# INLAND FISHERIES 2024 ANNUAL REPORT

Conserving freshwater fisheries resources and providing the best possible public fishing opportunities







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**Front Cover Caption:** The Inland Fisheries Division's Denison District Team installs reef balls as fish habitat improvements within the bed of Lake Ralph Hall, a new reservoir under construction in Fannin County.

### TEXAS PARKS AND WILDLIFE DEPARTMENT

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### **INLAND FISHERIES OVERVIEW**

### Mission

# Conserving freshwater fisheries resources and providing the best possible public fishing opportunities

### Scope

The Inland Fisheries Division provides quality fishing opportunities for 3.1 million freshwater anglers on Texas' 1,100 public lakes and 191,228 miles of streams, creeks and rivers. Whether it's preserving Texas native species and freshwater biodiversity, promoting sportfishing, or serving up a wild-caught, healthy source of protein to feed Texas families, the Inland Fisheries Division plays essential roles in managing and conserving public freshwater fisheries resources to meet the needs of all Texans. The Division exists to sustain thriving populations of fish and other aquatic species, and to sustain recreationally, commercially and economically important fisheries. Simply put, people need fish and fish need the Inland Fisheries Division. In 2022, anglers spent an estimated \$11.1 billion on food, lodging, transportation and equipment while fishing Texas freshwater and coastal waters, and fishing supported an estimated 51,380 jobs in the state.



**3.1 Million** Freshwater Anglers

**191,228** Miles of Streams, Creeks, and Rivers

> **1,100** Public Lakes

### **Agency Goals**

Texas Parks and Wildlife Department's Land and Water Resources Conservation and Recreation Plan (2024) established three primary goals to direct the agency's divisions regarding the state's conservation and recreation needs.

- Practice, encourage, and enable science-based stewardship of natural and cultural resources
- Increase access to and participation in the outdoors
- Educate, inform, and engage citizens in the support of conservation and recreation

### **Division Goals**

Division goals were developed to address major issues facing freshwater fisheries resources of Texas.

- Maintain or restore appropriate conditions to support healthy aquatic ecosystems
- Maintain quality fish communities for recreation and ecological health and value
- Maintain or increase constituent satisfaction, participation, or stewardship
- Employ efficient and sustainable business practices in fisheries management







### Staff

Inland Fisheries has 210.5 positions assigned to management and conservation, hatcheries, outreach, analytical services, science and policy, and administrative programs. For details, see Appendix – Organizational Charts.

### **Facilities**



### **Contact Information**

Inland Fisheries Division • Texas Parks and Wildlife Department 4200 Smith School Road • Austin, Texas 78744 (800) 792-1112 or (512) 389-4444 • www.tpwd.texas.gov

### **Funding and Allocation**

In FY24, \$20,206,387 was budgeted for Inland Fisheries (not including fringe benefits or capital construction). Federal grants through the Sport Fish Restoration Program reimbursed the Department \$8,968,086 for eligible Inland Fisheries activities.

A.2.1. Inland Fisheries Management, A.2.2. Inland Hatcheries Operations

Detail Internal Category Code	Strategy	Aquatic Invasive 0014	Freshwater Fish Stamp 0917	Sand & Gravel 0924	Freshwater Fishing Licenses 0930	Federal Sportfish Restoration 0931	Emoluments 0932	Bass Plate 3047	Rivers Plate 3050	Total
Base-Operating A.2.1.	A 2 1		175,000	75,000	4,090,650	5,719,040				10,059,690
	A.2.1.	3,066,900				500,000				3,566,900
	A.2.2.		1,300,000		2,427,401	2,749,046				6,476,447
Total-Base		3,066,900	1,475,000	75,000	6,518,051	8,968,086				20,103,037
Control Environment	A.2.1.	15,500			77,000					92,500
Capital-Equipment	A.2.2.				169,788					169,788
Capital- Transportation	A.2.1.				257,800					257,800
	A.2.2.				59,354					59,354
Total—Capital		15,500			563,942					579,442
Supplemental- Emoluments	A.2.2.						29,300			29,300
Supplemental-Bass Plate	A.2.1.							38,950		38,950
Supplemental-Rivers Plate	A.2.1.								35,100	35,100
Total—Supplemental							29,300	38,950	35,100	103,350
Grand total		3,082,400	1,475,000	75,000	7,081,993	8,968,086	29,300	38,950	35,100	20,785,829

### WHAT WE DO

### **Fisheries Administration**

The Administrative function of the Inland Fisheries Division occurs primarily at Texas Parks and Wildlife Department (TPWD) headquarters in Austin. The administrative staff provides critical leadership, strategic and operational planning, fiscal oversight, and administrative and managerial support to field offices that carry out the Division mission. The Inland Fisheries Division seeks to maximize collaborative efforts among its work groups to accomplish projects and to achieve the larger goals of the Division. These efforts, at least in part, are due to the close coordination of a small group



of leaders who direct Division activities in the areas of fisheries management, aquatic resources conservation, permitting and consultations, fish production and stocking, fisheries research, analytical services, policies and procedures, regulations, and outreach.

### **Analytical Services**

Analytical Services laboratories serve a unique function within Inland Fisheries by providing scientific analyses of water quality, fish pathology, and fish genetics. Analytical Services conducts a variety of analyses in support of divisional, interdivisional, and inter-agency programs. Analyses are routinely performed in support of ongoing monitoring, routine fish health inspection, disease diagnosis and treatment, program evaluation and focused research conducted by Inland Fisheries.



### Hatcheries

Hatcheries serve as an important component of Inland Fisheries resource management. Fish stocking is one of several essential tools used to protect, manage and enhance statewide fisheries resources as well as achieve specific fisheries resource objectives. Stocked fish must meet specific requirements including number, size, genetic integrity, diseasefree status, and time of stocking. Hatchery-stocked fish are used to start new fish populations, supplement existing fish populations, restore depleted or threatened populations, provide fish in small urban lakes, enhance population genetics and performance, take advantage of improved habitat, and increase angler opportunities and success. Also, hatchery personnel are involved in outreach programs and agencysponsored fishing events as well as providing educational hatchery tours to the public and students of all ages.

Hatchery teams operate from two regional offices (San Marcos, Graford), and five hatcheries (A.E. Wood Fish Hatchery in San Marcos, Dundee Fish Hatchery in Electra, East Texas Fish Hatchery in Brookeland, Possum Kingdom Fish Hatchery in Graford, Texas Freshwater Fisheries Center in Athens).



### **Fisheries Management and Conservation**

The Fisheries Management and Conservation Branch monitors sport fish populations, fish habitats, and angler utilization in Texas rivers and lakes and recommends harvest regulations, fish stockings, fish habitat improvements, and other actions to sustain high-quality fishing experiences. Additionally, the Branch monitors the status and trends of Texas' 191 species of native freshwater fish, 52 species of native freshwater mussels, 54 species of native crayfish, and other freshwater taxa and implements actions to conserve the state's freshwater biodiversity.

Branch teams accomplish these activities through cooperation with angling organizations, local communities and municipalities, the fishing industry, property owners, river and



lake authorities, other natural resources agencies, river conservancies, watershed alliances, and others.

Examples include the restoration, enhancement, and preservation of habitats in watersheds, springs, creeks, rivers, and lakes, as well as the management of aquatic invasive plants in lakes (e.g., giant salvinia, water hyacinth) and riverscapes (e.g., giant reed, saltcedar, elephant ear). The Branch also works with partners to improve and expand fishing, paddling, and boating opportunities through the delivery of programs such as Texas Paddling Trails, River Access and Conservation Areas, Habitat and Angler Access Program, Neighborhood Fishin', and the Guadalupe Bass Restoration Initiative. Branch teams assemble science-based and data-driven plans to guide and evaluate effectiveness in achieving fisheries management and conservation goals. Branch teams operate from three regional offices (Waco, Tyler, San Marcos), 14 district offices (Canyon, Wichita Falls, Abilene, Denison, Dallas-Fort Worth, Waco, San Angelo, San Antonio, Austin-San Marcos, Tyler, Marshall, Jasper, College Station-Houston, and Corpus Christi), the Texas River Center (located in San Marcos), and the Aquatic Habitat Enhancement Program office (located in Brookeland).

### **Fisheries Science and Policy**

The Fisheries Science and Policy Branch develops, shares, and uses the best available science to inform policy, regulations, and programs that support the conservation and management of freshwater fisheries resources. The Branch coordinates Division-wide efforts to develop proposals for fishing regulation and exotic species rules changes, obtain public input on changes, and communicate proposals to the Parks and Wildlife Commission. Aquatic natural resource conservation efforts include consultations and technical guidance on development projects/permits, statewide permitting,



coordinating responses to fish kills and pollution events, and investigating, restoring, and recovering damages to natural resources. The Branch coordinates aquatic invasive species policy and regulations as well as the agency's Aquatic Invasive Species Working Group, which leads efforts on prevention, management, and research. The Branch also furnishes data expertise for Division and Agency-wide assessments and disseminates general information to the public regarding fishing, access to public aquatic resources, and aquatic resource conservation.

The Heart of the Hills Fisheries Science Center in Mountain Home provides leadership, support, and coordination for Division research activities. They conduct intensive research investigations and give scientific guidance and support in the form of experimental design, statistical analyses, and literature, and develop science-based position papers that inform critical aquatic resource-related issues.

### **Texas Freshwater Fisheries Center**

The Texas Freshwater Fisheries Center (TFFC) in Athens is a multipurpose facility that strives to provide educational experiences representing the breadth of the Inland Fisheries Division to the public. A main component of TFFC is serving as a working state fish hatchery that produces millions of fish each year to meet the stocking needs of fisheries managers. TFFC also serves as headquarters for the Toyota ShareLunker program and is home to the Texas Freshwater Fishing Hall of Fame. On average, 40,000 people visit the center annually; at least 14,000 of those are youth aged 12 and under. The visitor center is open to individuals and families six days a week



in spring and summer, and five days a week in fall and winter. In addition, TFFC provides high-quality, intensive, hands-on outdoor and science educational experiences for K-12 students and educators. Special events are held throughout the year to encourage and enhance constituent participation. These activities result in connections to aquatic resources in Texas, information about Inland Fisheries management, conservation, and hatchery efforts, and great fishing experiences.

### SUMMARY OF ACCOMPLISHMENTS

During 2024, TPWD leadership coordinated input across all divisions, our stakeholders, and the public into the Agency's programmatic strategies and priorities, resulting in updates to multiple strategic and operational plans including the Land and Water Resources Conservation and Recreation Plan, Outdoor Recreation Plan, State Wildlife Action Plan, and Natural Agenda. Updated strategic priorities for 2024-2033 were adopted by the Texas Parks and Wildlife Commission. Initiated at the beginning of 2024, progress in delivery of the Agency's updated strategic priorities is now being tracked and reported quarterly by the TPWD Executive Director to the Commission. Below is a summary of outputs and outcomes tracked and reported in 2024 to spotlight the impactful contributions of the Inland Fisheries Division in advancing the TPWD mission:

- 3,911 fisheries surveys performed to ensure the science-based management and conservation of Texas freshwater fisheries resources
- 56 fish habitat and angler access improvement projects (see appendix)
- 9,893,400 acres of aquatic vegetation managed on Texas lakes to enhance fish habitat and fishing access
- 2,207 project-based consultations performed and permits issued to guide and inform the conservation of Texas freshwater fisheries resources (see appendix)
- 106 applied research projects conducted to inform the science-based management and conservation of Texas freshwater fisheries resources (see appendix)
- 15,042,108 fingerlings stocked to sustain, restore, and enhance Texas fisheries resources (see appendix)
- 148 fisheries outreach events reached 19,723 participants, supporting Agency efforts to recruit, retain, and reactivate anglers and boaters
- 18 high-use urban fishing sites sustained through the Neighborhood Fishin' Program
- 29 public leased fishing access areas maintained on Texas creeks and rivers
- 18.25 river miles added to the Texas Paddling Trails Network
- 10 science communication events organized and hosted to facilitate information-sharing among TPWD scientists, external cooperators, stakeholders, and the public
- 90% of freshwater Species of Greatest Conservation Need benefited from conservation actions implemented by the Division
- 91 fish kill investigations performed
- 34 fish health investigations conducted, consisting of routine fish health inspections across the state fish hatchery system, pathogen monitoring, and disease outbreak investigations

Additional accomplishments, milestone achievements, and noteworthy fisheries conservation success stories resulting from the efforts of the Division and our partners during 2024 are outlined below:

- 916 entries were made to the Angler Recognition Program, which maintains state record lists for fish caught from public and private waters and water body records for all public lakes, rivers, and bays.
- Over 600 entries were made by anglers into the Toyota ShareLunker Program, which collects data on Largemouth Bass over eight pounds or 24 inches caught from Texas public waters. A total of 31 Largemouth Bass weighing 13 pounds or larger were submitted to the program, including 19 that were loaned to the Division for the selective breeding and stocking program.
- 1,504 entries were made into the Fish Art Contest, with the top 12 works of art to be featured in the 2025 Texas Fish Art Calendar. The contest is designed to foster youth interest in fish, fisheries, and fishing. It encourages K-12 students to submit original artwork of any fish and an essay or poem (grades 4-12) about their entry, its habitat, or efforts to conserve it.
- The Division advised on 490 aquatic vegetation treatment proposals prepared by external stakeholders, such as lakefront property owners who desire to manage vegetation near boat launches, docks, and fishing piers to maintain or enhance recreational access.
- Over 400,000 registered boaters received "Clean, Drain, and Dry" invasive species prevention information.
- Over 70 million impressions were made through radio, online, print, and outdoor advertising as part of the "Protect the Lakes You Love" and "Never Dump Your Tank" aquatic invasive species prevention awareness campaigns.
- Over 100,000 anglers were reached with targeted outreach to prevent the spread of invasive carp through accidental transfer as live bait.
- 50 high-risk lakes were monitored to aid in early detection of zebra mussels.
- 20 lakes were monitored to assess population dynamics of zebra mussels in invaded lakes.
- 65 rivers and lakes were managed to control infestations of aquatic invasive plants.
- Over 80,000 giant salvinia weevils are produced and stocked in Texas lakes to control giant salvinia.
- Over 700 landowners as well as cities, river authorities, the Texas Department of Transportation, and other organizations continued to partner with the Division to treat Arundo (a.k.a. Giant Reed) and other invasive plants along over 400 miles of Hill Country creeks and rivers.
- Wally "Mr. Crappie" Marshall of Anna, Texas was inducted into the Texas Freshwater Fishing Hall of Fame. Marshall revolutionized crappie fishing through development of innovative crappie fishing products, creation of crappie fishing tournaments, and outreach and promotion efforts to recruit anglers into the sport. Housed at TPWD's Texas Freshwater Fisheries Center, the mission of the Texas Freshwater Fishing Hall of Fame is to recognize and honor those who have made a lasting contribution to freshwater fishing in Texas, and to foster a sense of appreciation, awareness, and participation in the sport of fishing.
- TPWD's 2024 Employee Recognition Awards Program recognized the following Inland Fisheries Division employees: Angela England, Dominik Chilleri, Marissa Ferguson, Jacob Johnson, and Jessica Metz. Angela received TPWD's Conservation Award for her coordination and leadership of the Healthy Creeks Initiative, while Dominik, Marissa, Jacob, and Jessica were recognized with TPWD's Outstanding Team Award for their service on TPWD's Recruitment Team.

- Bois d' Arc Lake, a 16,641-acre reservoir in Fannin County, became the first new major reservoir constructed and opened for fishing in Texas in over 30 years. Beginning in 2016, TPWD partnered with the reservoir controlling authority, North Texas Municipal Water District, to identify shared goals and strategies for timber management, fish habitat development, fish stockings, boating access, watershed conservation, mitigation of streams and wetlands, enforcement of fishing and hunting laws, and capacity for emergency response. Outcomes achieved over those eight years set the stage for Bois d' Arc Lake to become a world-class fishery and outdoor recreation destination for Texans and our visitors.
- Large-scale fish habitat and angler access improvements were installed at Lake Ralph Hall, a new reservoir being constructed by the Upper Trinity Regional Water District. Improvements at the planned 7,600-acre reservoir were supported by a \$250,000 grant awarded to TPWD from the National Fish Habitat Partnership.
- The Division informed future acquisition of new state parks through the State Parks Centennial Fund, which was established in 2024 through a \$1 billion appropriation by the Texas Legislature. In 2024, the Inland Fisheries Division actively engaged in site assessments and provided data and information to help inform potential property acquisitions that offer fishing, paddling, boating, and other water-based recreational opportunities. This included assessments of hydrology, water rights, water levels, flows, recreational fisheries, angler and boater access, and contaminants in fish tissue.
- The Division celebrated the 20th anniversary of the Texas Freshwater Fish Stamp, which was
  established by the Texas Legislature in 2004 through passage of H.B. 1989. Since inception,
  the Stamp has generated over \$130 million in funding dedicated to the enhancement of
  freshwater fisheries resources. This included financial support for 63 projects that improved
  bank and shoreline-based angler access; restored and enhanced fish habitats; constructed
  and renovated fish hatcheries and other facilities used to manage and conserve freshwater
  fisheries resources; produced fish at the state's five freshwater fish hatcheries; and purchased
  additional fish from private hatcheries, as needed, for stocking in public waters.
- The Division completed an organizational assessment to obtain employee feedback on strategic direction, organizational effectiveness, job satisfaction, and employee engagement. Referred to as the Survey of Employee Engagement (SEE), this organizational assessment is performed every other year across all Texas state agencies by the University of Texas at Austin Institute for Organizational Excellence. Of the 12 organizational constructs contained in the assessment (i.e., supervision, workgroup, pay, benefits, workplace, strategic, community, information systems, internal communication, employee engagement, employee development, job satisfaction), the Inland Fisheries Division as an organization scored as strong or excellent across all constructs except for pay. Meanwhile, the Division's pay score increased by 16 points over the 2022 SEE. Highlights of the 2024 SEE included meaningful increases in the Inland Fisheries Division's scores for workgroup and community, with positive trends observed for both constructs over the past decade. Meanwhile, a marked decline was observed in the benefits construct compared to the 2022 SEE, with a generally negative trend observed over the past decade. In summer 2024, input was solicited from Division employees at regional meetings and Division Town Hall on ideas, strategies, and recommended actions to help achieve organizational improvements specifically within the areas of pay and benefits.

### **APPENDIX**

### **Stocking Reports**

Species	Quantity Stocked
Blue catfish	754,480
Bluegill	541,007
Channel catfish	962,067
Flathead catfish	308
Guadalupe bass	15,250
Largemouth bass (Florida Bass)	547,409
Lone Star Bass	6,403,120
Palmetto Bass (striped X white bass hybrid)	1,849,215
Rainbow trout	381,220
Red drum	1,284,558
Redear sunfish	5,118
ShareLunker largemouth bass	189,673
Smallmouth bass	305,819
Striped bass	2,151,649
Sunshine Bass (white bass x striped bass hybrid)	8,026,256
Walleye	3,204,860
White bass	184
Total	26,622,193

### **Fish Habitat and Angler Access Improvements**

#### Habitat and Angler Access Program Projects

- 1. City of Early Town Center Pond Kayak Launch and Pecan Bayou Fishing Access Project
- 2. City of Runaway Bay Fishing Access Project at Lake Bridgeport
- 3. Hill at Sims Habitat and Angler Access Project in the Houston metro area
- 4. City of Amarillo MediPark Community Fishing Lake Fishing Access Project
- 5. Upper San Marcos River Invasive Plant Removal Project
- 6. TreeFolks Riparian Reforestation Project in the Texas Hill Country
- 7. City of San Antonio Miller's Pond Fishing Access and Pond Aeration Project
- 8. TPWD Riparian Connectivity Improvements Best Management Practices Reference Project
- 9. Lake Livingston Fishing Piers Project
- 10. City of Iraan Riparian Habitat and Angler Access Project on the Pecos River
- 11. Garner State Park Riparian Habitat Project

#### **Brazos River Authority Fish Habitat Enhancement Grants**

- 1. Lake Somerville Native Plant Nursery Project
- 2. Lake Aquilla Fish Habitat Project
- 3. Lake Granger Fish Habitat Restoration Project

#### **Largemouth Bass Conservation License Plate Projects**

- 1. Lake Brownwood Fish Habitat Enhancement Project
- 2. Ralph Hall Reservoir Fish Spawning Beds Project
- 3. Daingerfield State Park Lake Fish Habitat Enhancement Project
- 4. American Legion Park Pond Fish Habitat Enhancement Project
- 5. Johnson Park Pond #2 at Lake Bridgeport Aeration Project
- 6. Johns Paul Landing Fish Habitat Enhancement Project
- 7. Buffalo Springs Fishing Access Project
- 8. Lake Buena Vista Pond Aeration Project

#### **Rivers and Watershed Projects**

- 1. Blanco River Fish Passage and Bank Stabilization Project
- 2. Guadalupe River Riparian Restoration Project and Habitat Enhancement Workshops

### **Active Research Studies**

#### INTERNAL RESEARCH (FUNDED WITH SPORT FISH RESTORATION OR STATE FUNDING)

- Flood recovery in Central Texas streams A. Grubh
- Inland and coastal Alligator Gar: do differences warrant local-scale management?
   D. Daugherty, M. Baird, C. Robertson
- Devils River gain-loss study D. Young
- Little River Watershed Study D. Young, C. Robertson, M. Kelly, Brazos River Authority
- Identifying native lineages of Largemouth Bass in Texas D. Lutz-Carrillo
- Population structure and hybridization in Headwater Catfish D. Lutz-Carrillo, M. Bean, J. Perkin and S. Parker (TAMU)
- Population structure and hybridization in west Texas Gambusia and Cyprinodon species D. Lutz-Carrillo and M. Bean
- Sequencing of the Florida Bass genome D. Lutz-Carrillo
- ShareLunker and Florida Bass genetic research D. Lutz-Carrillo
- Comparison of early growth rates of Florida Bass fry compared to ShareLunker offspring fry *E. Foster and D. Patterson*
- Effects of feeding regimes on the proximate composition and condition indices of Koi used as forage *D. Patterson and D. Prangnell*
- Impact of forage feeding rate on Florida Bass broodfish spawning D. Patterson, C. Kittel, and D. Gatlin (TAMU).
- Evaluation of growth and survival of standard hatchery produced and selectively bred Florida Largemouth Bass: implications for stocking success and efficiency *M. Farooqi*
- Effects of selected oxidants on Prymnesium parvum cell density and toxicity G. Southard
- Assessing the impact of forward-facing sonar (FFS) utilizing creel data within Texas reservoirs J. Norman, and D. Bennett
- Economics and characteristics of large (>200) fishing tournaments at Lake Fork Reservoir *D. Bennett and J. Norman*
- Habitat use and movement of Largemouth Bass at Toledo Bend and Lake Fork Reservoirs J. Norman
- Recruitment success of fry-stocked hybrid Striped Bass in Texas reservoirs J. Norman
- Blue and Channel Catfish growth, mortality, and gill net selectivity in Texas reservoirs L. Wright, M. Homer, G. Cummings, and Q. Dean
- Evaluation of hybrid Striped Bass stocking rates, relative abundance, and angler distribution in Texas reservoirs *L. Wright and T. Bister*
- Population assessment of the Alligator Gar in the lower Brazos River, Texas M. Baird
- Morone fry deformities as related to maternal stress *M. Matthews, D. Prangnell, and H. Glenewinkel*
- Morone fry early feed utilization and feed transitions *N. Pugliese, M. Matthews, R. Sparrow, and R. Rogers*

- Red drum aging at Calaveras and Braunig reservoirs M. Nisbet, J. Driscoll, and J. Anderson (Coastal Fisheries)
- Evaluation of the utility of self-reported creel survey data using smartphone technology *N. Goldstrohm and J. Clayton*
- Abundance and movement of juvenile and adult Guadalupe Bass in headwater streams on the Edwards Plateau *N. Smith*
- Use of fine-scale population abundance and genetic data to inform Guadalupe Bass restoration stocking *N. Smith, P. Fleming, and D. Lutz-Carrillo*
- Methodology development of using camera traps for Cyprinodon monitoring - R. Mollenhauer, M. Bean, D. Chilleri, P. Bean, J. Perkin (TAMU), and M. Acre (USGS)
- Spatial patterns of Guadalupe Bass x Spotted Bass hybridization in Texas rivers P. Bean, D. Lutz-Carrillo, and N. Smith
- Trajectory of habitat and fish assemblages in the Llano River watershed following a large-scale flood *P. Bean*
- Comparison of recruitment, growth, and catch of Palmetto Bass and Sunshine Bass fingerlings in Texas *M. Homer Jr., and R. Brock*
- Effects of spawning structure on Smallmouth Bass spawn success in raceways and fry production *R. Sparrow and Z. Zemanek*
- Use of ozonated water for Phase 1 Striped Bass production: effect of two pond filling strategies on pond production performance *R. Rogers and P. Bean*
- Comparison of egg size and volume from wild caught and F1 domestic Striped Bass broodstock *R. Rogers and C. Thompson*

#### **COLLABORATIVE RESEARCH WITH EXTERNAL PARTNERS**

#### Funded with USFWS State Wildlife Grant

- Cypress paired-watershed eflow refinement Caddo Cypress Riparian Stewardship - K. Mayes and T. Hayes (Texas Conservation Science)
- Riparian productivity in three Texas river basins K. Mayes and T. Hayes (Texas Conservation Science)
- Multiscale thermal vulnerability for fishes in urbanizing, spring-influenced streams of central Texas D. Young, N. Smith, M. Kelly, M. Troia (UTSA), and N. Loveland (UTSA)
- Conservation genomics of Comanche Springs pupfish M. Casarez and D. Portnoy (TAMU-CC)
- Alligator Gar population connectivity and habitat use in the Trinity River National Wildlife Refuge N. Smith, D. Ashe, C. Robertson, D. Hoeinghaus (UNT) and W. Homan (UNT)
- Evaluating resilience and vulnerability of fish assemblage structure to intermittent flow N. Smith, C. Robertson, J. Rogosch (TTU/USGS), C. Hanson (TTU)
- Blue sucker in the Colorado N. Smith
- Assessing the swimming performance of Species of Greatest Conservation Need fishes of the Guadalupe River to inform stream crossing design and barrier prioritization P. Bean, E. Mager (UNT) and C. Emadi (UNT) (additional funding from federal fish passage)

- Developing and validating bioenergetics models for Guadalupe Bass P. Bean, M. Nisbet, and M. Troia (UTSA)
- Distribution, abundance, and current status of Llano River Carpsucker P. Bean, J. Perkin (TAMU), G. Voelker (TAMU), K. Conway (TAMU), H. Roberts (TAMU), and H. Bart (Tulane)
- Identifying environmental flow thresholds for fish species and communities in Texas - K. Mayes, D. Young, P. Bean, R. McManamay (Baylor), R. King (Baylor), and R. Smith (TNC)
- Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas M. Bean, S. Collins (TTU), and J. Rogosch (TTU/USGS)
- Food habitats of Species of Greatest Conservation Need fishes to inform habitat assessment and restoration in the Red River Basin - S. Robertson, S. Collins (TTU), J. Rogosch (TTU/USGS), and B. Durham (Lubbock Christian)
- Hydrologic monitoring of priority habitats in the Devils River S. Robertson and J. P. Pierre (UT Bureau of Economic Geology)
- Pecos/Devils River extension S. Robertson
- American eel ramp network S. Curtis and G. Guillen (UHCL)
- American Eel: Utilizing modern techniques to assess conservation status in Texas S. Curtis, and M. Casarez and D. Hendrickson (UT)
- Assessment and prioritization of barriers in the Upper Guadalupe River upstream from Canyon Reservoir, Texas: a pilot project *S. Curtis, K. Meitzen (TXST), J. Graham (SARP) and K. Hoenke (SARP)*
- Extensive field effort using a novel gear type to detect recruitment of American Eel (Anguilla rostrata) in Texas S. Curtis, G. Guillen (UHCL) and J. Oakley (UHCL)
- Gap sampling within the Texas Native Fish Conservation Areas Network M. Casarez, S. Robertson, S. Curtis, D. Hendrickson (UT) and A. Cohen (UT)
- Eel ramp extension S. Curtis

#### Funded with USFWS Section 6

- Geomorphic and sediment analysis of the upper Brazos River in response to saltcedar control *M. McGarrity, K. Mayes, K. Meitzen (TXST) and S. Krause (TXST)*
- Assessing acute and chronic thermal sensitivity and exposure of spring-associated fishes *N*. *Smith, S. Robertson, M. Troia (UTSA) and G. Tucker (UTSA)*

#### Funded with USFWS Sport Fish Restoration

- Economic impacts of Lake Texoma recreational fishing D. Bennett, R. Dudensing (TAMU AgriLife), A. Ropicki (UFL/Florida Sea Grant), and M. Mauck (ODWC)
- Survey of anglers in Texas that recruited during the COVID pandemic J. Taylor, D. Daugherty, Z. Thomas (TPWD-CF), N. Guild (TPWD-COM), H. Bauer (TPWD-CF), Sherry Matthews Group
- Use of lapsed-angler focus groups to inform R3 efforts J. Taylor, D. Daugherty, Z. Thomas (TPWD-CF), N. Guild (TPWD-COM), H. Bauer (TPWD-CF), Sherry Matthews Group
- Dimensions of diversity in urban fisheries: examining habitat, fish, and anglers to inform the management of Texas Community Fishing Lakes *R. Brock, C. Huber, P. Bean, S. Collins (TTU), and T. Ausec (TTU)*

#### **Funded with State Aquatic Invasive Species**

- Assessing pathways of introduction of non-native fishes (Sheepshead Minnow: Cyprinodon variegatus and Gulf Killifish: Fundulus grandis) in Texas streams K. Mayes, M. McGarrity, C. Montaña-Schalk (SFASU), and J. Perkin (TAMU)
- Assessing abundance, sex ratio, and space use by suckermouth armored catfish to enhance control efforts D. Daugherty, M. McGarrity, J. Perkin (TAMU), and T. Heard (TXST Meadows Center)
- Assessing the population dynamics and body condition of Zebra Mussels within and between two Texas water bodies with different population trajectories: Lakes Belton and Stillhouse Hollow B. Van Zee, M. McGarrity, and J. Locklin (Temple College)
- Assessment of passive revegetation of upper Brazos River Basin saltcedar management sites *M. McGarrity and T. Hayes (Texas Conservation Science)*
- Evaluating the suppression of Hydrilla verticillata by manual removal and planting native aquatic plants *M. McGarrity and J. Hutchinson (UTSA)*
- Geomorphic characteristics of the upper Brazos River in response to invasive saltcedar management K. Mayes, M. McGarrity, and K. Meitzen (TXST)
- Growth, survival, and reproductive success of zebra mussels *M. McGarrity and M. Misamore (TCU)*
- Impact of zebra mussels on unionid mussels, population dynamics and limiting factors for growth and survival *M. McGarrity and A. Schwalb (TXST)*
- Near real-time detection and monitoring of invasive mussel species in Texas waterways M. McGarrity, G. Hamerly (Baylor) and R. McManamay (Baylor)
- Using remote sensing to map *Arundo donax* populations in Native Fish Conservation Areas throughout Texas to better understand causal factors of invasion and set management priorities *M. McGarrity and J. Martina (TXST)* Suckermouth Armored Catfish genetic biocontrol *M. McGarrity, D. Daugherty, R. Mollenhauer, R. Moran (TAMU), and J. Perkin (TAMU)*
- Suckermouth Armored Catfish thermal refuge and angler utilization R. Mollenhauer, M. McGarrity, J. Smith, and M. Troia
- Australian Redclaw crayfish distribution and population dynamics A. Grubh, M. McGarrity, and L. Williams

#### Funded with External Grants

- Conservation of Diamond Y Preserve and management of aquatic resources *M. Bean and R. Smith (TNC), Funding National Fish and Wildlife Foundation*
- Population structure of Pecos Pupfish M. Bean and J. Hatt (NMDFG), Funding New Mexico Department of Game and Fish
- Mussel silos in the Trinity River C. Robertson, W. Manghum (TRA), and C. Randklev (TAMU), Funding Trinity River Authority
- Distribution and Population Demographics of Asian Carp in the Lower Red River Basin M. McGarrity, S. Brewer (Auburn), S. Collins (TTU), Funding – USFWS Invasive Carp
- Zebra mussel monitoring in Texas water bodies M. McGarrity and A. Schwalb (TXST), Funding USFWS ANS Management Plan Implementation

- Examining OTC uptake and visible staining in calcified structures of fishes N. Smith, D. Crane (Coastal Carolina University), and M. Pfennig (Coastal Carolina University), Funding Coastal Carolina University
- Largemouth Bass Epigenetic Age Determination D. Daugherty, D. Lutz-Carillo, K. Moody (ORNL), Funding – Oak Ridge National Laboratory

### **Scientific Publications and Reports**

- Acre, M. R., T. B. Grabowski, D. J. Leavitt, N. G. Smith, A. A. Pease, P. T. Bean, and P. D. Geeslin. 2023. Mismatch between temperature and discharge disrupts spawning cues in a fluvial specialist, blue sucker *Cycleptus elongatus*. Ecology of Freshwater Fish 32:305-321. <u>https://doi.org/10.1111/ eff.12687</u>
- Arend, W. A., R. Mangold, C. L. Riggins, C. Garoutte, Y. Rodriquez, T. C. Heard, N. Menchaca, J. Williamson, D. McDonald, D. Daugherty, M. McGarrity, K. W. Conway, and J. S. Perkin. 2023. Sexual dimorphism in an invasive population of suckermouth armored catfish: Implications for management. North American Journal of Fisheries Management 43:1735-1749. <a href="https://doi.org/10.1002/nafm.10951">https://doi.org/10.1002/nafm.10951</a>
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- Bennett, D. L. M. T. Driscoll, and J. D. Norman. 2024. Dynamics and economic contribution of large bass tournaments at Lake Fork Reservoir, Texas. Journal of the Southeastern Association of Fish and Wildlife Agencies 11:23-35.
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- Chowdhury, S., G. Hamerly, and M. McGarrity. 2024. Active learning strategy using contrastive learning and k-means for aquatic invasive species recognition. 2024 IEEE/CVF Winter Conference on Applications of Computer Vision Workshops, Waikoloa, HI, pp.848-858. <u>https://doi.org/10.11099/</u> <u>WACVW60836.2024.00097</u>
- Conry, T. M., J. E. Tibbs, M. S. Baird, B. E. Van Zee, H. R. McLane, B. W. Mobley, G. S. Southard, and M. E. McGarrity. 2024. Rapid response and eradication of zebra mussles (Dreissena polymorpha) from Lake Waco, Texas, USA, using a gas impermeable benthic barrier approach. Management of Biological Invasions 15:239-250 <u>https://doi.org/10.3391/mbi.2024.15.2.05</u>
- de Moulpied, M., C. R. Robertson, R. Smith, M. Johnson, A. M. Wootten, E. Martin, R. Lopez, and C. R. Randklev. 2024. Growth and longevity of two imperiled mussel species from the Edwards Plateau of central Texas and its implications for freshwater mussel conservation and management. Aquatic Conservation: Marine and Freshwater Ecosystems. <u>https://doi.org/10.1002/</u> <u>aqc.4224</u>
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- Wedgeworth, M., R. Mollenhauer, and S. K. Brewer. 2023. Variation in Prairie Chub hatch relationships across wet and dry years in the upper Red River basin. North American Journal of Fisheries Management 43:1246-1259. <u>https://doi.org/10.1002/nafm.10842</u>
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### Work with Other Organizations

#### Program Contracts and Agreements

Contracting Entity	Project Title
US Army Corps of Engineers	Control, Response and Monitoring of Invasive Aquatic Vegetation at Lake O' the Pines, Jefferson, Texas
University of Texas at Austin	Gap Sampling within the Texas Native Fish Conservation Areas Network
US Fish & Wildlife Service	Conservation Agreement for Rio Grande Chub and Rio Grande Sucker
William Douglass Shaw	Mountain Creek Lake Damage Assessment
Richard T Woodward	Mountain Creek Lake Damage Assessment
Sam Houston State University	Goods for Service: laboratory equipment to be transferred to SHSU/TRIES in exchange for analytical services
Luminant Mining Company LLC	Use of Lake Area for Fisheries Research (Big Brown Mine B Area)
University of Texas at Austin	Hydrologic Monitoring of Priority Habitats in the Devils River
US Army Corps of Engineers	Weevil Facility for Aquatic Invasive Plant Control at Sam Rayburn Reservoir, Jasper, Texas
Brazos River Authority	Reservoir Fisheries Habitat Improvement Project (System Operations Permit Water Management Plan)
W T Waggoner Estate Inc	Dundee Fish Hatchery Easement on Waggoner Estate
Texas A&M Agrilife Research	Host fish use, reproduction, and propagation potential of two East Texas threatened mussel species
City of Abilene	Abilene Outdoor Adventure Event
Brazos River Nature Center	Angler and Boater Access to the Brazos River
Mississippi Interstate Cooperative Resource Association	A Joint Strategic Plan for Management of Mississippi River Basin Fisheries
Texas Tech University (RTI)	Ecology of Devils River Minnow Dionda diaboli in an invaded stream- riparian ecosystem
Texas Department of Transportation	Healthy Creeks' Initiative in Blanco, Hayes, and Gillespie Counties
Texas Department of Transportation	Healthy Creeks' Initiative in Kerr, Bandera, Comal and Kendall Counties
Texas Department of Transportation	Healthy Creeks' Initiative in Kimble and Sutton Counties
William D O'Hara DBA Bill O'Hara Land Surveyor	Expert Services in connection with the State of Texas v. Kenneth Berry (Cause Number 4232)
Landesign Services, Inc.	Expert Services in connection with the State of Texas v. Kenneth Berry (Cause Number 4232)

Shine & Associates Inc	Expert Services in connection with litigation
Western Association of Fish and Wildlife	WAFWA YY Consortium
Riparian Landowner DBA Dick's Canoes	Angler Access to the Brazos River
Randy Leifeste	Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites
Riparian Landowner	Angler and Boating Access to the Llano River
Riparian Landowner DBA Brazos Outdoor Center	Angler and Boater Access to the Brazos River
Riparian Landowner DBA Pete's Pecan Patch	Leasing Access by Anglers to the Llano River
Riparian Landowner	Leasing Access by Anglers to the Sabine River
Scott Mayes	Access
Riparian Landowner	Lease access for anglers and boaters on the South Llano River
University of Houston Clear Lake	Establishing a Network of Eel Ramps to Monitor Recruitment of Glass and Elver American Eel
Riparian Landowner	Lease access for anglers and boaters on the South Llano River
Riparian Landowner DBA Shady Grove Cam	Angler and Boating Access to the San Marcos River
Texas A&M University-Corpus Christi (RTI)	Conservation Genomics of Pecos Pupfish (Cyprinodon pecosensis)
Baylor University	Identifying environmental flow thresholds for fish species and communities in Texas
Texas State University - San Marcos	Assessing ammonia toxicity of Texas unionid mussels
Brazos River Authority	System Water Availability Agreement
University of Texas Rio Grande Valley	Fish Assemblages of the Rio Grande between Eagles Pass and Laredo, Texas
Texas A&M University-Corpus Christi (RTI)	Conservation genomic assessment of imperiled freshwater fishes endemic to the Pecos and Devils Rivers
Riparian Landowner DBA John Knox Ranch	Leasing Access by Anglers to the Blanco River
University of Texas at San Antonio	Assessing acute and chronic thermal sensitivity and exposure of spring- associated fishes
Texas Tech University (RTI)	Evaluating resilience and vulnerability of fish assemblage structure to intermittent flow
Texas Tech University (RTI)	Statement of Policy Regarding Cooperation

US Army Corps of Engineers	Weevil Facility for Aquatic Invasive Plant Control at Piney Woods Region, USAS
Texas A&M Agrilife Research	Distribution, abundance, and current status of Llano River Carpsucker (Carpiodes sp. cf. carpio)
Southwick Associates	Providing information about TPWD's hunting and fishing license customers to Southwick Associates in order to assist the American Sportfishing Association (ASA) fulfill its obligations under a USFWS grant to develop and share a fishing and hunting license
Riparian Landowner	Angler and Boating Access to the Colorado River
Riparian Landowner	Angler and Boating Access to the Colorado River
University of Texas at Austin	Population genomics in imperiled mussels and their hosts in the Guadalupe River
US Fish & Wildlife Service	National Investigational New Animal Drug (INAD) Program
Texas A&M Agrilife Research	TPWD Land and Water Plan (LWP) Revision
Jeffery B Bennett	Spring Creek Pecos Pupfish Production Pond
University of Texas at Tyler	Surveys of Ephemeroptera, Plecoptera, and Trichoptera Species of Greatest Conservation Need
US Fish & Wildlife Service	Pecos Pupfish Conservation Agreement
National Fish Habitat Fund, Inc.	Lake Ralph Hall Fish Habitat Project
Inc. Texas Tech University (RTI)	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas
Texas Conservation Science, Inc	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites
National Fish Habitat Fund, Inc. Texas Tech University (RTI) Texas Conservation Science, Inc Auburn University	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin
National Fish Habitat Fund, Inc.Texas Tech University (RTI)Texas Conservation Science, IncAuburn UniversityTexas Tech University (RTI)	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin
National Fish Habitat Fund, Inc.Texas Tech University (RTI)Texas Conservation Science, IncAuburn UniversityTexas Tech University (RTI)Texas Tech University (RTI)	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin NDA for Boater Registration and Creel Data
National Fish Habitat Fund, Inc. Texas Tech University (RTI) Texas Conservation Science, Inc Auburn University Texas Tech University (RTI) Texas Tech University (RTI) Texas Tech University (RTI)	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin NDA for Boater Registration and Creel Data Assessing Bigheaded carp populations of the Sulphur River below Wright Patman Lake
National Fish Habitat Fund, Inc. Texas Tech University (RTI) Texas Conservation Science, Inc Auburn University Texas Tech University (RTI) Texas Tech University (RTI) Texas Tech University (RTI) Stephen F Austin State University (RTI)	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin NDA for Boater Registration and Creel Data Assessing Bigheaded carp populations of the Sulphur River below Wright Patman Lake Conservation Status and Life History of Imperiled Fish Species East Texas Streams
National Fish Habitat Fund, Inc.Texas Tech University (RTI)Texas Conservation Science, IncAuburn UniversityTexas Tech University (RTI)Texas Tech University (RTI)Texas Tech University (RTI)Stephen F Austin State University (RTI)Texas Conservation Science, Inc	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin NDA for Boater Registration and Creel Data Assessing Bigheaded carp populations of the Sulphur River below Wright Patman Lake Conservation Status and Life History of Imperiled Fish Species East Texas Streams Cypress Basin Riparian Productivity and Environmental Flow Management: Trend Analysis and Paired-Watershed Assessment (Continuation of Contract ID: CA-0000730)
National Fish Habitat Fund, Inc.Texas Tech University (RTI)Texas Conservation Science, IncAuburn UniversityTexas Tech University (RTI)Texas Tech University (RTI)Texas Tech University (RTI)Stephen F Austin State University (RTI)Stephen F Austin State University (RTI)Texas Conservation Science, IncTexas State University - San Marcos	Lake Ralph Hall Fish Habitat Project Assessment of Gila pandora in Little Aguja Creek (Davis Mountains), Texas Assessment of Passive Revegetation of Upper Brazos River Basin Saltcedar Management Sites Evaluating the spatial and temporal distribution, ecology, and movement of Bighead and Silver Carp and native fishes of the Lower Red River basin Food habits of SGCN fishes to inform habitat assessment and restoration in the Red River basin NDA for Boater Registration and Creel Data Assessing Bigheaded carp populations of the Sulphur River below Wright Patman Lake Conservation Status and Life History of Imperiled Fish Species East Texas Streams Cypress Basin Riparian Productivity and Environmental Flow Management: Trend Analysis and Paired-Watershed Assessment (Continuation of Contract ID: CA-0000730) Geomorphic and sediment analysis of the upper Brazos River in response to saltcedar control

Fishing's Future	George H.W. Bush Vamos A Pescar
729 Properties, LLC	Leased Access on the San Marcos River
Riparian Landowner	Leased access for anglers and boaters on the Brazos River
The Chautauqua Foundation Inc	Leased Access for Anglers and Boaters on the Colorado River
Brenda Jones	Anglers and Boaters on the Brazos River
Texas A&M Agrilife Research	Developing conservation action decision support tool from the NatureServe Rank Calculator
Riparian Landowner DBA Ed C Daniel Ranch	River Access for Anglers and Boaters on the Devils River in Val Verde County
University of North Texas (RTI)	Quantification of physiological performance and other functional traits of Plains fishes in support of mechanistic management and conservation
Johnny Chapman	Anglers and Boaters on the Colorado River
Riparian Landowner	Leased Access for Anglers and Boaters on the Brazos River
Riparian Landowner	Leased Access for Anglers on the Llano River
Sam Houston State University	The Texasinvasives.org Program
Texas State University - San Marcos	Fish and freshwater mussel community assessments in off-channel habitats of the Sabine River drainage
Schreiner University	Decomposition Rate of Plastic in our Waterbodies
Texas State University - San Marcos	Zebra mussel monitoring in Texas water bodies
University of Illinois	TX T-261 Risk Assessment and Conservation of Five Narrowly Endemic Crayfish in eastern Texas.
Caddo Biocontrol Alliance Inc	Biological control of giant salvinia Salvinia molesta in Caddo Lake and other public water bodies containing giant salvinia
University of Texas at San Antonio	Developing and validating bioenergetics models for Guadalupe Bass
Texas A&M University- Corpus Christi (RTI)	Ron Smith Memorial Paddling Trail Access (Waterway Kiosk / Paddling Trail)
Coastal Water Authority	Control of water hyacinth Eichornia crassipes and other aquatic or riparian plant species in Lake Houston and its tributaries
Sabine River Authority of Texas	Aquatic vegetation management and control in Lake Fork Reservoir for FY24 (September 1, 2023 – August 31, 2024)
Sabine River Authority of Texas	Aquatic vegetation management and control in Toledo Bend Reservoir for FY24" (September 1, 2023 – August 31, 2024)
Lavaca-Navidad River Authority	Control of giant salvinia Salvinia molesta and other aquatic or riparian plant species in the Lake Texan

Riparian Landowner	Leased Access for Anglers and Boaters on the Brazos River
Lower Neches Valley Authority	Control of water hyacinth Eichornia crassipes, giant salvinia Salvinia molesta, crested floating heart Nymphoides hydrophylla, and other aquatic or riparian vegetation on Sam Rayburn and B.A. Steinhagen (Dam B) reservoirs and their tributaries
Texas A & M University	Developing spawning protocols and identifying the sex determining regions in suckermouth armored catfish to facilitate the production of neofemales and YY males for use in population control
University of Texas at Tyler	Distribution of the Australian redclaw crayfish in Texas
Northeast Texas Municipal Water District	Control of giant salvinia Salvinia molesta and other aquatic or riparian plant species in the Red River Basin
CHS Camping LLC	Angler lease access for the Guadalupe River at Camp Huaco Springs
San Marcos River Foundation	Landowner Outreach and Education on the San Marcos River
City of Early	Town Center Park Paddling Access Project
Treefolks Inc	Central Texas Floodplain Reforestation Program (CTFRP)
Texas A&M University- Corpus Christi (RTI)	Conservation Genomics of the Comanche Springs Pupfish (Cyprinodon elegans)
Guadalupe-Blanco River Authority	Control of water hyacinth Eichornia crassipes and other aquatic or riparian plant species in the Lower Guadalupe River and lakes Placid, Gonzales, Wood, and Coleto Creek Reservoir
Texas State University - San Marcos	Upper San Marcos River Aquatic Invasive Species Removal and Native Vegetation Repatriation
Pecos County	Habitat Restoration/Enhancement and Shoreline and Bank Angler Access.
Texas State University - San Marcos	Geographic Information System Data Update for Healthy Creeks Initiative 2024
University of Texas at San Antonio	Assessing seasonal variation in thermal refugia use and drivers of angler participation in removal efforts of suckermouth armored catfish in San Felipe Creek, Val Verde County
University of Texas at San Antonio	NDA for TPWD's angler licensing data to further research on assessment of angler engagement in invasive suckermouth armored catfish removal events via survey effort to further management objectives
Hill Country Alliance	Restoration, Landowner Outreach, and Community Engagement for Control of Arundo and Stewardship of Hill Country Rivers
University of North Texas (RTI)	Aiding Imperiled Fish and Mussel Conservation Using Swimming Performance Metrics to Inform the Design or Modification of Road Stream Crossings
Texas A&M Agrilife Research	Freshwater mussel water quality tolerance study in the upper and middle Trinity River
City of San Antonio	Americans with Disabilities Act (ADA) Compliant Fishing Dock for Miller's Pond

Llano River Watershed Alliance	Landowner Outreach & Plant Surveys in Control of Giant Reed (Arundo donax) in the Upper Llano River Watershed, 2024
Texas State University - San Marcos	Using a small unmanned aerial system (sUAS) to model structure- from-motion (SfM) derived terrain modeling of the upper Brazos River
Nueces River Authority	Sabinal, Frio, Dry Frio, Leona, Nueces Rivers, and Turkey Creek 2024 Treatment
Nueces River Authority	San Felipe Creek 2024 Treatment
Texas A&M Agrilife Research	Watershed-Based Conservation Planning to Inform Restoration and Recovery of Texas Threatened and Endangered Freshwater Fishes
Nueces River Authority	San Felipe Creek 2024 Treatment
Trinity River Authority of Texas	Control of giant Salvinia molesta and other aquatic or riparian plant species in the Lake Livingston
US Army Corps of Engineers	Control, response, and monitoring of invasive aquatic vegetation at tributaries of the Red River in northeast Texas including Lake O' the Pines and Wright Patman Lake
Texas State University - San Marcos	Aquatic community assessments in off-channel habitats of Neches and Sabine rivers
University of Texas at Tyler	Aggregation and collation of Texas crayfish records to determine their current conservation statuses and development of an eDNA sampling method for critically imperiled Procambarus crayfish of Texas
Texas Parks & Wildlife Foundation	The Bass University Sponsorship for the Toyota ShareLunker Program
City of Fredericksburg	Healthy Creeks Initiative Donation
Texas Parks & Wildlife Foundation	BassForecast, LLC Sponsorship for the Toyota ShareLunker Program
Texas Parks & Wildlife Foundation	Lew's Fishing Sponsorship for the Toyota ShareLunker Program
Texas Parks & Wildlife Foundation	Strike King Lure Company Sponsorship for the Toyota ShareLunker Program
Texas State University - San Marcos	Stream Crossing Technical Guidance Document
Angelina-Nacogdoches Counties WCID # 1	Control of giant salvinia Salvinia molesta and other aquatic or riparian plant species in Lake Striker
Cypress Valley Navigation District	Boat lane maintenance and boater access on Caddo Lake and Big Cypress Bayou
Harris County	The Hill at Sims Stormwater Detention Basin

### **Grants and Donations — Incoming Funds**

Donor	Amount
Texas Assn of Bass Clubs - cash	\$20,000
Guadalupe River Trout Unlimited - cash	\$15,000
Black Bass Stewardship Program - cash	\$7,000
Texas Parks and Wildlife Foundation NFP - cash	\$175,000
Friends of TFFC - Water Dog aquarium- non-cash	\$39,287
Friends of TFFC - Fryers - non-cash	\$1,006
Volunteer Hours*	\$34,772

\* 5 volunteers for 1,038.28 hours @ \$33.49/hr (Independent Sector's Value)

### **Organizational Charts**

#### **Inland Fisheries Administration**



#### **Management and Conservation**



Regional staff listed on the following three pages.

#### **Management and Conservation — Region 1**



#### **Management and Conservation — Region 2**





#### **Fisheries Science and Policy**



#### **Hatcheries**



Maintenance Specialist

#### **Texas Freshwater Fisheries Center**



### **Analytical Services**





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