

A YEAR OF GROWTH

2017-2018 ANNUAL REPORT



THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT

TEXAS STATE UNIVERSITY

MEMBER THE TEXAS STATE UNIVERSITY SYSTEM

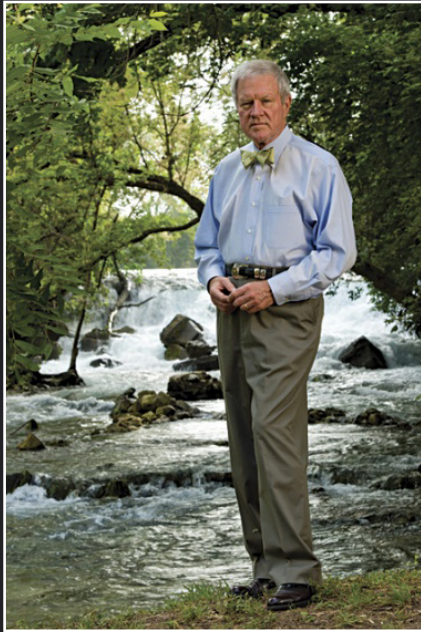




TABLE OF CONTENTS

- 5** A Message from our Executive Director
- 6** About The Meadows Center
- 8** Making Waves Towards Our Goals
- 10** By the Numbers
- 12** Program Highlights

No natural
resource is more
important to our
future than
WATER.



A MESSAGE FROM OUR EXECUTIVE DIRECTOR

Dear Friends,

Our Annual Report chronicles The Meadows Center's ongoing growth, which has been possible because of our talented team, our skilled volunteers and your continued support.

Each week at our staff meetings, I am constantly amazed with the breadth and depth of projects and programs in which our staff participate. We have made important progress towards our mission and have begun some incredible new projects that show when we bring people together, we can make a big impact towards protecting and preserving our natural resources.

There is still much work to do. Cities across the world are experiencing fast growth and climate change, causing many water resources to become overburdened. We have to work harder than ever before to ensure that the water we depend on will be here for the future.

The Meadows Center is uniquely positioned to help solve these critical issues. Our multi-disciplinary team bridges the gap between academia, non-profit organizations and policy makers to find and share holistic, science-based solutions to these real-world water issues.

Thank you for your generosity and support; we are grateful that you share our vision for ensuring clean, abundant water for the environment and all humanity.

ANDREW SANSOM
Executive Director

ABOUT THE MEADOWS CENTER

OUR MISSION

Inspiring research, innovation and leadership that ensures clean, abundant water for the environment and all humanity.

OUR VISION

A world where all people understand and embrace the value of water and environmental stewardship.



© Andy Heatwole

OUR PILLARS

Across Texas and around the world, our faculty and staff help communities and organizations address water and natural resource challenges through research, education, service and leadership



LEADERSHIP

Supporting responsible natural resource and water policy in Texas

Convening stakeholders to address critical water and natural resource challenges

Building capacity of local communities to protect and steward their water and natural resources



RESEARCH

Conducting applied research to address real-world problems

Advancing science-based solutions to water challenges

Increasing understanding of complex water and natural systems

Promoting sustainable management of water



EDUCATION

Connecting children and families to nature

Disseminating knowledge of water and natural resources

Providing hands-on educational opportunities to school children and Texas State students

Cultivating the next generation of conservation leaders



STEWARDSHIP

Inspiring protection of cultural and natural resources

Managing Spring Lake and its significant habitat, species and archaeology

Cultivating a stewardship ethic and practice

Connecting stewardship of water to quality of life

MAKING WAVES TOWARDS OUR GOALS

The Meadows Center has achieved great things this year thanks to our dedicated staff and network of supporters. We focused much effort on growing our team and strengthening the internal systems that support our diverse programs. We led the way to find solutions for complex water and environmental challenges in Texas and beyond. We also made progress towards the five goals outlined in our 2017 –2023 Strategic Plan. There is much progress to celebrate!

ONE

Strengthen research program and the infrastructure platform that supports Texas State's research community.

- Awarded 14 research grants totalling more than \$1.8 million in research dollars for Texas State University.
- Received approval from the EPA and TCEQ to implement the Upper San Marcos Watershed Protection Plan.
- Employed 32 undergraduate and graduate research assistants to support The Meadows Center's grant-related projects.

TWO

Contribute to the learning and enrichment of Texas State students.

- Employed 91 Texas State students to assist with the Center's education program and research studies.
- Engaged 7,941 Texas State students on a glass-bottom boat tour, teaching them about the importance of water conservation.
- Led a team of Texas State Biology students to conduct habitat restoration work as part of the Edwards Aquifer Habitat Conservation Plan, contributing to a 15-percent increase of endangered Texas Wild-rice in the San Marcos River.

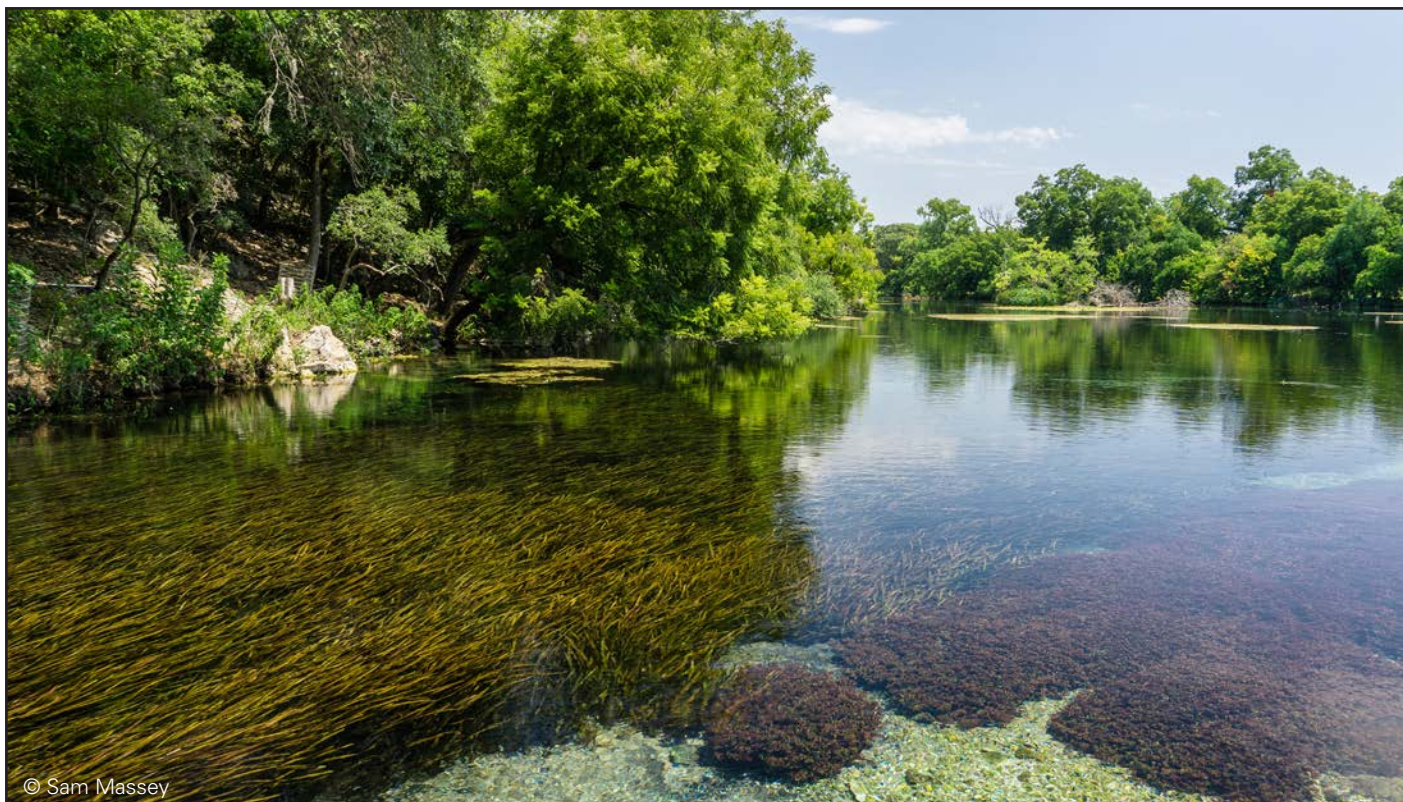
THREE

Implement the next phase of restoration, stewardship and enhancement projects at Spring Lake, including development of a new interpretive research center.

- Finished restoration work on the third of five historic glass-bottom boats.
- Recruited and trained 180 new Aqua Corps volunteer divers to conduct restoration work in Spring Lake.
- Revitalized Spring Lake grounds through installation of raised garden beds to protect tree root structures and certified Monarch Way Stations.



© James Williams



FOUR

Strengthen and expand work on conservation leadership to address the grand challenges facing water resources in Texas and beyond.

- Emily Warren, Associate Director, was part of leadership that launched the Hill Country Conservation Network, a coalition of over 100 organizations and agencies advancing conservation and sustainable growth in the Texas Hill Country.
- Partnered with the Texas Water Resources Institute and the Texas Water Journal to publish Texas+Water, a bi-weekly newsletter that provides information about Texas water.
- Exhibited Our Desired Future at eight locations across Texas to encourage community dialogue and education about groundwater.
- Launched a professional development program for teachers to provide environmental learning in the classroom.
- Launched a new Waterways Dataviewer to increase the accessibility of Texas Stream Team water quality data for Texans.
- Trained the 10,000th citizen scientist to monitor water quality for Texas Stream Team.

FIVE

Strengthen and broaden the leadership and management capacity at The Meadows Center to ensure its long-term success.

- Recruited Dr. Robert Mace, former deputy executive administrator of the Texas Water Development Board, as The Meadows Center's Deputy Executive Director and Chief Water Policy Officer.
- Chief Conservation Officer, Dr. Timothy Loftus, was appointed to the Texas Water Conservation Advisory Council to provide academic expertise about water conservation issues.
- Welcomed Dr. Rob Dussler as The Meadows Center's Chief Education Officer to oversee our environmental education programs and outdoor recreation activities.
- Added two new Fellows to advise and support initiatives in environmental flows and watershed protection.

BY THE NUMBERS



\$1,894,776

research dollars
awarded to our faculty
and staff



31,533 m²

native species planted
in the San Marcos
River



6,833 m²

non-native species
removed from the San
Marcos River



122,526

total visitors to Spring
Lake



132,163

people reached
through educational
speaking
engagements in Texas
and beyond



\$907,676

raised in donations to
support our mission



2,163

water quality sites actively
monitored across Texas



91

students supported by
research and
education projects



180

new volunteer divers
trained to help
manage Spring Lake



3

new publications
added to our book
series



39,916

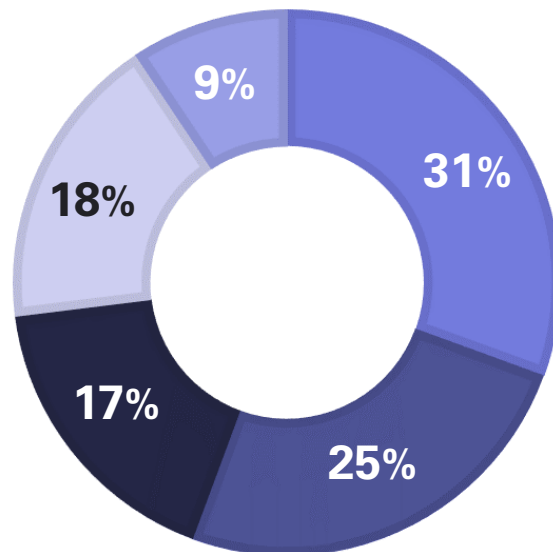
school children and
university students
engaged in outdoor
learning



6,512

volunteer hours
dedicated to
conservation and
preservation

REVENUE



\$1,570,319

STATE GRANTS

\$1,289,130

FEDERAL GRANTS

\$895,130

EARNED INCOME

\$907,676

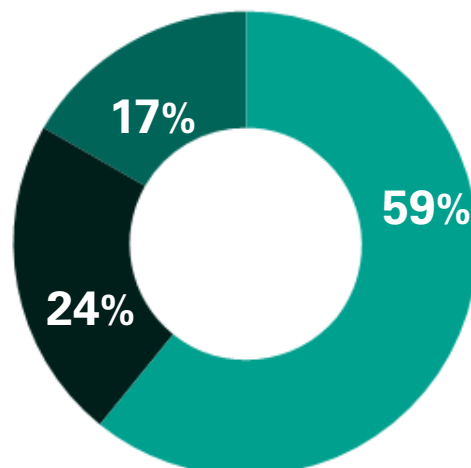
PRIVATE DONATIONS

\$478,361

UNIVERSITY*

*Does not include indirect
support to The Meadows Center

EXPENSES



\$1,797,688

RESEARCH

\$719,521

EDUCATION

\$522,781

OPERATIONS

PROGRAM HIGHLIGHTS

LEADERSHIP

Transforming Knowledge Into Action

The Meadows Center is a leader in water and environmental management and policy topics in Texas, the U.S. and internationally. We convene stakeholders to address critical water and natural resource concerns and the grand challenges that we will face in the decades to come.



© Andy Heatwole

“

This position seemed rather perfect for me because I had worked at a state agency with a lot of interaction with the Texas Legislature, which gave me a front-row seat on seeing how to effectively employ science in the policy world. I want to be able to help prepare students for working as scientists not only in the working world but also in the policy world, by giving them a practical understanding of how the policy world works.

ROBERT MACE,

Deputy Executive Director & Chief Water Policy Officer



HILL COUNTRY CONSERVATION NETWORK

Collaborating across a 17-county region of Central Texas



In early 2017, a coalition of over 100 organizations and agencies came together to form the Texas Hill Country Conservation Network (the Network) to advance shared goals of conservation and sustainable growth in the Texas Hill Country. Our Associate Director, Emily Warren, played a key role in forming the Network as a member of the Steering Committee.

Working across a 17-county region of Central Texas, the Network, with support from the philanthropic community, aims to significantly scale up the impact of conservation-focused organizations, universities, agencies,

businesses and individuals working to protect natural resources, rural heritage and quality of life of this region.

In July 2018, the Network announced a \$5.15 million pledge from the Regional Conservation Partnership Program, part of the USDA's Natural Resources Conservation Service. The award will support the Hill Country Headwaters Conservation Initiative, which will provide funding to private landowners performing land stewardship best practices and ensuring long-term conservation of sensitive agricultural lands across the Blanco, Middle Colorado and Llano

River basins. Through this pledge, the Network and their partners will assist landowners with projects addressing short-term and long-term conservation of water quality, wildlife habitat, and drought and flood management.

The Meadows Center and its partners hope to continue growing the Network in order to further support conservation efforts and smart growth, and gain professional diversity that allows the group to meet key economic, social and environmental objectives at a regional scale.

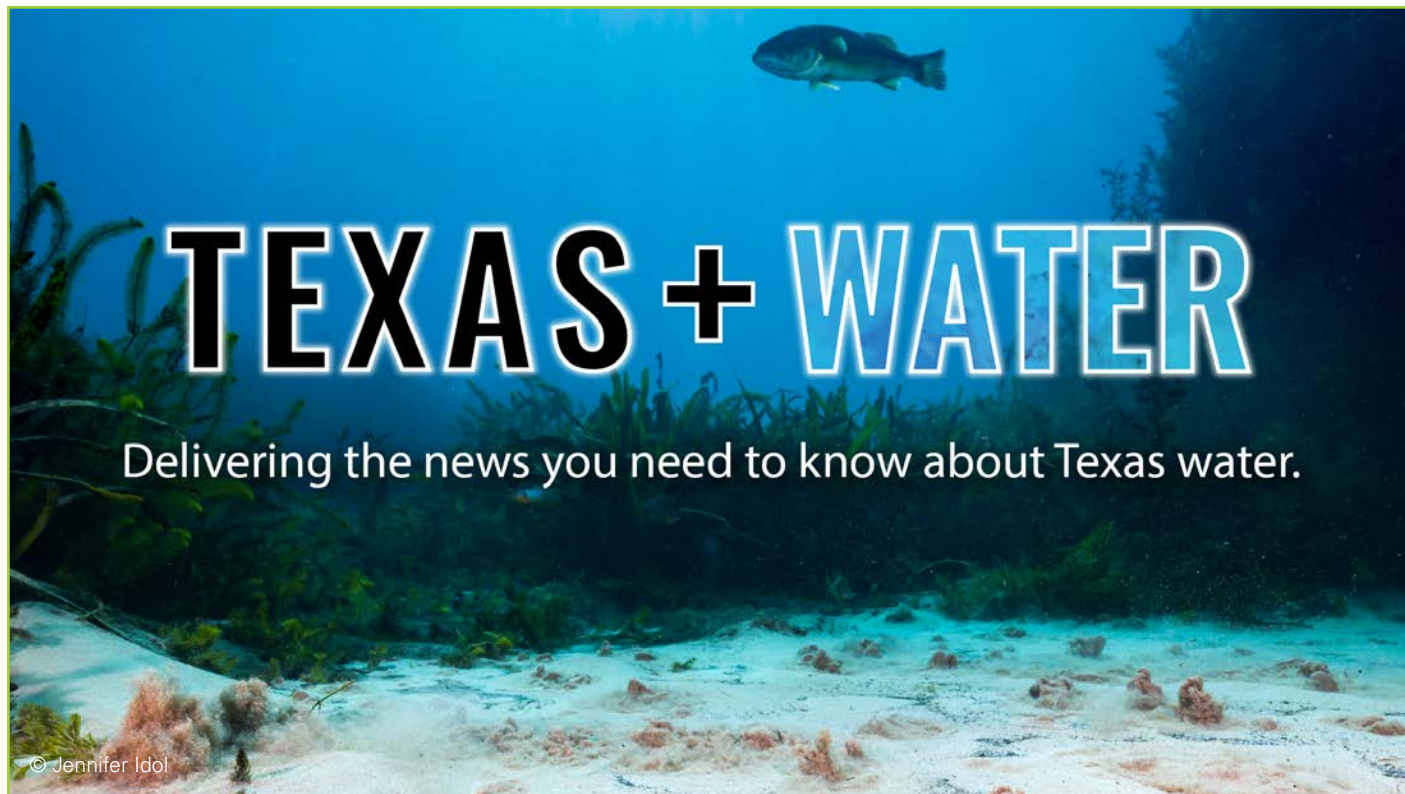
"A successful, thriving agriculture industry is crucial to clothe and feed many families in our nation. As Chairman of the House Agriculture Committee, I'm committed to working with groups like the Network to ensure our farmers and ranchers have the private stewardship resources they need to conserve their land. The Hill Country Headwaters Conservation Initiative is set to positively influence more than 4.5 million acres of our hardworking ranchers' private land."

MIKE CONAWAY,

Congressman for the 11th District of Texas

TEXAS + WATER

Producing a publication about water issues in Texas



The Meadows Center, the Texas Water Journal and the Texas Water Resources Institute, part of the Texas A&M University System, teamed up to launch Texas+Water. The first issue was released on March 22, 2018, in celebration of World Water Day.

Building on the former Trib+Water newsletter, Texas+Water is the go-to source for timely, insightful information concerning water issues in Texas. The newsletter is sent every other month and includes the top news, events, research, and data on water issues in Texas, as well as relevant issues across the region and nation.

As the Lone Star State continues to grow, so does the need to stay informed about issues affecting water in Texas. It is both a privilege and responsibility to provide Texans with the information they need to know about our most critical natural resource, water.

SUBSCRIBE TODAY!

www.TexasPlusWater.org

EDITORIAL TEAM



Todd Votteler
Editor-in-Chief



Anna Huff
Managing Editor



Robert Mace
Editor



Kathy Whythe
Editor

STATEWIDE WATER EDUCATION CAMPAIGN

Increasing Texans recognition about the value of water



© Wyman Meinzer

Water is an essential part of Texans' daily lives, yet many do not understand the value of water and the need to use it wisely.

As over 1,000 people move to Texas each day, there is an important knowledge gap of where our water comes from and how to use it wisely. With support from the Ewing Halsell Foundation, The Meadows Center and the Texas Water Development Board are working together in a unique and unprecedented partnership to develop a statewide water education campaign focused on targeted outreach and strategic messaging.

The value of water in Texas changes throughout the state by region, industry, politics and many other factors. A single communication platform will not resonate effectively with all parties. The project team recruited Harbinger AI and Harman Friday, Inc. to develop a proprietary artificial intelligence system (AI) and creative platform that can deliver specific outcomes to specific audiences.

The campaign identified the most receptive and influential audiences to change behavior and opinion by shifting from a one-size-fits-all approach to a one-to-one approach.

BY THE NUMBERS

The research team examined survey data from Texans across the state to develop groups based on common beliefs, motivations and opinions towards water. The analysis uncovered five different psychographic profiles.

CLEAN IT UP: 19%

This group hates waste. They are concerned about the environment, especially from a pollution standpoint. They are also the most concerned with pricing when it comes to water or electricity.

WHY CHANGE MY WAYS: 25%

This group is wasting water, and they don't really care or know why not to. Of all the groups, this cluster found commonality in showering too long, watering too often and not fixing leaks. The upside is that this group responds well to rebates and reminders.

WHAT CAN I DO TO HELP: 24%

This group was bound together by the awareness that things could be better. They realize that they are leaving a footprint, and want to help change that. This group was most concerned about having water during a drought.

NOT MY PROBLEM: 14%

This group was the least likely to feel like they could do more to conserve water. They aren't price sensitive when it comes to water or electric bills, and don't even think their neighbors could do more to conserve water.

DON'T RUN OUT: 14%

This group seems the most aware and concerned with the long-term availability of water. This group reacted strongest to being fined. They seem overly aware of their impact on the earth and don't want to be called out for doing something wrong.

OUR DESIRED FUTURE

Creating a platform for dialogue about water stewardship



© Jessica Wilson

Our Desired Future seeks to educate and engage Texans on the implications of our current groundwater use, inspiring them to keep water flowing for future generations. With support of a crowdfunding campaign and a grant from the Shield-Ayres Foundation, Our Desired Future published a multimedia project in 2015 featuring animation, videos, a radio documentary, and a portrait series of Texans and their water. The project produced first-of-their-kind maps, including maps of Texas River's dependence on groundwater inflows and of statewide projected groundwater depletion.

To build upon that initial success and to create a platform for more sustained dialogue and action, an in-person exhibit of Our Desired Future was produced that resulted museum-quality displays for use in a traveling exhibit. The Meadows Center took Our Desired Future on the road to locations across Texas from June 2017 through July 2018. The year-long traveling exhibit was used to educate Texans about the interconnections between water above and below ground, help create a better understanding about where water comes from and how the state's water resources can be managed for long-term viability.



BY THE NUMBERS



8

venues across Texas
hosted Our Desired Future
for a total of 122 days

5,935

Texans viewed the exhibit

129

participants attended the
Our Desired Future
community events

RESEARCH

Conducting Solutions Focused Research

Faculty, staff and students at The Meadows Center conduct applied research to address real-world problems. Our researchers provide multidisciplinary expertise to advance science-based solutions for the most pressing water-resource challenges facing Texas and the world beyond.



“

Research is the foundation of all we do. We research the sustainable management of water systems for human prosperity, quality of life and environmental health. Our team strives to address the balance of economic and environmental sustainability to help our stakeholders and partners make critical decisions related to water.

EMILY WARREN,
Associate Director



GUADALUPE RIVER BASIN

Determining conservation strategies to achieve meaningful conservation



© Brian Russell, Flickr

GUADALUPE RIVER BASIN BY THE NUMBERS

3.8

total million acres

2

of the largest springs in
Texas are found within
the Basin—Comal and
San Marcos Springs

3

ecoregions in the
basin: Blackland Prairie,
Post Oak Savanna and
Coastal Prairie

The Guadalupe River Basin contains globally significant resources — from its headwaters in the Texas Hill Country to its terminus in the San Antonio Bay system and the Gulf of Mexico. However, the Basin is intersected by rapid population growth, fragmentation, saltwater intrusion as it meets the Gulf, resource extraction and climate extremes.

The Meadows Center has partnered with the University of Texas, Texas Parks and Wildlife and the Siglo Group to bring local, state and federal agencies and non-governmental conservation organizations together to create an integrated and focused conservation plan for the Guadalupe River Basin.

The team will combine two conservation methodologies already used in portions of the Guadalupe River Basin: Strategic Conservation Prioritization and the Native Fish Conservation Areas Planning Framework focusing on the Guadalupe Bass. Merging the two methodologies allows for data-intensive strategic conservation planning within a stakeholder framework, facilitating the long-term persistence of freshwater fish diversity



© TPWD

in the Basin through collaborative stewardship and landscape-scale conservation delivery.

The project recognizes the need for thoughtful conservation strategies that accommodate future growth while determining specific conservation actions, optimal locations, and mechanisms to achieve meaningful conservation delivery in the Basin.

DUNES SAGEBRUSH LIZARD

Creating a Texas conservation plan



A team led by Dr. Thom Hardy and Michael Forstner, Texas State University System Regents' Professor, began a multi-year project for the Texas Comptroller of Public Accounts in February 2017 to conduct research and monitor the efforts needed to support implementation of the Texas Conservation Plan for the Dunes Sagebrush lizard.

The lizard, found only in the shinnery oak dunes of southeast New Mexico and West Texas, has been a candidate species for listing under the Endangered Species Act by the U.S. Fish and Wildlife Service since 2001. Its numbers are threatened by habitat removal, fragmentation and degradation as a result of oil and gas development.



This year, the team used ground-truth data and survey data to extend the existing lizard habitat model developed in New Mexico to Texas. Activities included validating the habitat classification scheme and developing a protocol to standardize lizard and habitat monitoring surveys.



DR. THOM HARDY

Meadows Endowed Professor in Environmental Flows and Chief Science Officer

THE DUNES SAGEBRUSH LIZARD HAS BEEN A CANDIDATE SPECIES FOR LISTING UNDER THE ENDANGERED SPECIES ACT BY THE U.S. FISH AND WILDLIFE SERVICE SINCE 2001.

WATER CONSERVATION POTENTIAL

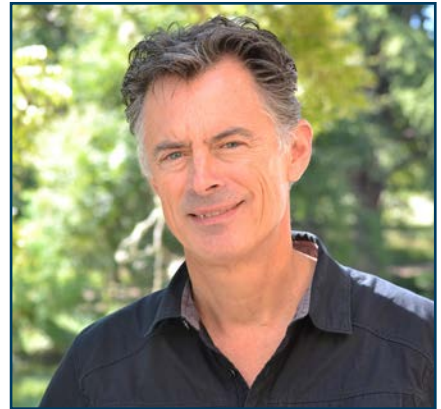
Conducting a pilot study for two planning regions in Texas

Dr. Tim Loftus was awarded a research grant by the NEC Corp. through the Texas State Office of the Provost and VP for Academic Affairs in 2016. Dr. Loftus' research project estimated the water-use conservation potential in two of the sixteen water-supply planning regions of Texas: Regions K and C. These two regions are home to almost a third of Texas' population and include three of the five largest cities in the state. The project examined three components of water-use conservation potential using 2014 data obtained from the Texas Water Development Board.

Residential Water Conservation Potential: Findings show the estimated potential for outdoor and indoor water savings combined came to a total of between 260,350 acre-feet and 290,725 acre-feet. A more complete installation of high-efficiency fixtures and implementation of sensible outdoor water-use restrictions across a larger number of communities would contribute to considerable water savings.

Commercial, Institutional, and Industrial Water Conservation Potential: While savings estimates within the commercial and institutional sectors ranged from 62,603 to 125,206 acre-feet, depending on assumptions made, with over 80 percent of the savings potential found to exist within Region C. Furthermore, the methodology employed offers a breakdown of water use into economic subsectors that enable a targeted and nuanced approach to conservation programming.

Economically Recoverable Nonrevenue Water in Texas: This component studied 2014 water loss audit data from the two planning regions and found the total volume of economically recoverable water, both real and apparent losses, is 21.19 billion gallons or 65,033 acre-feet. Additionally, the study assigned a more defensible value of economically recoverable water for comparison to planned investments in water loss control. Normalized regional results were extrapolated statewide.



DR. TIM LOFTUS

Meadows Endowed Chair
in Water Conservation and
Chief Conservation Officer



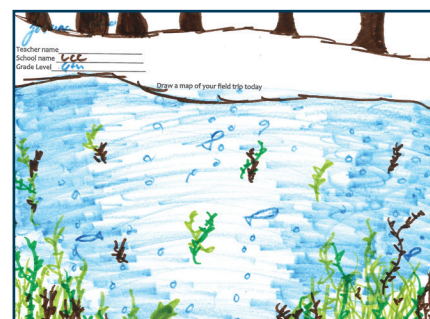
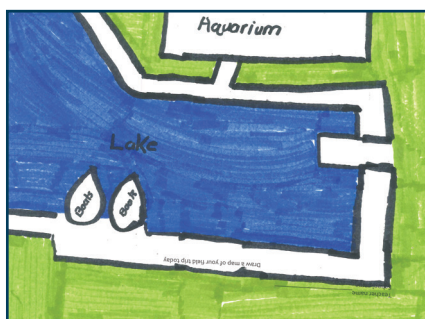
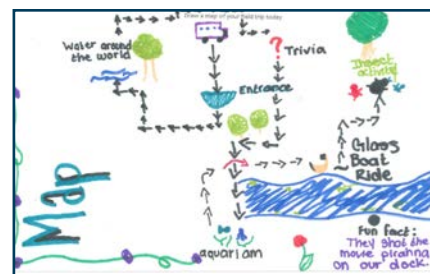
I gained a lot of research experience and exposure to different research methods while working on this project. It was also a good introduction to the breadth of the field. Dr. Loftus was great about giving me opportunities to present my research, which is definitely a big selling point for any job application.

LACEY SMITH,
Texas State Graduate
Geography Student



CHILDREN IN NATURE RESEARCH

Discovering children's experience of nature through maps



The Meadows Center's Associate Director, Emily Warren, and Texas State University graduate student in the Department of Geography, Shadi Maleki, examined Kindergarten through 12th Grade school children's expressions of nature through an activity that tasked students to sketch a map of their field trip to Spring Lake.

Sketch mapping is one method that researchers have frequently used to elicit environmental knowledge and spatial ability. Sketch maps capture information about how children conceptualize their environment. They also provide information about children's spatial and cartographic skills, which can offer relevant insight into how formal geography curricula have been designed and could be improved.

The study evaluated what elements of nature and the built environment over 700 children included in their maps by analyzing each map based on the basic cartographic conventions that is included in the state's curriculum standards, Texas Essential Knowledge and Skills (TEKS). Maps were also analyzed based the type and frequency of natural and man-made elements that were included in the maps to discover what elements of the field trip (environment and activities) were particularly relevant to children during their field trip experience.

CONCLUSIONS

Overall, results suggested that a small group of the participating children represented their experiences in the form of a map, while the majority produced a drawing based on their observations with limited use of basic cartographic conventions.

These results highlight the need to re-evaluate the effectiveness of the scholastic geography curriculum in Texas. Educators can also use this information to focus their teaching strategies and children's learning process to improve children's geographic and cartographic knowledge.

EDUCATION

Encouraging Lifelong Learning

Our educational programs encourage lifelong learning about the environment and people's relationship to the environment. The activities offered at Spring Lake connect children and their families to nature and inspire environmental stewardship. The Meadows Center also provides numerous internship opportunities for Texas State students, inspiring future careers and studies in natural resource related fields.



This region is a very personal place to me. I grew up coming to the Texas Hill Country to camp and spending my days fishing and swimming in the rivers. These experiences were very formative for me. It is a great joy to find my personal and professional interests represented here [Spring Lake] in this most special place.

The position at The Meadows Center represents many possibilities for me to engage deeply with my connection and interest in water, recreation and education. I'm looking forward to contributing my experience and perspective and being a dedicated steward of this resource.

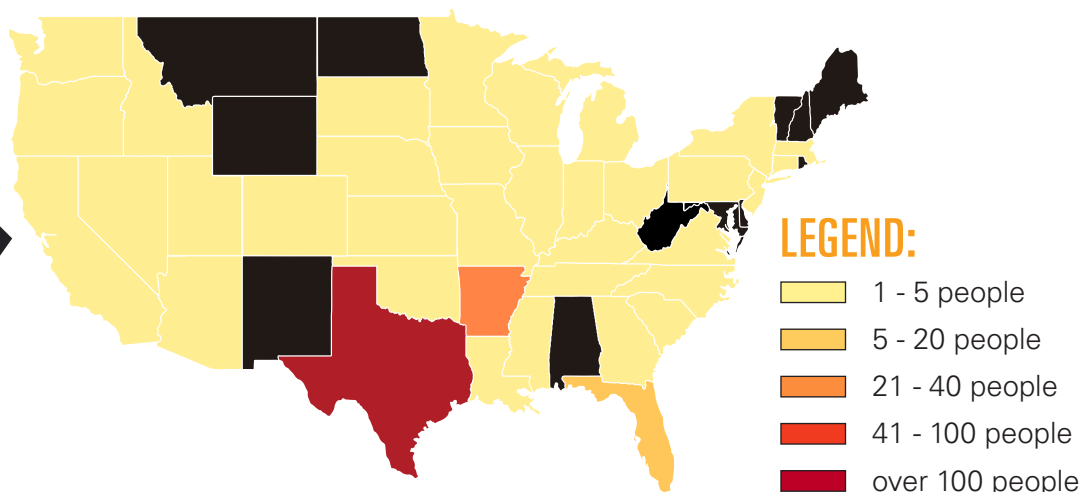
ROB DUSSLER,
Chief Education Officer



A YEAR IN REVIEW

Spring Lake outdoor education program successes

This year, our education program at Spring Lake engaged with 122,526 visitors from across the country, teaching them about the importance of natural resources and environmental stewardship.



77%

of students surveyed were inspired to conserve water after visiting Spring Lake

45%

of University students surveyed said Spring Lake or the river had an influence on their decision to come to Texas State

99%

of University students surveyed said their experience at Spring Lake gave them a better understanding of protecting water resources

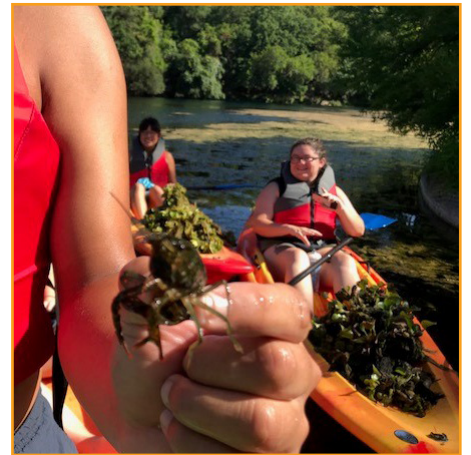
100%

of teachers surveyed indicated their field trip to Spring Lake was useful in the classroom



KAYAK CONSERVATION PROGRAM

Cultivating stewardship through nature exploration



The Meadows Center's Education Program was awarded an L.L. Bean-American Canoe Association Club Fostered Stewardship Grant to educate, inspire and empower people through a sustainable kayaking experience at Spring Lake. The program introduced students to paddling in an environmentally-sensitive habitat with a stewardship emphasis. Several groups participated in the project throughout the summer, including Texas State students, volunteers from the local community and students from the Austin Youth River Watch.

Students were taught paddling safety skills for canoeing or kayaking congruent with the American Canoe Association Curriculum as well as stretching and fitness concepts to

reduce the likelihood of paddling injury and encourage physical awareness and mindfulness.

Most importantly, students were also educated about the environmental significance and sensitivity of Spring Lake. Participants learned of native and nonnative invasive species removal efforts at Spring Lake. Directly experiencing and investigating habitat through outdoor education programs allows participants the opportunity to cultivate a stewardship ethic, and not by chance. Our education programs strive to connect people to themselves, others and to water and the natural world through meaningful and inspiring experiential education activities.

BY THE NUMBERS

420

pounds of invasive species removed

58

volunteers participated in the program

TEEAC CREDIT PROGRAM

Expanding learning opportunities at Spring Lake for educators



We launched a new teacher program this year to give educators the tools and training they need to incorporate more environmental education in the classroom. Teachers can now earn Texas Environmental Education Advisory Committee (TEEAC) professional development credit while their students are on an field trip at The Meadows Center. This learning model allows students to go through the environmental education process with their teacher at the same time.

Teachers are given a Meadows Center teacher packet consisting of pre and post activities based on the Texas Aquatic Science and Project Wild Curriculum to participate in on site TEKS-aligned activities and use with their students back in the classroom. The TEEAC credit experience is designed to support both new and advanced teachers. Upon completion, participants will receive three hours of credit towards the TEEAC certificate of recognition.

“

Our education program works with more than 30,000 field trip students every year, and now we are excited to expand this program for teachers. This model will allow us to attract more teachers that may not otherwise be able to complete an environmental education experience and avoid added costs like substitute teachers. Also, this allows students to go through the environmental education process with their teacher at the same time.

SONJA MLENAR,
Education Program Coordinator



STEWARDSHIP

Cultivating a Stewardship Ethic

One of the greatest privileges of The Meadows Center is the stewardship and management of Spring Lake and its habitat, endangered species, and cultural resources. We are active in the San Marcos community and beyond and strive to strengthen those ties by connecting stewardship of water and natural resources to quality of life.



“

The most critical thing I've learned through watershed planning is understanding the importance of working with stakeholders to make decisions. I have always appreciated and respected the work that was being done here at The Meadows Center, so I'm excited to help the watershed services program achieve sustainability. I think the organization is uniquely positioned to do so much good for this area and the state of Texas.

NICK DORNAK,
Watershed Coordinator



TEXAS STREAM TEAM

Growing a statewide network of citizen scientists

Our Center has the privilege of operating one of the largest, longest running and most successful water quality citizen science programs in the country: Texas Stream Team (TST). Since 1991, TST has brought together community members, students, educators, academic researchers, environmental professionals, and both public and private sector partners to conduct scientific research, promote environmental stewardship and ensure clean and safe water for current and future generations. TST is done in partnership with the Texas Commission on Environmental Quality and the Environmental Protection Agency.

PROGRAM MILESTONES:

10,000 CITIZEN SCIENTISTS TRAINED

This year, TST celebrated training its 10,000th citizen scientist. There are now more than 2,000 sites monitored across Texas. This data supports academic research, informs policy and serves as a de facto early warning system for Texas river systems.

NEW DATAVIEWER RELEASED

A new Waterways Dataviewer was launched in June 2018 to increase the public's accessibility of the water quality data collected by citizen scientists. In the coming months, TST will release the complete collection of historical water quality data.



Map of TST monitoring sites.



BY THE NUMBERS

10,000

citizen scientists trained
to monitor water quality

2,163

active water quality sites
monitored across Texas

3,874

hours monitoring
water quality

BIOLOGY FIELD LAB

Improving Texas Wild-rice habitat in the San Marcos River

Efforts led by The Meadows Center's Biology Field Crew, in partnership with the Edwards Aquifer Habitat Conservation Plan (EAHCP), have contributed to a 15-percent (or 1,300 m²) increase of the endangered Texas Wild-rice distribution in the San Marcos River this past year. Since the plan's implementation in 2013, Texas Wild-rice has expanded an estimated 4,500 m².

To maintain a healthy habitat for the river, the field crew continuously monitors non-native plants and native plants. Non-native species are removed by hand and composted on campus, while native aquatic plants are grown in the Freeman Aquatic Building at Texas State. Once the native plants mature, they are re-planted in the river. The field crew also provides opportunities for Texas State students to get hands-on experience in biology-related research, which allows them to apply materials learned in the classroom to real-world projects.

Led under the direction of our Chief Science Officer, Dr. Thom Hardy, the field crew is contracted through the EAHCP to rehabilitate aquatic habitats and conduct research to strengthen conservation efforts in the San Marcos River. Services provided by the field crew and other organizations involved in the EAHCP ensure the river meets federal standards.



“

I decided to attend Texas State University because of the unique aquatic ecosystem that originates right on campus, but not knowing exactly where I would go after achieving a degree. Being able to participate in the work that the field crew does has transformed my interest into a passion. I now know that I want to continue my education and find a career in Conservation Biology that will allow me to continue my efforts to preserve other amazing ecosystems and the wildlife within them.

CHRIS MULLINS,
Biology Field Lab Student
Worker



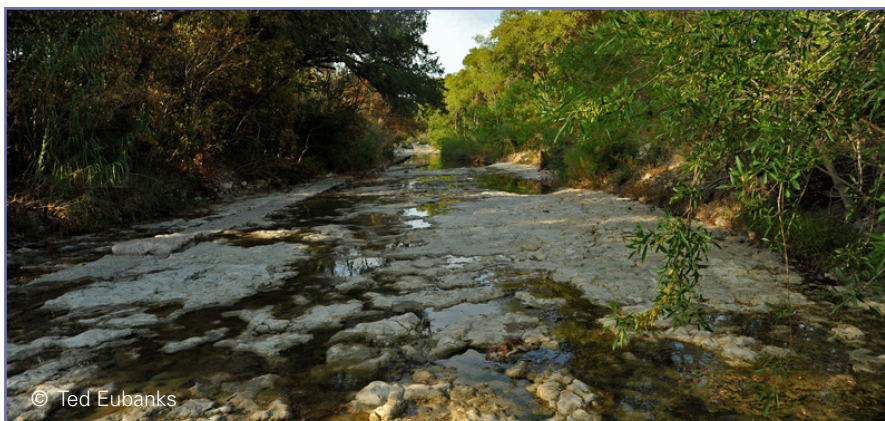
SHOAL CREEK WATERSHED

Creating a watershed action plan for downtown Austin

The Meadows Center launched a multi-year partnership with the Shoal Creek Conservancy, the City of Austin Watershed Protection Department and engineering firm Douchet & Associates to develop the Shoal Creek Watershed Action Plan.

The Shoal Creek Watershed is one of the most developed and densely populated watersheds in the Austin area. It suffers from many interconnected water-related challenges, including devastating flood events, poor water quality, erosion, loss of native habitat and diminished spring flow. The cooperative project brings together community stakeholders and technical experts to identify creative solutions to address Shoal Creek's challenges and create a resilient, healthy and safe creek.

Efforts this year focused on the community-engagement phase of the project, which began in early 2018. The partnership established technical and stakeholder committees to define shared goals for Shoal Creek and develop a clear path for implementation. The partners also initiated a multi-year education campaign to raise awareness about actions individuals can take to improve water quality and support a healthier future for Shoal Creek.



SHOAL CREEK BY THE NUMBERS

27%

located in Edwards
Aquifer Recharge Zone

13%

impervious cover
contained in the
watershed

13

miles of total
drainage area

11

miles of total stream
length

BEHIND THE SCENES: OUR UNSUNG HEROS

Meet the amazing people behind the scenes here at The Meadows Center. We have an incredibly talented and passionate group of core staff who are proud to make a difference in the water industry doing work they love. This team helps ensure The Meadows Center remains a leader in water and environmental management for the partners we serve as well as the Center's Staff itself.



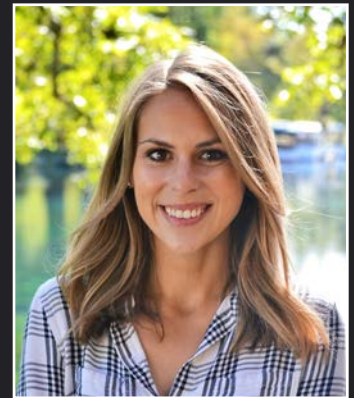
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