

# COOPERATIVE MEETING FOR THE ENHANCEMENT OF COLDWATER FISHERIES

**February 13, 2016**

## AGENCY ATTENDEES:

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James Everett	TVA	jheverett@tva.gov	
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Hill Henry	TVA	thhenry@tva.gov	(865) 632-6360
Carson Jackson	Vols on the Fly	Kgn417Wvolsutk.com	(431) 273-5010

## TN TU COUNCIL OFFICERS AND CHAPTER MEMBERS IN ATTENDANCE

Mike Bryant, Vice Chair (LR)	George Lane, Treasurer (GSM)
Linda Good, Secretary (OM)	Don Denney, Web (Hiwassee)
Steve Brown, NLC Rep. (CR)	Frances Oates, Communications (CR)

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\*Chapter not represented.

## TVA:

Hill Henry, TVA spoke to the \$906K contribution to Fish and Wildlife Service. Distribution includes: 56% for Dale Hollow; 21% for Erwin Hatchery; 7% for Chattahoochee; and remaining to smaller project areas. Henry Hill introduced the TVA presentation personnel.

James Everett, TVA River Operations. Management Apalachia Dam Outage for a Cable Replacement (70-years old) is on target to be complete by early March 2016. Currently in a wet pattern (rainfall) reported for reservoir areas surrounding the Apalachia dam. This high rainfall means high flows. Have been able to recover most of the water for the spring fills. Review of the project work including scaffolding. In addition to cable replacement, included cooler and generator maintenance. Q&A: Denney. Will generator work be finished by the early March project finish date and will the footbridge be restored; endangered terrestrial plant is there. TVA has personnel responsible. All work will be finished March 6.

Dennis Baxter, Tailwater Operations. Tailwater reservoir releases improvements. Aquatic Community Assessments in Five TVA Tailwaters (Mayfly, Stonefly & Caddis EPT, but primarily but includes midges, scuds, black flies). Reported on Samples of aquatic populations in five tailwaters. Using a Biotic Integrity Index to score of population as well as a Benthic sampling. Apalachia, Cherokee, Norris, South Holston, & Wilbur. From 1974 on Apalachia. Cherokee from 2003. Norris from 1973 (midge population is high). South Holston since 1974. Midges and EPT mostly. Wilbur. Same EPT and Midges population are primary. Benthic communities have responded favorably to reservoir release improvements. Didymo does not appear to be negatively impacting benthic and fish densities in tailwaters, shifts in diversity have been noted. Disagreement from the audience as to Didymo impact. Matt Kulp discussion of use of IBI as a sampling device. Baxter replies that it is only a tool but not precise.

Shannon O'Quinn, Watershed Protection and Improvement. TVA does fish and benthic monitoring in over 500 streams outside the tailwaters to target watershed improvement efforts and watch trends. TVA works with partners to do watershed improvement projects and improve fish passage. Have completed some culvert removal and are evaluating others e.g., Briar Creek (Nolichucky) is a possibility to create connectivity by removing man-made barrier. There is high aquatic species biodiversity in the Tennessee Valley. Working in Clinch/Powell, Duck/Elk, Paint Rock, and Bear Creek watersheds. Providing incentive to land owners to create riparian improvements. Hidden Rivers Film documentary with Fresh Waters Illustrated. American Rivers also a partner. Removal of small dams. TDEC work with Tennessee Healthy Watershed Initiative. Attempting to do preventative work rather than restorative. TN River Network Event (August meeting this year). Evan Cruse (TVA) has film resources to Hidden Rivers Film Documentaries.

## **TENNESSEE TECH**

Dr. Justin Murdock, TN Tech. Current distribution and potential spread of Didymo in TN. It's an algae that forms long stocks which present as mat (non-living stalk) material. It changes the physical habitat of the stream and changes flow in addition to decreasing the recreational appeal of the stream. It also changes the food resource. Map of study site areas in Eastern Tn. How the Didymo was detected. Cells can be present without mat formation. Cells (not mats) show a correlation with higher pH, magnesium, dissolved phosphorus, lower total nitrogen, temps, depth, and canopy cover. Lower sulphate and phosphate concentrations are conducive to mat growth. Q&A included distinctions of phosphorous content; information concerning trout ingesting, etc.

## **NATIONAL PARK SERVICE**

Matt Kulp, Fisheries Biologist NPS/GSMNP. Studies of fish and water projects in the Park. The heritage of the park is being protected including SABB. Twenty streams have been identified for restoration and 11 have been restored. It is a 3-year effort. Lynn Camp Prong story. Two miles in Cades Cove area (upper Anthony Creek at Cades Cove) will be next effort. SABB haven't been there for about 70 years. Reached a settlement with Duke Power company allows employment of personnel—need volunteers to assist with other Park efforts. Will be removing SABB and holding them while treatment takes place. Little Cataloochee Creek is another project. Next topic is Acid Deposition. Water quality has improved but soils have been depleted over the long run causing a decrease in positive ions and, consequently, buffering capacity of the soils. (The State has a list of streams with low pH—12 of the streams in the Park are on this list.) Thirty streams in the Park being looked at to determine targets for emissions reduction. Park Service has not considered liming because it is a temporary fix and lets the emissions providers off the hook. Following Rocky Mountain National Park's model of reducing emissions. Meetings happening to get buy-in for the plan currently taking place (listed in presentation). Q&A GMO impact? More important are the new contaminants being left in the water by newly developed products (drinking water).

## **TWRA**

Jason Henegar, TWRA introduces Jim Parham, Parham & Associates developing a high definition stream survey (HDSS) method. They are changing the turbines at Center Hill which might cause changes in habitat amount, distribution, and suitability for trout; and an increase in bank erosion. HDSS is a method of surveying habitat and documenting. Can collect all necessary information in one pass including GIS information. Traditional methods are too slow, too expensive and don't deliver a wide range of data. On the other hand, HDSS uses kayaks, backpacks, boogie boards to collect a massive amount of data on video sensors and other instruments (e.g., hydrolabs), which is integrated and matched to the needs of a particular client. It surveys much more area with fewer resources than traditional methods.

Jason Henegar made the presentation for Thomas Johnson on production and post-stocking performance of hatchery-raised SABB. Historically the Tellico Hatchery was the only source of SABB for propagation. Improvements were made to hatchery techniques at Tellico. The current research studies the Tellico Hatchery, the Erwin hatchery, and the aquarium at Chattanooga—natural water sources vs. recirculating city water system as a resource for propagation. Erwin (spring-fed system) was least productive due to warmer water. Stock was taken back to original source (LP Hampton Creek and Sycamore Creek). Brood stock was “held over” for a year which produced higher robust populations. Q&A Could these eggs be used for TIC? No, due to time of spawning Christmas holidays and reintroduction in difficult places. However, Jason did indicate that TWRA was in the process of acquiring other strains of brook trout, whose eggs could be distributed to TIC projects.

Jim Habera, TWRA Region IV update. Six new populations of SABB will be introduced into the projects (Stoney Creek). Now 111 populations outside the Park; 146 miles of SABB water. Revising the statewide trout management plan using the data from project work. Tailwaters: Getting ready to start tailwater sampling starting with Clinch in a couple of weeks. First half of March will include others. 2015 Report should be available April. What we saw last year were

increases in most tailwaters; substantial abundances Fort Patrick Henry. South Holston—during the Didymo era, we have seen 3-4 increase of wild trout population but to a lesser degree on other systems. Boone monitor shows no drastic impact from the work that's going on. Also put a logger out in the Fort Patrick Henry but high water has negated pulling it out. Including add Cherokee, Fort Patrick, and Boone in future management reports. Q&A: Have you stocked fingerlings in last 3-4 months in the Clinch (Browns)? No. Clinch was middle of the pack in abundance of 18" until slot limit was imposed. Have had trouble getting enough Northern strain BT but getting some from Wyoming and will use Erwin Hatchery for reproduction. (These would be the eggs that would be available for TIC projects.)