



Texas
Living Waters
Project



Becoming Resilient

Preparing the People and Places of Texas for an Age of Extremes

TEXAS LIVING WATERS PROJECT
2020 ANNUAL REPORT



Dear friends and supporters of the Texas Living Waters Project,



We all know this has been a year we'll never forget—it's been transformational for the Texas Living Waters Project as well.

The global pandemic, economic fallout, and racial injustices of 2020 reminded all of us of the value of water, both for its necessity in our daily lives, and its healing powers in deeper ways that are unique to each of us. We are all deserving of clean water and healthy waterways, and all of us working on the Texas Living Waters Project have doubled down on our commitment to achieving this for wildlife and for current and future generations of Texans.

As we transitioned to virtual work, we took the opportunity to publish several reports, including: *Ensuring One Water Delivers for Healthy Waterways* and the *Texas Water Conservation Scorecard 2020*. Water conservation remains one of the most impactful and cost-effective strategies in Texas for ensuring enough supply for the needs of people and wildlife.

As billions of dollars from state and federal sources became available to Texas for flood mitigation, we launched an education campaign for decision-makers and planners in Houston and the Hill Country about the protective value of nature. We worked diligently to ensure that natural and nature-based solutions to localized flooding had a leg up in funding processes, and that impacted communities could engage in decision-making that will shape how they live with water.

While flooding is top of mind in our state, we know that the cycle of extreme weather events continues to churn, and our promise to ensure fresh water for our environment, especially in periods of drought, remains strong. Droughts will be less damaging—and recovery swifter—if rivers and coastal waters are healthy.

Next year the Texas Living Waters Project will mark twenty years since our start in 2001, and our dedication to ensuring Texas has the water it needs for thriving communities and abundant fish and wildlife has never been stronger. As a collaboration among the National Wildlife Federation, the Sierra Club's Lone Star Chapter, the Galveston Bay Foundation, and the Hill Country Alliance, we are keenly focused on climate resilience, urban water management, and water for wildlife. Mindful of historic inequities in both the allocation and management of water, we are broadening our partnerships to better engage with communities experiencing the brunt of climate change in Texas.

None of our work would be possible without your support, and we are grateful to have spent 2020 working and adapting alongside you. These were hard times, but we've become closer through it all and our priorities have become clearer. We hope you'll celebrate our shared successes this year as you look through this report and remember the connective power of water in our great state.

Wishing you a peaceful holiday season from all of us with the Texas Living Waters Project,

Amanda Fuller

Amanda Fuller
Director, Texas Coast and Water Program
National Wildlife Federation

The challenge:

The **population of Texas is projected to double** by 2050, placing unsustainable demand on already limited supplies of fresh water.

Water use is also changing, with municipal and industrial use poised to exceed agricultural demand. As cities acquire water to support growth, opportunities to proactively set aside water for the environment are diminishing.

Finally, climate change is intensifying Texas' already variable weather. **Extreme droughts are alternating with more intense rainfall events**, producing a whiplash effect that calls for serious new thinking on how water and waterscapes are managed.

Texas Living Waters works to ensure that Texas has the water it needs for thriving communities and abundant fish and wildlife.

Our response:



01

CLIMATE RESILIENCE

In response to intensifying cycles of flood and drought, we enhance climate resilience in Texas by addressing both flood mitigation and the water needs of vulnerable human and wildlife communities.

02

URBAN WATER MANAGEMENT

We promote environmentally sound urban water management practices to help Texas meet the water needs of a rapidly growing population without impairing the ability of rivers, streams, springs, and bays to support fish and wildlife.

03

WATER FOR WILDLIFE

We ensure water for wildlife by advancing market, policy, and legal measures specifically designed to protect and deliver the freshwater flows necessary to support fish and wildlife.

Centering Nature and Equity in Flood Planning and Funding

The state's flood planning process kicked off this year with the creation of the 15 Regional Flood Planning Groups whose efforts will yield the first-ever State Flood Plan in 2024. Texas Living Waters (TLW) successfully urged the state to broaden representation on the planning groups, incorporate social vulnerability into the planning process, and elevate nature-based approaches to flood mitigation.

“We need to switch the flood control paradigm from controlling nature to seeing it as one of our greatest assets.”



DANIELLE GOSHEN
Water Policy and Outreach Specialist,
Galveston Bay Foundation

In addition to shaping the rules for the process, we were also successful in recruiting more than a dozen people to serve on the flood planning groups in key regions who are aligned with our equity and nature-based approach to flood planning. We did this through extensive outreach to cities, small businesses, NGOs, grassroots community groups, and individuals. The participation of these stakeholders is a promising step toward a greener, more equitable, more flood-resilient future for Texas.

Shaping Flood Funding

Alongside our work to shape the ground rules for flood planning, TLW also successfully influenced the rule-making process for flood funding. Working closely with Texas Water Development Board, we secured significant changes to the rules for the state's flood-funding legislation (SB 7) and to the Flood Intended Use Plan, which implements SB 7. These include:

- **Provisions awarding extra points to projects that incorporate non-structural elements;**
- **Provisions awarding extra points to projects that provide groundwater recharge benefits to certain water user groups;**
- **Elimination of a minimum required benefit-cost ratio—often a barrier to getting green and natural infrastructure projects funded; and**
- **Certain green and nature-based projects are now eligible for an additional 5% grant (rather than loan) under three of the four project categories**

Additionally, TLW has been deeply engaged in influencing the use of federal flood mitigation and prevention funds coming to Texas in response to Hurricane Harvey and to the major flood events of 2015 and 2016. We have focused our efforts on Houston and the Texas Hill Country, both hard hit by these flood events, developing educational materials on natural solutions for flood mitigation and briefing decision-makers and other stakeholders on their benefits.

Buffalo Bayou flowing with runoff in Houston from Hurricane Harvey flooding in 2017.
Photo: National Oceanic and Atmospheric Administration

Pivoting Decision-Makers Towards Natural Infrastructure in Houston and the Hill Country

As the most active hurricane season on record battered the Gulf Coast, TLW launched our most concerted effort yet to convince state and local decision-makers of the efficacy of and urgent need for nature-based approaches to flood mitigation. TLW director Amanda Fuller co-authored an **Op-Ed in the Houston Chronicle** highlighting the unprecedented—and fast-closing—window of opportunity for the Houston area to turn away from business-as-usual approaches in favor of green infrastructure projects that can “set Houston and Harris County on a more resilient and equitable path.” This piece was widely circulated and Fuller was subsequently invited to give a presentation to the Houston-Galveston Area Council's Flood Management Committee. TLW also participated alongside local organizations in conversations with the Harris County Flood Control District, Houston's Public Works Department, and the city officials in charge of resilience and recovery.

In 2020, TLW also promoted investments in equitable, nature-based approaches to flood mitigation in the Texas Hill Country. In the spring we published a **Hill Country-specific guide to the Flood Infrastructure Fund**. TLW was instrumental in helping the City of Bandera prepare a successful application to the Flood Infrastructure Fund for a stream restoration project. We also met with representatives from Hays County, the Hill Country Conservation Network, the City of New Braunfels, and the City of Bandera to promote natural infrastructure.



TLW expanded its promotion of natural infrastructure approaches in the Hill Country this year, helping the City of Bandera compile a successful application for a stream restoration project.

Engaging Community Members on Public Participation

With new flood funding and planning unfolding at a record pace in 2020, TLW played a critical role in keeping frontline communities informed and engaged in the process while also holding planning entities accountable to public comment.

To better orient representatives of Harvey-impacted communities to the emerging flood-mitigation-funding opportunities and facilitate their participation in these processes, we launched a new public-engagement workshop series titled **A Seat at the Table**.

Organized in partnership with Bayou City Waterkeeper, Galveston Bay Foundation, and the Sierra Club Lone Star Chapter, the series' first workshop took place in August 2020 and featured presentations from the Environmental Law Institute, TLW's own Danielle Goshen, and Dr. Earthea Nance, a leading expert in environmental hazards and community participation, from Texas Southern University.



Dr. Earthea Nance spoke on frontline community flood experiences and concerns at our first *Seat at the Table* workshop.

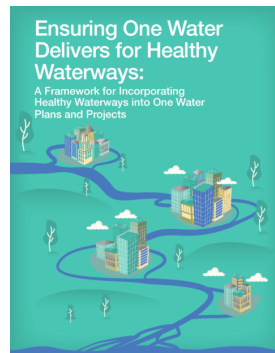
Ensuring One Water Delivers for Healthy Waterways

In August 2020 we released perhaps our most significant publication of the year. ***Ensuring One Water Delivers for Healthy Waterways*** is the culmination of a multi-year exploration of how One Water—an approach to urban water management that aims to optimize finite water resources for long-term resilience and reliability—can meet ecosystem needs along with human needs.

“Many cities lack guidance on how to incorporate a healthy environment into planning outcomes. This report fills that gap and serves as a launching pad for cities nationwide to adopt water plans that are community-driven and beneficial to broader ecosystems.”



JENNIFER WALKER
Deputy Director,
Texas Coast and Water Program
National Wildlife Federation



Released in Fall 2020, our ***Healthy Waterways*** planning framework provides both a template and toolkit for cities looking to integrate a healthy environment into planning outcomes.

Developed in conjunction with the Pacific Institute and the Meadows Center for Water and the Environment at Texas State University, *Healthy Waterways* provides planners much-needed practical guidance on how to build a community-driven water vision that takes into account the needs of both local residents and downstream users (and ecosystems) that depend on a healthy flow of water.

Institutionalizing One Water in Austin and the Hill Country



Blue Hole Elementary in Wimberley is a prime example of One Water’s potential to transform water management in the Hill Country.

Our collaborative efforts have led to significant momentum in Central Texas around One Water. The adoption of this forward-thinking approach to water management will greatly enhance the resilience of these communities, particularly in the face of climate change. TLW worked this year to embed these concepts in the codes, ordinances, operating plans, and cultures of Central Texas communities.

The city of Austin’s groundbreaking Water Forward plan, which TLW helped develop, took a big step forward in 2020, establishing a regulatory framework for onsite water reuse and an incentive program for the early adoption of alternative water strategies. These important steps will get proof-of-concepts in place and help ensure Austin’s future water resiliency. With an eye on keeping water affordable as the city moves toward new water-delivery methods, the TLW team is evaluating the effectiveness of the state’s Property Assessed Clean Energy (PACE) program to offset those costs.

We also worked closely with selected school districts on One Water building projects. The Wimberley One Water School (Blue Hole Primary School) opened in Fall 2020 and our collaboration with the Austin school district led to, among other things, the planned construction of a new One Water Middle School in Austin. Partners in this urban water initiative include the Hill Country Alliance, Meadows Center for Water and the Environment, and Texas Water Trade.

Focusing on Outdoor Water Use

Municipal water use is increasing in Texas, due largely to population growth. In the coming decades municipalities use will surpass agriculture as the state’s largest water user. Outdoor water use is the single-largest component of that municipal water use. If Texas is to be water secure in a future that is both drier and more populous, we must re-think how we use water in cities.

With the aim of reducing water use statewide, the TLW team focused over the past year on putting tools in place—analyses of water savings, how-to guides—to enable water utilities to limit outdoor watering. Our efforts led four key Regional Water Planning Groups—Dallas-Fort Worth, San Antonio, Houston, and Austin—to include no-more-than-twice-per-week watering as a recommended water-conservation strategy in their Regional Water Plans. Sixty-six percent of all Texans live in these four regions.

TLW identified utilities in the fast-growing North Texas region as being in need of particular support in addressing outdoor water use. To meet this need, in October we hosted the first-ever **North Texas Outdoor Watering Summit**. The Summit focused solely on strategies to reduce outdoor water use. More than 100 utility representatives and decision-makers attended the three-day event which featured peer-to-peer learning and expert technical assistance for cities and utilities interested in implementing or adopting programs to reduce outdoor watering.

At the Summit we distributed the results of a detailed survey and analysis of current outdoor watering limitations among North Texas utilities. The **North Texas Outdoor Watering Survey** details watering practices of area utilities, quantifies each city’s or utility’s potential water savings from implementation of outdoor watering restrictions, and compares those savings to water needs identified in the State Water Plan.



JONATHAN SEEFELDT
Communications Manager,
Texas Coast and Water Program
National Wildlife Federation

“Smart, practical outdoor watering schedules are the most cost-effective tool Texas utilities have to address the coming decades of unprecedented population growth and associated water demand.”

2020 Texas Water Conservation Scorecard



Capping months of data-gathering and analysis, TLW released in June its **2020 Texas Water Conservation Scorecard**. Co-authored by TLW’s Jennifer Walker and Ken Kramer, this in-depth analysis ranks the water conservation efforts of more than 350 water utilities across Texas.

The only effort of its kind in Texas, the Scorecard evaluates each utility on a range of criteria, including compliance with conservation planning and reporting requirements, record on water loss and meeting targets for water-use reduction, use of outdoor-watering limits, and use of rate-based incentives to prompt more

efficient water use. The 2020 Scorecard revealed that many utilities are not doing nearly enough to advance water conservation.

Given the concerning results from the Scorecard, TLW conducted an outreach campaign targeting utilities across the state via a series of webinars, media stories, blog posts, and podcasts. In each of these venues, we highlighted three next steps needed to improve Scorecard results: **fix aging water infrastructure, reduce lawn watering, and set and meet measurable water conservation goals.**

Protecting the Flow of Life

Water is the lifeblood of Texas landscapes. The state's rapid population growth means the demands on sources of fresh water—rivers and aquifers—increasingly put the health of Texas rivers and coastal bays at risk.

Recognizing that healthy rivers and productive bays are a substantial economic engine, Texas legislators in 2007 passed Senate Bill 3, establishing a state-wide process to quantify environmental-flow needs and implement flow protections. The new law specifically mandated the adoption of environmental-flow protection standards for new water rights. From the bill's inception, TLW has worked diligently to ensure effective implementation of these crucial processes.

Our work to protect Water for Wildlife this year focused on key aquifers, basins, bays, and endangered species, including:

A EDWARDS AQUIFER

TLW continued its close participation in the Edwards Aquifer Habitat Conservation Plan. A TLW representative chaired the Springflow Habitat Protection Workgroup which is focused on protecting flows at Comal and San Marcos springs and the species that rely on them. This year the workgroup developed a suite of study concepts designed to better understand the impact of low-flow periods on imperiled species.

B GUADALUPE RIVER

The Guadalupe Blanco River Authority's proposed large-scale Guadalupe Mid-Basin water-diversion project threatens to set a number of concerning legal precedents that would sharply decrease protection of fish and wildlife habitat. Following participation in the Texas Commission on Environmental Quality's (TCEQ) permitting process, late this year TLW filed a court appeal challenging the agency's failure to follow applicable legal requirements for protection of habitat.

C BRAZOS RIVER

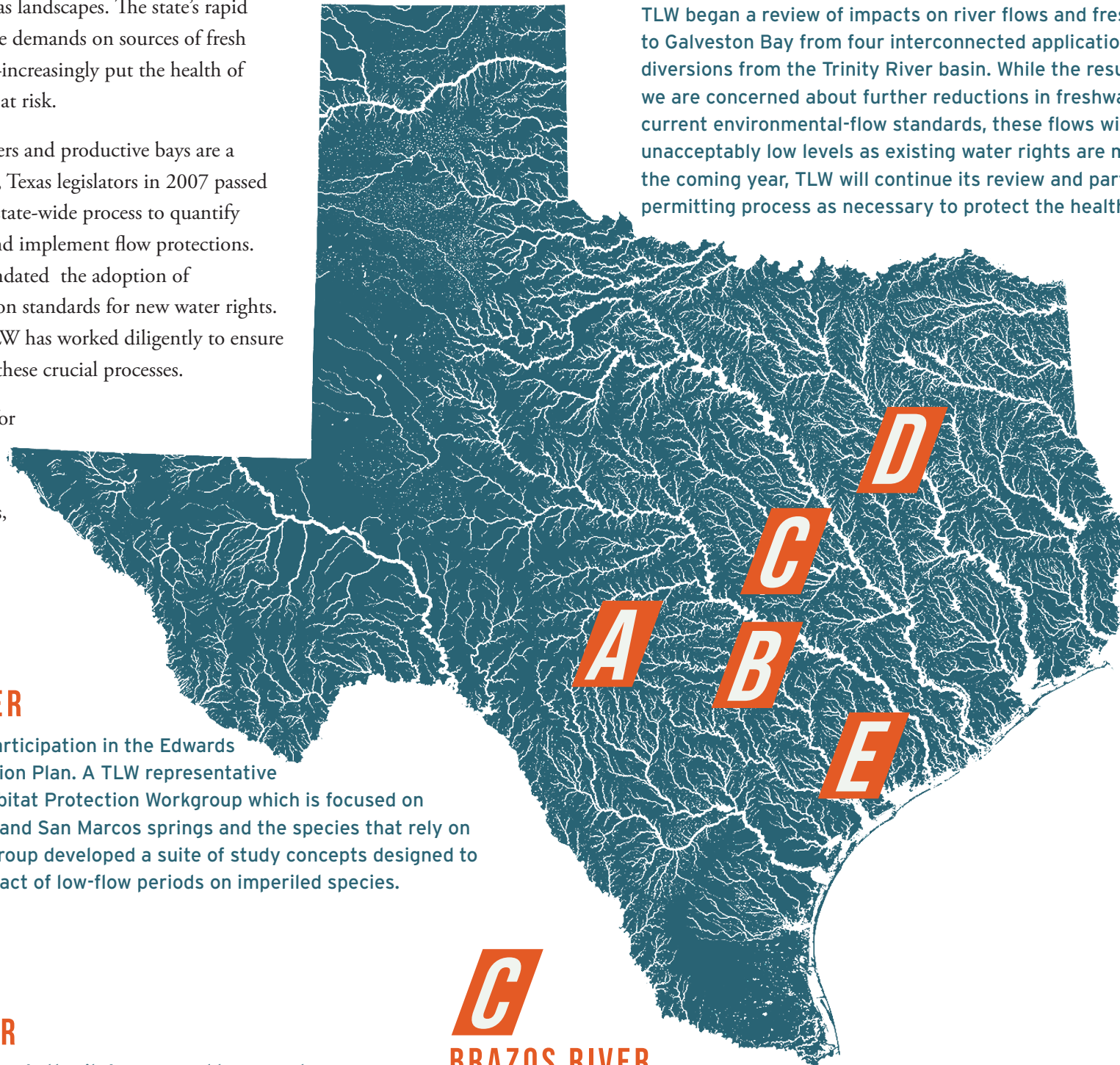
The Brazos River Authority recently applied to the U.S. Fish and Wildlife Service for a conservation agreement that would affect two species of mussels under consideration for protection under the Endangered Species Act. TLW filed extensive comments with the Service explaining that the draft agreement does not adequately protect the flows needed to help the mussels survive during future droughts.

D TRINITY RIVER AND GALVESTON BAY

TLW began a review of impacts on river flows and freshwater inflows to Galveston Bay from four interconnected applications for increased diversions from the Trinity River basin. While the results are still preliminary, we are concerned about further reductions in freshwater inflows; under current environmental-flow standards, these flows will already reach unacceptably low levels as existing water rights are more fully exercised. In the coming year, TLW will continue its review and participate in the TCEQ permitting process as necessary to protect the health of the river and bay.

E LAVACA RIVER AND LAVACA BAY

A new water-rights application was recently filed with TCEQ by the Lavaca-Navidad River Authority (LNRA) to divert large quantities of water from the Lavaca River. TLW is concerned about the adverse impacts of those diversions on freshwater inflows to Lavaca Bay, which is part of the larger Matagorda Bay system. Late this year, TLW initiated discussions with LNRA and other interested groups to explore options for ensuring reasonable fish and wildlife protections as an alternative to our contesting the application.



What's at stake when we alter flows...



FRESHWATER MUSSELS

Texas waterways are home to more than 50 species of freshwater mussels. A foundational layer of the food pyramid and a critical provider of ecosystem services, many mussel species are in rapid decline. In Texas alone, 11 species are under consideration for listing under the Endangered Species Act. TLW is engaged in the listing process, providing input to make sure the U.S. Fish and Wildlife Service understands that Texas water law does not protect the levels of river flow needed to maintain healthy populations of mussels.



THE WHOOPING CRANE

The tallest bird in North America, the whooping crane breeds in the wetlands of northern Canada and spends the winter on the Texas coast in San Antonio Bay. The bay is fed by the Guadalupe and San Marcos Rivers. Through legal challenges to projects such as the GBRA Mid-Basin Project, TLW fought hard this year to protect flow levels to this critical winter sanctuary for the endangered crane.

@Kaila Drayton, NWF

Looking Ahead to 2021

In 2021, we will mark twenty years since the founding of the Texas Living Waters Project. As we reflect on our significant achievements over the last two decades, we remain committed to ensuring enough fresh water for every living thing in Texas.

The coming year will bring both new and continued challenges. The specter of severe drought now looms over the non-coastal regions of Texas. The state's population continues its unprecedented boom. COVID-19 continues to upend our way of life. Still, we see much to be hopeful for in the coming year. While our core mission has never changed, we enter the new year with fresh perspectives and new ideas to meet the needs of Texas' people and wildlife as we confront a changing climate.

One highlight of the new year will be the opportunity to welcome new team members. The National Wildlife Federation will welcome Dr. Arsum Pathak as Adaptation and Coastal Resilience Specialist and will recruit a One Water/Water Equity Fellow. The Hill Country Alliance will hire a Water Policy Specialist.

Although the pandemic will necessitate an unusual Texas Legislative Session in 2021, TLW will work with partners to advance shared goals and develop new water champions among state lawmakers. We also anticipate opportunities to advance Texas water priorities at the federal level, as the new Administration contemplates infrastructure and stimulus packages. And perhaps most importantly, we look forward to our continued partnership with all the supporters and friends of the Texas Living Waters Project.

Mariscal Canyon
Photo by Charles Kruvand

The Expanding Texas Living Waters Team



AMANDA FULLER
Director,
Texas Coast and Water Program
National Wildlife Federation
**New to TLW in 2020!*



JENNIFER WALKER
Deputy Director,
Texas Coast and Water Program
National Wildlife Federation



ARSUM PATHAK, PHD
Adaptation and Coastal
Resilience Specialist,
Texas Coast and Water Program
National Wildlife Federation
**New in 2021!*



JONATHAN SEEFELDT
Communications Manager,
Texas Coast and Water Program
National Wildlife Federation
**New in 2020!*



DANIELLE GOSHEN
Water Policy and
Outreach Specialist,
Galveston Bay Foundation



ALEX ORTIZ
Water Resources Specialist,
Sierra Club, Lone Star Chapter
**New in 2020!*



KATHERINE ROMANS
Executive Director,
Hill Country Alliance
**New to TLW in 2020!*



CYRUS REED
Conservation Director,
Sierra Club, Lone Star Chapter



SUSAN KADERKA
Regional Executive Director,
South Central Regional Center
National Wildlife Federation



MYRON HESS
Principal,
Law Office of Myron Hess PLLC;
Tributary Consulting



KEN KRAMER
Water Resources Chair,
Sierra Club, Lone Star Chapter

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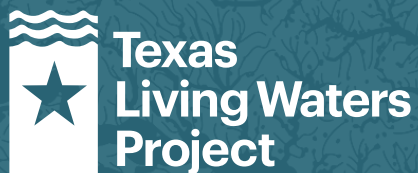
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Texas Living Waters Project
National Wildlife Federation
505 E. Huntland Dr., Suite 485
Austin, Texas 78752



The Texas Living Waters Project is a collaboration of conservation groups working to ensure Texas has the water it needs for thriving communities and abundant fish and wildlife.

