

Cameron County Coastal & Marine Resources Quarterly

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Tony Reisinger Cameron County Extension Agent Coastal & Marine Resources
Texas A&M AgriLife Extension Service & Texas Sea Grant at Texas A&M University

Texas Master Naturalists

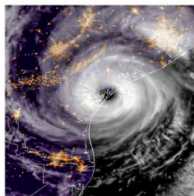
Cameron County's two Master Naturalist Chapters, with over 400 members, began online educational programming this quarter utilizing Facebook Live and WebEx for presentations.

The South Texas Border Chapter had two educational programs with over 100 online attendees via web and Facebook. In August, we learned many unusual and little-known habits of spiders. The next month's presentation explicitly emphasized what to do when a powerful hurricane is forecast to hit the coast where you live: **"Run, run fast and run far!"** Steve Lanoux, Ph.D. Lanoux, a South Texas Border Chapter Texas Master Naturalist taught online attendees how you and your stuff can survive a major hurricane. Doctor Lanoux has shared his intriguing presentation as a PDF, available from the Cameron County Extension Office.



**South Texas Border Chapter
Texas Master Naturalist
Online Meeting Announcement**
Monday, September 21, 2020 6:30 p.m.

Storm Survival: You and Your "Stuff"
Deli Lanoux, Ed.D and Steven Lanoux, Ph.D.,
Texas Master Naturalists, Texas Master Gardeners,
Certified Water Quality Monitors, CoCoRaHS Citizen Scientists.



The question is not if a storm will hit but when. Are you ready? Do you know how to prepare your home, your family, and your precious items that cannot be replaced? Do you have adequate records to deal with insurance and FEMA if your home or business is damaged? You can't control where the storm is going, but you can do things to make the disaster less destructive to you personally.

In this presentation, we'll look at how hurricanes work, how this year's storm season is progressing, and what you can do to be ready if one comes our way.

6 p.m. Connecting - 6:30 p.m. Presentation - 7:45 p.m. Meeting
The public is invited and welcome, free of charge.
www.stbctmn.org or facebook.com/stbctmn



A post meeting survey revealed we did a great job in spite of a plethora of technical glitches at the start.

Our Texas Master Naturalists and Coastal Naturalists form the core of volunteers for Sea Turtle, Inc. They survey our Cameron and Willacy County beaches annually for nesting endangered Kemp's ridley sea turtles from April to August. This year's results revealed an active nesting season with 85 nests and 5624 hatchlings released.



2020 South Padre Kemp's ridley Nesting Results

I presented an online PowerPoint program, on Cameron County's marine resources for the RGV Chapter Texas Master Naturalists September general meeting, our first since March.

The Cameron County Shrimp Fishery

The shrimp season was in full swing this quarter and production high for those boats that could get crews. Seasonal workers were

not available to all fleets due to problems with the H2B visa program, which supplies crews from Central America and Mexico. Central America and Mexico for our fleet. It is estimated 10 – 20% of the fleet is not fishing due to this snafu.

Two hurricanes this quarter sent the Cameron County fleet scurrying into safe harbor this quarter. They returned to a bonanza of production after each storm. When storms go ashore, they leave murky offshore water full of suspended food, which our major species, brown shrimp, take advantage.



Large Catch of Brown Shrimp

Brown shrimp are nocturnal, feeding at night and burying in muddy substrate during daylight. Murky water after a storm allows shrimpers and shrimp to “clock” — the shrimp stay out of the mud, feeding throughout the day and night, while our

fishermen trawl 24 hours, instead of only at night, doubling production. During this quarter we continued to provide TED and BRD inspections for vessels to assure compliance for the endangered species act and federal fisheries laws.

An ominous potential threat to our shrimp industry reappeared twice in the Brownsville Ship Channel this July. Two invasive Asian tiger shrimp were caught by bait shrimpers trawling the channel. Melinda Dunks with Texas Parks & Wildlife saved the first one for us to examine. The second was turned in by bait fisherman and longtime cooperator Capt. Steve Garza. Both shrimp were just over 7 inches long and are considered siblings from this year’s crop! Seven inches is small for these tigers. We’ve seen them over a foot long.



Two Tigers Caught in the Brownsville Ship Channel
July 2020

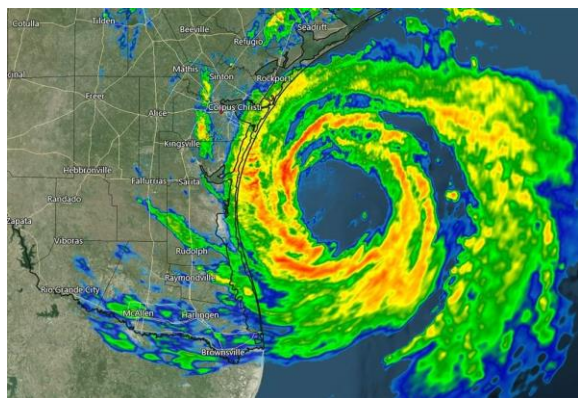
Tigers were first encountered by our Cameron County fleet in 2011. Most were captured off Louisiana. We’ve probably had over 50 turned-in since then. We were not very concerned tigers could establish a competing population for our native shrimp. Two captured the same month in the same

body of water is a cause for concern. We will continue monitoring this situation.

It is suspected the 2005 hurricane season resulted in the escape of this species by breaching a shrimp farm in the Caribbean. Since then they range from the Carolinas to Brazil. They are native to SE Asia.

Hurricane Hanna

The extremely active hurricane season of 2020 brought the Rio Grande Valley the first hurricane to make landfall in south Texas since Dolly in 2008. Hanna came ashore as a Cat 1 storm with destructive wind gusts



NWS Radar Shot of Hanna before Landfall

over 100 mph and dumped as much as 18 inches of heavy rains on the Valley causing extensive flooding in low-lying areas. Port Mansfield was rife with roof damage after experiencing the southern eye wall. The city was without power for several days. We posted photos of the damage on our Texas Coastal Naturalist Facebook page and had many comments and thank yous from residents who evacuated and did not know the extent of the storm damage.

A city park and kayak launch which we helped plan, also suffered major damage.



Port Mansfield Hanna Destruction

Aftermath of Hanna

Extremely high tides persisted in south Texas after hurricane Hanna and were



Downed Tree and Orphaned Fawn, Port Mansfield

exacerbated in mid-September by hurricane Sally and a following norther.

After the storms, we conducted a post hurricane survey accompanied by outdoor reporter Richard Moore. From South Padre Island north to the Port Mansfield jetties we documented minor dune erosion and two major cuts completely through the island around 20 miles north of County Beach Access 6. One cut was still active and prevented travel to the jetties during high tides in late September.



Cut through Island 20 miles North, Looking from Gulf of Mexico towards Laguna Madre

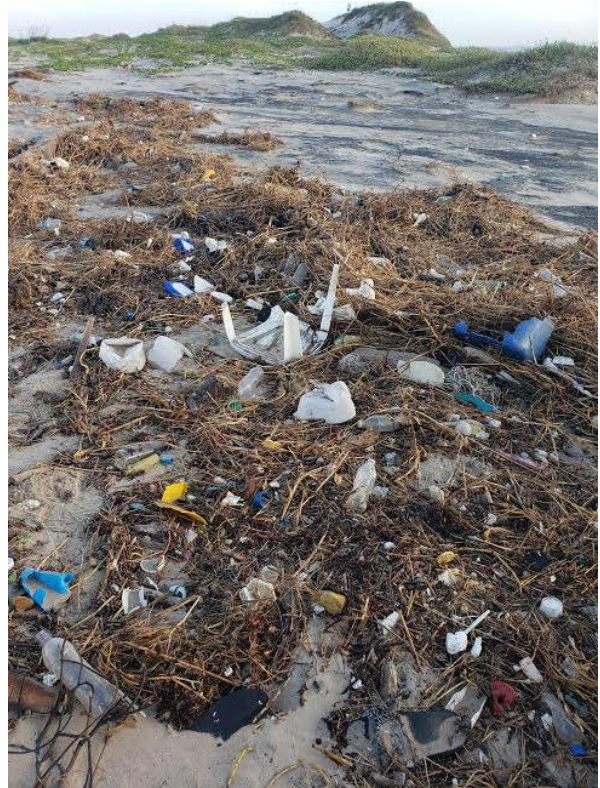
The beaches had been swept clean by the elevated tides and heavy surf. Older wrack and beach trash were found in the dunes well past mean high tide revealing an immaculate shell-strewn beach.



Rare Texas Phenomenon, a Clean-Swept Beach

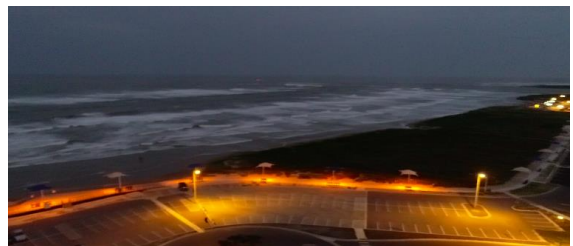
During our trek north I took water samples from the surf to determine if any harmful algal blooms were present. Blooms associated with fish kills had recently been reported on the upper coast. No unusual blooms were found. Outdoor reporter Richard Moore aired the story of our excursion September 10th:

< <https://www.valleycentral.com/news/richard-moore-outdoor-report-beckoning-beaches/> >



Wrack Swept into Dunes by Storm Tides

The early norther in September brought record high tides to Cameron County beaches and the Brownsville National Weather Service requested our assistance documenting this phenomenon. We enlisted the assistance of UTRGV Coastal Studies Lab director David Hicks Ph.D. to conduct a drone flight over Isla Blanca park during the peak, 2.8 feet above mean high tide. Footage shot by the drone was provided to NWS.



Evening Drone Shot looking South at Isla Blanca During September Storm Tide

Our prevailing SE winds returned after the northers of September. SE winds persist most of the year in Cameron County and are the cause of the littoral or longshore current, running south to north along our coast.

New beach trash originating from Mexico began to accumulate soon after the clean sweep of the September storm tides. This was evidenced by the small green Clorox bleach bottles scattered amongst the wrack. These bleach bottles are commonly used for washing clothes in Mexican rivers, discarded and eventually drifting up onto our coastline after a circuitous route, down a river and north with the littoral current to our shores.



Beached Clorox Bleach Bottle, Likely Origin - Mexico

Oyster Aquaculture

The recent extremely high tides have also prevented our harvesting oysters for a genetics study of south Texas oysters being conducted by Texas A&M Corpus Christi. Because of genetic differences between upper and lower coast oysters, Texas Parks & Wildlife has new aquaculture regulations prohibiting the introduction of upper coast oysters into our area and vice-versa. The TAMUCC study will hopefully ascertain specific genetic traits which distinguish our

southern stock. In the early 1980s we determined South Bay oysters had more flavor than those from the upper coast. Texas Sea Grant research revealed higher free amino acid content in our southern oysters, which accentuated the flavor. This is related to the unique hypersalinity of South Bay and the Laguna Madre.

The late Sammy Ray Ph.D. emeritus with TAMU crossed the upper and lower coast oysters in the 1990s and found the cross to be a faster growing oyster. Hopefully, with the advent of oyster aquaculture in Texas, we will see a thriving industry based on his historic findings.

Blue Crab Parasite

Our Cameron County blue crab fishery suffered a major hit this spring when a parasitic barnacle *Octolasmis lowei* was found to be infesting large blue crabs.

The parasite is related to common gooseneck barnacles and is more likely to be found in hypersaline conditions. After rains decreased the salinity of the Lower Laguna Madre the infestation disappeared but not after taking a toll on the population. Many local crabbers stopped fishing.

Texas Sea Grant gave us a small grant to study this phenomenon. We will continue the study next spring when the parasite could return with an expected rebound in salinity due to forecast drought.



Blue Crab *Callinectes sapidus*

COVID-19 Impacts

The virus has had multiple impacts on our programs. Our Texas Master Naturalist and Coastal Naturalist volunteer outreach efforts have declined drastically. Most meetings have transitioned to online and volunteer contacts have plummeted. We are working on new programs to rebound efforts. One particular program is “Pick Up the Valley” or “Recoge el Valle” in Spanish is the brainchild of our RGV chapter’s president Larry Johnson. We have met with Brownsville city officials and a city commissioner to start a pilot for teaching citizens to pick up trash. One particular challenge is whether virus transmission is possible from trash.

Two major Valley fishing tournaments were cancelled due to the pandemic, Port Mansfield and the Texas International Fishing Tournament. Usually we have contact with over 1500 anglers and train weighmasters at the events. We are now learning to have virtual fishing tournaments

which are more challenging, especially for detecting cheating.

During this quarter we translated and posted documents in Spanish for applying for loans and grants to ease the impact of COVID for commercial and recreational fishermen. It is estimated over \$3 million in grants and loans resulted from our efforts.

I am part of two upcoming grants, “Better BRDs” a six-year study of new bycatch reduction devices, and a MERHAB project to increase Gulf-wide use of the HABscope – a device for quick identification and enumeration of harmful algal blooms. The virus has impacted how we will conduct these two studies, and we are working on adapting.

For the Birds

Black skimmers are a magnificent site while gracefully skimming our local waters for food. Their numbers in Texas are declining and they are losing nesting habitat. A colony of approximately thirty were congregated in downtown Port Isabel in mid-July. I went to investigate why these birds would be in such a public area. Four immediately took to the air and began dive bombing me as I quickly snapped a few pics. I then noticed the others were sitting on eggs laid in small scrapes in the empty lot. I quickly left. Ten days later, hurricane Hanna’s wind and rain wiped the nesting site out! Studies have revealed skimmers will renest after such an incident, but these never returned. Let’s hope the colony makes a comeback next year.



Port Isabel's Black Skimmer Nesting Colony

Finally, through our efforts, an injured white pelican was rescued by a group of volunteers in Palm Valley and is being rehabilitated by a Brownsville veterinarian, Dr. Ronald Hines. "Peli" will be returned to peacefully reside at ponds in Palm Valley, once fully recuperated. The bird will never fly again, but its wing was saved.



Peli before Rescue



Peli's Rescue

Summary

This quarter:

- our two Valley Texas Master Naturalist chapters resumed educational programs changing to an online venue.
- Naturalists volunteered at Sea Turtle Inc and helped recover with 85 nests and release 5624 hatchlings into the Gulf.

Two Gulf hurricanes and a norther:

- caused a turbid Gulf of Mexico yielded a bonanza for our Cameron County shrimp fleet, allowing round-the-clock fishing instead of only at night.
- swept Cameron County's beaches clean for all of August and part of September.
- destroyed a nesting colony of black skimmers in Port Isabel.

Oyster aquaculture in south Texas:

- can move forward with a study being conducted by Texas A&M University Corpus Christi on Cameron County's oyster stocks
- and benefit from unique traits of hypersalinity tolerance and a resulting increased taste to our oysters.

The Cameron County blue crab fishery:

- suffered a decline this summer due to a hypersalinity loving parasite related to gooseneck barnacles.

- The crab fishery began to rebound with increased freshwater inflow into the Laguna Madre.

