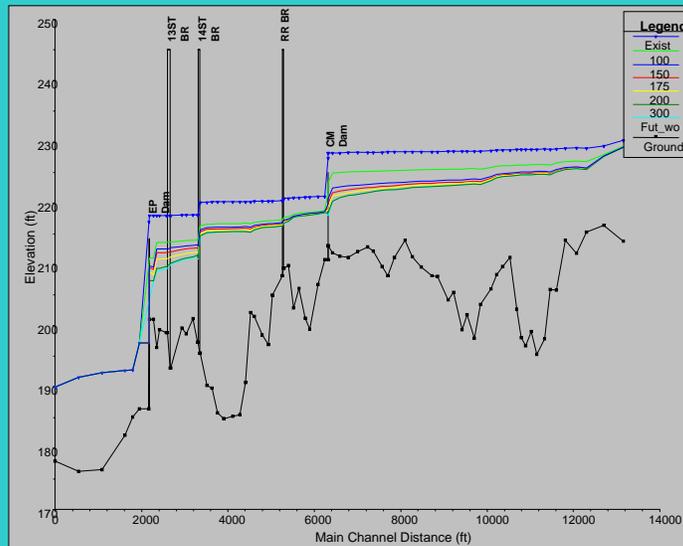
- Lower water levels will expose rocky outcrops and result in the return of species like the Shoals Spiderlily.

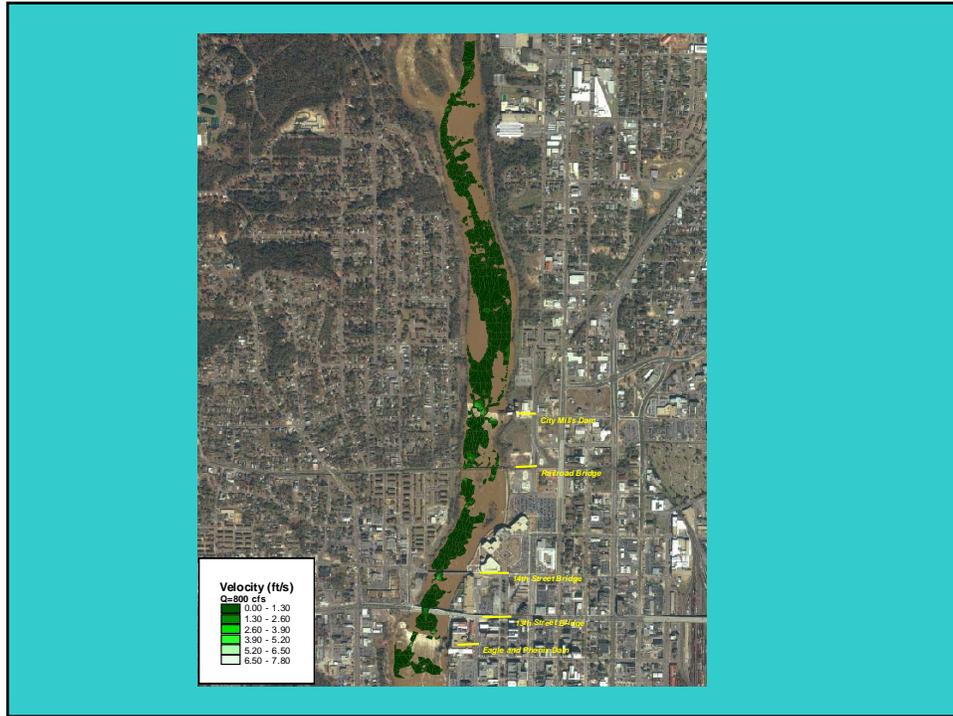


Chattahoochee Rapids



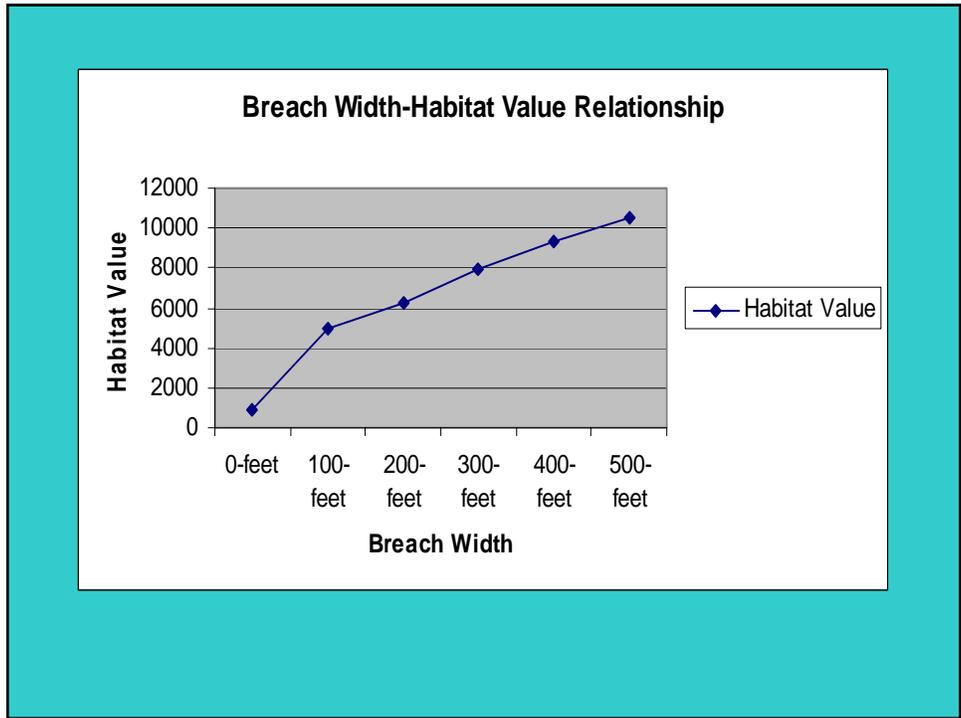
Water Surface Profile at Q = 13,295 cfs





Environmental Metrics

- **Unimpounded Velocities (20)**
- **Riverine Connectivity (20)**
- Percent Pools (10)
- Refuge from High Flows (10)
- Littoral Shallows for Vegetation (10)
- Overfall Fish Barriers (10)
- Conducive for Native Stream Invertebrates (10)
- Riffle Embeddedness (10)



Plan Formulation

- Matrix of 71 Action Plans Developed for Comparison with the No Action Plan (Various Breach Widths; Environmental Features; & North Highlands Weir)
- Screened to 5 Action Plans and 1 No Action Plan Based on Environmental, Cultural, Safety, and Economic Considerations
 - No Action
 - 1: Remove Eagle-Phenix, Add Rock Ramp
 - 2: Remove Eagle-Phenix & City Mills, Add Rock Ramps at Both
 - 3: Remove Eagle-Phenix & City Mills, Add Rock Ramps at Both, Add Backwater Refuge in Eagle-Phenix
 - 4: Federally-Preferred Plan -- 450' Breach at Eagle-Phenix, 350' Breach at City Mills, Add Rock Ramps and Backwater Refuge
 - 5: Locally-Preferred Plan -- Similar to 4, Added Flow/Safety/Recreation Features