

Brook Trout Restoration Fact Sheet

Great Smoky Mountains National Park

History of Decline

- Logging in the late 1800's until 1934 resulted in the loss of about 50% of the original range of brook trout
- The introduction of rainbow trout starting about 1910 and the subsequent movement of this species into previously un-stocked stream segments resulted in the loss of additional range
- By 1976 brook trout had lost approximately 70% of their historic range due to these two factors

Restoration Efforts: Past and Future

Stream	Year Completed	Method	Proposed Miles	Completed
Taywa Creek	1981	Annual Electrofishing	0.60	0.60
Silers Creek	1981	Annual Electrofishing	0.69	0.69
Lost Bottom Creek	1995	Annual Electrofishing	2.35	2.35
Mannis Branch	1997	Multiple Electrofishing	0.54	0.54
LeConte Creek	1999	Multiple Electrofishing	1.69	1.69
Pilkey Creek	1999	No Fish	0.75	0.75
Ash Camp Branch	2000	Multiple Electrofishing	0.50	0.50
Winging Stair Branch	2001	Multiple Electrofishing	1.00	1.00
Sams Creek	2001	Fintrol [®]	3.00	3.00
Bear Creek	2003	Fintrol [®]	3.50	3.50
Indian Flats Prong	2005	Fintrol [®]	2.40	2.40
Lynn Camp Prong	In progress	Fintrol [®]	8.50	8.50
Slab Camp Branch			1.00	
Desolation Creek			2.00	
Meigs Post			0.50	
Indian Creek				
Cannon Creek			1.20	
MP Little Pigeon River			2.50	
Little Catalochee Creek			4.00	
Total			39.42	17.02

Results

Restoration efforts led to the re-opening of fishing for brook trout in 2006

Issues with Current Effort

- During treatment bears raided holding cages daily and as time progressed became aggressive
- Failed to treat a 60m section of Panther Creek that was inhabited by rainbow trout. The reasons for this failure were primarily due to fatigue and a desire to get away from aggressive bears that potentially threatened the safety of staff.
- Electrofishing surveys in June 2010 to evaluate the survival and reproductive success of the reintroduced brook trout revealed that some rainbow trout had been released in Lynn Camp Prong. This was evidenced by the capture of on rainbow trout (12 – 13 inches) with a fin clip and another that appeared to have a fin clip. Additionally other large adult rainbow trout were found in the same area.
- Surveys in July collected young of the year fish indicating that these fish had been stocked prior to spawning
- Additional surveys in downstream areas revealed that some rainbow trout had moved out of Panther Creek and spawned. Evidenced by the capture of young of the year fish
- 209 young of the year and 57 adult rainbow trout have been collected in 2,600m of the stream in 5 removal efforts to date in 2010
- One additional removal effort is planned for this year to eliminate as many rainbow trout as possible

Proposed Actions for 2011

- Seek funding for continued removal using electrofishing and/or toxicants
- Amend the EA to use rotenone for a second treatment. This action is necessary as Fintrol® is not currently available
- Evaluate the success of 2010 electrofishing removals. Based on this information plan for a rotenone treatment in September if necessary
- Develop a public information sign to be placed at the across the foot bridge at the end of Tremont Road
- Hold public meetings in Sevier and Blount Counties to provide information on the project, the purpose and NPS mission
- Resource and Visitor Protection patrols in the area
- Determine the potential to have Trout Unlimited volunteers hike the trail occasionally to look for suspicious activity
- If it appears that additional rainbow trout have been caught and released in the stream meet with management and local support groups to determine the future course of action

Electrofishing

- In 1976 GRSM funded a graduate project to evaluate the use of backpack electrofishing techniques for the eradication of rainbow trout from six stream segments upstream of waterfalls and cascades. Rainbow trout were removed one to two times annually from 1976 - 1981.
- 1986 – 1989 evaluated restoration efforts from 1976 – 1981. rainbow had been successfully eliminated from two streams(25 % success), four failed due to the lack of a barrier or numerous deep pools (≥ 6 /mile, >3 feet deep)
- 1989 - 1995 Initiated Efforts to Define a Barrier; evaluated two removals/year; and evaluated effects of stream size on removal efficiency (1 stream successfully restored)
- 1995 Two of two streams successfully restored by using multiple annual removals (2 – 5 removals in a summer)

Fintrol[®] (antimycin)

- 1996 initiated efforts to use chemicals for restoration
- Three streams have been successfully completed and one is in progress (Lynn Camp Prong)
- Treated 12,200m (7.6 miles) in September 2008
- Electrofishing checks in 2009 captured six adult rainbow trout (treatment issues)
- In September and October 2009 collected and released about 2,000 native brook trout