Minutes of the 2008 Southern Division AFS Trout Committee

May 6-7, 2008

Brevard, North Carolina

May 6, 2008

Call to Order

Trout committee chair, Dave Dreves, called the meeting to order at 8:00 AM. Dave welcomed committee members. Dave introduced himself and then Trout Committee members introduced themselves. Dave Dreves announced we had a quorum for conducting Trout Committee business with 19 members in attendance. Members in attendance included: Doug Besler (NCWRC), John Boaze (Fish and Wildlife Associates), Sheryl Bryan (USFS-NC), James Civiello and Mike Kruse (MO-DOC), Dave Dreves (KY-DFWR), Jim Habera and Jason Henegar (TWRA), Alan Heft (MD-DNR), Lee Keefer (GA-DNR), Steve Moore and Matt Kulp (GSMNP), Larry Mohn (VA-DGIF), Dan Rankin (SC-DNR), Jeanne Riley (USFS-SC), Monte Seehorn (USFS-retired), Mike Shingleton (WVDNR), Jeff Williams (AGFC), and Lorie Stroup (USFS-NC). Host Doug Besler provided "housekeeping" information. Doug also announced there would be a tour of the Bobby Setzer Hatchery and the Pisgah Center for Wildlife Education at 1 pm.

Old Business

2007 Meeting Minutes

Dave Dreves distributed meeting minutes from the May 2007 meeting at Devil's Fork State Park, SC. Dave asked if there were any changes to the minutes. None were suggested. Mike Kruse made a motion to accept the 2007 minutes. Matt Kulp seconded the motion. The motion passed unanimously. Dave Dreves asked if there was an informal meeting of Trout Committee members at the Southern Division AFS Spring Meeting n Wheeling, WV. Mike Shingleton reported there was no informal meeting held.

Treasurer's Report

Jeff Williams provided a Treasurer's Report. The Trout Committee treasury is held in a Bank of America account. Jeff reported the starting balance on the account was $2,736.66. There were no credits to the account during the past year. Bank of America had been charging an $11 quarterly account maintenance fee. Due to the low activity on this account, Jeff requested that Bank of America waive the maintenance fee from this point forward. They agreed. The only debits from the account were for the quarterly account maintenance fees and charges for three distinguished Trout Committee Service Awards. The current balance is $2,434.21.

AC / DC Electrofishing Gear Comparison

Jim Habera provided an update on the AC/DC electrofishing gear comparison study. The study compared the standard AC electrofishing gear with the Smith-Root LR24 DC backpack electrofisher. Capture efficiencies are essentially the same for both gear types. Jim offered to e-mail the draft report upon request. Jim submitted a draft manuscript to NAJFM in September 2007. The manuscript was accepted conditionally pending some revision. Jim is hopeful for a 2008 calendar year printing. The printing costs will be approximately $75/page and the manuscript is approximately 8-10 pages long. Dave Dreves asked if the Trout Committee will be acknowledged in the manuscript. Jim Habera responded in the affirmative. The Trout Committee did not fund work but many members did take part in field work. Jim, Steve Moore, Jeanne Riley, Matt Kulp, Lee Keefer and several more Trout Committee members participated. Mike Shingleton made a motion that the TC pay up to $750 toward publication costs of the electrofishing manuscript in NAJFM. Lee Keefer seconded the motion. A discussion was entertained. Mike Kruse commented that the Trout Committee may want to prioritize funding initiatives prior to voting on this issue. Mike stated he was very supportive of the motion pending that priority discussion. Lee Keefer mentioned that agency fish chiefs and administrators like to see products of technical committees to justify expenses associated with committee member participation. Mike Kruse also mentioned that 2010 would be the next East Coast trout management workshop based on the 5 year cycle that's been used in the past. Mike asked if the TC had provided funding for past East Coast workshops. Matt Kulp offered that he did not think the T.C. provided funding for past East Coast workshops. Dave Dreves called for a vote and the motion passed unanimously.

EBTJV Update

Doug Besler provided an update on the Eastern Brook Trout Joint Venture (EBTJV). A recent EBTJV meeting was held at the USFWS National Training Center in WVA . This was an at-large meeting for all attendees and steering committee members. Doug mentioned that Mark Hudy has developed some good quantitative assessment techniques to describe the current status of the EBT across its native range. Member EBTJV states and the NPS have developed management strategies for EBT. These strategies are available for the entire range on the EBTJV web page. Doug reported that national level funding for the EBTJV has not progressed thus far. The National Fish Habitat Action Plan (NFHAP) has named EBTJV as one of the five projects under this initiative. Dave suggested there is a need to develop ballpark cost estimates for various restoration work to be funded under the EBTJV. This would help standardize and justify funding solicited from Congress. The EBTJV has working groups in the north, mid-Atlantic and South to stratify habitat needs regionally. Steve Moore is Chair of the Southern work group. Doug Besler is Chair of the Habitat Conservation Committee. The EBTJV is receiving assistance from one member who is a lobbyist. Doug reported the EBTJV leaders are expecting a lot of funding to address Global Climate Change. Some CARA funding is available to the EBTJV, but overall CARA funding has not materialized to the level some predicted. A nice EBTJV website has been developed, which outlines the threats range-wide. Data compiled by EBTJV indicates that once 20% of a watershed has been developed, there is a 99% chance brook trout are absent. Doug mentioned that the Southern Aquatic Resource Partnership (SARP) is also an approved program under the NFHAP. Funding for brook trout restoration can also be requested through SARP.

Steve Moore – asked Doug if he planned to review the action areas identified by the southern work group. Doug reported that the southern work group had identified seven objectives. These objectives will be disseminated to EBTJV members. One of the clear objectives was habitat protection. Doug mentioned the sheer expense though of trying to purchase land for habitat protection. The workgroup did have some creative ideas such as purchasing critical areas and placing protective easements on riparian buffers and then selling the upland areas.

Membership Issues

Dave Dreves reported that attendance of federal Trout Committee members had waned in recent years. An action item from the 2007 meeting was to send letters encouraging attendance to the USFS, USFWS and TVA. Dan Rankin, Chair Elect, drafted a letter for Dave Dreves' approval to send to federal agencies. Dave received an enthusiastic reply from the USFWS stating support for the Trout Committee. Dave also got a response from the TVA referring him to Charlie Saylor, longtime TVA biologist. The TVA politely declined to have a member on the committee, but invited our involvement in an upcoming TVA meeting in Knoxville, TN. Dave received no response from the USFS, but noted that we did have 3 USFS biologists in attendance at the meeting, which was a very positive sign.

Dave Dreves reported submitting new member names provided by state agency fish chiefs to the AFS for approval. Dave also mentioned there is an AFS recruiting initiative ongoing. Steve McMullen (AFS Southern Division President) will be contacting Federal agencies recruiting new members. A discussion ensued concerning the need to recruit more agency participation from trout culturists on the trout committee. Dave Dreves stated that the expense of AFS membership seemed to be a roadblock for some hatchery biologists/managers to get involved in participating in the Trout Committee. Dan Rankin mentioned that most agencies in the Southern Division were paying an agency membership, which costs the agency around $1,600. Dan has been told that this agency membership should cover agency employee participation on AFS technical committees. Also, non-AFS members are welcome to attend trout committee meetings, but do not have a voting interest. Dan agreed to contact Steve McMullen to inquire if this agency AFS membership covers staff for committee participation and committee officers.

New Business

Dave Dreves distributed the Trout Committee membership roster and asked that attendees update their contact information as needed. Dave also announced the addition of two new Trout Committee members.

Distinguished Service Awards

Jim Habera presented Trout Committee Distinguished Service Awards to three members for their longtime service to the Trout Committee. The three members receiving awards were: 1) Larry Mohn with VA Dept of Game and Inland Fisheries (25 yrs service and Chaired 3 consecutive terms). Larry helped organize the East Coast Trout Culture and Management Workshops in Pennsylvania and Maryland. 2) John Boaze with Fish and Wildlife Associates (formerly with USFWS) has been a Trout

Committee member for 30 years, and was chair in 1983. Monte Seehorn, a Trout Committee member for 40 years was a founding member at the first AFS Southern Division Trout Committee meeting held at Tellico Plains, TN in 1963. Monte Chaired the Trout Committee and has served on numerous subcommittees and projects such as stocking evaluations, and half-wild trout evaluations. Monte retired from the USFS in 1994 and has served as an at-large member since that time.

Didymo and Other Exotics

Steve Moore provided a report on the extent of Didymo algae in the Southeast. Steve provided results of the Didymo poll conducted under the National Aquatic Invasive Species Task Force, which Southern Division agencies participated in. Currently, Didymo is present only in trout tailwaters in the state of VA, KY, TN and Arkansas. Didymo is present in four trout tailwaters in TN. Didymo has not been observed in trout streams at this time. It is unknown if it will invade coldwater streams. As a precaution, the NPS is advising anglers of how to disinfect their gear to minimize the spread of Didymo. Steve mentioned that a 5% Clorox solution is used to clean Didymo from wading gear. There was discussion about providing cleaning stations adjacent to water bodies. Lori Stroup suggested it would be a good idea to make game officers aware of the situation to help with educating the public. Jeanne Riley mentioned that agencies need to make information available to the boating community as well. Matt Kulp suggested the problem with invasive aquatics was a broad problem including many other species such as the zebra mussel. Matt mentioned that the state of Montana provided a really good message in trying to educate anglers on the potential spread of exotics. The Montana message emphasizes that cleaning waders is a necessity for all anglers. Mike Kruse relayed information from a personal fishing trip to Montana. Upon arrival home to Missouri several days after his trip he found live mud snails in the felt of his wading boots. Larry Mohn of VA Dept of Game and Inland Fisheries has a hand-out card they are giving to anglers emphasizing cleaning wading gear. Doug Besler said NC is providing information in their regulations booklet. Dave Dreves stated there was an international fact sheet on the control of exotic species. The "*check, clean, dry*" procedure fits for the control of all exotics. Dave said a 2% Clorox solution is adequate to clean wading gear. Dave advised there's a "Protect your Water" website that provides this information. He also mentioned the Federation of Fly Fishers (FFF) has a hand-out and information on their website concerning the control of exotics. A CD is also available upon request. Steve Moore asked committee members if there was a need for the Trout Committee to put together a consistent message on the control of exotic species. Alan Heft reported the MD DNR has an internal protocol for all people working in streams. Mike Kruse also said the MO Dept of Conservation has a statewide protocol that requires trout leaving the immediate waters of the hatchery to be treated for zebra mussels. The MO DOC has also made it illegal to use or posses bait held or transported in water at three lakes that are water sources for warmwater fish hatcheries. The MO DOC is looking to the Hazard Assessment Critical Control Point (HACCP) technology that has been developed for the food industry for ideas on how to develop additional protocols for invasive species control. Mike felt that while outreach efforts to anglers were good, we should also focus on our internal agency operations for additional effective ways to address the problem. Alan Heft stated that Roccal is a chemical being used in MD to disinfect wading gear. Roccal is effective in killing whirling disease spores. Alan said MD is concerned about anglers carrying concentrated bleach around near streams due to the possibility of a spill. Roccal

is readily available through aquaculture suppliers. It is not toxic to aquatics if spilled in streams. Dave mentioned that KY recommends a 2% bleach or 5% salt solution or drying wading gear for 48 hrs after everything is completely dry. Dave also mentioned that a 5% detergent solution or freezing wading gear also works. Larry Mohn, Dave Dreves and others agreed to send information they have to Dave for circulation to Trout Committee members. Mike Kruse felt the Trout Committee is a technical committee where members share information on exotic species. He mentioned that agency O&E folks are the ones who probably should specialize in disseminating information to anglers.

TC Website

Jim Habera reported that the Trout Committee website is sorely in need of an update. Jim provided Fred Jansen, with the TX Parks and Wildlife, a CD of the Trout Committee history a few weeks ago. Fred has recently updated that information on the Trout Committee website. The website is in need of an updated list of officers. The new membership list needs to be placed in an easily accessible manner, and Trout Committee related links such as agency web-links. Jim also suggested we consider providing a bibliography of technical paper links and information on upcoming Trout Committee meetings. Jim agreed to update the Trout Committee proceedings document and provide that to Fred for the website.

TC Resolutions and Aqui-S Update

Dave Dreves provided information on his idea for a Trout Committee resolution to the Southern Division on the use of Aqui-S. Dave mentioned the procedures and timing necessary for submission of resolutions to the Southern Division. The Trout Committee Chair needs to have resolutions to the Southern Division by June 30th. This allows time for proposed resolutions to be sent to the newsletter for fall/winter publication. The AFS Executive Committee then considers resolutions at the annual business meeting by proposing these resolutions to the annual membership. Unfortunately the Aqui-S FDA approval appears to be dead in the water. Aqui-S has been found to be a carcinogen in lab mice. This finding leaves no reason to be optimistic that this fish anesthetic will be approved. Much discussion ensued over what different states are using to anesthetize fish. KY only uses Aqui-S when marking fish or conducting surgery. MO is using club soda to anesthetize fish. One liter of club soda to 5 gals of water is the concentration used. Mike Kruse stated this works okay and is better than nothing, but is not nearly as good as MS-222. Mallory Martin said the use of club soda is a legitimate use as a fish anesthetic and is generally regarded as safe.

Jim Habera passed around several old Trout Committee photos asking for help with identification of a few individuals.

2009 TC Meeting Location

There was a discussion about where the spring 2009 Trout Committee meeting would be held. The states of VA and MO have not hosted the meeting in quite some time. A decision was made that Larry Mohn and Steve Reeser would host the 2009 meeting in VA during the first week of May, if possible, at a location to be determined. Mike Kruse agreed to host the 2010 spring meeting in MO at a location to be determined.

Nomination and Election of New Officers

Dave Dreves announced the need for nominations and election of new Trout Committee officers. Jeff Williams, Treasurer, is on a 3-yr term, which lasts through 2008. There was a need to elect a new Chair-Elect for the committee. Matt Kulp nominated Alan Heft of MD. No other nominations were made. The nomination was seconded by Larry Mohn and was affirmed by unanimous vote of the membership. Dave Dreves also stated that the current Distinguished Service Awards Committee consists of the Trout Committee Chair, Chair-elect, past Chair and Jim Habera. Dave stated as Chair of the Trout Committee he maintained the right to appoint committee members. Dave felt it would be a good idea to appoint Larry Mohn, John Boaze and Monte Seehorn to the Distinguished Service Awards Committee. All three accepted the appointment.

Presentation

Implementation of a Catch and Release Brook Trout Regulation on a Watershed Scale – Alan Heft, Maryland DNR

Alan gave a presentation on brook trout regulations in the Savage River in western MD. The Savage is the premier watershed for brook trout in the state. Despite the impoundment on the Savage River, brook trout populations in the stream are very connected up to a 4th order stream. The state of MD maintains brook trout populations in 151 streams across 9 counties including over 377 stream miles. However, the Savage is really the only truly intact brook trout watershed in the state. The Savage maintains 16 named brook trout streams and tributaries, which represents about 25% of all brook trout waters statewide. Although brook trout in the Savage are categorized as being intact, not necessarily all populations in the Savage are at historic or optimum densities. 85% of the Savage watershed is in public ownership. Alan had noticed a positive correlation between brook trout density and distance from roads and access points. He had also noticed from past sampling an increase in brook trout density in response to protection received from a delayed harvest area. After much consideration the MD DNR changed BKT regulations from a 2 fish creel limit to catch-and-release. Alan will continue to monitor the impact of regulation change for 5 years. Preliminary data indicates some slight improvement of brook trout densities in response to regulation change. Alan also mentioned that public opinion is coming around.

Round Table Discussion

GADNR – Lee Keefer

The biggest issue in GA has been dealing with the most extreme drought in decades. GADNR has experienced very low flows in their trout hatcheries and this forced them to evacuate many of their fish to the Buford Hatchery. The Buford Hatchery is fed by flows from Lake Lanier. The end result has been lower numbers of trout and less growth, which has hurt this year's fish numbers quite a bit. GA is now targeting 0.9 mil fish this year vs. the normal 1.2 mil stocking allotment. Because the drought is

expected to continue well into 2008, managers have front loaded to stock approx 90% of the total 2008 allotment of fish by July 4th, 2008. This is especially true for marginal trout streams. GA's wild trout work has focused mainly on brook trout populations. GA received funding through TU Embrace a Stream grants and the EBTJV to do habitat work on a number of streams. GADNR and the USFS are also collecting ANC on GA brook trout streams. They have narrowed their sampling down to critical streams with ANC values in the 20-30 range. Lee asked advice of other members as to at what level of ANC does supplemental lime become beneficial to depressed populations. GADNR is planning to do some brook renovations in selected streams. Waterfall barrier identification has shown lots of possibilities for brook trout restoration. Lee has identified at least 16 streams that meet the criteria.

Virginia Department of Game and Inland Fisheries – Larry Mohn

Larry discussed the EBTJV and the Home Rivers Initiative in VA. Larry mentioned that cold-water streams along the Blue Ridge in VA are fairly well protected; however Shenandoah Valley streams are the most critical with thousands of miles of streams being unprotected. VA is hoping to recover some small limestone brook trout streams in the state. Brook trout were extirpated from the last limestone streams in VA in the 1960's. The limestone streams are capable of growing large brook trout. Currently VA has restored two limestone streams and natural reproduction of brook trout has been observed. TU's goal is to raise $200,000 toward the limestone brookie project. VA has been progressing with fish hatchery renovations. The Coursey Springs Fish Hatchery (7,000 gals/min flow) is currently being renovated. This will cause production in the hatchery to drop 30% during renovations. Renovations are expected to take place over an 18-20 month period. The end result will be significant production increases at Coursey Springs. VA just issued a report on brook trout genetics in the state. The New River is definitely the break line between southern and northern populations. Larry presented some detailed findings from the study. He has a lot of populations in the Mt. Rogers area with predominantly southern genetic makeup. VA does not plan to stock hatchery brook trout over these populations.

USFS-NC – Lori Stroup

Lori works on the Pisgah Forest in NC. The forest has recently undergone a major reorganization. Currently a big issue deals with the Tellico off highway vehicle (OHV) area. TU and others filed a notice of intent to sue the USFS citing water quality violations and impacts to native trout. The OHV users and anglers are on opposite sides of the fence on how to best manage the Tellico area. This has been a very time consuming issue for the USFS to deal with. Intense assessment and a revised FS monitoring plan are underway, as well as analysis of what will become of the area in the future. Lori and Sheryl are working on habitat restoration in several streams: Griffith Branch (complete), Davidson River (huge partnership project - ongoing), Hickey Fork and North Mills River (both in the works). The forest has a new hydrologist and a new engineer who have been working on installing some stream habitat improvement work. The FS is involved with NCWRC in looking at fishless streams. Lori is checking water quality prior to reintroducing BKT. Brook trout are being introduced into Cherry Creek and tributaries to Santeetlah Creek this summer. Future plans are in the works for Hickey Fork, and tribs along the Cherohala Skyway corridor. Hurricanes Joyce, Jeanne and Ivan caused many problems with culverts on the Forest. The FS has been involved in fish passage restoration (converting culverts to bridges) on a

number of streams: Griffith and Long Branches, South toe River headwaters (all completed), Curtis and Connelly Creeks (underway), and South Toe headwaters (in planning). Lori stated that the District is doing a better job complying with the spawning moratorium (Oct 15-Apr 15) on all projects. This involves not working in streams during critical spawning periods.

Fish and Wildlife Associates – John Boaze

John is involved in a litigation project over removal of a hydroelectric dam on the Tuckasegee River. The dam owner wishes to retain the dam for hydroelectric operations. John will be involved in an administrative law hearing that starts July 14th on the issue. Endangered mussels are involved in the fight. John has worked on this project for six years.

Maryland Department of Natural Resources – Alan Heft

Alan stated Didymo has been discovered an upper one mile reach of the Gunpowder River Tailwater. The tailwater is a 16-mile section between two dams. Alan also reported that the rusty crayfish, an exotic species, has been discovered in the state. Some Divisions of MD-DNR want to ban all bait fishing in response to this discovery. There is concern over a faulty dam gate in the Savage Reservoir. This is the best wild trout reservoir in the state. The faulty gate may cause the lake to drain and lose the fishery.

Great Smoky Mtns National Park – Steve Moore

Steve echoed the concern over the recent drought and its impacts on streams in GSMNP. Steve's big project involves removing wild rainbow trout from an 8-mile tract at Lynn Camp Prong. This restoration project will begin this summer. Steve and Matt have taken out intergrade brook trout in one tributary to Lynn Camp. Two other tributaries have pure southern Appalachian strain brook trout populations. Steve mentioned the park has 8 streams listed on the 303-D list of impaired waters. This is due to low pH's in the mid-5.0 range caused by atmospheric deposition. GSMNP is trying to work out what critical TMDL loads are for atmospheric deposition. The park has 8 years to complete this project under a consent decree. This is a hot political topic.

Doug Besler stated that NC has met with Bill Jackson of the USFS. Bill has been conducting ANC studies in NC. Bill said it may take hundreds of years for the buffering capacity to be regained in leached out NC streams to the point of holding trout again. Doug said this has big management implications for NC trout streams.

TN Wildlife Resources Agency – Jim Habera

1. The drought in 2007 reduced wild trout abundance in our mountains streams, but not to unprecedented levels. The 2007 cohorts were actually quite strong, but likely will not recruit well if the low flow conditions continue in 2008. One positive outcome was brook trout in mixed populations with rainbow trout benefited as the drought was harder on the rainbows.

2. Completed 3-pass depletion samples in Slickrock Creek (in cooperation with NCWRC and other agencies), Little Slickrock Creek, and Bald River in the gorge. These are all located in wilderness areas and have been sampled infrequently (first time for Bald River gorge). Slickrock and Little Slickrock creeks have relatively-low abundance wild brown trout populations (7-15 kg/ha) and Bald River had a small (9 kg/ha) wild rainbow trout population. These were all likely affected by the drought.

3. A new trout "slot limit" or protected length range fishing regulation was established on 1 March 2008 for the entire 12-mi. Norris tailwater (Clinch River) and tributaries. The creel limit remains 7 fish, but all 14" to 20" trout must be released except that one trout >20" may be harvested; there are no gear or bait restrictions. The goal was to improve the quality of this fishery (especially abundance of larger fish), which has declined in recent years, causing many angler complaints. The new management plan is being finalized.

4. Stocked ~100k fingerling brook trout in the Norris tailwater last May. These were surplus fish from WV courtesy of Mike Shingleton. Anglers began to report catching them later that summer and eight 9"-11" brook trout were collected during annual monitoring samples this March (all within ~1.5 miles of the dam). Attempts to establish a brook trout fishery in the Watauga River tailwater have been underway since 2001, and although anglers catch some, only one has ever been captured during annual monitoring efforts. Brook trout stocking will continue in the Norris tailwater to see if a fishery can be established there (brook trout were also stocked in the Caney Fork tailwater this spring).

5. The South Fork Holston and Watauga river tailwaters could not be sampled in 2008 because TVA was unable to supply enough water for electrofishing boat operation (usually need ~4,000 cfs for 8-10 hrs.).

6. A new fish barrier was constructed last summer to keep rainbow trout out of Left Prong Hampton Creek, which is TN's highest-abundance brook trout stream (portions of which can carry over 100 kg/ha). This was a cooperative project involving TWRA, USFS, NRCS, TDEC, TU, and the Southern Appalachian Highlands Conservancy. The old, ineffective culvert and wood crib barrier was replaced with a 9-foot waterfall topped by a low-water ford. Total cost was ~$45,000, with about half that amount representing the value of in-kind labor supplied by the partners. A little more work remains to eliminate any remaining rainbow trout in the lower portion of the stream.

7. Will assist the NPS in Great Smoky Mountains National Park this September with the restoration (using antimycin) of brook trout in Lynn Camp Prong.

<u>WVA DNR – Mike Shingleton</u>

WVADNR finished renovations at Spring Run hatchery. A private landowner downstream had complained about the impacts the hatchery discharge was having on trout in the stream on his property. Mike reported that now that the repairs had been made the private stretch of stream now has fewer and smaller trout than it did prior to the renovations. Mike said it would take $10's of millions to address all the NPDES compliance issues in WVA hatcheries. Mike reported that acid mine drainage issues stand to be addressed with over $1 billion over the next 15 years. The Dept of Environmental Protection plans to spend 30% on acid mine drainage water projects. So far three projects have been

selected in WVA. The first project addressed problems on a tributary to Abrams creek. This project initially costs $500,000 with a $50,000 annual maintenance cost. This will include active and passive treatment. WVA has an advisory group prioritizing projects. The anti-degradation laws in WVA are currently undergoing restructuring. There is still uncertainty about how trout streams will be classified in this three-tiered system. The state currently limes about 340 miles of stream; 75% of which maintains BKT. The Tea Creek project began four years ago. This project invovled limed sand in ditches in the headwaters of the stream. Today Tea Creek has now recovered and is supporting BKT. Limestone sand has also been placed in the headwaters roadside ditches in the middle fork of the Williams Wilderness area. The limestone sand has moved ¾ mile downstream into the main stem at this time. Mike stated they may use a helicopter to place limestone sand in some of the other tributaries. Mike reported a drastic increase in limestone project costs due to a new lime contract. Previously lime was being purchased for $16/ton some years ago and now it's gone up to $33/ton. Monte Seehorn asked Mike what's WVA criteria for determining liming rate was. Mike said that WVA uses a formula based on annual pH and drainage, and annual rainfall to formulate liming rates.

The meeting adjourned for the day to allow members to tour the NCWRC's Pisgah Center for Wildlife Education and Bobby Setzer State Fish Hatchery.

May 7, 2008

Round Table - continued

NC Wildlife Resources Commission – Doug Besler

1. Brook Trout Distribution and Genetic Analysis. The NCWRC is completing the first year of a three-year study to complete remaining brook trout distribution and genetic analysis on private lands in western North Carolina. Since October 2007, trout distribution work has been completed on all lands in the central and northwestern mountains of North Carolina (22 counties). Fifty-two additional populations of brook trout have been documented since the study began. Distribution work in the remainder of 2008 will shift to the southwestern 12 counties of North Carolina and is expected to be completed by early 2010. Genetic analysis of all new brook trout populations will be contracted through Western Carolina University.

2. Trout Angler Opinion Survey. The NCWRC completed a trout angler opinion survey in June 2007. The telephone survey contacted 1,500 trout anglers and was conducted by Responsive Management, Inc. Below is the abstract from the recently completed report. The complete final report is also available in hard copy or PDF format.

Abstract.—The North Carolina Wildlife Resources Commission (NCWRC) is interested in the views of its angler constituencies; however, a program-wide opinion survey of our trout anglers was lacking. In May 2007, a telephone survey of 1,504 licensed trout anglers was conducted to document opinions regarding current trout management and potential program changes. Of the estimated 131,055 resident trout anglers in 2006, a majority preferred to fish hatchery supported streams (put-and-take or delayed

harvest), on public lands, within a 50-mile radius of their home. Wild waters managed for natural reproduction with restrictive size and creel limits (including catch and release) were the second most preferred type of waters to fish. The most common reason cited for trout fishing was for sport (37%) or relaxation (24%) and only a small minority of anglers (10%) indicated they fished primarily for food. The demographics of the traditional trout angler in North Carolina are changing from a rural resident, with minimal education, that prefers to fish locally for stocked trout to one that resides in the urban piedmont, has a college degree, travels significant distances to fish, and practices catch and release angling for wild trout or stocked trout managed under catch and release regulations. Although angler interest in wild trout fisheries appears to be increasing, relatively few North Carolina anglers are members of organized angling groups, such as Trout Unlimited (8%) or Federation of Fly Fishers (2%), that actively promote wild trout fisheries. As angler constituencies change and license sales remain flat, it becomes increasingly important that management agencies collect, utilize, and implement human dimension information in the administration of their coldwater management programs.

3. Effects of Stocked Catchable Trout on Native Fish Communities. The NCWRC has contracted with North Carolina State University (NCSU) to conduct a three-year study to determine the effects of stocked catchable trout on native fish communities. Catchable trout stocking programs provide many hours of fishing opportunities for NC anglers. In some instances catchable trout are stocked into systems that provide important habitat for native fishes and mollusks, including rare, threatened, and endangered species. Adverse effects of trout stocking on native fishes from competition or predation have been suggested, but rarely evaluated. The NCSU study will focus intensively on the non-game fish community's temporal response to the introduction of stocked trout resulting from the NCWRC's Delayed Harvest management scheme. A secondary set of streams, some in the Delayed Harvest program and some that do not receive any hatchery support, will be evaluated to look for any broad trends.

4. Causative Factors for Loss of Wild Trout Populations on Private Lands. The NCWRC has contracted with NCSU on a three-year study to determine the causative factors of loss of wild trout populations on private lands. Western North Carolina contains thousands of miles of cold water streams capable of supporting brook trout (*Salvelinus fontinalis*). However, native brook trout stocks have undergone declines throughout the state as a result of degradations in habitat quality from stream and riparian modifications, changes in agricultural practices and land use, forest fragmentation, and urban development. This project will focus on the development of remote sensing and GIS-based models to analyze stream, watershed, and landscape relationships between native brook trout stock dynamics and the land use modifications occurring on public and private lands.

5. Eastern Brook Trout Joint Venture. The NCRWC has continued to be actively involved with the Eastern Brook Trout Joint Venture (EBTJV). The NCWRC attended an EBTJV working meeting at the National Conservation Training Center in April. The goal of that meeting was to update the group on recent activities and to develop gross cost estimates for the implementation of regional and state-level conservation strategies.

6. Brook Trout Restoration. The NCWRC completed seven brook trout restoration projects in September 2007. These restorations involved moving wild Southern Appalachian strain brook trout from source streams to fishless streams. These streams will be evaluated for success (population survival, range expansion, and evidence of reproduction) in August 2008.

7. Triploid Trout Production. The NCWRC completed research on producing triploid brown trout and brook trout. Overall, rates of triploidly have been near 100%. The NCWRC currently owns two pressure chambers. By 2009, all trout released from a NCWRC hatchery will be triploid.

8. Economic Impact of Trout Fishing in North Carolina. The NCWRC will contract out a study after July 2008 that will document the estimated expenditures of trout anglers in North Carolina and determine the economic impact to the economy of North Carolina.

Kentucky Department of Fish and Wildlife Resources – Dave Dreves

News

Cumberland tailwater trout stocking dates will no longer be announced.

Advisory signage about Didymo has been produced and posted at the more popular trout fisheries throughout Kentucky.

A statewide trout management plan is still under development.

Cumberland Tailwater Update

Wolf Creek Dam repairs are continuing. The mandated lake level remains at 680 ft, the same as last year. More information will be given in the PowerPoint presentation.

We continued brown trout research in the Cumberland tailwater by doing a strain evaluation of this year's stocking of 8 in. fish. Similar numbers of Plymouth Rock and Sheep Creek strains of similar mean size were differentially marked, stocked in March and then relative performance was observed. Sheep Creek strain browns persisted in the population much better than the Plymouth Rock. The CPUE of Sheep Creek strain was 50% greater than the Plymouth Rock CPUE in December electofishing sampling. The strains appeared to have similar growth rates. This study will be repeated again in one year, timed with a creel survey so relative susceptibility to angler harvest can be analyzed.

Missouri Department of Conservation – Mike Kruse

1. Bohigian Conservation Area - The Department recently acquired this 432-acre area containing 1.25 miles of Mill Creek, a self-sustaining wild rainbow trout fishery. Last fall, a group of approximately 50 volunteer anglers helped construct a number of "skyhook" bank structures to enhance adult trout habitat in the stream. The structures have withstood several flood events this spring.

2. Department staff are working to develop a system that would use fish waste from trout hatcheries and from future fish cleaning stations as fertilizer in the Department's tree seedling nursery. Preliminary feasibility investigations look promising.

3. 2007 marked the 10th anniversary of the special trout fishing regulations for the upper 3 miles of Lake Taneycomo (12- to 20-inch protected length range for rainbow trout; artificial lures and flies only). Sampling conducted in August of 2007 showed that the rainbow trout population was near record levels of density and size structure. Taneycomo has been subjected to flood flows up to 40,500 cubic feet per second this spring, but assessment of habitat damage has not yet been possible due to continuing high water. As part of a National Fish Habitat Initiative project, investigations are underway to evaluate the potential of a forebay diffuser in Table Rock Lake for enhancing the quality of water discharged into upper Lake Taneycomo.

4. Zebra mussels were discovered in Lake Taneycomo in 2007, creating concern that the water supply for Shepherd of the Hills Hatchery may be contaminated. Although zebra mussles have not been detected in the hatchery, precautions have been implemented that require all trout leaving the immediate waters of our five coldwater hatcheries to be treated in transit for zebra mussels. Movement of fish between hatcheries is a common practice, so this precaution was necessary for the entire Missouri coldwater hatchery system.

5. A recent article that appeared in Fly Fisherman Magazine ("The Trout Beautiful Project") brought attention to potential techniques for enhancing the appearance of hatchery trout developed by Dr. Rick Barrows at the USFWS Fish Technology Center in Bozeman, Montana. Using a combination of special rearing conditions and a diet containing copper salts, hatchery trout with full fins and a wild trout appearance were produced. As a result of the article and subsequent public inquiry, MDC hatchery personnel have communicated with Dr. Barrows and have undertaken steps to assess the appearance of hatchery rainbow trout and investigate the cost of an alternative diet.

9. New winter delayed harvest trout fisheries were developed this past year in St. Joseph and Kirksville. The trout were purchased from private hatcheries and the Department shared costs with local communities. Stocking occurred in early November and the fisheries were managed with catch-and-release regulations and artificials-only tackle restrictions through January 31. Harvest under statewide regulations began on February 1. Eight such fisheries using cooperatively-purchased trout and delayed harvest regulations are now created each winter.

10. New guidelines to guide trout stocking rates are being developed. Biologists are working to integrate new information on trout habitat quality along with other variables, to develop the new stocking formula. In addition, a new allocation system for the stocking of surplus broodstock is also being developed.

11. Recent calculations have determined that the average 12-inch rainbow trout produced in Missouri's coldwater hatchery system costs approximately $1.29 to produce. Costs included in the calculation were: feed, salaries, utilities and all other operating costs. Costs of vehicles, fuel and long-term costs of facility replacement or renovation were not included.

12. The Missouri Department of Conservation is participating in the Recreational Boating and Fishing Foundation's Lapsed Angler Marketing Effort in 2008. A two-stage postcard mailing, reminding lapsed anglers to purchase a fishing permit, has been directed towards 66,000 lapsed Missouri fishing permit buyers. The RBFF has provided cost share on the project and has purchased statewide radio ads and magazine ads to support the effort.

Monte Seehorn – USFS retired

Monte discussed the loss of hemlocks in riparian areas along southern Appalachian trout streams due to the hemlock wooly adelgid. Monte mentioned that the loss of these hemlocks offered a prime opportunity for habitat improvement projects.

SCDNR – Dan Rankin

Dan updated the committee on BKT restoration on 5 streams in the Sumter National Forest. Two streams totaling 7.5 miles have been restored by removing BNT and reintroducing southern Appalachian BKT. This is a partnership between SCDNR, USFS, GSMNP, Clemson University and TU with assistance from GADNR and NCWRC. SCDNR staff monitored three sites on both restored streams last year and found successful natural reproduction at all sites. Dan has been working with TU to develop a proposal for restoration of headwater BKT streams on the 34,000 acre DNR Jocassee Gorges property. SCDNR staff assisted with renovation of a private pond on Matthews Creek. Matthews Creek is the largest BKT stream in SC. The pond is a private in-holding on DNR's Watson Heritage Preserve. The SCDNR developed an agreement with the landowner to only stock BKT in the pond to preclude introduction of competitive species into Matthews Creek.

SCDNR researcher Dr. Barbara Taylor is working on a BNT bioenergetics study for Lake Jocassee. The objective of the study is to develop optimum stocking density for BNT under various habitat and forage conditions.

The SCNDR's Walhalla Hatchery was also hit hard with conditions associated with the recent drought. Hatchery staff did an excellent job of maintaining current production under extreme drought conditions. Staff battled Ich and IPN throughout the spring and summer. Dan extended thanks to the NCWRC for their assistance in providing Pisgah strain BKT eggs to meet Walhalla's future production needs and to develop a brood stock. SCDNR had previously been getting BKT eggs from the state of VA, but this source dried up due to hatchery renovations and tough conditions in VA hatcheries.

The SCDNR is currently working through the FERC re-licensing process on the Lake Murray tailwater (Lower Saluda River). A past study has identified tremendous growth potential for trout in the tailwater with growth rates in the range of ¾" per month. However, lack of minimum flows and dissolved oxygen have limited holdover of trout through summer and fall months. These are two of many issues being addressed during the FERC re-licensing process.

A revision of SC's trout brochure is nearing completion. SCDNR is in the process of reviewing fisheries laws and regulations and trying to make sure that all regulations are constitutional. The SC State

Constitution alludes to the need for fish management zones to be developed for fish regulations to be assigned to. This creates a special challenge for trout regulations since they are often specific to certain segments of streams.

SCDNR legal staff has also been reviewing public access rights to state navigable waters.

SCDNR staff continued work on the Partners for Trout project. This is a habitat restoration project partnering with the USDA-NRCS, the Foothills RCD, USFWS, TU and many other partners. The project addresses habitat restoration of trout waters on both private and public land. To date approx. $1.5 million has been allocated toward restoration projects with the majority of the base funding originating from farm bill projects.

Arkansas Game & Fish Commission – Jeff Williams

The Trout Management Program (TMP) of the Arkansas Game and Fish Commission (AGFC) recently completed a management plan for the Bull Shoals and Norfork Tailwaters. The plan was approved by our Commission in April and is the last plan for the major tailwater trout fisheries on the White River System. Although the plan is completed, we will still have some major decisions to make regarding special regulations aimed at quality rainbow trout management. The decisions are being delayed until we receive the final result of a University of Arkansas Cooperative Research Unit bioenergetics study, which should be completed this fall.

In October 2007 we conducted the second year of sampling to evaluate recent management changes on the Beaver Tailwater. In January 2006, AGFC implemented a 13-16 inch protected slot limit on the Beaver Tailwater with the objective of improving he abundance of quality (> 16 inch) rainbow trout. This regulation was accompanied by a 25% reduction in the number of catchable (11-inch) rainbow trout in this system annually. Sampling results indicate that the rainbow trout population has yet to exhibit a response to these management strategies. There has been no change in the abundance of rainbow trout within the protected slot limit and no rainbow trout > 16 inches were observed during the population sample. This coming fall the TMP will initiate a study to estimate trout growth and mortality rates in the Beaver Tailwater, which will help to determine potential revisions to management strategies. A creel survey will be conducted concurrently to allow us to estimate mortality resulting from exploitation.

In January 2008, a settlement was reached in a lawsuit against a developer that had cleared approximately 100 acres overlooking Norfork Dam for a residential development. The developer had not applied for necessary permits nor had he installed any erosion controls. Runoff from the development brought excessive amounts of sediment into the Norfork Tailwater, which prompted action from the Arkansas Department of Environmental Quality (ADEQ). The lawsuit against the developer was initially brought against the developer by ADEQ, but was later joined by the Arkansas Chapter of TU. The settlement required the developer to pay $150,000 for damages. ADEQ received and TU each received $50,000 of the settlement money and $75,000 went into a supplemental environmental protection (SEP) fund.

Heavy rains early in March-April 2008 have resulted in high reservoir water levels in Arkansas and the need for the U.S. Corps of Engineers to release water from floodgates at all but one of the dams on the White River System. Maximum turbine discharge from Beaver Dam is approximately 6,000 cfs, but floodgate releases exceeded 90,000 cfs. Norfork Dam floodgate releases exceeded 80,000 cfs. These releases resulted in heavy damage to property and angler access facilities. Continuing turbine releases have prevented evaluation to the extent of the impact to physical habitat. One major impact was the loss of approximately 364,000 rainbow trout from our Jim Hinkle/Spring River State Hatchery. During the first round of flooding, about 100,000 rainbow trout ranging from 4-11 inches in length were lost to mortality as water quality deteriorated after intake screens were clogged with flood debris. The second round of flooding required evacuation of the hatchery, which is located on an island in the Spring River. Hatchery personnel decided to release about 264,000 4-7 inch rainbow trout into the Spring River rather than lose them through mortality. Stocking numbers will have to be adjusted to account for this loss.

Finally, in September 2007 zebra mussels were discovered in Bull Shoals Lake. Major impacts to the tailwater trout fishery are not anticipated. However, the Pot Shoals Net Pen Facility, which is located on Bull Shoals Lake and serves as a trout grow-out facility during the winter, will be impacted in their fish distribution procedures. Fish from Pot Shoals are stocked in waters throughout the state. Therefore, each load of fish will have to be chemically treated prior to being stocked into waters that do not have zebra mussels. The treatment consists of two steps and requires a 2-3 hour soak time. For long distance runs this will not pose much of a problem as the first step can be administered at the beginning of the trip and the second part can be done halfway. However, the required soak time will greatly reduce the number of local trips that can be made in a single day.

Presentations:

Development of the Bull Shoals and Norfork Tailwaters Trout Management Plans – Jeff Williams, Arkansas Game and Fish Commission.

Jeff provided a very interesting overview of the stakeholder process used by the AGFC to develop a management plan for the Bull Shoals and Norfork Tailwaters. The trout management plan was developed to establish clear management goals for the trout fisheries in these tailwaters. Jeff provided a very insightful overview of the intensive public involvement process used to help insure that the desires and expectations of the angling public were incorporated in the plan.

Through a series of public meetings, the AGFC sought public input to aid in the development of management plans for the trout fisheries on Bull Shoals and Norfork Tailwaters. The public meetings were facilitated by Spencer Amend of Dynamic Solutions Group. This new process will become the standard that the AGFC Trout Management Program will use to ensure the public plays a role in determining the future of trout fishing in Arkansas.

The resulting trout management plan was approved by the AGFC in the Spring 2008.

Wolf Creek Dam Repairs and the drought of 2007 – Dave Dreves, Kentucky Department of Fish and Wildlife Resources.

Dave gave an interesting presentation on the impact Wolf Creek Dam remediation had on the tailwater trout fishery downstream in 2007. The Cumberland River downstream of Wolf Creek Dam is a 75-mile long premier trophy trout tailwater fishery. Wolf Creek Dam repairs caused the lake to be held over 40 feet below full pool. Lower lake levels caused late spring and summer 2007 stream temperatures to rise to critical levels in the lower 40-mile section of the river. The problem was exacerbated by severe drought. Dave worked with the Corps of Engineers to provide the best releases possible during the critical period, including the use of deeper sluice gates to keep the river cooler. The KY DFWR ultimately decided to allow liberal harvest of trout in the lower 40-mile section from the vicinity of Burkesville downstream to the state line. Limits in the lower section reverted from trophy trout regulations to a 10 fish daily limit beginning in mid-June. The limits in the upper section remained: brown trout – 20-inch minimum, 1 fish daily creel; rainbow trout – 15-20 inch protective slot, 5 fish daily with only 1 fish > 20 inches.