



TEXAS STREAM TEAM MONOFILAMENT FINDERS

FINAL REPORT
JANUARY 2016

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THE MEADOWS CENTER
FOR WATER AND THE ENVIRONMENT
TEXAS STATE UNIVERSITY

TEXAS STREAM TEAM



Photo by Jennifer Idol, The Underwater Designer

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I. PROJECT DESCRIPTION

Over 2 million anglers fish in Texas annually and many leave fishing line behind. Monofilament takes up to 600 years to degrade, and when left in the environment, is disastrous for fish and wildlife. In addition to being an eye-sore across Texas waterways and coastlines, monofilament entangles and kills thousands of birds annually, such as roseate spoonbills and white ibises. Monofilament turns habitats into traps for otters, alligators, fish, and turtles like Kemp's Ridley Sea Turtle.

Texas Stream Team Monofilament Finders was developed to work towards protecting habitats by engaging a well-established statewide citizen science network with partner organizations and others in monofilament education, collection, and recycling.

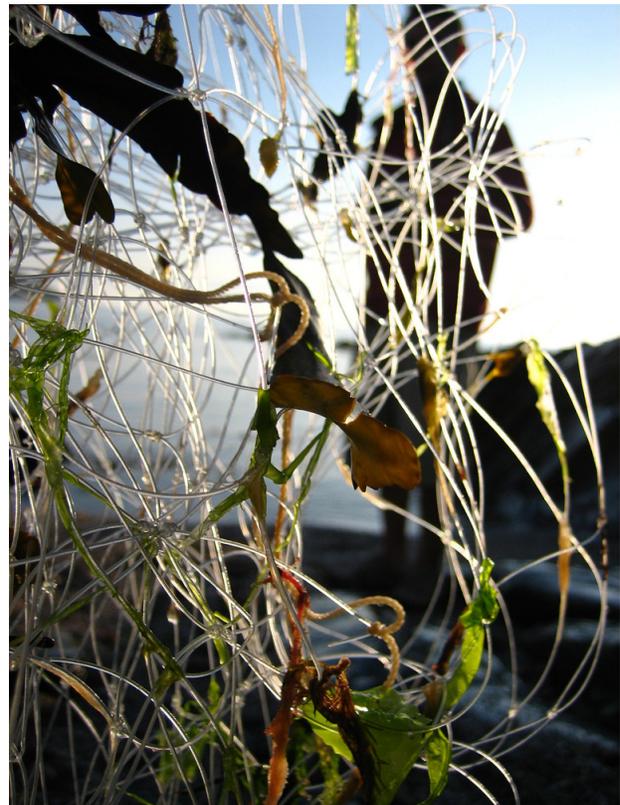


Photo by Laura Thorne, Flickr

Harmful effects of monofilament line include the following categories:

- **Entanglement** of fish, birds, wildlife causes starvation, predation, drowning, amputations, and other injuries.
- **Ingestion** of plastics by fish, birds, wildlife can be poisonous or induce starvation.
- Line also poses risk for swimmers, boat propellers, bilge pumps, and intake valves.

This program addresses these risks by:

- reducing monofilament from fish and wildlife habitats;
- influencing thinking and behavior of Texas anglers;
- incorporating monofilament removal into existing Texas Stream Team Citizen Science activities, providing valuable data for research and additional stewardship opportunities;
- engaging partner organizations in raising awareness about impacts of monofilament on habitats; and
- compelling environmental stewardship from new audiences in a program that has a statewide scope.

II. PROJECT BUDGET SUMMARY

The Program Establishment Budget below shows the initial expenditures required to launch the Texas Stream Team Monofilament Finders program. However, it does not account for the expenses that were incurred by Texas Stream Team partners nor does it reflect the value of Texas Stream Team Citizen Scientist volunteer hours.

Changes to the budget are outlined in the Notes column.

Year 1 Program Budget	WCCR Funds	Other Sources of Funding	Notes
1. Program development, oversight, staff time	None allocated in original proposal	\$9,150	\$5,000 was initial projection
2. 500 monofilament disposal bags (\$2.50 each)	\$1,250		\$2,000 original projection for 1000 bags. \$750 remainder was applied to video production.
3. 500 laminated instruction cards (\$1 each)	\$500		\$1,000 original project for 1000 cards \$500 remainder applied to video production
4. Social media, media, web, outreach staff time	\$3,000	\$1,000	\$3,000 original projection \$1000 remainder applied to video production
5. Web training video (professional service)	\$3,150		\$1,000 original projection. An additional \$2,150 was allocated from other budget lines.
6. Graphic & web design, Staff time	\$2,750		\$3,000 original project. \$250 remainder applied to video production.
7. Database, Mapping, Reporting development, Staff time	\$1,000		
8. Postage	\$50	\$300	\$500 original projection. \$450 remainder applied to video production. Additional postage was paid with other funds.
9. One Bag kiosk (including design)	\$1,300		\$1,500 original projection. \$200 remainder applied to video production.
Year One Total	\$13,000	\$10,450	



Photo by Anders Adermark, Flickr

Breakdown of Funds

1. Staff oversaw program development and activities (\$9,150)

Meredith Miller, Senior Program Coordinator, managed this project and Briane Willis, Nature Program Specialist, led the project.

2. Purchased and branded of reusable bags (\$1,250)

Staff purchased 500 reusable collection bags. These are available to the public free of charge.

3. Printed protocol cards (\$500)

Staff wrote, designed, and printed 500 cards that outline safe removal protocol. The cards include links to regional wildlife rehabilitation centers and recycling locations.

4. Conducted outreach campaign including social media, media, web, events (\$4,000)

The Meadows Center did a soft launch in November 2015. This included a press release, a Texas State University newspaper interview, and social media blast.

5. Developed a training and informational video, shared with our partners, and posted it on The Meadows Center's website (\$3,150).

The Meadows Center contracted with Aerial Viewpoints to create an informational video about monofilament. This video is 5 minutes long and includes an overview of monofilament, the

dangers of fishing line, the protocol for removal, an invitation to join Monofilament Finders, and tips for keeping monofilament out of waterways. It will be translated into Spanish in March 2016.

6. Develop and design website (\$3,000)

Staff created a website for this program, including content writing, image acquisition, graphic design, and resource compilation.

7. Staff enhanced existing statewide database, created maps and track data (\$1,000)

Texas Stream Team is training current citizen scientists to safely remove and recycle monofilament, and report their data to TST for ongoing tracking. We will also be tracking those who are building and maintaining their own monofilament recycling stations.

8. Postage for program supplies, outreach materials (\$50)

We will mail out bags to citizen scientists who are unable to visit the bag locations.

9. Design, construction of pilot kiosk (\$1,500)

The kiosk was installed in the Spring Lake Discovery Hall in November 2015. It has an informational sign, a number of reusable collection bags with protocol cards, and a bin for collecting monofilament line.

III. PROJECT GOALS AND OBJECTIVES

Project Goal

To conserve, protect and improve fish and wildlife habitat along Texas waterways and coastlines.



Near-term objectives	Actions to achieve objectives
<p>Raise monofilament waste awareness and solutions with 100,000 Texans via media, Texas Stream Team, and interpretive materials and activities.</p>	<ul style="list-style-type: none"> • Installed signage at the Spring Lake education center. • Installed a recycling kiosk at Spring Lake with free collection bags and sent bags to partners. • Integrated the removal protocol into TST activities. • Shared information with citizen scientists, partners, and the public.
<p>Engage partners, citizen scientists, and anglers to remove monofilament and utilize existing recycle stations.</p>	<ul style="list-style-type: none"> • Developed an informational and training video. • Created a TxMonofilament.org website. • Included a program description in our Headwaters newsletter. • Promoted this program on social media as well as with press releases in Trib+Water Newsletter and the Texas Tribune. • Shared the recycling station map with citizen scientists and the public.

Long-term objectives	Actions to achieve objectives
<p>Grow partner, citizen scientist, and angler base to have increased numbers of citizens and stewards remove monofilament in more locations</p>	<ul style="list-style-type: none"> • Continue engaging regional organizations • Expand volunteer trainings across the state
<p>Create and maintain new monofilament recycle stations and bag kiosks.</p>	<ul style="list-style-type: none"> • Identify new locations for recycling stations • Partner with local organizations
<p>Create behavioral change that reduces waste and increases stewardship activities to protect wildlife habitat.</p>	<ul style="list-style-type: none"> • Expand education and outreach along Gulf Coast. • Create additional free education materials for schools. • Continue to partner with Sea Grant and other programs that promote removal and monofilament pollution prevention.

IV. PROJECT ACTIVITIES

The *Monofilament Finders* program was integrated into Texas Stream Team activities, specifically these four major components:

1. Watershed and Nonpoint Source Pollution Educational Materials, Water Quality Monitoring Training

- a. Water Quality Monitoring Training materials, including protocol cards, a training video, and a monofilament recycling location map;
- b. Incorporated monofilament removal and recycling into the Texas Stream Team Training protocol. Protocols stress the importance of removing all fishing line, cleaning monofilament properly before recycling, and reporting data for tracking purposes;
- c. Provided online resources for existing and new citizen scientists, partners, and anglers, including how-to videos for constructing a recycling station and other free materials.



Photo by Steve Sawyer, Flickr

2. Outreach to Increase Participation in Monofilament Removal Activities:

- a. Designed and implemented a multi-media outreach campaign focusing on existing Meadows Center outlets;
- b. Communicating with existing networks through newsletters, meetings across the state (including 2 partner meetings), water quality monitoring trainings over the last 6 months, and educational events to spread awareness of this opportunity to improve habitat;
- c. Targeting and engaging anglers that are not part of Texas Stream Team through partner organizations; Incorporating the program into Fishing's Future, a state-wide educational program that introduces youth to fishing, the natural environment, and its stewardship. Program activities also have been incorporated into regional coastal activities through the Science and Spanish Club Network. Program advertising to anglers organizations across the state. This year we will offer at least 4 trainings in central and coastal Texas.
- d. Recruiting new partners to engage in and promote marine debris cleanup activities.

3. Data Collection, Research to Track Success:

- a. Created a database to track how many citizen scientists are removing monofilament and the quantity of monofilament being removed; Monofilament removal has been added to the TST water quality datasheet; A Google form has been created for non-TST citizen scientists.

4. Reporting:

- a. This is the first annual report that will be made available on our website. Future reports will include the number of people trained and engaged in Monofilament Finders, quantification of monofilament removal, and other resources.



Photo by Jim Sohn, Flickr

V. PROJECT OUTCOMES

The following resources we have made available free for everyone, with the request that credit to Texas State University and Texas State Aquarium be included.



Informational/Training Video

vimeo.com/144893469

TST Monofilament Finders Website

TxMonofilament.org

Dataform and Protocol documents can be found on the website.

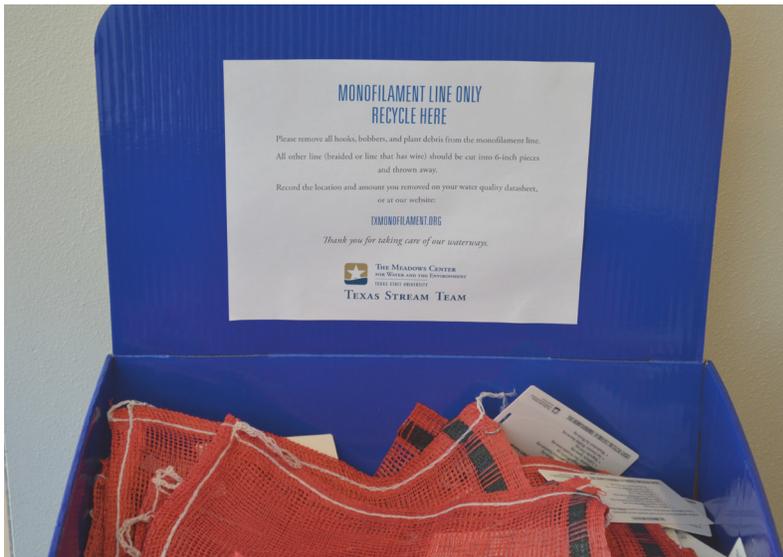
Resources List

TxMonofilament.org/Resources

Instructions for building/maintaining recycling stations:

youtube.com/watch?v=wrLnKe2K-dM

Kiosk



Photos of the Monofilament Recycling Kiosk installed at Spring Lake with free collection bags

MONOFILAMENT MADNESS



Photo by Martin Sharmen, Flickr

Many anglers leave fishing line behind. It takes 600 years for fishing line to break down and it builds up in nature over time. It traps mammals, birds, reptiles and fish, leading to injury or death. Some animals also ingest the line and die from starvation or poisoning.

You can protect wildlife in rivers, lakes, bays, and oceans by keeping fishing line out of the environment.

Collection Bags

Collect abandoned fishing line using these free bags! Each bag has a protocol for removing, recycling, and reporting your efforts. Please take one and use it each time you enjoy our waterways.

Recycle Monofilament Line Here!

Monofilament line is recyclable. Most commonly used, monofilament is a single-strand, high-density nylon line. Please carefully remove debris, hooks, or bobbins before recycling. Drop the clean monofilament through the hole in this kiosk.

To find more recycling locations and learn more visit:
TXMONOFILAMENT.ORG

Braided line or line with wire is not recyclable. Cut it into 6-inch lengths and throw it in the trash.



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Texas Stream Team
JOINSTREAMTEAM.ORG

VI. FUTURE APPLICATIONS

There is a broad need to address monofilament threats to habitats by engaging diverse citizens in monofilament education, collection and recycling. Texas Stream Team is uniquely positioned to develop this program and to broadly apply and share its lessons.

- **Replicable Program:** The Meadows Center's Texas Stream Team is one of the most enduring and successful water-focused citizen science programs in the U.S. Our model is replicable for those interested in building citizen science programs.
- **Project Application:** Lessons from Texas Stream Team Monofilament Finders will inform our new statewide monofilament removal program, contribute to similar projects and to a growing body of knowledge and community of practice. The Meadows Center has already trained 8,000 citizen scientists and trains more every year. The Meadows Center's messages reach more than 125,000 people each year. We have a network of more than 80 partner organizations statewide. We'll encourage broad application of this program and share educational materials.



Photo by Jennifer Idol, The Underwater Designer

VII. NEXT STEPS



Through our partnership with Fishing's Future, we are expanding awareness of the Monofilament Finders program. We provided them with 40 collection bags and anticipate giving them more in the future. These bags will be handed out to youth attending the Coastal Brigade and other educational events. Fishing's Future shared numerous resources with us that we will add to our website. We will continue working with them to integrate Monofilament Finders into their programs.

Currently, we are working on a bag re-print with the Nueces River Authority. The collection bags will be part of their Up2U Clean Rivers and Beaches program. This litter campaign along the Texas Gulf Coast.

We will expand this program by continuing to train citizen scientists and anglers, increase the partner network, and add to the number of monofilament recycling stations in the state.

We will also continue to seek funding to support the program in the following ways:

- Incorporating monofilament removal program into appropriate grant requests.
- Working with Nueces River Authority to incorporate monofilament removal into their Up2U program.
- Continued social media and targeted campaign to integrate monofilament removal program into partner activities.

The Ongoing/Annual Budget shows the expected annual program costs that will be funded through Texas Stream Team and its partner organizations in future years.

Ongoing/Annual Program Budget	Program Funds
1. Bags, protocol cards (5000 each, bulk discount)	\$9,150
2. Staff time for program management, compiling data, social media, partner support and tracking and reporting program success	\$7,500
3. Postage and mailing expenses	\$500
4. Supplies for monofilament recycle stations and maintenance	\$3000
5. Commercials developed for partner use	\$1000
6. Additional outreach materials	\$500
Total	\$21,650