



GALVESTON BAY FOUNDATION

PROTECT TODAY. PRESERVE TOMORROW.

**NPS: Urban Runoff, Marine Debris, and
Outreach Campaigns**

Natasha Zarnstroff; Water Protection Manager



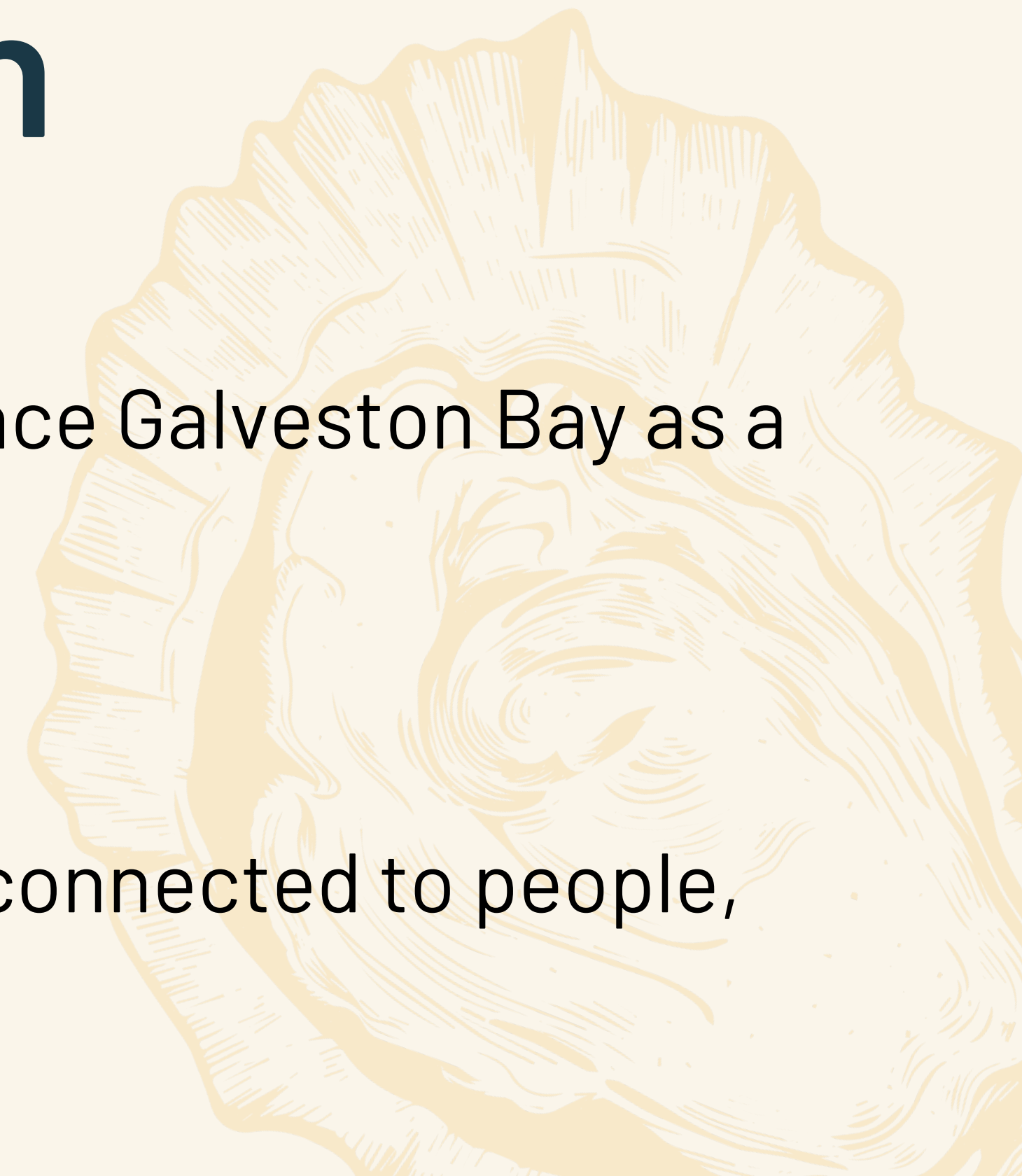
Our Mission & Vision

Mission

The mission of Galveston Bay Foundation is to preserve and enhance Galveston Bay as a healthy and productive place for generations to come.

Vision

We envision a future Galveston Bay that is brimming with vitality, connected to people, and contributing to the community in every possible way.





Program Areas



Education



Habitat Restoration



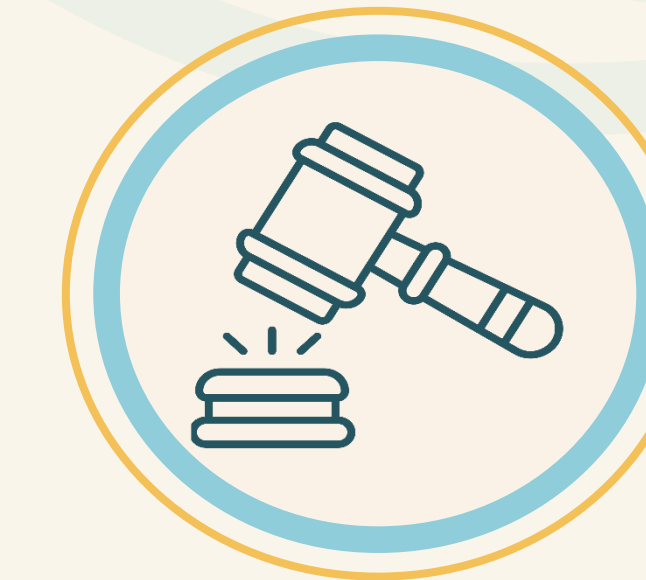
Land Conservation



Water Protection



Research



Advocacy



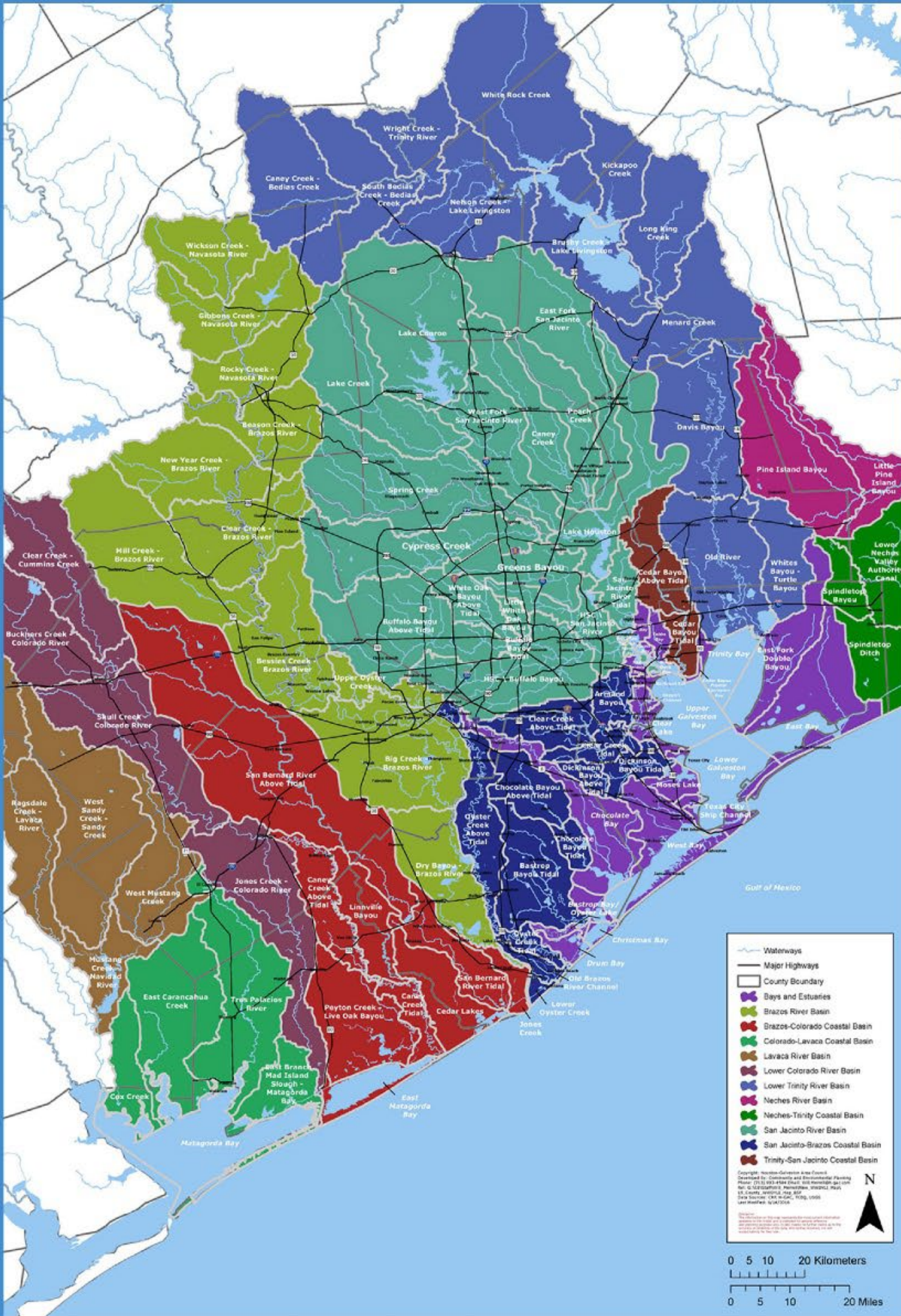


The Wonders of Galveston Bay

- Watershed covers 24,000 miles (Half of Texas' population)!
- Resilient, shallow, well-mixed
- 2nd highest producer of seafood among U.S. estuaries
- Ecosystem includes:
 - Rivers & bayous
 - Coastal prairie
 - Freshwater marshes
 - Saltwater marshes
 - Oyster reefs
 - Diverse species of animals
 - And YOU!



What Watershed Do You Live In?



A Watershed...

...is the area in which water, sediments, and pollutants drain into a common body of water

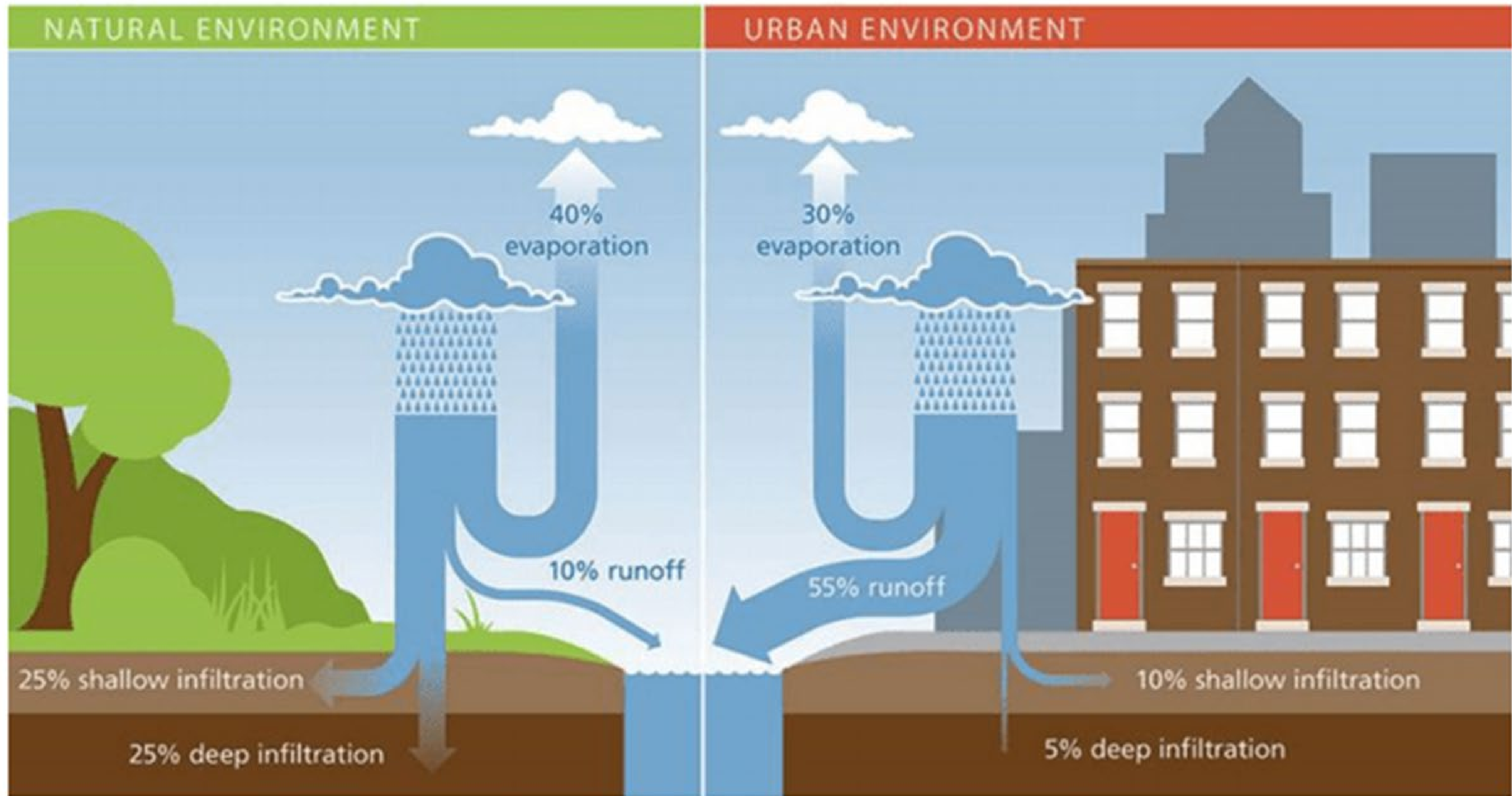
Everyone lives in a watershed.

To find yours, go to HCFCD.org & click on
“Find Your Watershed”



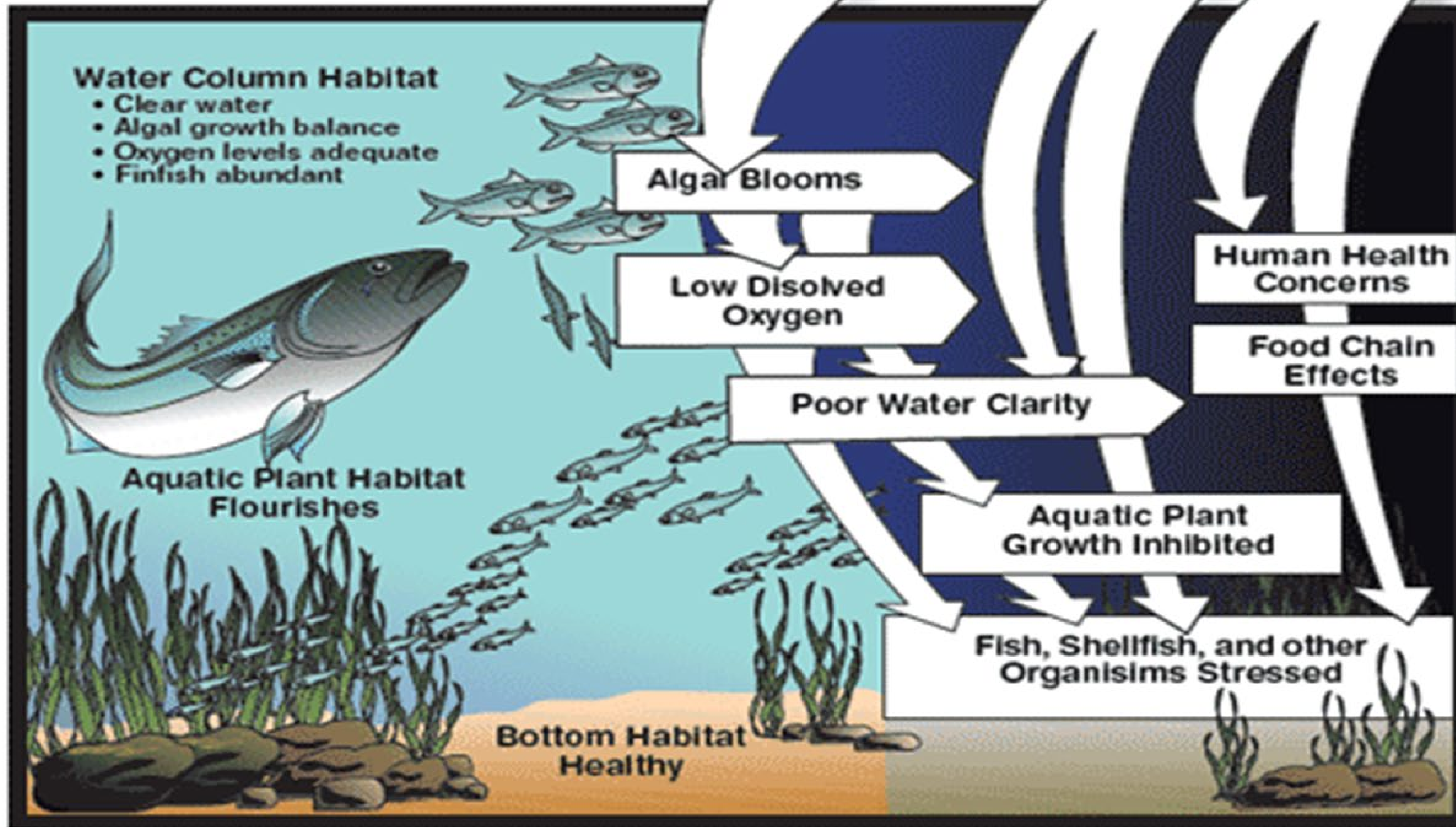


Pollution Sources



Healthy System

Unhealthy System





Effects of Litter

Impacts water quality

- Blocks light and natural flow
- Reduces oxygen levels
- Leaches chemicals
- Transports Pathogens

Increases flood risks

- Physically clogs storm drains

Can impact tourism interest

- Unsightly during recreation
- Costly ~\$21 million/year in Houston

Dangerous for wildlife

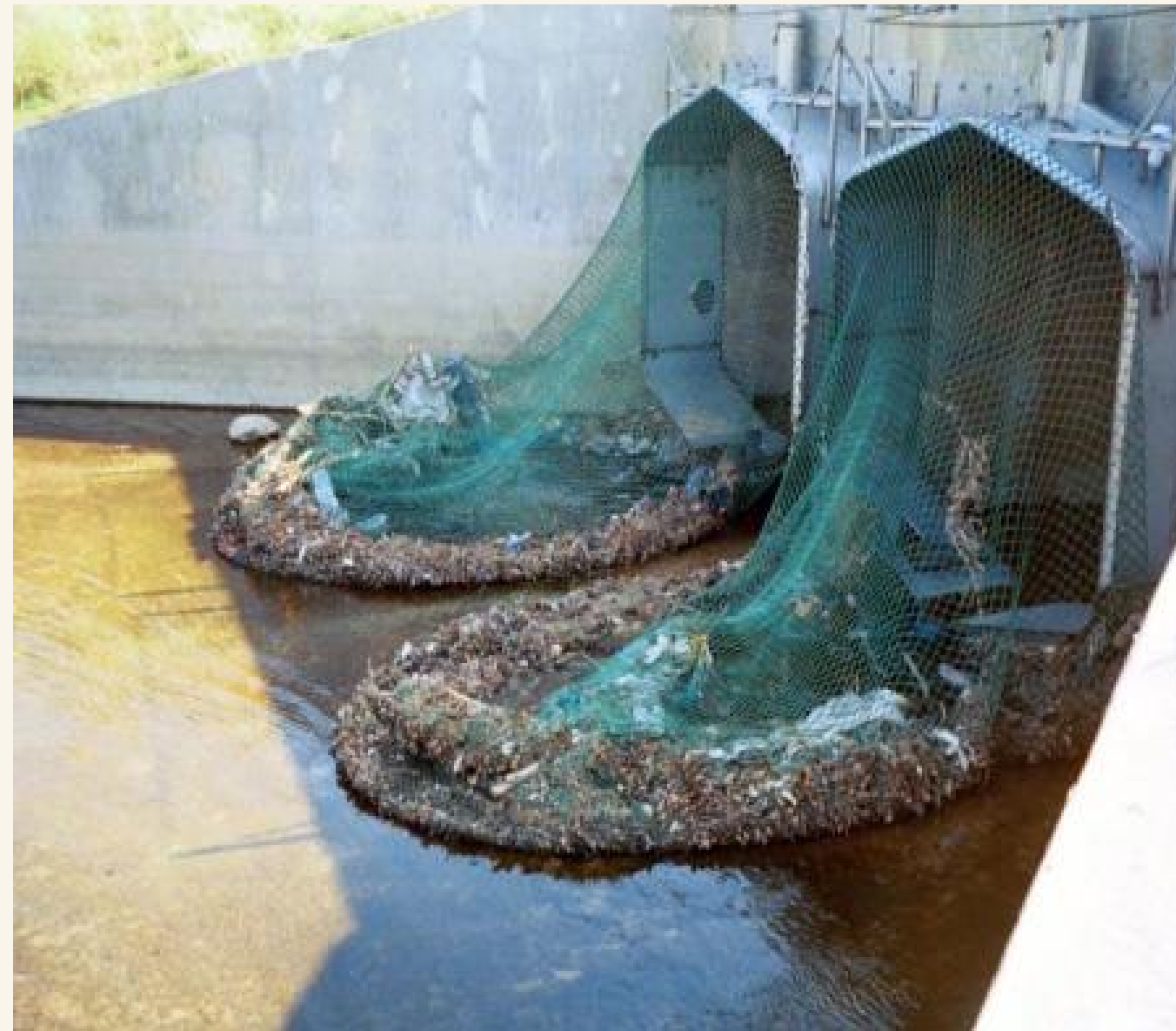
- Entanglement
- Ingestion
- Carries on in food chain

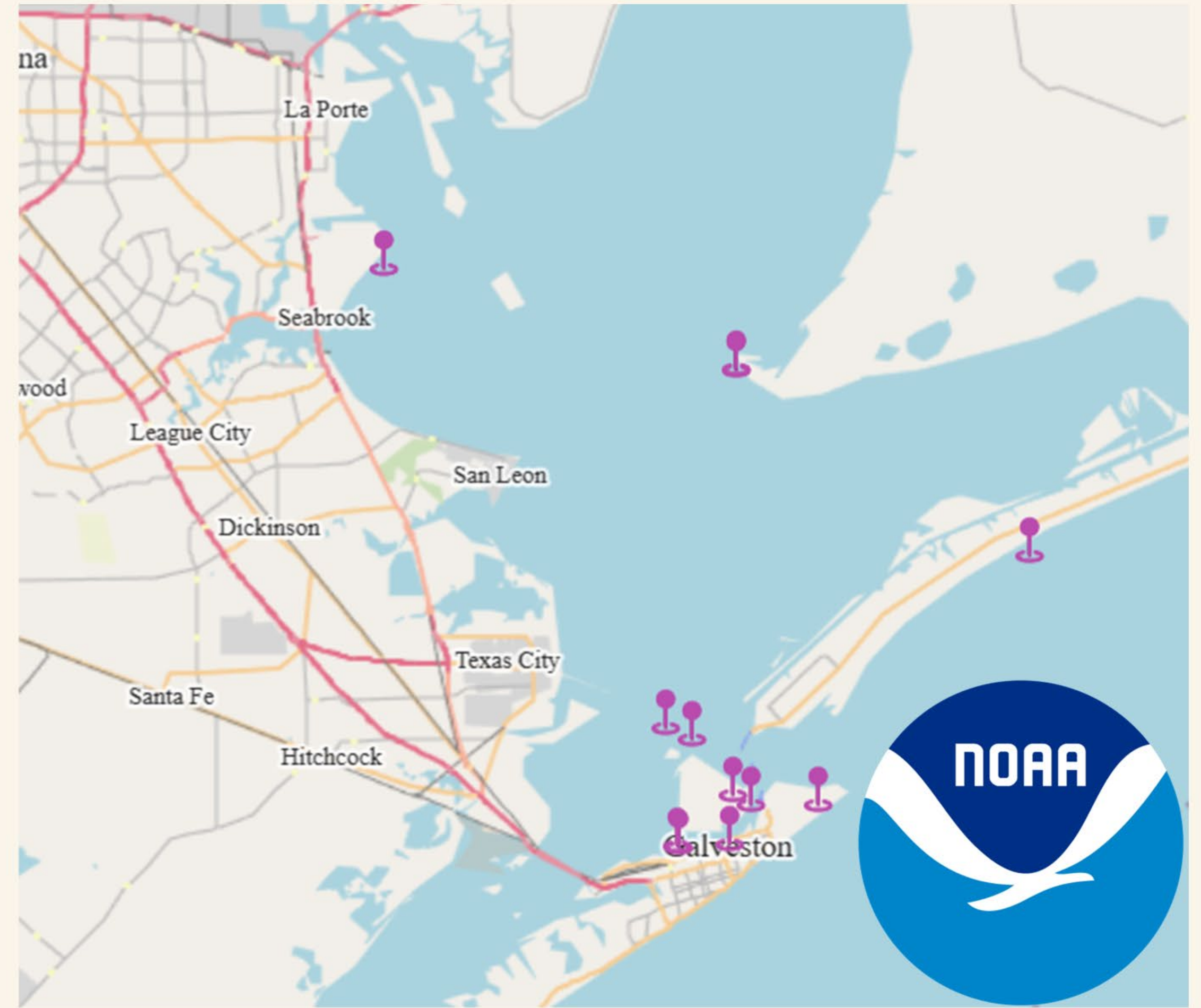
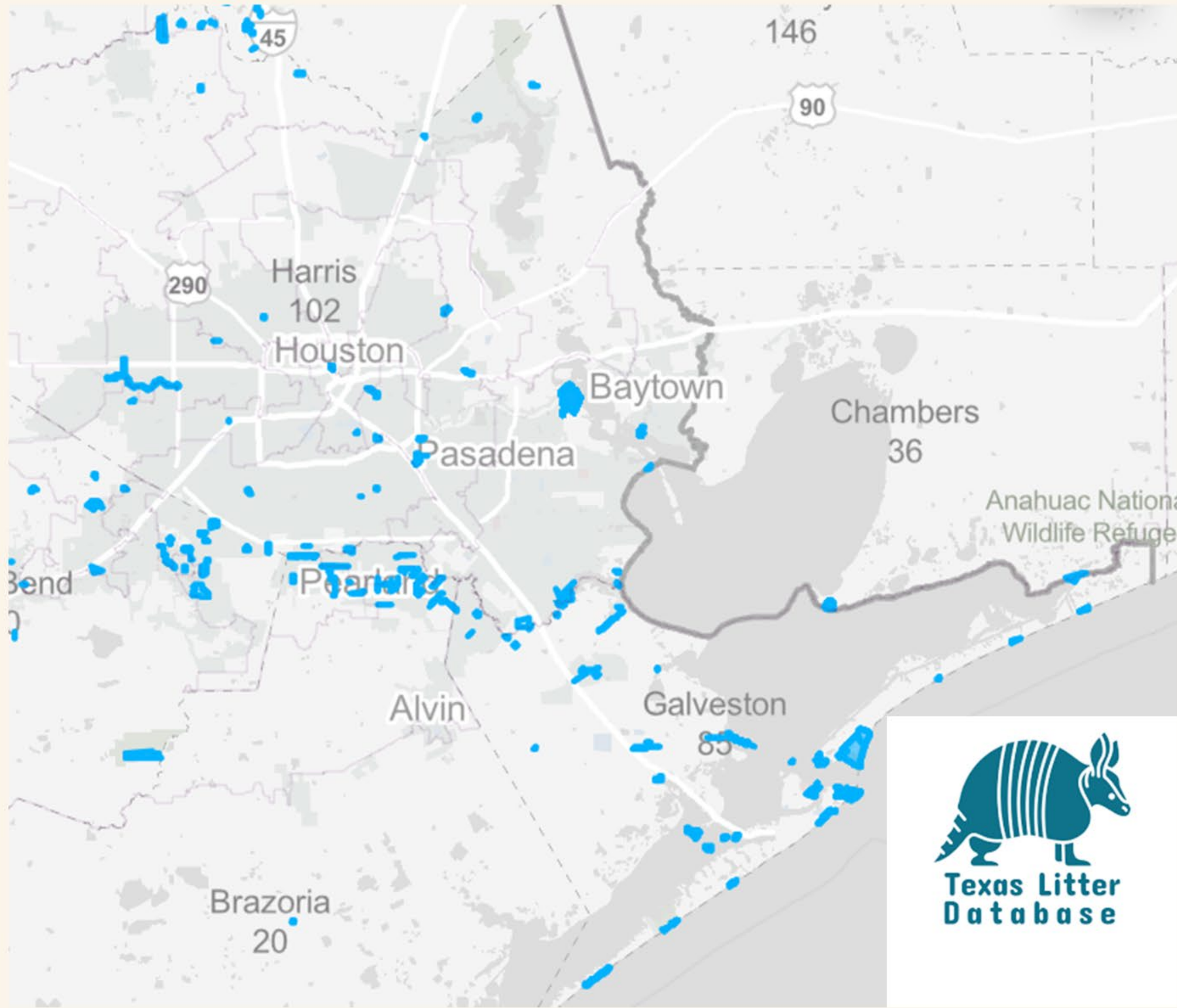




Interception

- Litter Boom: Designed to contain and collect floating debris from waterways.
- Nets





SPLASH
STOPPING PLASTICS AND
LITTER ALONG SHORELINES



Keep Texas
Beautiful



Marine Debris Surveys

- NOAA Marine Debris Monitoring and Assessment Project (MDMAP)
- 4 Survey Sites
- Each site visited monthly



NOAA Marine Debris Monitoring and Assessment Project

Transect Survey Form
Complete four per survey, one for each transect
Record data at <https://mdmap.orr.noaa.gov>

SITE NAME: _____ **DATE:** _____
Name used for the 100 m site in the MDMAP database MM/DD/YYYY

TRANSECT START: _____ **BEACH WIDTH:** _____
0-95 in 5 m increments (0, 5, 10, etc.) Water's edge to the back barrier (meters)

TRANSECT COORDINATES: Latitude _____ Longitude _____
Stand at the mid-line at the back barrier Record in decimal degrees out to six decimal places (DDD.DDDDDDD)

SLOPE: Standing at the water's edge, check the predominant substrate at the back barrier height is:
 knees and below
 knees to shoulders
 shoulders and above

PRIMARY SUBSTRATE: Check the predominant substrate:
 mud/silt
 sand
 pebble/gravel
 cobble
 other (describe in notes)

BACK BARRIER: Landward limit of the site (check one)
 dune
 cliff
 boulders
 parking lot
 vegetation
 wall/structure
 dense driftwood
 other (describe in notes)

SEARCH TEAM SIZE: Number of people searching for debris in this transect (no more than 2)
 1
 2

DEBRIS REMOVAL: How much debris was removed from the transect?
 all/most
 some
 none

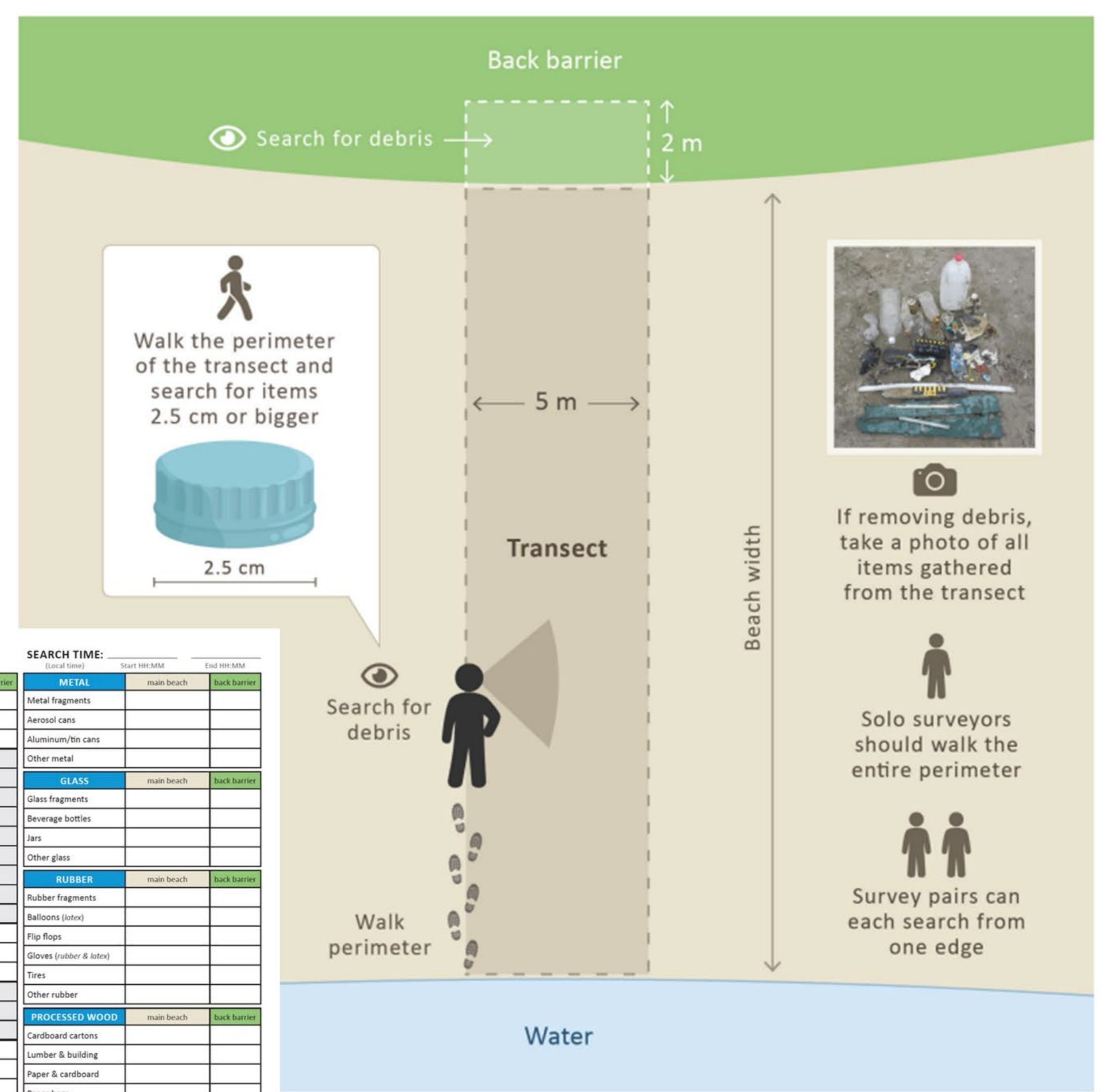
CONSISTENCY CHECK: Was a consistency check conducted?
 yes
 no
Take close-up photos of items where there was not a consensus on categorization, and describe in the notes below.

TRANSECT PHOTOS: List timestamps, photo numbers, or other information to keep track of photos from this transect

NOTES: Describe unique or "Other/unclassifiable" items, piles of debris items, large items left behind, etc.

ITEM COUNTS (2.5 cm or larger)

	PLASTIC	main beach	back barrier	METAL	main beach	back barrier
FRAGMENTS	Film			Metal fragments		
	Foam			Aerosol cans		
	Hard			Aluminum/tin cans		
	Bags			Other metal		
	Beverage bottles			GLASS	main beach	back barrier
	Bottle or container caps			Glass fragments		
	Cups (incl. polystyrene/foam)			Beverage bottles		
	Food wrappers			Jars		
	Other jugs & containers			Other glass		
SINGLE USE	Straws			RUBBER	main beach	back barrier
	Utensils			Rubber fragments		
	Six-pack rings			Balloons (latex)		
TOBACCO	Cigar tips			Flip flops		
	Cigarettes			Gloves (rubber & latex)		
	Disposable lighters			Tires		
FISHERIES	Buoys & floats			Other rubber		
	Lures & line			PROCESSED WOOD	main beach	back barrier
	Rope & nets			Cardboard cartons		
	Balloons (mylar)			Lumber & building		
	Personal care products			Paper & cardboard		
	Shotgun shells & wads			Paper bags		
OTHER	Other plastic			Other processed wood		
	CUSTOM	main beach	back barrier	FABRIC	main beach	back barrier
				Fabric fragments		
				Clothing & shoes		
				Face masks		
				Gloves (non-rubber)		
				Rope & nets (natural/fiber)		
	OTHER	main beach	back barrier	Towels & rags		
				Other fabric		

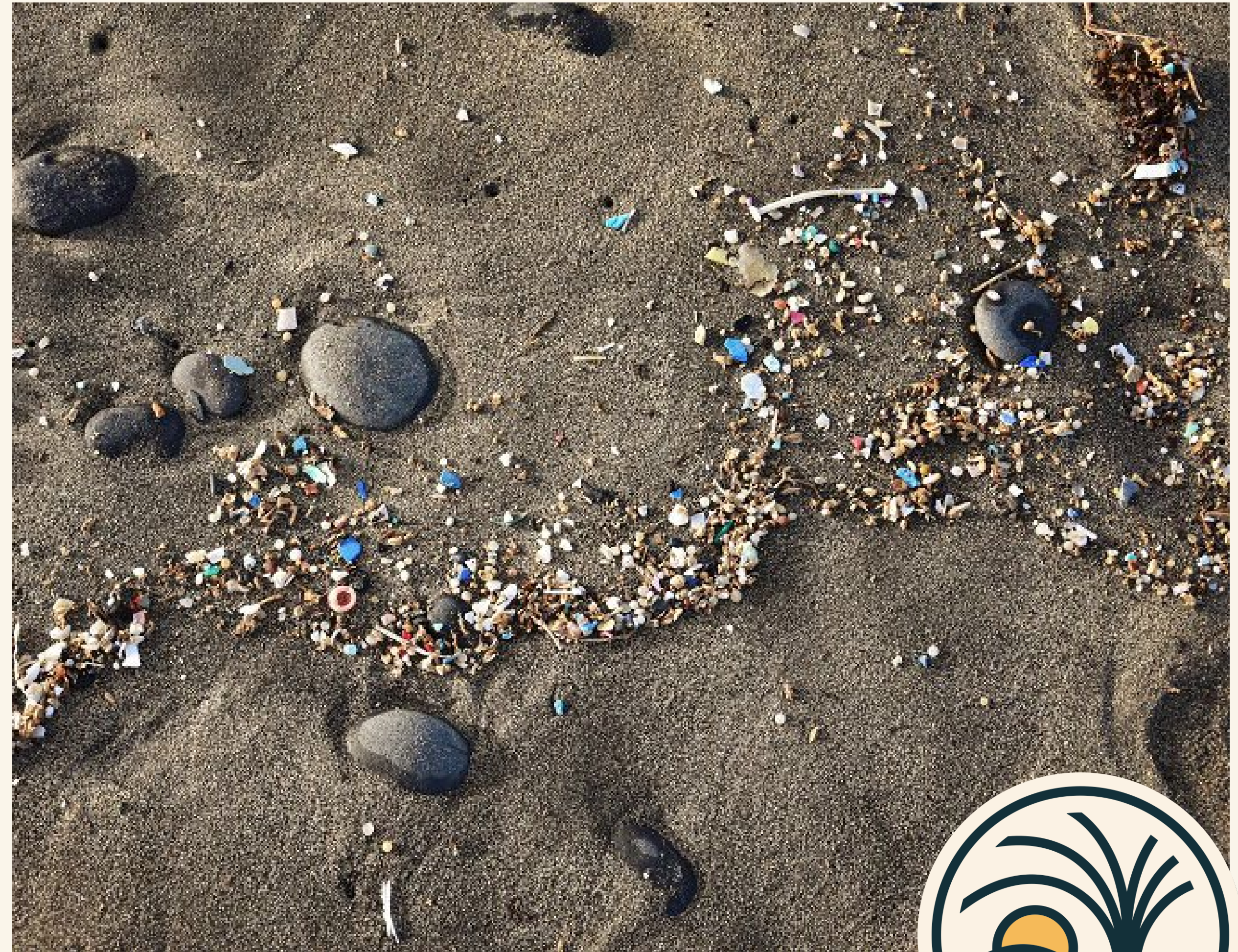


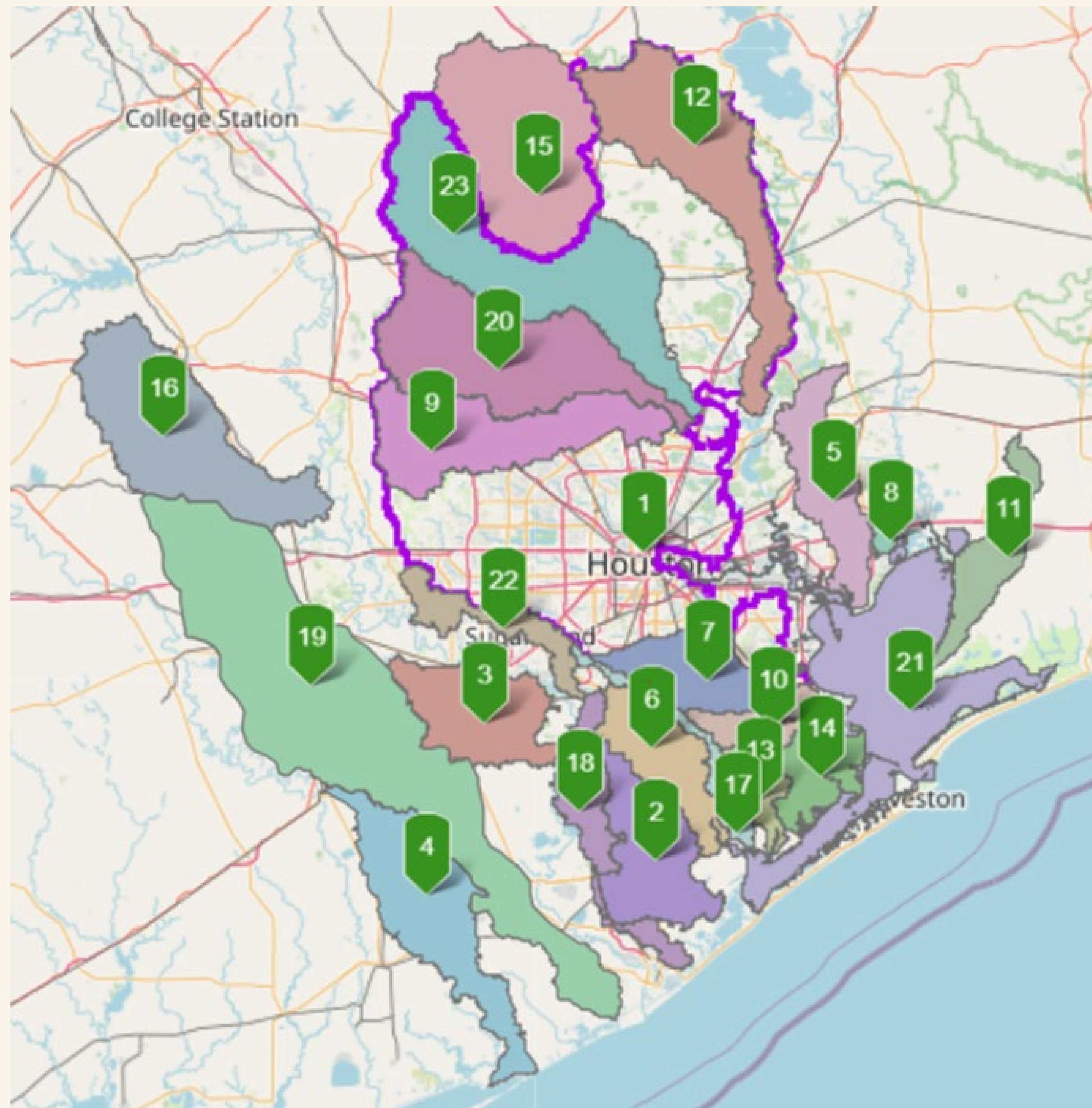
Source: NOAA MDMAP Shoreline Survey Guide | 2021



Microplastics

- Nurdles-pre-production plastic





Programs and Workgroups

- Bacterial Implementation Group
- Watershed Protection Plans
- Total Maximum Daily Loads
- Galveston Bay Estuary Program
- Gulf of America Alliance





THE TROUBLE WITH DOG POOP

and how we can protect our waterways, one bag at a time.

We love our pups, but not the germy little "gifts" they leave behind. Turns out our rivers, streams, and lakes don't like them much, either.



There are:

900,000

Dogs in the Houston-Galveston Region

Collectively depositing

312 Tons

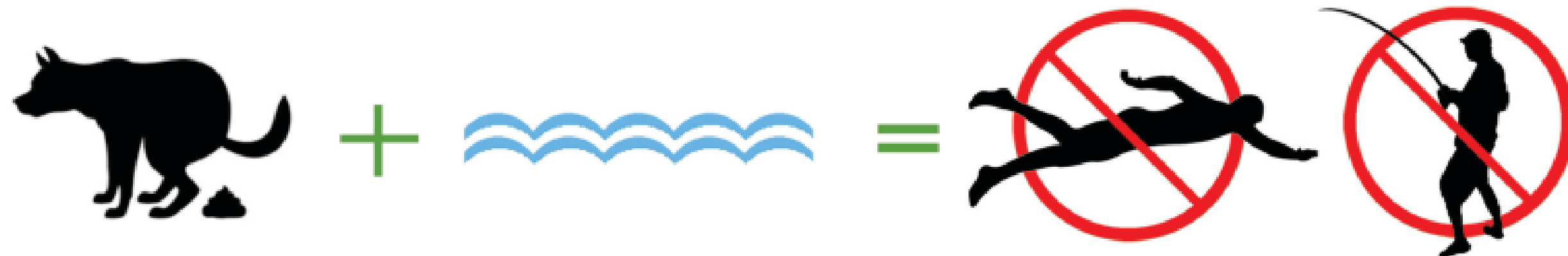
of poop per day.



Which is the equivalent of 52 dump truck loads per day!

RAIN WATER washes poop left on the ground into our storm drains which connect to creeks and bayous where it decomposes. During decomposition, the poop uses up precious oxygen needed by fish and other creatures to stay alive and healthy.

Not to mention the risk of illness for swimmers and fisherman using the waterway...yuck!



why we put dog poop in little plastic baggies

- Our neighbors like us to.
- It makes our dogs feel important.
- It keeps the poop from being washed into the storm drains.

Select them all, and it's "two paws up" for you!

Truth is, most of us pick up after our dogs as a courtesy to our neighbors. Plus it makes that backyard barbecue all the more enjoyable.

But there's another important reason to pick up after your pet: water. When pet waste is left behind, it washes into storm drains and ditches. From there, it heads straight to your local river. No filters, no cleansing. Swimming, anyone?

Help protect water quality. Stoop, scoop, and drop those little baggies in the trash. Then give yourself a nice pat.... You deserve it.

For more information on this topic, give us a call:

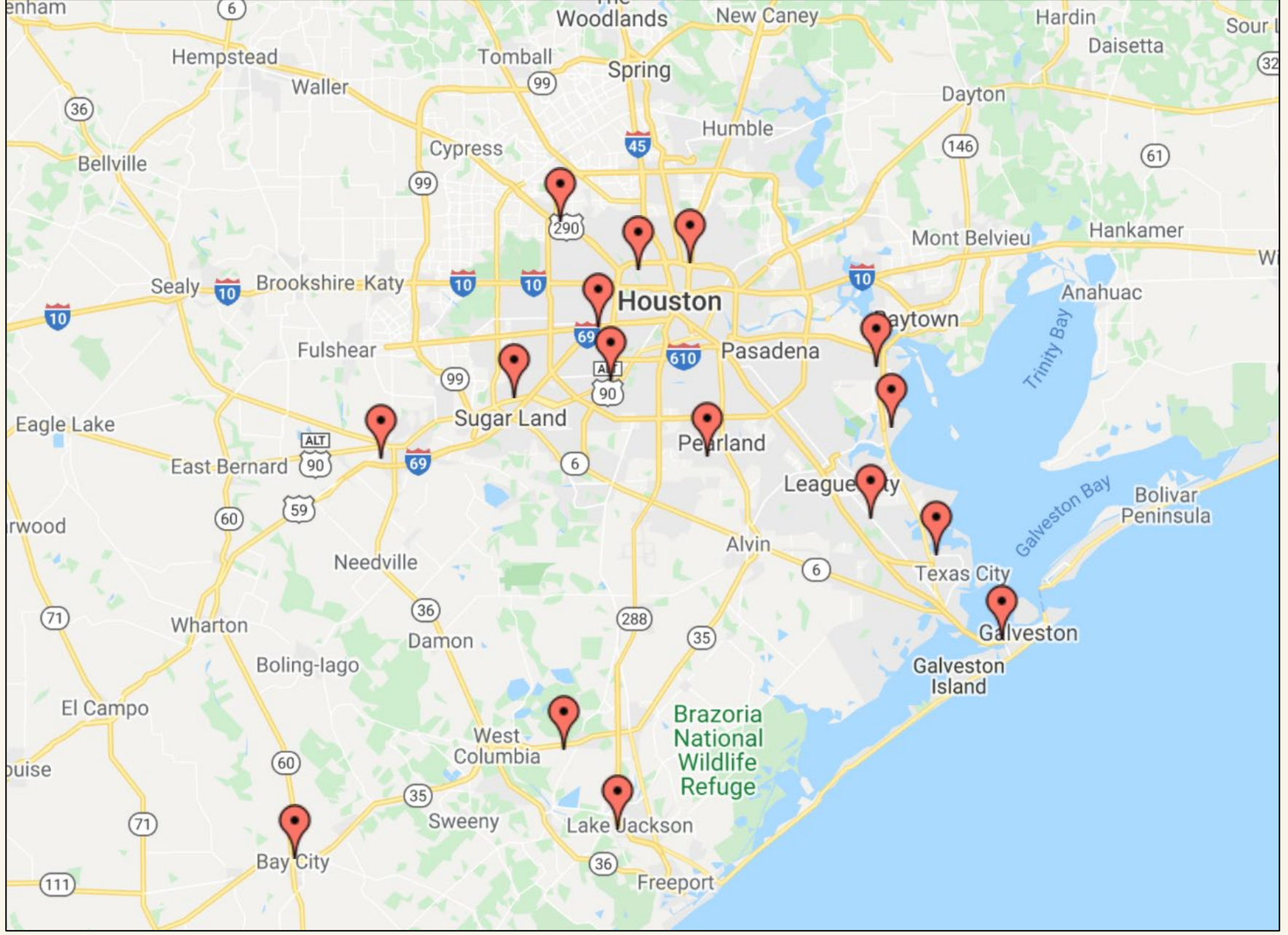


Developed by the Huron River Watershed Council and Christianson Design with support from Michigan DEQ and USEPA.



Cease The Grease

- Always throw your cooking waste, such as fats, oils, and grease, in the trash – never down the drain!
- Use a scraper or funnel to save your FOG in a jar to reuse, recycle, or throw out.
- Visit ceasethegrease.net to find a cooking oil recycling station near you!





KEEP OUR MARINA CLEAN
USE PUMP-OUTS
 AVOID FINES UP TO \$500 PER DAY

Learn how and where to pump out waste:
 Visit pumpdondump.org

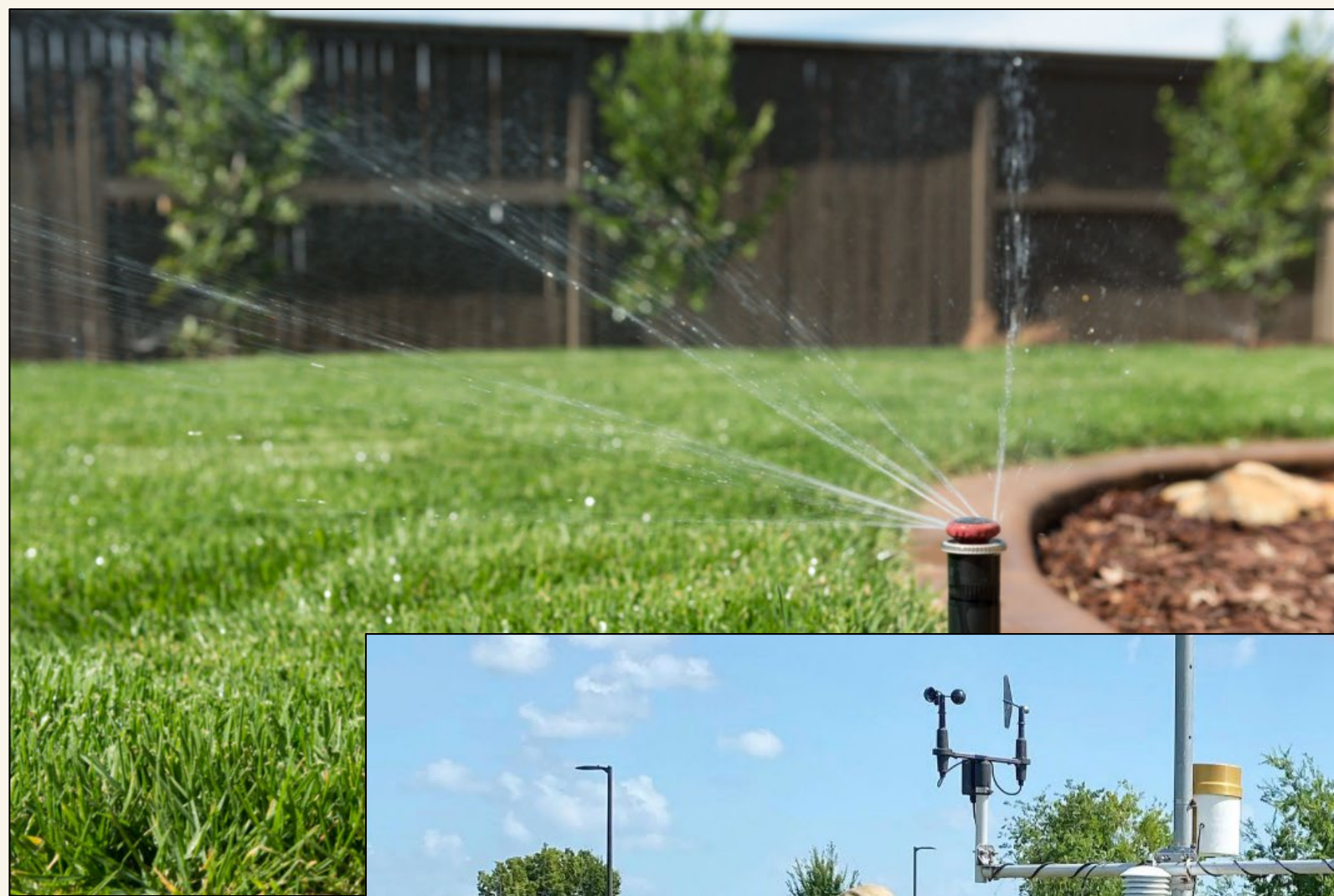
Galveston Bay Action Network
 Report suspected boat sewage or pollution:
 Download the Galveston Bay Action Network app or report at galvbay.org/GBAN
ENSURE THE FASTEST POLLUTION CLEANUP!



Pump Don't Dump

- Increase the number and use of pump-out stations
- Raise the level of enforcement
- Enhance education and outreach
- Measure behavior change





Water My Yard

- Free weekly (custom!) watering recommendations
- Based on your location and sprinkler type
- 50 percent of household irrigation water is wasted
- Efficient watering can

Ensure adequate freshwater inflows to Galveston Bay

Increase resilience

Decrease subsidence

Reduce runoff



What You Can Do-Slow Down Runoff

- Preserve greenspaces
- Reduce paved areas
- Reduce excess water use and run-off with native plants and install a rain barrel





Get Involved



Volunteer with Us

Get hands-on protecting Galveston Bay by volunteering with GBF and making a real impact right here in our community.



Attend an Event

Join us at one of GBF's annual events to celebrate Galveston Bay, connect with our community, and support conservation in a fun, meaningful way.



Donate & Support

Your donation to GBF directly supports the programs and people working every day to protect and preserve Galveston Bay for generations to come.



GALVESTON BAY
FOUNDATION

Protect Today.
Preserve Tomorrow.