

Fisheries Planned Accomplishments 2008

1. Complete annual brook trout monitoring 6 streams
2. Use antimycin to remove non-native rainbow trout from Lynn Camp Prong
3. Assist TWRA with large stream monitoring in 2 – 3 streams
4. Assist NCWRC with large stream sampling in 1 – 2 streams
5. Complete Phase 1 of T&E Fish recovery evaluation project in Abrams Creek
6. Man a information Booth at the Little River TU Trout Fest
7. Present results of fisheries work at 2 TU meetings if requested
8. Implement MOU for water quality monitoring and research for FY 2008
9. Continue to revise key air/water/fish questions to address critical loads and 303d issues.
10. In conjunction with appropriate resource management staff, develop a work plan to address air deposition inputs on vegetation, soils and water quality in select locations.
11. In conjunction with TN Department of Environment and Conservation and the city of Gatlinburg continue to evaluate water quality along the Spur to determine the appropriate closure period.
12. Serve as the NPS representative on the Steering Committee for the Eastern Brook Trout Joint Venture and attend the annual committee meeting.

Add ons:

1. Technical assistance to other parks or states for native fish restoration if requested
2. Provide technical assistance to other park disciplines when requested and if feasible
3. In conjunction with Resource Education and Resource protection develop educational signage that will help visitors understand that stream channelization is harmful to aquatic resources and illegal
4. Work with staff from NC Wildlife Resources Commission, TN Wildlife Resources Agency and the US Forest Service to develop educational tools to stem the spread of the non-native algae Didymo in TN and NC.
5. Work with staff from NC Wildlife Resources Commission, TN Wildlife Resources Agency and the US Forest Service to evaluate how global warming will impact native brook trout resources and to initiate efforts to determine a strategy for preserving this native trout.
6. Develop a technical assistance for WRD for a water resource management plan for GRSM

Task Completed

1. Completed brook trout monitoring in 11 streams
2. Completed the removal of non-native rainbow trout from 8 miles of Lynn Camp Prong
3. Assisted TWRA with large stream monitoring in 3 streams
4. Did not assist NCWRC with large stream sampling as we did not receive a request for assistance.
5. Field sampling for Phase 1 of the T&E Fish recovery evaluation project in Abrams Creek was completed
6. Fisheries staff manned an education booth at the Little River Chapter of TU and provided up to date fisheries information to numerous people
7. Fisheries programs were given at 3 TU chapter meetings
8. Worked with the staff at UT to plan pertinent research for 2008 and to refine the water quality monitoring program.
9. Meet with EPA and TDEC staff to initiate efforts to develop a TMDL for 303 D listed streams. The draft TMDL had been submitted to EPA for review.
10. Met with key park staff to discuss the next steps in addressing 303 d issues and what information would be needed. This discussion focused on how to best use AEP funds to address the need.
11. Met with staff from TDEC and Gatlinburg to review data from 2007 and to plan field work for 2008. Samples were collected April – May 2008 and August to present. Sampling will conclude the last week of October 2008. A meeting to discuss the results and future plans will occur in late November or December.
12. Attendee the annual meeting of the Steering Committee for the Eastern Brook Trout Joint Venture. Provided the Steering Committee with a update on the Lynn Camp restoration project and other issues related to brook trout in the Southeast. Was elected to serve as the Chair for the Southern work group for the Conservation Committee to review project proposals and to provide guidance for future work.

Additional items:

1. Discussed a native fish restoration project with staff from North Cascades NP for FY 09.
2. Assisted I&M staff with water sample analyses from Abrams Creek.
3. Developed a questionnaire related to Didymo and concerns about it's spread to wild trout streams. This questionnaire was sent the Trout Committee for the Southern Division of the American Fisheries Society for response. The responses were summarized and presented at the Trout Committee meeting in May 2008. Fisheries staff

conducted field surveys to determine if Dydimio was currently present in GRSM. All results were negative.

4. Did not work on the global warming issue.
5. Researched information on the effects of road salts on park resources. The information obtained was summarized and provide to the RM&S division chief, who provided the report to the management staff.
6. Reviewed and commented on the McGill's "Work Plan" for the expansion of the Gatlinburg Waste Water Treatment plant numerous times. Not sure they read the comments

Publications

1. A Field Manual for the Use of Antimycin A for Restoration of Native Fish Populations
2. pH and Acid Anion Time Trends in Different Elevation Ranges in Great Smoky Mountains National Park, Journal of Environmental Engineering, Vol 134(9)
3. Characterizing Episodic Stream Acidity During Stormflows in the Great Smoky Mountains National Park, Water Air Soil Pollution

Publications Accepted

1. Physiological Stress in Native Southern Brook Trout During Episodic Stream Acidification in Great Smoky Mountains National Park

Publications in Review

1. Trout Capture Efficiency of AC and Pulsed DC Electrofishing Gear is Similar in a Low Conductivity Stream
2. Evaluation of Legal Harvest on Brook Trout Populations Closed for Over 25 Years in Great Smoky Mountains National Park

In Preparation

1. Effects of long-term acidic deposition on a small high-elevation watershed, Great watershed, Great Smoky Mountains National Park (USA)
2. Long-term Monitoring of Acidic Deposition and Stream Acidification in a high-elevation watershed of Great Smoky Mountains National Park