

Importance of Collaborative Stewardship in Conservation of Freshwater Fishes and Mussels



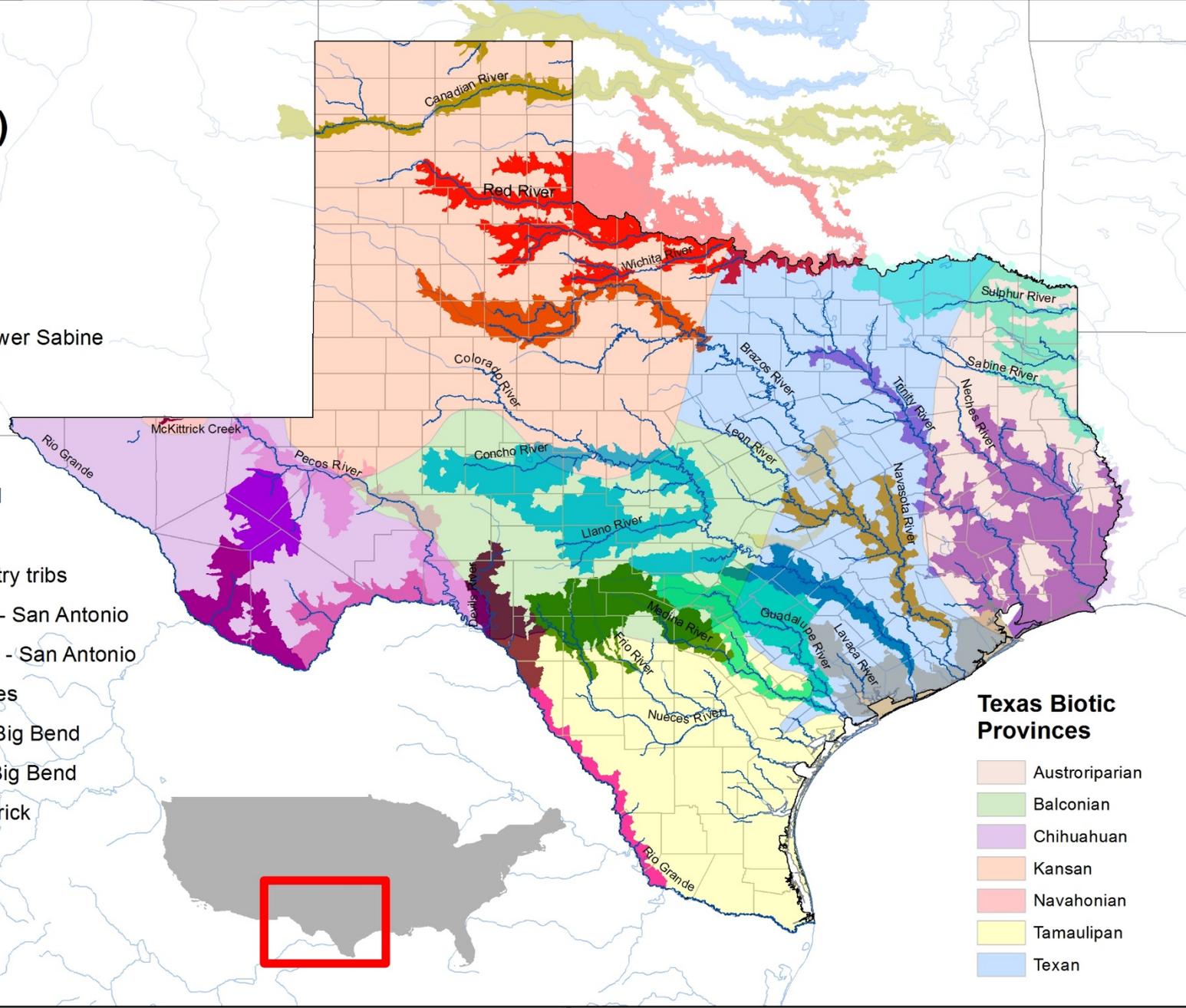
Inland Fisheries

Native Fish Conservation Areas

- ◆ Wild, naturally-produced, self-sustaining populations
- ◆ Functional watersheds
 - Natural land cover
 - Intact riparian buffers
 - Natural river flow patterns
 - Instream connectivity
- ◆ Local stewardship
- ◆ Sustained conservation investments

Native Fish Conservation Areas (NFCAs)

- Kansas
- Canadian
- Red
- Sabine to lower Red
- Trinity - Neches - Lower Sabine
- Brazos - upper
- Brazos - middle
- Brazos - lower
- Brazos - San Gabriel
- Colorado - lower
- Colorado - Hill Country tribs
- Guadalupe - Blanco - San Antonio
- Nueces - Guadalupe - San Antonio
- Central Gulf tributaries
- Rio Grande - upper Big Bend
- Rio Grande - lower Big Bend
- Pecos River - McKittrick
- Pecos River - Toyah
- Pecos River
- Devils River
- Rio Grande - lower



- ### Texas Biotic Provinces
- Austroriparian
 - Balconian
 - Chihuahuan
 - Kansan
 - Navahonian
 - Tamaulipan
 - Texan

Native Fish Conservation Network

An aerial photograph of a river winding through a lush, green landscape. The river is a vibrant blue-green color, contrasting with the surrounding dense vegetation. In the background, rolling hills and mountains are visible under a clear sky. The overall scene is a natural, scenic view of a river ecosystem.

- ◆ Partnership of conservation professionals from NGOs, state and federal agencies, and universities
- ◆ Shared vision of collaborative stewardship across interjurisdictional landscapes
- ◆ Mission – Protect and restore wild and native fishes and the habitats they need to survive.

Partner Roles and Responsibilities

- ◆ Review and adapt the NFCA prioritization to ensure that native fish strongholds are captured within the watershed prioritization
- ◆ Identify priority science needs and conservation actions for preservation of native fishes and their habitats in priority watersheds
- ◆ Serve as a catalyst for cooperation, collaboration, and leveraging of technical and financial resources
- ◆ Facilitate local implementation of the National Fish Habitat Action Plan

Texas Native Fish Conservation Network Goals

- 1) Protect and maintain intact, healthy habitats
- 2) Restore impacted habitats
- 3) Restore stream and habitat connectivity
- 4) Mitigate effects of invasive species
- 5) Organize conservation networks of public and private landowners
- 6) Develop conservation demonstration areas
- 7) Support research to fill critical information gaps
- 8) Conduct monitoring to evaluate, adapt, and refine conservation actions

Conservation Planning within Native Fish Conservation Areas

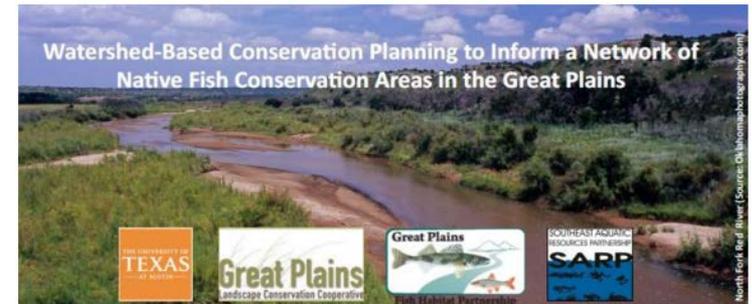
- ◆ **Location (i.e., NFCA)**
- ◆ **NFCA Goal(s) addressed**
- ◆ **Project description**
 - ◆ **Need**
 - ◆ **Objectives**
 - ◆ **Expected Results and Benefits**
 - ◆ **Estimated cost**
- ◆ **Project immediacy**
- ◆ **Project timelines**

NFCA Project Planning Form

A project planning form to describe and transpose project-level actions identified during workshop brainstorming sessions. This form will feed a project planning spreadsheet that will facilitate sorting, prioritization, and further discussions of projects.

ONLY 12 QUICK QUESTIONS

* Required



Your name

Your answer



Project Description *

Short, one-three sentence description of project. E.g., "Conduct an inventory and characterization of low-head dams (not included in the current national inventory of dams)" or "Develop recommended guidelines and best management practices for use of culverts on creeks and streams on private lands"



Assessment → Planning → Action

Bridging the 'Knowing-Doing' Gap in Native Fish Conservation

FIND OUT MORE

Nativefishconservation.org

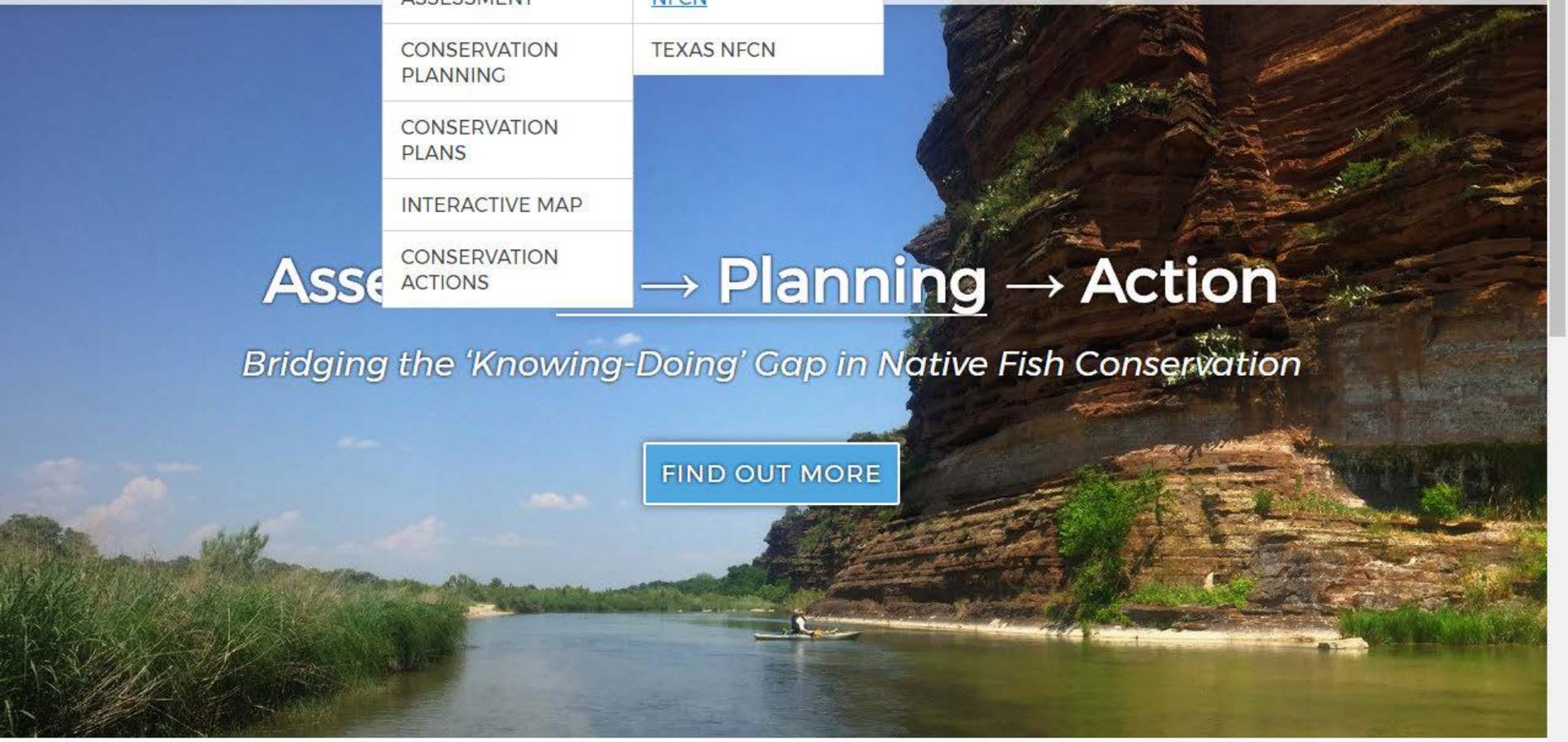


CONSERVATION ASSESSMENT	GREAT PLAINS NFCN ◀
CONSERVATION PLANNING	TEXAS NFCN
CONSERVATION PLANS	
INTERACTIVE MAP	
CONSERVATION ACTIONS	

Assessment → Planning → Action

Bridging the 'Knowing-Doing' Gap in Native Fish Conservation

[FIND OUT MORE](#)





CONSERVATION PLANS



Explore Canadian River conservation plans within the Great Plains Native Fish Conservation Network →



Explore Upper Brazos River conservation plans within the Great Plains Native Fish Conservation Network →



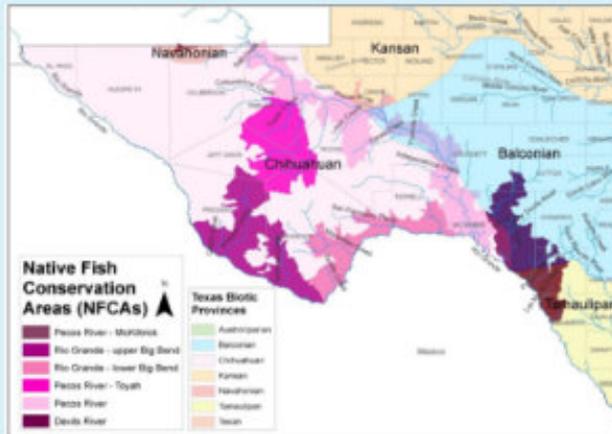
Explore Colorado River, TX conservation plans within the Great Plains Native Fish Conservation Network →



Explore Upper Red River conservation plans within the Great Plains Native Fish Conservation Network →



CHIHUAHUAN DESERT, TEXAS Conservation Plan



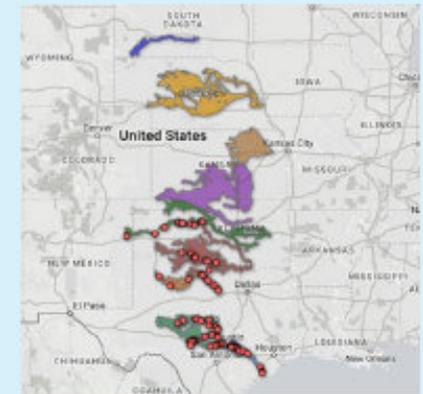
An interdisciplinary team of approximately 55 individuals, representing TPWD Inland Fisheries Division, TPWD Wildlife Division, USFWS - Partners for Fish and Wildlife Program, USFWS Texas Fish and Wildlife Conservation Office, National Park Service, University of Texas, Texas Tech University, Fort Worth Zoo, The Nature Conservancy of Texas, World Wildlife Fund, Desert Fish Habitat Partnership, Big Bend Conservation Alliance and Devils River Conservancy, met by webinar and workshop in fall 2016 and spring 2017. Members were tasked with 1) Identifying priority research,

monitoring, and restoration actions for preservation of native fishes, their habitats and other aquatic resources in the Chihuahuan Desert ecoregion of Texas; 2) Catalyzing cooperation, collaboration, and leveraging of technical and financial resources among local, state and federal natural resources management agencies, universities, non-governmental organizations, and other local partners that contribute to the conservation of native fishes and other aquatic resources in the watersheds of the Chihuahuan Desert; 3) Facilitating local implementation of the National Fish Habitat Action Plan in the Chihuahuan Desert watersheds.

CHIHUAHUAN DESERT, TEXAS ACTION PLAN SUMMARY

Through this workshop process described above there was a delineation of research priorities, monitoring needs and potential restoration actions for preservation of native fishes, their habitats and other aquatic resources within the Chihuahuan Desert Native Fish Conservation Network. These discussions resulted in the identification of almost 80 priority conservation actions and funding needs.

INTERACTIVE NFC PROJECT MAP



SUBMIT YOUR CONSERVATION PROJECT HERE

This form will feed a project planning spreadsheet that will facilitate sorting, prioritization, and further discussions of projects.

[Open Submission Form](#)

Interactive NFC Project Map

Outcomes of the Watershed-Based Conservation Planning Workshops – As of April 2016, watershed-based conservation planning workshops have been conducted for the Native Fish Conservation Areas in the Brazos, Canadian, Colorado and Red rivers.

Over 60 subject-matter experts participated in the workshops. Workshop participants recommended more than 150 project-level actions to conserve freshwater biodiversity in these priority watersheds. Top tier projects are presented.

- Adaptive management and reporting
- Conduct monitoring to evaluate conservation action
- Conduct research to fill critical information gaps
- Develop conservation demonstration areas
- Mitigate effects of invasive species
- Organize networks of public and private landowners
- Protect and maintain intact, healthy habitats
- Restore impacted habitats
- Restore stream and habitat connectivity



SHOW ENTRIES

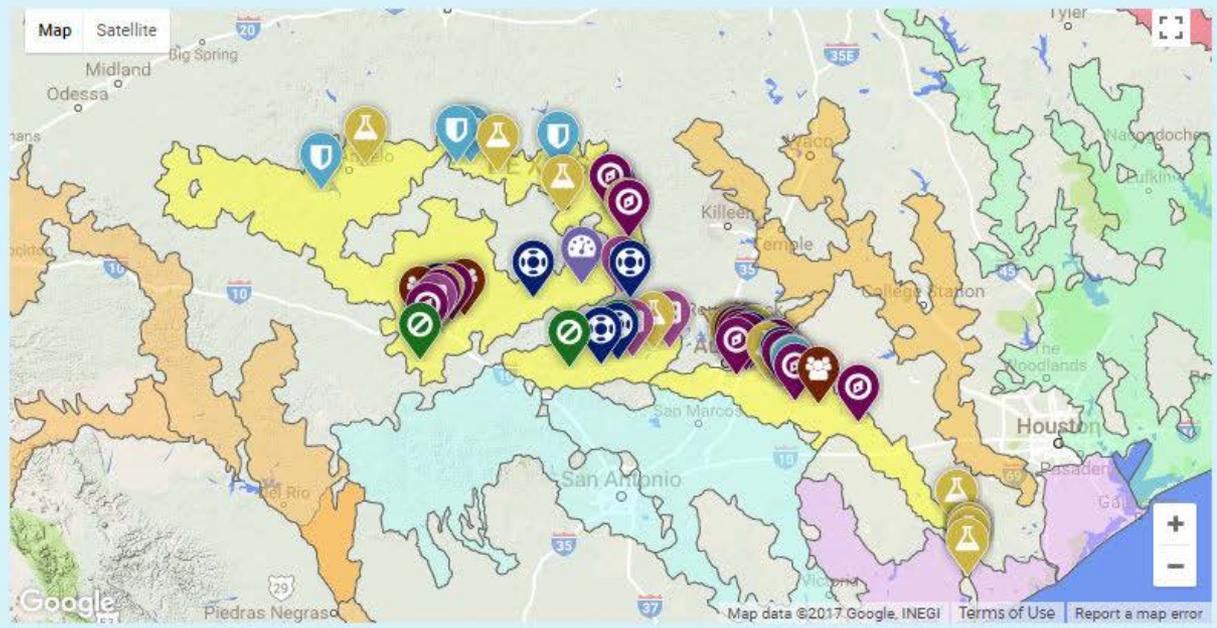
SEARCH



Interactive NFC Project Map

Outcomes of the Watershed-Based Conservation Planning Workshops - As of April 2016, watershed-based conservation planning workshops have been conducted for the Native Fish Conservation Areas in the Brazos, Canadian, Colorado and Red rivers.

Over 60 subject-matter experts participated in the workshops. Workshop participants recommended more than 150 project-level actions to conserve freshwater biodiversity in these priority watersheds. Top tier projects are presented.



- Adaptive management and reporting
- Conduct monitoring to evaluate conservation action
- Conduct research to fill critical information gaps
- Develop conservation demonstration areas
- Mitigate effects of invasive species
- Organize networks of public and private landowners
- Protect and maintain intact, healthy habitats
- Restore impacted habitats
- Restore stream and habitat connectivity

Interactive NFC Project Map

Outcomes of the Watershed-Based Conservation Planning Workshops - As of April 2016, watershed-based conservation planning workshops have been conducted for the Native Fish Conservation Areas in the Brazos, Canadian, Colorado and Red rivers.

Over 60 subject-matter experts participated in the workshops. Workshop participants recommended more than 150 project-level actions to conserve freshwater biodiversity in these priority watersheds. Top tier projects are presented.

Map Satellite

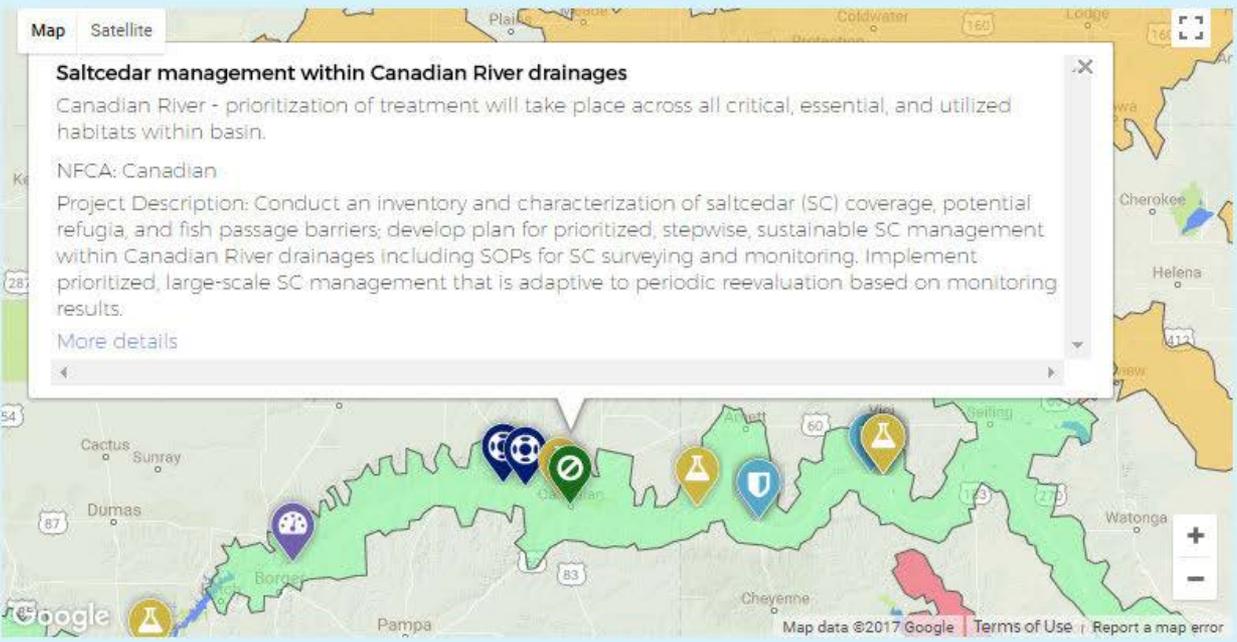
Saltcedar management within Canadian River drainages

Canadian River - prioritization of treatment will take place across all critical, essential, and utilized habitats within basin.

NFCA: Canadian

Project Description: Conduct an inventory and characterization of saltcedar (SC) coverage, potential refugia, and fish passage barriers; develop plan for prioritized, stepwise, sustainable SC management within Canadian River drainages including SOPs for SC surveying and monitoring. Implement prioritized, large-scale SC management that is adaptive to periodic reevaluation based on monitoring results.

[More details](#)



Map data ©2017 Google | Terms of Use | Report a map error

- Adaptive management and reporting
- Conduct monitoring to evaluate conservation action
- Conduct research to fill critical information gaps
- Develop conservation demonstration areas
- Mitigate effects of invasive species
- Organize networks of public and private landowners
- Protect and maintain intact, healthy habitats
- Restore impacted habitats
- Restore stream and habitat connectivity

Interactive NFC Project Map

Outcomes of the Watershed-Based Conservation Planning Workshops - As of April 2016, watershed-based conservation planning workshops have been conducted for the Native Fish Conservation Areas in the Brazos, Canadian, Colorado and Red rivers.

Over 60 subject-matter experts participated in the workshops. Workshop participants recommended more than 150 project-level actions to conserve freshwater biodiversity in these priority watersheds. Top tier projects are presented.

Map Satellite

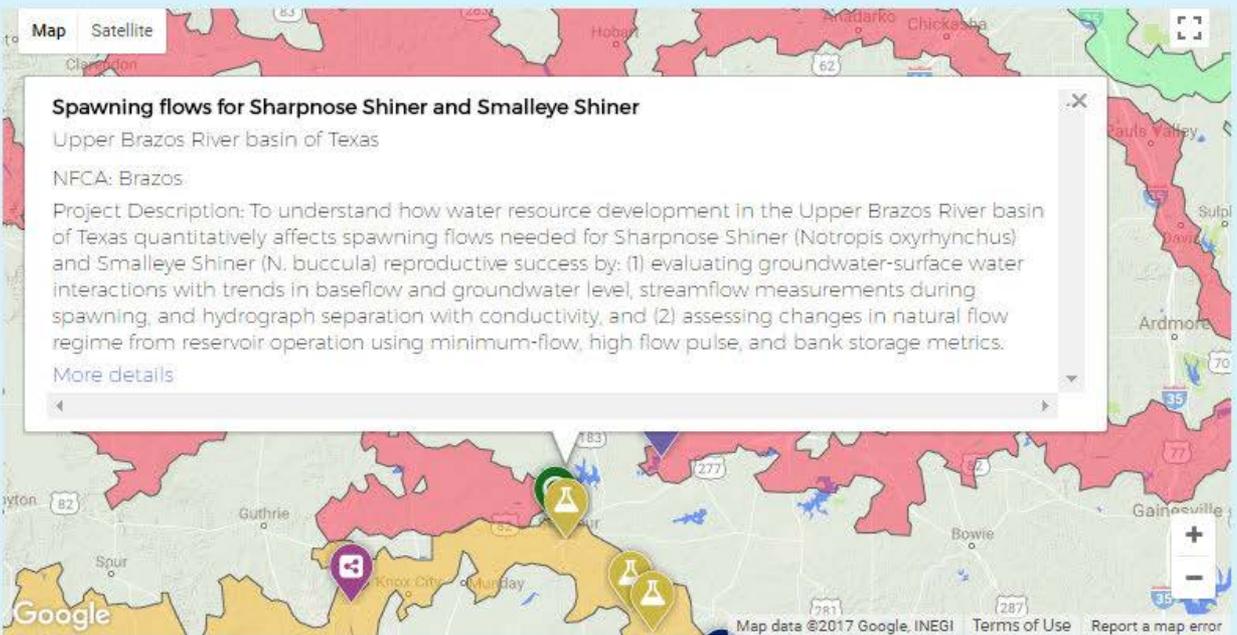
Spawning flows for Sharpnose Shiner and Smalleye Shiner

Upper Brazos River basin of Texas

NFCA: Brazos

Project Description: To understand how water resource development in the Upper Brazos River basin of Texas quantitatively affects spawning flows needed for Sharpnose Shiner (*Notropis oxyrinchus*) and Smalleye Shiner (*N. buccula*) reproductive success by: (1) evaluating groundwater-surface water interactions with trends in baseflow and groundwater level, streamflow measurements during spawning, and hydrograph separation with conductivity, and (2) assessing changes in natural flow regime from reservoir operation using minimum-flow, high flow pulse, and bank storage metrics.

[More details](#)



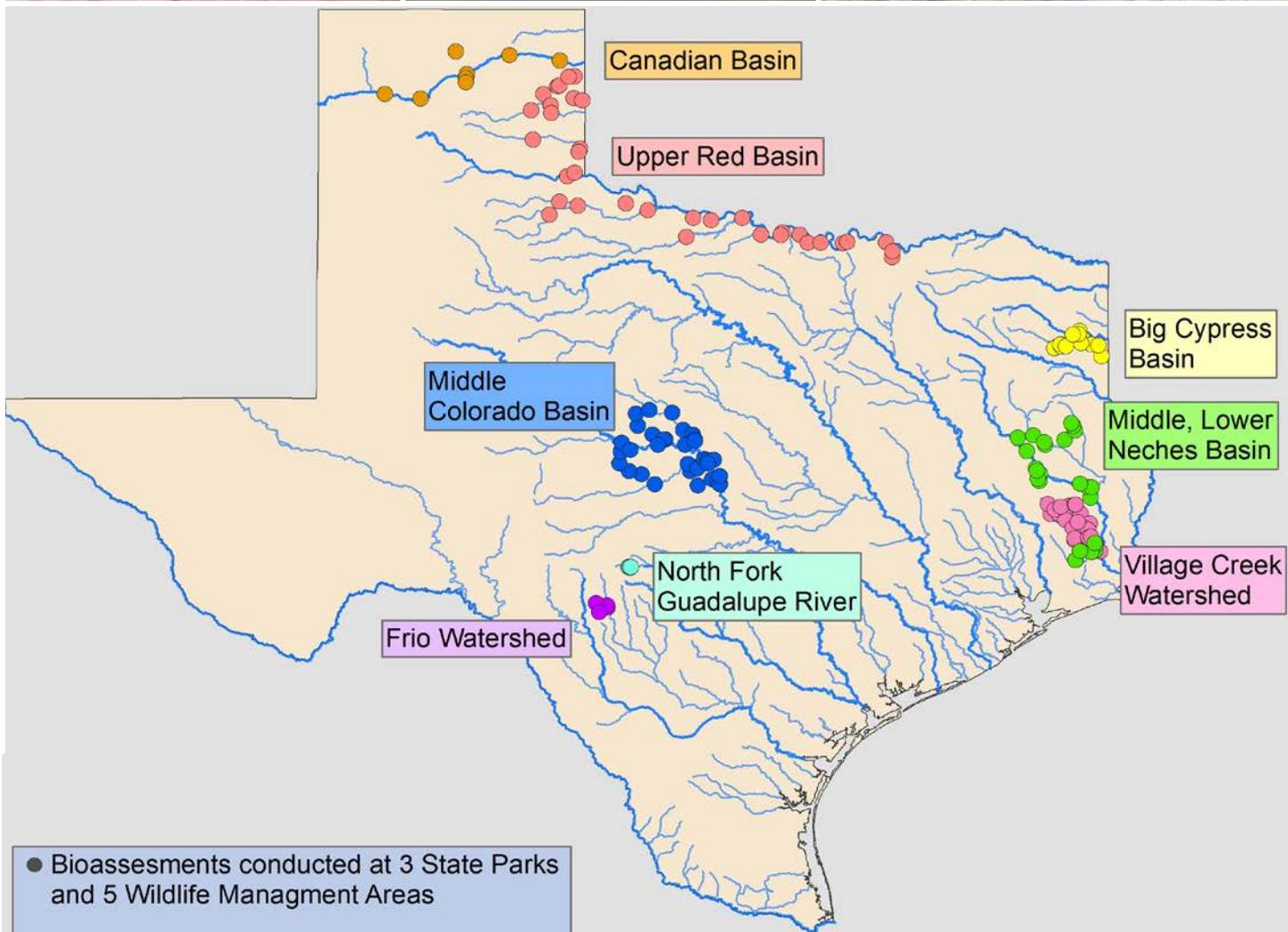
- Adaptive management and reporting
- Conduct monitoring to evaluate conservation action
- Conduct research to fill critical information gaps
- Develop conservation demonstration areas
- Mitigate effects of invasive species
- Organize networks of public and private landowners
- Protect and maintain intact, healthy habitats
- Restore impacted habitats
- Restore stream and habitat connectivity

TPWD Conservation Investments

- ◆ Applied research
- ◆ Species and habitat surveys
- ◆ Stakeholder workshops
- ◆ Conservation education and outreach
- ◆ Community service projects
- ◆ Habitat restoration
- ◆ Habitat preservation through resource management agreements and conservation easements
- ◆ Water rights leases and flow agreements

Middle Colorado River Bioblitz





- Bioassessments conducted at 3 State Parks and 5 Wildlife Management Areas
- 168 Fish collection sites
- 26 Mussel collection sites

TEXAS FARM AND RANCH LANDS CONSERVATION PROGRAM

Protecting working lands from fragmentation and development.



The Texas Farm and Ranch Lands Conservation Program (TFRLCP) complements Texas Parks and Wildlife Department's (TPWD's) mission to conserve natural resources by protecting working lands from fragmentation and development. TFRLCP maintains and enhances the ecological and agricultural productivity of these lands through Agricultural Conservation Easements.

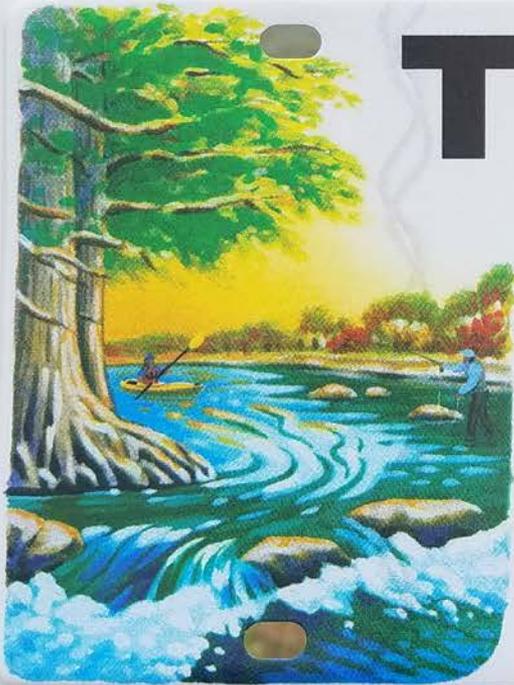
The TFRLCP supports responsible stewardship and conservation of working lands, water, fish and wildlife, and agricultural production through:

- Generating interest and awareness in easement programs and other options for conserving working lands.
- Leveraging available monies to fund as many high-quality projects as possible.
- Highlighting the ecological and economic value of working lands and the opportunities to conserve working lands for the future.

Texas Native Fish Conservation Network

2010-2017 Outcomes

- ◆ **\$1.2M in TPWD funds leveraged against \$4.5M in project funds and \$11M in partner matching funds**
- ◆ **61 river conservation workshops with engagement of > 2,000 landowners**
- ◆ **123,000 acres committed to watershed conservation**
- ◆ **15,890 acres under conservation easements**
- ◆ **> 9,677 acres of habitats restored, including 50 springs and spring complexes**
- ◆ **2 dams and 1 low water crossing removed**
- ◆ **2 bridges redesigned and 1 replaced**



TEXAS

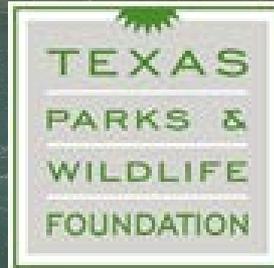


BB01B

TEXAS RIVERS



Conserving Texas Rivers: A Public-Private Partnership



TEXAS PARKS &
WILDLIFE FOUNDATION





Conserving Texas Rivers

- ◆ VIP and donor paddle trips
- ◆ Landowner workshops and “working days” floats
- ◆ Texas Public Radio water symposia
- ◆ Community happy hour and BBQs
- ◆ Wild and scenic films
- ◆ Print media
- ◆ Social media

















SOUTHWEST

September/October 2009

Fly Fishing

MAGAZINE



www.metchehatch.com

Mission Beach
Orilla Verde R.
Green River, V

SOUTHWEST

January/February 2010

Fly Fishing

MAGAZINE



www.metchehatch.com

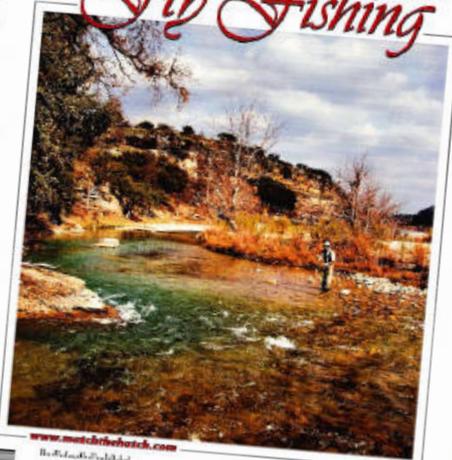
San Marcos River, TX • Horn
Bishop Creek Drainage, CA • 22 •
Gila Wilderness Area, NM/AZ

SOUTHWEST

May/June 2010

Fly Fishing

MAGAZINE



www.metchehatch.com

ISSN 1547-3411

POSTMASTER: SEND NO MONEY NOW!

1 YEAR (6 ISSUES) \$24.00

2 YEARS (12 ISSUES) \$44.00

4 YEARS (24 ISSUES) \$84.00

6 YEARS (36 ISSUES) \$124.00

U.S. Highway 395, CA/NV • 26
San Juan Mountains, CO • 32
Llano River, TX • 38
Owyhee River and
Wild Horse Reservoir, NV • 44







LONE STAR OUTDOOR NEWS

August 11, 2017

Largest Hunting and Fishing Newspaper in Texas

Volume 13, Issue 24



Shark anglers in federal waters will need to obtain an endorsement and may use only circle hooks when using bait, beginning in 2018. Photo by David J. Sams, Lone Star Outdoor News.

New permit requirements in the works for shark fishermen

By Darlene McCormick Sanchez
Lone Star Outdoor News

Federal authorities are beginning to roll out new requirements for recre-

ational shark fishing that will go into effect Jan. 1.

The fisheries branch of the National Oceanic and Atmospheric Administration has put out a new YouTube

video explaining that recreational anglers fishing federal waters will be required to get an endorsement on their fishing licenses and use circle hooks, flies or artificial lures if they intend to

Please turn to page 17

Restoring Texas' state fish

Guadalupe bass on the rise

By Mark England
Lone Star Outdoor News

The Texas state fish is hardly a heavyweight — though it fights like one.

Bryan Townsend holds the state record for catching a pure Guadalupe bass. It weighed a whopping 3.71 pounds.

Yet fears of the small black bass vanishing served to galvanize the Texas Parks and Wildlife Department, landowners and groups like The Nature Conservancy to devote years and millions of dollars to its preservation.

"We were concerned that even in its namesake river we were going to lose the Guadalupe bass," said Tim Birdsong, TPWD's chief of habitat conservation.

Some might see TPWD's efforts

as restitution. It introduced smallmouths into Hill Country rivers to give anglers another species to chase. Smallies, though, began interbreeding with Guadalupe bass. That's not the only reason, though, that pure Guadalupe bass became harder to find. Sprawling development and the building of dams, bridges and impoundments fragmented Hill Country rivers and made things tough for a species evolved to live in free-flowing waters.

TPWD learned with its reservoirs that it can't always stock its way out of declining fish populations. But a so-called "swamping" approach benefited the Guadalupe River.

"We flood the system with pure



fish," Birdsong said. "We're hoping they win out over the smallmouths and the hybrids. It's sheer numbers for one thing. We put in more of them and the system can only support so many fish. Also, they're better adapted to persist in that system."

The proportion of hybrids and smallies in the Guadalupe River's headwaters fell from 43 percent to 6 percent. Some areas aren't amenable to this solution, however.

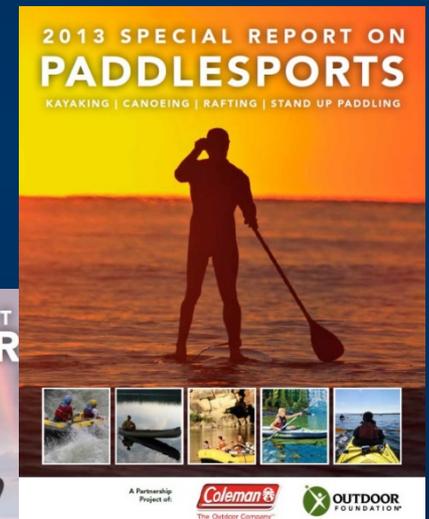
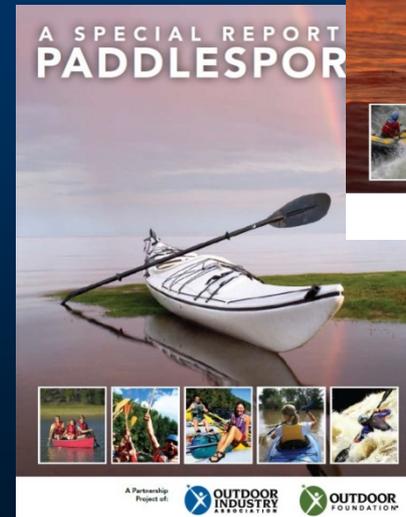
After smallmouth bass were introduced and hybridized with the native Guadalupe bass, the Guadalupe bass declined in the Guadalupe River. A massive effort to restore the Guadalupe bass, including super stocking, has shown positive results. Top photo by David J. Sams, Lone Star Outdoor News. Bottom photo by Johnny Quiruz.



Please turn to page 14

Trends and Motivations in Paddlesports

- ◆ 21.7M Americans participated in paddlesports in 2014
 - ◆ >50% referenced desire to experience nature as motivating factor
 - ◆ 35% were freshwater anglers
 - ◆ 23% were wildlife viewers

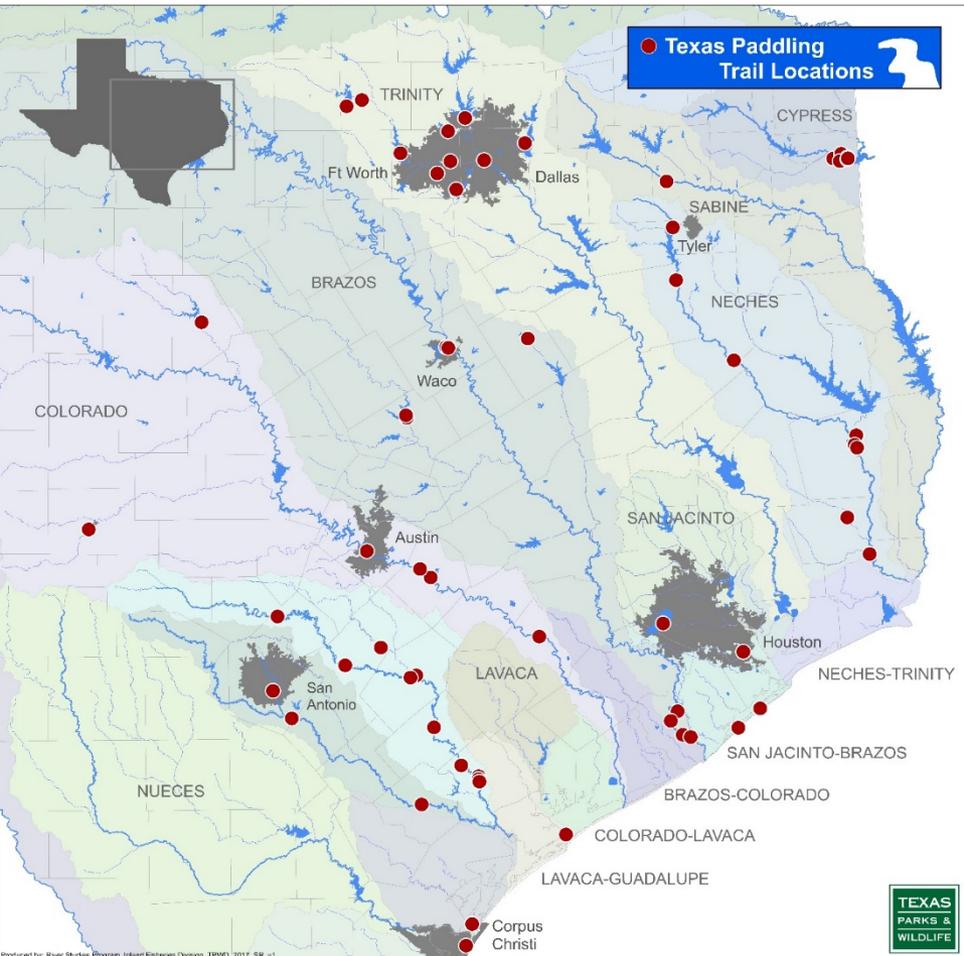


Texas Paddling Trails Network

130 access sites

73 trails

592 river miles



With over 70 designated trails, it's easier than ever to go paddling! Each trail has a map and photos, directions to access sites, rental info, fishing and wildlife, and more!

www.tpwd.texas.gov/paddling

Discover



Our River

LULING



Survey of Texas Paddling Trails Users

- ◆ **\$164M in annual economic impact**
- ◆ **Top motivations to paddle:**
 - Enjoy natural scenery
 - Exercise / fitness
- ◆ **Top activities while paddling:**
 - Fishing / fly fishing
- ◆ **Concerns:**
 - Inadequate river flows
 - Lack of quality river access





**Keep Texas
Beautiful**
KEEP AMERICA BEAUTIFUL AFFILIATE



River Access and Conservation Areas

- ◆ **Expand angler access to Texas rivers through public-private partnerships**
- ◆ **Preserve wilderness experience**
- ◆ **Manage for sustainable use**
- ◆ **Demonstrate best management practices for conservation of streamside lands**
- ◆ **Facilitate watershed conservation**



● Leased Access Sites

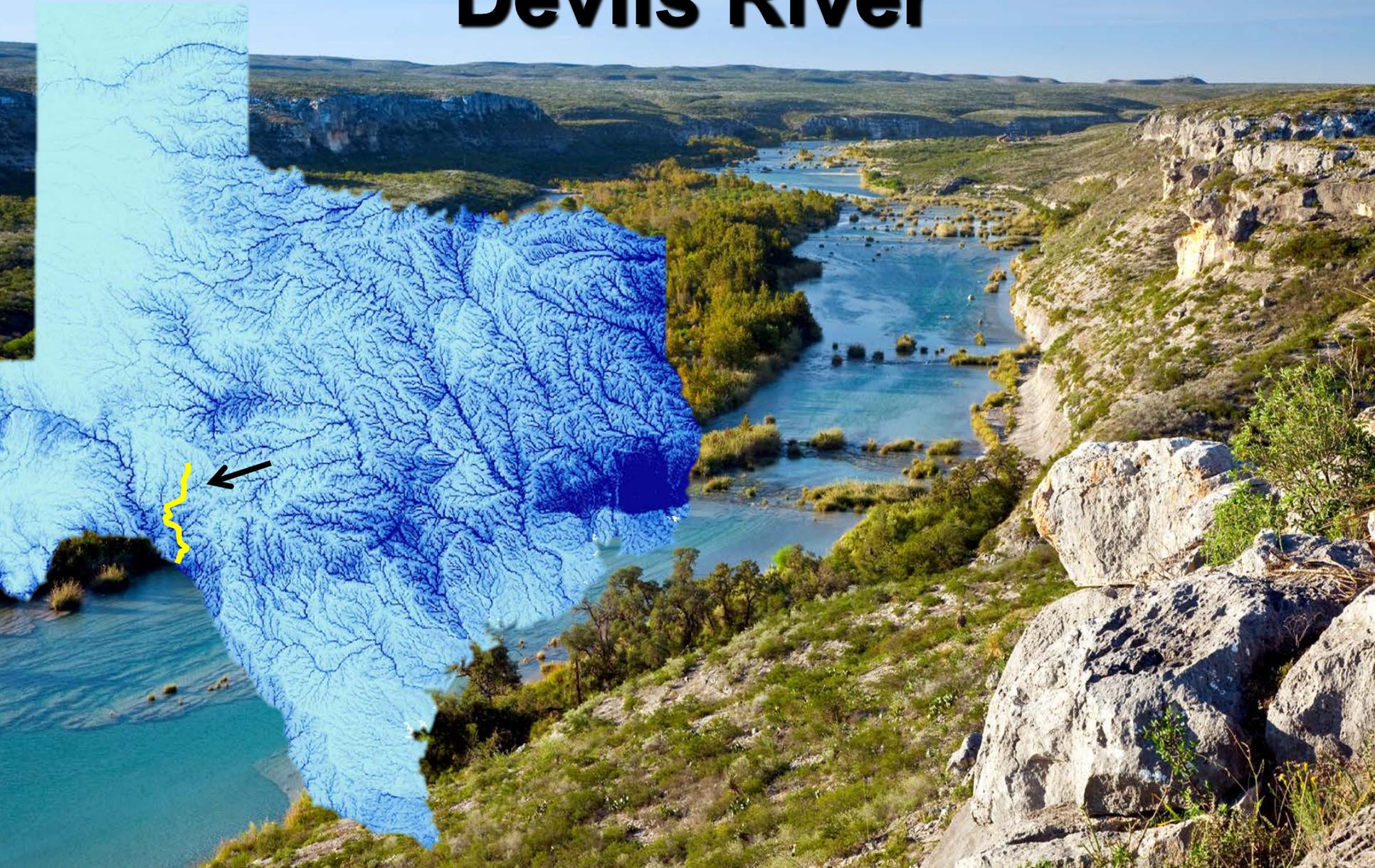
■ Paddling Trails



19 access areas
170 river miles



Devils River



Devils River Vicinity Map with Camping and River Access Areas

- ▲ River Access Area at Baker's Crossing
- ▲ Paddle-Up-Only Camping Areas (Public Access Leases)
- TPWD Devils River State Natural Area Properties





DEVILS RIVER CONSERVANCY

Treasure. Preserve. Protect.



Dance



Board Members:

David Honeycutt

Jim Norman

Franz Heibert

Alice Ball Strunk

Rusty Wallace

Tyler Hoffmann

President: Randy Nunns

Director: Julie Levey

For The Devils



Join us for an evening of music and dancing
in support of the Devils River Conservancy.

Featuring:
The Derailers



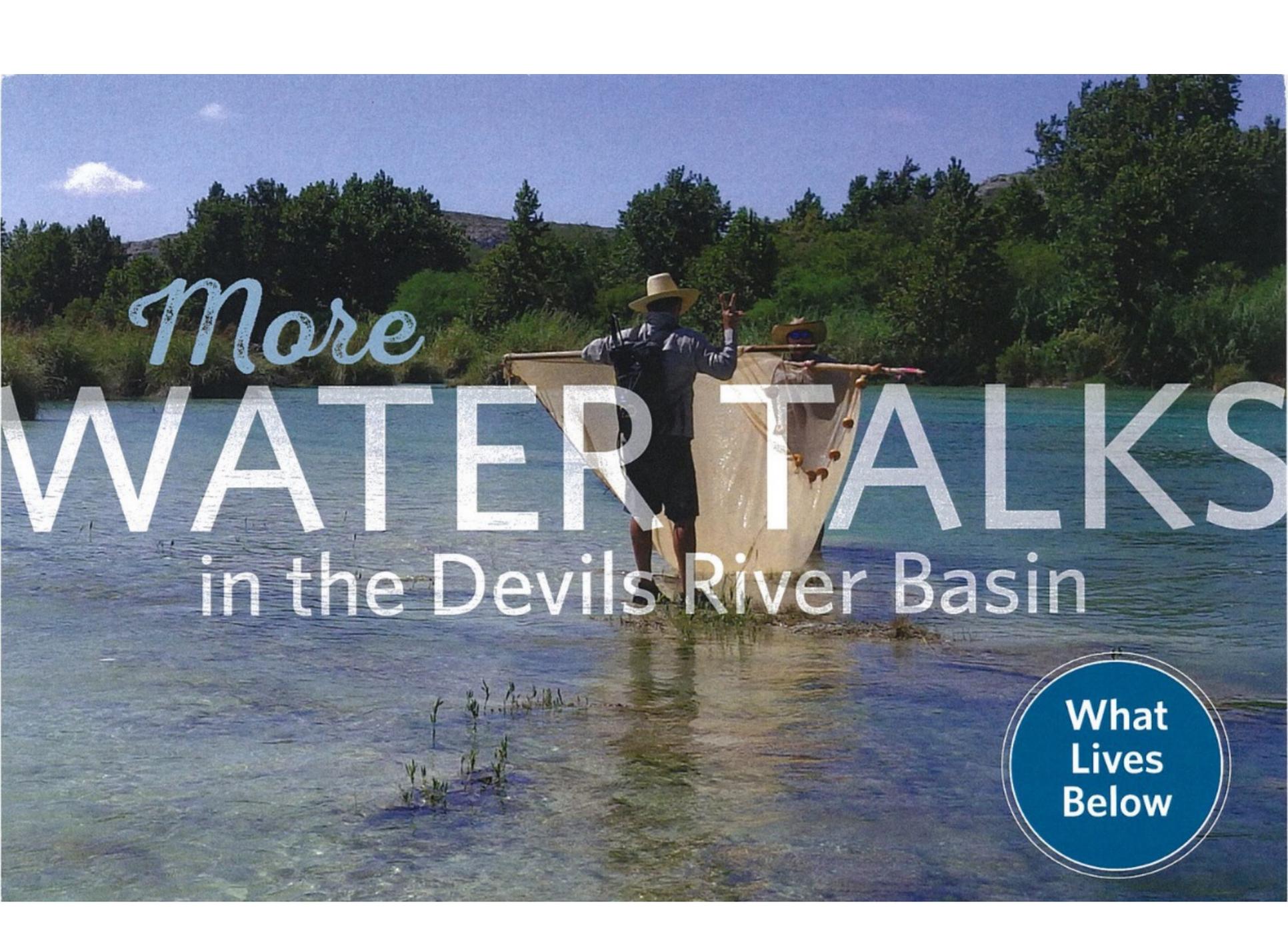
April 5 - 6-9 p.m.

Mercury Hall - 615 Cardinal Ln, Austin, TX 78704

Silent Auction - Hors d'oeuvres - Open Bar

Tickets available at: DevilsAdvocate.org

The Devils River Conservancy is a 501(c)3 non-profit dedicated to the preservation and protection of the Devils River.

A photograph of two people wading in a clear, shallow river. They are carrying large, light-colored nets. The person in the foreground is wearing a hat and a backpack, and is making a peace sign. The background shows a lush, green forest and a clear blue sky with a few clouds.

More
WATER TALKS
in the Devils River Basin

What
Lives
Below



Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

Clean Rivers & Beaches Run by People Like Us
12U

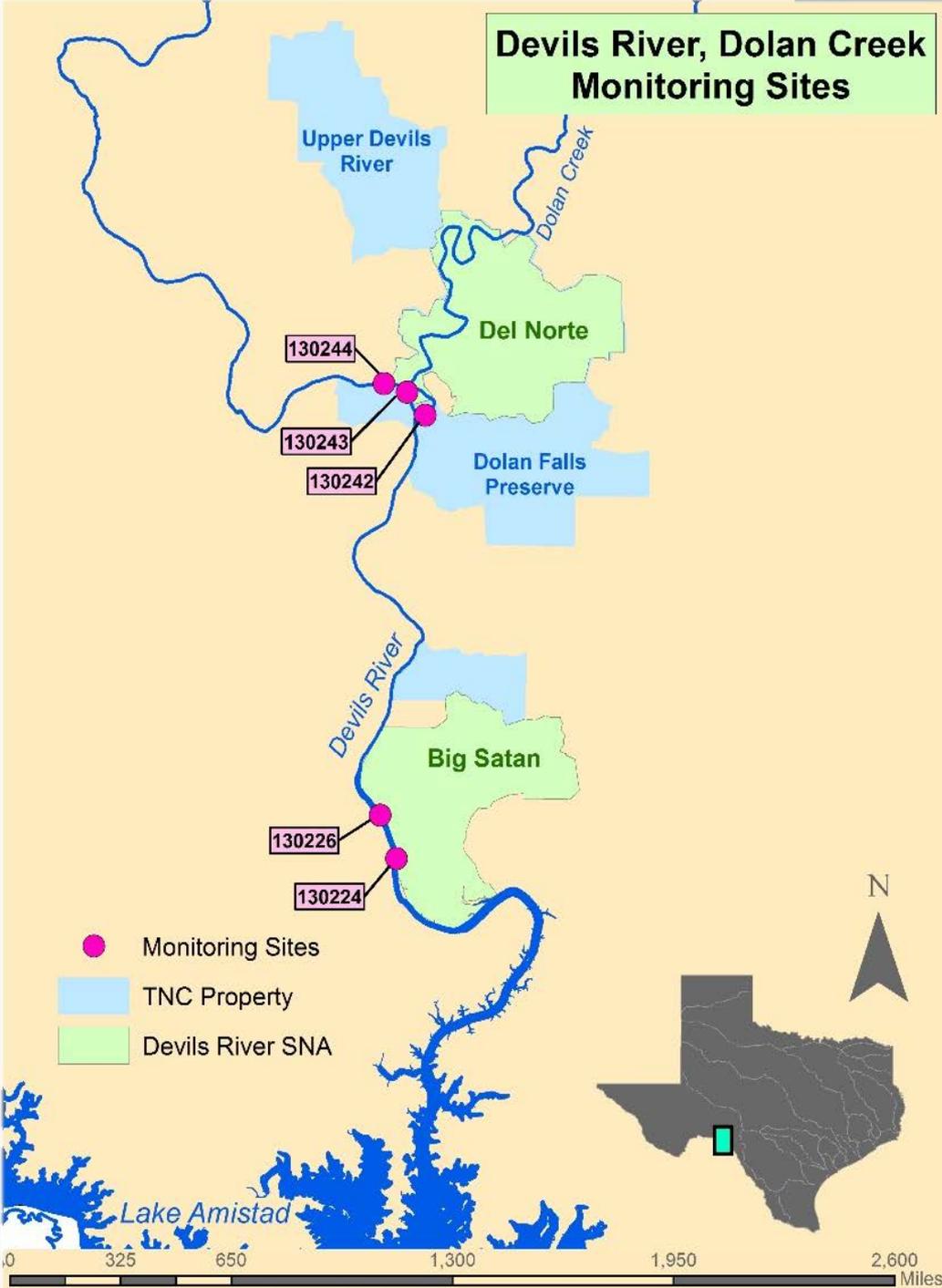
RIVER PAT

Old Town

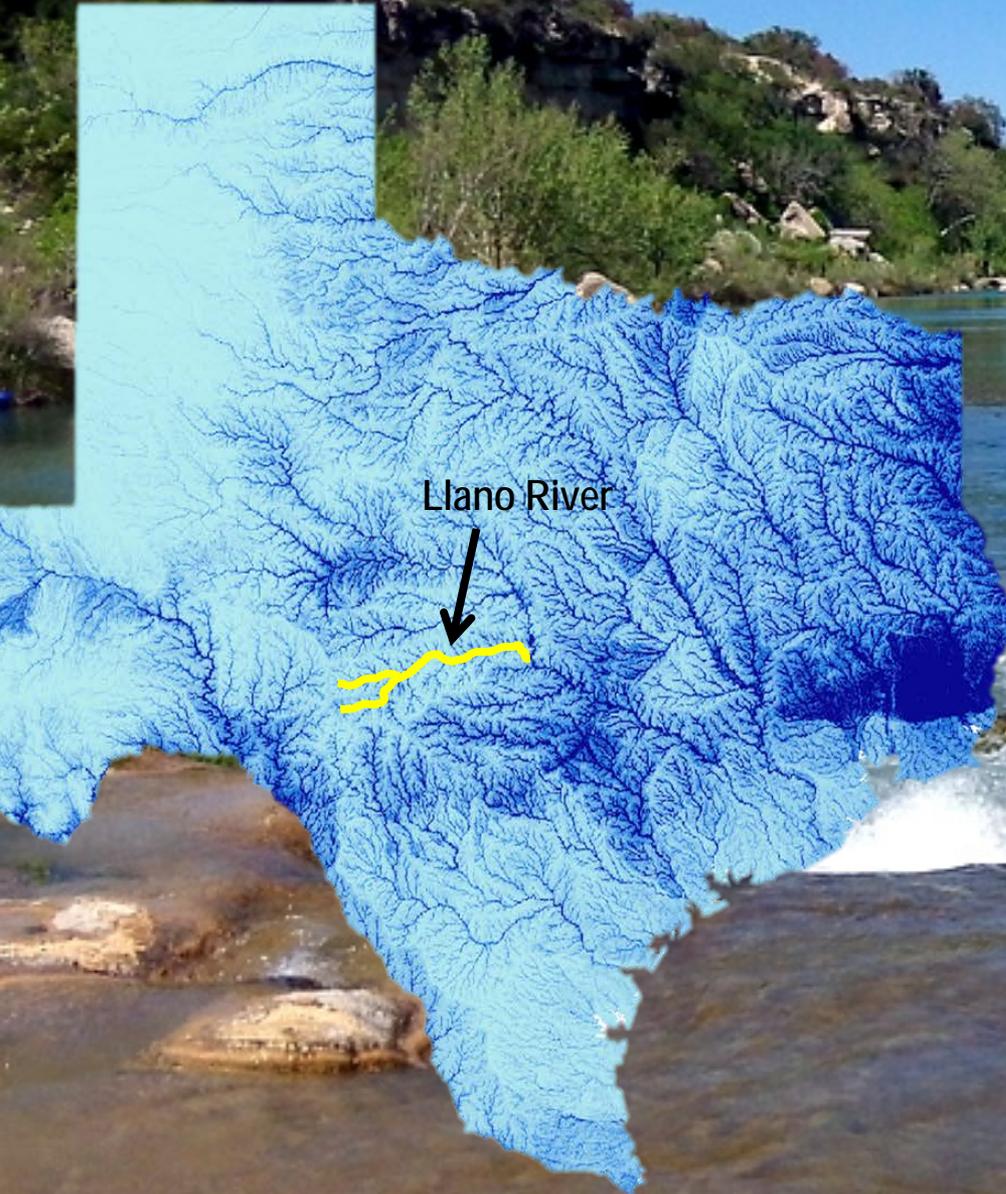
SAN MARCOS
A Resort by



Devils River, Dolan Creek Monitoring Sites



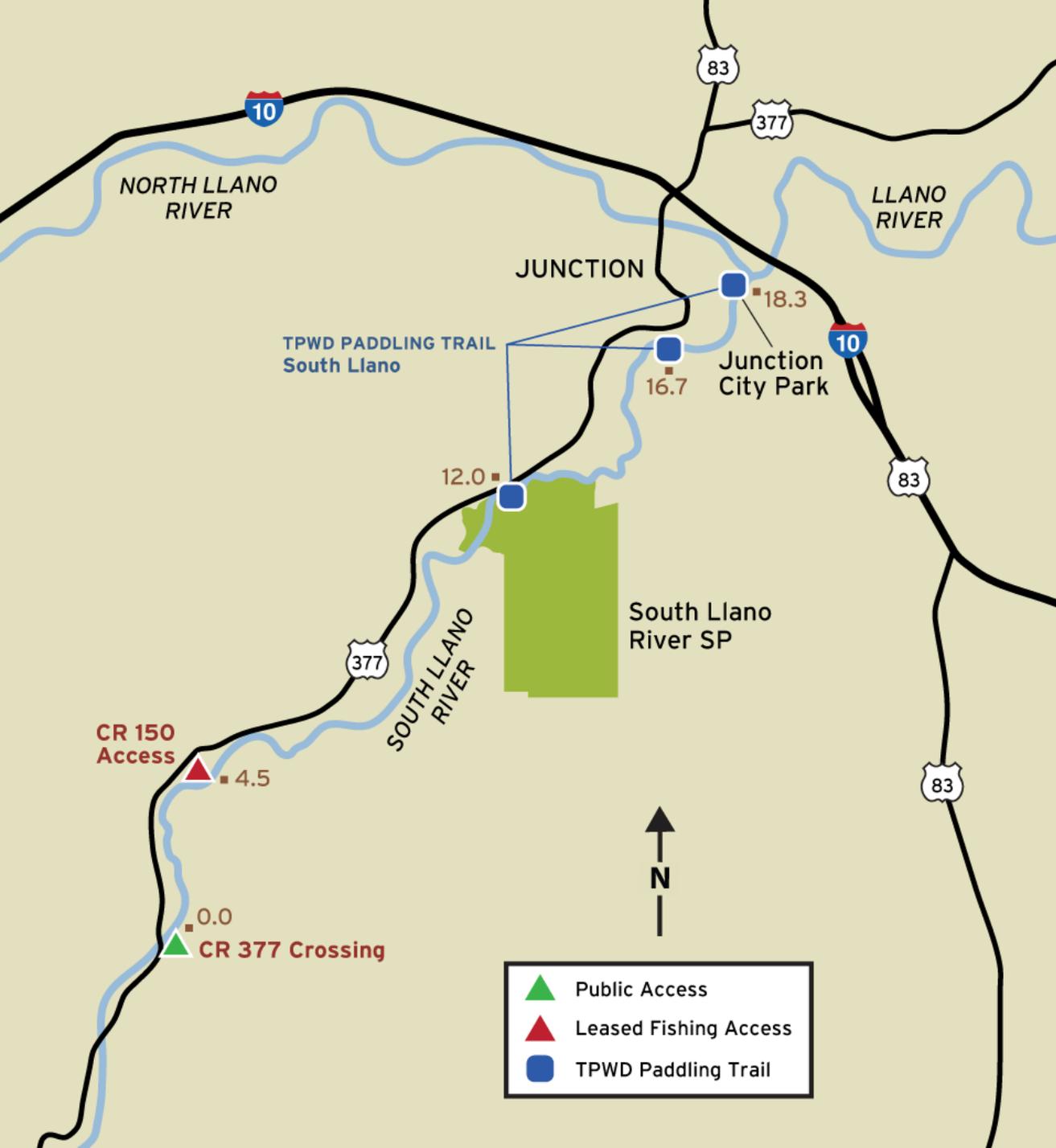
Llano River



Llano River









DANGER
CAVING BANKS

DON'T SWIM
HERE





River Access and Conservation Area
Half Marathon and 10K

Paddle

VIOLATORS MAY BE FINED
FINE PER VIOLATION
NOT TO EXCEED \$2,000

River Access and Conservation Areas

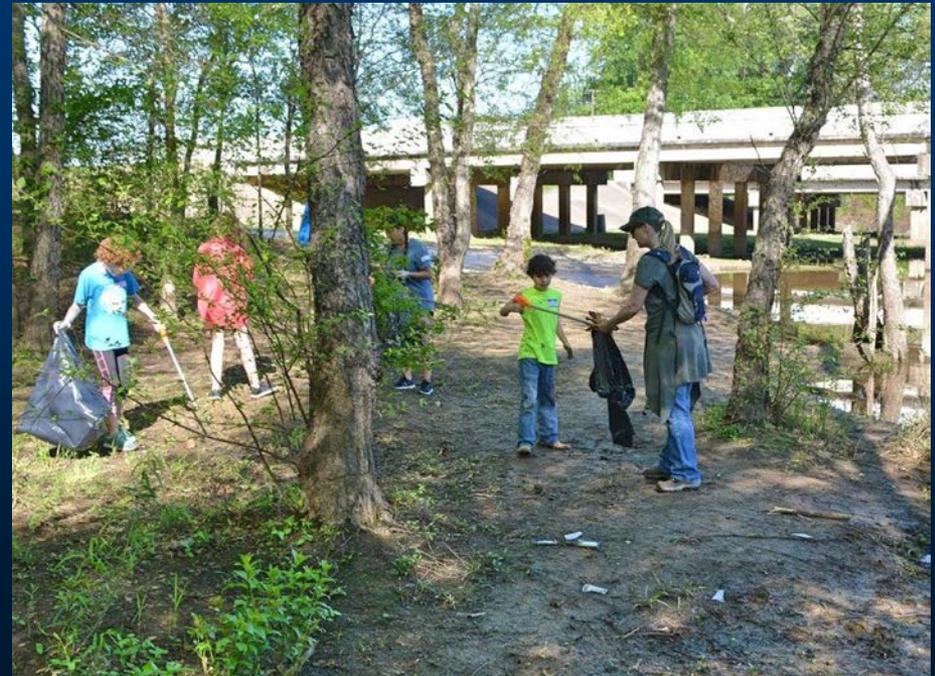
- ◆ 10,000 river cleanup bags



River Access and Conservation Areas

2016-2017 Outcomes

- ◆ 15 river cleanups and outreach events affecting 27 miles of river
- ◆ 2800 lbs of litter removed and recycled
- ◆ 675 tires removed







Questions?

