

TU Tailwaters Work Group

Submitted Best Practices and Lessons Learned

Oklahoma

- Lower Illinois River
 - Tenkiller Dam on the Lower Illinois River was built in 1952 with the water held above for flood control, hydroelectric generation and public water supply. No minimum flow has been allocated for downstream.
 - A “leak” in the sluice gate of the Tenkiller Dam had been providing the necessary water for habitat below the dam. A repair in mid-June during hot weather resulted in a major fish-kill.
 - After it was determined that there was no allocation for water below the dam, OK TU started an advocacy effort to inform the public of the situation.
 - OK TU convinced the USACE, SWPA and elected officials that they needed to take action, as the loss of the trout fishery was a \$5 million impact on the regional economy.
 - A collaborative effort between USACEW, SWPA, and ODWC provided a solution of a “low flow” pipe to provide 50 cfs into the area where the fish kill occurred.
 - OK TU is still working on the lack of allocation of water for the fishery.

Texas

- On the Guadalupe, low dissolved oxygen is not an issue – the real problem is flows.
- For years, the relationship between TX TU and the state river authority was antagonistic, but TX TU changed this to cautious partners with the following tenets:
 - Flow requests based on science, gathered flow and temperature data for years and then modeled what was needed to sustain trout populations.
 - Look for common goals and identify where compromising specifics will not compromise intent.
 - Build relationships. Invite them to our events and attend theirs.
 - Focus on the issues, not the personalities.
 - Engage subject matter experts, in this case, to do temperature to flow modeling.
 - Keep on top of any developments in your watershed and the agencies that manage waters. Watch for proposed changes in operation and respond accordingly.
 - Overall, acknowledge and play the politics of the situation and build relationships. Go along to get along.

Arkansas

- In Arkansas, the primary challenges are not with water quality, but flow, temperature, flood control dams, issues of high and low water, and bank / habitat restoration.
- Key points:
 - Maintain and strengthen relationships with key government agencies, the state game & fish agency, and the USACE.
 - Seek involvement from other non-profit organizations; partner and share opportunities and issues.
 - Seek insight and awareness from fishing guides and TU members on conditions, issues and challenges.
 - Utilize the community voice of business owners who are adversely affected.

Arizona

- Lees Ferry Management Plan – a unique situation, but good lessons.
 - The Asst. Sec of Interior named a work group of approximately 25 stakeholders, known as the Glen Canyon Dam Adaptive Management Program.
 - This included several sub-work groups such as the Asset Management Work Group in which AZ TU actively participated.
 - The group utilized the Grand Canyon Monitoring and Research Center as a support resource to get scientific evidence to back their arguments.
 - Over the period of time, the key to success was the ability and willingness to listen to one another and to recognize that this one resource means so much to so many was vital to getting sport fishermen's interests and concerns met.
 - The group addressed a wide variety of factors impacting both the trout and native fisheries, including how temperature, dissolved oxygen, population, and spawning are monitored and evaluated.
 - The issue of water discharge in regard to annual releases is determined by the accumulated treaties, agreements, and pacts designated by the Law of the River, which unfortunately leaves no flexibility for adjusting annual discharges. The group had to work within the parameters they were given.
- The lesson here is that it is important to get stakeholders together and be willing to listen to one another to find common ground.

Tennessee

Hosts an annual Cooperative Meeting for the Enhancement of Cold Water Fisheries (aka the Coldwater Meeting) with state and federal agencies. This provides the TN Council and Chapters the opportunity to interact with federal and state employees, private / corporate agencies, and members of academia that are involved with fisheries research. The meeting provides:

- Updates on the status of ongoing and completed coldwater conservation efforts and what is being planned for the coming year. This includes question and answer sessions and

allows the TU members to express concerns with projects and how these activities affect coldwater resources and fishing opportunities

- The opportunity for TU to offer its volunteer resources and to learn where there are funding shortfalls where TU may be able to contribute from its conservation funds generated by its specialty license plate fund.
- The opportunity for TU partners to offer their unique expertise to support TU sponsored activities (e.g., snorkeling and fish shocking during TN Council's annual Trout Camp)
- The opportunity for TU to request additional consideration for protection of coldwater resources (e.g., minimum flows to keep the majority of the river bed wet to ensure a sustainable aquatic ecosystem with biotic diversity as great as feasible)
- Some of the specific results in improvements/expanded programs include:
 - TWRA, NPS and USFS's Southern Appalachian brook trout habitat restoration and refurbishment of a dedicated brook trout hatchery; USFWS and TWRA economic data to convince TVA to continue its support of stocking of trout below its dams.
 - TVA's special generation schedules to support TN TU chapter programs including river cleanups, veterans programs, TU's women initiative, youth fishing days.
 - Results shared with chapters re: TWRA's annual monitoring of fishery populations in tailwaters below TVA dams
- The meeting also allowed for some controversies to be addressed and resolved, including:
 - Dry river bed: release of water to keep the riverbed wet, particularly during spawning in the fall and winter. In the late 1980s as a result of public meetings, TVA agreed to release water 30-60 min/day up to 6 times per day to ensure a continuous supply of water. This issue was resolved as TVA altered its generation schedules and built re-regulating weirs that hold water in between generation pulses to improve its stream flows below the dams
 - Low DO: as a result of those same public meetings in the 1980s, TVA installed 16 weirs below its dams to improve minimum flow and dissolved oxygen in tailwaters. In addition to the weirs, TVA also decided to port generation turbines to add additional aeration and construct liquid oxygen injection systems in several of its reservoirs during periods of low oxygen in the summer.
 - Continued trout stocking: with USFWS budget cuts, funding shortfalls for hatcheries had to be picked up by TVA and TWRA. Initially, TVA resisted contributing roughly \$1 million/yr because there was no federal law which required it to do so and the rate payers in the Tennessee Valley, not all have cold Tailwaters near where they live, would have to pay for this expense through their electric bills. But with aggressive lobbying with TN legislators in Congress, TVA determined that it fell into its economic development criteria to support tourism and economic growth and agreed to fund its portion of the stocking program in the tailwaters below its dams.

Colorado

Lessons Learned from the Upper South Platte River

- The mainstem of the South Platte River is one of the more important and heavily used fisheries in the state, comprising of self-sustaining populations of rainbow and brown trout.
- Drafted a Streamflow Management Plan for the Upper South Platte River as a “local alternative” to U.S. Forest Service recommendation to designate the River under the Wild and Scenic Rivers Act.
- Plan identified opportunities to balance operation of water supply facilities with protection and enhancement of trout fisheries and whitewater recreation.
- The Plan has four main goals to protect and enhance trout fisheries. It will: maintain minimum streamflows, minimize streamflow fluctuations, temperature moderation, and manage peak streamflow. This type of streamflow management cannot be done under the Wild and Scenic Rivers Act.
- Collaboration occurred between the Colorado Division of Wildlife, Denver Water, the City of Aurora, Trout Unlimited, Wigwam Club, American Whitewater, and the Park County Water Preservation Coalition.
- Water rights issues:
 - Participants had to navigate water rights for the region. Most water rights for the South Platte basin are irrigation rights on the eastern plains dating back to the 1860s.
 - This often forces Denver Water and the City of Aurora to pass natural water flow through their reservoirs to the plains, unless they exchange or trade rights.
 - The Streamflow Management Plan seeks to alter the naturally occurring streamflow fluctuations to benefit fisheries and whitewater recreation.

New York

- Some good general points to remember:
 - Focus primarily on higher baseline releases, thermal protection, yo-yo releases, and looking at flood mitigation, show the importance of sustainable economic benefits a river based economy provides, and other long term benefits of more and consistent cold water bottom releases.
 - Put aside the "poison pen" and try the “good neighbor” approach by beginning to not only address concerns of the fishery but that of the local communities and visitors to the region.
 - Do things to put your money where your mouth is. We started stream restoration efforts in tributaries to our tailwaters, not just addressing the obvious reasons for restoration like great spawning habitat, but to address local residents concerns as well looking at potential loss of human life, loss or damage to personal property, and sediment transport, all caused by historic flooding.

Points from the Friends of the Upper Delaware River

- Organized and held local meetings to educate public on all issues to get feedback from locals on our thoughts and concerns, we continue to engage public and be as transparent as we possibly can.
- Collaboration is key:
 - "Speaking with one voice" is important. We made every effort to unite all conservation groups to find common ground and work together. Any diversion from this path immediately opened the door to vulnerabilities from the community of decision makers we needed on our side.
 - Organized our first "Water Water Everywhere, Future of the Upper Delaware River"(WWE) meeting and invited only the decision makers and a select "in the know" group of advocates (on neutral ground in Hancock) to discuss issues and possibilities of our concerns. We have had an annual WWE meeting now over the last 7 years.
 - Formed the Delaware Watershed Conservation Coalition (DWCC) uniting conservation groups with regular scheduled conference calls in an attempt to be as transparent as possible in the process of obtaining our goals, conservation partners include FUDR, TU, TGF, FFF, WTF, and American Rivers.
 - Joined Americas Great Waters Coalition (AGW) giving our issues national attention by participating in a NATO type concept of action with other great waters.
 - Worked with PFBC & NYSDEC to create and implement the Joint Fisheries White Paper.
 - Expanded our outreach by helping to form Coalition for the Delaware River Watershed (CDRW) continue to sit on steering committee.
 - United and formed coalition of local townships and select NGO's Upper Delaware River Tailwaters Coalition(UDRTC).
 - Organization and formation of business owners coalition, Upper Delaware River Business Coalition.
- Attended meetings that anyone held to discuss our issues, (this was not easy and rarely in our backyard). Traveling to Regulated Flow Advisory Committee (RFAC) meetings in Trenton, New York City Department of Environmental Protection (NYCDEP) meetings in Kingston, and New York State Department of Environmental Conservation (NYSDEC) in Albany was the norm.
- Worked with experts on the issues.
 - Partnered with experts and others to address negative effects caused by thermal stress conditions and yo-yo-releases.
 - Partnered with experts and multiple conservation organizations and helped create and endorse Garth Pettinger's "Equitable Apportionment Plan" (EAP) as an alternative or guide to Flexible Flow Management Plan.
 - Exploring needs of endangered species in coldwater section of the Delaware, specifically the Dwarfwedge Mussel which may coincide with needs of other aquatic life that require consistent cold water flows

- Education and Public Advocacy:
 - Reached out to industry leaders, Orvis, Patagonia, etc and told them our story and got their support through donations, product for auction items, and for them to share our message on their websites and blogs.
 - Began to fundraise and put our area on the map spotlighting our efforts in a bigger way with the “FUDR One Bug” flyfishing event. The One Bug was used to create awareness of the environmental issues we faced and at the same time provide economic benefit to the local communities. All this was achieved by holding an event that emphasized the recreational economic value of a healthy river system.
 - Continued to provide education and outreach by constantly sending the same message through emails and letters to decision makers and constituents, writing op eds, updating website, setting up a booth at all flyfishing shows and community events, etc.
 - Took decision makers fishing and for floats on the river to observe first hand our concerns while exposing them to the beauty of the river.
 - Scheduled Hill visits with partners to address issues.
 - Meetings with Assemblymen, Congressmen, and State and Federal Senators in our districts.