

Warmwater Streams Committee Open Forum Meeting Minutes

Southern Division, American Fisheries Society

Virtual Meeting

Tuesday, April 6, 2021, 8:00 AM est

Break from 9:50-10:10

American Eel Subcommittee Meeting to follow at 2:00

Agenda

- **Call meeting to order—Kevin Mayes, Chair**
- **Introduction of Technical Committee Members & Guests**
Robby Maxwell, Raynie Harlan, Hannah Burnett, Rob Bourgeois, Josh Eubanks, Beau Gregory (LA), Hunter Hatcher and Jeff Williams (VA), William Budnick (MSU), Ambar Torres-Molinari (NC), Jeff Quinn (AR), Trevor Starks, Jim Burroughs, Tony Rodger (OK), Chris Anderson and Adrian Stanfill (FL), Steve Rider (AL), Stephen Curtis, Kevin Mayes, Steve Magnelia (TX), Twyla Chatwood, Katharine DeVilbiss (NC), Patrick Allison Jr. (Terracorp), Nathan Thompson (AU), Bart Carter (TN), Dennie Riecke (MS), Cindy Williams (SDAFS president elect)
- **Determination of Quorum (5)—Robby Maxwell, Secretary-Treasurer**
Robby Maxwell determined a quorum was met
- **Approval of Agenda**
Robby Maxwell moved to approve agenda, Adrian Stanfill second. Unanimous passage.
- **Circulate sign-in sheet (virtually in chatbox)**
Attendance was taken via Zoom chat function, not all attendees were accounted for before the meeting finished.
- **Secretary's Report—Robby Maxwell**
 - New members
 - Approval of 2020 Meeting Minutes (Little Rock, AR)
Kevin Mayes moved to approve 2020 minutes, Jim Burroughs second. Unanimous passage.
- **Webmaster's Report—Bart Carter**
 - Youtube channel (create new channel for WWSC or abandon)
Action item(s): abandon YouTube channel and focus on Facebook outreach
 - Facebook posts
Action item(s): move outreach efforts solely to Facebook, determine who has administrative privileges on page and expand to others to create more content
 - WWSC page and listserv
Action item(s): abandon listserv
- **Treasurer's Report—Robby Maxwell**
Robby went over report details.

- **Chair's Report—Kevin Mayes**
 - Annual committee report to SDAFS president
- **Old Business**
 - New Officer Installation (Trevor Starks will serve two-year term as Secretary-Treasurer)
 - American Eel Subcommittee hosting symposium for SDAFS 2021
 - Fundraising Opportunities

Members continue to ask state chapters to donate for Jimmie Pigg Memorial Award, potential work shops or training opportunities, continue to get income from WWSC funded book, potentially list WWSC with Amazon Smile under SDAFS 501c for charity revenue
- **New Business**
 - 2021 Jimmie Pigg award winners

Nathan Thompson (MS)-Distribution, abundance, and habitat assessment of Tallapoosa Bass and Joshua Mouser (PhD)-Best management practices for increasing stream health and agricultural sustainability
 - Continuous Temperature Monitoring Initiative (Jeff Quinn)
 - Symposium, Resolution?

There is a general lack of continuous temperature data collection across the southern U.S. compared to other regions despite increasing stream temperatures due to climate change. J. Quinn and others in AR have found nighttime stream temperatures to be climbing. J. Quinn reached out to Aquarius (the company that manages USGS gauge data) and they will not collect or store temperature data unless there is a relatively large number of states or entities interested in doing so. Attendees from AR, TX, LA, FL, VA detailed various temperature data being collected by existing USGS gauges as well as more project specific temperature data collection. The committee discussed temperature data collection methods, data storage, and how data collected would be used in decision making.

Action item(s): Stream temperature monitoring subcommittee formed. J. Quinn will chair committee. Committee members include A. Stanfill, S. Magnelia, H. Hatcher, and B. Carter. Subcommittee will reach out to other committees, SDAFS membership, and interested parties to inquire about the interest in doing a workshop, hosting a symposium, and or applying for a multi-state grant focused on collection and storage of continuous stream temperature data.
 - Other new business from Committee Members

None to report.
 - Officer Election (Chair) and Installation

Stephen Curtis was confirmed as new chair of the WWSC and will serve a two-year term. R. Maxwell moved to approve confirmation, A. Stanfill second. Unanimous passage.
 - Roundtable discussion (may need more time after lunchbreak)

See Appendix I.
- **Adjourn**
- **American Eel Subcommittee Meeting**
 - Schedule of talks for symposium

APPENDIX I. Roundtable notes

The following is a description of research and management activities shared by members and attendees. If an outline of notes was not provided by a state, items were compiled from handwritten notes taken by T. Starks during the meeting.

Louisiana – Robby Maxwell, Raynie Harlan, and Hannah Burnett, LDWF

Virginia – Hunter Hatcher, VDWR

- State of VA assessing statewide musky management plan
- Joint project with Coastal Carolina University assessing catch and release mortality of musky, seeing mortality and high exploitation in Lynchburg area
- Continuing work on Snakehead age, growth, and otolith microchemistry in Potomac River. Assessing natal streams and understanding how expansions across the state occur
- Walleye Exploitation study. Intense walleye culturing and stocking in reservoirs, many pass through dam and create tailwater fishery that is under-utilized according to exploitation estimates thus far
- Started genetic surveillance to track Alabama Bass introgression within the state
- Smallmouth Bass population trend project. Current concerns with decreasing populations, trying to determine causes of high mortality at early life stages, exploring other culture methods to increase Smallmouth Bass production.
- Trying to get grant along with Penn State University to explore climate change impacts on black bass populations

Various states – Will Budnick Michigan State post doc

- Will is a self-proclaimed “crayfish nerd” that has done work in both TX and LA
- Formed a working group that is documenting diversity of stream crayfish, wants updated distribution data from the American Crayfish Atlas (<https://findmycrayfish.web.illinois.edu/>)
- Working group has been assembling data in LA, there have been many changes in distribution and crayfish phylogeny
- Any member interested in sharing crayfish distribution data can contact Will

Arkansas – Jeff Quinn, AGFC

2021 Southern Division AFS WWS – Arkansas update

One of the major bright spots for 2020 was the release of the second edition of the Fishes of Arkansas by Robison and Buchanan. The Arkansas Game and Fish Commission has developed a new stream sportfish standardized sampling protocol (SSP). The Smallmouth Bass management plan is also under revision. AGFC is planning on funding a major Smallmouth Bass Diversity study to evaluate morphology and genetics of the major lineages that exist in the state, as previous studies suggest Arkansas is the center of diversity for the species. Paul Port has recently finished a major assessment of the Crooked Creek Smallmouth Bass fishery.

Large river surveys are ongoing studying catfish fisheries of the Arkansas River and the Black River. Dylan Hann and Eric Brinkman are studying Shovelnose Sturgeon fisheries in the Red River, and this study includes attempting to estimate population size. The White River Paddlefish stock assessment has been ongoing since 2013.

Due to the USFWS mega-petition, Arkansas currently has ongoing status surveys for Longnose Darter, Caddo Madtom, Paleback Darter, and Colorless shiner. Agency biologists have also increased surveying of road crossings using the SARP protocols. Arkansas is cooperating with biologists from Louisiana to study outmigration of silver American Eels in the Ouachita/Black/Atchafalaya river basin.

The Arkansas Natural Heritage Commission recently completed reassessment of the NatureServe conservation status ranks for crayfishes in Arkansas, and this process has been started to re-rank fish.

Although this is slightly old news, Arkansas purchased a conservation easement for the C&H hog farm in the Buffalo National River watershed for \$6.2 million. Bass pro recently purchased the Dog Patch theme park, and the failed septic system at this site was a significant contributor of excess nutrients to the Buffalo River.

Arkansas biologists have continued to collect continuous stream temperature data with Onset tidbit loggers. University of Central Arkansas researchers are monitoring stream water temperatures in basins with multiple SGCN, and T&E species. We are working on developing plans to store these valuable data and make them available to other researchers. An issue is that there is not long-term federal data repository for continuous temperature data for southern states. It appears EPA does have stream regional monitoring networks for the Northeast and the Midwest.

Oklahoma – Tony Rodger, ODWC

2021 SDAFS Warmwater Streams Committee – ODWC Stream Program Roundtable Notes
Virtual Meeting, Virginia Chapter

Fish Community Surveys

- In 2020, we conducted 132 surveys across 44 sites in the Washita River watershed in south central Oklahoma using an occupancy modeling framework
- This sampling effort is geared towards updating our contemporary understanding of statewide fish community distributions and the mechanisms underlying species occupancy.
- We have now completed sampling in all the watersheds in central/western Oklahoma, and our statewide dataset includes 727 surveys across 246 sites thus far.
- This summer we plan on surveying the Verdigris River watershed in north central Oklahoma.

Sportfish Surveys

- Black bass and catfish represent the most sought after lotic species in Oklahoma. Collection of sport fish population dynamics data will be used to establish baseline contemporary data sets and monitor temporal trends in dynamic rate functions in selected stream fisheries. Data from this program will be used to generate statewide standards that will be useful for comparing populations among streams and/or regions to help determine specific management goals. In conjunction, data will be used to evaluate various stream harvest regulations under an adaptive management framework.
- Last fall we collected black bass population dynamics data from the upper Mountain Fork River in southeastern Oklahoma and we collected Blue and Flathead Catfish from the Red River in southern Oklahoma last spring. So far, we

have collected black bass population dynamics data from 9 rivers, and we have catfish data from 7 rivers.

- We plan on sampling the Muddy Boggy in southcentral Oklahoma for catfish in May, and our black bass sampling will be conducted in the upper Illinois watershed in northeastern Oklahoma this fall.
- Finalized land purchase on Baron Fork (tributary of the Illinois River) to provide an additional access point for kayakers and nearly one mile of stream access for bank fisherman.
- We will continue to collect population dynamics data from representative lotic systems throughout Oklahoma before evaluating statewide regulations.

Research

- Using data collected within the Stream Program and solicited from entities throughout the United States we published a paper called “Otolith and scale based growth standards for lotic Smallmouth Bass” to give managers updated standard growth equations based on over 11,000 Smallmouth Bass from 81 rivers across their native range in the U.S. while also providing growth standards like predicted age-specific standard length, percentile distributions of age-specific standard length, and estimates of time required to reach specified size classes calculated separately for individuals based on aging structure used (i.e., otolith vs scales).
- We also published a paper entitled “Length-weight and morphological relationships for ecological studies involving Ringed Crayfish (*Faxonius neglectus neglectus*): an extraregional invader”. This paper serves to provide researchers with regression equations for predicting Ringed Crayfish total length based on various body part measurements and dry weight estimates based on total lengths. We utilized these equations to reconstruct prey sizes in diet studies we were concurrently working on.
- We have a paper entitled “Ontogenetic diet shift, feeding ecology, and trophic niches of the Redspot Chub (Cypriniformes: Cyprinidae: *Nocomis asper*)” in the final stages of revision that we expect will be published soon
- We are nearly finished writing our first draft of a paper detailing seasonal diet habits and microhabitat use of large, introduced Rainbow Trout in an Ozark stream. We have been working with Oklahoma State University investigating the potential effects of this stocking since 2018 and the research concluded last year. OSU already published papers detailing survival and movement of these trout. We made recommendations to our administration that stocking should cease, and the stocking permit was pulled for the private citizen.
- Assisted wildlife diversity crew with Neosho Mucket genetics surveys in the Illinois River
- We continue to assist OSU with a study evaluating the effects of gigging on sucker populations in Spavinaw Creek
- We will be starting research this summer in conjunction with the University of Central Oklahoma in an effort to link Smallmouth Bass genetics to population

dynamics data in the upper Illinois River watershed where both native Neosho Smallmouth Bass and non-native Tennessee-strain Smallmouth Bass (via stockings in Tenkiller reservoir in the 1990s) are present. Using an existing fin-clip collection of around 600 individuals, additional fin-clip/otolith collections during the study, and a SNP panel developed by collaborative researchers we would be able to investigate the effect of genetics on growth rates, update our understanding of the spatial distribution of non-native alleles, determine parental lineage information to assess the trajectory of the upper Illinois River Smallmouth Bass fishery (i.e., will we see continued introgression of non-native alleles into the native genome or has it stabilized), and even assess differences in catch rates among the native and non-native strains by pairing genetics data from a tagging reward study used in the creel study previously mentioned in the bullet above.

- Research on the detection and occupancy of Bluntnose Shiner will also begin this summer with the University of Central Oklahoma.
- Research evaluating spatial and temporal distribution and ecology of Asian carp in the lower Red River basin with Dr. Brewer who is now at Auburn

Florida – Adrian Stanfill and Chris Anderson, FWC

- Research on spring influenced streams in SW region, conducting tagging and tracking surveys to compare backwaters vs. heavily developed mainstem habitats
- SWG grant to state a threat assessment of Peace River. Identified 2 areas for restoration work
- Statewide mussel monitoring project still going on, ramping up long term sampling. Found many T&E spp.
- Recent hurricane reduced Shoal Bass populations in Chipola River. FWC took broodstock from Chipola to spawn and reintroduce while also implementing no-harvest regulation to help population and may conduct habitat project in the future
- Black Creek crayfish distribution project has found increases in other crayfish species
- Habitat suitability work for Redeye Chub and Pirate Perch being conducted in Rainbow River
- Restoration work on Kissimmee River is focusing on Largemouth Bass movement and population effects related to changes in dissolved oxygen
- SGCN studies in Escambia River continue
- Long term fish community surveys continue across 10 rivers to track changes in community structure
- Indexing population structure and spawning/recruitment of Blueback Herring and American Shad continues in the St. John River.
- Discussion between C. Anderson, R. Maxwell, S. Curtis on collection methods of Saltmarsh Topminnow

Texas – Kevin Mayes, TPWD

2021 Texas Parks and Wildlife Department River and Stream Activities for the Southeast Fishes Council and SDAFS Warmwater Streams Committee State Reports

Restoring Guadalupe Bass - The Guadalupe Bass Restoration Initiative, which started in 2010, continues as a priority project for the Texas Parks and Wildlife Department (TPWD) Inland Fisheries Division. A

2020 annual report highlighting the most recent activities and results is available: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_rp_t3200_2079_20.pdf . For more information on the initiative contact timothy.birdsong@tpwd.texas.gov.

Use of fine-scale population and genetic data to inform Guadalupe Bass restoration stocking – Related to the Guadalupe Bass Restoration Initiative, TPWD continues to work to develop more efficient and effective methods to re-establish pure populations of Guadalupe Bass. A new project was initiated in 2019 to develop improved management and stocking strategies suitable for rehabilitation of Guadalupe Bass populations impacted by Smallmouth Bass introgression. This project will test effectiveness of developed strategies varying fish size and stocking density at a fine spatial scale (i.e., short (~1km) reaches separated by instream barriers. For more information contact nate.smith@tpwd.texas.gov.

Texas Instream Flow Program - Instream flow studies have been completed in the Trinity and lower Guadalupe rivers and final reports are expected in 2021. Data from this effort will be used to inform instream flow recommendations for maintaining a sound ecological environment. Study results will be used as best available science for water management to guide state agencies in managing rivers and streams. For more information see Texas Instream Flow Program or contact kevin.mayes@tpwd.texas.gov.

Research to Inform Prescribed Releases for Blue Sucker in the Lower Colorado River, Sabine and Rio Grande - TPWD Inland Fisheries staff collaborated with the TPWD Water Resources Branch, Lower Colorado River Authority, and Texas Tech University on movement, population dynamics, and habitat occupancy studies of the state threatened Blue Sucker. Based on a study completed in January 2019 the upper boundary of population size in the 292-rkm study area was estimated at only 1,089 individuals, and recruitment since 2009 appeared weak. Because of the declining population trend TPWD staff have continued to do annual population monitoring. In 2020 because of low flows and Covid-19 related concerns sampling was cancelled. Monitoring is tentatively planned to continue in fall/winter 2021. For more information contact nate.smith@tpwd.texas.gov.

Environmental Flows Information Toolkit - TPWD has built a decision support tool, the Environmental Flow Information Toolkit (EFIT), to help develop and prioritize strategies for the protection and restoration of natural flow regimes and water levels in Texas aquatic systems. The web-based geospatial platform incorporates multiple data sources and integrated statistical models to serve critical information on water use, hydrologic alteration, and environmental flow targets to meet conservation objectives. EFIT will enable environmental flow practitioners and stakeholders to communicate and collaborate more effectively to achieve voluntary environmental flow protection and restoration strategies. A hydrologic dashboard for the Great Plains is currently available at https://tpwd.texas.gov/landwater/water/conservation/water_resources/efit/index.phtml. For more information contact david.bradsby@tpwd.texas.gov.

BioBlitz Initiative - Since 2013 the TPWD River Studies Program has been collaborating with the University of Texas on bioassessments of rivers and streams adjacent to State Parks and Wildlife Management Areas. This initiative supports management needs of these properties, informs recreational initiatives such as the TPWD's Texas Paddling Trails and River Access and Conservation Area Programs, and guides future research and conservation efforts through TPWD's Native Fish Conservation Area initiative. Bioassessment reports include fish, benthic macroinvertebrate, freshwater mussel, riparian, and instream habitat data, as well as recommendations for improving conditions for aquatic and riparian species and recreational use. In 2020 bioassessment sampling was completed at White Oak Creek and Big Cypress Bayou in northeast Texas. In 2021 sampling is planned for tributaries of the middle Colorado River in central Texas. Completed bioassessment reports are available on-line at the River Studies Reports page on the TPWD web site <https://tpwd.texas.gov/landwater/water/conservation/fwresources/reports.phtml>. For more information contact stephen.curtis@tpwd.texas.gov.

Alligator Gar Research Assessing Inland and Coastal Alligator Gar within Coastal Rivers— Inland Fisheries Division staff continue to focus research on Alligator Gar populations. A study continues

involving identification and estimates of abundance for adult Alligator Gar using side scan sonar in the middle and lower Brazos River. The project will examine Alligator Gar distribution and habitat characteristics across the longitudinal gradient of the two Texas river systems. Using these data, scientists will develop predictive relationships between habitat variables and Alligator Gar distribution in river systems and quantify and compare dynamic rates of Alligator Gar collected from upstream (inland) and downstream (coastal) reaches of the lower Brazos River. For more information contact clint.robertson@tpwd.texas.gov.

Recovery of habitat and fish assemblage in the Llano River following a flood— Following a large-scale flood in the Llano River watershed in October 2018, TPWD Inland Fisheries Division staff began a project to compare post-flood habitat availability and fish assemblage structure to pre-flood conditions that were documented in the preceding decade. The project will also assess the resilience of the assemblage with a focus on Guadalupe Bass, a species of greatest conservation need and also important to local recreational fisheries. Data collected in this project will help inform what, if any, actions might be taken to restore habitat or fish populations following a large flood. For more information contact preston.bean@tpwd.texas.gov.

Recovery of Macroinvertebrate Communities After Flooding Events in the Blanco, Colorado, and Llano Rivers - The objective of this study is to understand the effect of a catastrophic flood event on various macroinvertebrate taxa, and to track the recovery of the macroinvertebrate communities until they stabilize. A final report should be completed in 2021. For more information contact archis.grubh@tpwd.texas.gov.

Collaborative Research to Inform Conservation Decisions for Imperiled Freshwater Mussels - In 2010, 15 of the 52 identified freshwater mussel species that occur in Texas were listed as state-threatened. Since that time, research to fill critical knowledge gaps for managing populations of these species has been a focus of TPWD. In the past three years alone, TPWD has collaborated with the United States Fish and Wildlife Service to fund approximately \$1 million in State Wildlife and Section 6 program grants for freshwater mussel research. For more information contact clint.robertson@tpwd.texas.gov.

Maintaining instream flows and building public support for native fish and mussel conservation and river recreation in the Devils River Basin - The Devils River in southwest Texas is a unique desert river and considered the most pristine river in the state. It is home to many imperiled endemic species such as the Devils River Minnow; however, groundwater pumping poses an imminent threat of reduced spring flows. Baseflow reduction would negatively impact many already imperiled species and degrade one of the state's most remote and scenic paddling and angling destinations. TPWD continues to be engaged in a number of technical studies such as groundwater-surface water interaction and fish habitat availability modeling, as well as building relationships with landowners to help ensure the rivers future. In 2020 an agreement was secured with the Texas Water Development Board to develop hydraulic habitat models for priority reaches of the Devils River. For more information contact sarah.robertson@tpwd.texas.gov.

Salt Cedar Management on the Upper Brazos River – Since 2015, TPWD, in partnership with 100+ local landowners, USFWS Partners for Fish and Wildlife Program, and others, has implemented salt cedar management in the upper Brazos River. Salt cedar infestation poses issues for water, but also degrades habitat for fish and wildlife, including two imperiled fishes. Research studies are underway at sites throughout the upper watershed to evaluate the effects of salt cedar management on water budget, water quality, instream habitat, and riparian plant communities. For more information contact monica.mcgarrrity@tpwd.texas.gov.

River Access and Conservation Areas Program - With more than 95% of the land in Texas privately-owned and the state's population expected to potentially more than double by 2050, the public's access to land for recreational use, especially land close to major urban areas where demand is greatest, is in increasingly short supply. In 2011-2012, TPWD developed the River Access and Conservation Area Program (RACA) to address the need for increased access to the state's rivers and streams. This program has leased 20 public river access sites along the banks of the Brazos, Colorado, Devils, Guadalupe, Llano,

Neches, Nueces, Sabine, San Marcos and South Llano rivers. These leases provided access to more than 45 miles of new bank and wade fishing opportunities and have increased kayak fishing access to more than 250 additional miles of river. For more information contact john.botros@tpwd.texas.gov.

American Eel Studies - TPWD is partnering with the University of Texas at Austin, University of Houston-Clear Lake, USFWS, and citizen-science volunteers to assess the status of American Eel in Texas to better inform conservation and management decisions. The primary objectives of this study were to assess the distribution and abundance, habitat use, movement patterns, and population structure (genetics and demographics) of American Eel across all life stages. Field sampling is primarily focused on the Texas Coastal Plain with a concerted effort to collect glass and elver eel using a variety of gear types (including small-mesh fyke nets and eel mops). A final report for this project is in preparation. In 2020 a State Wildlife Grant was funded which will build, install, monitor, and provide maintenance for up to 12 eel ramps, along the central to upper Texas Coast to further assess the current status of American Eel in Texas. For more information contact stephen.curtis@tpwd.texas.gov.

Monitoring Effects of Arundo Management Study - Arundo is a non-native, cane-like perennial grass that grows prolifically along riparian corridors in moist environments in the U.S. It has been shown to negatively influence riparian and instream environments by altering native riparian community composition, reducing riparian arthropod abundance and diversity, possessing higher proportions of non-native compared to native aquatic macroinvertebrates in root wad habitat, increasing modeled channel depth and current velocity and consuming higher amounts of water than native vegetation. Biological and physical habitat monitoring is being conducted in Barons Creek to assess the effects of herbicide treatment of Arundo and the success of native riparian reestablishment on a long-term scale in the Pedernales watershed. The purpose of this study is to compare biological and physical variables through all stages of Arundo treatment and riparian recovery to assess herbicide treatment effect on biological communities, riparian plant composition and physical stream habitat. Contact Monica McGarrity monica.mcgarrity@tpwd.texas.gov for more information on this project.

Development of an Index of Biotic Integrity for Large Rivers in Texas - The Texas Commission on Environmental Quality and TPWD have Indices of Biotic Integrity (IBI) which are relatively effective for identifying and classifying different levels of biotic integrity among fish and macroinvertebrate assemblages in wadeable streams across Texas. An important next step for Texas is the development of IBI's for larger non-wadeable rivers. A final report for this project should be completed in 2021. For more information contact gordon.linam@tpwd.texas.gov.

Long-Term Assessment of Fish and Freshwater Mussel Community Impacts from a Newly Permitted Wastewater Discharge in the Sabine River - An inter-divisional TPWD team is assessing potential impacts to the Sabine River freshwater mussel community from a wastewater discharge from a new large-scale poultry processing plant. The proposed discharge location is in an area recognized by TPWD as a mussel sanctuary because of the known diversity and abundance of freshwater mussels. Objectives are: 1) Qualitative assessment of mussel community changes upstream and downstream of the wastewater discharge location over four years; 2) Quantitative assessment of mussel community densities and population dynamics; 3) assessment of juvenile mussel growth and survivorship utilizing mussel cages; 4) assess water quality changes; 5) assessment of long term fish community changes associated with potential water quality changes. For more information contact adam.whisenant@tpwd.texas.gov.

Assessment of a Desktop Floodplain Inundation Model Development Process for Biological Studies at a Large Scale - The objective is to compare the accuracy of floodplain inundation models derived from HEC-RAS to GIS derived models utilizing readily available digital elevation models and USGS rating curves. For more information contact clint.robertson@tpwd.texas.gov.

Development of Instream Flow Requirements through Spawning Habitat Availability for Alligator Gar Recruitment Success in the Lower Guadalupe River - Utilizing the Alligator Gar spawning habitat availability model developed by Texas State University and Alligator Gar year-class strength data developed by Heart of the Hills Fisheries Science staff the objective is to develop high flow pulse

recommendations for successful Alligator Gar recruitment success for the Texas Instream Flow Program study on the lower Guadalupe River. For more information contact clint.robertson@tpwd.texas.gov.

Least Disturbed Streams: An Extension of the Texas Aquatic Ecoregion Project - This project is a continuation of the Texas Aquatic Ecoregion Project that originated in the early to mid-1980's. During that time period, a coordinated effort with the Texas Commission on Environmental Quality was initiated to sample least disturbed ecoregion reference streams to establish environmental baselines for the development of indices designed to evaluate aquatic life use (report available at: https://tpwd.texas.gov/publications/pwdpubs/media/pwd_rp_t3200_1086.pdf). The overall goal of the current project is to expand, refine, and consolidate the information on streams in Texas that can potentially serve as least disturbed ecoregion reference streams. The project will also contribute data in support of macroinvertebrate metric regionalization and objectives such as nutrient criteria development by providing data on background concentrations of environmental variables. For more information contact gordon.linam@tpwd.texas.gov.

Activities submitted by Stephan Magnelia, 512-754-6844, stephan.magnelia@tpwd.texas.gov

Tennessee – Bart Carter

- Significant effort focusing on Asian Carp control and research, implemented incentive program to increase commercial harvest of Asian Carp
- Gathering and creating IBI criteria for rivers across the state
- Started collecting age and growth data for black bass populations across the state
- Lake sturgeon restoration program continues, hoping for natural recruitment to begin after years of stocking
- Assisted with FWS on several SSAs
- Pigeon River restoration continues in collaboration with University of Tennessee, continued species reintroduction and monitoring efforts
- Joint project with Tennessee Tech continues to collect genetic and morphology data on crayfish species. Potentially 6-8 new species will be described from this work.
- Also conducting genetic surveillance surveys for Alabama Bass introgression
- AOP projects in conjunction with department of transportation to replace failing road crossings

Mississippi – Dennis Riecke, MWFP

- Large project proposed to alleviate backwater flooding in Yazoo River basin. Department did not provide comment, but MS chapter of AFS submitted comment over concern for fisheries mitigation in the form of providing water to wells in low-flow areas during the summer. Mitigation was not included in project, USACE moved forward with project and was subsequently sued by conservation organizations.
- MS department of environmental quality was seeking comments for impaired water list. It was advocated that waters in the Yazoo basin to be listed due to hydrologic alteration, but that did not make it into the final plan
- Water quality tri-annual review was conducted by the department of environmental quality, new waterbody use classifications were proposed due to EPA removing ephemeral water classifications after new waters of the U.S. ruling
- Freckled bellied madtom surveys yielded more individuals than was initially thought, avoided federal listing
- Asian Carp project movement study continues to assess impacts on native species, started reimbursement project to incentivize processing companies to purchase Asian Carp.