

**Minutes of the AFS Southern Division Trout Committee Meeting  
May 18-19, 2004  
Roan Mountain State Park, Tennessee**

The 2004 meeting of the American Fisheries Society, Southern Division Trout Committee convened at 9:00 a.m. on May 18. A quorum of 18 members were present. Committee members present: Steve Reeser (VADGIF), Larry Mohn (VADGIF), Mike Kruse (MODC), Dave Dreves (KYDFWR), Lee Keefer (GADNR), Jarrad Kosa (USFWS), Kim Ryals (TU), Doug Besler (NCWRC), Frank Fiss (TWRA), Monte Seehorn (GA), John Boaze (FWA), Steve Filipek (AGFC), Ray Morgan (UMCES), Matt Kulp (GSMNP), Jim Habera (TWRA), Darrell Bowman (AGFC), Mike Shingleton (WVDNR)

**Old Business:**

**Meeting Minutes**

Steve Reeser distributed the 2003 meeting minutes and made a motion to approve the 2003 meeting minutes. Mike Kruse seconded the motion and the minutes were approved.

**Informal Trout Committee Meeting**

Steve Reeser led a discussion of the informal Trout Committee meeting held at in SDAFS mid-year meeting in Oklahoma City, OK.

**Treasurer's Report**

Matt Kulp (treasurer) read the treasurer's report and submitted a copy to the chair-elect. The SD Trout Committee's account balance as of 14 April 2004 was \$5,330.88.

**Cabin Cost**

Matt Kulp made a motion to cover Jack Van Deventer's cabin cost for speaking at the meeting regarding an update on the MICROFISH project. The motion was seconded and passed.

**SABT Position Paper**

Jim Habera gave an update on the Southern Appalachian Brook Trout Position Paper. The paper is still undergoing review by Fisheries.

**Standardized Sampling Guidelines**

Jim Habera provided an update on standardized sampling guidelines. There is currently no progress. Jim has a copy of the current guideline document and will resend out to the members for revision and updating. The guidelines could be placed on the Trout Committee web site. The comparative AC vs. DC electrofishing effectiveness research will follow. Discussion regarding tailwater sampling standardization concluded in adding the topic as an agenda item in 2005.

### **Committee Membership**

Steve Filipek, SDAFS past-president, spoke to the membership regarding technical committee membership. Steve reiterated that membership is open to anyone in the SDAFS as long as they are approved by the SDAFS President. Steve expressed concern over a vote at the 2003 spring Trout Committee meeting to remove a member. There was some discussion about members who were not active in attending meetings, but would like to remain on mailing lists, etc. Larry Mohn raised the issue whether the committee should be broken down into two groups; a voting group and a mailing list group. The issue of active and nonactive members was unresolved.

### **Archives**

SDAFS Trout Committee archives. No member present knew the location of the historical Trout Committee records, which are typically passed from chair to chair. John Boaze had correspondence dating to the 1960s and agreed to serve as historian and archive his meeting notes. It was suggested to add this to the agenda in 2005.

### **Pollution Committee**

Ray Morgan asked for any comments relative to the AFS publication on fish replacement costs.

### **New Business:**

#### **Determination of Quorum**

A discussion was held concerning what should constitute a quorum. A motion was made by Larry Mohn to make voting membership those appointed yearly by the SDAFS President or active at meetings within the last three years. Returning to a meeting would restore voting membership. The motion was seconded by Dave Dreves. The vote failed: Yes = 0 No = 18.

A second motion was made by Mike Kruse to amend the SDAFS committee's procedures document item G. Trout Committee, item 4. Quorum from "A quorum consists of a minimum of one half (1/2) the voting membership. All decisions..." to "A quorum consists of ten voting members. All decisions..." The motion was seconded by Larry Mohn. The vote passed: Yes = 18 No = 0. The document will be amended and sent to SDAFS Excom for approval.

#### **Trout Committee Chair Responsibilities**

A discussion was held on the need to add the duty of maintaining and updating the current SDAFS Trout Committee membership list. There was discussion on whether to send out for internal review any new entities requesting membership on the committee as a way to have information sharing prior to confirmation by the SDAFS President. A motion was made by Jim Habera to make the chair responsible for maintaining, updating, and circulating the current SDAFS Trout Committee list each year and notifying the committee of any new representative being recommended to the SDAFS President. The motion was seconded by Larry Mohn. The motion passed: Yes = 18 No = 0.

### **Meeting Frequency**

A motion was made by Larry Mohn that the SDAFS Trout Committee will have one meeting per year. If that meeting is not at the SDAFS mid-year meeting, then a separate meeting will be held. The motion was seconded by Matt Kulp. The motion passed: Yes = 18 No = 0.

### **Trout Committee Web Site**

A discussion was held regarding improvements that need to be made to the Trout Committee web site. Ray Morgan expressed interest in helping with the web site. Darrell Bowman expressed interest in helping create a logo for the Trout Committee. A motion was made by Larry Mohn that the Chair-Elect be responsible for annual update of Trout Committee activities, updates, and membership lists, and send that information to the SDAFS web master. The motion was seconded by Mike Kruse. The motion passed: Yes = 18 No = 0.

### **Eastern Brook Trout Meeting**

Jarrad Kosa provided an update on the June 2<sup>nd</sup> and 3<sup>rd</sup> Eastern Brook Trout invitation only meeting held at the NCTC in Shepherdstown, WV.

A motion was made by Lee Keefer to have an invitation letter for the brook trout meeting be sent to Monte Seehorn for his considerable historical knowledge of brook trout issues on the east coast. Larry Mohn seconded the motion. Monte had a schedule conflict so a vote was not taken.

### **2005 East Coast Trout Management and Culture Workshop**

Larry Mohn gave a brief history of the meeting and inquired if the Trout Committee wanted to support the event. A motion was made that the SDAFS Trout Committee supports the 2005 East Coast Trout Management and Culture Workshop. The motion passed: Yes = 18 No = 0. The extent of the support requested is unknown at this time. Larry Mohn will be the committee's main representative working on the workshop.

### **2005 SDAFS Trout Committee Meeting**

Larry Mohn proposed to formally meet at either the SDAFS spring meeting in Virginia Beach or at the East Coast Trout Management and Culture Workshop (preferred). An informal meeting would be held at the other location.

### **Election of Officers**

Mike Kruse nominated Matt Kulp as chair-elect. Matt accepted and was approved by the committee. Matt Kulp's term as treasurer will end next year.

Officers as of 4-19-04:

Doug Besler , chair

Matt Kulp, treasurer

Matt Kulp, chair-elect/secretary

Steve Reeser, past-chair

### **Microfish 4.0 Development**

Jack Van Deventer, Washington State University, gave an informative presentation on Microfish 4.0 development and provided handouts. The software should be developed within the next year. Jack needs species code lists from any groups to add to the current list. A discussion was held after the presentation regarding financial support for the software development. Choices included straight software sales, asking states or the SDAFS Trout Committee to support the cost, or the AFS computer users section. Monte Seehorn asked if the software should consider expanding to include amphibians, etc. to help garner broader support. Matt Kulp will take the lead on finding monies to support the software development and forward technical questions to Jack.

### **Wild Trout Stream and Angler Creel Surveys**

Jim Habera, Steve Reeser, Darrell Bowman, and Matt Kulp gave informative presentations on wild trout creel surveys and angler opinion surveys in Arkansas, Tennessee, Virginia, and the Great Smoky Mountain National Park.

### **Use of Clove Oil**

A discussion was led by Jarrad Kosa on the FDA ruling that clove oil (eugenol) is not approved as an anesthetic for fish. A motion was made that the SDAFS Trout Committee draft a letter to the director of the USFWS requesting that approval of clove oil, or eugenol, be a priority in the aquatic drug partnership approval program. The motion passed: Yes = 18 No = 0.

## **Roundtable Discussion**

### **1. Doug Besler, North Carolina Wildlife Resources Commission**

**Brook Trout Genetics.** The NCWRC initiated a Federal Aid research project in October 2003 to complete genetic typing of all North Carolina brook trout populations.

Approximately 200 of the estimated 450 brook trout populations in North Carolina remained to be typed. Most of the remaining populations are located on private lands. Since October 2003, over 150 populations have been sampled; however, brook trout were absent from approximately 30% of the streams. Field sampling for the remaining known populations will be completed by the end of the summer. Genetic testing has been contracted to Western Carolina University. To date, approximately 10% of the brook trout populations are purely northern, 35% purely Southern Appalachian and 55% mixed genetically.

**Fishery Resource Inventory.** The complete distribution of wild trout populations in North Carolina, particularly on private land, remains unknown. Although recent emphasis has been on brook trout populations, wild rainbow and brown trout populations are important to anglers and provide a tremendous fishing resource. In addition, information on the presence of trout populations is needed by agency and non-agency personnel who issue or comment on environmental permits. The objective of the Fishery Resource Inventory is to complete distribution information for trout in North Carolina

and incorporate that information into an interactive web-based GIS program. Field sampling for this research project will begin by fall 2004.

**Stream Restoration Evaluations.** In-stream channel restorations are occurring at a high rate in North Carolina. Often, the objectives are to reduce erosion and to enhance the aquatic community. The effects of these restorations on sport fish communities are poorly understood. Two streams, Laurel Branch and Sharp's Creek, are currently being evaluated by the NCWRC. These streams were chosen because they both were small (mean width <5 m), contained trout populations, upstream control sites were available, and at least one year of pre-construction data could be obtained. Multiple-pass electrofishing samples were taken in 2002 (pre-construction), 2003, and are scheduled for May 2004. Relative changes in trout size structure, density, and biomass will be compared between control and restored sites.

**Tellico River Off-Highway Vehicle (OHV) Survey.** The objective of this project is to document the effect of OHV use on wild trout populations in the Tellico River OHV area. Use in the OHV area continues to increase annually. Many of the streams in the Tellico River OHV area contain headwater populations of Southern Appalachian brook trout. Quantitative multiple-pass backpack electrofishing sampling has been conducted since 1996 with the cooperation of the USFS. Results have been variable; however, trend analysis indicates that OHV use may be having an impact on trout reproduction and trout density. A summarization report is expected in 2004.

## **2. John Boaze, Fish and Wildlife Associates**

**Item 1.** Starting this summer, I plan to start repeating a complete stream inventory on the Cherokee Indian Reservation that I did in 1977-78. The idea is to determine what, if any changes have taken place in the fish population over the last 25 years. Emphasis will be placed on the smaller headwater streams that may have been impacted by land use practices such as logging or house site development.

**Item 2.** Over the past year, I have had the opportunity to work three (3) small ponds that support a two-story fishery. Two of the ponds are located in Avery County, NC on Grandfather Mountain and the other one is in Jackson County, NC.

One of the ponds has a population of wild rainbow, brook, and brown trout that comes from fish spawning in Grandmother Creek (Avery County). Another one has a wild population of brown trout that are recruited from the inflowing Linville River. The brown trout population in both of these lakes is large enough to support a recreational fishery for this species.

The third pond is located in a private, second home development and is stocked annually with rainbow trout. An interesting fact of this fishery is that the warmwater component is comprised of largemouth bass and redbreasted sunfish and not bluegill. Recent sampling produced 30-40 redbreast in the 7-9 inch range.

**3. Darrell Bowman, Arkansas Department of Fish and Game**

1. Trout Management Plan approved!!!!!!!
  - ◆ State's first plan for trout management.
  - ◆ Plan highlights trout management issues.
  - ◆ 4 overall goals.
  - ◆ Creates specific management plans for each trout water.
  
2. Currently revising existing trout regulations
  - ◆ Simplify for biologists, enforcement, and administrators.
  - ◆ Provide easier communication to anglers.
  - ◆ Format goes from statewide regs to trout water specific regs.
  
3. Big Spring recommended as new trout water this year.
  - ◆ Presently a "trout sanctuary"; since 1960's.
  - ◆ ½ mile new trout fishing.
  - ◆ Seasonal catch-and-release area.
  - ◆ Youth and handicapped angling only???
  
4. Continuing to develop "Collins Creek"
  - ◆ New 1-mile long, wild trout stream.
  - ◆ AGFC/COE 1135 project.
  - ◆ Created by head pressure from Greers Ferry Reservoir.
  - ◆ Catch-and-release for youths.
  - ◆ Wild brooks, rainbows, and browns.
  - ◆ Standard qualitative / quantitative fisheries sampling???????
  
5. Minimum flow in White River System tailwaters.
  - ◆ Entirely handled in the political / legislative arena, presently.
  - ◆ Developing temperature model for lower Bull Shoals Tailwater.
  - ◆ ??
  
6. Water quality in Bull Shoals and Norfork tailwaters.
  - ◆ Being dealt with separate from minimum flow?
  - ◆ White River D.O. Committee choosing best fix for dams
  - ◆ Legislation to fund Norfork with forby oxygen diffusion.

7. Growth / mortality study of catch-and-release areas in White River System.
  - ◆ Standard tagged trout mark/recapture study.
  - ◆ Tagged 1,000 trout in each catch-and-release area, captured with electrofishing.
  - ◆ Conducted recapture electrofishing samples once per monthly for one year after tagging, or until tagged rainbows disappeared.
  - ◆ Preliminary growth data demonstrates best growth rate in Norfolk Tailwater C&R area and Sylamore C&R area (Lower Bull Shoals Tailwater), and statistically zero growth on Beaver Tailwater C&R area.
  - ◆ No growth rates measured were as rapid as historically reported.
  - ◆ Growth rates are now being incorporated into the ADYN/RQUAL temperature model for Bull Shoals and Norfolk Tailwaters.
  - ◆ “Mortality” estimates will be generated next.
  - ◆ Report finished by Fall 2004.
  
8. 2003 Trout Permit angler survey
  - ◆ Difficulties with licensing database – missing phone numbers!
  - ◆ Phone survey with over 2,000 anglers surveyed.
  - ◆ Data currently being analyzed.
  - ◆ Report will be finished by Fall 2004.
  - ◆ Demonstrating angler trend away from harvest!
  
9. Bull Shoals Reservoir rainbow trout fishery is no more.
  - ◆ 3 year tagged, stocked trout exploitation study.
  - ◆ 150,000 rainbows stocked annually via Pot Shoals Net Pens.
  - ◆ 5% of stocked trout were tagged prior to stocking each of three years.
  - ◆ Attempt was made to “market” the fishery again.
  - ◆ Best return (exploitation) was approximately 7.5%, adjusted for tag loss and angler reporting.
  - ◆ Now using Pot Shoals trout for urban / community fishing program, etc.
  - ◆ Submitted paper to SEAFWA this week.
  
10. New research – Arkansas Coop Research Unit.
  - ◆ Diet and energetics of trout in C&R areas on Bull Shoals and Norfolk Tailwaters.
  - ◆ Movement and mortality of trout in C&R areas on Bull Shoals and Norfolk Tailwaters.

#### **4. Dave Dreves, Kentucky Department of Fish and Wildlife Resources** **Changes to Trout Program in 2004**

The separate Kentucky Trout Waters brochure was eliminated and this information was incorporated into the Kentucky Sport Fishing and Boating Guide (contains all of our regulations).

Four streams were added to the Delayed Harvest Program bringing the total to 13 streams in 12 counties that are regulated as seasonal catch and release from October 1 to March 31. The exception now being Swift Camp Creek (Wolfe County), where delayed harvest restrictions were extended to May 31.

#### Additions to the Delayed Harvest Program for 2004

- Beaver Creek (Wayne County)
- East Fork, Clarks River (Calloway County)
- Elk Spring Creek (Wayne County)
- Middle Fork, Red River (Powell County)

There were several changes on the Cumberland tailwater. The commission implemented a 15-20 in. protective slot limit on rainbow trout where only one of which may exceed 20 in. The rainbow trout creel limit was also reduced from 8 fish to 5 fish. The commission also made it mandatory for any anglers fishing the tailwater to possess a trout permit. Everywhere else in Kentucky you only need a trout permit if you harvest trout.

## **Research**

### **Delayed Harvest Streams Evaluation**

Delayed trout harvest regulations were implemented from October through March on five streams in Kentucky beginning in 1999. Rainbow trout (*Onchorhynchus mykiss*) were stocked at the beginning of the period and the streams were evaluated to determine the effects of delayed harvest regulations on survival, growth, condition and seasonal abundance of the stocked trout. Rainbow trout stocked in months prior to the protection period were rarely seen in 4 out of 5 streams. Catch rates of rainbow trout using backpack electrofishing declined during the protection period each year of the project. Illegal harvest of trout was suspected to have had an impact on the population. Length, weight and relative weight of rainbow trout were essentially unchanged over the 6 month delayed harvest period. The delayed harvest program was a successful addition to the KDFWR trout program.

### **Cumberland Tailwater**

We are continuing our evaluation of the brown trout fishery in the tailwater by marking this year's stocking of 8 in. with a right pelvic fin clip. Fingerling brown trout will again be stocked and their contribution to the fishery will be evaluated after 2 years in the river. We are also initiating research this year to evaluate the effects of the new regulations for rainbow trout on the tailwater. April and May's stocking of rainbow trout were combined and marked with an adipose fin clip to evaluate growth during the first year in the river. This will be done again in 2007 and compared to see if the protection of more trout reduces growth rate.

### **Trout Angler Attitude Survey**

In 2003, the Department of Fish and Wildlife Resources conducted an angler attitude mail survey of a random sample of anglers who had purchased a trout permit in 2002. The trout angler attitude survey was designed in a way to gather information from the

broad spectrum of trout anglers on their fishing habits and opinions on various issues. Contemporary literature was reviewed and brain-storming sessions held with KDFWR fisheries staff in order to come up with the best and most important questions layed out in an unbiased survey questionnaire format. A portion of the survey queried trout anglers about specific current management issues on the Cumberland tailwater, Kentucky's most important trout fishery.

With conservative estimates of return rates we determined that a sample of 6,250 would provide enough completed surveys. We were extremely pleased to receive 3,490 completed questionnaires for a response rate of 64 %. (Results of survey presented to meeting attendees by way of a sample trout survey questionnaire that included a summary of respondent's answers.)

### **Future Changes to Trout Program**

Special regulations for trout will be implemented in 2005 on a 3.6 mi. stretch of Paint Creek below Paint Creek Lake (Johnson Co.). The new trout regulations will be a 16 in. minimum size limit with a 1 fish daily creel limit and artificial lures only. The regulations will apply year round. Both rainbow and brown trout will be stocked each once spring.

Similar special regulations will be proposed for a 3.0 mi. section of War Fork (Jackson Co.). If approved by the commission the new regulations would go into effect with the 2006 license year.

## **5. Jim Habera, Tennessee Wildlife Resources Agency Wild Trout**

### **1. Otoliths**

- Scales and otoliths from 621 wild rainbow trout (representing 11 east TN streams) were aged.
- Scales identified fish up to age 3, whereas otoliths identified fish up to age 8.
- Otoliths were validated using marked known-age fish (n = 42 from 5 streams; ages 1-3) and were 100% accurate; scale accuracy declined from 93% for age 1 to 50% for age 3.
- Precision was higher with otoliths (95%) than with scales (79%), and agreement between the structures was 69%.
- Despite the greater accuracy and precision of otoliths, growth and mortality rates derived from the two structures did not differ substantially, primarily because fish older than age 3 were relatively uncommon (3.2%). Therefore, no changes in basic management strategies for wild rainbow trout populations appear necessary.

- Will collect more otoliths during 2004-2005 from most of the same streams; will target larger/older fish and compare otolith preparation techniques (transverse sections vs. sagittal grinding).

## 2. Drought Effects

- Wild trout abundances and size structures in 2003 began to recover from the 1998-2002 drought.

## 3. Regulations

- No regulation changes will be proposed this year that affect wild trout fisheries.

## 4. Southern Appalachian brook trout at TN Aquarium

- The Tennessee Aquarium (in Chattanooga) has expressed an interest in developing a display featuring native southern Appalachian brook trout (SABT). They also want to see if they can propagate SABT onsite. This has never really been done successfully before, so maybe they'll figure out how to do it.

## 5. Wild Trout map

- Map highlighting TN's better wild trout fisheries is still incomplete; maybe next year?

## **Tailwaters**

### **Monitoring**

- TWRA is monitoring trout fisheries in all 5 tailwaters in upper east TN annually by boat electrofishing; new creel surveys for the Norris, Wilbur, and South Holston during 2005 and 2006.

### **Management**

- Developed management plans during 2003 for the Wilbur and South Holston tailwaters; already have a management plan in place for the Norris tailwater.
- Objectives of the Wilbur plan are to re-establish trout abundance and size structure in the fish kill zone, optimize rainbow trout stocking rates, and establish a brook trout fishery.
- Objectives of the South Holston plan are to improve the abundance of large trout (evaluate and re-adjust protected length range if necessary), convert brown trout fishery entirely to wild fish, and optimize fingerling rainbow trout stocking rates.

## **6. Lee Keefer, Georgia Department of Natural Resources**

- **Georgia's delayed harvest program (4 streams) continues to be popular with anglers. The Lanier TW receives the most use by far, due to its proximity to metro Atlanta**
- **Work on completing the inventory of brook trout continues. A total of 38 streams have been typed so far, and an additional 26 samples have been submitted to Auburn for analysis. DNA from an additional 10 to 20 streams will be collected in 2004**
- **Georgia is in the process of developing a brook trout habitat improvement and restoration plan. (See Draft Plan)**
- **Georgia will begin an experimental "big fish" program in 2005. Approximately 30K 12" rainbow trout will be mixed in with the usual 9" stockers on some of our more popular streams. Big fish will compose about 6% of the total stocked on these streams.**
- **Due to high rainfall and cool temperatures, 2003 was a better year for survival in most of our hatcheries than 2002.**
- **A new Trout map with more information has been developed**
- **Temperature monitoring continues on many Georgia trout streams. Approximately 80 temperature loggers are deployed each year. Emphasis is placed on lower reaches and problem areas such as below ponds.**

## **7. Jarrad Kosa, U.S. Fish and Wildlife Service**

The FWS-Fisheries Program has avoided the budget cuts that are being experienced in other FWS programs.

Several culvert removal projects on native trout streams were funded this past year in NC and GA through the National Fish Passage Program. Staff are also working with NFWF and other Bring Back the Natives partners to encourage funding for eastern trout projects.

Personnel in the Region 5 Federal Assistance Office are working with the Northeast Fisheries Administrators Association to develop a Northeast Coldwater Technical Committee. This technical committee would be similar to the Southern Division AFS Trout Committee. As currently proposed, these committees would overlap slightly, as VA, WV, and MD are in FWS's Region 5. See the Draft Proposal for more details. For more information, contact Ken Sprankle at 413-253-8686.

FWS staff worked with IAFWA, and the states of VA, NC, and NY to make preparations for the Eastern Brook Trout Meeting to be held at NCTC on June 2-3. The focus of the

meeting will be on developing a strategy to increase resources for agency field work. An agenda is attached.

The Service's Alaska Region is having difficulty completing field work due to FDA's declaration that clove oil is not approved for use as a fish anesthetic. They are working with state agencies to encourage approval through the ADAP program. See attached letter.

## **8. Mike Kruse, Missouri Department of Conservation**

### Missouri Trout Plan

The Missouri Conservation Commission approved "A Plan for Missouri Trout Fishing" on October 9, 2003. The Plan took approximately two years to complete, and underwent extensive review within the Missouri Department of Conservation, among partner state and federal agencies and by Missouri anglers and trout angling groups. The Plan consists of eight goals and 32 objectives. Key components of the plan and current projects addressing each component (*in italics*) include:

- Reduce the statewide daily limit on trout from 5 to 4 fish; review other trout regulations. *Limit reduction has been approved for implementation in March of 2005.*
- Increase hatchery production capacity by 20%. *FishPro consultants have been hired to conduct a comprehensive review of Missouri's trout hatchery system. Final report is expected in early summer.*
- After production is expanded, increase the average size of trout stocked to 12.5 inches. *Work to more equitably distribute surplus broodstock is underway.*
- Acquire additional access to Missouri's trout streams from willing sellers. *Several properties are under investigation.*
- Require the trout permit for fishing in upper Lake Taneycomo. *Proposal will be considered for possible implementation in March of 2005.*
- Utilize additional stocking to improve fishing success in high priority streams such as the Eleven Point River and North Fork of the White River. *Rainbow trout and brown trout, respectively, are being stocked in sections of these two river previously managed for wild trout, but 18-inch minimum length limits, tackle restrictions and daily limit of one trout have been retained.*
- Review all existing trout management areas and regulations. *See new categories below.*

Review of trout management areas was conducted this spring, and following that review, a new set of trout management categories have been proposed. These regulations will go through the Department's formal review process in July for proposed implementation in March of 2005:

- *Blue Ribbon Trout Streams* - Highest quality or self-sustaining wild trout streams; managed to provide maximum density of adult trout and a chance to harvest a

trophy; great catch and release opportunities; supplemental stocking (except under wild option); artificials only; no gigging.

Daily Limit 1 trout over 18 inches.

- *Red Ribbon Trout Streams* – High quality waters that may have thermal or habitat bottlenecks; good catch and release opportunities; supplemental stocking; variable gear and gigging restrictions.

Daily Limit 2 trout over 15 inches.

- *White Ribbon Trout Streams* - Great opportunity to catch and harvest trout under statewide regulations with occasional opportunity to harvest a large trout; most are easily accessible waters; no gear restrictions; gigging allowed.

Daily Limit 4 trout; no length limit on RBT;  
15-inch minimum on Browns.

- *Trout Parks* – No change from existing regulations except that the new, statewide, 15-inch minimum length limit on brown trout will apply.

- *Lake Taneycomo* – No change from existing regulations (upper 3 miles have 12- to 20-inch protected length range on rainbows, artificial lures and flies only, 20-inch minimum length limit lakewide on brown trout).

### Trout Angler Survey

A mail survey of Missouri trout anglers will be conducted in the fall of 2004. The survey instrument has been drafted and will be tested in a focus group of trout anglers later this week. Further testing will be done through a pilot survey of anglers who are members of organized trout angling groups. The final survey will be on a large sample of anglers drawn from the Department's point of sale fishing license database.

### Missouri Trout Stream Habitat Assessment

Water temperature data were collected for the summers of 2002 and 2003 and the winters of 2002/2003 and 2003/2004. Hourly water temperature measurements were collected at over 100 sites the last two summers. These data were critical to the recently-completed review of trout management areas. Physical habitat measurements were also collected on a sample of four representative streams. Analysis of these data is underway and will likely lead to collection of similar data on most of the streams managed for trout in Missouri.

## **9. Matt Kulp, Great Smoky Mountain National Park**

### Brook Trout Fishing Study

Brook trout fishing was opened in eight streams for the first time in nearly 30 years on July 1, 2002. Each stream was opened under the current Park wide regulations: 178mm

size limit, 5 fish creel limit, single hook artificial lures only. All streams that were opened had a control stream close by that remained closed to fishing. All streams had pre-treatment data (2-15 years) and were monitored throughout the study. In addition, a random roving creel survey administered by law enforcement and resource staff has been ongoing on all eight streams since the project began. The survey collects data on angler catch and harvest as well as some sociological and economic data.

After two years, there has been no significant decline in YOY or adult biomass, no significant decline in legal fish density, and no loss of reproductive potential among streams open and closed to fishing. Angler use surveys have been extremely difficult to collect with only 103 surveys completed since the project started (handout). Angler catch rates are about 3.2 . Angler response has been positive with >85% of angler shaving an average to excellent experience.

### Brook Trout Restoration

Park staff, along with assistance from the NCWRC and EPA, removed non-native rainbow trout from 5.6km of Bear Creek (NC) in September of 2004 using the piscicide antimycin over the course of 5 days. Pre- and post-treatment aquatic macro-invertebrate and fish sampling was completed to evaluate the impacts to target and non-target species. Prior to treatment, the entire treatment area was opened for unlimited fishing for the period of one week, with no size limit, no creel limit.

Twenty seven fishermen took advantage of the open fishing period, of which 95% were from TN or NC. Anglers caught 215 fish out of the 5.6km treatment area.

Antimycin was applied at 8pp for 8 hours similar to the protocols used in previous restoration projects. Antimycin was detoxified using 4ppm  $\text{KMnO}_4$ , however detox times were reduced by 50% compared to previous treatment (or until antimycin treatment was within 1km of the detox site). As in previous projects, the antimycin treatment and  $\text{KMnO}_4$  detoxification reduced the density of some macro-invertebrates (i.e. Peltoperlid stoneflies) up to 40%, however, there was no loss of species diversity. In all cases, macro-invertebrates were back to or above pre-treatment levels within four months of treatment. Rainbow trout density declined 66% whereas longnose dace density remained relatively unchanged (5%). Response times of rainbow trout were slightly greater in Bear Creek compared to previous projects in the western and eastern U.S. and were probably associated with the higher water temperatures of Bear Creek ( $15^\circ\text{C}$ ) compared to previous stream ( $6-10^\circ\text{C}$ ).

To date, GRSM has restored 14.6 miles of southern Appalachian brook trout back into GRSM streams. Restored populations comprises roughly 12% of the total allopatric range (112.2 miles) within GRSM.

In 2004, Steve and Matt will be assisting Great Sand Dunes NP (CO) in the setup stages of a Rio Grande cutthroat project in July 2004. In addition, we will be assisting SC DNR (Dan Rankin) and the U.S. Forest Service (Jeannie Riley) on a brook trout restoration project in the Sumter NF (King Creek) in August.

#### **10. Dan Rankin, South Carolina Department of Natural Resources**

- SCDNR is partnering with USFS, GSMNP, and TU to restore 5 brook trout streams along the Chattooga Ridge in Oconee County. SCDNR has documented loss of range due to brown and rainbow trout introductions in three of the streams, and total loss of brook in the other two. Public scoping was conducted earlier this year. Angling groups, conservation/preservation groups, and local citizens have weighed in overwhelmingly in support of the project. An environmental assessment for the work has just been released. SC TU Chapters have secured over \$9,000 Embrace a Stream Grant to help fund the project. The first stream to be renovated is King Creek, tentatively scheduled for August 2004.
- SCDNR is in the process of updating its Trout Fishing Brochure. GIS-based maps are being generated. The maps will be available in printed brochure and on the SCDNR website.
- SCDNR has implemented “delayed harvest” regulations on two stream segments on Chattooga River and Cheohee Creek. We also have leased a 1.5 mile reach of the Middle Saluda River in Greenville County. The leased section is managed under a single-hook artificial lure restriction and is catch-and-release year round. A seasonal feeding project is being conducted to increase average size of wild trout.
- Lake Jocassee continues to produce a quality two-story trophy trout fishery. We have found that increasing the average size brown trout stocked from 7-inches to 10-11 inches apparently resulted in much better survival. We have also shifted stocking to Fall (as soon as surface temps drop below 67 F) to take advantage of a more dense prey base (verified by hydroacoustics). Since the changes daytime angler harvest increased dramatically. Published (co-authored) a paper with Hugh Barwick (Duke Power) and Jeff Foltz (Clemson Univ.) in NAJFM on summer habitat utilization by trophy trout in Jocassee. The paper has been accepted as a management manuscript.
- Bio-energetics modeling and growth studies have been conducted on the Lower Saluda River (Lake Murray Tailwater). Lower Saluda trout grew at the impressive rate of 0.76 inch per month. The end result was SC Department of Environmental Control has allowed the power company (SCE&G) to operate under a site-specific D.O. standard (5.5 mg/l average, 4 mg/l minimum). Statewide standard is 6 mg/l minimum.
- A survey of SC’s stocked trout (put-take) fishery was recently conducted and summarized.

## **11. Kim Ryals, Trout Unlimited**

TU's National Conservation Agenda is available at:

[http://www.tu.org/conservation/nat\\_agenda.asp](http://www.tu.org/conservation/nat_agenda.asp)

The short course:

- 1. WATER QUALITY**
- 2. INSTREAM FLOWS**
- 3. PACIFIC & ATLANTIC SALMON RECOVERY**
- 4. CONSERVING WILD TROUT & SALMON**

TU's position on harvest:

TU supports sustainable harvest of healthy trout and salmon populations. In cases where harvest is jeopardizing whole populations or native genetics, TU works to revise harvest practices to ensure the long-term survival of those fish.

"Born" Report: in Fisheries. We have not done as good a job as possible communicating with agencies and are committed to reconciling this issue.

### TU's Back the Brookie Campaign

Cornerstones:

1. Advocacy – organizing TU members in 6 states (16,000 people) to become effective advocates on behalf of the resource and the agencies managing the resource. Ultimate goal: increase TU's ability to affect policy (ie emissions causing acid rain) as well as its ability to raise funds for work (ie congressional appropriations for agency projects).
2. Education – distribute materials (brochures, website, presentations, film, school curriculums) to the general public, to educate on trout, watersheds, coldwater conservation, and the benefits wildlife agencies bring to the public.
3. Projects – TBD within each state; coordinated with state and federal agencies.
4. Strengthening TU – internal capacity building to ensure the ability of TU to carry out its mission into the future. Increasing positive public relations, as well as members, leaders, funding, and visibility.

An online presentation (including narration) is available on the internet which thoroughly explains the Back the Brookie Campaign. Kim Ryals (TU's Campaign Coordinator) can email you a link to the presentation upon request. [kryals@tu.org](mailto:kryals@tu.org) 828-664-0137

## **12. Mike Shingleton, West Virginia Division of Natural Resources**

- Anglers and trout alike will benefit from the application of limestone to more than 100 miles of West Virginia streams affected by acid precipitation. The funding for the project comes from the settlement of a lawsuit against Dominion Resources. Through the settlement, Dominion has deposited \$2 million into the aquatic restoration account within the West Virginia Wildlife Fund. The West Virginia Department of Environmental Protection and the Division of Natural Resources have chosen 10 streams to treat initially, bringing them back to viable trout fisheries. Treatment will begin this spring. The money will remain in the account in perpetuity. Only the income from the investment of the \$2 million will be spent on stream treatment. At least 10 streams each year will benefit from the application of limestone sand. DNR is responsible for planning the limestone application. DEP will follow up the treatment with water quality monitoring in the restored streams. This will bring to nearly 400 miles of streams treated with limestone sand and limestone drum stations.
- WV DNR has proposed expanding one Catch and Release (Slaty Fork of Elk River) and creating one new one (upper Shavers Fork ). At this time, they are likely to go into effect in January 2005.
- WV DNR has proposed to extend two Delayed Harvest streams to run from October 1 through May 31 (currently from February 1 and March 1 through May 31). These will also go into effect January 2005.
- WV-DNR is providing information to WV-DEP and Environmental Quality Board on trout streams supporting reproducing trout streams and streams supporting year-round trout populations (not the same definitions). Highly contested and controversial.

The SDAFS Trout Committee adjourned at 11:30. Meeting minutes prepared by chair-elect Doug Besler.