

# **Eastern Brook Trout Joint Venture**

## **Georgia Brook Trout Conservation Strategies**

October 2006

### **Introduction**

The brook trout, found in the mountainous region of northern Georgia is Georgia's only native salmonid (trout) species. Current data indicate that there are about 150 miles of brook trout streams in Georgia, with most streams located at high elevations above barrier falls that prevent the movement of other fishes into brook trout water. Most brook trout streams are quite short, often less than one mile in length. Brook trout in Georgia have a short life span, with few individuals exceeding age three or growing larger than six to eight inches.

The original distribution of brook trout in Georgia is unknown, due to widespread losses of brook trout range prior to the time when accurate scientific records were kept. The present range of brook trout in Georgia has been significantly reduced from historical levels due to a variety of factors associated with human activities. In the early 19th century, European immigrants began to settle the southern mountains as other, more desirable land was already occupied by that time. Small subsistence farms were created, mostly located along stream corridors, where the only tillable land was generally located. By the early 20th century, large corporate interests had purchased much of the remaining wooded landscape in the southern Appalachians due to the value of the virgin timber growing there. Widespread logging of high elevation watersheds occurred in the early decades of that century, and the primitive logging techniques used at the time resulted in significant losses of brook trout range. The subsequent introduction of non-native rainbow and brown trout prevented brook trout from becoming reestablished in many streams where they formerly existed.

Recent genetic surveys of Georgia brook trout populations indicated that there are at least 12 populations that appear to be descended from the original native southern Appalachian stocks, 4 populations descended from hatchery (northern) stocks, and 33 populations that are hybrids between the two (Dunham et al. 2001, Seehorn 2004, GAWRD, unpublished data). The vast majority of brook trout streams in Georgia are located at high elevations on USFS lands, which protects them from most disturbances. As a result, most of the remaining brook trout populations in Georgia appear to be relatively stable since most remaining populations are located in relatively remote, undisturbed areas, and the indiscriminate stocking of streams with competitive species has long since stopped. Similar trends have been observed in Tennessee and elsewhere.

## **The Brook Trout Management Plan**

The overall objective of brook trout management in Georgia is:

“The protection and enhancement of Georgia brook trout populations, recognizing their importance as our only native salmonid species.”

The major strategies that will be implemented to achieve this objective include: Assessment of the current populations of brook trout in Georgia, habitat enhancement and protection, restoration of brook trout populations, public education and the enhancement of fishing opportunities. In this document, the overall goals of the plan will be presented for each of these components. From this information, an annual work plan will be developed with the cooperation of the Georgia Wildlife Resources Division (GAWRD), Fisheries Section and the US Forest Service (USFS). Input from such citizen conservation groups as may be interested in the project will also be solicited.

Because brook trout are a renewable natural resource, the focus of this plan will be to conserve this species so that it will remain a viable and important component of the sport fishing resource in Georgia. Biological, social and economic issues will all be considered when making management decisions, but the biological health of the species will be the most important consideration.

### **Priority 1: Assessment**

#### **Short Term Goals**

##### **1.1 Documenting the current distribution of brook trout in Georgia**

**Strategy:** Determine the distribution of brook trout in Georgia. Complete the survey of brook trout streams by 2010.

##### **1.2 Determine the genetic makeup of Georgia’s brook trout populations**

**Strategy:** Complete field collections of brook trout tissue samples for genetic analysis by 2010.

##### **1.3 Develop a brook trout GIS layer for Georgia**

**Strategy:** Map both current and historic brook trout genetic and distribution information by 2015.

#### **Long Term Goals**

##### **1.4 Develop an expanded brook trout monitoring program**

**Strategy:** Expand the current stream sampling program to include more brook trout streams, particularly those with significant management interest.

### **Priority 2: Habitat Protection And Enhancement**

#### **Short Term Goals**

##### **2.1 Develop a prioritized list of habitat improvement projects**

**Strategy:** Work with the U.S. Forest Service (USFS), Trout Unlimited (TU) and other stakeholders to develop a prioritized list of habitat improvement projects by 2007.

**2.2 Develop a cooperative water quality sampling program**

**Strategy:** Work with the USFS, TU and North Georgia Technical College (NGTC) to establish a sampling program to monitor pH, ANC and temperature for a subset of Georgia brook trout streams by 2007.

**Long Term Goal**

**2.3 Evaluate all brook trout watersheds for sources of anthropomorphic sediment**

**Strategy:** Work with the USFS to locate possible sources of sediment. Corrective measures should be proposed and implemented where possible.

**Priority 3: Restoration Of Brook Trout Populations**

**Long Term Goal**

**3.1 Conserve Georgia's brook trout populations**

**Strategy:** Develop a list of candidate streams for restoration of brook trout in consultation with stakeholders and partners by 2008. Factors such as genetic type, the presence of barriers and the quality of the existing trout fishery should be considered.

**Strategy:** Follow the management guidelines suggested by the American Fishery Society's Southern Division Trout Committee in its position statement on managing southern Appalachian brook trout (SDAFSTC 2005).

**Strategy:** Working with partners and stakeholders, develop plans for five brook trout restoration projects and begin implementing them by 2010. Priority should be given to streams that are suitable for the southern Appalachian genotype.

**Priority 4: Education**

**Short Term Goals**

**4.1 Public education**

**Strategy:** Develop a Powerpoint presentation on brook trout issues for presentation to sportsman's clubs and other citizen groups by 2007.

**Strategy:** Develop a fold out fact sheet on brook trout for distribution to the public by 2007. Copies should be made available to the public at WRD facilities, USFS offices and state parks.

**4.2 Inter and intra agency education**

**Strategy:** Agency personnel (WRD and USFS) not directly involved in fisheries management need to be adequately informed concerning brook trout management issues so that their program management activities are as consistent as possible

with brook trout conservation. An in-service training program on brook trout issues should be developed and implemented by 2008.

**Priority 5: Fishing Opportunities**

**Long Term Goals**

**5.1 Provide a variety of angling experiences for brook trout anglers**

**Strategy:** Maintain the existing special regulations (16" minimum size) on brook trout streams in the Noontootla Creek watershed. Evaluate the need for any additional regulations to provide a sufficient variety of brook trout fishing experiences.

**References:**

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Seehorn, T. 2004. Brook trout in the Chattooga drainage: A stream suitability index. PhD. Dissertation, Clemson Univ. Clemson SC, 56pp.

Southern Division American Fisheries Society Trout Committee (SDAFSTC). 2005. Managing southern Appalachian brook trout: a position statement. Fisheries 30(7):10-20.