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San Antonio Bay Estuarine Waterkeeper
and S. Diane Wilson

vs.

Formosa Plastics Corp

Prepared For:

Texas RioGrande Legal Aid, Inc

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Table of Contents

| | |
|--|----|
| Qualifications..... | 4 |
| Methods..... | 4 |
| Data..... | 4 |
| Site Visits | 4 |
| 12/12/2017..... | 5 |
| 03/16/2018..... | 6 |
| 03/27/2018..... | 7 |
| 06/20/2018..... | 7 |
| 06/22/2018..... | 7 |
| Collected Samples..... | 8 |
| Documents Reviewed..... | 8 |
| Other Information..... | 9 |
| Issues to be Addressed..... | 9 |
| Summary of Opinions..... | 9 |
| Plastic in the Environment..... | 11 |
| Sources | 11 |
| Cox Creek and Lavaca/Matagorda Bay..... | 15 |
| Cox Creek..... | 15 |
| <i>What this means for plastic debris in Cox Creek</i> | 15 |
| Lavaca & Matagorda Bay..... | 17 |
| <i>Uses and endangered species</i> | 17 |
| <i>What this means for plastic debris in the Lavaca/Matagorda Bay System</i> | 18 |
| Cox Creek Clear-Cutting | 19 |
| “Trace Amounts” and Trace Contaminants | 21 |
| Definitions and Uses..... | 21 |
| Formosa Cleanup Efforts..... | 22 |
| Old vs New Releases | 23 |
| Future Plastic Cleanup Efforts | 23 |
| Weather Event Effects..... | 24 |
| Hurricane Harvey | 25 |
| Other Weather Impacts..... | 26 |
| Plastic Impacts..... | 27 |

Plastics Environmental Impacts.....27

Size of Plastic Matters.....28

Additives in Plastics29

Contaminant Sorption to Plastic.....30

Response to Main Questions31

 Plastic pellet and powder extent and location31

 Weather event effects on plastic pellets and powder31

 Determining Old vs. New Releases32

 Potential Plastic Impacts.....32

 Conclusions.....33

References Cited.....34

Appendix 1 – Curriculum Vitae39

Appendix 2 – List of Samples Collected by Water Keepers.....57

Qualifications

I am an Environmental Scientist who conducts research on environmental contaminants, including plastic debris, emerging contaminants and other trace organic materials in soil, sediment and aquatic systems (including wetlands). I began researching plastic debris in 2012, but only began field and lab studies in 2014 when I accepted my current faculty position at Texas A&M University-Corpus Christi. Since 2014, I have received funding for 7 grants (5 as the Principal Investigator for \$310,227 and 2 as co-Principal Investigator for \$70,818). The funding for these grants include federal agencies (NOAA Marine Debris Program), state agencies (Texas General Land Office using pass-through funding from NOAA), one private foundation (The PADI Foundation), the Coastal Bend Bays and Estuaries Program (pass-through funding from TCEQ and USEPA) and internal Texas A&M University System funding. Much of this work is still ongoing, but to date, it has resulted in 13 talks and posters at conferences and invitations to speak to community groups and universities, 6 student-led poster and talks at conferences and 2 peer-reviewed publications. Additional peer-reviewed publications will result from this work on the next 1-3 years. Additional information about my background, including publications I have authored in the last 10 years, is outlined in my Curriculum Vitae (Appendix 1).

I have not testified as an expert witness, either in trial or by deposition, in the past 4 years. I am being compensated for my study and testimony in this case at the rate of \$200.00 per hour for deposition and trial testimony, with an 8-hour minimum, and \$150.00 per hour for all other services including research and report preparation.

Methods

This report was produced based on a combination of site visits, documentation provided to me and researching ecosystem dynamics of the Lavaca and Matagorda Bay system coupled with my background on plastics in the environment. There were 5 site visits (12/12/2017, 03/16/2018, 03/27/2018, 06/20/2018, 06/22/2018) that included whole day visits to Cox Creek and Lavaca Bay as well as stopping to observe Cox Creek on my way to and from Palacios, Texas. Additionally, during one visit, I observed the samples collected by Diane Wilson and associates.

Data

Site Visits

To produce this report, I have met in person and spoken with numerous citizens residing near Port Lavaca, TX. These include Diane Wilson, Bob Lindsey, Ronnie Hamrick, David Sumpter and Myron Spree. They provided insight into where they have observed plastic

pellets and powder in Lavaca Bay and Cox Creek. I made the visits to the area, 12/12/2017, 03/16/2018, 03/27/2018, 06/20/2018, and 06/22/2018. During my first visit in December, I was shown pellets and powder at the boat ramp at the Port Lavaca Marina and then we toured Cox Creek by boat, observing pellets and powder in the water and entrained in vegetation along the shoreline at numerous sites as well as on the shoreline next to adjacent to both Formosa and Route 35 bridge. During my second visit, we boated to the Formosa discharge pipe in Lavaca Bay (Outfall 001; Figure 1) and sites 1 and 2 in Figure 2 to look for pellets and powder on two small spits of land. I also went to sites along the causeway and the Port Lavaca Marina. During my third visit, I went to Diane Wilson's house to see the collection of samples amassed by herself and associates. The 4th and 5th visits during June 2018 coincided with my travel to and from a workshop in Palacios, TX as well as a significant rain event that lasted for several days.

12/12/2017

My first trip started at the Port Lavaca Marina. Here I was shown white/opaque plastic pellets (also known as nurdles: small pre-production plastic used to make goods and consumables) mixed in with the detritus that accumulated on the boat ramp (a small example is shown in Figure 3). The amount observed in this location, while not overwhelming, was many times more than what I had previously seen in the environment. Nurdles are rare to find amongst all the other plastic litter because they are not in the environment due to improper disposal (which is the source of most contamination), but rather spillage from either the manufacturer, during transport or prior to molding into a product. Therefore, nurdle presence is usually located near industry or shipping routes.

Also, at the marina boat ramp, Ronnie Hamrick pointed out plastic powder that was mixed with the detritus. This material was difficult to spot at first but, once identified, appeared to be ubiquitous on the boat ramp from the current water level up to the high-water line. Mr. Hamrick helped to initially identify the powder by grabbing a small handful of detritus and throwing it into the water. This caused the powder, with its white color, to better contrast the now darker detritus floating in the water (Figure 4). I have never seen anything like this before. Several nurdles and a few pieces of suspected plastic litter were also observed floating with this debris (Figure 4).

Next, we drove to the Route 35 bridge that crosses Cox Creek near Formosa Outfall 006, where we were shown nurdles and powder that had accumulated on the creek bank close to the road. There were substantially more nurdles observed in this area. In some spots they covered the ground, looking like a dusting of sleet or hail (Figure 5). Closer to the water's edge on the creek bank, where the ground was wetter, there were also numerous nurdles present. In the floating vegetation adjacent to the shoreline, Mr. Hamrick used a

small aquarium net to scoop up material. In one scoop he captured 10's of nurdles (Figure 6).

After examining the shoreline near Route 35, we put the boat in next to the Rouge 35 bridge (across the road from Formosa) and explored Cox Creek. First, we traveled upstream, and while slowly motoring near floating vegetation, pellets were frequently observed at, or near the water surface and entrained in floating vegetation (Figure 7). At several outfalls, orange boom with a ~12" skirt was installed. Skirts, which are typically weighted with chains running their length, are used to prevent floating materials from passing below and escaping the boom. It was evident that the booms captured some plastic material. Near Outfall 009, there was a film of white plastic powder behind the boom (Figure 8). It is unclear how or if this material would be removed. We also observed some plastic particles floating to the water surface just outside of the booms. This is similar to what would occur if floating plastics became entrained in the water flow, went below booms and escaped capture. However, we did not have a way to test this possibility.

Last we boated downstream of Formosa and into the evaporation Lake (see "Cox Creek" subsection for a brief description of the evaporation lake). Along the way, we observed some plastic pellets and powder, but they were less concentrated than that observed upstream of Formosa.

During the time spent on the creek bank near Route 35, a crew was working just up the shore from our location, using what appeared to be pressure washers to blast materials off the shore and into the water, where dip nets were used to collect floating materials.

[03/16/2018](#)

My second visit to Lavaca Bay began by boating to sites in the bay. First, we stopped at Outfall 001 (Figure 1) to observe its discharges. While some water appeared to be flowing, I only saw a small number of solids that could have been pellets or powder.

Next, we traveled by boat to two sites (Figure 2) that are downstream of the flow from Cox Creek. Due to this fact, if a large amount of material was making its way down and out of Cox Creek, some would accumulate in these areas. I carefully looked at the beach and even back berm area (once plastic gets into this area it would not flush out as easily due to changes in tides) of these sites and did not observe any pellets or powder. We then returned to shore and again visited Cox Creek adjacent to Route 35. I observed similar amounts of plastic pellets and powder as with our previous trip in December. However, there was one interesting thing to note. It is my opinion that the water level in

the creek was a little higher than in December (no gage data exists to verify this and I do not have pictures either). Therefore, pellets that had been previously deposited on the creek bank and were somewhat stuck in the mud, were now submerged. As stated in the "Plastics Characteristics" subsection, PE and PP pellets should float. When Mr. Hamrick walked into the water, pellets started floating to the surface all around his feet. This demonstrated to me that even pellets that have washed on the shore and that are potentially stuck in the sediment on the shoreline can be released into the water column due to a disturbance.

Next, we visited the bay shoreline near the causeway (Figure 9). Both pellets and powder were observed here, however the amount of plastic powder observed in this location was shocking. Plastic powder was deposited in a line that traced the contours of the shoreline (Figure 10 & 11). It reminded me of the rings seen in dirty bathtubs. We then briefly went to the Marina where we again observed plastic pellets and powder at the boat ramp similar that seen 12/12/2017.

03/27/2018

During my third visit, I went to Diane Wilson's house to see the collection of samples amassed by herself and associates. I looked in buckets, boxes, totes and other miscellaneous containers that contained what appeared to be hundreds of quart and gallon sized bags and water bottles (Figure 12). The bags all contained mixtures of detritus and plastic pellets and powder of varying amounts (Figure 13). The bags were labeled with descriptive information written on paper and taped to each (Figure 14). Additional information on these samples is discussed in the "Collected Samples" section below.

06/20/2018

This visit occurred during a multi-day rain event that deposited between 5-8 inches of rain in and around Port Lavaca. Some of this rainfall total fell before my visit. For this visit, I only observed Cox Creek adjacent to Route 35 (Figure 15). Due to the rain, water levels were higher than previous site visits. There were still pellets observed on the soil in the clear-cut area on the Formosa side of Route 35 as well as the water line. On the other side of Route 35 at the boat ramp, plastic powder mixed with pellets covered the surface of the water along the shoreline (video available upon request; Figure 16). There were also plastic pellets scattered on the grass covered ramp leading down to the water (Figure 17).

06/22/2018

This trip occurred after the multiple day rain event ended in the area the previous day. Water levels were higher than on 06/20/2018 as can be seen when comparing Figure 15a with Figure 18. When viewing the boat ramp area across Route 35 from the Formosa property, water levels were also much higher (Figure 19). In Figure 19, no plastic powder is covering the water at the shoreline like was observed on 06/20/2018. It is likely that the majority of this powder was flushed downstream as water levels rose. There were however, a large number of plastic pellets with a much smaller amount of powder still floating at the water's edge (Figure 20 & 21). While less of the grass covered boat ramp was above water, there were still a large number pellets in the grass (Figure 22). When these pictures were taken, the water had already begun to recede (Figure 23). The wrack line deposited at the high-water level is mixed with plastic pellets and powder, while the rest was likely swept downstream as water levels rose.

Collected Samples

Since January 31st, 2016 Diane Wilson and other volunteers have been collecting plastic pellets and powder around Lavaca Bay. A 55-page list that contains a record of 2,070 samples collected by her group and 8 additional samples by Myron Spree up to June 12, 2018 can be found in Appendix 2. As I understand it, sample collection is ongoing. During this 1,040-day (2016 was a leap year) period in which the 2,070 samples were collected, sampling was done multiple times each week at numerous sites around the bay. It is also my understanding that there are pictures and videos associated with most of the samples.

This form of sampling originated organically as Diane Wilson and other volunteers saw a need to document the plastic debris they were seeing around the bay. This means that samples were collected and documented when possible, with whatever container was available. This type of sampling is extremely helpful to understanding the extent of plastic pellets and powder in the Lavaca Bay. The two advantages of this type documentation are that samples were constantly collected over a long period of time, which generated a large dataset and that they stuck to the same 12 sites for most of the effort (Figure 24). The samples collected with these efforts demonstrate that plastic pellets and powder were a constant presence at the 12 sites sampled throughout the entire 1,040-day period.

Documents Reviewed

In addition to my site visits and the samples discussed above, I reviewed numerous documents provided to me by TRLA to inform my opinion of the presence and potential impacts of plastic pellets and powder in Lavaca Bay. These documents include:

- Notice of Intent to File Citizen Suit (04/06/17)

- Complaint for Declaratory and Injunctive Relief and Civil Penalties (07/31/17)
- Michael Miller affidavit
- Myron Spree affidavit and videos, photos taken by Mr. Spree
- Formosa Plastics Corporation Permit Renewal Documentation listing materials
- Emails, clean up summary sheets, a presentation, and other information about Formosa's plastic cleanup efforts provided by Formosa in discovery
- Lists of plastic debris samples collected by Diane Wilson and Colleagues
- Numerous chemical Safety Data Sheets
- Photos taken by Waterkeepers and other citizens of plastics and sampling efforts in Cox Creek and Lavaca Bay

Other Information

Additional materials used to develop this document are cited as necessary in the References Cited section.

Issues to be Addressed

In discussions with Plaintiffs' attorneys, I have been asked to address the following issues.

1. Plastic pellet and powder extent and location I observed in the Cox Creek and Lavaca Bay as well as those taken by plaintiffs
2. Background on plastic in the environment
3. Cox Creek and Lavaca/Matagorda Bay description
4. Weather event effects on dispersal and accumulation of pellets and powder
5. Plastic pellet and powder impacts in Cox Creek and Lavaca Bay

Summary of Opinions

The release of plastics pellets and powder from Formosa Plastics, Texas (Formosa) into the Lavaca and Matagorda Bay system is likely to harm the ecosystem. It also reflects poorly on the cleanliness of the bay, which can discourage tourism and recreational uses. The amount of plastics released by Formosa Plastics, based on my trips to Cox Creek and the shoreline in a few areas of Lavaca Bay, exceeds what I consider to be "trace" amounts. This is based on personal observations and estimates produced from numbers provided by Formosa of 12 to 121 tons of plastic (~533 million to ~5.3 billion pellets, not including powder that is also released) that were removed from Cox Creek and Lavaca Bay by its contractor Horizon, from from April 2017 to April 2018. These numbers are an underestimate of the total pellets removed, as they do not include pellets cleaned up by Formosa's previous contractor, PMI, starting in October 2016. Despite the removal

of this astonishing amount of plastic, cleanup continues, and I observed more newly released pellets and powder on 06/20/2018 and 06/22/2018.

If not physically removed most of these plastic pellets and powder will be retained with in the Lavaca/Matagorda Bay system due to its 237-day retention time. This material will accumulate on shorelines, beaches and in sediment, where due to plastics resistance to degradation,¹ it will persist indefinitely (100s to 1000s of years) unless disturbed by humans, hurricanes or flooding. As I describe in the section on Cox Creek, materials released into the creek under normal conditions will remain in the creek. Therefore, it is my opinion that nearly all the plastic pellets and powder observed in Lavaca Bay was released directly into the bay, potentially from Outfall 001. Due to the persistence of plastic and their indefinite retention in the creek and bay system, there are questions as to whether this is just old releases moving around or new releases. When concentrated "sheens" of powder or pellets are observed, this will likely be new releases. Because of diffusion, plastic pellets and powder will disperse over time in the environment, not concentrate or stay concentrated. Other methods to determine whether observed plastics are old or new is discussed below.

The plastic released into Cox Creek and Lavaca Bay is not just a physical nuisance, it is also problematic for biota. A portion of this plastic will be consumed by organisms within the bay, including fish, turtles, shrimp, oysters, crabs and birds during their various life stages. It is important for ecosystem health as well as the local economy (fisheries and tourism) that the release of this material is halted immediately and that all Formosa outfalls are continuously monitored to detect and quantify future releases. All future monitoring, sample collection, cleanup and mitigation efforts should be performed by an independent party so as not to cause additional harms to the ecosystem. This will include assessing the current levels and locations of contamination to guide future cleanup efforts. All future cleanup efforts must be more thoroughly documented on paper and digitally than what is now being done by Formosa and must include efforts to clean up both pellets and powder. Also crucial to these efforts is transparency. Therefore, all of the data collected must be publicly available within a month of collection and remaining online indefinitely in both hardcopy and digital format (easily searchable website). These efforts should be guided by an independent committee that meets regularly to discuss Formosa's plastic contamination of Cox Creek and the Lavaca/Matagorda Bay system and establish reasonable removal and mitigation efforts.

Plastic in the Environment

Plastic contamination in the environment is a growing concern. Their presence and fate has mostly been studied in coastal waters and the ocean, with rivers and streams starting to receive greater attention. In the ocean, plastic debris estimates vary widely from ~244,000 metric tons floating at the surface² to 4.8-12.7 million metric tons loaded from terrestrial inputs annually.³ These estimates are based on open ocean surveys² and plastic consumption/waste disposal data.³ However, it is clear that plastics are from human sources, with most emanating from terrestrials sources.

Sources

Plastic debris enters the environment from numerous sources, which can be generally divided into pre-consumer and post-consumer. Pre-consumer environmental releases occur between the manufacture of raw plastics and extend until it becomes a consumer product. These releases would include but are not limited to, resin feedstock at the point of manufacture, resin during transport and commercial-activity-related materials and fragments (e.g. materials released or spilled during manufacture of products using resins).⁴ Post-consumer environmental releases would be caused by human neglect (e.g. littering, vandalism) or inadequate infrastructure (e.g. litter blowing out of a dumpster, spills during garbage collection and transit, etc.).

Plastic Characteristics

Polymer types and properties

There are many plastic polymers,¹ each with characteristics suited for different applications. They are manufactured in the form of pellets (also known as "nurdles") and powders that both contain chemicals (e.g. plasticizers, ultraviolet light inhibitors, flame retardants, etc.) to improve their functionality (i.e. increased flexibility or resistance to embrittlement with long-term sun exposure). These pre-production plastics are then sold to industries that make products using plastics.

In the environment, particularly aquatic systems, plastic polymer density is an important property that influences their movement. Plastics that are less dense than water (1 g cc⁻¹, above the **dashed orange line** in Table 1⁵) will float and those denser than water, will sink in stationary waters. However, environmental factors also influence plastic buoyancy and ultimately their transport in water. For example, plastics less dense than water can become entrained in the water column or even settle into sediment if they become fouled with a biofilm ("biofouled"), i.e., a thin skin of organic material, which can increase their density. They may also sink if they attach or stick to a denser material. These behaviors would result in sediment becoming a sink for these lower density plastics.

Conversely, plastics that are denser than water are often found suspended in the water column or even at the water surface.

There are at least three potential reasons for buoyancy. First, moving water will entrain or suspend materials that would otherwise sink. This is similar to the movement of sediment down a river. The faster the flow of water (fast flows = more energy), the more materials, but also larger and denser materials, a river will carry. When the river's energy dissipates the larger, denser materials settle first (rock, pebbles) and the smaller, less dense silts and clays settle last. The second reason denser plastics may be observed at the water surface is due to their low relative surface tension. If they are small enough or their shape dissipates their mass over a large enough area (similar to why massive steel ships do not sink), they will float. However, if they become mixed in with the water column or covered with a biofilm they could eventually sink. Third, it is possible that pre-production PVC has microscopic pores that fill with air, which makes these small particles buoyant at least in the short-term.⁶

I collected various grab samples of the particles and powder observed floating in Cox Creek and Lavaca Bay on three of my visits (12//12/2017, 03/16/2018, 06/20/2018) and brought them back to my lab in plastic bags and bottles. Based on testing described below, the samples were identified as polyethylene (PE) and polypropylene (PP) pellets as well as PE powder. These materials float because their density is less than water (Table 1). Additionally, some were clearly trapped in sediment and only floated to the surface when disturbed (Personal Observation when visiting Cox Creek next to the Formosa plant on 3/18/2018). The PE powder was observed floating on Cox Creek (Figure 25) and in a line like a bathtub ring along the shore of Lavaca Bay (Marina and next to Holiday Inn; Figure 26, videos available upon request). PVC is also manufactured by Formosa at their Point Comfort Facility, but this material has not yet been observed in the environment. However, it is likely that PVC is also being released into the environment, but due to a higher density (1.4 g cc^{-1}) than water, it would quickly settle into sediment rather than float like PE and PP, making it much harder to find.

Plastic material type from the grab samples I collected was tested in my lab at Texas A&M University Corpus Christi using Fourier Transform Infrared Spectroscopy (FTIR; Thermo Nicolet iN10). This analysis is done by shooting infrared (IR) light at the suspected plastic material, the IR light is then reflected into the detector. The detector produces a graph of a spectrum that consists of peaks and valleys associated with the materials various chemical bonds. This spectrum is matched with several materials databases to identify the plastic.

Plastic Sizes

Plastics found in the environment are generally divided into 2 categories, macroplastics (>5 mm) and microplastics (<5 mm). Macroplastics consist of most consumer plastics, such as bottles, cups, straws, caps, etc. This category also includes fragments of these materials that form as the parent items break apart in the environment. Microplastics are also divided into two subclasses, primary and secondary, which related to the origin of the particles or fibers.⁷ Primary microplastics are those which are manufactured at a size of <5 mm. This includes microbeads that are now banned in U.S. cosmetics and personal care products, abrasives for blast cleaning (e.g. applications where sandblasting is too abrasive), and plastic feedstock (nurdles).⁴ Secondary microplastics are those <5 mm that formed due to the fragmentation of larger plastics that occurs due to weathering and photodegradation in the environment.⁷ Of the plastics I have observed in Cox Creek and Lavaca Bay that appear to emanate from Formosa, the PE powder (50-400µm diameter) and PE and PP pellets (2-4mm) are considered microplastics. Both the pellets and powder pose problems in the environment, but the powder may be more problematic due to its smaller size (see section Plastic Size Matters).

Plastic Aging

Plastic polymers, while highly resistant to biological degradation, are highly susceptible to deterioration by Ultra-Violet (UV) light.¹ This embrittles plastics, eventually leading to their fragmentation, potentially creating hundreds of small plastic particles from one larger item. Both fragmented as well as other powders and nurdles manufactured at microplastic size are a potential threat to small and early life-stage aquatic organisms,⁸ which are at the base of the food chain and vital to commercially and recreationally relevant species.

During the process of plastic embrittlement, environmental exposures cause discoloration.⁹ This is manifested as fading, yellowing or opacification. This visual indicator could potentially be used as a method to generally assess the age of plastic pellets and powder released into the Lavaca/Matagorda Bay system. New pellets and powder would be their original color, which I am only aware of white and translucent that have been discharged. The color would eventually yellow or opacify. However, to use this as a method for determining the age of plastics, testing must first occur to establish general time frames and UV exposure that alters the released plastics. This would involve the sharing of newly created plastic pellets and powder of all polymer types made by Formosa and then test them in natural light as well as in a UV chamber for changes in visual appearance. It is my opinion that the development of this method as well as monitoring sites around the bay system would be essential to assessing future discharges as it will enable the distinction between new (recently manufactured and released) and

old contamination (previously released and settled, but then disturbed and resuspended).

Plastic Fate

Plastics are amazing materials that can be modified to meet almost any need, with durability being one of its most useful traits. Because plastic products can last for years, decades or longer, they are excellent for use in many products, especially those requiring a long shelf life or long-term use. However, even after their useful life is over, estimates are that plastics may persist for hundreds to thousands of years. This is possible because plastics are naturally resistant to biological degradation, and only recently have microorganisms capable of degrading plastic been isolated.^{10,11} Without widespread biodegradation, the other potential sources of degradation are chemical and physical. Chemical degradation of plastics is a function of Ultra-Violet (UV) light exposure¹ but has been solved in the short-term through the use of UV inhibitors. In the long-term UV will eventually embrittle plastics resulting in fragmentation. Physical processes, especially plastic contamination in high energy systems like rivers and coastlines, will also cause fragmentation.¹ The physical and UV deterioration of plastic materials does not actually degrade the material, it only results in fragmentation. Therefore, in the absence of widespread biodegradation, plastic in the environment, which eventually will be deposited and buried in sediment, shorelines, and beaches, could remain in the environment for hundreds to thousands of years. This persistence sets plastics apart from traditional contaminants like excess organic matter from wastewater effluent, nutrients or pesticides.

The release of plastics into the Lavaca/Matagorda Bay system will result in its long-term accumulation in the estuary. As stated with more explanation in the Lavaca & Matagorda Bay section, this system does not have many outlets to the Gulf of Mexico that allow water and material exchange. Therefore, buoyant materials will be transported in or at the surface of the water column and deposited on beaches within the system based on wind direction and currents, while non-buoyant plastics will accumulate in sediment within close proximity to outfalls. Once on the shore or in sediment, materials may be re-suspended or moved in the short-term, but they will eventually become buried. At this point, only physical disturbance by humans (dredging, clear-cutting or excavating) and high energy events like hurricane and floods could potentially expose and re-distribute buried plastics. Additionally, hurricanes and floods also have the ability to temporarily increase exchange between the bay system and the Gulf of Mexico; therefore, they could also flush some of the trapped plastic into the ocean.

Cox Creek and Lavaca/Matagorda Bay

Cox Creek

Cox Creek, based on Google Earth images, begins north of Lolita, TX, flowing ~22 miles (Figure 27). Most of the water in the upper reaches of the creek is from agricultural runoff and only flows intermittently. The creek appears to only be navigable by small boats until around the northern reaches of Formosa's property. Near its headwaters, the creek passes by another plastic products manufacturer, Inteplast Group (Lolita, TX) that appears to manufacture materials from plastic feedstock, as opposed to manufacturing the plastic feedstock (<http://www.inteplast.com>). After it flows past Formosa, the volume of the creek increases substantially due to a man-made dam, with water levels now controlled by a spillway (Figure 28). This larger water body (labeled an Evaporation Lake on Google Earth) significantly slows the flow of water in Cox Creek allowing sediment and other materials to settle or even accumulate on the shoreline. This dam prevents water from leaving the creek in its natural flow path. Instead, water is directed over a spillway. Water only discharges into the marsh when water tops the concrete barrier at the end of the spillway, as depicted in Figure 29 from February 2013, when only a small amount of water can be seen running down the concrete dam surface. Water reaching the marsh must then meander at least 1-2 miles (depending on flow path) before it reaches a small open water embayment that flows into Cox Bay and eventually Lavaca Bay (Figure 30). Additionally, due to the dam, tidal influence on the creek is likely limited to extreme tide (spring tide, storm surge or strong winds that pile water into Cox Bay) or storm surge from tropical storms and hurricanes.

What this means for plastic debris in Cox Creek

Cox Creek is a system highly altered by humans as evidenced by agriculture upstream of Formosa and the evaporation lake and dam near its discharge. While I am not aware of the specific reasons for the construction of this dam, it has the effect of slowing water flow and allowing suspended and floating materials to settle into the sediment of and onto the shores of Cox Creek, the "evaporation lake" and spillway. Other than high flow events, like Hurricane Harvey or heavy rains, the concrete dam at the end of the spillway acts as a barrier, blocking water moving upstream into the creek, limiting water discharge from the creek and significantly reducing the amount of material suspended in the water column that reaches the downstream marsh. If any floating debris does make it over the dam, the materials floating at the surface will be released downstream in the greatest amount.

As mentioned in the Plastics Characteristics sub-section above, plastics (PE, PP, and PVC) vary in density. The dam, because it slows water flow, increases the time for biofouling

of the plastics, likely resulting in increased sedimentation and entrapment in shoreline vegetation for PE, PP and PVC that was released. Since much of the water flowing in Cox Creek is the result of agricultural runoff or groundwater discharge (if the water table is high enough), there are likely elevated nutrient loads that would stimulate bacteria and algal growth which favor biofilms to growth, that could lead to their presence on plastic materials. Because of these conditions, the "Evaporation Lake" likely traps a large portion (exact numbers or percentages cannot be determined at this time) of the pellets and powder released into Cox Creek from making it to the downstream marsh under normal flow conditions. However, under high flow events, this dynamic is altered and even biofouled pellets and powder in sediment and on banks could be re-suspended and flushed downstream through the marsh and into the bays. Potential effects of "extreme" weather is further discussed below in the section on Weather Event Effects.

Pellets and powder that do make it below the dam must travel at least ~1-2 miles within the marsh before reaching open water (Figure 30). Wetlands, including marshes, are commonly referred to as "Kidneys of the Landscape"¹² because they are excellent at removing floating and dissolved contaminants from water. The meandering nature of water flow through the wetlands (under typical conditions) increases contact time between plastic pellets and powder with organisms that could establish biofilms and thus sink the plastic. Additionally, the meanders also introduce more chances for pellets and powder to become entrapped in vegetation lining the banks of the main water flow channel. Therefore, of the plastics materials that make it to the marsh, their numbers will also be significantly reduced under typical flow conditions before reaching Cox Bay.

During a site visit on March 16, 2018, I visited, by boat, the two sites marked on Figure 2 and observed no plastic pellets or powder similar in appearance to those seen in Cox Creek. These two locations were chosen as they are sites of sediment accumulation (spits) downstream of the Cox Creek discharge. While it is possible that there was some plastic debris from Cox Creek in these areas, it was too diffuse to be easily observed unlike plastics near the causeway (Holiday Inn) or Port Lavaca Marina that we observed later that day. It is also possible that since the plastic pellets and powders from Cox Creek are buoyant, that even if they do accumulate on these spits when the tide rises, they are again moved and become more diffuse. However, my immediate opinion is that most of the pellets and powder discharged into Cox Creek is trapped in the Evaporation Lake or marsh prior to reaching these two spits of land except in cases of extreme weather. If pellets and powder are sequestered sufficiently deep in the sediment so that the energy of floods or hurricanes does not disturb them, they could persist for hundreds to thousands of years.

Lavaca & Matagorda Bay

Lavaca Bay is a smaller bay within the larger Matagorda Bay system in Calhoun County, Texas. The Lavaca and Matagorda Bay system volume is 2.134 km³ and has several smaller freshwater inflows, but the Colorado and Lavaca Rivers are the larger sources.¹³ There are several sites where water exchange (30 m³ s⁻¹)¹⁴ between the bay system and Gulf of Mexico can occur and additional exchanges with adjacent bay systems due to the Intracoastal Waterway (Figure 31). The system has a hydraulic residence time (HRT) of 237 days (0.65 years).¹³ This value represents that length of time that a drop of water that enters the bay system will stay in that bay system. Formosa outfall 001 (their wastewater treatment plant effluent) discharges into Lavaca Bay, north of the Lavaca Bay Causeway (Figure 1).

Uses and endangered species

The bay system has numerous recreational and commercial uses. There are at least 2 public recreational beaches, Lighthouse and Magnolia, in Lavaca Bay (Figure 32), but there are many more beaches without public access adjacent to private property along the bay shoreline. Locally, commercial and recreational fisheries are important. Texas Parks and Wildlife Department (TPWD) manages long-term datasets for the mass of various species (Bait Shrimp, Black Drum, Blue Crab, Brown Shrimp, Flounder, Oyster, Sheepshead, White Shrimp) that are caught (“landings”) within the bay system as well as their value (Figure 33).¹⁵ Commercial landings and their value in the bay system were relatively stable from the early 1980s to mid-1990s before a decline of more than half until bottoming out around 2013. Since 2013 commercial landings and their value are on the rise. It is important to note that the data provided by TPWD is self-reported by commercial fishermen and is therefore likely an underestimate of landings and their value. In conversations with Darin Topping, Trip Ticket Program Leader of TPWD, he emphasized that data from year to year can swing depending on the number of fishermen self-reporting. Regardless, the commercial fishery of Matagorda/Lavaca Bay system generated over \$7,000,000 from the value of these fish in 2016,¹⁵ which doesn’t take into account the ripple effects of that revenue into the local economy.

With regards to recreational fishing there was not a similar drop in landings from 1995-2012 in either the private (Figure 34) or guided landings (Figure 35).¹⁵ The trend for private recreational fish landings is slightly declining from the early 1980s to today, while the guided fish landings has seen a gradual increase from the mid-1990s to today. The economic impact of recreational fishing in the bay system annually supports 432 jobs paying \$15.3 million in wages.¹⁶ This generated \$41.8 million in economic activity while adding \$23.7 million to the Texas economy annually.¹⁶

In addition to beachgoers and fishing the bay system is also vital habitat for several "charismatic" endangered species whose continued existence depends on improving ecosystem health and better human stewardship of our natural resources. The broader area around this bay system provides habitat for Whooping Cranes as well and the Kemp's Ridley sea turtle.

The Whooping Crane, listed as "Endangered",¹ one of the largest birds in North America was down to only 15 birds in 1941, largely due to habitat loss.¹⁷ In 2015, it was estimated at 603 birds and the species is listed as "Endangered".¹⁸ The Aransas National Wildlife Refuge (ANWR) was established in 1937 and serves as the main wintering habitat of a large part of the total Whooping Crane population, referred to as Aransas-Wood population.¹⁹ With the population of the birds growing, they are now being found outside of their traditional (primary; red lines) areas in the ANWR and can sometimes be found in the secondary zones, indicated by the blue lines on Figure 36.¹⁹ These secondary areas include Powderhorn Lake, Matagorda Island North, Matagorda Peninsula, and Mad Island, which are all along the shores of the Lavaca/Matagorda Bay system.

The other endangered species of concern in the area is the Kemp's Ridley sea turtle. It is known to nest along Gulf of Mexico beaches in Texas, with 7 nests recorded on the Matagorda Peninsula in 2017²⁰ and 1 so far in 2018.²¹

What this means for plastic debris in the Lavaca/Matagorda Bay System

This bay system has a hydraulic residence time that of ~237 days, meaning that when a drop of water enters the bay, on average it will stay in the system for that long. While not identical, the HRT can also be used as an estimate for how long plastic pellets and powder, like those produced by Formosa, might also stay in this system if it were to remain suspended in the water column or floating at the surface. Therefore, due to this long hydraulic residence time, it is likely that most plastic particles and powder, particularly PP and PE, that enter the bay system will collect on shorelines or be biofouled²² prior to leaving the bay system, eventually settling into sediment. Biofouling and subsequent sinking of PE can range from 17²³ to >98 days²². For plastics denser than water, particularly PVC, they will settle into bay sediment relatively quickly, if not immediately. It is possible for plastics to enter the Matagorda/Lavaca Bay system from

¹ Any species which is in danger of extinction throughout all or a significant portion of its range other than a species of the Class Insecta determined by the Secretary to constitute a pest whose protection under the provisions of this Act would present an overwhelming and overriding risk to man. (Sec.3.6, Se.4.a. – Endangered Species Act of 1973)

the Gulf of Mexico, however, it is highly unlikely that they would enter at the amounts observed around Port Lavaca.

The majority of plastic pellets and powder routinely observed in Lavaca Bay is likely from a discharge that empties directly into the bay. This could be Formosa Outfall 001 (Figure 1). It is my opinion that the evidence supports this theory because of the restricted, long and meandering flow path these materials would have to take in order to exit Cox Creek and enter Lavaca Bay, as well as a lack of pellets and powder, observed at the sites in Figure 2. Plastic pellets were observed flowing from the Outfall 001 (Figure 1) diffuser in and at some time before July 2010, as noted in the Eighteenth Annual Receiving Water Monitoring Program for Lavaca Bay prepared for Formosa by Atkins. More recently (2018), plastics have been observed flowing from Outfall 001 by Myron Spree and Diane Wilson. Furthermore, the numbers of plastic pellets and powder released into Cox Creek would be dramatically reduced before exiting the creek. Therefore, if Cox Creek was the source of pellets and powder to the bay, these materials would be observed in much greater amounts in Cox Creek than Lavaca Bay, which is not supported by what I observed. The majority of plastic pellets and powder found in Lavaca Bay are being released directly into the bay and the plastics observed in Cox Creek tend to stay in Cox Creek.

With regards to bay health and uses, there are two ways in which plastic could have an impact. The first is to ecosystem and organismal health. Potential effects of plastic debris on ecosystems and organisms are discussed in greater detail in the Plastics Impact Section. The second impact could be to property values, tourism, commercial use and recreational use of the bay for things like hiking or enjoying the beach. There are a couple public beaches within the bay system (Figure 32), but there is also a lot of waterfront real estate that is already developed or currently for sale along the bay shoreline. Several studies have demonstrated that marine debris or litter negatively affects perceptions of the environment which results in avoidance of heavily affected areas, causing harms to the local economy.^{24,25}

Cox Creek Clear-Cutting

Formosa also recently clear-cut the vegetation from the banks of Cox Creek adjacent to Route 35 and covered it with mulch (Figure 15a). I am unaware of the motives behind these actions, however, it does have implications for the stability of the bank and the fate and transport of plastic pellets and powder. First, diverse and abundant vegetation in riparian zones is vital to ecosystem health. While there are many benefits to healthy riparian zones, the two most relevant in this case are bank stabilization and water filtration. Riparian zones are dynamic ecosystems that can change rapidly with pulses in

streamflow. These changes are due to erosion that destabilizes the bank, potentially resulting in land loss and sediment accumulation in the downstream water body. Healthy riparian zones mitigate these effects with vegetation. A diverse mixture of grasses and trees stabilizes soil and helps to keep it in place during these pulses. In this case, the loss of vegetation in this area could result in increased erosion and bank destabilization if the area is not properly colonized by vegetation before a significant pulse event. Additionally, with this clear-cut area being next to Route 35, its loss of vegetation, without sufficient soil stabilization efforts, could affect the stability of soil that supports the road and bridge.

The second benefit of a vegetated riparian zone is water filtration, with particulate matter being the most relevant in this case. While vegetation removal will lead to soil and sediment loss, healthy vegetation will trap sediment and increase elevation. Vegetation prevents erosion because its physical structure is an impediment to free-flowing water. Therefore, creek banks covered in a mixture of soft-stemmed vegetation and trees will slow the movement of water.

These clear-cutting efforts, with their potential environmental damage, are an example of why any efforts to cleanup plastic that has been released by Formosa should be supervised and carried out by a group independent of Formosa. As mentioned below in the Future Plastic Cleanup Efforts section, an independent committee should be established to oversee cleanup and mitigation efforts. One charge of this committee would be to establish reasonable guidelines for cleanup methods and mitigation. They would ensure that the removal of plastic debris is done efficiently and effectively, but in a way that balances cleanup with its potential environmental harm. This would ensure that future cleanup efforts would not result in more harm than good to the environment.

The removal of vegetation on Cox Creek adjacent to Route 35 has several implications for the fate and transport of plastic pellets and powder. The existing plastic contamination on the creek bank, if not physically cleaned-up prior to these actions, would now be more likely to wash off of the bank and downstream due to the lack of vegetation. For future discharges of plastic contaminants in this area, proportionally less would be trapped along this section of Cox Creek. The reduced capacity of this area to trap plastic contamination would result in its transport and greater dispersal to downstream areas of the Creek and evaporation lake. These areas are not easily accessible for sample collection by the Plaintiffs but are also out of view to the general public, meaning that this contamination is less likely to be documented and reported. Additionally, for any plastic contamination that is currently trapped and buried in this

creek bank, it would be more likely to be exposed and transported downstream if erosion occurs.

“Trace Amounts” and Trace Contaminants

Definitions and Uses

The term trace refers to a small amount that is difficult to detect or observe. Four definitions below, while each unique, express similar sentiment.

Merriam-Webster definitions of Trace (those relevant to amounts)²⁶

1. a minute and often barely detectable amount or indication
2. an amount of a chemical constituent not always quantitatively determinable because of minuteness

Dictionary.com definition of Trace (those relevant to amounts)²⁷

1. a barely discernible indication or evidence of some quantity, quality, characteristic, expression, etc.
2. an extremely small amount of some chemical component

The label “trace contaminant” implies that a contaminant is at a low enough concentration that it is difficult to observe or detect. However, it is difficult to find a definitive definition for “trace contaminant” as it appears to be contaminant specific and therefore is used generically in the published literature.^{28,29} The term “trace elements” is defined, albeit in a broad sense as those detected at levels of a few parts per million (mg L^{-1} or mg Kg^{-1}) or less.³⁰ Unfortunately, this term is typically applied to elements (e.g. arsenic, copper, iron, lead, etc.) and not typically to organic materials as is the case in this matter.

As an environmental chemist, I think of “trace contaminants” in a similar manner to the definitions above, meaning they are not easily found. Because of this difficulty, I generally think of trace contaminants as chemicals that require modern analytical instrumentation for detection or quantification. In our lab, we study pesticides, pharmaceuticals and other chemicals used in our daily lives. While these chemicals have likely entered the environment since their introduction to the market, it was not until the mid to late 1990’s that their presence started to garner attention.³¹ Their delayed discovery was due to low environmental concentrations (ng L^{-1} to $\mu\text{g L}^{-1}$) and insufficient analytical techniques and technologies. Their analysis requires advanced instrumentation, sample extraction technologies, and methods. Instruments used include a Gas Chromatogram (GC) or Liquid Chromatogram (LC) with Mass Spectrometer (MS) detectors (GC-MS, GC-MS/MS, LC-MS, LC-MS/MS or LC-MS/MS/MS). Today the

analysis of these trace contaminants is much more common, but often comes with a high price due to the consumables and expensive instrumentation.

While plastic nurdles and powder are a more visible material relative to individual chemicals, there is little effort required to observe these materials on the shores of Lavaca Bay. For example, with trace contaminants analysis we have to spend hours extracting/isolating target chemicals in water, sediment, soil, plant tissue or animal tissue using various methods and techniques specific to those chemicals. With the nurdles and powder found in Lavaca Bay, sample isolation involves a daily grab of materials floating on or in the water column as well as those washed up on the shoreline. Based on how the term “trace” is used in relation to environmental contaminants, you should not be able to walk on a shoreline and easily collect a handful of plastic nurdles and powder. The numbers of pellets and powder that were estimated to be cleaned up by Formosa contractors as stated in their Incident Status Summary (ISS) 209 also indicates that the amounts released into the environment by Formosa are not “trace”. This is further discussed in the next section.

Formosa Cleanup Efforts

It is obvious that Formosa has made a concerted effort to remove plastic pellets from the waters and shoreline of Cox Creek and the Lavaca & Matagorda Bay system. Their contractor, Horizon, reports that they have removed over 48,000 “bags of pellets and debris” almost daily from 4/12/2017 through 4/25/2018 (the last date on the list shared with me; additionally, this document supposedly only covers “10APR17” to “22MAR18), many times employing up to 16 people in the efforts daily at an estimated total cost of \$1,768,478.57 over this period. This does not include data from the previous contractor hired by Formosa, PMI, to do pellet cleanup. I have estimated from the Horizon Incident Status Summary (ISS 209) document that over this time period Formosa contractors removed plastic pellets and powder from Cox Creek on ~200 days, reporting that ~43,500 bags of debris were removed (Table 2). I did not see any indication in ISS 209 as to the weight of these bags or the plastic content removed. However, in a separate document from Formosa that contains presentation slides discussing cleanup efforts they describe bags at 55 gallons in size that were filled with approximately 50 lbs. of material that contained “0-10% pellets per bag.” Using the mass values from the presentation slides and those stated in the ISS 209, I estimate that between 11 and 109 tons of plastic debris equating to 478,500,000 to 4,785,000,000 plastic pellets particles were removed from Cox Creek by Formosa Contractors during this period (Table 2). In Lavaca Bay during this period, there were ~110 cleanup days, resulting in the removal of 1-12 tons of plastic, equating to 54,450,000 to 544,500,000 plastic pellets (Table 2). In total,

removal efforts documented with ISS 209 removed between 12 and 121 tons of plastic debris from Cox Creek and Lavaca Bay, equating to ~70 to >700 billion individual plastic pellets (Table 3).

I have been told that cleanup efforts are ongoing. The large amount of plastic materials removed is proof that Formosa has released much more than “trace” amounts of plastic into the environment. Additionally, since their cleanup efforts have removed so much material, but have also been continuous for over a year, this indicates that the release is probably ongoing. The ongoing releases of pellets and powder is also evidenced by the concentrated floating mass of pellets and powder observed on 06/20/2018 in Cox Creek.

Old vs New Releases

When concentrated “sheens” of plastic are observed floating in the bay this is likely a new release. The theory of diffusion states that materials spread out from an area of high concentration to an area of low concentration over time. In this case, plastic pellets and powder floating around Lavaca Bay (and Cox Creek) in concentrated masses would diffuse over the days to weeks after their release as winds, tides and currents move these materials around the environment. For example, a sheen of plastic powder is deposited on the shoreline near the Lavaca Bay causeway (like what I saw 3/16/18). This material was deposited at the high-tide line like a ring on a dirty bathtub (Figure 37a). The next day, the area experiences a slightly lower high tide (Figure 37b). Only the plastic powder deposited at the lower reaches of the previous high tide will be re-suspended in water (Figure 37c) and then transported based on the days environmental conditions (wind direction and speed, currents, waves and tides). This could result in transport to the opposite side of the bay. This example and similar process constantly act to diffuse concentrated releases of plastic around the bay system. Under normal conditions, for this reason you would not see large clusters of older plastics that were simultaneously released (more than several days to weeks ago) floating around the bay.

Future Plastic Cleanup Efforts

It is my opinion that all future plastic pellet and powder cleanup efforts, as well as mitigation and remediation planning and actions must be conducted independently from Formosa to ensure transparency, thorough record keeping, appropriate cleanup procedures are followed and that the cleanup is done in a manner that minimizes additional environmental harm. While this is not a comprehensive list, here a few things that should be a part of any cleanup efforts. First, the bay system and Cox creek should be surveyed for contamination over an extended period to assess where plastic consistently accumulates (permanently or even temporarily) to assess existing contamination, but also more easily determine new releases. The ISS 209 document

detailing cleanup efforts from April 2017 to April 2018 provides little detail regarding the existence of plastic pellets and powder removed. It only state dates, number of bags and the amount of people working that day. At a minimum, future cleanup efforts should include the GPS coordinates where every bag was collected, photographs of each site prior to and after cleanup, an accurate bag mass and an estimate of plastic pellets and powder (specific method to be determined). This information should all be recorded on a chain of custody (paper and digital) with the names and signatures of all individuals who generated bags of debris, handled them and dispose of them. Additionally, a representative sample of the plastic material removed at each site should be taken to assess whether it is an old or new release. These plastic samples should also have the same chain of custody form and it should be noted which bags are associated with each sample. The bags of cleanup debris should be retained until at least the plastic samples can be assessed. Additionally, the bags of debris should be audited at a rate of 10% to ensure that the information on the chain of custody is correct. Last, this process should be overseen by a panel of experts and stakeholders independent of Formosa.

Transparency of these efforts is crucial to ensuring no further plastic releases occur, the environment is cleaned up and most importantly that the public is aware of the problem, its scale and how it is resolved. Therefore, historic records of plastic contamination as well as any future information that is collected regarding plastics in Cox Creek and the Lavaca/Matagorda Bay system must be made publicly available within a month of collection and remain publicly available indefinitely. Hard copies of documents should be available at local libraries. For digital availability, an online repository that is user-friendly and searchable by anyone must be built and maintained. In this repository all past and future documents and data related to plastic in Cox Creek and the Lavaca/Matagorda Bay system will be stored. This repository could be similar to the GRIIDC (Gulf of Mexico Research Initiative Information and Data Cooperative) that was established after the BP Deepwater Horizon Oil Spill to house all research data collected and documentation generated after the disaster (<https://data.gulfresearchinitiative.org>). These data storage and sharing websites are increasingly common, but also vital to improving public knowledge and maximizing research outputs that aim to understand how our environment functions.

Weather Event Effects

Like almost anything in the environment, the fate and transport of plastic debris will be influenced by weather. As previously stated, PP and PE pellets, as well as PE powder float at the water surface and, are sometimes entrained in the water column. Therefore, any plastic materials in surface waters, like Lavaca Bay and Cox Creek, will be transported

based on the movements of water, which are heavily influenced by winds. With the small relative size of Lavaca Bay, coupled with the windy nature of the region, much of the plastic debris that is released into the bay will eventually come into contact with the shoreline and over time, accumulate onshore. Additionally, some portion will also accumulate in the bay's bed sediment, but the amounts are not currently known. However, these materials on the shoreline could also be picked up and transported again due to tides, set-up (when a constant wind piles water into an area of the bay) or storms. Even plastics that have been deposited in sediment for an extended period of time can be re-suspended due to weather or human activities like walking, wading, excavating, clear-cutting and dredging. This is evidenced by the pellets that floated to the surface as Mr. Hamrick walked in water <1 ft deep along Cox Creek on 03/16/2018. That being said, energy is required to uncover and re-suspend materials that are trapped in sediment. Generally speaking, as an item's depth in sediment increases, re-exposure and possible suspension require higher energy events.

Hurricane Harvey

Harvey made landfall as a Category 4 Hurricane east of Rockport, Texas on August 26th, 2017, ~50 miles from Port Lavaca. Lavaca Bay was northeast of the hurricane's eye at landfall, and since cyclones rotate in a counterclockwise direction, this area received stronger winds, storm surge and higher rain amounts than areas located south on the coast from the landfall site. The storm surge in Port Lavaca was 6 ft³² and the area received ~12" ³³ of rain from 8/24 to 8/29/2017 with Hurricane Harvey (Figure 38). Due to these high local and regional rain amount, rivers and tributaries that discharged into Lavaca Bay, flooded. For example, Garcitas Creek's gage height typically fluctuates from 5-7 ft but spiked to almost 25 ft because of Hurricane Harvey (Figure 39).³⁴

This swelling of rivers and streams in the region would have created high energy pulses of water flowing downstream and into coastal systems. These pulses would have the ability to scour and redistribute bed and bank sediment, depositing this material downstream and in backwater areas of higher elevation in the floodplain. The materials picked up and transported in these flows would include loosely packed material at, and below the sediment surface to various depths depending on localized flow patterns. This would have resuspended plastic pellets and powder on the banks of Cox Creek, but also uncovered and transported some that were trapped in sediment.

The major disturbance to Cox Creek and the bay system by Hurricane Harvey in late August 2017 would also have redistributed plastic pellets and powder that was already floating, trapped at the sediment surface and to some extent those buried in sediment.

Due to these large flow volumes much of this redistribution would have resulted in plastic transport from Cox Creek downstream to the evaporation lake and potentially into Lavaca and Matagorda Bay. Any floating plastic material that was not transported downstream, would have likely been deposited higher up in the floodplain backwater areas, with decreasing amounts deposited as you move lower in elevation towards the normal water line. This deposition behavior is similar to the influence of rising and falling tides on plastic debris deposition described in the Old vs New Releases subsection.

During my site visits to Cox Creek on 12/12/2017, 03/16/2018, 06/20/2018 and 06/22/2018 high amounts of plastic pellets were observed on the creeks shoreline. Powder was also observed 12/12/2017 and 06/20/2018. Pellets were so numerous that you could easily grab it by the handful. Due to normal downstream flows and the redistribution of pellets and powder described above that would have occurred with Hurricane Harvey, I would not have expected to see the concentrated amounts of plastics observed at the normal creek shoreline if all releases of plastic had ended prior to August 26th, 2017. The storm would have only left a small amount of diffused pellets and powder along the shoreline that would not have been as easy observe as what I witnessed. Therefore, it is my opinion that the pellets or powder observed on 12/12/2017, 03/16/2018, 06/20/2018 and 06/22/2018 were released after waters from Hurricane Harvey receded.

In Lavaca Bay and Matagorda Bay, similar patterns of plastic redistribution would have occurred. Sediment, with the bay's shallow average depth of 5-7 ft,³⁵ would have been heavily disturbed and redistributed by the >100 mph winds and storm surge, followed by flood water inflows from upstream rivers and creeks that also brought with them sediment and debris. Sediment along the bay's shoreline would have also been reworked. This energy intensive storm had the ability to transport plastics and particles already in the water column, those resting on the shoreline and also uncover and redistribute materials buried on the shoreline and in bay sediment. While it is impossible without research to know where these plastic pellets and powder were deposited, a portion was likely deposited across a range of land elevations on the shoreline (similar to what is described in the Old vs New Releases subsection), some flushed out of the bay and into the Gulf of Mexico as the storm surge receded and upstream flood waters flowed through the system and some may be been deposited in bay sediment and buried.

Other Weather Impacts

Since November 2015, there have been 28 events in Port Lavaca where total precipitation was >1" (Figure 38).³³ These events are also captured by the stream gauge

on Garcitas Creek (Figure 39). While Garcitas creek is not connected with Cox Creek, a similar pulsing pattern would occur on Cox Creek (although intensity could be greater or lower depending on creek specifics and variations in localized rainfall). Regardless of potential differences between the two systems, these events would have a similar, but relatively smaller, effect as described above due to Hurricane Harvey. Pellets in sediment could be re-suspended and any in the water column would either be deposited at higher elevations or transported downstream to the evaporation lake or even to the marsh below the spillway. This opinion is supported by two observations. First, when pellets are seen floating in or resting on the surface of the banks on Cox Creek, they were recently released (recent being since the last significant rain that resulted in a pulsing event). The second reason is that nearly all of the pellets and powder observed in the creek were white or translucent appearance (Figure 17 from 06/20/2018 and Figure 21 from 06/22/2018), indicating they had not been exposed to environmental conditions for long (See section on Plastic Aging above for more detail).

Plastic Impacts

With regards to the Lavaca/Matagorda Bay system and Cox Creek, I am not aware of any studies conducted in this system to assess the intake of plastic debris by any species or their impacts. However, a fisherman in the local community, Michael Miller, has submitted an affidavit stating that he observed plastic pellets in the stomachs of redfish he caught on two different occasions. Although this is only two reported instances, it is not surprising that more observations of pellets in the stomachs of fish or other desirable recreational species have not been discovered. Opening the stomach and intestines is not typically done when cleaning fish. However, plastic debris is commonly ingested by marine organisms, including mammal (40% of all species documented), fish (at least 62 species documented), seabirds (44% of all species documented), marine reptiles (at least 6 species documented).³⁶

Plastics Environmental Impacts

Numerous studies have documented negative effects of plastic debris, particularly in aquatic environments, although more research is required.³⁷ Examples of organisms impacted by plastic pollution include plankton,³⁸ corals,³⁹ shellfish,⁴⁰ crustaceans,⁴¹ worms,⁴² fish,^{43,44} birds^{45,46} and turtles.⁴⁷ These organisms are exposed to plastic debris in the water column or sediment during their normal life functions, which results in plastic uptake (e.g. trapped on gills), consumption (deliberate or unintentional) or entanglement. Because the plastics from Formosa, particularly the powder, are small in diameter, uptake and consumption are the internal exposure routes of concern. This intake by aquatic organisms is regulated by particles and powders size similar to their

normal food or that which can be readily captured during respiration in gills or by filter feeders.⁴⁸ Additionally, fish may also incidentally ingest plastic debris that is attached to their normal foods.⁴⁹ Consumption is also driven by characteristics the plastics take on once in the environment. It was also recently determined that plastic debris can emit chemical cues that are either sorbed (stuck to the surface) to or emitted by biofouling organisms (growing on the outside of the plastic) that are part of normal predator-prey interactions.⁵⁰ Specifically, the plastic starts to smell like prey to hungry organisms.

Organisms could also be impacted by external exposure to plastic debris in the water column or sediment, but those interactions are even less understood at the small particle sizes of concern in this case. However, a recent study did find that the accumulation of plastic debris on beaches alters its heat capacity.⁵¹ This means that sands were able to absorb more heat energy than the non-contaminated sand, resulting in slower warming, but also a lower maximum beach temperature. Cooler beach sands could affect organisms dependent on beaches, particularly sea turtles. The sex of sea turtle hatchlings is determined by egg temperatures when buried in beach sand and a difference of 1.4 to 4°C could result in a shift from 100% male to 100% female.⁵¹ While sea turtles typically nest on Gulf of Mexico beaches, the flushing of plastics sequestered in the bay system can occur due to high energy events like hurricanes and floods. These events would result in more plastics on our littered Gulf of Mexico beaches, adding to the stressors already affecting nesting sites of Hawksbill and Kemp's Ridley sea turtles.

These internal and external exposure routes are not only problematic due to the physical interaction with plastic, but also the chemicals that are “baked” into the plastic during manufacturing, which include plasticizers, ultraviolet light inhibitors and flame retardants, as well as existing environmental contaminants (e.g. pesticides, industrial chemicals, mercury, etc.) that sorb to the surface this material.

Plastic Size Matters

The size of plastic debris in the environment varies tremendously, but both macro (>5mm diameter) and microplastics (<5mm diameter) have been found in the guts of aquatic organisms.³⁶ It is generally understood that organisms consuming plastic, whether intentional or not, will consume this materials when it is within its normal food size range. This mean larger organisms will eat larger plastics and smaller organisms will consumer smaller plastics. Smaller organisms, particularly early life stage (juvenile) individuals are the most vulnerable to the plastic powder particulates discharged by Formosa.

Juvenile individuals are at a fragile time in their lives where they require high volumes of nutritious foods in order to mature, but also avoid predation. If juveniles consume plastic debris at this life stage it could hinder their growth (plastic has no nutritional value) due to pseudo-satiation (feeling full that leads to less active foraging)^{52,53} resulting in slower development. Plastics can also accumulate in guts and cause physical irritation if the organism cannot egest them.⁵⁴ Additionally, chemicals added to or sorbed on the surface of plastics may also interfere with chemical signals (endocrine effects) within individual organisms, altering their development. These effects will reduce fitness making juveniles more susceptible to predation. Due to the ongoing release of plastic powder into Cox Creek and Lavaca Bay it is likely that some of these impacts are already occurring, adding another stressor to the recreational and commercial fisheries in this already contaminated environment. Therefore, it is vital that not only pellets releases stop and are cleaned up, but that Formosa also stops releasing powder and actively removes as much as reasonably possible from this environment.

Additives in Plastics

The chemicals that are “baked” into plastics are hereafter referred to as “additives” and are best described by the American Chemistry Council, which states on its website: “When plastics emerge from reactors, they may have the desired properties for a commercial product or not. The inclusion of additives may impart to plastics specific properties. Some polymers incorporate additive during manufacture. Other polymers include additives during processing into their finished parts. Additives are incorporated into polymers to alter and improve basic mechanical, physical or chemical properties. Additives are also used to protect the polymer from the degrading effects of light, heat, or bacteria; to change such polymer processing properties such as melt flow; to provide product color; and to provide special characteristics such as improved surface appearance, reduced friction, and flame retardancy.

Types of Additives:

- Antioxidants: for plastic processing and outside application where weathering resistance is needed
- Colorants: for colored plastic parts
- Foaming agents: for expanded polystyrene cups and building board and for polyurethane carpet underlayment
- Plasticizers: used in wire insulation, flooring, gutters, and some films
- Lubricants: used for making fibers
- Anti-stats: to reduce dust collection by static electricity attraction
- Antimicrobials: used for shower curtains and wall coverings

- Flame retardants: to improve the safety of wire and cable coverings and cultured marble⁵⁵

Formosa has shared a list of several Safety Data Sheets (SDS) for UV inhibitors/stabilizers. Formosa has stated that they do not use plasticizers or flame retardants at their facility in Point Comfort.

Contaminant Sorption to Plastic

Plastics are hydrophobic, essentially making them a magnet for other hydrophobic or even mildly hydrophobic contaminants. This means that plastic materials in the environment accumulate many organic compounds on their surface. The amount that is capable of sorbing to plastic varies with its properties, but also those of the plastic. The general equation used to explain this relationship is:

$$K_d = \frac{q}{C_{sw}}$$

In this equation, the sorption coefficient (K_d) is the concentration of the chemical sorbed to the plastic (q) divided by the concentration in water (C_{sw}).⁵⁶ The K_d will vary with environmental conditions, but the basic premise is that the amount of chemical sorbing to a plastic material is proportional to the amount in solution. Therefore, a $K_d > 1$ indicates that the plastic that the chemical has a higher affinity for the plastic than water. For example, if the K_d were 10, 10x more compound would be found on the plastic than in the environment surrounding it. These values would mean that plastics would serve as a contaminant concentration mechanism.

One study found that spilled resin pellets of polypropylene (PP) collected in a coastal setting contained polychlorinated biphenyls (PCBs; banned industrial chemical), DDE (a DDT metabolite) and nonylphenols (industrial chemical; endocrine disruptor).⁵⁷ For PCBs and DDE, their concentrations were similar to those previously observed in nearby sediment. However, nonylphenol concentrations were two orders of magnitude higher.⁵⁷ They also tested the ability of “virgin” pellets, like those released into Lavaca/Matagorda Bay, to accumulate these same chemicals. What they found was that over their brief 6-day exposure, the pellets steadily accumulated PCBs and DDE.⁵⁷ Plastic polymer type and aging of the plastic can also affect the sorption potential of environmental contaminants.⁵⁸

There is a growing body of literature documenting the consumption of plastic debris, especially in coastal ecosystems.^{59,60} As mentioned above, plastics typically have

chemical additives, but also sorb environmental contaminants. When consumed, both the additives and sorbed contaminants could transfer from plastic to the organisms.⁶¹ This has implications in Lavaca Bay, which has a history of industrial pollution, particularly mercury and PAHs⁶²⁻⁶⁴ The Alcoa mercury superfund site has been remediated, with clean-up actions officially ending in 2007.⁶² Long-term monitoring is now ongoing. However, studies that occurred after remediation efforts ended found mercury and polycyclic aromatic hydrocarbons (PAHs) at concentrations high enough to damage DNA in oysters within and nearby the superfund zone of Lavaca Bay.^{65,66} While studies addressing the accumulation of mercury, in its various forms, on plastic debris have not yet been studied, microplastics increased bioaccumulation of mercury (HgCl₂) in juvenile seabass.⁶⁷ Additionally, these exposures to microplastics and mercury resulted in neurotoxicity, lipid peroxidation in brain and muscle and caused changes in the activity of energy-related enzymes.⁶⁷

Response to Main Questions

Plastic pellet and powder extent and location

The amount of plastic debris I witnessed in my two trips and have seen in pictures and samples taken by Diane Wilson and associates is astonishing. I am accustomed to seeing small bits of colorful fragmented plastics mixed in with bottles, straw and cups on beaches, but I have never seen anything like what I witnessed in Cox Creek and Lavaca Bay. In my opinion, most plastic debris released to Cox Creek will be trapped on the shoreline or sediment of the creek and evaporation lake indefinitely unless disturbed by humans or a high energy event like hurricanes and floods. The same applies to plastic debris that is released to Lavaca Bay. Due to the bay system's long residence time, most of this material is likely to accumulate in sediment or on the bay shoreline and remain indefinitely unless acted on by humans, hurricanes or floods.

Weather event effects on plastic pellets and powder

Once in Cox Creek or Lavaca Bay, plastic will be deposited in sediment and onshore. Its depth in sediment will increase over time. However, this material can be resuspended, re-deposited or flushed out of the system due to high energy events like hurricanes and floods. Material that eventually becomes buried deep enough to avoid the influence of hurricane, will remain there indefinitely without degrading. Hurricane Harvey, with its storm surge, strong winds and flooding would have redistributed much of the plastic debris that had accumulated on or in shallow sediment of Cox Creek and Lavaca Bay. This material would have been reworked with some flushed downstream from Cox Creek or into the Gulf of Mexico from Lavaca Bay as well as deposited on land at higher elevations in the floodplain of Cox Creek or shoreline of Lavaca Bay. In general, only

trace amounts would have been left at the normal waterline of Cox Creek and Lavaca Bay when water levels returned to normal after Hurricane Harvey. However, the amounts of pellets and powder I observed on 12/12/17, 03/16/18, 06/20/2018 and 06/22/2018 were well above trace amounts. Therefore, it is my opinion that most of the pellets and powder I observed floating or on the shore of Lavaca Bay and Cox Creek during these four visits were released after Hurricane Harvey.

Determining Old vs. New Releases

Since these plastic pellets and powder will likely stay in these systems indefinitely (unless disturbed), there is a question as to whether the plastics frequently observed are just the re-suspension and movement of previous releases or actually new releases. There are at least three ways to gain insight to answer this question. The first has to do with diffusion of large clusters or “sheens” of concentrated plastic observed floating in the bay or recently deposited on a shoreline. These occurrences are likely a recent release as the theory of diffusion states that materials spread out from an area of high concentration to an area of low concentration over time. Due to diffusion, under normal environmental conditions, you would not see large clusters of older plastic releases floating around the bay. The other two methods involve monitoring outfalls and testing plastic aging and would be helpful in the future to remediate and mitigate future releases. To account for future releases of plastic pellets and powder, all outfalls from Formosa should be monitored continuously by independent contractors. The last method would be to study the aging and discoloring of all plastics polymers produced by Formosa. A method could be established with some basic testing but would also have to account for the various UV inhibitors and their combinations used by Formosa. In a general sense, older releases of plastic would be discolored (faded or yellowed) or if originally translucent, opaquer than newly manufactured materials.

Potential Plastic Impacts

The accumulation of plastic pellets and powder in Cox Creek and the bay is a problem for many reasons. First, plastic debris is unsightly, which can harm tourism and recreation by lowering perceptions of the bay and lead to lost revenues. Second, it has the potential to harm organisms which could impact the bay's fisheries or endangered species (sea turtles and Whooping Cranes). There is also some preliminary evidence that interactions between plastic and mercury, which is also a problem in Lavaca Bay, have synergistic effects if both consumed by an organism. In particular, plastics could influence the bioaccumulation of mercury (as was indicated by Antao Barboza et al.) in commercially and recreationally relevant fisheries, which could have human health implications.

Conclusions

Broadly speaking, the presence of plastic debris in the environment is bad for the environment and economy. Because of this, industry groups, governmental entities, and non-governmental entities are undertaking vast efforts to prevent plastics from getting into the environment and to remove existing trash and marine debris (which includes plastics) from beaches and the ocean.⁶⁸⁻⁷⁰ Cleanup efforts are conducted locally (TX GLO's Adopt-A-Beach Program) as well as nationally (NOAA) and internationally through groups like the Ocean Conservancy who receive support from numerous corporations.⁷¹ While generally the impacts of plastic debris are starting to be exposed, how they will materialize in Cox Creek and the Lavaca and Matagorda Bay system are not known with certainty. Given our current knowledge of the potential effects of plastics in the aquatic environment, given the known mercury pollution in the bay system and given the presence in that system of endangered species, pre-production releases of plastic pellets and powder into the environment must stop, continuous monitoring to detect future releases should be implemented, studies should be undertaken to assess where this material is accumulating, and reasonable removal and mitigation efforts should be performed.

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Appendix 1 – Curriculum Vitae

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RESEARCH INTERESTS

Fate, transport and ecosystem and effects of water-borne pollutants. Microplastics and their impacts. Wetland ecology and biogeochemistry. Water reuse impacts. Science communication.

EDUCATION & EXPERIENCE

Assistant Professor, Texas A&M University Corpus Christi (2014-present)

Department of Physical & Environmental Sciences

Research Fellow, Louisiana State University Coastal Sustainability Studio (2014)

College of Art & Design

Instructor, Louisiana State University (2014)

Department of Oceanography & Coastal Sciences

Postdoctoral Scholar, University of California Riverside (2010-2013)

Department of Environmental Sciences

Research: Examined fate and transport processes of organic contaminants in soils, sediments and water. These contaminants included contaminants of emerging concern, legacy compounds such as DDT, PCBs and chlordane as well as current-use pesticides and methyl bromide alternatives.

PI: Dr. Jay Gan

Ph.D., Louisiana State University (2006-2010)

Oceanography & Coastal Sciences

Dissertation: Pharmaceutical compounds in treatment wetlands: Potential removal and effects on microbial processes

Research: Examined the fate, transport and microbial impacts of pharmaceuticals and personal care products in wetland environments. Additional projects examined silver nanoparticles in wetland soils and biogeochemical cycling in various aquatic environments.

Advisor: Dr. John R. White

Concentration: Wetland Science & Management

Minor: Disaster Science & Management

M.S., The College of Charleston (2004-2006)

Environmental Studies

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

Thesis: Remediation of Hog Island Inlet: Site overview and assessment of factors influencing site clean up

Earth Tech, Richmond, VA (2002-2006)

Field Chemist

Responsibilities: Emergency response to biological and chemical contamination. Characterization of unknown chemicals and validation of lab analysis.

B.S., Longwood University (1999-2003)

Biology & Chemistry

Concentration: Ecology

PUBLICATIONS

Peer Reviewed Manuscripts (#Undergraduate Researcher; §Graduate student researcher)

- 19) §Martin, K. M., E. A. Hasenmueller, J. R. White, L. G. Chambers, **J. L. Conkle**. (*In Review*) Sampling, sorting and characterizing microplastics in aquatic environments with high suspended sediment loads and large floating debris. **JoVE**
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J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

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- 9) Anderson, M. A., **J. L. Conkle**, P. Pacheco, J. Gan. (2013). Use of hydroacoustic measurements to characterize bottom sediments and guide sampling and remediation of organic contaminants in lake sediments. *Science of the Total Environment*. 458-460: 117-124.
- 8) Wu, S., **J. L. Conkle**, J. Gan. (2012). Multi-residue determination of pharmaceutical and personal care products in vegetables. *Journal of Chromatography A* 1254, 78-86.
- 7) Wang, W., L. Delgado-Moreno, **J. L. Conkle**, M. Anderson, C. Amrhein, Q. Ye, J. Gan. (2012). Characterization of sediment contamination patterns by hydrophobic pesticides to preserve ecosystem functions of drainage lakes. *Journal of Soils and Sediments* 12(9): 1407-1418.
- 6) **Conkle, J. L.**, J Gan, M. A. Anderson (2012). Degradation and sorption of commonly detected PPCPs in wetland sediments under aerobic and anaerobic conditions. *Journal of Soils and Sediments*. 12(7): 1164-1173.
- 5) **Conkle, J. L.**, J. R. White. (2012). An initial screening of antibiotic effects on microbial respiration in wetland soils. *Journal of Environmental Science and Health, Part A* 47 (10): 1381-1390.
- 4) **Conkle, J. L.**, C. V. Lattao, J. R. White, R. L. Cook. (2010). Competitive sorption and desorption behavior for three fluoroquinolone antibiotics in a wastewater treatment wetland soil. *Chemosphere* 80: 1353-1359.
- 3) **Conkle, J. L.**, C. V. Lattao, J. R. White, R. L. Cook. (2009). Pharmaceutical analysis for environmental samples: Individual and simultaneous determination of ciprofloxacin, ofloxacin and norfloxacin using an HPLC with fluorescence and UV detection with a wetland soil matrix. *Analytical Letters* 42(18): 2937 - 2950.
- 2) **Conkle, J. L.**, J. R. White, C. D. Metcalfe. (2008). Reduction of pharmaceutically active compounds by a lagoon wetland wastewater treatment system in Southeast Louisiana. *Chemosphere* 73(11): 1741-1748.
- 1) Akers, S. M., **J. L. Conkle**, S. N. Thomas, K. B. Rider. (2006). Determination of the heat of combustion of biodiesel using bomb calorimetry - A multidisciplinary undergraduate chemistry experiment. *Journal of Chemical Education* 83(2): 260-262.

Manuscripts in Preparation (#Undergraduate Researcher; §Graduate student researcher)

- 4) §Waddell, E., **J. L. Conkle**. Microplastic extraction and their validation in Blue Crabs. (Expected Submission December 2017)
- 3) §Martin, K. M., E. A. Hasenmueller, J. R. White, **J. L. Conkle**. Sampling, sorting and characterizing microplastics in aquatic environments with high suspended sediment loads and large floating debris. *JoVE* (Expected Submission November 2017).

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 2) Conkle, J. L., W. Huang, J. Sickman, J. Gan. An index to assess pharmaceutical and personal care product contamination in water.
- 1) Conkle, J. L., W. Huang, J. Sickman, J. Gan. A comprehensive method for the determination of groundwater contamination using isotopes and pharmaceuticals.

Book Chapters

- 2) Conkle, J. L., J. R. White, C.D. Metcalfe. (2013). Methods for determining emerging contaminants in wetland matrices. *Methods in Biogeochemistry of Wetlands*. R.D. DeLaune, K.R. Reddy, C.J. Richardson and P. Megonigal. Soil Science Society of America.
- 1) White, J. R., J. Hendrickson, J. L. Conkle. (2008). Effect of changing land use on water quality in the coastal zone. *Coastal Watershed Management*. A. Fares and A. I. El-Kadi. Southampton, UK, WIT Press.

Technical Reports

- 3) Field-scale monitoring of pharmaceuticals and personal care products applied to active golf courses via recycled water
- 2) Conkle, J. L., L. Delgado-Moreno, M. Anderson, J. Gan. (2012). Survey of organochlorine pesticides and PCBs in McGrath Lake. Final Report. California State Water Resources Control Board.
- 1) Huang, W., J. L. Conkle, J. O. Sickman, J. Gan. (2012). Water quality assessment of the Beaumont Management Zone: Identifying sources of groundwater contamination using chemical and isotopic tracers. Final Report. California State Water Resources Control Board.

Digital Materials

- 2) Update for the Ecological Society of America's Communicating Ecosystem Services: Tools for scientists to engage the public. Water purification toolkit. <http://www.esa.org/ecoservices/>. 2008.
- 1) Update for the Ecological Society of America's Communicating Ecosystem Services: Tools for scientists to engage the public. Flood damage control toolkit. <http://www.esa.org/ecoservices/>. 2008.

TEACHING EXPERIENCE

Instructor

- 6) Wetlands & Water Quality (ESCI 4490/5490), Texas A&M Corpus Christi (Spring 2015, 2017, 2018)
Course Description: Introduction to wetland ecosystems (natural, constructed and restored) with an emphasis quantifying the role of wetlands in water quality. Topics include wetland systems, their history and role in society, relationships between biology, geology, ecology, hydrology and chemistry in wetland environments and the use of lab and field techniques.

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 4) Environmental Chemistry (CHEM 4443/5417), Texas A&M Corpus Christi (Fall 2015, 2016, 2017)
Course Description: Study of the impact of chemistry on the environment. Topics will include the chemistry of the natural environment and the modifications to that environment brought about by human activities. Includes readings in current literature and research on environmental issues. **Includes a laboratory.**
- 2) Introduction to Oceanography (OCS 1005), Louisiana State University (Spring 2014)
Course Description: The world's oceans, their origin and evolution; interactions between physical, geological, chemical and biological processes in the marine environment; use and abuse of oceans.
- 1) Environmental Quality (ENSC 002), University of California Riverside (Summer 2013)
Course Description: An introduction to environmental science, focusing on the impact of human development and technology on the quality of natural resources and living organisms. Topics covered include soil, water, and air pollution; water, land, and food resources; wildlife management and species endangerment; toxicology and risk management; solid and hazardous waste management. A separate discussion/debate course accompanied the lecture.

Certifications

- 1) Certificate of Professional Development in Best Practices for Online Course Design, TAMU-CC (May 2015)
Description: A 40-hour course featuring 24 workshops on teaching in Blackboard, online pedagogy, and online course development.

AWARDS & HONORS

- 7) American Chemistry Society AGRO Division New Investigator Award. *Finalist* (2012)
Chosen as one of three finalists to present my research on agricultural chemicals at the Fall ACS conference in Philadelphia.
- 6) Dr. Theodore "Ted" Ford Scholarship (2009)
Awarded for innovative research on environmental issues. LSU Department of Oceanography and Coastal Sciences.
- 5) Joseph Lipsey, Sr. Memorial Scholarship (2009)
Awarded for excellence in the studies of marine science. LSU Department of Oceanography and Coastal Sciences.
- 4) 2nd place graduate student oral presentation (2008)
Division S-10. Joint Meeting of the GSA, SSSA, ASA, CSSA, GCAGS and HGS. Houston, Texas.
- 3) Philip H. Jones award for best graduate student presentation (2007)
23rd Eastern Canadian Symposium on Water Quality Research, Sherbrooke, Quebec, Canada.
- 2) LSU Graduate School Supplement Award (2006)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

Awarded for academic excellence

- 1) Beta Beta Beta National Biological Honor Society at Longwood University (2001)

Awards for Students Advised by Dr. Conkle

- 4) Josiah Wray (2017-2018)

Welch Foundation Undergraduate Research Fellowship

- 3) Kelli Holt (2016)

Environmental Protection Agency Greater Research Opportunities (GRO) Undergraduate Fellowship

- 2) Kevin Nguyen (2016-2017)

Welch Foundation Undergraduate Research Fellowship

- 1) Christian D. Baez-Del Valle (2015)

Best Undergraduate Poster Presentation, 2015 Ana G Mendez University System Research Symposium. "Determination of Microplastic Concentration and Size Distribution in Personal Care Products to Improve knowledge of their Environmental Occurrence."

PROFESSIONAL SERVICE & LEADERSHIP

Student Advising

Committee Chair

Ph.D.

Kelly Correia, Coastal & Marine Systems Science (Fall 2016- 2017)

Samreen Siddiqui, Coastal & Marine Systems Science (Spring 2016-)

M.S.

Zahra Hormoz, Environmental Science (Fall 2016-)

Kate Martin, Coastal & Marine Systems Science (Fall 2016-)

Kieu Tran, Coastal & Marine Systems Science (Fall 2016-)

Marcy Durham (*co-Advisor, non-thesis*), Environmental Science (Fall 2016-)

Elijah Waddell, Environmental Science (Fall 2015-)

Committee Member

Ph.D.

Lee Pinnell, Marine Biology (Spring 2015-)

Joseph Reustle, Marine Biology

M.S.

Kelly Correia, Marine Biology (Graduated Spring 2016)

Undergraduate Researchers

Kelli Holt - USEPA Undergraduate GRO Fellowship (Spring 2017)

Rebecca Wagner (Fall 2016 to present)

Josiah Wray (Fall 2016 to present)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

Kevin Nguyen - Welch Fellowship (Spring 2016 to present)
Jecilyn Luckado (Fall 2015 to Spring 2016)
Christian D. Baez-Del Valle - Intern from Puerto Rico (Summer 2015)
Kelli Holt (Spring 2015 to Spring 2016)

Eteams (Silliman NSF summer program for science teachers)

Suzi Uhling (Summer 2016)
Allison Cortinas (Summer 2016)
Lisa Coates (Summer 2016)

Internships

Claire Berger (Internship for credit hours)
Christian Báez Del Valle (Intern from Puerto Rico with DHS funding)

Texas A&M University Corpus Christi Service

College of Science and Engineering Distinguished Lecturers Selection Committee (2016-)
Physical & Environmental Sciences SACNAS Representative (2015-)
Coastal & Marine Systems Science Recruitment Committee (2014-)

Grant Review Panels

Gulf of Mexico Research Initiative: RFP-II (2012)

Description: Assessed proposals for research funding provided by British Petroleum (\$500 million) to examine the Deep-water Horizon Oil Spill in the Gulf of Mexico. Served on the panel evaluating "Environmental effects of the petroleum/dispersant system on the sea floor, water column, coastal waters, beach sediments, wetlands, marshes, and organisms; and the science of ecosystem recovery." This panel helped select proposals to receive \$22.5 million dollars over a three-year period. Reviewed 21 proposals and served as the lead reviewer of 5.

Gulf of Mexico Research Initiative: RFP-I (2011)

Description: Assessed proposals for research funding provided by British Petroleum (\$500 million) to research the Deep-water Horizon Oil Spill in the Gulf of Mexico. Served on the panel evaluating "Environmental effects of the petroleum/dispersant system on the sea floor, water column, coastal waters, beach sediments, wetlands, marshes and organisms; and the science of ecosystem recovery." This panel helped select 8 consortiums to receive \$112.5 million dollars over a three-year period. Reviewed 17 proposals and served as the lead reviewer of 4.

Grant Reviewer

National Science Foundation: Hydrologic Sciences (2013)
National Science Foundation: Environmental Chemical Science (2011)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

Society Affiliations

Society of Environmental Toxicology and Chemistry (2011-)

Soil Science Society of America (2007-2015)

Early Career Members Committee - 2013 to 2015

American Chemical Society (2008 & 2012)

Society for Wetland Scientists (2007-2010)

Conference Participation

Topical Session Chair, SETAC Orlando, SETAC World Congress (11/16)

Plastic Debris: From Land to the Sea. Orlando, FL.

Invited Panelist, Society of Environmental Toxicology and Chemistry National Meeting (11/12)

"Resume and C.V. Writing Tips." Long Beach, CA.

Topical Session Co-Chair, Soil Science Society of America National Meeting (10/11)

"Treatment wetlands and vegetative strips for water quality improvement." Wetland Soils (S-10) and Soils and Environmental Quality (S-11). San Antonio, TX.

Manuscript Reviewer

Environmental Science and Technology, Water Research, Journal of Chromatography A, Marine Pollution Bulletin, Journal of Environmental Quality, Chemosphere, Journal of Soils & Sediments, Soil Science Society of America Journal, Science of the Total Environment, Environment International, Pest Management Science, Environmental Science and Pollution Research, Chemistry Central Journal, Environmental Pollution and California Agriculture Journal.

Professional Service

Vice President, South Central Chapter; Society for Environmental Toxicology & Chemistry (2017-)

Responsibilities: Assist the chapter president in addressing the needs of the chapter, coordinating communication across members from academia and industry and help to facilitate the chapters annual meeting. This position will transition into the chapter president in 2018.

Early Career Members Committee, Soil Science Society of America (2013-2016; Chair 2015)

Responsibilities: Worked as a team to develop programming for early career members at annual meetings, helped select the annual Early Career Professional Award and serve as a voice for early career members within the society.

Campus Recording Secretary, UC Postdoc Union (UAW 5810) (2011-2013)

Responsibilities: Helped organize the first postdoc union on the UCR campus. Served on the committee to design and implement professional development tools to assist newly appointed postdocs in determining and achieving early career goals. Attended joint council

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

meetings of all 10 UC campus representatives to discuss the development of resources to meet the needs of postdocs.

Vice-President, Marine Environmental Researchers, Louisiana State University (2008-2009)

Responsibilities: Helped organize meetings, community outreach and social events. Attended department faculty meetings. Developed and maintained the first MER website.

Seminar Chair, Marine Environmental Researchers at Louisiana State University (2007-2008)

Responsibilities: Scheduled and invited leading researchers from various fields to give weekly seminars in the Department of Oceanography & Coastal Sciences

Workshop Participation

Mapping the Lifecycle of Antibiotics in Southeast Asia 2016 (09/16)

Invited as an expert on emerging contaminants to a workshop in Singapore that was co-sponsored by the U.S. State Department and U.S. Geological Survey.

Texas Riparian & Stream Ecosystem Education (08/14)

Lower Nueces River, Petronila Creek & Oso Creek

Community Service

Science Fair Judge. Flour Bluff Intermediate (12/14)

Thanksgiving Volunteer. Helped serve 5,000 meals to families in Riverside, CA (11/11)

Science Fair Judge. Riverside Unified School District Science & Engineering Fair (2011)

MOvember. Fundraising for prostate and testicular cancer research (2009-2011)

Exhibitor. Louisiana Sea Grant Ocean Commotion (2009)

Science Fair Judge. Louisiana Science and Engineering Fair Region 7 (2009)

Beach Sweep. Cleaned areas around the Lake Pontchartrain basin (2006-2007)

Beach Sweep. Cleaned beaches of the Cooper River in Charleston, SC (2005)

Adopt a Highway. Removed trash along roads in coastal South Carolina (2004-2005)

MESSA 8K for H₂O. Raised money for water quality in Charleston, SC (2004-2005)

PRESENTATIONS

Invited

32) Plastic Debris in Coastal Bend Waters. Conkle, J.L. City of Corpus Christi Watershore Beach advisory Committee, Corpus Christi, TX (03/17)

31) "Water, Water Every Where" but is it safe to use? Conkle, J.L. Department of Earth & Atmospheric Sciences, St. Louis University, St. Louis, MO (09/17)

30) Trash in our Coastal Bend Community. Conkle, J.L. Coastal Bend Bays Foundation Coastal Issues Forum. Corpus Christi, TX (09/17)

29) "Water, Water Every Where" but is it safe to drink? Conkle, J.L. TAMUCC Mary and Jeff Bell Library Outstanding Authors Series, Corpus Christi, TX (02/17)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 28) Just some old wild shirts and a couple pairs of pants: Our clothes are makin' trouble in the ocean. Conkle, J.L. Department of Biology Seminar, Texas State University, San Marcos, Texas (02/17)
- 27) Just some old wild shirts and a couple pairs of pants: Our clothes are makin' trouble in the ocean. Conkle, J.L. Texas State Aquarium Conservation Seminar, Corpus Christi, TX (02/17)
- 26) Marine debris and plastic pollution. Conkle, J.L, Waddell, E., Martin, K. Texas State Aquarium Teen Café, Corpus Christi, TX (02/17)
- 25) Just some old wild shirts and a couple pairs of pants: Our clothes are makin' trouble in the ocean. Conkle, J.L. University of Central Florida Departments of Chemistry and Biology. Orlando, FL (11/16)
- 24) Emerging Contaminants. Conkle, J.L. United States Army Corps of Engineers Engineering Research and Development Center Environmental Laboratory, Vicksburg, MS (01/16)
- 23) Plastic: Reshaping our lives and the environment. Conkle, J.L. Rockport Aquarium, Rockport, TX (12/15)
- 22) Plastic: Reshaping our lives and the environment. Conkle, J.L. Department of Engineering, Texas A&M University Kingsville. Kingsville, TX (11/15)
- 21) Plastic: Reshaping our lives and the environment. Conkle, J.L. Coastal Bend Bays Foundation Coastal Issues Forum. Corpus Christi, TX (05/15)
- 20) Adventures in academia: Things you should know before you get started. Conkle, J.L. Beta Beta Beta National Biological Honor Society. Texas A&M Corpus Christi. Corpus Christi, TX (04/15)
- 19) Treated wastewater irrigation and subsequent crop uptake of pharmaceuticals and personal care products. **Conkle, J.L.**, Wu, X., Ernst, F., Gan, J., LSU School of the Coast & Environment weekly seminar. Baton Rouge, LA (03/14)
- 18) Adventures in Academia: Things you should know but have probably never been told. **Conkle, J.L.**, Keynote Speaker at the Graduate Student Symposium (GSS) at the Louisiana Universities Marine Consortium (LUMCON), Cocodrie, LA (02/14)
- 17) Water quality in wetlands and agricultural systems. **Conkle, J.L.**, Seminar at Texas A&M Corpus Christi, Corpus Christi, TX (02/14)
- 16) Water quality in wetlands and agricultural systems: Implications for public health. **Conkle, J.L.**, Seminar at Tulane University, New Orleans, LA (09/13)
- 15) Emerging contaminants in the Environment. **Conkle, J.L.**, Seminar at Villanova University. Villanova, PA (07/13)
- 14) Wetlands and water quality. **Conkle, J.L.**, Seminar at Savannah State University. Savannah, GA (05/13)
- 13) Career development panel. **Conkle, J.L.**, Panelist at UC Postdoc Union Membership meeting. University of California Los Angeles. Los Angeles, CA (04/13)
- 12) Emerging contaminants in Wetlands. **Conkle, J.L.**, Seminar at Skidaway Institute of Oceanography. Savannah, GA (01/13)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 11) Choosing a path for your postdoc. **Conkle, J.L.**, Panelist at Obtaining Postdocs in Sciences Workshop, Graduate Student Resource Center, UC Riverside. Riverside, CA (01/13)
- 10) Assessment of total PPCP pollution in water samples using a new contamination index. **Conkle, J.L.**, Huang, W., Sickman, J., Gan, J. Oral presentation at the American Geophysical Union Annual Meeting, San Francisco, CA (12/12)
- 9) Tips on resume and C.V. writing. **Conkle, J.L.**, Panelist for the North American Student Advisory Council's (NASAC) Student Noon-time Seminar at the SETAC North American 33rd Annual meeting, Long Beach, CA (11/12)
- 8) Environmental fate of chemicals from the past, present and future. **Conkle, J.L.**, Gan, J., Seminar at BASF Corporation, Research Triangle Park, Durham, NC (10/12)
- 7) A survey of groundwater quality in the Beaumont Groundwater Management Zone. **Conkle, J.L.**, Huang, W., Sickman, J., Gan, J. Oral presentation at the Inland Empire Geological Society monthly meeting, Riverside, CA (07/12)
- 6) Septic waste contamination in the Beaumont groundwater basin. **Conkle, J.L.**, Huang, W., Sickman, J., Gan, J. Beaumont Cherry Valley Water Agency, Beaumont, CA (04/11)
- 5) Detection of septic system waste in the groundwater of Beaumont California using chemical and isotopic tracers. **Conkle, J.L.**, Huang, W., Sickman, J., Gan, J. San Geronio Pass Water Agency, Beaumont, CA (11/10 & 01/11)
- 4) Pharmaceuticals and personal care products in terrestrial and aquatic environments. **Conkle, J.L.**, White, J.R. Environmental Toxicology seminar. University of California, Riverside (10/10)
- 3) Pharmaceuticals in environmental systems. **Conkle, J.L.**, White, J.R. Seminar at Longwood University, Farmville, VA (10/10)
- 2) Removal of pharmaceutically active compounds by a lagoon-wetland wastewater treatment system in southeast Louisiana. **Conkle, J.L.**, White, J.R. Student Chapter of the Society for Wetland Scientists. Louisiana State University, Baton Rouge, LA (01/08)
- 1) Biodiesel as an alternate fuel source. **Conkle, J.L.**, Panelist at Alliance for Planet Earth's Alternative Energy Symposium. The College of Charleston, Charleston, SC (04/05)

Student Presentations (*presenter; #Undergraduate researcher; §Graduate student researcher)

- 8) Application of a Technique for Detecting and Estimating the Quantity of Macro-Litter on Beaches Using an Unmanned Aerial System (UAS). ^{§*}Tran, K.; Conkle J.L.; Starek, M.; Gibeaut, J. Poster at 6th International Marine Debris Conference. San Diego, CA (03/18)
- 7) Application of a Technique for Detecting and Estimating the Quantity of Macro-Litter on Beaches Using Unmanned Aircraft System. [§]Tran, K.; Conkle J.L.; *Starek, M.; Gibeaut, J. Poster at AGU. New Orleans, LA (12/17)
- 6) Assessing Microplastics in the Mississippi River Watershed and Their Discharge to the Gulf of Mexico. ^{*§}Martin, K.M.; Hasenmueller, L.; White, J.R.; Chambers, L.G.; Conkle, J.L. Oral Presentation at 38th Annual SETAC National Meeting. Minneapolis, MN (11/17)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 5) Relationships and trends of wastewater treatment plant effluent and stream flow within the United States. *[§]Siddiqui, Samreen; Conkle, J.L.; Scarpa, J.; Sadovskey, A.; Brooks, B. Poster at 38th Annual SETAC National Meeting. Minneapolis, MN (11/17)
- 4) Quantifying Microplastic Debris from a Wastewater Treatment Plant in Corpus Christi, TX. **[#]Holt, K., [§]Waddell, E., Conkle, J.L. Poster at SETAC South Central Chapter Regional Meeting. Houston, TX (04/17)
- 3) Pesticides in Baffin Bay. **[#]Nguyen, K., [§]Hormoz, Z., Conkle, J.L. Poster at Undergraduate Research Symposium at the University of Houston-Victoria. (04/17)
- 2) New Methods for recovery of microplastics from digestive and respiratory tissue. *[§]Waddell, E., Conkle, J.L. Poster presentation at 7th SETAC World Congress and 37th Annual SETAC North America annual meeting, Orlando, FL (11/16)
- 1) [§]Determination of microplastic concentration and size distribution in personal care products to improve knowledge of their environmental occurrence. *Baez-Del Valle, C.D., Conkle, J.L. Poster presentation at the 2105 Ana G. Mendez University System Research Symposium, San Juan, Puerto Rico. **Best Undergraduate Poster Presentation.** (08/15)

Conferences (*presenter; [#]Undergraduate researcher; [§]Graduate student research)

- 28) Perspectives on Urbanization, Water Reuse, and Aquaculture Product Safety. *Brooks, B.W.; Conkle, J.L. Oral Presentation at SETAC Europe. Rome, Italy (05/18)
- 27) Engaging high school students in future water quality challenges. Mullins, M; Scarpa, J; Brooks, B.W.; Balboa, B.; Conkle, J.L. Louisiana Environmental Education State Symposium, Baton Rouge, LA (02/18)
- 26) Engaging high school students in future water quality challenges. Mullins, M; Scarpa, J; Brooks, B.W.; Balboa, B.; Conkle, J.L. Informal Science Education Association of Texas (ISEA) Annual Meeting, Fort Worth, TX (02/18)
- 25) Assessing Microplastic Loads in the Mississippi River and Its Major Tributaries. *Hasenmueller, H.A.; [§]Martin, K.M; Conkle, J.L.; White, J.R. Poster at AGU. New Orleans, LA (12/17)
- 24) Engaging high school students in future water quality challenges. Mullins, M; Scarpa, J; Brooks, B.W.; Balboa, B.; Conkle, J.L. Conference for the Advancement of Science & Teaching (CAST), Houston, TX (11/17)
- 23) [§]Do surface water surveys account for plastic microbeads? *Conkle, J.L., Baez-Del Valle, C.D., Turner, J. Oral presentation at SETAC South-Central Chapter Annual Meeting, Fort Worth, TX (05/16)
- 22) Most microbeads in a preliminary survey of personal care products are smaller than the typical 330 μ m trawl mesh size used in surface water surveys. *Conkle, J.L., [#]Baez-Del Valle, C. D., Turner, J. Poster presentation at the 2016 Ocean Sciences Meeting, New Orleans, LA (02/16)
- 21) How do you take your vegetables; With or without drugs? Wu, X., *Conkle, J.L., Ernst, F., Gan, J. Oral Presentation at SETAC South-Central Chapter Annual Meeting, Lafayette, LA (05/15)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 20) Drug accumulation in vegetables from irrigation with recycled wastewater. *Conkle, J.L., Wu, X., Ernst, F., Gan, J. Seminar at the University of Texas Pan American, Edinburg, TX (10/14)
- 19) Drug accumulation in vegetables from irrigation with recycled wastewater. *Conkle, J.L., Wu, X., Ernst, F., Gan, J. Seminar at the University of Texas Brownsville, Brownsville, TX (10/14)
- 18) How do you like your veggies; with or without drugs? *Conkle, J.L., Wu, X., Ernst, F., Gan, J. Harte Research Institute Weekly Seminar Series, Texas A&M Corpus Christi, TX (09/14)
- 17) A novel approach to describe the total PPCP contamination in aqueous environments. *Conkle, J.L., Huang, W., Sickman, J., Gan, J. Oral presentation at the SETAC North American 33rd Annual Meeting, Long Beach, CA (11/12)
- 16) Degradation and adsorption of carbonated dimethyl disulfide in soils with grape production in California. Cabrera, J.A., *Conkle, J.L., Wang, D, Quin, R., Gan, J. Poster presentation at the 2012 Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions (MBAO), Orlando, FL (11/12)
- 15) 40 years later: A reconnaissance of DDT in sediments of two southern California lakes. *Conkle, J.L., Delgado-Moreno, L., Anderson, M.J., Gan, J. Oral presentation at the 244th American Chemical Society National Meeting and Exposition, Philadelphia, PA. *Finalist; AGRO Division New Investigator Award.* (08/12)
- 14) Pharmaceuticals and personal care products in wetlands, wastewater irrigation and groundwater. *Conkle, J.L., Gan, J. Oral presentation at the 2012 USDA Working Group W-2082 (Evaluating the Physical and Biological Availability of Pesticides and Contaminants in Agricultural Ecosystems) Annual Meeting, Texas A&M Kingsville Citrus Center, Weslaco, TX (01/12)
- 13) Degradation and sorption of PPCPs in oxic and anoxic wetland soils. *Conkle, J.L., Gan, J. Oral presentation at the ASA-CSSA-SSSA 2011 International Annual Meeting, San Antonio, TX (10/11)
- 12) Distribution of organochlorine and current-use pesticides in sediments of the Salton Sea. Wang, W., *Conkle, J.L., Delgado-Moreno, L., Anderson, M., Amrhein, C., Gan, J. Oral presentation at the 2011 Southern California Regional Chapter of the Society of Environmental Toxicology and Chemistry Annual Meeting, Huntington Beach, CA (04/11)
- 11) Wetland removal of PPCPs in treated wastewater. *Conkle, J.L, White, J.R., C. Latta, R.L. Cook, C.D. Metcalfe, J. Gan. Poster presentation at the Global Implications for Domestic and Industrial Water Reuse Workshop, Tucson, AZ (01/11)
- 10) Antibiotic effects on microbial respiration in two wetland soils. *Conkle, J.L., White, J.R. Oral presentation at ASA-CSSA-SSSA International Annual Meeting, Long Beach, CA (11/10)
- 9) Pharmaceutical compounds in wastewater: Potential for removal in treatment wetlands. Conkle, J.L., *White, J.R., Metcalfe, C. Poster presentation at the Urban Environmental Pollution (ENPO2010) Conference. Boston, MA (06/10)
- 8) Effects of antibiotics on soil microbe mediated CO₂, CH₄ and N₂ evolution in wetland peat soil. *Conkle, J.L., White, J.R. Oral presentation at the 10th International Congress on Ecology (INTECOL 10). Brisbane, QLD, AU (08/09)

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 7) Sorption and desorption of three fluoroquinolone antibiotics to a wetland soil. *Conkle, J.L., Lattao, C., White, J.R., Cook, R.L. Oral presentation at the Joint Meeting of the GSA-SSSA-ASA-CSSA-GCAGS-HGS. Houston, Texas. 2nd Place Graduate Student Oral Presentation, Division S-10 (10/08)
- 6) Sorption and desorption of three fluoroquinolone antibiotics to a wetland soil. *Conkle, J.L., Lattao, C., White, J.R., Cook, R.L. Oral presentation at the Department of Oceanography and Coastal Sciences annual Graduate Student Symposium, LSU, Baton Rouge, LA (04/08)
- 5) Analysis and sorption of pharmaceutical compounds to organic-rich wetland soil. *Conkle, J.L., Lattao, C., White, J.R., Cook, R.L. Poster presentation at the 235th American Chemical Society National Meeting, New Orleans, LA (04/08)
- 4) Removal of pharmaceutically active compounds by a lagoon-wetland wastewater treatment system in Southeast Louisiana. *Conkle, J.L., White, J.R., Metcalfe, C. Oral presentation at the Graduate Student Symposium, LUMCON, Cocodrie, LA (02/08)
- 3) Removal of pharmaceutically active compounds by a lagoon-wetland wastewater treatment system in southeast Louisiana. *Conkle, J.L., White, J.R., Metcalfe, C. Oral presentation at the ASA-CSSA-SSSA 2007 International Annual Meeting, New Orleans, LA (11/07)
- 2) Removal of pharmaceutically active compounds by a lagoon-wetland wastewater treatment system in southeast Louisiana. *Conkle, J.L., White, J.R., Metcalfe, C. Oral presentation at the 23rd Eastern Canadian Symposium on Water Quality Research, Sherbrooke, Quebec, Canada. *Philip H. Jones award for best graduate student presentation* (10/07)
- 1) Removal of anthropogenic nitrogen by marshes in a Mississippi River freshwater diversion project. *Conkle, J.L., Gardner, L., Fry, B., White, J.R. Poster presentation at the 10th International Wetlands Biogeochemistry Symposium, Annapolis, MD (04/07)

GRANTS

Current

- 6) Texas General Land Office Coastal Management Program Grant Cycle 23. "Quantifying Microplastic (Particles and Fibers) Loading to the Texas's Coastal Bays and Estuaries." **Conkle, J.L.**, Ren, J. \$92,749.16. Submitted: October 05, **2017**. Start: November 2018; End: January 2020.
- 5) Texas General Land Office Coastal Management Program Grant Cycle 23. "Microplastic pollution and its occurrence in the diet of juvenile fish and shrimp in Texas bays." Geist, S., **Conkle, J.L.** \$63,818.04. Submitted: October 05, **2017**. Start: November 2018; End: January 2020.
- 4) Texas Commission on Environmental Quality. "Quantifying Plastic Loading and Fate in Corpus Christi Bay to Improve Stakeholder Awareness." **Conkle, J.L.** \$49,705. Submitted: February, **2016**. Start: September 2016.
- 3) NOAA. "Quantifying and Characterizing the Mississippi River's Contribution of Microplastic Debris to the Gulf of Mexico." **Conkle, J.L.**, Hasenmueller, E., White, J.R., Chambers, L. \$137,133. Submitted: September 17, **2015**. Start: June 1, 2016.

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- 2) USDA NIFA AFRI. "Future Water Quality Challenges to Aquaculture and Influences on Product Safety." **Conkle, J.L.**, Scarpa, J., Brooks, B. \$450,000. Submitted: July 16, **2015**. Start: June 1, 2016.
- 1) Texas General Land Office Costal Management Program Grant Cycle 20. "Pesticide loading and sediment accumulation in Baffin Bay: Addressing an important stakeholder concern regarding the bay's health." **Conkle, J.L.** \$77,841. Submitted: September 24, **2014**. Start: November 2016; End: January 2017.

Pending

- 1) MRI: Acquisition of a GC triple quadrupole mass spectrometer for Environmental and Biogeochemical research. **Conkle, J.L.**; Abdulla, H.A.; Reese, B.; Zhang, L. \$222,141. Submitted: February 05, 2018; Start: September 01, 2018

In Development

- 1) NIH (R21) Exploratory/Developmental Research Grant. Endocrine disruptors in the Mississippi River and their influence on fishery health and safety in coastal Louisiana, as well as subsequent socioeconomic impacts. Collaboration with Tulane Department of Global Environmental Health Sciences. Due March 2019.

Past

- 5) Alliance for Graduate Education and the Professoriate (AEGP) TAMU System Mini-Grant. Development of effective experimental procedures for studying surface-subsurface exchange of synthetic microfibers in aquatic systems. \$7,000 Student: Isabella Aguirre (TAMUK), Co-Mentor 1: Jianhong Ren (TAMUK), Co-Mentor 2: **Jeremy L. Conkle**. Submitted: August 13, 2016; Start: September, 2016.
- 4) NSF MRI: Acquisition of Hybrid Mass Spectrometer for Geochemistry and Environmental Studies. Abdulla, Hussain A., **Conkle, J.L.**, Zimba, P. \$681,415. Submitted: January 13, 2016; Start: September 01, 2016
- 3) Texas Comprehensive Research Fund (Internal to TAMUCC). "Characterizing and quantifying plastic debris using unmanned aircraft systems (UAS)." **Conkle, J.L.** \$20,000. Submitted: March 25, 2016; Start: September, 2016; End: August, 2016
- 2) PADI Foundation. "Microplastics as Vectors for Pollutants in the Blue Crab, *Callinectes sapidus*." **Conkle, J.L.**, Waddell, E. \$5,640, Submitted: January 29, **2016**. Start: September 1, 2016
- 1) USACE. "Environmental Assessment of Vegetation Management and Control Practices." **Conkle, J.L.** \$123,757 (\$78,725 base year, \$45,032 optional year 2). Submitted: July 30, **2015**. Start: November 15, 2015.

Not Funded

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- 9) Texas Sea Grant. "Tackling plastic marine debris through research with unmanned aerial systems (UAS) and innovated outreach and education." Starek, M., **Conkle, J.L.** and Texas State Aquarium. (*Pre-proposal - Full Proposal Not Encouraged*)
- 8) National Science Foundation. "PIRE: Multifaceted approach to understanding the effects of land use conversion on fish communities with focus on livebearing fish in Mexico and the USA." Gabor, C.R.; Aspbury, A.; Bonner, T.H.; Conkle, J.L.; Huertas, M. ~\$4,000,000.
- 7) Coastal Bend Bays & Estuaries Program Water and Sediment Quality Implementation Team. "Quantifying Plastic Loading and Fate in Corpus Christi Bay to Improve Stakeholder Awareness." **Conkle, J.L.** \$49,705. Submitted: February, **2016**. Start: September 2016. **RESUBMITTED AND FUNDED**
- 6) Texas Sea Grant. "Microplastics presence and ingestion by benthic organisms in the Texas Coastal Bend: A project aimed at awareness and public education." **Conkle, J.L.**, Pollack, J. \$199,997. Submitted: June 26, **2015**. Start: February 1, 2016.
- 5) National Science Foundation Major Research Instrumentation Program. "MRI: Acquisition of a Tribrid Mass Spectrometry System for Metabolomics, Environmental and Geochemistry Studies." Abdulla, H, **Conkle, J.L.**, Zimba, P., Wetz, M., Reese, B. \$865,614,00. Submitted: January 22, 2015. Start: July **2015**. **RESUBMITTED AND FUNDED**
- 4) U.S. Geological Survey Water Resources Research National Competitive Grants Program. "Determining Climate and Anthropogenic Drivers of Water Quantity and Quality in an Arid and Semi-arid Region to Improve Resource Management." **Conkle, J.L.**, Murgulet, D. \$248,988. Submitted: February 19, **2015**. Start: August, 2015.
- 3) Coastal Bend Bays & Estuaries Program Water and Sediment Quality Implementation Team. "Quantifying Plastic Loading and Fate in Corpus Christi Bay to Improve Stakeholder Awareness." **Conkle, J.L.** \$60,000. Submitted: March 23, **2015**. Start: September 2016. **RESUBMITTED AND FUNDED**
- 2) NOAA Ocean Acidification & Eutrophication. "Assessment of Natural Ocean Acidification and Oxygen Gradients Along the Texas Coast to Investigate Their Compounded Stress to Vulnerable Commercial Fisheries." Submitted: August 11, **2014**. Start: February, 2015. (*Pre-proposal - Full Proposal Not Encouraged*)
- 1) USDA NIFA Postdoctoral Fellowship Grant Program. "Exploring mitigation mechanisms of pharmaceuticals and personal care products in wetlands." Submitted: **2010**.

ANALYTICAL EXPERIENCE

- Method development and analysis of emerging contaminants using a Waters Acquity UPLC-Trinity triple quadrupole mass spectrometer
- Method development and analysis of PCBs and pesticides using a Varian CP 3800 GC with 1200 quadrupole MS/MS
- Solid Phase Microextraction (SPME) of organochlorine pesticides using a Varian CP 3800 GC with 1200 quadrupole MS/MS equipped with a Combi Pal auto sampler

J. L. CONKLE

Assistant Professor, Texas A&M University Corpus Christi

- Method development and analysis of PCBs and pesticides using an Agilent 6890N GC-MS
- Extraction of pharmaceuticals, pesticides and PCBs from water and soil
- Method development and analysis using an Agilent 1100 HPLC with UV and fluorescence
- Analysis of nutrients using a Seal discrete nutrient analyzer
- Method development and analysis using a Shimadzu GC with ECD, FID, and TCD detectors

Appendix 2 – List of Samples Collected by Water Keepers

2,070 PELLET SAMPLES TAKEN ON BAYS, BEACHES, SHORES, AND CREEKS OF CALHOUN COUNTY BETWEEN JANUARY 31, 2016—JUNE 12, 2018 (Additionally 8 samples from Myron Spree)

*The following samples #1-88 were handed over by Ronnie Hamrick to Diane Wilson on June 3, 2016 at approximately 12 noon at the Port Lavaca Marina. Unless stated otherwise all samples are pellets. (photos taken)

- #1 1/31/16 (9:40am) Marina, Port Lavaca
- #2 1/31/16 (10:20am) Black Rock, Port Lavaca
- #3 1/31/16 (11:00am) Black Rock, Port Lavaca
- #4 1/31/16 (11:30am) MLK Jr. Drive/Commerce St., Port Lavaca
- #5 2/5/16 (11:45am) Lone Star RV Park area, Port Lavaca
- #6 2/8/16 (2:45PM) Light House Beach, boat ramp, west side of bird walk, Port Lavaca
- #7 2/10/16 (1:45pm) Holiday Inn Express, left side of causeway, Port Lavaca
- #8 2/12/16 (1:07pm) underneath causeway, Point Comfort side, left side of causeway
- #9 2/14/16 (12:51PM) Port Lavaca Marina, right side of boat ramp,
- #10 2/16/16 (2:47Pm) Port Lavaca Marina, right side of board walk
- #11 2/17/16 (10am) Black Rock, Port Lavaca
- #12 2/17/16 (11am) Marina, Port Lavaca
- #13 2/17/16 (12 pm) Lone Star RV park, Port Lavaca
- #14 2/17/16 (1PM) Cox Creek, right side heading N 35, Point Comfort
- #15 2/22/16 (12:15PM) Cox Creek, Point Comfort
- #16 4/13/16 (12:40pm) Marina, boat dock. Port Lavaca
- #17 4/13/16 (1:30pm) Cox Creek, in truck ruts on ground, Point Comfort
- #18 4/13/16 (2pm) drainage ditch, concrete culvert, east 2143, Cox Creek, Point Comfort
- #19 4/15/16 (12:03pm) concrete culvert, drainage ditch, rd., 2143, east, Point Comfort
- #20 4/21/16 (2:15pm) Cox Creek drainage ditch, Rd. 2143, Point Comfort
- #21 4/24/16 (1:54 pm) Boat Ramp, Point Comfort, east side of pier. 001 discharge side.
- #22 4/24/16 (2:11 pm) Point Comfort, near shell road, electrical tower on opposite side, on 001 discharge side to Lavaca Bay.
- #23 4/24/16 (2:35 pm) Point Comfort, side of road, Hwy 35 shoulder
- #24 5/2/16 (3:20pm) top of rock next to docks and floating in water at Marina, right side, Port Lavaca
- #25 5/2/16 (3:20pm) Marina, found on pier, right side, Port Lavaca
- #26 5/4/16 (11:15am) right side of Cox Creek, Point Comfort
- #27 5/4/16 (11:40am) left side of Cox Creek, Point Comfort
- #28 5/5/16 (12:30PM) Poor Boys Bait Stand, all along the debris, Port Lavaca

#29 5/6/16 (12:15pm) left side of Cox Creek, Point Comfort
 #30 5/6/16 (12:45pm) right side Cox Creek, Point Comfort
 #31 5/6/16 (1:20pm) Marina, at boat ramp, Port Lavaca
 #32 5/6/16 (1:20Pm) Marina, right side of Boat ramp, Port Lavaca
 #33 5/8/16 (10:35am) right side of cox creek, Point Comfort
 #34 5/8/16 (10:50am) left side of Cox Creek, Point Comfort
 #35 5/8/16 (11:30am) Marina, boat ramp, all over, Port Lavaca
 #36 5/9/16 (11:50am) Marina, right side of dock, Port Lavaca
 #37 5/9/16 (11:50am) Marina, both sides of boat ramp, Port Lavaca
 #38 5/11/16 (9am) Cox Creek, Point Comfort right side
 #39 5/11/16 (9am) Cox Creek, Point Comfort, left side
 #40 5/13/16 (11:30am) Marina, from main drainage line from city of Port Lavaca to wooden boardwalk, Port Lavaca
 #41 5/16/16 (1:05pm) Cox Creek, right side, Point Comfort
 #42 5/16/16 (1:30pm) Cox Creek, left side, Point Comfort
 #43 5/16/16 (2pm) drainage ditch on hwy 35, culvert drains to Cox creek, Rd. 2143, Point Comfort
 #44 5/16/16 (2:31pm) Marina, main drainage pipe, wooden board walk, Port Lavaca
 #45 5/16/16 (2:51pm) Marina, right side of wooden pier, next to boat ramp, 1st sample, Port Lavaca
 #46 5/16/16 (2:51pm) Marina, right side of wooden pier and more next to boat ramp, 2nd sample, Port Lavaca
 #47 5/16/16 (3:20pm) marina, right side of pier, boat ramp. Port Lavaca
 #48 5/19/16 (11:07 am) Cox Creek, Point Comfort, right side
 #49 5/19/16 (11:37am) Cox Creek, Point Comfort, left side
 #50 5/19/16 (11:54am) Rd. 2143, concrete culvert on Hwy 35, drainage ditch to Cox Creek, Point Comfort
 #51 5/19/16 (2pm) Point Comfort boat dock, pier and rocks on left side
 #52 5/19/16 (3:12pm) Cox Creek, right side, 2nd sample, Point Comfort
 #53 5/19/19 (4:58PM) Marina, Port Lavaca near county drainage pipe, wooden dock
 #54 5/19/16 Port Lavaca Marina (5:15) right side of boat ramp and pier
 #55 5/20/16 (11:55am) point comfort boat ramp, behind pier on right side. Note, pellets and foam. On same side of Lavaca Bay as 001 discharge pipe.
 #56 5/20/16 (2:27pm) Point Comfort boat ramp/ left side, along seawall, north of seawall big rocks (main discharge into Lavaca Bay is most obvious discharge point) floating pellets
 #57 5/21/16 (11:50am) right side of causeway going south to Port Lavaca (near shoulder of Hwy 35) same side as 001 discharge into Lavaca Bay.
 #58 5/21/16 (12:22Pm) south side of Holiday Express, Port Lavaca
 #59 5/22/16 (2:14pm) Marina, floating pellets at boat ramp, Port Lavaca
 #60 5/22/16 (2:24pm) from county drainage line to marina, west side. Port Lavaca
 #61 5/23/16 (10:10am) Cox Creek, right side, Point Comfort
 #62 5/23/16 (10:32am) concrete culvert ditch to Cox Creek, floating in culvert, Point Comfort

#63 5/23/16 (11:18 am) Point Comfort boat dock, right side of pier.
 #64 5/23/16 (11:58am) near seawall on south side of Holiday Inn Express, Port Lavaca
 #65 5/24/16 (3:15pm) Marina, boat ramp, also right side of wooden pier, Port Lavaca
 #66 5/26/16 (11:04am) Cox Creek, right side, Point Comfort
 #67 5/26/16 (11:18am) concrete culvert to Cox Creek, hwy 35, 2143 rd. cut off, Point Comfort
 #68 5/26/16 (11:39Am) Point Comfort boat ramp, right side of pier
 #69 5/26/16 (12:30PM) under grass on seawall on south side of Holiday Inn Express, on 001 discharge side, Port Lavaca
 #70 5/26/16 (3:18PM) Marina, from county drainage to boat docks, lots of pellets
 Note: workers from Formosa and city doing cleanup.
 #71 5/26/16 (3:50pm) Marina, boat dock, pier and right side, Port Lavaca
 #72 5/30/16 (1:50PM) Point Comfort boat ramp, right side of pier
 #73 5/30/16 (1:35pm) Cox Creek, Point Comfort
 #74 5/30/16 (2Pm) Marina, right side of small pier, then at boat ramp.
 #75 5/31/16 (1:17Pm) Marina, first road to left. West side of BBQ pit. Port Lavaca
 #76 5/31/16 (2:17pm) Marina, along wooden board walk to right side where boats park
 #77 5/31/16 (2:35pm) Marina, boat ramp, right side of pier. Port Lavaca
 #78 5/31/16 (3pm) Marina, where boats are parked, toward Poor Boys bait stand in right corner. Port Lavaca
 #79 6/1/16 (10:41 am) right side of Marina at boat harbor. Port Lavaca
 #80 6/1/16 (12:09 pm) pellets in drainage line of county to right side of marina. Port Lavaca
 #81 6/1/16 (2:18pm) Memorial park, right side of seawall in debris, Port Lavaca
 #82 6/1/16 (2:37pm) Memorial Park, along rocks, right side
 #83 6/1/16 (2:58pm) Memorial Park, right side of seawall in grass area, Port Lavaca
 #84 6/1/16 (3:22pm) boat ramp at Marina, pellets between 2 piers and also on pier
 #85 6/2/16 (1:11pm) along wooden board walk to Marina's boat harbor, also under seawall. Right side, Port Lavaca
 #86 6/2/16 (1:14pm) county drainage to Marina's boat harbor, right side. Port Lavaca
 #87 6/2/16 (1:28pm) Marina, boat ramp, both sides of pier on right, Port Lavaca
 #88 6/2/16 (2:22pm) seawall at Memorial park, left side

*The following samples #89-203 were handed over by Ronnie Hamrick to Diane Wilson on July 28, 2016 at approximately 1PM at the Port Lavaca Marina. Unless stated otherwise, all samples are pellets (photos taken)

#89 2/28/16 (1:34pm) Cox Creek

#90 3/7/16 (2:45pm) Boat ramp at marina
#91 3/10/16 (4:25pm) marina boat ramp
#92 3/15/16 marina, boat ramp
#93 5/20/16 (12:30pm) Poor Boy bait stand
#94 5/24/16 (1:10pm) Marina, west end by clubhouse
#95 5/24/16 (2:08 pm) Commerce Street at curve
#96 6/3/16 (1:45pm) cox creek
#97 6/3/16 (1:22pm) cox creek on top of bridge
#98 6/3/16 (12:15pm) point comfort shoulder of road
#99 6/3/16 (12:40pm) cox creek on right side
#100 6/3/16 (12:55pm) cox creek
#101 6/3/16 (2:10pm) Holiday Express
#102 6/5/16 (12:45pm) Point Comfort boat ramp
#103 6/5/16 (4:39pm) Point Comfort boat ramp
#104 6/5/16 (5:09pm) Point Comfort
#105 6/5/16 (5:04pm) marina boat harbor Port Lavaca
#106 6/6/16 (1:39pm) Holiday Express next to causeway
#107 6/6/16 (2:52pm) Holiday Express on concrete slope
#108 6/6/16 (2:10pm) Holiday Express
#109 6/6/16 (3:40pm) cox creek
#110 6/6/16 (3:34pm) cox creek
#111 6/7/16 (1:58pm) marina boat harbor
#112 6/7/16 (12:31pm) marina
#113 6/8/16 (1:20pm) marina seawall towards kids' park
#114 6/8/16 (2:25pm) Marina seawall water park
#115 6/8/16 (3:38pm) Marina east of boat ramp
#116 6/8/16 (4:05 pm) Marina boat ramp, right side
#117 6/10/16 (3:15pm) marina boat ramp and pier
#118 6/10/16 (3:10pm) marina boat harbor
#119 6/15/16 (12:44pm) Holiday Express at seawall
#120 6/15/16 (11:55am) Holiday Express
#121 6/15/16 (1:23pm) Cox Creek
#122 6/15/16 (1:23pm) Cox Creek, right side
#123 6/15/16 (1:55pm) Point Comfort boat ramp
#124 6/15/16 (2:09pm) Point comfort boat ramp
#125 6/15/16 (2:48pm) Marina Boat harbor
#126 6/15/16 (3pm) Marina
#127 6/16/16 (4:43pm) marina, south side of water park
#128 6/16/16 (5:03pm) marina, memorial park,
#129 6/20/16 (12:25pm) Holiday Express, next to causeway
#130 6/20/16 (1:20pm) Holiday Express north side
#131 6/20/16 (2:20pm) Cox Creek, right side
#132 6/20/16 (2:20pm) Cox Creek, left side
#133 6/20/16 (4:19pm) Marina boat harbor
#134 6/20/16 (4:30pm) Marina boat ramp and pier
#135 6/22/16 (1:51pm) Holiday Express

#136 6/22/16 (1:27pm) Holiday Express
 #137 6/22/16 (3:15pm) Marina boat harbor
 #138 6/22/16 (3:28pm) Marina bat ramp and pier
 #139 6/23/16 (6pm) Holiday Express Inn
 #140 6/26/16 (12:35pm) Holiday Express south west side
 #141 6/26/16 (3:37pm) seawall by waterpark at marina
 #142 6/26/16 (3:20pm) marina at boat ramp
 #143 6/26/16 (3:10pm) marina
 #144 6/26/16 (1:35pm) cox creek, left side
 #145 6/26/16 (1:23pm) cox creek, right side
 #146 6/26/16 (12pm) Holiday Express
 #147 7/1/16 (10:15 am) Cox creek right side
 #148 7/1/16 (10:15am) cox creek left side
 #149 7/1/16 (11:40am) Marina boat ramp and pier
 #150 7/1/16 (11:16am) Marina boat harbor
 #151 7/1/16 (12:10pm) Marina right side by park
 #152 7/5/16 (4:31pm) Cox creek left side
 #153 7/5/16 (4:31pm) Cox Creek right side
 #154 7/5/16 (3:30pm) Marina boat harbor
 #155 7/7/16 (12:51pm) Marina Boat ramp
 #156 7/7/16 (12pm) Marina boat harbor
 #157 7/9/16 (1:04pm) Marina boat harbor
 #158 7/10/16 (1:57pm) Marina boat harbor
 #159 7/10/16 (2:29pm) Marina boat ramp
 #160 7/10/16 (3:42pm) Cox Creek left side
 #161 7/10/16 (3:50pm) Cox Creek right side
 #162 7/11/16 (11:53am) Marina boat dock
 #163 7/11/16 (12:38pm) Marina boat ramp
 #164 7/12/16 (5pm) foam
 #165 7/12/16 (11:33am) Marina boat harbor
 #166 7/12/16 (12:25pm) Marina boat ramp
 #167 7/12/16 (3pm) Marina memorial park
 #168 7/14/16 (11:40am) Cox creek left side
 #169 7/14/16 (11:40am) Cox Creek, right side
 #170 7/14/16 (2:14pm) Marina boat ramp
 #171 7/14/16 (2:41pm) Marina boat harbor
 #172 7/14/16 (4pm) Memorial park sea wall
 #173 7/16/16 (3:04pm,) memorial park at marina
 #174 7/16/16 (3:34pm) memorial park at marina
 #175 7/16/16 (4:15pm) beachfront port Lavaca
 #176 7/18/16 (1:37pm) Marina boat harbor
 #177 7/18/16 (2:30pm) Holiday Express Inn, south side
 #178 7/18/16 (1:57pm) marina boat ramp
 #179 7/18/16 (5;20pm) beachfront before going over causeway to Point Comfort
 #180 7/18/16 (6pm) beach front before causeway
 #181 7/18/16 (6pm) beachfront

#182 7/19/16 (4:38pm) marina boat ramp
#183 7/19/16 (5:18pm) Marina memorial park (pvc powder)
#184 7/20/16 (3:48pm) Holiday Express
#185 7/20/16 (2:29pm) Marina Boat ramp
#186 7/20/16 (2:41pm) Marina boat ramp
#187 7/20/16 (4:30pm) Holiday Express (pvc powder)
#188 7/20/16 (2:12pm) Marina boat harbor
#189 7/20/16 (1:20pm) Marina memorial park (pvc powder)
#190 7/20/16 (12:43pm) Marina memorial park (pvc powder)
#191 7/23/16 (2pm) Marina boat ramp
#192 7/23/16 (11:15am) Marina boat harbor
#193 7/25/16 (1:18pm) marina along seawall
#194 7/25/16 (2:30pm) Memorial park marina
#195 7/25/16 (2:15pm) memorial park below seawall
#196 7/25/16 (1:57pm) memorial park marina
#197 7/25/16 (3:08pm) Marina boat ramp
#198 7/25/16 (3:28pm) marina boat harbor
#199 7/26/16 (4:11pm) holiday express Inn
#200 7/26/16 (3:15pm) Holiday express Inn, south side near causeway
#201 7/27/16 (3:29pm) marina boat harbor
#202 7/27/16 (3:50pm) marina boat ramp
#203 7/28/16 (11:34am) memorial park

The following samples #204-364 were handed over by Ronnie Hamrick to Diane Wilson on September 22, 2016 at approximately 9:30am at the Port Lavaca, Texas marina. Unless stated otherwise, all samples are for pellets (videos taken)

#204 7/29/16 (11:37am) marina memorial park
#205 7/29/16 (11:53am) marina boat ramp
#206 7/29/16 (12pm) marina boat harbor (pvc powder and pellets)
#207 7/31/16 (11:28am) Cox creek
#208 7/31/16 (11:35am) Holiday Express Inn (pvc powder and pellets)
#209 7/31/16 (11:35am) Holiday Express Inn
#210 7/31/16 (12:05pm) Cox creek
#211 7/31/16 (2:30pm) memorial park
#212 7/31/16 (2:15pm) memorial park
#213 7/31/16 (1:46pm) marina boat harbor
#214 7/31/16 (1:35pm) marina boat ramp
#215 8/1/16 (2:22pm) marina boat harbor (pvc powder and pellets)
#216 8/1/16 (2:22pm) marina boat harbor
#217 8/3/16 (12pm) marina boat harbor (pvc powder and pellets)
#218 8/3/16 (12:20pm) marina boat harbor (pvc powder and pellets)
#219 8/3/16 (12:45-m) marina boat ramp
#220 8/3/16 (1:20pm) marina memorial park

#221 8/3/16 (1:20pm) marina memorial park
#222 8/3/16 (2:20pm) Cox Creek
#223 8/3/16 (2:20pm) Cox Creek
#224 8/3/16 (3:35pm) Holiday Express Inn
#225 8/4/16 (12:52pm) marina memorial park
#226 8/4/16 (1:30pm) marina boat ramp
#227 8/4/16 (1:40pm) marina boat harbor (pvc powder and pellets)
#228 8/5/16 (12:11pm) marina boat ramp
#229 8/5/16 (12:38pm) boat ramp at marina
#230 8/5/16 (11:53am) marina boat harbor (pvc powder and pellets)
#231 8/5/16 (1:20pm) marina memorial park
#232 8/6/16 (12:20m) Cox Creek
#233 8/6/16 (12:30pm) Cox Creek
#234 8/6/16 (3:20pm) marina boat ramp
#235 8/8/16 (1:08pm) marina boat harbor
#236 8/8/16 (3:05pm) marina boat ramp
#237 8/9/16 (9:15am) marina boat harbor
#238 8/9/16 (9:40am) marina boat ramp
#239 8/9/16 (11:35am) Cox Creek
#240 8/9/16 (12pm) Cox Creek
#241 8/9/16 (2pm) marina boat harbor
#242 8/9/16 (1:05pm) marina
#243 8/10/16 (11:50am) marina boat ramp
#244 8/10/16 (12:30pm) marina boat harbor
#245 8/10/16 (5:10pm) marina boat ramp
#246 8/10/16 (5:38pm) marina playground area
#247 8/12/16 (12:10pm) Cox Creek
#248 8/12/16 (12:30pm) Cox Creek
#249 8/12/16 (1:05pm) marina boat harbor
#250 8/12/16 (1:25pm) marina boat ramp
#251 8/14/16 (2:38pm) marina boat harbor
#252 8/14/16 (1:45pm) marina boat harbor
#253 8/14/16 (3:18pm) marina boat ramp
#254 8/14/16 (3:20pm) marina boat ramp and pier
#255 8/15/16 (5:20pm) marina boat ramp
#256 8/15/16 (5pm) marina boat harbor
#257 8/16/16 (3:10pm) Cox Creek
#258 8/16/16 (1:40pm) Holiday Express Inn
#259 8/16/16 (2:30pm) Cox Creek
#260 8/16/16 (3:08pm) bridge at Cox Creek
#261 8/16/16 (4:08pm) marina boat ramp
#262 8/16/16 (4:20pm) marina boat ramp
#263 8/16/16 (4:57pm) marina boat harbor
#264 8/17/16 (2:25pm) marina boat ramp
#265 8/17/16 (3PM) marina boat harbor
#266 8/17/16 (3:28pm) marina

#267 8/17/16 (4:07pm) Holiday Express Inn
#268 8/17/16 (4:30pm) Holiday Express Inn
#269 8/18/16 (2:58pm) marina memorial park
#270 8/18/16 (3:20pm) boat ramp, marina
#271 8/18/16 (4:18pm) marine memorial park
#272 8/18/16 (5:18pm) marina boat harbor
#273 8/18/16 (5:50pm) Holiday Express Inn
#274 8/18/16 (?) Holiday Express Inn (sample in 5 gal. bucket)
#275 8/20/16 (1:45pm) Cox Creek
#276 8/20/16 (2pm) bridge at Cox Creek
#277 8/20/16 (2:07pm) Cox Creek
#278 8/20/16 (2:15pm) Cox Creek
#279 8/20/16 (8:20pm) boat ramp marina
#280 8/20/16 (8:15pm) marina boat harbor
#281 8/20/16 (3:30pm) Holiday Express Inn
#282 8/22/16 (3:46pm) marina boat ramp (remnants from Alcoa's dam)
#283 8/24/16 (12:24pm) marina boat harbor
#284 8/24/16 (12:53pm) marina boat ramp
#285 8/24/16 (1:25pm) marina playground area
#286 8/24/16 (2:45pm) Cox Creek
#287 8/24/16 (2:55pm) Cox Creek
#288 8/24/16 (3:20pm) Holiday Express Inn
#289 8/24/16 (5pm) point comfort (right side of causeway)
#290 8/25/16 (4:20pm) Lighthouse beach front
#291 8/25/16 (6:35pm) Light House beach front
#292 8/25/16 (4:20pm) lighthouse beach front south side of causeway
#293 8/26/16 (3:38pm) Holiday Express Inn
#294 8/28/16 (5pm) marina boat harbor
#295 8/28/16 (6pm) boat ramp marina
#296 8/28/16 (7:35pm) Lighthouse beach front
#297 8/29/16 (3:45pm) marina boat harbor
#298 8/29/16 (3:55pm) marina boat ramp
#299 8/29/16 (4:28pm) memorial park marina
#300 8/29/16 (5:48pm) Cox Creek
#301 8/29/16 (5:28pm) Cox creek
#302 8/29/16 (6pm) Holiday Express Inn (pvc powder)
#303 8/29/16 (6:35pm) marina memorial park (pvc powder and pellets)
#304 8/29/16 (7:03pm) Light House beach front (pvc powder and pellets)
#305 8/30/16 (1:55pm) Holiday Express Inn
#306 8/30/16 (6:30pm) marina memorial park
#307 8/31/16 (5:31pm) marina boat ramp
#308 8/31/16 (6:50pm) marina boat harbor
#309 8/31/16 (6:22pm) marina memorial park
#310 8/31/16 (6:22pm) marina memorial park
#311 8/31/16 (5:49pm) marina boat ramp pier
#312 9/1/16 (3:45pm) Cox Creek

#313 9/1/16 (3:20pm) Cox Creek outfall
#314 9/1/16 (4:18pm) Point Comfort boat ramp and park
#315 9/1/16 (4:50pm) Point Comfort boat ramp and park
#316 9/1/16 (6:05pm) Holiday Express Inn
#317 9/3/16 (6:18pm) boat harbor marina
#318 9/4/16 (11:35am) Marina playground (pvc powder and pellets)
#319 9/4/16 (1pm) Marina boat ramp (pvc powder and pellets)
#320 9/4/16 (3:30pm) Holiday Express Inn
#321 9/5/16 (3:08pm) Marina boat harbor (pvc powder and pellets)
#322 9/5/16 (3:18pm) Marina boat harbor (pvc powder and pellets)
#323 9/6/16 (2:25pm) marina boat harbor
#324 9/6/16 (3:22pm) marina boat ramp (pvc powder and pellets)
#325 9/6/16 (5:35pm) Marina playground area
#326 9/6/16 (4:10pm), marina boat harbor (pvc powder, pellets, and oil)
#327 9/6/16 (4:20pm) marina boat harbor, (pvc powder, pellets, and oil)
#328 9/6/16 (4:39pm) marina boat harbor, (pvc powder, pellets, and oil)
#329 9/7/16 (12:10pm) Point Comfort park
#330 9/7/16 (2:15pm) Holiday Express Inn
#331 9/7/16 (3:40pm) Marina boat harbor (pvc powder and pellets)
#332 9/8/16 (12:35pm and 1:32pm) marina memorial park
#333 9/8/16 (6pm) Marina boat harbor
#334 9/8/16 (6:20pm) Marina boat ramp (pvc powder and pellets)
#335 9/10/16 (10:05am) Marina boat ramp and pier (pvc powder and pellets)
#336 9/10/16 (10:25am) cox creek
#337 9/10/16 (10:48am) Cox Creek
#338 9/10/16 (11:10am) Point Comfort boat ramp and park
#339 9/10/16 (1:16pm) Holiday Express Inn
#340 9/12/16 (2:25pm) Marina s west side memorial park (pvc powder and pellets)
#341 9/13/16 (1:40pm) Marina boat harbor (pvc powder and pellets)
#342 9/13/16 (1:50pm) Marina boat ramp (pvc powder and pellets)
#343 9/13/16 (2:08pm) Marina playground area
#344 9/13/16 (3:38pm) Black Rock area, in rocks (pvc powder and pellets)
#345 9/15/16 (12:30pm) Marina boat harbor (pvc powder and pellets)
#346 9/15/16 (12:53pm) Marina boat ramp (pvc powder and pellets)
#347 9/15/16 (2:13pm) Memorial park (2 bottles with water and pvc powder)
#348 9/15/16 (5:14pm) Boat harbor marina (pvc powder and pellets)
#349 9/15/16 (5:45pm) Marina memorial park (pvc powder and pellets)
#350 9/15/16 (8:30pm) marina boat ramp (pvc powder and pellets)
#351 9/16/16 (12:08pm) marina boat harbor
#352 9/16/16 (12:12pm) marina boat ramp
#353 9/16/16 (1:40pm) Holiday Express Inn
#354 9/16/16 (2:43pm) Lighthouse beach front
#355 9/16/16 (4:05pm) Cox Creek, north side of bridge
#356 9/16/16 (4:20pm) Cox Creek, south side of bridge
#357 9/19/16 ((9:50am) Marina boat ramp and pier

#358 9/19/16 (10:20am) Marina boat harbor
#359 9/19/16 (3:52pm) Marina boat ramp
#360 9/19/16 (3:45pm) Marina boat harbor
#361 9/20/16 (12:24pm) Marina boat ramp
#362 9/20/16 (12:54pm) Marina boat harbor
#363 9/20/16 (9:55am) Marina boat ramp (pvc powder and pellets)
#364 9/21/16 (11:40am) Marina, Port Lavaca

* The following samples #365-448 were handed over from Ronnie Hamrick to Diane Wilson on Oct 18, 2016 at approximately 1:30pm at the Port Lavaca Marina. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#365 9/22/16 (9:55am) Marina boat harbor
#366 9/22/16 (10:11am) Marina boat ramp pier
#367 9/22/16 (10:45am) Marina boat harbor
#368 9/22/16 (11:15am) Marina memorial park
#369 9/22/16 (12:50pm) Marina memorial park
#370 9/22/16 (12:03pm) Marina memorial park
#371 9/22/16 (2:40pm) Point Comfort, by mercury warning sign
#372 9/22/16 (3:10pm) Cox Creek, north side of bridge
#373 9/22/16 (3:30pm) Cox Creek, south side
#374 9/22/16 (4:20pm) Holiday Express Inn (pellets and pvc powder)
#375 9/22/16 (4:20pm) Holiday Express Inn
#376 9/23/16 (8:53am) Marina boat harbor
#377 9/23/16 (9:10am) Marina boat ramp
#378 9/24/16 (8:55am) Marina boat harbor
#379 9/24/16 (9am) Marina boat ramp
#380 9/25/16 (1:29pm) Marina boat harbor
#381 9/25/16 (1:36pm) Marina memorial park
#382 9/25/16 (2:10pm) marina boat ramp (pellets and pvc powder)
#383 9/26/16 (4:58pm) Marina boat harbor
#384 9/26/16 (4:58pm) Marina boat harbor
#385 9/26/16 (4:58pm) Marina boat harbor
#386 9/26/16 (5:35pm) Marina and between Poor Boys
#387 9/26/16 (5:55PM) Marina and between Poor Boys (pvc powder)
#388 9/26/16 (5:45pm) Marina boat harbor (pellets and pvc powder)
#389 9/26/16 (6:26pm) Marina boat ramp (pellets and pvc powder)
#390 9/27/16 (10:45am) Marina boat harbor
#391 9/27/16 (11:51am) Marina boat ramp and piers
#392 9/27/16 (12:02pm) Marina playground water park (pellets and pvc powder)
#393 9/27/16 (12:15pm) Marina playground
#394 9/27/16 (12:27pm) Marina memorial park

#395 9/27/16 (5:24pm) Marina boat ramp
#396 9/27/16 (5:28pm) Marina boat harbor
#397 9/28/16 (12:50pm) Marina memorial park (pvc powder)
#398 9/28/16 (1:53pm) Harbor refuge
#399 9/28/16 (2:28pm) Harbor refuge
#400 9/28/16 (3:42pm) Marina Boat harbor
#401 9/28/16 (4:05pm) Marina boat harbor
#402 9/29/16 (11:22am) Marina boat harbor
#403 9/29/16 (11:43am) Marina memorial park
#404 9/30/16 (9:15am) Marina boat harbor
#405 9/30/16 (9:30am) Marina boat ramp piers
#406 9/30/16 (10am) Marina memorial park (pvc powder)
#407 10/1/16 (10:10am) Cox Creek, outfall to creek
#408 10/1/16 (10:28am) Cox Creek, south side bridge
#409 10/1/16 (11:05am) Cox Creek, 2143
#410 10/1/16 (1:05pm) Cox Creek, south side of bridge, state property
#411 10/1/16 (12:31pm) Cox Creek
#412 10/1/16 (5:14pm) Marina Boat harbor
#413 10/1/16 (5:33pm) Marina Boat ramp
#414 10/1/16 (6pm) Marina Memorial Park (pvc powder)
#415 10/3/16 (2:30pm) Cox Creek
#416 10/3/16 (2:43pm) North side Cox Creek, ditch, state property
#417 10/3/16 (3:01pm) Cox Creek
#418 10/3/16 (3:08pm) 2143 hwy 35, north drainage ditch
#419 10/3/16 (3:35pm) Cox Creek drainage ditch
#420 10/3/16 (4:30pm) North side causeway (pellets and pvc powder)
#421 10/3/16 (5:17pm) lighthouse beach front
#422 10/3/16 (5:38pm) lighthouse beach (pellets and pvc powder)
#423 10/3/16 (6:05pm) Lighthouse beach front (pellets and pvc powder)
#424 10/4/16 (2:15pm) Marina Boat harbor
#425 10/4/16 (3:48pm) Marina boat ramp
#426 10/4/16 (3:06pm) Marina boat ramp
#427 10/4/16 (4:30pm) Memorial Park
#428 10/5/16 (12:40pm) boat harbor marina
#429 10/5/16 (12:55pm) Marina Boat ramp
#430 10/6/16 (3:28pm) Marina boat ramp
#431 10/6/16 (2:18pm) Marina boat harbor
#432 10/8/16 (12:50pm) Cox Creek drainage ditch
#433 10/8/16 (12:10pm) Cox Creek, north side bridge
#434 10/8/16 (12:35pm) Cox Creek drainage ditch
#435 10/8/16 (12pm) Cox Creek
#436 10/10/16 (2:43pm) Marina boat harbor (pellets and pvc powder)
#437 10/10/16 (3:25pm) Marina boat ramp
#438 10/10/16 (3:55pm) Marina playground water park
#439 10/11/16 (3:10pm) Point Comfort, southside causeway
#440 10/11/16 (3:35pm) Cox Creek south side

#441 10/11/16 (6:06pm) Lighthouse beach front
#442 10/11/16 (6:22pm) Lighthouse beach front (pellets and pvc powder)
#443 10/11/16 (6:44pm) Lighthouse beach front (pvc powder)
#444 10/12/16 (10:51am) Marina boat ramp (pellets and pvc powder)
#445 10/12/16 (10:55am) Marina boat harbor
#446 10/12/16 (3:40pm) Martin Luther King Dr (pellets and pvc powder)
#447 10/12/16 (5:05pm) Lighthouse beachfront (pellets and pvc powder)
#448 10/12/16 (5:12pm) Point Comfort north side of freeway

* The following samples #449-532 were handed over from Ronnie Hamrick to Diane Wilson on November 10, 2016 at approximately 11am at Jack and Jill's parking lot outside Port Lavaca, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#449 10/16/16 (11:02am) Cox Creek south side
#450 10/16/16 (11:20am) Cox Creek
#451 10/16/16 (11:35am) Drainage ditch to culbert Cox Creek, Point Comfort
#452 10/16/16 (12noon) Hwy 35 South to Port Lavaca
#453 10/16/16 (1:25pm) North side causeway Holiday Express (pvc powder and pellets)
#454 10/16/16 (2:13pm) Lighthouse beachfront
#455 10/16/16 (2:38pm) Lighthouse beachfront (pvc powder)
#456 10/16/16 (3pm) Lighthouse beachfront (pvc powder and pellets)
#457 10/16/16 (4:10pm) Marina waterpark
#458 10/16/16 (4:10pm) Marina playground
#459 10/16/16 (4:26pm) Marina boat ramp
#460 10/16/16 (5:20pm) Marina boat harbor
#461 10/17/16 (1:20pm) Marina Boat harbor
#462 10/17/16 (1:53pm) Marina boat ramp
#463 10/18/16 (4:22pm) Marina boat harbor (pvc powder and pellets)
#464 10/19/16 (12:02pm) Marina boat harbor (pvc powder and pellets)
#465 10/19/16 (12:28pm) Marina boat ramp
#466 10/19/16 (12:40pm) Marina memorial park
#467 10/19/16 (4pm) Black Rock (pvc powder and pellets)
#468 10/20/16 (4pm) Marina boat ramp
#469 10/20/16 (4:23pm) Marina boat harbor
#470 10/21/16 (5pm) Marina boat harbor
#471 10/21/16 (5:25pm) Marina boat ramp
#472 10/21/16 (6pm) Marina memorial park (bottle of pvc powder)
#473 10/23/16 (1:46pm) Cox Creek
#474 10/23/16 (2:05pm) Cox Creek
#475 10/23/16 (2:35pm) 2143 E. to Olivia
#476 10/24/16 (12pm) Marina boat harbor
#477 10/24/16 (12:15pm) Marina boat ramp

#478 10/24/16 (12:35pm) Marina playground
 #479 10/24/16 (12:40pm) Marina playground
 #480 10/24/16 (1:49pm) Black Rock/MLK drive (pvc powder and pellets)
 #481 10/24/16 (2:41pm) Harbor refuge (pvc powder and pellets)
 #482 10/25/16 (12:02pm) Formosa main outfall (n side of causeway Holiday Express)
 #483 10/25/16 (12:05pm) Formosa main outfall (pvc powder and pellets)
 #484 10/25/16 (12:50pm) drainage ditch near Shellfish/Motel 6
 #485 10/25/16 (2:35pm) Lighthouse beachfront
 #486 10/26/16 (2:45pm) Marina boat harbor
 #487 10/26/16 (3:12pm) Marina boat ramp
 #488 10/26/16 (5pm) Marina playground
 #489 10/27/16 (12:10pm) Marina boat harbor
 #490 10/27/16 (12:45pm) Marina boat ramp
 #491 10/27/16 (1pm) Marina playground
 #492 10/27/16 (3:50pm) Indianola Beach at bait stand
 #493 10/28/16 (7:47am) Marina Boat ramp
 #494 10/28/16 (3:06pm) Marina boat ramp
 #495 10/29/16 (8:41am) Marina boat harbor (pellets and pvc powder)
 #496 10/29/16 (2:58pm) Marina memorial park (pvc powder)
 #497 10/29/16 (3:38pm) Marina boat ramp
 #498 10/29/16 (4pm) Marina playground
 #499 10/29/16 (4:24pm) Marina boat harbor
 #500 10/30/16 (5:02pm) Six Mile park boat ramp/pier (pvc powder and pellets)
 #501 10/31/16 (11:07am) From PL to Cox Creek, south side of bridge
 #502 10/31/16 (11:12am) from PL to Cox Creek, North side of bridge
 #503 10/31/16 (12:40pm) Marina going to memorial park(E side) (pvc powder)
 #504 10/31/16 (12:57pm) Marina boat ramp
 #505 10/31/16 (1:18pm) Marina boat harbor
 #506 11/01/16 (1pm) Six Mile park and pier (pvc powder)
 #507 11/01/16 (1:52pm) Marina boat harbor (pvc powder and pellets)
 #508 11/01/16 (2:27pm) Marina boat ramp
 #509 11/01/16 (3pm) Marina playground
 #510 11/01/16 (6:05pm) Six Mile boat ramp
 #511 11/02/16 (12:41pm) Six Mile boat ramp (pvc powder and pellets)
 #512 11/02/16 (1:56pm) Marina boat harbor
 #513 11/02/16 (2:37pm) Marina boat ramp (pellets and pvc powder)
 #514 11/03/16 (1:02pm) Marina boat harbor
 #515 11/03/16 (1:30pm) Marina boat ramp (pvc powder and pellets)
 #516 11/03/16 (noon) Marina boat ramp (pvc powder and pellets)
 #517 11/04/16 (11:08am) Marina boat harbor
 #518 11/05/16 (1:08pm) Marina boat ramp
 #519 11/05/16 (12:38pm) Marina boat harbor
 #520 11/05/16 (1:43pm) from Port Lavaca to Cox Creek, south side of road
 #521 11/05/16 (2:08pm) from Port Lavaca to Cox Creek, South side
 #522 11/05/16 (1:53pm) from Port Lavaca to Cox Creek, Left side

#523 11/06/16 (12:56pm) Marina boat ramp
#524 11/06/16 (12:56pm) Marina boat ramp
#525 11/06/16 (12:25pm) Marina (pellets and pvc powder)
#526 11/08/16 (10am) Marina boat ramp
#527 11/08/16 (10:25am) Marina boat harbor (pvc powder and pellets)
#528 11/09/16 (12:49pm) Marina boat ramp
#529 11/09/16 (1:47pm) Refuge harbor (pvc powder)
#530 11/09/16 (2:15pm) Refuge harbor
#531 11/09/16 (3:35pm) Black Rock
#532 11/09/16 (3:48pm) Black Rock

* The following samples #533-576 were handed over from Ronnie Hamrick to Diane Wilson on November 27, 2016 at approximately 11am at Dick's parking lot in Seadrift, Texas. All samples are pellets unless state otherwise. (VIDEOS TAKEN)

#533 11/10/16 (12:18pm) Refuge harbor, port Lavaca (pvc powder)
#534 11/10/16 (12:52pm) Refuge Harbor, Port Lavaca
#535 11/10/16 (3:15pm) 6 Mile Park pier/ boat ramp (pellets and pvc powder)
#536 11/10/16 (3:36pm) 6 Mile Park pier (pellets and pvc powder)
#537 11/11/16 (12:15pm) Marina Boat ramp (pvc powder and pellets)
#538 11/11/16 (12:31pm) Marina Boat ramp
#539 11/11/16 (1pm) Marina playground (pvc powder and pellets)
#540 11/11/16 (1:58pm) Memorial Park (pvc powder and pellets)
#541 11/11/16 (1:33pm) Memorial RV park (pvc powder)
#542 11/11/16 (2:46pm) Marina Boat harbor (pvc powder and pellets)
#543 11/14/16 (9:12am) 6 Mile boat ramp (pellets and pvc powder)
#544 11/14/16 (11:10am) Marina boat ramp
#545 11/14/16 (11:22am) Marina boat ramp (pellets and pvc powder)
#546 11/14/16 (noon) Marina park (pellets and pvc powder)
#547 11/14/16 (12:20pm) Marina
#548 11/15/16 (11:05am) Refuge harbor Port Lavaca
#549 11/15/16 (11:30am) Refuge harbor Port Lavaca
#550 11/15/16 (12noon) Black Rock Port Lavaca (pvc powder and pellets)
#551 11/15/16 (1:40pm) Marina boat ramp
#552 11/15/16 (2:20pm) Marina boat ramp (pvc powder and pellets)
#553 11/15/16 (2:30?pm) Marina boat ramp
#554 11/15/16 (2:35pm) Marina waterpark (pvc powder and pellets)
#555 11/16/16 (11am) 6 Mile park pier (pellets and pvc powder)
#556 11/16/16 (11:45am) Marina boat ramp
#557 11/16/16 (12:28pm) Marina boat ramp (pvc powder and pellets)

#558 11/16/16 (12:48pm) Marina boat harbor
#559 11/16/16 (4:30pm) Marina boat ramp
#560 11/17/16 (2:28pm) Marina Boat ramp Port Lavaca (pellets and pvc powder)
#561 11/17/16 (2:58pm) Marina boat ramp Port Lavaca
#562 11/17/16 (3:42pm) Marina Boat harbor Port Lavaca
#563 11/18/16 (11:02am) 6 Mile Park pier (pellets and pvc powder)
#564 11/19/16 (10:48am) Marina boat ramp Port Lavaca
#565 11/19/16 (12:15pm) Marina boat harbor Port Lavaca
#566 11/21/16 (12:15pm) 6 mile park pier (bottle of pvc powder)
#567 11/21/16 (12:46pm) 6 Mile park pier (pvc powder and pellets)
#568 11/21/16 (1:48pm) Marina Memorial Park (pvc powder and pellets)
#569 11/21/16 (5pm) Marina Boat harbor, PL (pellets and pvc powder)
#570 11/22/16 (1:05pm) Marina Boat harbor Port Lavaca (pvc powder and oil sheen)
#571 11/22/16 (3:33pm) Marina Boat ramp, Port Lavaca (pvc powder and pellets)
#572 11/23/16 (3:26pm) Marina Boat harbor, Port Lavaca
#573 11/23/16 (3:12pm) Marina Park, Port Lavaca
#574 11/24/16 (12 noon) 6 Mile park pier (pvc powder and pellets)
#575 11/24/16 (1:53 pm) Magnolia Beach
#576 11/24 16 (11:31am) Six Mile Boat ramp (2 bottles of pvc powder)

The following samples #577-597 were handed over from Ronnie Hamrick to Diane Wilson on December 1, 2016 at approximately 11am at Jack and Jill's outside Port Lavaca, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#577 11/12/16 (1:10pm) from Port Lavaca to Cox Creek, south side of bridge
#578 11/12/16 (1:15pm) from Port Lavaca to Cox Creek, north side of bridge
#579 11/19/16 (12:15pm) Cox Creek, south side
#580 11/19/16 (12:24pm) Cox Creek, north side of bridge
#581 11/19/16 (12:48pm) off highway 35 near Mercury warning, south side (pellets and powder)
#582 11/28/16 (12:38) Marina Boat ramp
#583 11/28/16 (1pm) Marina boat ramp, (bottle of pvc powder)
#584 11/28/16 (4:50?) Marina Boat Ramp (pellets and powder)
#585 11/28/16 (5pm) Marina Memorial park, lots of pvc powder
#586 11/29/16 (12:10pm) Marina boat harbor
#587 11/29/16 (12:30pm) Marina Boat ramp (pellets and pvc powder)
#588 11/29/16 (12:36pm) Marina boat ramp
#589 11/29/16 (1:26pm) Marina memorial park (pvc powder)
#590 11/29/16 (1:45pm) Marina memorial park (pvc powder and pellets)
#591 11/29/16 (1:45pm) Marina memorial park (pvc powder)
#592 11/29/16 (2:15pm) Marina playground (pellets and powder)

#593 11/29/16 (2:30pm) Black Rock (pellets and powder)
#594 11/29/16 (4:18pm) Six Mile Park, pier and boat ramp (pvc powder and pellets)
#595 11/30/16 (11:45am) Six Mile Park boat ramp and pier (pvc powder)
#596 11/30/16 (12:18pm) Six Mile Park pier and boat ramp
#597 12/1/2016 (11:40am) Magnolia Beach near rocks

The following samples #598- 644 were handed over from Ronnie Hamrick to Diane Wilson on December 13, 2016 at approximately 11am at Dick's parking lot in Seadrift, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#598 12/1/16 (2:18pm) Black Rock, PVC powder, Port Lavaca
#599 12/1/16 (2:47pm) Black Rock, PVC powder
#600 12/1/16 (3:25pm) Marina boat ramp, PL
#601 12/1/16 (3:39pm) Marina boat ramp, pellets and PVC powder
#602 12/1/16 (3:52 pm) Marina playground, pellets and PVC powder
#603 12/1/16 (5:05pm) Marina boat harbor, pellets and PVC powder
#604 12/2/16 (10:22am) Six Mile park pier, PVC powder and pellets
#605 12/2/16 (11:00am) Six Mile boat ramp, PVC powder
#606 12/2/16 (11:11am) Marina boat ramp, pellets and PVC powder
#607 12/2/16 (12:50pm) Marina boat harbor, pellets and PVC powder
#608 12/2/16 (1:20pm) Marina boat ramp, PL
#609 12/3/16 (11:48am) Marina boat harbor, PL
#610 12/3/16 (12:30pm) Marina playground, Port Lavaca
#611 12/3/16 (12:43pm) Marina boat ramp, PL
#612 12/3/16 (5:03pm) Marina boat ramp, PL
#613 12/4/16 (11:40am) Marina boat harbor, PL
#614 12/4/16 (11:50am) Marina boat ramp, PL
#615 12/4/16 (12:00am) Marina boat ramp, PL
#616 12/4/16 (1:41pm) Six Mile Park pier, PVC powder
#617 12/4/16 (3:28pm) Black Rock, PL
#618 12/5/16 (9:43am) Six Mile park pier, PVC powder and pellets
#619 12/5/16 (5:33pm) Marina playground, PL
#620 12/5/16 (5:38pm) Marina boat ramp, PL
#621 12/6/16 (9:02am) Black Rock, PVC powder and pellets
#622 12/6/16 (9:41am) Marina boat ramp, Port Lavaca
#623 12/6/16 (11:23am) Six Mile park pier, PVC powder
#624 12/6/16 (1:03pm) Marina boat harbor, PVC powder and pellets
#625 12/6/16 (2:34pm) Marina/memorial park, PVC powder and pellets

#626 12/7/16 (1:56pm) Harbor refuge, PVC powder
#627 12/7/16 (2:33pm) Harbor refuge, Port Lavaca
#628 12/7/16 (3:28pm) Marina memorial park, PVC powder
#629 12/7/16 (3:57pm) Marina memorial park, PVC powder and pellets
#630 12/8/16 (1:26pm) Six Mile park pier, PVC powder
#631 12/8/16 (1:30pm) Six Mile park, PVC powder
#632 12/8/16 (2:22pm) Marina, west side, PL
#633 12/8/16 (3:30pm) Marina boat harbor, PL
#634 12/8/16 (3:34pm) Marina boat ramp, PL
#635 12/8/16 (5:09pm) Marina memorial park, PVC powder
#636 12/9/16 (2:35pm) Marina memorial park, PVC powder
#637 12/9/16 (2:57pm) Marina boat ramp, PL
#638 12/9/16 (3:30pm) Black Rock, PVC powder and pellets
#639 12/9/16 (4:20pm) Six Mile park, PVC powder
#640 12/10/16 (2:54pm) Marina boat ramp, PL
#641 12/10/16 (3:11pm) Marina boat harbor, PL
#642 12/11/16 (5:07pm) Black Rock, PL
#643 12/11/16 (5:42pm) Marina boat ramp, PL
#644 12/12/16 (12:50pm) Marina boat ramp, PL

The following samples #645 -784 were handed over from Ronnie Hamrick to Diane Wilson on January 12, 2017 at approximately 11am at Dick's parking lot in Seadrift, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#645 12/13/16 (3:38pm) Marina Boat ramp, PL
#646 12/13/16 (3:50pm) Marina boat harbor, PL
#647 12/13/16 (4:02pm) Marina boat ramp, PL
#648 12/13/16 (4:21pm) Marina memorial park, pellets and PVC powder
#649 12/14/16 (8:10am) Marina boat ramp, PL
#650 12/14/16 (8:29am) Marina boat harbor, PL
#651 12/14/16 (1:30pm) Harbor refuge, PL
#652 12/14/16 (1:45pm) Black Rock, pellets and PVC powder
#653 12/15/16 (9:05am) Six Mile park pier, pellets and PVC powder
#654 12/15/16 (9:05am) Six Mile park pier, PVC powder
#655 12/15/16 (9:29am) Six Mile park pier, pellets and PVC powder
#656 12/15/16 (1:02pm) Marina Boat ramp, PL
#657 12/15/16 (1:20pm) Marina boat ramp, PL
#658 12/16/16 (11:48am) South side of Cox Creek, Point Comfort
#659 12/16/16 (11:54am) North side of Cox Creek, Point Comfort
#660 12/16/16 (12:08pm) culvert, drainage ditch, Point Comfort
#661 12/16/16 (2:34pm) Marina boat ramp, PL

#662 12/17/16 (7:49am) Marina boat ramp, PL
#663 12/17/16 (8:06am) Marina boat harbor, PL
#664 12/17/16 (8:31am) South side of Cox Creek, PC
#665 12/17/16 (8:50am) North side of Cox Creek, PC
#666 12/17/16 (9:06am) South side of causeway,
#667 12/17/16 (9:32am) North side of culvert under highway 35, Point Comfort
#668 12/17/16 (10:20am) North side of causeway, Port Lavaca
#669 12/17/16 (12:02pm) Marina boat ramp, PL
#670 12/17/16 (1:11pm) Six Mile park pier, pellets and PVC powder
#671 12/17/16 (4:18pm) Marina boat ramp, PL
#672 12/17/16 (4:35pm) Marina boat harbor, PL
#673 12/18/16 (12:19pm) Marina boat ramp, PL
#674 12/18/16 (1:15pm) South side of Cox Creek, PC
#675 12/18/16 (1:24pm) North side of Cox Creek, Point Comfort
#676 12/18/16 (1:36pm) South side of Cox Creek, Point Comfort
#677 12/18/16 (1:42pm) South side of Cox Creek, PC
#678 12/21/16 (12:34pm) South side of Cox Creek, Point Comfort
#679 12/21/16 (12:42pm) North side of Cox Creek, PC
#680 12/21/16 (2:23pm) Marina boat harbor, PL
#681 12/21/16 (2:50pm) Marina boat ramp, PL
#682 12/21/16 (3:10pm) Marina boat ramp, PL
#683 12/22/16 (12 noon) South side of Cox Creek, Point Comfort
#684 12/22/16 (12:09pm) North side of Cox Creek, PC
#685 12/22/16 (12:48pm) North side of causeway, Port Lavaca (pellets and PVC powder)
#686 12/22/16 (1:22pm) Marina boat harbor, PL
#687 12/22/16 (1:22pm) Marina, PL
#688 12/22/16 (2:20pm) Marina boat ramp, PL
#689 12/23/16 (9:47am) Cox Creek, south side, Point Comfort
#690 12/23/16 (9:53am) Cox Creek, north side, Point Comfort
#691 12/23/16 (10:23am) Marina boat harbor, PL
#692 12/23/16 (10:41am) Marina boat ramp, PL
#693 12/23/16 (3:24pm) Marina boat harbor, PL
#694 12/23/16 (3:52pm) Marina boat ramp, PL
#695 12/24/16 (1:40pm) Lone Star RV park, south side, PL (pellets and PVC powder)
#696 12/24/16 (12:12pm) South side of Cox Creek, Point Comfort
#697 12/24/16 (12:20pm) North side of Cox Creek, PC
#698 12/24/16 (1:02pm) Marina Boat harbor, PL
#699 12/24/16 (1:12pm) Marina boat ramp, PL
#700 12/25/16 (11:36am) Marina boat harbor, PL
#701 12/25/16 (12:02pm) Marina boat harbor, right side, PL, pellets and PVC powder
#702 12/25/16 (12:20pm) Marina boat ramp, PL
#703 12/25/16 (2:48pm) Six Mile Park pier, pellets and PVC powder
#704 12/26/16 (11:58am) South side of Cox Creek, Point Comfort

#705 12/26/16 (12:04pm) North side of Cox Creek, Point Comfort
 #706 12/26/16 (12:33pm) North side of causeway, Port Lavaca, pellets and PVC powder
 #707 12/26/16 (1:52pm) Marina boat ramp, PL
 #708 12/27/16 (11:33am) Marina boat ramp, PL
 #709 12/28/16 (10:09am) South side of Cox Creek, Point Comfort
 #710 12/28/16 (10:16am) North side of causeway, PL
 #711 12/28/16 (10:43am) South side of Causeway, PL, pellets and PVC powder
 #712 12/28/16 (11:07am) North side of Causeway, PL, pellets and PVC powder
 #713 12/28/16 (12:27pm) Marina boat harbor, PL
 #714 12/28/16 (1:47pm) Marina boat ramp, PL
 #715 12/28/16 (2:39pm) Marina boat ramp, PL
 #716 12/28/16 (2:47pm) Marina boat harbor, PL, pellets and PVC powder
 #717 12/28/16 (3:55pm) Marina boat ramp, PL
 #718 12/29/16 (9:52am) Marina Boat harbor, PL
 #719 12/29/16 (12:18pm) north side of Black Rock, pellets and pvc powder
 #720 12/29/16 (2:22pm) Black Rock, MLK drive
 #721 12/29/16 (2:49pm) Marina boat ramp, PL
 #722 12/29/16 (3:30pm) Black Rock, PL
 #723 12/29/16 (4:18pm) Six Mile Park pier, PVC powder, Port Lavaca
 #724 12/30/16 (11:58am) South side of Cox Creek, Point Comfort
 #725 12/30/16 (12:04pm) North side of Cox Creek, Point Comfort
 #726 12/30/16 (12:20pm) South side of Causeway at Mercury warning sign, Point Comfort
 #727 12/30/16 (3:37pm) Marina Boat harbor, PL
 #728 12/31/16 (9:48am) 6 Mile Park pier boat ramp
 #729 12/31/16 (11:12am) Marina boat ramp
 #730 12/31/16 (11:16am) Marina boat harbor, Port Lavaca
 #731 12/31/16 (1:48pm) Cox Creek
 #732 12/31/16 (1:57pm) Cox Creek (north side, gate 6),
 #733 12/31/16 (2:19pm) North side of causeway, Port Lavaca
 #734 12/31/16 (2:38pm) North side of causeway, Port Lavaca
 #735 12/31/16 (4:26pm) Black Rock, MLK Drive, Port Lavaca
 #736 12/31/16 (5:06 pm) Marina boat harbor, Port Lavaca
 #737 1/1/17 (12:35pm) Marina boat ramp, PL
 #738 1/1/17 (1:13pm) Boat harbor marina, PL
 #739 1/2/17 (10:28am) Marina playground Park, PL
 #740 1/2/17 (10:46am) Marina boat ramp, PL
 #741 1/2/17 (11:11am) Marina boat harbor, PL
 #742 1/2/17 (1:01pm) Cox Creek, South side, Point Comfort
 #743 1/2/17 (1:12pm) Cox Creek, north side, gate 6
 #744 1/2/17 (1:44pm) North side of Causeway, Port Lavaca
 #745 1/2/17 (2:22pm) Black Rock, MLK Drive, Port Lavaca
 #746 1/2/17 (3:01pm) Black Rock, PL
 #747 1/3/17 (10:14am) Marina Boat ramp, PL
 #748 1/3/17 (10:57am) Boat harbor, PL

#749 1/3/17 (2:22pm) Six Mile Park pier, pellets and PVC powder, Port Lavaca
 #750 1/4/17 (10:30am) Marina boat harbor
 #751 1/04/17 (10:45am) Marina boat harbor
 #752 1/4/17 (1:15pm) South side Cox Creek, Point Comfort
 #753 1/4/17 (1:23pm) North side Cox Creek, Point Comfort
 #754 1/4/17 (2:11pm) North side of causeway, Port Lavaca
 #755 1/4/17 (2:32pm) North side of causeway, Port Lavaca
 #756 1/4/17 (3:07pm) Black Rock, PL
 #757 1/4/17 (3:30pm) Cox Creek drainage ditch, Point Comfort
 #758 1/5/17 (2:24pm) Marina Boat ramp, PL
 #759 1/5/17 (3:06pm) Marina boat harbor, PL
 #760 1/6/17 (12:35pm) Marina park playground, PL
 #761 1/6/17 (12:47pm) Marina boat harbor, PL
 #762 1/6/17 (2:10pm) Cox Creek, south side, Point Comfort
 #763 1/6/17 (2:17pm) Cox Creek, North side, Point Comfort
 #764 1/6/17 (2:52pm) North side of causeway, Port Lavaca
 #765 1/7/17 (5:34pm) Marina boat harbor, west side of pier, PL
 #766 1/7/17 (5:43pm) Marina park playground, PL
 #767 1/8/17 (1:07pm) South side Cox Creek, Point Comfort
 #768 1/8/17 (1:16pm) North side, Cox Creek, Point Comfort
 #769 1/08/17 (1:57pm) North side of Causeway, Port Lavaca, PVC powder and pellets
 #770 1/08/17 (2:30pm?) Martin Luther King Drive
 #771 1/8/17 (4:25pm) Marina boat ramp, PL
 #772 1/8/17 (4:55pm) Marina boat harbor, PL
 #773 1/9/17 (1:15pm) Marina boat ramp, west side of pier, PL
 #774 1/9/17 (1:47pm) Marina boat harbor, PL
 #775 1/9/17 (5:50pm) Marina boat harbor, PL
 #776 1/10/17 (1:46pm) Marina boat ramp, PL
 #777 1/10/17 (2:30pm) Marina boat harbor, pellets and PVC powder
 #778 1/11/17 (12:21pm) South side of Cox Creek, PC
 #779 1/11/17 (12:33pm) North side of Cox Creek, PC
 #780 1/11/17 (1:24pm) North side of causeway, PL
 #781 1/11/17 (1:48pm) North side of causeway, Port Lavaca, PVC powder
 #782 1/11/17 (2:22pm) Marina boat ramp, PL
 #783 1/11/17 (3:07pm) Marina boat harbor, pellets and PVC powder
 #784 1/11/17 (3:30pm) Marina boat harbor, pellets and PVC powder

The following samples #785- 880 were handed over from Ronnie Hamrick to Diane Wilson on February 7, 2017 at approximately 2pm at Dick's parking lot in Seadrift, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#785 1/12/17 (3:02pm) Marina boat ramp
#786 1/12/17 (3:47pm) Marina boat harbor, PVC powder and pellets
#787 1/12/17 (4:20pm) South side of bridge, Cox Creek
#788 1/12/17 (4:24pm) North side of bridge, Cox Creek
#789 1/12/17 (4:56pm) Black Rock
#790 1/12/17 (5:pm) Black Rock
#791 1/13/17 (1:48pm) Marina boat harbor
#792 1/13/17 (2:21pm) Marina boat ramp
#793 1/13/17 (2:56pm) Marina playground
#794 1/14/17 (12:04pm) Marina Boat ramp
#795 1/14/17 (12:45pm) Marina boat harbor, PVC powder and pellets
#796 1/14/17 (3:36pm) Black Rock
#797 1/14/17 (3:44pm) Black Rock
#798 1/15/17 (11:20am) Marina boat ramp
#799 1/15/17 (12:09pm) Marina boat harbor
#800 1/15/17 (5:33pm) Marina boat ramp
#801 1/16/17 (9:18am) Marina boat harbor, PVC powder and pellets
#802 1/16/17 (10:33am) Marina boat ramp, PVC powder and pellets
#803 1/16/17 (10:47am) Marina Boat Ramp
#804 1/16/17 (11:51am) Marina Boat harbor, PVC powder and pellets
#805 1/16/17 (1:47pm) Marina boat ramp, PVC powder and pellets
#806 1/16/17 (2:44pm) Marina boat harbor, PVC powder and pellets
#807 1/16/17 (4:53pm) Marina boat harbor, PVC powder and pellets
#808 1/17/17 (8:32am) Marina boat ramp
#809 1/17/17 (9:18am) Marina boat harbor, PVC powder and pellets
#810 1/17/17 (12:38pm) Marina boat ramp
#811 1/17/17 (2:13pm) South side of bridge, Cox Creek
#812 1/17/17 (2:33pm) North side of bridge, Cox Creek
#813 1/17/17 (3:44pm) North side of causeway, Port Lavaca
#814 1/17/17 (3:54 pm) North side of causeway, Port Lavaca, PVC powder and pellets
#815 1/18/17 (1:51pm) Marina boat harbor
#816 1/18/17 (2:24pm) Marina boat harbor
#817 1/19/17 (12:38pm) Six Mile park and pier
#818 1/19/17 (1:06pm) Six Mile park and pier, PVC powder
#819 1/19/17 (2:33pm) Marina boat ramp
#820 1/19/17 (3:53pm) Marina boat harbor
#821 1/20/17 (10:46am) South side of bridge, Cox Creek
#822 1/20/17 (10:55am) North side of bridge, Cox Creek
#823 1/20/17 (11:14am) South side causeway near Alcoa warning
#824 1/20/17 (12:18pm) South side, Cox Creek
#825 1/20/17 (1:49pm) Marina boat ramp
#826 1/20/17 (1:57pm) Marina boat ramp
#827 1/20/17 (2:28pm) Marina boat harbor

#828 1/22/17 (10:59am) Six Mile park and pier
#829 1/22/17 (2:08pm) Marina boat harbor
#830 1/23/17 (12 pm) Black Rock
#831 1/23/17 (5:51pm) Marina boat harbor
#832 1/24/17 (10:05am) South side of bridge, Cox Creek
#833 1/24/17 (10:15am) North side of bridge, Cox Creek
#834 1/24/17 (10:59am) Lighthouse beach front, Port Lavaca
#835 1/24/17 (11:41am) Lighthouse beach front, PVC powder and pellets
#836 1/24/17 (12:56pm) Lighthouse beach front, Port Lavaca
#837 1/24/17 (1:24pm) Lighthouse beach front, Port Lavaca
#838 1/24/17 (1:54pm) North side of causeway, Port Lavaca
#839 1/24/17 (2:07pm) North side of causeway, PVC powder
#840 1/24/17 (2:35pm) Marina boat ramp
#841 1/25/17 (11:19am) Marina boat harbor
#842 1/25/17 (4:53pm) Marina boat harbor
#843 1/25/17 (5:22pm) Marina boat ramp
#844 1/26/17 (1:18pm) South side of bridge, Co Creek
#845 1/26/17 (1:26pm) North side of bridge, Cox Creek
#846 1/26/17 (1:57pm) North side of causeway, Port Lavaca
#847 1/26/17 (2:36pm) North side of causeway, Port Lavaca, PVC powder
#848 1/26/17 (3:16pm) Marina Boat harbor
#849 1/26/17 (4:30pm) Marina boat ramp
#850 1/26/17 (4:48pm) Black Rock, MLK drive
#851 1/26/17 (4:58pm) Black Rock
#852 1/27/17 (2:22pm) Marina Boat ramp
#853 1/27/17 (2:22 pm) Marina boat ramp
#854 1/27/17 (3:05pm) Marina playground
#855 1/27/17 (3:25pm) Marina boat harbor
#856 1/27/17 (4:03pm) Marina Boat ramp
#857 1/28/17 (11:06am) Six Mile Park pier
#858 1/28/17 (11:23am) Six Mile park pier
#859 1/28/17 (11:57am) Six mile park pier, PVC powder
#860 1/28/17 (3:58pm) Marina boat ramp
#861 1/29/17 (12:12pm) South side of bridge, Cox Creek
#862 1/29/17 (12:38pm) North side of bridge, Cox Creek
#863 1/29/17 (12:58pm) North side of Cox Creek
#864 1/29/17 (1:52pm) North side of causeway, Port Lavaca
#865 1/29/17 (2:14pm) North side of bridge, Cox Creek, PVC powder
#866 1/29/17 (2:23pm) South side of bridge, Cox Creek
#867 1/29/17 (2:50pm) Boat harbor, right side of road, Port Lavaca
#868 1/29/17 (3:31pm) Marina boat ramp
#869 1/30/17 (12:19pm) North side of bridge, Cox Creek
#870 1/30/17 (12:30pm) North side of bridge, Cox Creek
#871 1/30/17 (12:33pm) North side of bridge, Cox Creek
#872 1/30/17 (12:42pm) South side of bridge, Cox Creek
#873 1/30/17 (1:38pm) South side of causeway, health warning sign,

#874 1/30/17 (1:54pm) South side of causeway, PVC powder, pellets
#875 1/30/17 (3:10pm) Black Rock
#876 1/30/17 (3:29pm) Marina Boat ramp
#877 1/30/17 (3:45pm) Black Rock
#878 1/30/17 (4:20pm) Marina boat ramp
#879 1/30/17 (4:36pm) Marina boat ramp
#880 1/31/17 (2:39pm) Marina boat ramp

The following samples #881-963 were handed over from Ronnie Hamrick to Diane Wilson on February 23, 2017 at approximately 2pm at the Marina in Port Lavaca, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#881 2/7/17 (11:08am) Marina boat harbor
#882 2/7/17 (12pm) Marina boat ramp
#883 2/7/17 (3:40pm) Marina boat ramp
#884 2/7/17 (3:40pm) Marina boat ramp
#885 2/8/17 (9:56am) Marina Boat ramp
#886 2/8/17 (10:30am) Marina park playground
#887 2/8/17 (11:22am) Marina Boat harbor
#889 2/8/17 (1:30pm) Six Mile boat ramp, PVC powder and pellets
#890 2/8/17 (1:36pm) Six Mile park pier
#891 2/8/17 (3:24pm) Cox Creek, north side of bridge
#892 2/8/17 (3:24pm) Cox Creek, south side
#893 2/8/17 (3:25pm) Cox Creek, south side
#894 2/8/17 (3:43pm) Cox Creek, North side
#895 2/8/17 (4:09pm) North side of Causeway, Port Lavaca side, PVC powder and pellets
#896 2/8/17 (4:09pm) North side of causeway, Port Lavaca side, PVC powder and pellets
#897 2/8/17 (4:09pm) North side of causeway, Port Lavaca side, PVC powder and pellets
#898 2/8/17 (4:36pm) Marina Boat ramp
#899 2/9/17 (12:43pm) Marina boat harbor
#900 2/9/17 (3:38pm) Marina Boat harbor
#901 2/10/17 (2:30pm) Marina boat harbor, PVC powder and pellets
#902 2/10/17 (3:15pm) Marina Boat ramp
#903 2/11/17 (2:49pm) Marina boat ramp
#904 2/11/17 (3:14pm) Marina boat harbor, PVC powder and pellets
#905 2/12/17 (9:07am) Cox Creek, South side of bridge
#906 2/12/17 (9:16am) Cox Creek, North side of bridge, Gate 6

#907 2/12/17 (9:16am) Cox Creek, south side of bridge
#908 2/12/17 (9:35am) Cox Creek, North side of bridge
#909 2/12/17 (9:57am) North side of causeway, Port Lavaca side, PVC powder
#910 2/12/17 (9:57am) North side of causeway, Port Lavaca side, PVC powder
#911 2/12/17 (11:10am) Marina boat ramp
#912 2/12/17 (11:33am) Marina boat harbor, PVC powder and pellets
#913 2/13/17 (12:02pm) Cox Creek, South side of bridge
#914 2/13/17 (12:29pm) Cox Creek, North side, gate 6
#915 2/13/17 (1:33pm) Marina boat ramp, Port Lavaca
#916 2/13/17 (1:53pm) Marina boat harbor, PVC powder and pellets
#917 2/13/17 (2:08pm) Cox Creek, South side (bucket)
#918 2/13/17 (2:08pm) Cox Creek, south side
#919 2/13/17 (2:19pm) Cox Creek, North side of bridge, gate 6
#920 2/13/17 (4:26pm) Six Mile park pier, PVC powder and pellets
#921 2/14/17 (10:31am) Marina boat ramp
#922 2/14/17 (11:02am) North side of causeway, Port Lavaca side, PVC powder
#923 2/14/17 (11:30am) Marina boat harbor
#924 2/14/17 (12:18pm) North side of Causeway
#925 2/15/17 (11:33am) Marina boat ramp
#926 2/15/17 (12pm) Marina boat harbor
#927 2/15/17 (1:33pm) Memorial park, north side of flags, Port Lavaca
#928 2/15/17 (2:10pm) Black Rock, MLK drive, Port Lavaca
#929 2/15/17 (3:38pm) Black Rock, PVC powder and pellets (box)
#930 2/15/17 (3:38pm) Black Rock, PVC powder and pellets (box)
#931 2/15/17 (3:38pm) Black Rock, PVC powder and pellets (box)
#932 2/15/17 (3:38pm) Black Rock, PVC powder and pellets (box)
#933 2/16/17 (4:32pm) Marina boat ramp, Port Lavaca
#934 2/16/17 (4:55pm) Marina boat harbor, PVC powder and pellets
#935 2/17/17 (10:28am) Cox Creek, south side of bridge
#936 2/17/17 (10:45am) Cox Creek, north side, ditch
#937 2/17/17 (10:57am) Cox Creek, north side of bridge, gate six
#938 2/17/17 (11:29am) North side of causeway, Point Comfort
#939 2/17/17 (12:02) North side of causeway, Point Comfort, PVC powder and pellets
#940 2/17/17 (2:20pm) Marina boat harbor
#941 2/17/17 (2:38am) Cox Creek, south side of bridge
#942 2/17/17 (2:42pm) Marina boat ramp
#943 2/18/17 (11:08am) Marina boat harbor
#944 2/18/17 (11:33am) Marina boat harbor
#945 2/18/17 (11:58am) Marina boat ramp
#946 2/18/17 (4:04pm) Marina boat harbor
#947 2/18/17 (4:28pm) Marina boat ramp
#948 2/18/17 (4:58pm) Marina boat harbor
#949 2/19/17 (2:15pm) Marina boat harbor
#950 2/19/17 (2:37pm) Marina boat ramp
#951 2/20/17 (10:44am) Marina boat harbor

#952 2/20/17 (11:07am) Marina boat ramp
#953 2/20/17 (12:35pm) North side of causeway, Port Lavaca (trash can)
#954 2/20/17 (2:08pm) North side of causeway, PVC powder (bottle)
#955 2/20/17 (2:58pm) Six Mile park pier, PVC powder and pellets (bottle)
#956 2/21/17 (8:53am) Marina boat harbor
#957 2/21/17 (9:19am) Marina boat harbor
#958 2/21/17 (9:42am) Marina boat ramp
#959 2/21/17 (10:18am) Cox Creek, south side of bridge
#960 2/21/17 (10:30am) Cox Creek, north side of bridge, gate 6
#961 2/21/17 (11:02am) North side of causeway,
#962 2/21/17 (3:15pm) Marina boat ramp
#963 2/22/17 (12:35pm) Marina boat harbor

The following samples #964-1044 were handed over from Ronnie Hamrick to Diane Wilson on March 13, 2017 at approximately 2pm at Dicks in Seadrift, Texas. All samples are pellets unless stated otherwise. (VIDEOS TAKEN)

#964 2/23/17 (10:45am) Cox Creek, North side
#965 2/23/17 (1:20pm) Marina boat harbor
#966 2/23/17 (1:53pm) Marina boat ramp
#967 2/23/17 (2:51pm) Marina boat harbor
#968 2/24/17 (10:18am) Cox creek, south side
#969 2/24/17 (11:33am) North side of causeway, PL
#970 2/24/17 (12:38pm) Marina boat harbor
#971 2/25/17 (12:05pm) Marina boat harbor
#972 2/26/17 (11:02am) Cox Creek, south side
#973 2/26/17 (11:09am) Cox Creek, north side
#974 2/26/17 (11:39am) North side of causeway, PL
#975 2/26/17 (11:48am) North side of causeway, PL, PVC powder
#976 2/26/17 (11:54am) North side of causeway, Port Lavaca, pvc powder
#977 2/26/17 (2pm) Marina boat harbor
#978 2/26/17 (2:25pm) Marina boat harbor
#979 2/26/17 (2:25pm) Marina boat harbor
#980 2/26/17 (2:50pm) Marina boat harbor
#981 3/26/17 (3:12pm) Marina boat ramp
#982 2/26/17 (3:27pm) Marina boat ramp
#983 2/27/17 (10:37am) Marina boat harbor
#984 2/27/17 (11:30am) Marina boat ramp
#985 2/27/17 (12:55pm) Marina boat harbor
#986 2/27/17 (3:28pm) Marina boat ramp
#987 2/28/17 (11:57am) Marina boat harbor, PVC powder and pellets

#988 2/28/17 (1:25pm) Marina boat harbor
#989 2/28/17 (1:38pm) Marina boat ramp
#990 3/1/17 (11:13am) South side of Cox Creek
#991 3/1/17 (11:22am) North side of Cox Creek
#992 3/1/17 (11:57am) North side of causeway, PL
#993 3/1/17 (12:10pm) North side of causeway, Port Lavaca, PVC powder and pellets
#994 3/1/17 (1:04pm) Marina boat harbor, PVC powder and pellets
#995 3/1/17 (1:57pm) Marina boat ramp
#996 3/2/17 (10:02am) Marina boat harbor, pvc powder and pellets
#997 3/2/17 (10:37am) Marina boat ramp
#998 3/2/17 (11:27am) Marina playground
#999 3/2/17 (11:43am) Marina boat harbor
#1000 3/2/17 (1pm) Six Mile park pier
#1001 3/2/17 (1:22pm) Six Mile park pier, pellets and PVC powder
#1002 3/2/17 (4:45pm) marina boat harbor
#1003 3/3/17 (11:26am) marina boat harbor
#1004 3/3/17 (11:35am) marina boat harbor, PVC powder and pellets
#1005 3/3/17 (11:53am) marina boat ramp
#1006 3/3/17 (2:07pm) Six Mile park pier/ramp, pellets and PVC powder
#1007 3/3/17 (2:07pm) Six mile park /ramp, pellets and pvc powder
#1008 3/4/17 (4:35pm) Marina boat ramp
#1009 3/4/17 (4:55pm) Marina boat harbor, pellets and PVC powder
#1010 3/5/17 (11:41am) Marina boat ramp
#1011 3/5/17 (12:10pm) Marina boat ramp, PVC powder and pellets
#1012 3/6/17 (4:15pm) Marina boat harbor
#1013 3/6/17 (4:57pm) Marina boat ramp
#1014 3/6/17 (5:20pm) Memorial park marina
#1015 3/6/17 (5:44pm) Marina memorial park, PVC powder
#1016 3/7/17 (11:28am) Marina boat harbor, PVC powder and pellets
#1017 3/7/17 (12:56pm) Marina boat ramp
#1018 3/7/17 (3:52pm) Marina boat harbor
#1019 3/8/17 (12:43pm) Cox Creek, south side
#1020 3/8/17 (12:53pm) Cox Creek, north side
#1021 3/8/17 (1:16pm) Cox Creek, left side, flood gate
#1022 3/8/17 (2:09pm) North side of causeway, PL
#1023 3/8/17 (2:17pm) North side of cause, PL, pvc powder in bottle
#1024 3/8/17 (2:17pm) North side of causeway, PL, PVC powder in bottle
#1025 3/8/17 (2:17pm) North side of causeway, PL, PVC powder
#1026 3/8/17 (2:55pm) Marina boat harbor, PVC powder and pellets
#1027 3/8/17 (3:05pm) Marina boat harbor
#1028 3/8/17 (3:30pm) Marina boat ramp
#1029 3/9/17 (10:29am) Marina boat harbor
#1030 3/9/17 (11:04am) Marina boat ramp
#1031 3/9/17 (12:17pm) Marina memorial park, PVC powder
#1032 3/9/17 (1:17pm) Six Mile park pier

#1033 3/10/17 (11:50am) Cox Creek, north side
#1034 3/10/17 (12:04pm) Cox Creek, south side
#1035 3/10/17 (12:38pm) North side causeway, PL
#1036 3/10/17 (1:04pm) north side of causeway, PL
#1037 3/10/17 (1:09pm) north side of causeway, PL PVC powder (bottle)
#1038 3/10/17 (1:09pm) north side of causeway, PL, PVC powder
#1039 3/10/17 (2:57pm) Marina boat harbor, PVC powder and pellets
#1040 3/10/17 (3:38pm) Marina boat ramp
#1041 3/11/17 (1:43pm) Marina boat harbor
#1042 3/11/17 (4:08pm) Marina boat harbor
#1043 3/12/17 (12:28pm) Marina boat ramp
#1044 3/12/17 (12:54pm) Marina boat harbor

The following samples #1045-1046 were handed from Dale Jurasek to Diane Wilson via text photos on cell phone at 5:33pm on March 23, 2017 (Photos taken). All are pellets unless stated otherwise

#1045 3/6/17 (1:30 pm) Black Rock, Port Lavaca
#1046 3/14/17 (12:10pm) Port O'Connor jetties

The following samples #1047-1163 were handed from Ronnie Hamrick to Diane Wilson on April 22, 2017 at 2pm at Dick's grocery store in Seadrift, Texas. All samples are pellets unless stated otherwise. (Videos taken)

#1047 3/13/17 (4:02pm) Marina boat ramp
#1048 3/13/17 (4:58pm) Marina boat harbor
#1049 3/13/17 (5:18pm) Marina memorial park, PVC powder
#1050 3/13/17 (5:36pm) Marina boat harbor
#1051 3/14/17 (12:16pm) Six Mile park pier, PVC powder (bottle)
#1052 3/14/17 (12:25pm) Six Mile park pier,
#1053 3/14/17 (12:44pm) Six Mile park pier, PVC powder
#1054 3/14/17 (1:02pm) Marina boat ramp
#1055 3/16/17 (12:59pm) Marina boat harbor, PVC powder
#1056 3/16/17 (1:32pm) Marina boat ramp
#1057 3/16/17 (4:34pm) Marina boat ramp
#1058 3/17/17 (11:39am) Cox Creek, S
#1059 3/17/17 (11:53am) Cox Creek, N
#1060 3/17/17 (12:14pm) Cox Creek, drainage ditch to Olivia
#1061 3/17/17 (1:26pm) North side of causeway, Port Lavaca side,
#1062 3/17/17 (1:51pm) North side of causeway, Port Lavaca side, PVC powder

#1063 3/17/17 (2:08pm) North side of causeway, Port Lavaca, PVC powder
#1064 3/17/17 (3:19pm) Marina boat harbor
#1065 3/17/17 (3:42pm) Marina boat harbor, PVC powder
#1066 3/17/17 (4:42pm) Marina boat ramp
#1067 3/18/17 (1:49am) Marina boat harbor, PVC powder and pellets
#1068 3/18/17 (2:22pm) Marina boat ramp
#1069 3/19/17 (1:12pm) Marina boat harbor
#1070 3/19/17 (2:10pm) Marina boat ramp
#1071 3/20/17 (1:40pm) Marina boat harbor
#1072 3/21/17 (1pm) Marina boat ramp
#1073 3/22/17 (4:44pm) Marina boat harbor
#1074 3/23/17 (1:25pm) Marina boat harbor
#1075 3/23/17 (1:35pm) boardwalk, Port Lavaca,
#1076 3/24/17 (7:28am) Marina boat harbor
#1077 3/24/17 (8:27am) Marina boat ramp
#1078 3/24/17 (1:32pm) Marina boat ramp
#1079 3/25/17 (7:21am) Marina boat harbor, pellets and pvc powder
#1080 3/25/17 (7:58am) Marina boat harbor, PVC powder
#1081 3/26/17 (1:32pm) Marina boat harbor, PVC powder
#1082 3/26/17 (3:13pm) Marina boat ramp
#1083 3/26/17 (3:38pm) Marina boat ramp
#1084 3/28/17 (7:42am) Point Comfort, Mercury contamination sign
#1085 3/28/17 (8:17am) Cox Creek, S
#1086 3/28/17 (10:23am) Marina boat ramp
#1087 3/28/17 (4:23pm) Marina boat ramp
#1088 3/28/17 (5:02pm) Marina boat ramp
#1089 3/28/17 (5:33pm) Marina boat harbor, PVC powder and pellets
#1090 3/29/17 (10:11am) Marina boat ramp
#1091 3/29/17 (10:47am) Marina boat ramp
#1092 /29/17 (11:15am) Marina playground
#1093 3/29/17 (11:30am) Marina playground
#1094 3/31/17 (9:50am) Six Mile park pier, PVC powder and pellets
#1095 3/31/17 (11:42am) Marina boat ramp
#1096 4/1/17 (11:42am) Marina boat ramp
#1097 4/1/17 (1:25pm) Marina memorial park, PVC powder and pellets (bottle)
#1098 4/1/17 (2:39pm) Marina memorial park, PVC powder and pellets (bottle)
#1099 4/1/17 (3:44pm) Marina boat harbor
#1100 4/2/17 (10:22am) Marina boat ramp
#1101 4/2/17 (10:43am) Marina boat ramp,
#1102 4/2/17 (10:58am) Marina boat ramp
#1103 4/2/17 (11:38am) Marina boat harbor
#1104 4/2/17 (4:32pm) Six Mile park pier, PVC powder and pellets
#1105 4/2/17 (5:14pm) Six Mile park pier, PVC powder and pellets (bottle and bag)
#1106 4/2/17 (5:38pm) Six Mile park pier, PVC powder and pellets
#1107 4/3/17 (11:50am) Marina boat ramp
#1108 4/3/17 (12:45pm) Marina boat ramp

#1109 4/3/17 (4:43pm) Six Mile park pier
#1110 4/4/17 (11:09am) Cox Creek, N
#1111 4/4/17 (11:25am) Cox Creek, N (ditch or easement)
#1112 4/4/17 (1:01pm) Point Comfort park pier
#1113 4/4/17 (2:13pm) North side of causeway, Holiday Inn(S)
#1114 4/4/17 (2:21pm) South side of causeway near Light house beach
#1115 4/4/17 (2:33pm) North side of causeway, PVC powder and pellets
#1116 4/4/17 (4:11pm) Six Mile park pier
#1117 4/4/17 (4:44pm) Six Mile park pier, PVC powder (bottle)
#1118 4/4/17 (5:15pm) Six Mile park pier, PVC powder and pellets
#1119 4/5/17 (11:03am) Cox Creek, N
#1120 4/5/17 (11:58am) Cox Creek, N
#1121 4/5/17 (12:02pm) North side of causeway, Holiday Inn (S) PVC powder
#1122 4/6/17 (11:15am) Cox Creek, N
#1123 4/6/17 (11:25am) Cox Creek, state easement
#1124 4/7/17 (11:49am) Marina boat harbor, PVC powder and pellets
#1125 4/7/17 (12:20pm) Cox Creek, N
#1126 4/7/17 (12:29pm) Cox Creek, N
#1127 4/7/17 (12:55pm) Point Comfort park pier
#1128 4/7/17 (1:31pm) Marina boat ramp
#1129 4/7/17 (3:57pm) Marina boat harbor
#1130 4/7/17 (5:07pm) Marina boat ramp
#1131 4/8/17 (10:25am) Marina boat harbor
#1132 4/8/17 (10:45am) Marina boat ramp
#1133 4/8/17 (11:25am) Cox Creek, N
#1134 4/8/17 (11:55am) Cox Creek, N
#1135 4/8/17 (12:05pm) Point Comfort park pier
#1136 4/8/17 (1:30pm) Marina boat harbor
#1137 4/8/17 (1:49pm) Marina boat harbor
#1138 4/8/17 (2:45pm) North side of causeway, Holiday Inn (south side)
#1139 4/8/17 (3:12pm) Marina boat harbor
#1140 4/8/17 (4:42pm) Marina boat ramp, pellets and pvc powder
#1141 4/10/17 (8:39am) Marina boat ramp
#1142 4/10/17 (8:57am) Marina boat harbor
#1143 4/10/17 (9:05am) Marina boat ramp
#1144 4/10/17 (10:53am) Marina playground
#1145 4/10/17 (11:22am) Cox Creek, N.
#1146 4/10/17 (11:38am) Cox Creek, N.
#1147 4/10/17 (12:05pm) Point Comfort park boat ramp
#1148 4/10/17 (4:31pm) Six Mile Park pier, PVC powder
#1149 4/11/17 (9:20am) Marina boat ramp, pellets and pvc powder
#1150 4/11/17 (10:18am) Marina boat harbor, pellets and pvc powder
#1151 4/11/17 (11:32am) Cox Creek, N
#1152 4/11/17 (12:09pm) Cox Creek, N.
#1153 4/11/17 (1:04pm) Point Comfort park boat ramp
#1154 4/11/17 (3:24pm) Six Mile Park pier PVC powder (2 bottles)

#1155 4/13/17 (10:50am) Six Mile Park pier, PVC powder (2 bottles)
#1156 4/13/17 (4:09pm) Memorial park pier , PVC powder (bottle)
#1157 4/15/17 (5:13pm) Marina Memorial Park , PVC powder (bottle)
#1158 4/17/17 (11:27am) Marina boat ramp
#1159 4/17/17 (11:58am) Cox Creek, N.
#1160 4/17/17 (12:09pm) Cox Creek, S
#1161 4/17/17 (12:47pm) Point Comfort park pier
#1162 4/17/17 (4:35pm) Six Mile Park pier, PVC powder and pellets
#1163 4/21/ 17 (10:54am) Cox Creek, S. ,PVC powder

The following samples #1164-1165 were handed from Dale and Cheyenne Jurasek to Diane Wilson at 5pm on May 3, 2017 at Marina in Port Lavaca. All samples are pellets.

#1164 4/30/17 (3:20pm) Port O'Connor jetties
#1165 4/30/17 (3:10pm) Port O'Connor jetties

The following samples # 1166 -1216 were handed from Ronnie Hamrick to Diane Wilson at 10am on May 3, 2017 at the Marina in Port Lavaca, Texas. All samples are pellets unless stated otherwise. (Videos taken)

#1166 4/25/17 (11:58am) Cox Creek, S. pellets and powder in bottle
#1167 4/25/17 (12:23pm) Cox Creek, N.,
#1168 4/25/17 (12:33pm) Cox Creek, N.
#1169 4/25/17 (12:45pm) Cox Creek, S.
#1170 4/25/17 (2:50pm) Marina boat harbor
#1171 4/26/17 (11:58am) Cox Creek, S. pellets and powder in bottle
#1172 4/26/17 (12:29pm) Cox Creek, N.
#1173 4/26/17 (4:14pm) Marina boat ramp
#1174 4/26/17 (5:09pm) Six Mile park pier, PVC powder and pellets/bottle
#1175 4/27/17 (10:37am) Memorial park, pvc powder
#1176 4/27/17 (11:18am) Cox Creek, S., Pellets and pvc powder
#1177 4/27/17 (11:32am) Cox Creek, N.
#1178 4/27/17 (12:35pm) North side of causeway, Port Lavaca, pvc powder and pellets
#1179 4/27/17 (12:35pm) N of causeway, S of Holiday Inn, bottle of pvc powder and pellets
#1180 4/27/17 (1:35pm) Marina boat ramp
#1181 4/27/17 (1:51pm) Marina memorial park
#1182 4/27/17 (4:24pm) Marina Memorial park, pvc powder and pellets

#1183 4/28/17 (10:19am) Cox Creek, N.
#1184 4/28/17 (10:22am) Marina boat harbor
#1185 4/28/17 (11:01am) Cox Creek, S. pellets and pvc powder
#1186 4/28/17 (11:24am) Cox Creek, N.
#1187 4/28/17 (12:09pm) Marina memorial park
#1188 4/28/17 (1:27pm) Six Mile Park PVC powder and pellets
#1189 4/28/17 (1:32pm) Marina playground
#1190 4/28/17 (2:43pm) Six Mile park pier
#1191 4/28/17 (3:10pm) Six Mile pvc powder and pellets
#1192 4/29/17 (10:08am) Cox Creek, S. pellets and pvc powder
#1193 4/29/17 (11:32am) Marina boat ramp
#1194 4/29/17 (12:20pm) Marina playground, pellets and powder
#1195 /29/17 (1:52pm) Marina boat harbor
#1196 4/30/17 (10:40am) Cox Creek, S. pellets and powder
#1197 4/30/17 (10:55am) Cox Creek, N.
#1198 4/30/17 (11:32am) Marina near flags, Pvc powder and pellets
#1199 4/30/17 (11:43am) Marina boat ramp
#1200 4/30/17 (11:56am) Marina at playground
#1201 4/30/17 (12:30pm) Marina boat harbor
#1202 4/30/17 (1:55pm) Six Mile
#1203 4/30/17 (2:20pm) Six Mile park pier, pellets and pvc powder
#1204 5/1/17 (11:17am) Cox Creek, S. pellets and pvc powder
#1205 5/1/17 (11:46am) Cox Creek, N.
#1206 5/1/17 (1:10pm) Holiday Inn, s. North side of causeway, PVC powder and pellets
#1207 5/1/17 (1:39pm) Marina memorial park, pvc powder and pellets
#1208 5/1/17 (2:03pm) Marina boat harbor
#1209 5/1/17 (4:38pm) Marina boat ramp
#1210 5/2/17 (10:48am) Cox Creek, S. pellets and powder
#1211 5/2/17 (11:08am) Cox Creek, N.
#1212 5/2/17 (12:17pm) Holiday Inn, N of causeway
#1213 5/2/17 (12:37pm) Marina boat harbor
#1214 5/2/17 (12:37pm) Marina boat harbor, pvc powder and pellets
#1215 5/2/17 (1:32pm) Marina boat ramp
#1216 5/2/17 (4:30pm) Marina boat ramp

The following samples #1217 -1293 were hand delivered by Ronnie Hamrick and David Sumpter to Diane Wilson on May 15, 2017 at 1pm at Dicks in Seadrift, Texas. All samples are pellets unless stated otherwise. (Videos)

#1217 5/3/17 (5:24pm) Six Mile park pier
#1218 5/3/17 (5:55pm) Six Mile park pier, PVC powder and pellets

#1219 5/3/17 (6:05pm) Six Mile boat ramp pier, PVC powder/pellets (bottle)
 #1220 5/4/17 (10:04am) Marina boat ramp
 #1221 5/4/17 (10:54am) N side of Cox Creek,
 #1222 5/4/17 (11:32am) N side of causeway, Port Lavaca
 #1223 5/4/17 (11:32am) N side of causeway, Port Lavaca
 #1224 5/4/17 (12:04pm) Marina boat harbor
 #1225 5/5/17 (10:20am) Cox Creek, S.
 #1226 5/5/17 (10:36am) Cox Creek, N.
 #1227 5/5/17 (11:15am) N side of Causeway, PVC powder
 #1228 5/5/17 (11:28am) N side of Causeway, Port Lavaca
 #1229 5/5/17 (1:02pm) Marina boat harbor
 #1230 5/5/17 (3:54pm) Marina boat ramp
 #1231 5/5/17 (3:56pm) Six Mile park, PVC powder
 #1232 5/6/17 (10:18am) Cox Creek, S.
 #1233 5/6/17 (10:27am) Cox Creek, N.
 #1234 5/6/17 (10:27am) Cox Creek, N.
 #1235 5/6/17 (11:22am) N. of causeway, Holiday Inn
 #1236 5/6/17 (1:09pm) Marina boat ramp
 #1237 5/7/17 (1:41pm) Marina boat ramp
 #1238 5/8/17 (8:18am) Marina boat ramp
 #1239 5/8/17 (8:32am) Marina memorial park, PVC powder
 #1240 5/8/17 (8:46am) Marina memorial park, PVC powder (2 bottles)
 #1241 5/8/17 (9:22am) Marina boat harbor
 #1242 5/8/17 (9:57am) Cox Creek, S.
 #1243 5/8/17 (10:12am) Cox Creek, N.
 #1244 5/8/17 (10:37am) n. of causeway, Port Lavaca, pellets, powder (bottle)
 #1245 5/8/17 (10:38am) city park boat ramp, Point Comfort
 #1246 5/9/17 (8:26am) Marina boat ramp
 #1247 5/9/17 (8:40am) SW side of Marina playground
 #1248 5/9/17 (8:54am) Marina memorial park, PVC powder (in bottle)
 #1249 5/9/17 (9:19am) Marina boat harbor
 #1250 5/9/17 (10:12am) Cox Creek, S.
 #1251 5/9/17 (10:23am) Cox Creek, N.
 #1252 5/9/17 (10:47am) N of causeway, Port Lavaca, PVC powder and pellets
 (bottle)
 #1253 5/9/17 (12:24pm) Six Mile
 #1254 5/9/17 (12:55pm) Six Mile Park boat ramp, PVC bottle
 #1255 5/10/17 (8:28am) Marina boat ramp
 #1256 5/10/17 (8:50am) Marina Memorial Park, S. side, PVC powder
 #1257 5/10/17 (9:27am) Marina boat harbor
 #1258 5/10/17 (10:07am) Cox Creek, S.
 #1259 5/10/17 (10:15am) Cox Creek, N.
 #1260 5/10/17 (10:40am) N side of causeway, Holiday Inn, PVC powder (bottle)
 #1261 5/10/17 (12:38pm) Six Mile park pier, pellets and powder (bottle)
 #1262 5/10/17 (4pm) Marina boat ramp
 #1263 5/11/17 (8:54am) Marina boat ramp

#1264 5/11/17 (9:05am) Marina boat ramp
#1265 5/11/17 (9:32am) Marina boat harbor, right side
#1266 5/11/17 (10:28am) Cox Creek, S.
#1267 5/11/17 (10:42am) Cox Creek, N.
#1268 5/11/17 (11:24am) N side of Causeway, Holiday Inn, PVC powder (bottle)
#1269 5/11/17 (12:03pm) N side of causeway, Holiday, PVC powder
#1270 5/12/17 (9:55am) Marina Boat ramp,
#1271 5/12/17 (10:23am) Cox Creek, S.
#1272 5/12/17 (10:33am) Cox Creek, N.
#1273 5/12/17 (11:06am) N side of causeway, Port Lavaca
#1274 5/12/17 (2:30pm) Six Mile Park, PVC powder (bottle)
#1275 5/13/17 (10:am) Marina boat ramp
#1276 5/13/17 (10:44am) Cox Creek, N.
#1277 5/13/17 (10:44am) Cox Creek, S.
#1278 5/13/17 (11:59am) Marina boat harbor
#1279 5/13/17 (12:44pm) Six Mile Park, PVC powder (bottle)
#1280 5/13/17 (3:21pm) Marina boat ramp,
#1281 5/13/17 (3:30pm) Marina boat ramp
#1282 5/13/17 (5:19pm) Marina boat ramp
#1283 5/14/17 (9:38am) Marina boat ramp
#1284 5/14/17 (10:16am) Cox Creek, S.
#1285 5/14/17 (10:27am) Cox Creek, N.
#1286 5/14/17 (11:08am) N of causeway, Holiday Inn, PVC powder and pellets
(bottle)
#1287 5/14/17 (12:08pm) Marina boat ramp
#1288 5/14/17 (3:08pm) Six Mile park, pellets and PVC powder
#1289 5/15/17 (8:55am) Marina boat ramp
#1290 5/15/17 (10:09am) Cox Creek, S .
#1291 5/15./17 (10:18am) Cox Creek, N.
#1292 5/15/17 (10:43am) N side of causeway, S side of Holiday Inn
#1293 5/15/17 (10:46am) N side of causeway, S side of Holiday Inn, PVC powder

The following samples #1294- 1312 were handed over by Ronnie Hamrick to Diane Wilson and Bobby Lindsey on May 18, 2017 at 12 pm at Church's Chicken parking lot in Port Lavaca. All samples are pellets unless stated otherwise. (Videos taken)

#1294 5/15/17 (3:44pm) Six Mile Park, PVC powder (2 bottles)
#1295 5/15/17 (5:13pm) Marina boat ramp
#1296 5/16/17 (11:38am) Cox Creek, S
#1297 5/16/17 (12:01pm) Cox Creek, N.
#1298 5/16/17 (2:04pm) N. Memorial Park at Marina, PVC powder (bottle)
#1299 5/16/17 (2:30pm) Marina boat ramp
#1300 5/16/17 (2:44pm) Marina boat harbor

#1301 5/17/17 (9:48am) Marina boat harbor,
#1302 5/17/17 (10:08am) Marina boat harbor, pellets and PVC powder
#1303 5/17/17 (10:34am) Marina boat ramp
#1304 5/17/17 (11:11am) Cox Creek, S.
#1305 5/17/17 (11:24am) Cox Creek, N.
#1306 5/17/17 (12:14pm) N of causeway, Port Lavaca, PVC powder (bottle)
#1307 5/17/17 (12:50pm) Marina boat ramp
#1308 5/17/17 (1:54pm) Six Mile park
#1309 5/17/17 (2:10pm) Six Mile park
#1310 5/17/17 (2:44pm) Six Mile park, PVC powder (2 bottles)
#1311 5/17/17 (3:11pm) Six Mile park , PVC powder
#1312 5/17/17 (3:58pm) Marina boat ramp

Following samples # 1313 – 1342 handed from Ronnie Hamrick and David Sumpter to Diane Wilson and Bob Lindsey on May 24, 2017 at 11:15am at Marina in Port Lavaca, Texas. All samples are pellets unless otherwise stated. (Video taken)

#1313 5/18/17 (10:02am) Marina boat ramp (Horizon vacuumed, but now pellets)
#1314 5/18/17 (1:55pm) Six Mile park, boat ramp, PVC powder
#1315 5/18/17 (3:55pm) Marina boat ramp
#1316 5/18/17 (5:22pm) Marina boat harbor
#1317 5/19/17 (10:08am) Marina boat ramp
#1318 5/19/17 (11:54am) Marina boat harbor
#1319 5/19/17 (1:01pm) Marina boat ramp
#1320 5/19/17 (1:59pm) Marina boat ramp
#1321 5/20/17 (10:22am) Cox Creek, S
#1322 5/20/17 (10:48am) Cox Creek, N
#1323 5/20/17 (11:35am) N causeway, Holiday Inn,
#1324 5/20/17 (11:50am) N causeway, Holiday Inn, PVC powder and pellets
#1325 5/20/17 (1:06pm) Marina boat harbor
#1326 5/20/17 (1:42pm) Marina boat ramp
#1327 5/20/17 (2:04pm) Marina boat ramp
#1328 5/20/17 (4:53pm) Marina boat ramp
#1329 5/20/17 (5:28pm) Marina boat ramp
#1330 5/21/17 (11:56am) Marina boat ramp
#1331 5/22/17 (9:48am) S Cox Creek
#1332 5/22/17 (9:56) N Cox Creek
#1333 5/22/17 (10:26am) Bay front, boat harbor (2 buckets and bottle) pellets and PVC powder
#1334 5/22/17 (12:42pm) Marina boat ramp/park (pellets and dead bird)

#1335 5/23/17 (10:07am) S Cox Creek
#1336 5/23/17 (10:17am) N Cox Creek
#1337 5/23/17 (10:54am) N causeway, Holiday Inn,
#1338 5/23/17 (11:28am) N causeway, Holiday Inn, PVC powder and pellets (2 plastic bags)
#1339 5/23/17 (12:38pm) Marina boat ramp/park
#1340 5/23/17 (3:53pm) Marina boat ramp
#1341 5/24/17 (9:38am) S Cox Creek, inside and outside orange barrier, 2 samples
#1342 5/24/17 (9:58am) N Cox Creek

The following samples # 1343-1414 were handed over by Ronnie Hamrick and David Sumpter to Diane Wilson and Bobby Lindsey on June 7, 2017 at 2pm at the Marina in Port Lavaca. All samples are pellets unless stated otherwise (Videos taken)

#1343 5/25/17 (9:39am) Cox Creek, S (outside barrier)
#1344 5/25/17 (9:53am) Cox Creek, N (inside barrier)
#1345 5/25/17 (10:42am) North side of causeway, Holiday Inn
#1346 5/25/17 (11:52am) Marina bayfront park
#1347 5/25/17 (12:24pm) Marina boat ramp
#1348 5/26/17 (8:18am) Cox Creek, N, (inside barrier)
#1349 5/26/17 (9:48am) Cox Creek, S (outside barrier)
#1350 5/26/17 (9:55am) (Cox Creek, S, on the bridge
#1351 5/26/17 (11:10am) North side of causeway, Holiday Inn
#1352 5/26/17 (12:42pm) Marina boat harbor
#1353 5/26/17 (1:18pm) Marina boat ramp
#1354 5/26/17 (5:35pm) Marina boat ramp
#1355 5/27/17 (9:45am) Marina boat harbor
#1356 5/27/17 (10:18am) Marina boat ramp
#1357 5/27/17 (11:00am) Cox Creek, S (outside barrier)
#1358 5/27/17 (11:11am) Cox Creek, N (inside barrier)
#1359 5/27/17 (11:42am) North side of causeway, Holiday Inn
#1360 5/28/17 (10:22am) Cox Creek, S (outside barrier)
#1361 5/28/17 (10:34am) Cox Creek, N, (inside barrier)
#1362 5/28/17 (11:05am) North side of Causeway, Holiday Inn
#1363 5/29/17 (9:52am) Cox Creek, S (outside barrier)
#1364 5/29/17 (10:04am) Cox Creek, N, (inside barrier)
#1365 5/29/17 (10:35am) North side of causeway, Holiday Inn
#1366 5/29/17 (11:15am) North side of causeway, Holiday Inn
#1367 5/29/17 (4:25pm) Marina boat ramp
#1368 5/29/17 (4:40pm) Marina seawall
#1369 5/31/17 (4:15pm) Six Mile boat ramp, PVC powder (bottle)

#1370 5/31/17 (4:59pm) Marina boat harbor , PVC powder
 #1371 5/31/17 (5:15pm) Marina boat ramp
 #1372 6/1/17 (8:26am) Marina boat harbor (styrofoam cup)
 #1373 6/1/17 (9:26am) Cox Creek, S side (outside of barrier)
 #1374 6/1/17 (9:37am) Cox Creek, North side (inside barrier)
 #1375 6/1/17 (10:07am) North of causeway, Holiday inn
 #1376 6/1/17 (12:03pm) Six Mile park
 #1377 6/1/17 (1:57pm) Marina boat ramp
 #1378 6/2/17 (9:10am) Marina boat harbor
 #1379 6/2/17 (9:49am) Cox Creek, S (inside barrier)
 #1380 6/2/17 (10:02am) Cox Creek, N (inside barrier)
 #1381 6/2/17 (10:31am) North side of causeway, Holiday Inn
 #1382 6/2/17 (10:40am) North side of causeway, Holiday Inn, PVC powder
 #1383 6/2/17 (3:11pm) Marina boat ramp
 #1384 6/3/17 (9:08am) Marina boat ramp
 #1385 6/3/17 (9:49am) Cox Creek, S (outside barrier)
 #1386 6/3/17 (10:05am) Cox Creek, N (outside barrier)
 #1387 6/3/17 (10:18am) Cox Creek, N (inside barrier)
 #1388 6/3/17 (10:48am) North side of causeway, Holiday Inn, Pvc powder
 #1389 6/3/17 (11:02am) North side of causeway, Holiday Inn
 #1390 6/3/17 (11:56am) Black Rock, Pvc powder in bottle
 #1391 6/4/17 (9:34am) Marina, boat ramp
 #1392 6/4/17 (10:03am) Cox Creek, S, (outside barrier)
 #1393 6/4/17 (10:14am) Cox Creek, N (outside barrier)
 #1394 6/4/17 (10:32am) Cox Creek, N (inside barrier)
 #1395 6/4/17 (4:03pm) Marina boat harbor (2 bags)
 #1396 6/4/17 (4:36pm) Marina boat harbor
 #1397 6/4/17 (4:56pm) Marina boat ramp
 #1398 6/5/17 (10:55am) Cox Creek, S
 #1399 6/5/17 (11:12am) Cox Creek, N, (outside barrier)
 #1400 6/5/17 (11:23am) Cox Creek, N (inside barrier)
 #1401 6/5/17 (11:52am) North side of causeway, Holiday Inn
 #1402 6/5/17 (12:16pm) North side of causeway, Holiday Inn , PVC powder
 (bottle)
 #1403 6/5/17 (12:31pm) North side of causeway, Holiday Inn (bucket)
 #1404 6/6/17 (9:22am) Marina boat ramp
 #1405 6/6/17 (9:49am) Cox Creek, S (outside barrier)
 #1406 6/6/17 (9:58am) Cox Creek, N (outside barrier)
 #1407 6/6/17 (10:13am) Cox Creek, North
 #1408 6/6/17 (2:26pm) Marina boat harbor
 #1409 6/7/17 (9:07am) Six Mile park boat ramp PVC powder (bottle)
 #1410 6/7/17 (10:16am) Marina memorial park, PVC powder (bottle)
 #1411 6/7/17 (11:12am) Cox Creek, S (outside barrier)
 #1412 6/7/17 (11:24am) Cox Creek, N (outside barrier)
 #1413 6/7/17 (11:36am) Cox Creek, N (inside barrier) phone got wet so other
 video person

#1414 6/7/17 (2:03pm) Marina, right side at you enter, pellets and styrofoam

The following 1415-1438 samples were handed over by Ronnie Hamrick and David Sumpter to Diane Wilson at Dicks in Seadrift, at 2PM on June 12, 2017. All samples are pellets unless stated otherwise. (Videos taken)

#1415 6/8/17 (9:14am) Marina boat ramp
#1416 6/8/17 (9:48am) Cox Creek, S (outside barrier)
#1417 6/8/17 (9:58am) Cox Creek, N, (outside barrier)
#1418 6/8/17 (10:26am) Cox Creek, N (inside barrier)
#1419 6/8/17 (10:49am) Point Comfort park marina, east side of pier
#1420 6/8/17 (11:27am) North side of causeway, Holiday Inn , PVC powder and pellets (bottle)
#1421 6/9/17 (10:14am) Marina boat ramp
#1422 6/9/17 (10:45am) Cox Creek, S (outside barrier)
#1423 6/9/17 (10:55am) Cox Creek, N (outside barrier)
#1424 6/9/17 (11:19am) Cox Creek, N (inside barrier)
#1425 6/9/17 (1:08pm) Marina memorial park, PVC powder and pellets
#1426 6/9/17 (3:05pm) Six Mile park pier, PVC powder (bottle)
#1427 6/9/17 (3:28pm) Six Mile pier
#1428 6/10/17 (3:22pm) Six mile park pier
#1429 6/10/17 (3:35pm) Six Mile park pier, boat ramp
#1430 6/11/17 (9:39am) Marina boat ramp
#1431 6/11/17 (10:13am) Cox Creek, S (outside barrier)
#1432 6/11/17 (10:29am) Cox Creek, N (outside barrier)
#1433 6/11/17 (10:49am) Cox Creek, N (inside barrier)
#1434 6/11/17 (11:24am) North side of causeway, Holiday Inn
#1435 6/12/17 (9:22am) Marina boat ramp
#1436 6/12/17 (9:47am) Cox Creek, S (outside barrier)
#1437 6/12/17 (10:04am) Cox Creek, N (outside barrier)
#1438 6/12/17 (10:34am) Cox Creek, N (inside barrier)

The following 1439-1468 samples were handed over by Ronnie Hamrick and David Sumpter to Diane Wilson at Dicks in Seadrift, at 2PM on June 19, 2017. All samples are pellets unless stated otherwise. (Videos taken)

#1439 6/12/17 (4:11pm) Six Mile park pier
#1440 6/12/17 (4:58pm) Six Mile park pier, PVC powder
#1441 6/13/17 (10:03am) Cox Creek, S (outside barrier)

#1442 6/13/17 (10:10am) Six Mile park (on the road)
#1443 6/13/17 (10:13am) Cox Creek, N (outside barrier)
#1444 6/13/17 (10:33am) Cox Creek, N (inside barrier)
#1445 6/13/17 (11:07am) North side of causeway, Holiday Inn
#1446 6/13/17 (11:53am) Marina boat ramp
#1447 6/13/17 (2:15pm) Six Mile park pier, PVC powder and pellets (2 bottles)
#1448 6/14/17 (9:13am) Marina boat ramp
#1449 6/14/17 (2:40pm) Marina boat ramp
#1450 6/15/17 (9:32am) Cox Creek, S (outside barrier)
#1451 6/15/17 (9:54am) Cox Creek, N (outside barrier)
#1452 6/15/17 (10:11am) Cox Creek, N (inside barrier)
#1453 6/15/17 (11:08am) North side of causeway, Holiday Inn
#1454 6/15/17 (12:34pm) Marina seawall
#1455 6/16/17 (9:04am) Marina boat ramp
#1456 6/16/17 (9:36am) Cox Creek, S (outside barrier)
#1457 6/16/17 (9:48am) Cox Creek, N (outside barrier)
#1458 6/16/17 (9:59am) Cox Creek, N (inside barrier)
#1459 6/16/17 (10:27am) North side of causeway, Holiday Inn, PVC powder
#1460 6/16/17 (10:43am) North side of causeway, Holiday Inn
#1461 6/16/17 (12:18pm) Six Mile park pier, PVC powder and pellets
#1462 6/17/17 (9:47am) Marina boat ramp
#1463 6/17/17 (10:44am) Cox Creek, S (outside barrier)
#1464 6/17/17 (10:58am) Cox Creek, N (outside barrier)
#1465 6/17/17 (11:12am) Cox Creek, N (inside barrier)
#1466 6/18/17 (9:38am) Cox Creek, S (outside barrier)
#1467 6/18/17 (9:54am) Cox Creek, N (outside barrier)
#1468 6/18/17 (10:08am) Cox Creek, N (inside barrier)

The following 1469 -1535 samples were handed over by Ronnie Hamrick and David Sumpter to Diane Wilson on July 2, 2017 at Dicks in Seadrift, Texas. All samples are pellets unless stated otherwise. (Videos taken)

#1469 6/19/17 (4:40pm) Six Mile Park
#1470 6/20/17 (9:25am) Bay front park marina
#1471 6/20/17 (9:56am) Cox Creek, S, outside barrier
#1472 6/20/17 (10:17am) Cox Creek, N, outside barrier
#1473 6/20/17 (10:32am) Cox Creek, N, inside barrier
#1474 6/20/17 (11:15am) north side of causeway, Holiday Inn, pvc powder(bottle)
#1475 6/20/17 (2:08pm) Six Mile park, powder (2 bottles)
#1476 6/21/17 (9:48am) Marina boat ramp
#1477 6/21/17 (10:16am) Cox Creek, S, outside barrier
#1478 6/21/17 (10:32am) Cox Creek, N, outside barrier

#1479 6/21/17 (10:46am) Cox Creek, N, inside barrier
#1480 6/21/17 (3:28pm) Marina, pvc powder and pellets in gal. bucket
#1481 6/22/17 (9:54am) Marina boat ramp
#1482 6/22/17 (10:32am) Park marina, PVC powder
#1483 6/22/17 (11:14am) Cox Creek, S, outside barrier
#1484 6/22/17 (11:26am) Cox Creek, N, outside barrier
#1485 6/22/17 (11:43am) Cox Creek, N, inside barrier
#1486 6/22/17 (12:13pm) North side of causeway, Holiday Inn, pellets and powder (2 bags)
#1487 6/22/17 (4:10pm) Marina boat ramp
#1488 6/23/17 (9:06am) Marina park boat ramp
#1489 6/23/17 (9:42am) Cox Creek, S, outside barrier
#1490 6/23/17 (9:58am) Cox Creek, N, outside barrier
#1491 6/23/17 (10:13am) Cox creek, N, inside barrier
#1492 6/23/17 (10:44am) North side of causeway, Holiday Inn, powder and pellets
#1493 6/23/17 (2:01pm) Marina boat ramp
#1494 6/23/17 (2:18pm) Marina playground
#1495 6/23/17 (5:41pm) Marina boat ramp, pellets and pvc powder
#1496 6/24/17 (10:35am) Marina boat harbor
#1497 6/24/17 (2:55pm) Six Mile park, pvc powder
#1498 6/25/17 (9:23am) Bayfront park marina
#1499 6/25/17 (9:31am) Bay front park marina
#1500 6/25/17 (9:31am) Bay front park marina
#1501 6/25/17 (10:08am) Cox Creek, S, outside barrier
#1502 6/25/17 (10:22am) Cox Creek, N, outside barrier
#1503 6/25/17 (10:33am) Cox Creek, N, inside barrier
#1504 6/25/17 (11:02am) north side of causeway, Holiday Express, pvc powder (2 bottles)
#1505 6/25/17 (3:02pm) Marina boat ramp
#1506 6/26/17 (2:24pm) Bayfront park marina
#1507 6/26/17 (4:55pm) Cox Creek, S, outside barrier
#1508 6/26/17 (5:13pm) Cox Creek, n, outside barrier
#1509 6/27/17 (7:35am) Marina playground, pellets and pvc powder
#1510 6/27/17 (8:48am) Bay front park marina
#1511 6/27/17 (9:36am) Bay front park marina, poor boy area
#1512 6/27/17 (10:32am) Bay front park marina (2 bags of pellets)
#1513 6/27/17 (3:28pm) cut off road to Memorial park
#1514 6/28/17 (4:48pm) Six Mile park, pvc powder
#1515 6/29/17 (9:28am) Marina boat ramp
#1516 6/29/17 (10:03am) Cox creek, S, outside barrier
#1517 6/29/17 (10:22am) Cox Creek, N, outside barrier
#1518 6/29/17 (10:33am) Cox Creek, N, inside barrier
#1519 6/29/17 (11:13am) North side of causeway, Holiday Inn
#1520 6/29/17 (12:32pm) Marina
#1521 6/29/17 (1:04pm) Black Rock
#1522 6/29/17 (3:32pm) Black Rock, pellets and pvc powder

#1523 6/30/17 (9:03am) Bay front park marina
#1524 6/30/17 (9:21am) Bay front park marina
#1525 6/30/17 (9:58am) Cox Creek, S, outside barrier
#1526 6/30/17 (10:16am) Cox Creek, N, outside barrier
#1527 6/30/17 (10:26am) Cox Creek, N, inside barrier
#1528 6/30/17 (12:52pm) Six Mile park, pvc powder
#1529 7/1/17 (8:54am) Bay front park marina
#1530 7/1/17 (9:14am) Cox Creek, S, outside barrier
#1531 7/1/17 (9:21am) Cox Creek, N, outside barrier
#1532 7/1/17 (9:31am) Cox creek, N, inside barrier
#1533 7/2/17 (9:19am) Cox creek, S, outside barrier
#1534 7/2/17 (9:33am) Cox Creek, N, outside barrier
#1535 7/2/17 (9:44am) Cox Creek, N, inside barrier

The following 1536 -1599 samples were handed over by Ronnie Hamrick and David Sumpter to Diane Wilson at Dick's in Seadrift on 7/17/2017 at 11am. All samples are pellets unless stated otherwise. (videos taken)

#1536 7/3/17 (4:20pm) Marina boat ramp
#1537 7/4/17 (9:51am) Marina playground
#1538 7/5/17 (9:14am) Marina boat ramp
#1539 7/5/17 (9:44am) Cox Creek, S (outside barrier)
#1540 7/5/17 (9:56am) Cox Creek, N (outside barrier)
#1541 7/5/17 (10:11am) Cox Creek, N (inside barrier)
#1542 7/5/17 (10:38am) near VCM outfall at fence on Hwy35
#1543 7/5/17 (12:11pm) North side of causeway, Holiday Inn
#1544 7/6/17 (12:06pm) Marina boat ramp
#1545 7/6/17 (12:32pm) Marina playground
#1546 7/6/17 (12:51pm) Marina boat harbor, SW of flag, PVC powder and pellets
#1547 7/6/17 (1:32pm) Marina playground
#1548 7/7/17 (9:32am) Bayfront park marina (2 samples)
#1549 7/7/17 (10:59am) Bayfront park marina and Poor Boy bait (2 samples)
#1550 7/7/17 (12:12pm) Cox Creek, S (outside barrier)
#1551 7/7/17 (12:28pm) Cox Creek, N (outside barrier)
#1552 7/7/17 (12:45pm) Cox creek, N (inside barrier)
#1553 7/7/17 (4:28pm) Marina memorial park, PVC powder and pellets
#1554 7/7/17 (6:07pm) Six Mile, PVC powder and pellets
#1555 7/8/17 (8:58am) Marina boat ramp
#1556 7/8/17 (9:43am) Cox Creek, S (outside barrier)
#1557 7/8/17 (9:54am) Cox Creek, N (outside barrier)
#1558 7/8/17 (9:59am) Cox Creek, N (inside barrier)
#1559 7/10/17 (9:08am) Marina park
#1560 7/10/17 (9:24am) Bayfront park

#1561 7/10/17 (10:08am) Marina bayfront and Poor Boy bait, pellets and powder
#1562 7/10/17 (11:38am) Cox Creek, S (outside barrier)
#1563 7/10/17 (12:13pm) Cox Creek, N (outside barrier)
#1564 7/10/17 (12:24pm) Cox Creek, N (inside barrier)
#1565 7/10/17 (2:08pm) North side of causeway, Holiday Inn
#1566 7/11/17 (2:46pm) Marina boat ramp
#1567 7/11/17 (5:05pm) Six Mile, PVC powder (bottle)
#1568 7/12/17 (11:51am) Cox Creek, S (outside barrier)
#1569 7/12/17 (12:03pm) Cox Creek, N (outside barrier)
#1570 7/12/17 (12:19pm) Cox Creek, N (inside barrier)
#1571 7/12/17 (1:07pm) Marina and Poor Boy bait
#1572 7/12/17 (1:51pm) Marina boat harbor, S side
#1573 7/12/17 (3:25pm) Six Mile Park, PVC powder and pellets
#1574 7/13/17 (9:36am) Cox Creek, S (outside barrier)
#1575 7/13/17 (9:53am) Cox Creek, N (outside barrier)
#1576 7/13/17 (10:03am) Cox creek, N (inside barrier)
#1577 7/13/17 (10:48am) North side of causeway, Holiday Inn
#1578 7/13/17 (11:44am) Bay front Marina
#1579 7/13/17 (1:57pm) Six Mile boat ramp
#1580 7/14/17 (9:57am) Marina boat harbor
#1581 7/14/17 (10:24am) Marina boat ramp
#1582 7/14/17 (2:32pm) Marina memorial park , pvc powder (bottle)
#1583 7/14/17 (2:43pm) Marina memorial park, PVC powder
#1584 7/14/17 (5:47pm) Six Mile boat ramp, PVC powder and pellets (bottle)
#1585 7/15/17 (8:57am) Marina park seawall
#1586 7/15/17 (9:44am) Bayfront park marina and Poor Boy bait
#1587 7/15/17 (10:27am) Cox Creek, S (outside barrier)
#1588 7/15/17 (10:43am) Cox creek, N (outside barrier)
#1589 7/15/17 (10:55am) Cox Creek, N (inside barrier)
#1590 7/15/17 (11:34am) North side of causeway, Holiday Inn
#1591 7/16/17 (9:14am) Marina park boat ramp
#1592 7/16/17 (9:36am) Bayfront marina boat ramp
#1593 7/16/17 (9:53am) Bayfront park at Marina, PVC powder and pellets
#1594 7/16/17 (10:22am) Bayfront park marina
#1595 7/16/17 (10:48am) Bayfront park marina and Poor Boy bait, PVC powder
and pellets
#1596 7/16/17 (11:28am) Cox Creek, S (outside barrier) pellets and powder
(bottle)
#1597 7/16/17 (11:48am) Cox Creek, N (outside barrier)
#1598 7/16/17 (12:06pm) Cox Creek, N (inside barrier)
#1599 7/16/17 (12:58pm) North side of Causeway, Holiday Inn

The following 1600 -1637 samples were given by Ronnie Hamrick and David Sumpter to Diane Wilson and Bob Lindsey at Cox Creek near Formosa at 12 noon, July 23, 2017. All samples are pellets unless stated otherwise. (videos and photos taken)

- #1600 7/17/17 (2:12pm) Marina boat ramp
- #1601 7/17/17 (2:31pm) Marina boat ramp
- #1602 7/17/17 (3:09pm) Six Mile, powder and pellets
- #1603 7/17/17 (3:45pm) Six Mile, 1st boat ramp, pvc powder and pellets
- #1604 7/18/17 (9:04am) Cox Creek, S (outside barrier)
- #1605 7/18/17 (9:18am) Cox Creek, N (outside barrier)
- #1606 7/18/17 (9:32am) Cox Creek, N (inside barrier)
- #1607 7/18/17 (10:09am) VCM outfall near fence at hwy 35
- #1608 7/18/17 (1:33am) Bayfront marina
- #1609 7/18/17 (12:03pm) Bay Front marina and Poor Boy bait,
- #1610 7/18/17 (3:33pm) Six Mile boat ramp, pvc powder and pellets (bottle)
- #1611 7/19/17 (8:26am) Marina boat ramp (2 samples. one is bottle)
- #1612 7/19/17 (9:03am) Bayfront marina, right side
- #1613 7/19/17 (10:17am) Cox creek, S (outside barrier)
- #1614 7/19/17 (10:34am) Cox Creek, N (outside barrier)
- #1615 7/19/17 (10:46am) Cox Creek, N (inside barrier)
- #1616 7/19/17 (11:52am) Bayfront park marina and Poor Boy Bait
- #1617 7/19/17 (2:01pm) Marina bayfront park, N side, pvc powder (bottle)
- #1618 7/19/17 (2:13pm) Six Mile park
- #1619 7/19/17 (2:56pm) Six Mile park, boat ramp, pellets and video powder
- #1620 7/19/17 (3:26pm) Six Mile, PVC powder and pellets
- #1621 7/20/17 (9:22am) Cox Creek, S (outside barrier)
- #1622 7/20/17 (9:36am) Cox creek, N (outside barrier)
- #1623 7/20/17 (9:52am) Cox Creek, N (inside barrier)
- #1624 7/20/17 (10:24am) VCM/PVC unit outfall, near fence
- #1625 7/20/17 (11:13am) North side of causeway, Holiday Inn
- #1626 7/20/17 (11:17am) North side of causeway, Holiday Inn
- #1627 7/20/17 (12:38pm) Marina park, south side
- #1628 7/20/17 (1:09pm) Bayfront park marina and Poor Boy Bait
- #1629 7/21/17 (10:18am) Cox creek, S (outside barrier) pellets and powder (bottle)
- #1630 7/21/17 (10:40am) Cox Creek, N.
- #1631 7/21/17 (11:09am) Cox Creek (barrier moved) N
- #1632 7/21/17 (11:17am) VCM/PVC outfall near fence
- #1633 7/21/17 (11:55am) Marina park and Poor Boy Bait
- #1634 7/21/17 (12:15pm) Marina boat harbor
- #1635 7/22/17 (12:13pm) Marina boat harbor
- #1636 7/23/17 (10:52am) Cox Creek, S (outside barrier)

#1637 7/23/17 (11:47am) Cox Creek, S (3 samples)

The following samples #1638-1724 were given by Ronnie Hamrick and David Sumpter to Diane Wilson and Bobby Lindsey on August 11, 2017 at Cox Creek, In Point Comfort, Texas. All samples are pellets unless stated otherwise. (Videos and photos)

#1638 7/23/(11:07am) Cox Creek, N
#1639 7/23/17 (12:43pm) Northside of causeway, Holiday Inn
#1640 7/23/17 (1:32pm) Bayfront park marina, seawall
#1641 7/24/17 (9:02am) Cox Creek, S, outside barrier
#1642 7/24/17 (9:18am) Cox Creek, N
#1643 7/24/17 (9:43am) Cox Creek, N, ditch
#1644 7/24/17 (10:36am) Northside of causeway, Holiday Inn
#1645 7/24/17 (11:33am) Bayfront park marina
#1646 7/25/17 (7:59am) Six Mile park boat ramp
#1647 7/25/17 (9:57am) Cox Creek, S, outside barrier
#1648 7/25/17 (10:32am) Cox Creek, N
#1649 7/25/17 (10:49am) Cox Creek, N
#1650 7/25/17 (12:11pm) Bayfront park marina
#1651 7/26/17 (9:35am) Cox Creek, S, outside barrier
#1652 7/26/17 (9:57am) Cox Creek, N
#1653 7/26/17 (10:14am) Cox Creek, N in ditch
#1654 7/26/17 (10:51am) North side of causeway, Holiday Inn
#1655 7/26/17 (11:57am) Lighthouse beach and Bird sanctuary
#1656 7/26/17 (12:04pm) Lighthouse Beach and bird sanctuary, 2 bags
#1657 7/26/17 (1:21pm) Lighthouse beach and Sanctuary Park
#1658 7/27/17 (9:36am) Cox Creek, S, outside barrier
#1659 7/27/17 (9:46am) Cox Creek, N
#1660 7/27/17 (10:32am) North side of causeway, Holiday Inn
#1661 7/27/17 (11:38am) Bayfront park marina, R side
#1662 7/27/17 (3:01pm) Marina boat harbor, S side
#1663 7/28/17 (10:48am) Marina boat ramp
#1664 7/28/17 (11:24am) Marina boat harbor
#1665 7/29/17 (9:06am) Bayfront park marina, seawall
#1666 7/29/17 (9:53am) Cox Creek, S, outside barrier
#1667 7/29/17 (10:06am) Cox Creek, N
#1668 7/29/17 (10:22am) Cox Creek, N in ditch
#1669 7/29/17 (10:58am) North side of causeway, Holiday Inn
#1670 7/29/17 (11:08am) Northside of causeway, Holiday Inn
#1671 7/29/17 (3:27pm) Marina playground, SW
#1672 7/29/17 (4:25pm) Marina, S side of boat dock
#1673 7/30/17 (9:21am) Bayfront park marina, right side
#1674 7/30/17 (10:22am) Cox Creek, S, outside barrier

#1675 7/30/17 (10:42am) Cox Creek, N
 #1676 7/30/17 (10:52am) Cox Creek, N
 #1677 7/30/17 (11:48am) North side of causeway, Holiday Inn
 #1678 7/31/17 (9:05am) Bayfront park boat ramp
 #1679 7/31/17 (9:48am) Cox Creek, S, outside barrier
 #1680 7/31/17 (9:54am) Cox Creek, S
 #1681 7/31/17 (10:15am) Cox Creek, N.
 #1682 7/31/17 (10:26am) Cox Creek, N
 #1683 7/31/17 (10:58am) North side of causeway, Holiday Inn
 #1684 7/31/17 (12:12pm) Marina boat ramp
 #1685 7/31/17 (2:33pm) Six Mile park, PVC powder and pellets
 #1686 8/1/17 (8:58am) Bayfront park marina
 #1687 8/1/17 (9:42am) Bayfront park marina seawall
 #1688 8/1/17 (10:28am) Bayfront park, L-side
 #1689 8/1/17 (11:02am) Cox Creek, S, outside barrier
 #1690 8/1/17 (11:23am) Cox Creek, N
 #1691 8/1/17 (11:34am) Cox Creek, N
 #1692 8/1/17 (1:55pm) Six Mile boat ramp, PVC powder and pellets (bottle)
 #1693 8/2/17 (10:04am) Six Mile
 #1694 8/2/17 (1:21pm) Marina , SW corner
 #1695 8/2/17 (2:03pm) Marina boat harbor, R side
 #1696 8/2/17 (3:20pm) Marina boat harbor, R side
 #1697 8/3/17 (7:55am) Bayfront park boat ramp
 #1698 8/3/17 (1:32pm) Marina
 #1699 8/4/17 (9:59am) Cox Creek, S, outside barrier
 #1700 8/4/17 (10:22am) Cox Creek, N
 #1701 8/4/17 (10:42am) Cox Creek, N
 #1702 8/4/17 (11:32am) North side of causeway, Holiday Inn
 #1703 8/6/17 (11:03am) Marina boat ramp, rock seawall
 #1704 8/7/17 (12:59pm) Marina boat ramp
 #1705 8/7/17 (1:45pm) Marina boat ramp
 #1706 8/7/17 (3:23pm) Cox Creek, S
 #1707 8/7/17 (3:35pm) Cox Creek, N
 #1708 8/7/17 (4:09pm) Formosa concrete drainage ditch, N side
 #1709 8/8/17 (9:01am) Cox Creek, S, outside barrier
 #1710 8/8/17 (9:24am) Cox Creek, S
 #1711 8/8/17 (10:10am) Cox creek, N
 #1712 8/8/17 (11:07am) S side of causeway, Alcoa fenceline in bay, powder
 #1713 8/8/17 (11:42am) North side of causeway, Holiday Inn, powder in bottle, pellets
 #1714 8/9/17 (8:51am) Bayfront park, left side, inlet slip
 #1715 8/9/17 (9:20am) Bayfront park boat ramp
 #1716 8/9/17 (9:54am) Cox Creek, S, outside barrier
 #1717 8/9/17 (10:08am) Cox Creek, S
 #1718 8/9/17 (10:48am) Cox Creek, N
 #1719 8/9/17 (11:44am) Marina boat harbor, seawall

#1720 8/10/17 (9:05am) Bayfront park marina
#1721 8/10/17 (9:33am) Black Rock, powder
#1722 8/10/17 (10:20am) Cox creek, S, outside barrier
#1723 8/10/17 (1:46pm) Marina boat harbor, seawall
#1724 8/10/17 (2:47pm) Marina road, Memorial park

The following samples #1725-1795 were given by Ronnie Hamrick on September 15, 2017 to Diane Wilson at Cox Creek. All samples are pellets unless stated otherwise. Videos taken

#1725 8/12/17 (10:32am) Marina boat ramp
#1726 8/12/17 (11:03am) Bayfront marina, S side
#1727 8/13/17 (9:03am) Marina boat ramp
#1728 8/13/17 (10:45am) Cox Creek, S, outside barrier
#1729 8/13/17 (11:03am) Cox Creek, N
#1730 8/13/17 (12:20pm) North side of causeway, Holiday Inn
#1731 8/14/17 (10:28am) Marina boat harbor, rt. side
#1732 8/15/17 (9:52am) Cox Creek, S, outside barrier
#1733 8/15/17 (11:04am) Cox Creek, N, outside barrier
#1734 8/15/17 (11:45am) Cox Creek, S *lots of pellets
#1735 8/16/17 (9:11am) Cox Creek, S, outside barrier
#1736 8/16/17 (9:28am) Cox Creek, N,
#1737 8/16/17 (9:59am) North side of causeway, Holiday Inn
#1738 8/16/17 (12:33pm) Marina, right side
#1739 8/16/17 (1:00pm) Marina boat ramp
#1740 8/17/17 (8:13am) Six Mile Park, boat ramp, powder in a bottle
#1741 8/17/17 (9:06am) Bayfront park marina,
#1742 8/17/17 (9:50am) Cox Creek, S, outside barrier, pellets
#1743 8/17/17 (10:24am) Cox Creek, N, outside barrier, pellets
#1744 8/17/17 (11:17am) North side of causeway, Holiday Inn, pellets
#1745 8/17/17 (12:36pm) Marina, boat ramp, pellets
#1746 8/17/17 (1:07pm) Marina, SE end of boat ramp, pellets
#1747 8/18/17 (8:17am) Bayfront park boat ramp
#1748 8/18/17 (8:46am) Cox creek, S, outside barrier
#1749 8/18/17 (9:04am) Cox Creek, N
#1750 8/18/17 (9:18am) Cox Creek, N, Olivia turnoff
#1751 8/18/17 (9:32am) Cox Creek, S,
#1752 8/18/17 (10:13am) North side of causeway, Holiday Inn
#1753 8/18/17 (12:03pm) Marina boat harbor, rt. side

#1754 8/18/17 (5:13pm) Marina boat harbor, SW seawall
 #1755 8/18/17 (5:36pm) Marina boat ramp
 #1756 8/18/17 (5:48pm) Marina boat ramp
 #1757 8/20/17 (8:45am) Bayfront park boat ramp, SW pier
 #1758 8/20/17 (9:20am) Bayfront park marina, rt. side
 #1759 8/20/17 (10:04am) Cox Creek, S, outside barrier
 #1760 8/20/17 (10:34am) Cox Creek, N, outside barrier
 #1761 8/20/17 (11:11am) Cox Creek, N, Olivia side
 #1762 8/20/17 (11:23am) Cox Creek, S, Olivia side
 #1763 8/21/17 (1:38pm) Cox Creek, S
 #1764 8/21/17 (2:09pm) Cox Creek, N
 #1765 8/21/17 (3:15pm) Marina boat harbor, rt. side, seawall
 #1766 8/21/17 (3:50pm) Marina, pier and on rocks
 #1767 8/22/17 (8:46am) Bayfront park boat ramp, seawall
 #1768 8/22/17 (10:06am) Cox Creek, S, outside barrier
 #1769 8/22/17 (10:24am) Cox Creek, N
 #1770 8/22/17 (1:18pm) Marina Boat harbor, seawall
 #1771 8/23/17 (9:15am) Cox Creek, S
 #1772 8/23/17 (9:46am) Cox creek, S
 #1773 8/23/17 (11:43am) North side of causeway, Holiday Inn
 #1774 8/23/17 (2:31pm) Marina boat harbor
 #1775 8/24/17 (9:32am) Bayfront park marina, seawall
 #1776 8/24/17 (10:23am) Cox Creek, S
 #1777 8/24/17 (10:48am) Cox Creek, N,
 #1778 8/24/17 (11:06am) Cox Creek, N
 #1779 8/24/17 (11:18am) Cox creek, S
 #1780 8/24/17 (11:50am) North side of causeway, Holiday Inn
 #1781 8/29/17 (11:28am) Black Rock
 #1782 9/8/17 (1:57pm) Cox Creek, S
 #1783 9/8/17 (2:24pm) Cox Creek, N
 #1784 9/10/17 (2:05pm) Cox Creek, S
 #1785 9/10/17 (2:25pm) Cox Creek, N
 #1786 9/12/17 (9:06am) Cox creek, S
 #1787 9/12/17 (9:19am) Cox Creek, N
 #1788 9/12/17 (9:38am) Cox Creek, S
 #1789 9/14/17 (10:59am) Cox Creek, S
 #1790 9/14/17 (11:15am) Cox Creek, N
 #1791 9/14/17 (11:35am) Cox Creek, N
 #1792 9/14/17 (11:50am) Cox Creek, S *lots of pellets
 #1793 9/15/17 (9:52am) Cox Creek, S outside barrier
 #1794 9/15/17 (10:12am) Cox Creek, N
 #1795 9/15/17 (11:03am) North side of causeway, Holiday Inn

The following samples # 1796-1800 were given by Ronnie Hamrick and David Sumpter to Diane Wilson and Bobby Lindsey on September 19, 2017 at Cox Creek. All samples are pellets unless stated otherwise. Videos taken

#1796 9/18/17 (10:46am) North side of causeway, Holiday Inn,
#1797 9/18/17 (10:50am) Cox Creek, S
#1798 9/19/17 (10:02am) Cox Creek, S, outside barrier
#1799 9/19/17 (10:17am) Cox Creek, S, shaved pellets
#1800 9/19/17 (11:49am) North side of causeway, Holiday Inn

The following samples #1801-1810 were handed from Ronnie Hamrick and David Sumpter on October 5, 2017 at Cox Creek to Diane Wilson and Bobby Lindsey. All samples are pellets unless stated otherwise. Videos taken.

#1801 9/22/17 (9:49am) Six Mile, NW boat ramp, powder
#1802 9/22/17 (2:48pm) Six Mile, NW boat ramp, powder and pellets, bottle
#1803 9/23/17 (6:02pm) Six Mile Park, WNW boat ramp, powder in bottle, pellets
#1804 9/25/17 (3:32pm) Cox Creek, N
#1805 9/25/17 (3:44pm) Cox creek, N
#1806 9/26/17 (2:33pm) Black Rock
#1807 9/26/17 (2:56pm) Black Rock
#1808 9/30/17 (6:13pm) Black Rock
#1809 10/1/17 (1:30pm) Black Rock
#1810 10/2/17 (2:06pm) Black Rock, pellets and powder

The following samples # 1811-1824 were handed over to Diane Wilson by Ronnie Hamrick on November 24, 2017 at Cox Creek. The samples are pellets unless stated otherwise. Videos and photos taken

#1811 10/28/17 (10:40am) Cox creek, S
#1812 10/28/17 (11:06am) Cox Creek, N
#1813 10/28/17 (11:21am) Cox Creek, N
#1814 10/31/17 (11:05am) Six Mile, pvc powder
#1815 11/1/17 (9:54am) Cox Creek, S
#1816 11/1/17 (10:18am) Cox Creek, N
#1817 11/1/17 (1:21pm) Bayfront marina
#1818 11/3/17 (11:57am) Marina boat ramp (3 samples) pellets and powder

#1819 11/05/17 (12:38pm) Marina boat ramp
#1820 11/5/17 (1:21pm) Marina boat ramp, powder and pellets
#1821 11/6/17 (9:32am) Cox Creek, S
#1822 11/20/17 (11:10am) Cox Creek, N
#1823 11/20/17 (11:36am) Cox Creek, S
#1824 11/20/17 (2:03pm) Cox Creek, N

The following samples #1825-1848 were handed to Diane Wilson by Ronnie Hamrick on February 9, 2018 at Cox Creek. All samples are pellets unless stated otherwise. Photos and videos taken

#1825 1/11/18 (12:05pm) Cox Creek, N
#1826 1/11/19 (1:06pm) Cox Creek, S
#1827 1/19/18 (2:46pm) Marina inlet, pvc powder in bottle
#1828 1/21/18 (4:36pm) marina inlet, pvc powder and pellets
#1829 1/22/18 (4:15pm) marina boat harbor
#1830 1/23/18 (2:46pm) six mile boat ramp
#1831 1/24/18 (2:15pm) cox creek, south
#1832 1/24/18 (2:15pm) cox creek, south
#1833 1/24/18 (3pm) cox creek, N outfall 6
#1834 1/25/18 (12:48pm) Cox Creek, N
#1835 1/26/18 (1:15pm) Cox Creek, N,
#1836 1/26/18 (1:15pm) Cox Creek, S
#1837 1/26/18 (3:42pm) north side of causeway, pvc powder
#1838 1/26/18 (3:42pm) north side of causeway, pvc powder in bottle
#1839 1/31/18 (9:15am) Cox Creek, N side, outside barrier, outfall 6
#1840 1/31/18 (9:32am) Cox Creek, N
#1841 1/31/18 (9:32 am) Cox Creek, N
#1842 1/31/18 (9:40am) Cox Creek, N
#1843 1/31/18 (9:57) Cox Creek, S
#1844 1/31/18 (10am) Cox Creek, S
#1845 1/31/18 (12:10pm) Marina near pavallian
#1846 2/1/18 (1:19pm) Marina boat ramp
#1847 2/1/18 (1:30pm) Marina boat ramp
#1848 2/1/18 (6pm) Six Mile boat ramp, pvc powder, bottle

The following samples #1849—1891 were handed over to Diane Wilson from Ronnie Hamrick on February 29, 2018 at Cox creek. All samples are pellets unless stated otherwise. Photos and videos taken

#1849 2/11/18 (12:15pm) Marina on right at seawall
 #1850 2/11/18 (2:06pm) Marina seawall boat harbor
 #1851 2/14/18 (12:08pm) Marina boat harbor
 #1852 2/15/18 (3pm) Cox Creek, N, outside barrier
 #1853 2/15/18 (3:54pm) Cox Creek, S
 #1854 2/17/18 (12:50pm) Cox Creek, N
 #1855 2/17/18 (12:52pm) Cox Creek, S
 #1856 2/17/18 (1:32pm) Cox Creek, N
 #1857 2/17/18 (1L15pm) Cox Creek, outfall 9
 #1858 2/17/18 (1:40pm) Cox Creek, N
 #1859 2/17/18 (2:24pm) North side of causeway, powder
 #1860 2/17/18 (2:40pm) Bayfront marina, powder
 #1861 2/18/18 (11:12am) Cox Creek, N
 #1862 2/18/18 (1:16pm) Six Mile, powder and bottle
 #1863 2/19/18 (10:56am) Cox Creek, S
 #1864 2/19/18 (11:54am) North side of causeway, pvc powder and pellets in bottle
 #1865 2/19/18 (12:14pm) Bayfront marina
 #1866 2/19/18 (12:44pm) Bayfront marina
 #1867 2/19/18 (1:18pm) Bayfront marina inlet, powder and pellets in bottle
 #1868 2/19/18 (1:36pm) Bayfront marina
 #1869 2/19/18 (2:43pm) Black Rock , powder and pellets
 #1870 2/20/18 (12:44pm) Six Mile park, 2 boat ramps, PVC powder
 #1871 2/20/18 (4:45pm) Marina boat ramp
 #1872 2/21/18 (12:22pm) Cox Creek, S
 #1873 2/21/18 (12:42pm) Cox Creek, N outside barrier
 #1874 2/21/18 (2:02pm) North side of causeway, PVC powder and pellets, bottle
 #1875 2/21/18 (2:04pm) North side of causeway, PVC powder and pellets
 #1876 2/23/18 (12:50pm) Cox Creek, N, outside barrier
 #1877 2/23/18 (2:09pm) North side of causeway, PVC powder and bottle
 #1878 2/23/18 (2:21pm) Cox Creek, S
 #1879 2/25/18 (10:53am) Cox Creek, S
 #1880 2/25/18 (11:18am) Cox Creek, N, outside barrier
 #1881 2/25/18 (12:08pm) North side of causeway, pvc powder
 #1882 2/26/18 (3:25pm) Marina boat harbor, SW pier
 #1883 2/26/18 (3:55pm) Marina boat harbor, powder and pellets
 #1884 2/27/18 (3:12pm) Harbor Refuge, powder and pellets
 #1885 2/27/18 (4:26pm) Marina boat harbor, seawall pellets and pvc powder
 #1886 2/28/18 (10:32am) Bayfront park Marina inlet , PVC powder and pellets
 #1887 2/28/18 (11:03am) Bayfront marina, powder and pellets
 #1888 2/28/18 (11:48am) Bayfront park marina, along seawall, PVC powder and pellets
 #1889 2/28/18 (12:36pm) Cox Creek, S pellets and pvc powder
 #1890 2/28/18 (1:12pm) Cox Creek, N outside barrier
 #1891 2/28/18 (2:02pm) North side of causeway, PVC powder

The following samples # 1892—1915 were handed over to Diane Wilson by Ronnie Hamrick on 3/10/18 at Cox Creek. All samples are pellets unless stated otherwise. Photos and videos taken

#1892 3/1/18 (2:33pm) Harbor of Refuge, bottle of pvc powder
#1893 3/1/18 (4:55pm) Marina inlet, pvc powder
#1894 3/3/18 (11:57am) Six Mile boat ramp, NW pier, powder
#1895 3/4/18 (11:27am) Cox Creek, S
#1896 3/4/18 (12:16pm) Cox Creek, N, outfall 6 outside boom
#1897 3/4/18 (12:40pm) Cox Creek, N, outfall 8 outside boom
#1898 3/4/18 (2:25pm) Marina boat ramp
#1899 3/4/18 (4:18pm) Six Mile, PVC powder in bottle
#1900 3/5/18 (12:44pm) Marina inlet , PVC powder
#1901 3/5/18 (1:15pm) Marina boat ramp
#1902 3/5/18 (1:46pm) Marina boat ramp
#1903 3/5/18 (2:46pm) Cox Creek, S
#1904 3/5/18 (3:25pm) Cox Creek, N outside barrier
#1905 3/5/18 (5:02pm) Six Mile park, PVC powder
#1906 3/6/18 (12:50pm) North side of causeway
#1907 3/7/18 (10:04am) Cox Creek, S side
#1908 3/6/18 (11:05am) Cox Creek, N side outside barrier outfall 6
#1909 3/6/18 (11:43am) Cox Creek, south side
#1910 3/7/18 (11:08am) Cox Creek, N side outside barrier, outfall 6
#1911 3/7/18 (12:32pm) North side of causeway, powder
#1912 3/9/18 (11:54am) Cox Creek, S
#1913 3/9/18 (12:24pm) Cox Creek, N, outside barrier
#1914 3/9/18 (12:48pm) Cox Creek, S
#1915 3/9/18 (1:36pm) North side of causeway

The following samples #1916—1957 were handed to Diane Wilson by Ronnie Hamrick on March 29, 2018 at Cox Creek. All samples are pellets unless stated otherwise.

#1916 3/13/18 (9:40am) Marina boat harbor
#1917 3/13/18 (1:16pm) Cox Creek, S
#1918 3/13/18 (1:32pm) Cox Creek, N
#1919 3/13/18 (2:13pm) North side of causeway, powder and pellets
#1920 3/14/18 (10:25am) Marina inlet
#1921 3/15/18 (4pm) Marina boat ramp
#1922 3/16/18 (10:48am) Cox Creek, S side of bridge
#1923 3/16/18 (11:07am) Cox Creek, N side, outside barrier outfall 6
#1924 3/16/18 (12:35pm) North side of causeway
#1925 3/16/18 (3:04pm) marina boat harbor

#1926 3/17/18 (7:30pm) Six Mile park
 #1927 3/19/18 (10:55am) Cox Creek, S
 #1928 3/19/18 (10:55am) Cox Creek, S
 #1929 3/19/18 (11:16am) Cox Creek, N
 #1930 3/19/18 (12:36pm) North side of Causeway, bottle with pvc powder
 #1931 3/19/18 (1:56pm) Bayfront marina, bottle of powder
 #1932 3/19/18 (1:56pm) Bayfront marina, pellets
 #1933 3/21/18 (11:32am) Bayfront marina, pellets and bottle of pvc powder
 #1934 3/21/18 (1:12pm) Cox Creek, S
 #1935 3/21/18 (2:06pm) Cox Creek, N
 #1936 3/21/18 (2:32pm) North side of causeway, bottle of PVC powder
 #1937 3/21/18 (3:06pm) Bayfront marina
 #1938 3/21/18 (3:54pm) Bayfront boat ramp marina, pellets and powder
 #1939 3/23/18 (11:15am) Cox Creek, outfall 6, N
 #1940 3/23/18 (11:45am) Cox Creek, outfall 8, N
 #1941 3/23/18 (12:45pm) Cox Creek, outfall 9, N
 #1942 3/23/18 (1:45pm) Cox Creek, outfall 2, South side
 #1943 3/24/18 (9:38am) Marina boat harbor, pellets and powder
 #1944 3/24/18 (10:12am) Marina boat ramp
 #1945 3/24/18 (10:23am) Marina inlet, powder
 #1946 3/26/18 (11:52am) Marina boat harbor, pvc powder and pellets
 #1947 3/26/18 (12:03pm) Marina boat ramp
 #1948 3/27/18 (10:15am) Cox Creek, N, outside barrier
 #1949 3/27/18 (10:34am) Cox Creek, S
 #1950 3/27/18 (12:53pm) North side of causeway, pvc powder and pellets
 #1951 3/27/18 (1:52pm) Marina inlet, pvc powder
 #1952 3/27/18 (2:22pm) Marina boat harbor, pvc powder
 #1953 3/28/18 (12:52pm) Marina boat harbor, pvc powder and pellets
 #1954 3/29/18 (9:45am) Cox Creek, N outfall 8 (outside barrier)
 #1955 3/29/18 (10:15am) Cox Creek, N at iron bridge
 #1956 3/29/18 (10:20am) Cox Creek, N, outfall 9, outside barrier
 #1957 3/29/18 (10:46am) Cox Creek, N outfall 6 outside barrier

The following samples #1958-1970 were handed to Diane Wilson by Ronnie Hamrick on April 4, 2018 at Cox Creek. All samples are pellets unless stated otherwise. Photos taken.

#1958 3/29 /18 (12:32pm) Marina park seawall
 #1959 3/29/18 (4:31pm) Marina boat harbor 3 samples
 #1960 3/31/18 (10am) marina boat harbor
 #1961 4/1/18 (1:05pm) Six Mile park, boat ramp, powder, pellets
 #1962 4/1/18 (1:42pm) Six Mile park, powder
 #1963 4/2/18 (1:15pm) Six Mile park pier, powder, 2 bottles

#1964 4/2/18 (2:11PM) Six Mile park, powder and pellets
#1965 4/3/18 (9:57am) Cox Creek, N
#1966 4/3/18 (11:04am) Cox Creek, S
#1967 4/3/18 (12:06pm) north of causeway
#1968 4/3/18 (12:06pm) bottle of powder
#1969 4/3/18 (12:06pm) pellets and powder
#1970 4/3/18 (1:42pm) Marina seawall

The following samples # 1971-1986 were handed over to Diane Wilson by Ronnie Hamrick on April 16, 2018 at Cox Creek. All samples are pellets unless stated otherwise. (Videos and photos taken)

#1971 4/5/18 (12:36pm) Bayfront park marina, near poor boy bait stand
#1972 4/9/18 ((1:22pm) Poor boy bait stand and marina
#1973 4/9/18 (1:22pm) Poor boy bait stand and marina
#1974 4/10/18 (11:22am) Cox Creek, N, outside of barrier
#1975 4/10/18 (12:22pm) Cox creek, S
#1976 4/10/18 (1:28pm) North side of causeway, pvc powder
#1977 4/11/18 (11:48am) Marina bayront marina near poor boy bait stand
#1978 4/12/18 (3:10pm) Marina boat harbor, seawall, pellets and powder
#1979 4/13/18 (11:04am) Cox Creek, South
#1980 4/13/18 (12:16pm) Cox Creek, N outside barrier
#1981 4/13/18 (12:33pm) North side of causeway, pvc powder
#1982 4/13/18 (2:11pm) Marina bayfront park pellets and powder
#1983 4/15/18 (12:20pm) Marina boat ramp
#1984 4/16/18 (1:42pm) Cox Creek, S
#1985 4/16/18 (2:04pm) Cox Creek, N outside barrier
#1986 4/16/18 (2:48pm) Cox Creek, N, outside barrier

The following samples (#1987-2005) were handed over to Diane Wilson from Ronnie Hamrick on April 27, 2018 at Cox Creek. All samples are pellets unless stated otherwise. (Photos and videos taken)

#1987 4/16/18 (3:02pm) Bayfront marina, poor boy stand
#1988 4/18/18 (10:34am) Marina boat ramp
#1989 4/18/18 (11:05am) Marina boat ramp/seawall, powder and pellets
#1990 4/18/18 (1:38pm) Cox creek, N, outside barrier
#1991 4/18/18 (2:23pm) Cox Creek, S
#1992 4/20/18 (12:03pm) Cox Creek s, pellets and powder in bottle
#1993 4/2018 (12:45pm) Cox Creek, N, outside barrier
#1994 4/21/18 (3:40pm) Marina boat harbor/seawall, pellets and pvc powder
#1995 4/21/18 (4:08pm) Marina boat ramp/harbor

#1996 4/22/18 (12:16pm) Cox Creek, S
#1997 4/22/18 (12:34pm) Cox Creek, N, outside barrier
#1998 4/22/18 (1:26pm) north side of causeway, PVC powder
#1999 4/22/18 (2:08pm) Marina poor boy
#2000 4/25/18 (12:30pm) Cox Creek, S
#2001 4/25/18 (1:20pm) Cox Creek, N outside barrier
#2002 4/26/18 (11:24am) Cox Creek, S
#2003 4/26/18 (11:47am) Cox Creek, N outside barrier
#2004 4/26/18 (1:13pm) north side of causeway, pvc powder
#2005 4/26/18 (1:38pm) Bayfront park marina, poor boy bait stand

The following samples (2006-2019) were handed from Ronnie Hamrick to Diane Wilson in Point Comfort, Texas on May 5, 2018. All samples are pellets unless stated otherwise. Photos

#2006 4/30/18 (10:24am) Marina boat ramp, pellets and powder
#2007 4/30/18 (11:42am) Bay front park marina, on right as you enter, Power and pellets
#2008 4/30/18 (12:54pm) cox creek, S
#2009 4/30/18 (1:24pm) cox Creek, N, pellets and shavings
#2010 5/1/18 (6:50am) marina boat ramp
#2011 5/1/18 (7:33am) marina boat harbor, pvc powder and pellets
#2012 5/1/18 (11:40am) Six mile park, powder (bottle)
#2013 5/1/18 (4:34pm) marina inlet, pvc powder
#2014 5/2/18 (11:32am) Cox Creek, S
#2016 5/2/18 (12:38pm) Marina boat ramp
#2017 5/2/18 (3:10pm) north side of causeway, pvc powder
#2018 5/5/18 (9:52) cox creek, n at outfall 6 and also on east bank, pellets and powder
#2019 5/5/18 (12:21pm) Cox Creek, S

The following samples (2020-2029) were handed by Ronnie Hamrick to Diane Wilson at Cox Creek, in Point Comfort, Texas on May 11, 2018. All samples are pellets unless stated otherwise. Photos.

#2020 5/7/18 (11:20am) marina boat ramp, (2 samples)
#2021 5/7/18 (1:15pm) Cox creek, N (outside barrier)
#2022 5/8/18 (10:32am) cox creek, n, east bank
#2023 5/8/18 (11:23am) Cox Creek, S
#2024 5/8/18 (12:24pm) north side of causeway, pvc powder
#2025 5/11/18 (9:56am) Cox creek, S, pellets, powder, and shavings , bottle
#2026 5/11/18 (10:52am) cox creek, N, east bank, pvc powder and pellet shavings

#2027 5/11/18 (11:33am) north side of causeway, pvc powder
#2028 5/11/18 (11:56am) Bayfront park marina, on right as you enter, poor boy stand
#2029 5/11/18 (12:21pm) marina park, on right and near pavilion, pellets and powder

The following samples (2030-2046) were handed by Ronnie Hamrick to Diane Wilson in Point Comfort, Texas on May 25, 2018. All samples are pellets unless stated otherwise. Photos and videos

#2030 5/15/18 (12:50pm) outfall 001 Lavaca Bay, north of causeway
#2031 5/15/18 (1:50pm) north side of causeway, pvc powder
#2032 5/16/18 (9:46am) Cox Creek, S
#2033 5/16/18 (10:32am) Cox Creek, N, east bank
#2034 5/17/18 (12:55pm) Marina boat harbor SE end of seawall
#2035 5/19/18 (9:12am) Cox Creek, S
#2036 5/19/18 (11:23am) north side of causeway, pvc powder
#2037 5/19/18 (12:42pm) Marina, along bottom of seawall, pellets and pvc powder
#2038 5/20/18 (8:48am) marina boat ramp
#2039 5/20/18 (10:17am) marina boat harbor, pellets and pvc powder
#2040 5/22/18 (9:42am) Cox Creek, N side, east bank
#2041 5/22/18 (11:04am) Cox Creek, south
#2042 5/22/18 (12:03pm) north side of causeway, pvc powder
#2043 5/23/18 (11:30am) Marina boat harbor, pellets and powder
#2044 5/24/18 (11:58am) 001 outfall in Lavaca Bay
#2045 5/25/18 (9:42am) Cox Creek, N, east bank, pellets
#2046 5/25/18 (11am) outfall 9 and iron bridge, south side, pellets
#2047 5/25/18 (11:09am) Cox Creek, S

The following samples (#2048-2070) were handed over by Ronnie Hamrick to Diane Wilson on June 12, 2018 at the Marina Pavillion in Port Lavaca. All samples are pellets unless stated otherwise. (Videos and photos taken)

#2048 5/27/18 (12:28pm) Cox Creek, N, east bank,
#2049 5/27/18 (1:34pm) Cox Creek, S, pellets and shavings outside barrier
#2050 5/27/18 (2:26pm) North side of causeway, Holiday Inn, powder
#2051 5/29/18 (9:52am) Marina boat ramp, pellets and powder
#2052 5/29/18 (1:58pm) Cox Creek, S, pellets and shavings
#2053 5/29/18 (3:02pm) south of causeway, Alcoa side, powder on shore/water/bottle
#2054 5/30/18 (9:23am) Cox Creek, N, east bank (across from outfall 6)
#2055 5/30/18 (1:27pm) Six Mile boat ramp, powder in bottle
#2056 5/30/18 (4:03pm) Marina boat ramp
#2057 6/2/18 (2:16pm) Marina boat harbor, seawall, powder and pellets
#2058 6/4/18 (9:38am) Cox Creek, North side but east bank

#2059 6/4/18 (10:24am) Cox Creek, south side, east bank
#2060 6/5/18 (12:47pm) Marina boat harbor, SW corner, powder and pellets
#2061 6/5/18 (1:21pm) Marina boat harbor, SE corner, seawall, brown stuff with powder (3 bottles and 1 baggie)
#2062 6/6/18 (2:52pm) Marina boat harbor, SE corner of seawall, powder, pellets, and brown stuff
#2063 6/7/18 (8:32am) Cox Creek, N, east bank, old/new pellets
#2064 6/7/18 (9:52am) Cox Creek, S, east bank, pellets and shavings
#2065 6/7/18 (11:58am) Bay front marina, poor boy bait stand
#2066 6/11/18 (8:44am) Cox Creek, N, east bank (Olivia turnoff)
#2067 6/11/18 (9:46am) Cox Creek, S
#2068 6/11/18 (11:27am) Marina boat harbor, seawall, powder and pellets (2 samples)
#2069 6/11/18 (1:43pm) Marina boat ramp, pellets and powder
#2070 6/12/18 (7:08pm) Marina bay front, corner of pavilion, old/new pellets

The following samples were given by Myron Spree to Diane Wilson in Port Lavaca on May 25, 2018. Photos

M1 4/7/18 outfall 001 in Lavaca Bay, pvc powder (bottle)
M2 4/7/18 outfall in Lavaca Bay, pellets
M3 4/8/18 (2:30pm) outfall 001 in Lavaca Bay, pellets
M4 4/8/18 (2:30pm) outfall 001 in Lavaca Bay, pvc powder (bottle)
M5 4/11/18 (7am) pellets at 001 in Lavaca Bay
M6 4/28/18 outfall 001 in Lavaca Bay, pellets
M7 4/28/18 outfall 001 in Lavaca Bay, pvc powder, bottle
M8 5/15/18 (8:15am) outfall 001 in Lavaca Bay, pellets



Figure 1. Approximate location of Formosa discharge pipe into Lavaca Bay (red box).



Figure 2. The two sites visited March 16, 2018 to look for potential plastic pellet and powder contamination that emanated from Cox Creek.



Figure 3. Plastic pellets (orange boxes) observed in detritus at the Port Lavaca Marina boat ramp on 12/12/18.

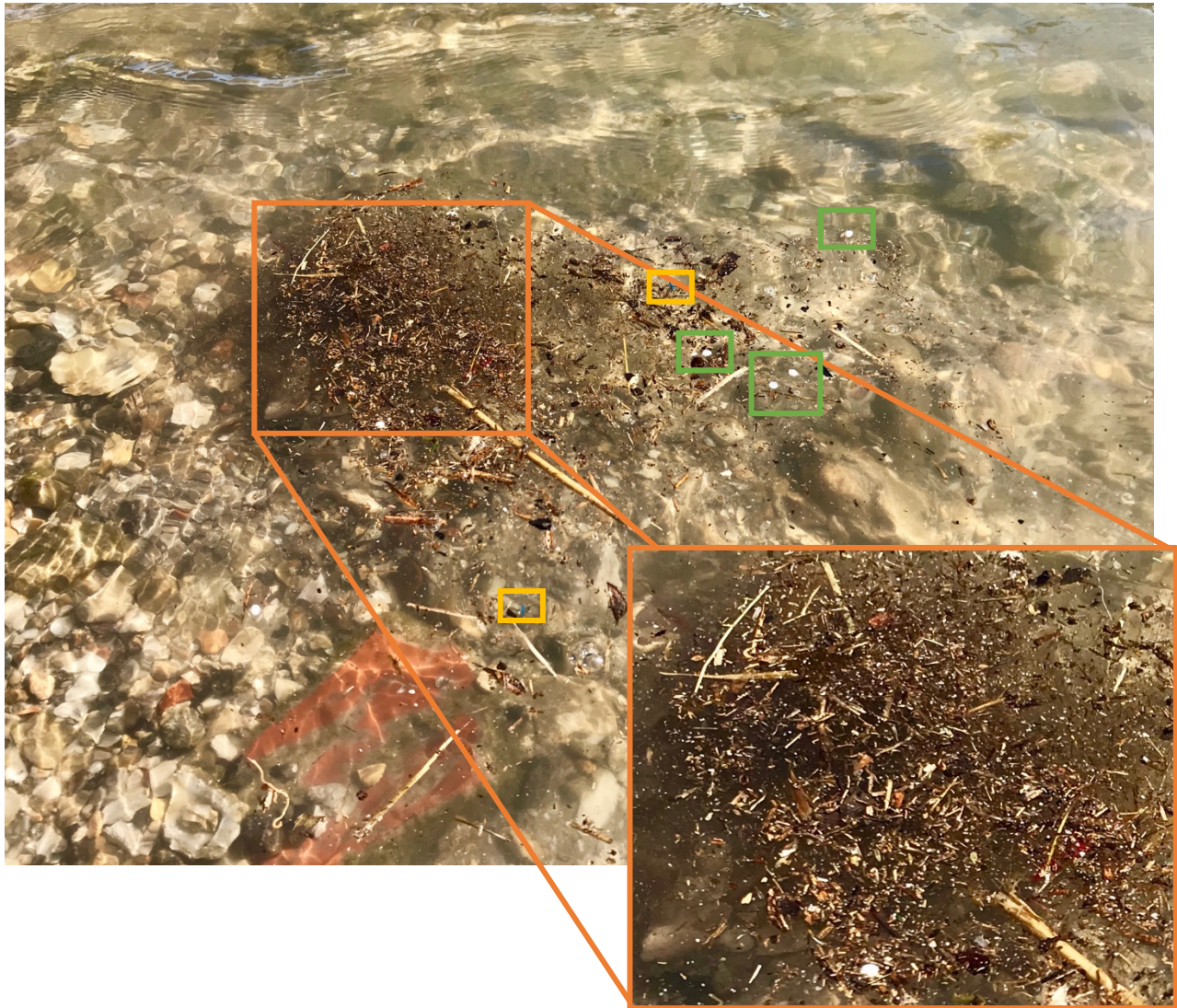


Figure 4. Detritus mixed with PVC powder floating at the Port Lavaca Marina. The inset show white PVC powder particles. Additional 4 nurdles are shown in the green boxes and suspected plastic litter in the yellow.



Figure 5. Plastic nurdles on the shoreline of Cox Creek adjacent to the Route 35 bridge.



Figure 6. Plastic nurdles captured with a small aquarium net near the water's edge on Cox Creek adjacent to the Route 35 bridge.



Figure 7. Plastic nurdles and powder floating in Cox Creek upstream from Outfall 006. A portion of the nurdles in the picture are outlined by orange boxes.



Figure 8. Film of plastic powder captured by boom positioned near Outfall 009.

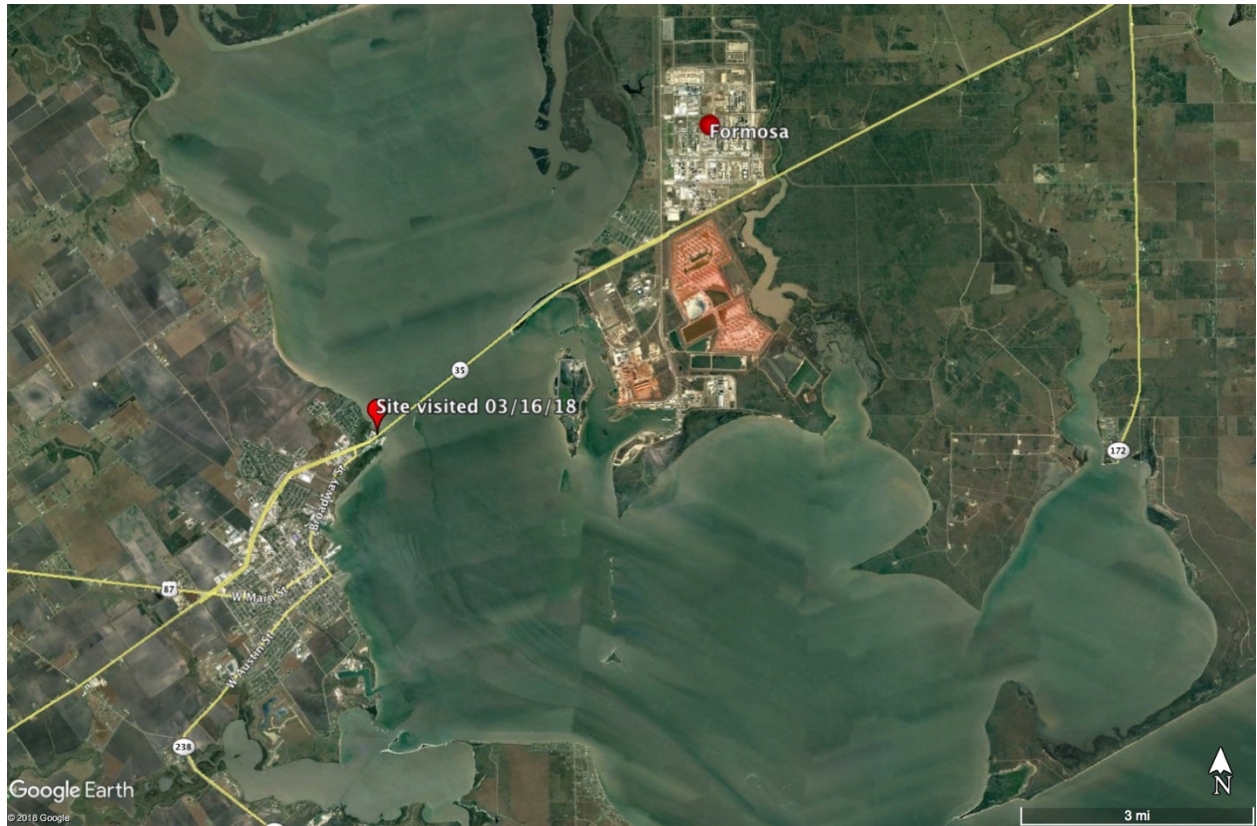


Figure 9. Location of site next to causeway that was visited 03/16/18.



Figure 10. Plastic powder on the shoreline of Lavaca Bay near the causeway on 03/16/18.



Figure 11. Plastic powder on the shoreline of Lavaca Bay near the causeway on 03/16/18.



Figure 12. Containers in which samples of plastic pellets and powder collected by Ms. Wilson and others.



Figure 13. Bags with varying amounts of plastic debris.

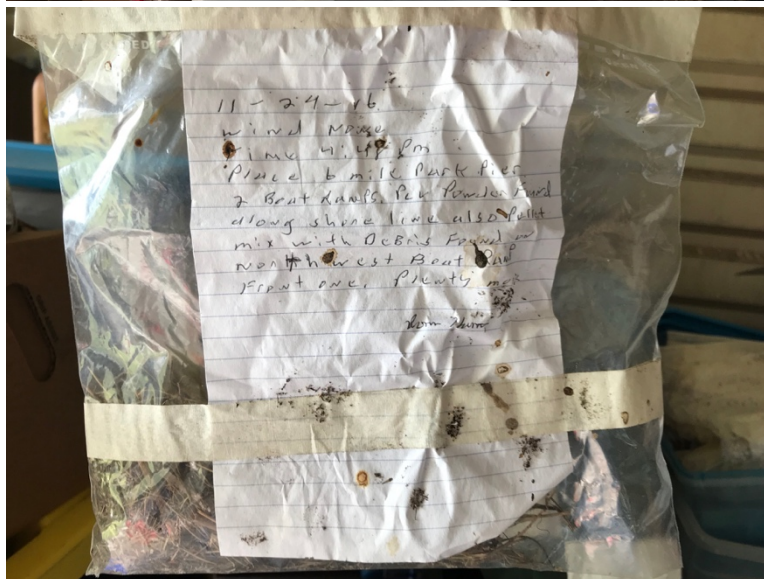
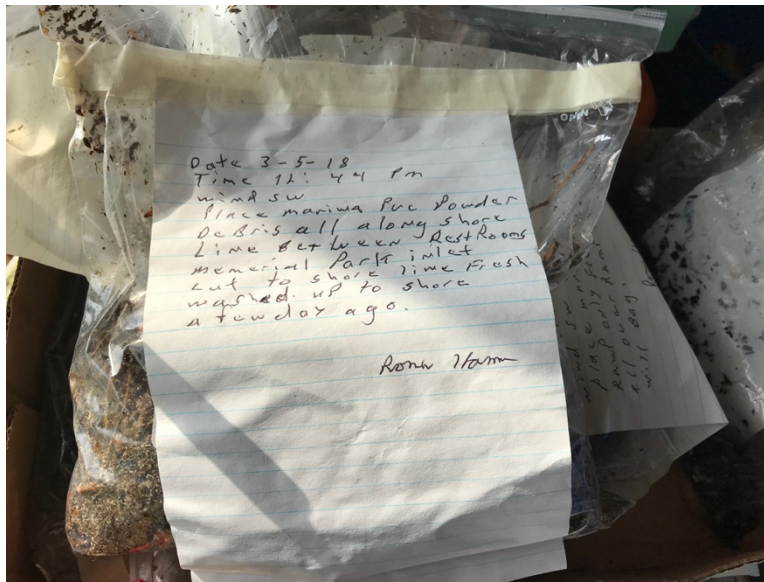


Figure 14. Labels on sample containers.



Figure 15. (a) Land adjacent to Route 35 on the Formosa side of Cox Creek that was recently clear cut. **(b)** Cox Creek with higher than normal water levels due to ongoing rains. Both of these pictures were taken on 06/20/2018.



Figure 16. Plastic pellets and powder floating near the shoreline at the boat ramp across Route 35 from the Formosa property on 06/20/2018.



Figure 17. Plastic pellets on the grass covered boat ramp across Route 35 from the Formosa property on 06/20/2018.



Figure 18. Cox Creek water levels at the clear-cut area next to the Formosa property on 06/22/2018.



Figure 19. Cox Creek water levels at the boat ramp across Route 35 from the Formosa property on 06/22/2018.



Figure 20. Plastic pellets mixed with some powder at the water's edge of the boat ramp across Route 35 from the Formosa Property on 06/22/2018.



Figure 21. Plastic pellets mixed with some powder on my hand at the water's edge of the boat ramp across Route 35 from the Formosa Property on 06/22/2018.



Figure 22. Plastic pellets on the grass covered boat ramp across Route 35 from the Formosa property on 06/22/2018.



Figure 23. Wrack line of debris representing the high-water mark of water due to recent rains around Cox Creek on 06/22/2018. As water receded this debris was deposited. Within this debris is the presence of plastic powder and pellets.

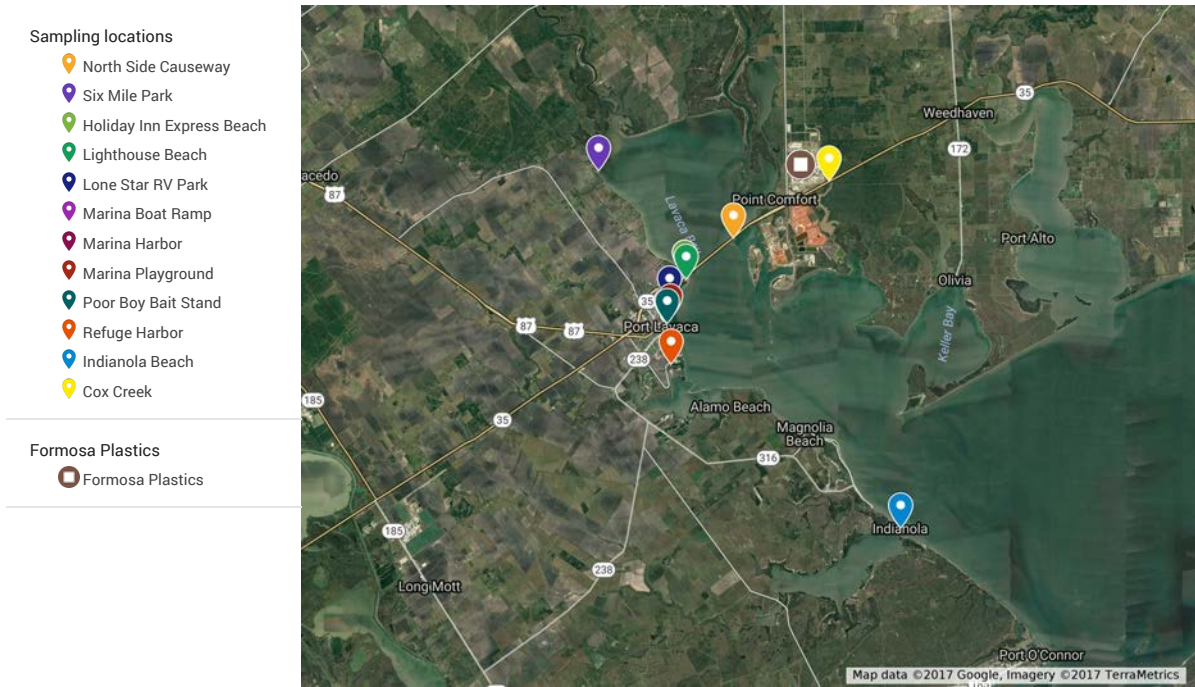


Figure 24. Locations monitored and sampled by Diane Wilson and associates for plastic pellets and powder.



Figure 25. Plastic powder trapped behind boom on Cox Creek (12/12/2017)



Figure 26. Plastic powder on the shoreline of Lavaca Bay (03/16/18).

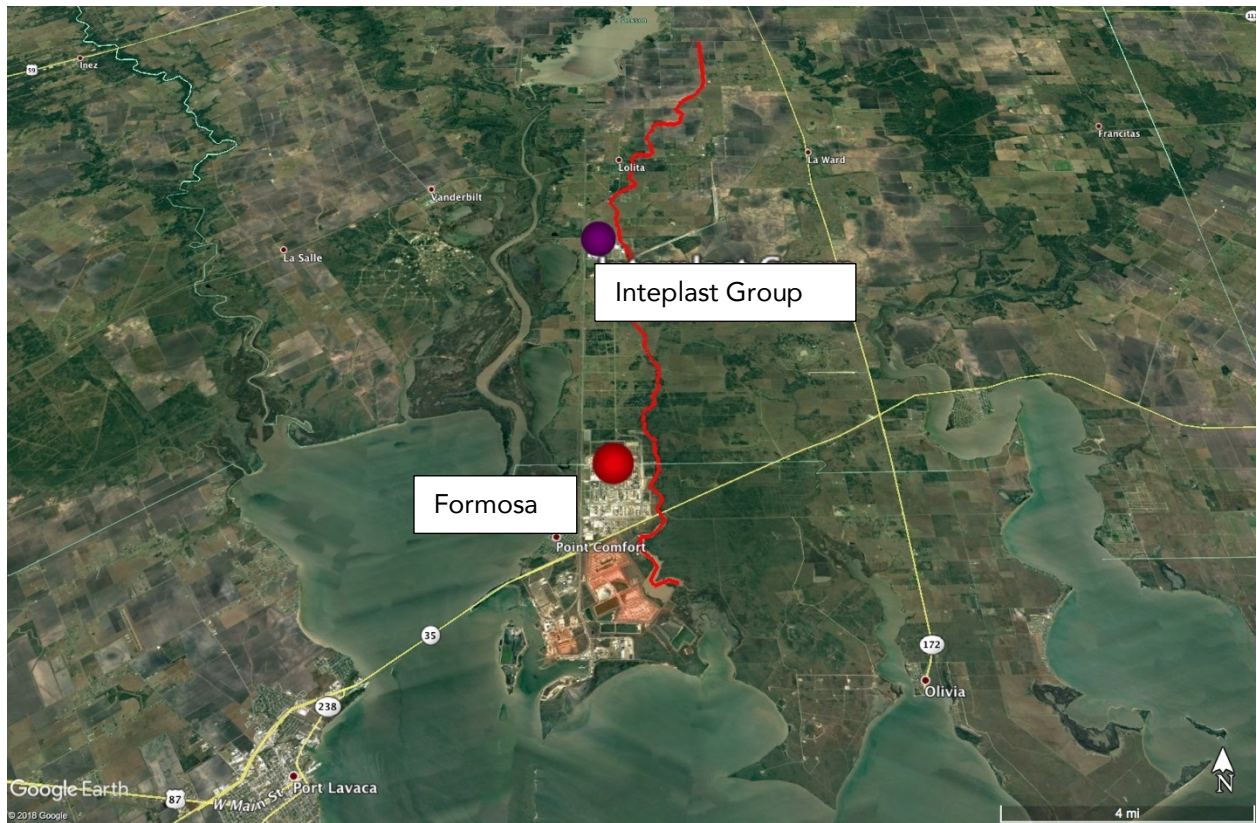


Figure 27. Entirety of Cox Creek (~22 miles) outlined in red showing the relative locations of Inteplast Group and Formosa.



Figure 28. Cox Creek as it flows south of Formosa. The orange line is the constructed dam, the green line shows the spillway that allows excess water to flow into the downstream marsh and the white line delineates the boundary of the salt marsh.



Figure 29. Image of Cox Creek spillway dam on Google Earth from February 2003. Most of the dam is dry, with only 2 small areas (red boxes) allowing water to flow into the downstream marsh. This indicates that the water does not always flow from Cox Creek in to the marsh.



Figure 30. Marsh below the Cox Creek evaporation lake. Light blue line represents the general water flow path as water flows from Cox Creek into the evaporation lake, then through the spill way, over the dam and into the meandering marsh before entering Cox Bay and eventually Lavaca Bay.

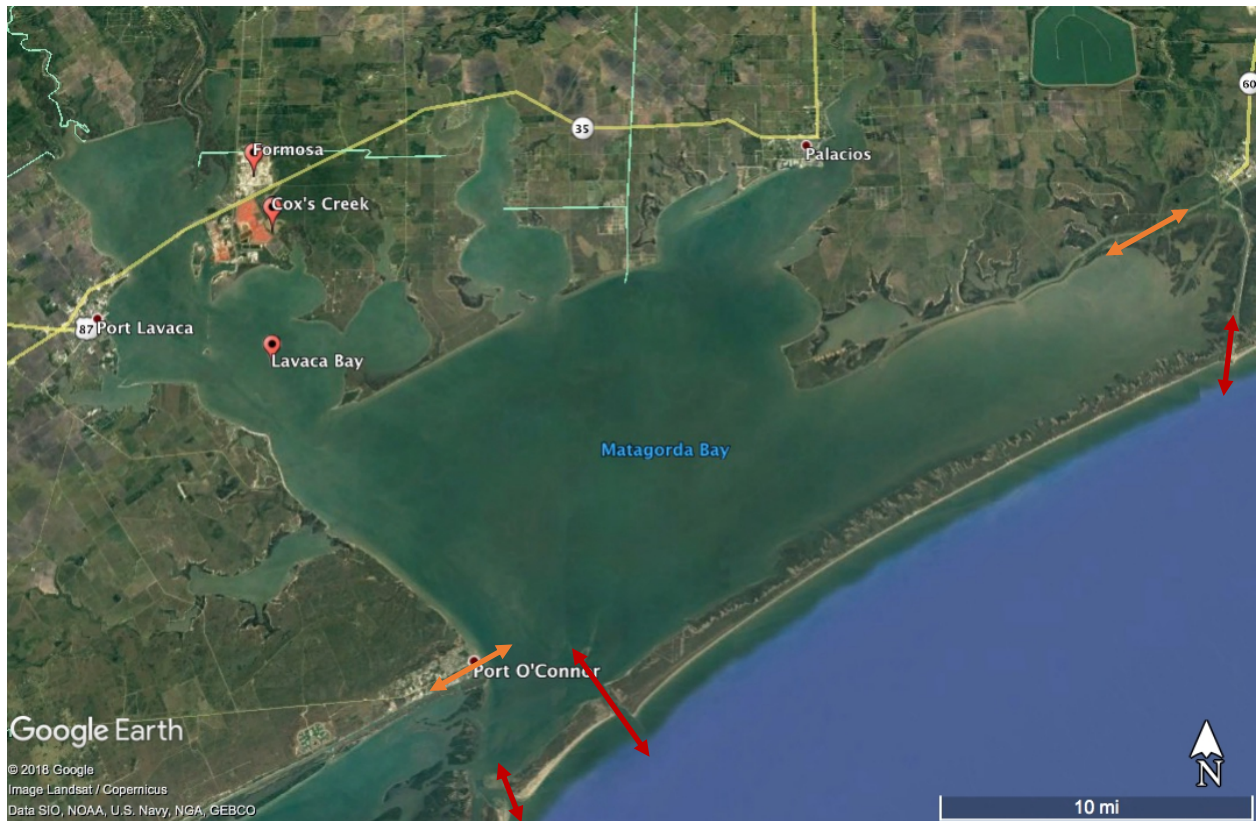


Figure 31. Google Earth image of Lavaca and Matagorda Bay. Red arrows depict larger sites of water exchange between the bays and the Gulf of Mexico. The two orange arrows depict possible water exchange between adjacent bay systems through the Intracoastal Waterway.

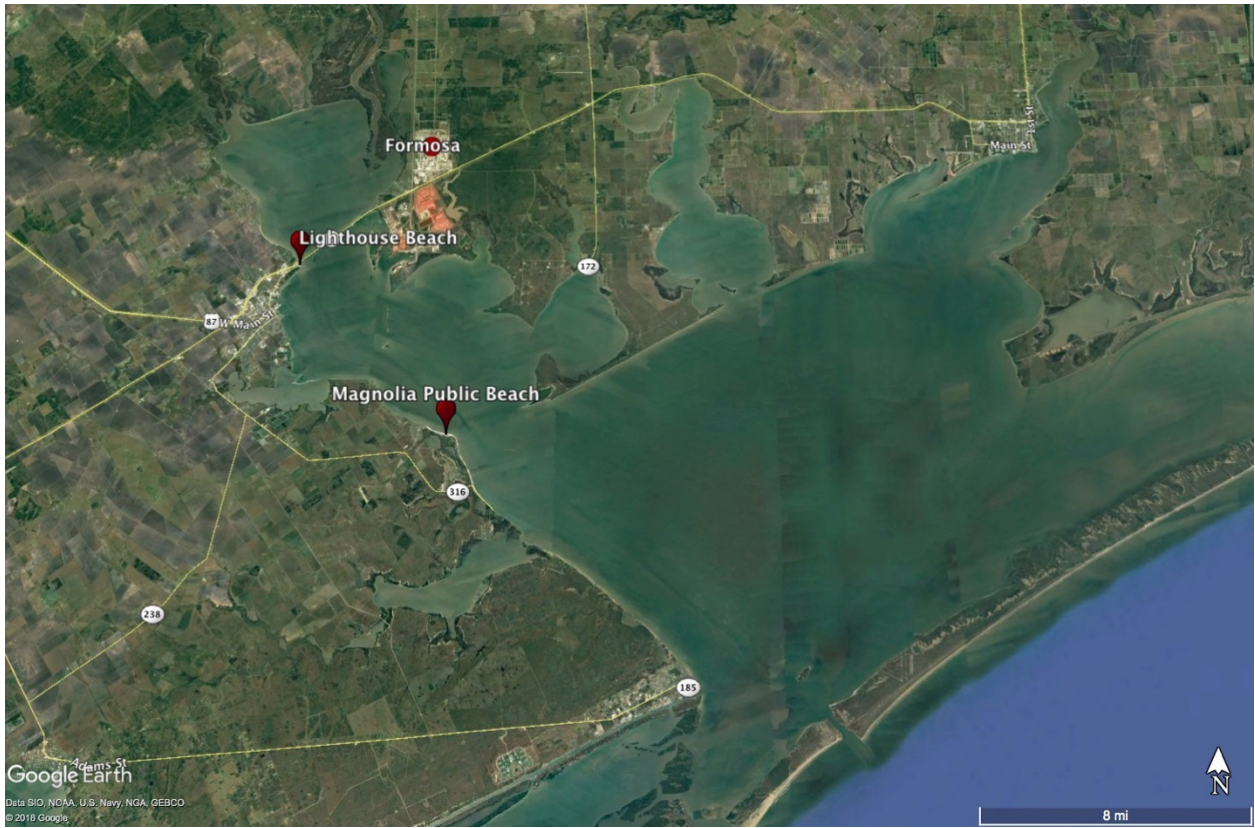


Figure 32. Recreational beaches in Lavaca Bay.

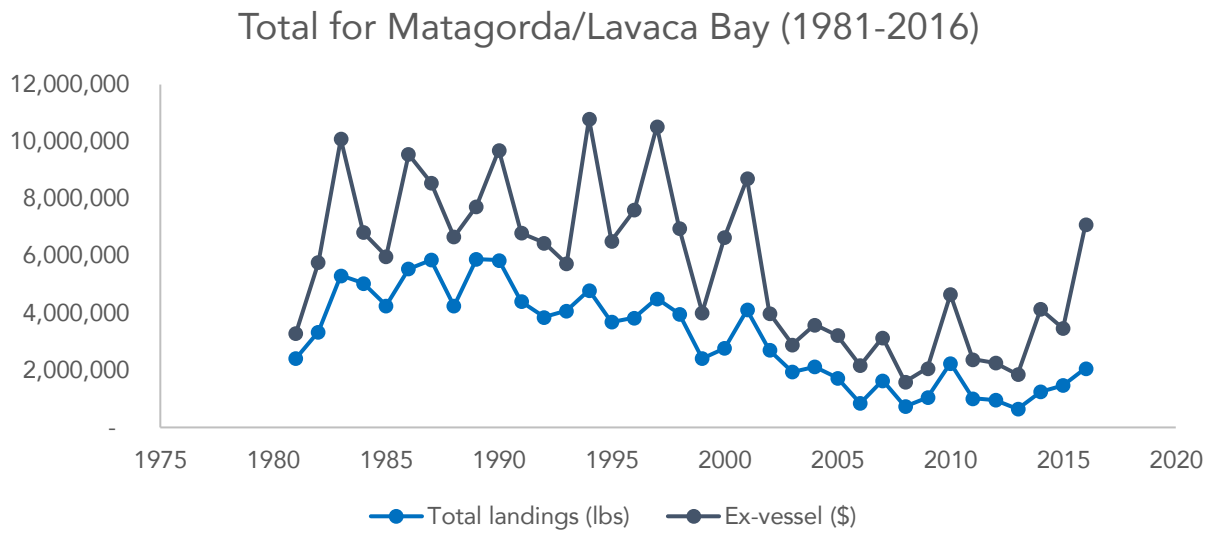


Figure 33. Self-reported commercial landings and their value in Matagorda/Lavaca Bay.

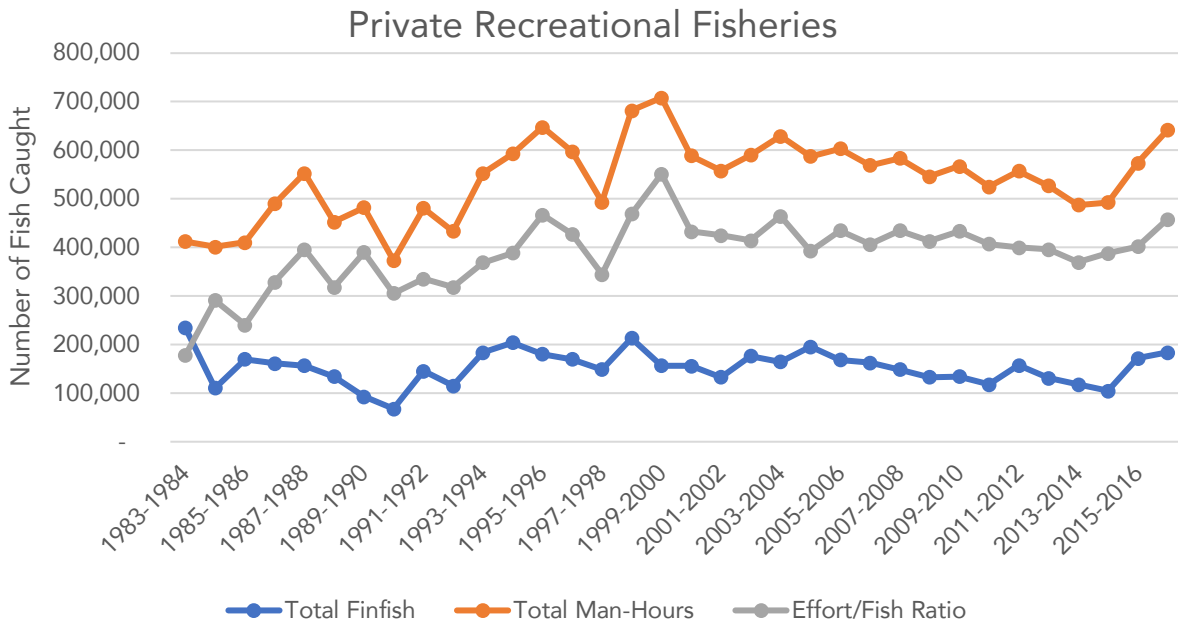


Figure 34. Private recreational finfish landings in Matagorda/Lavaca Bay from 1983-2017

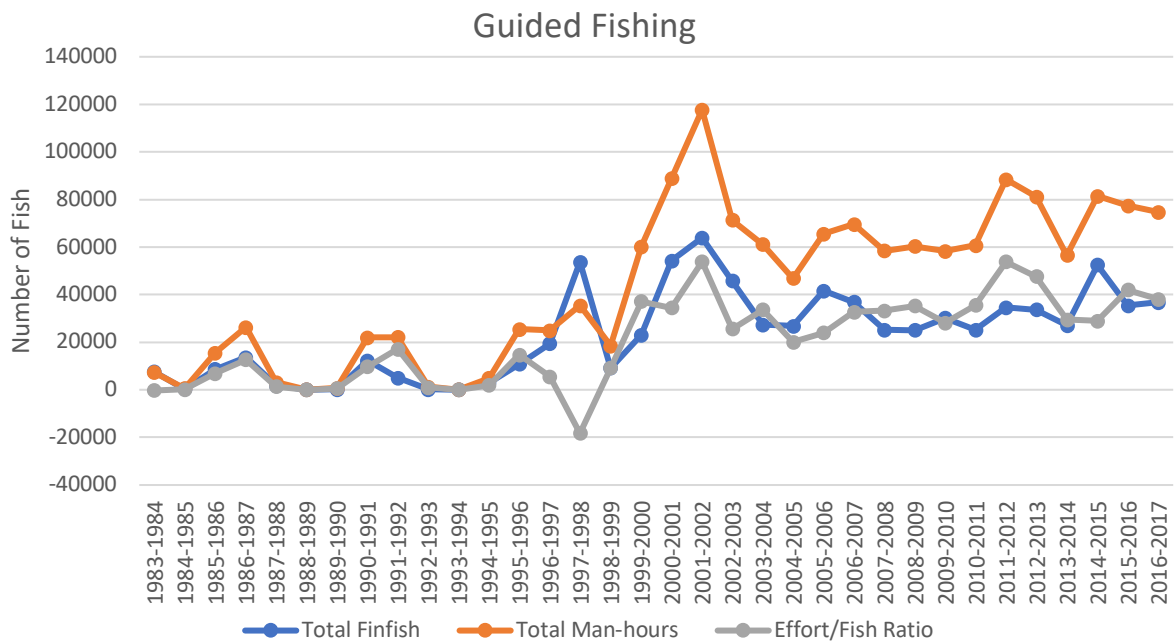


Figure 35. Private recreational finfish landings in Matagorda/Lavaca Bay from 1983-2017

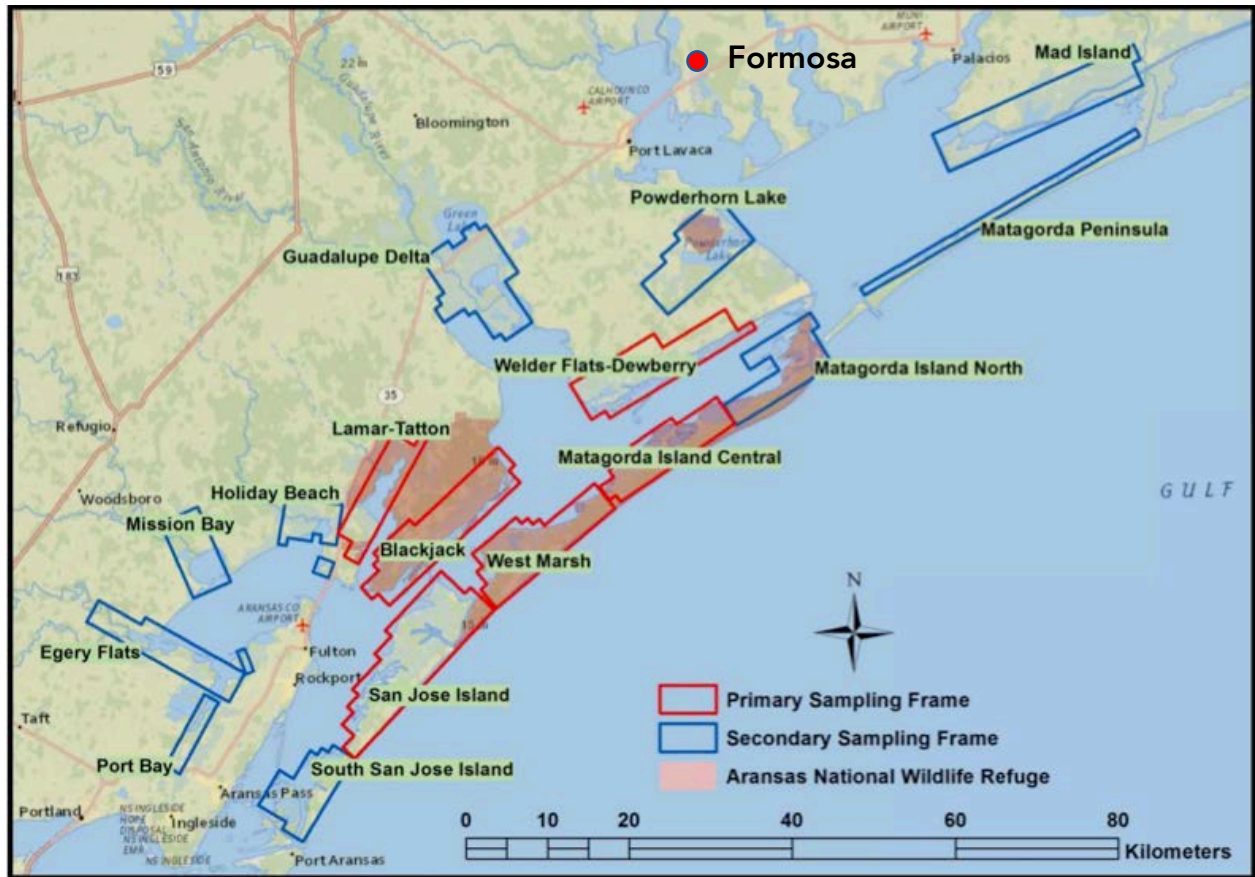


Figure 36. Sampling area used to monitor whooping crane at and around Aransas National Wildlife Refuge.

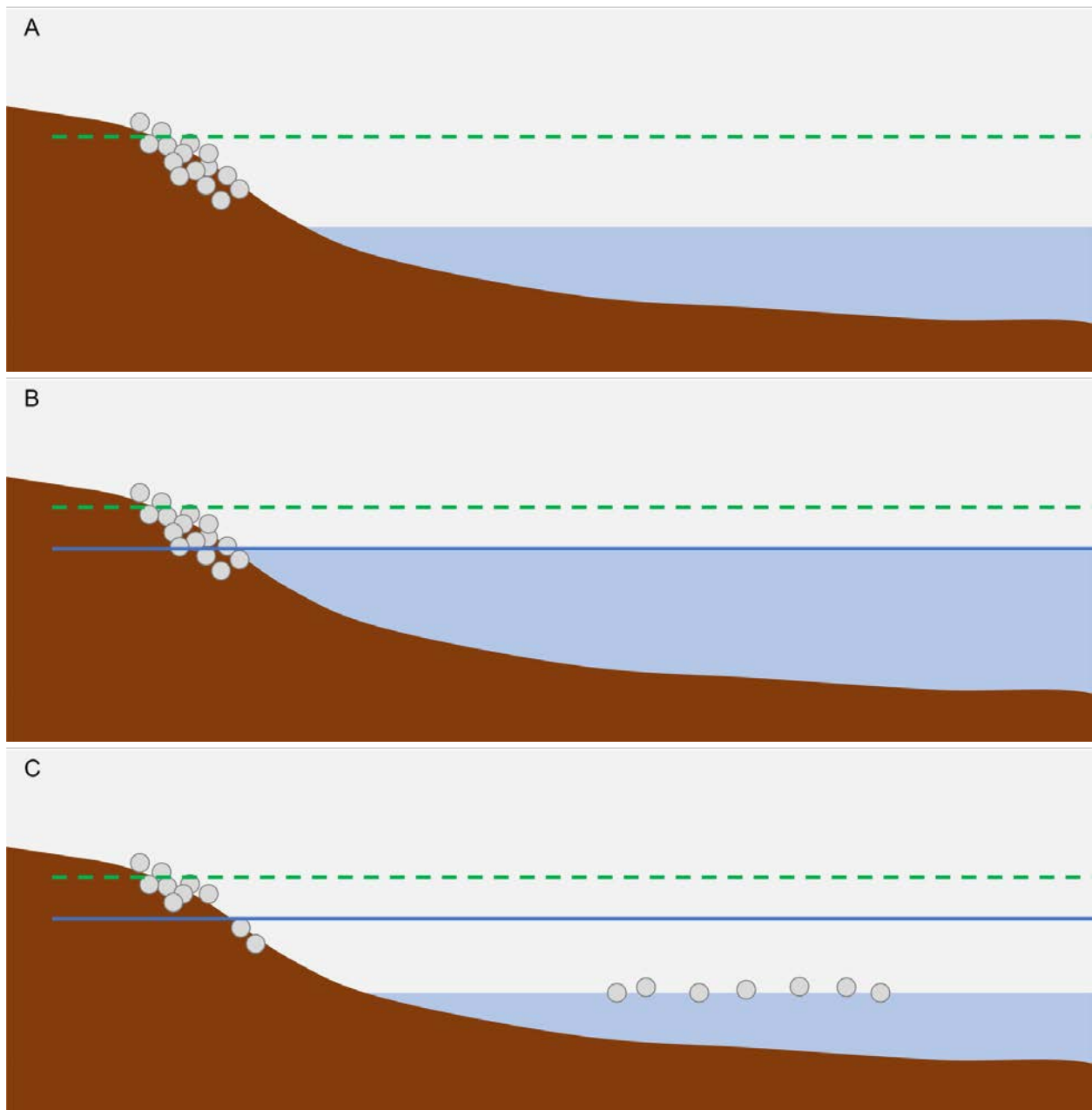


Figure 37. (a) Plastic pellets or powder (grey spheres) deposited on a shore around the high tide line (green dashed line) when waters receded. (b) The second high tide arrives, but it is lower than the previous. (c) The second high tide recedes carrying the pellets and powder that it reached from the first high tide. Some plastic was deposited lower on the bank, while most was transported out with the tide.

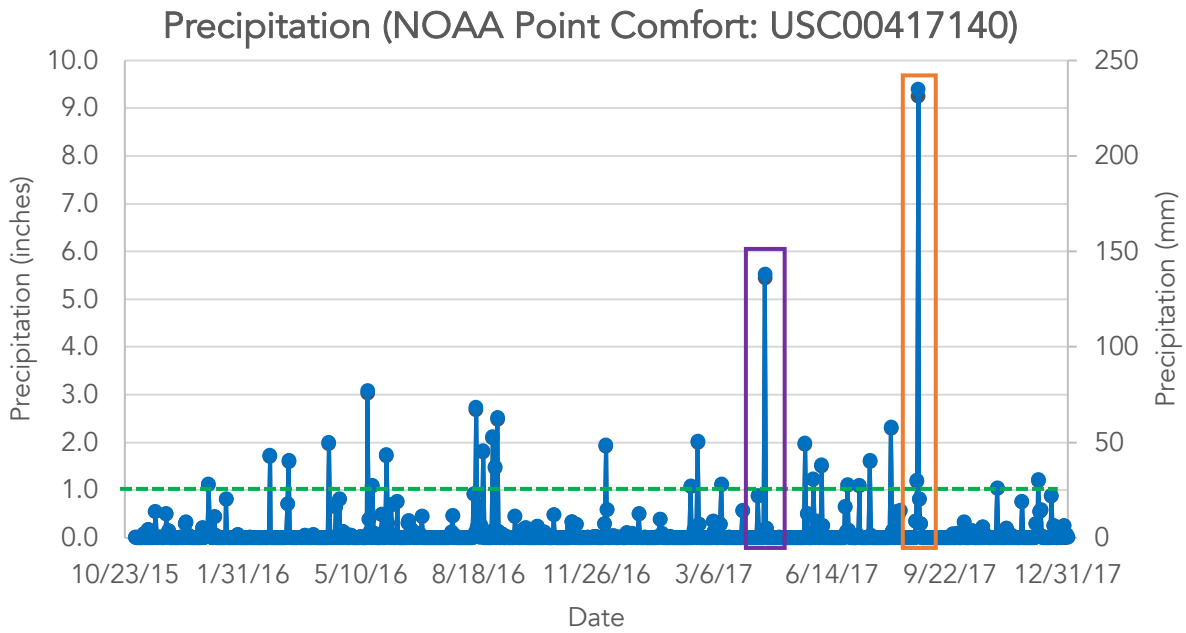


Figure 38. NOAA rainfall data at station Point Comfort, TX from November 2015 through December 2017. The dashed green line shows precipitation events >1 inch, while the **purple box** represents a large rainfall in April 2017 and the **orange box** is rainfall from Hurricane Harvey.

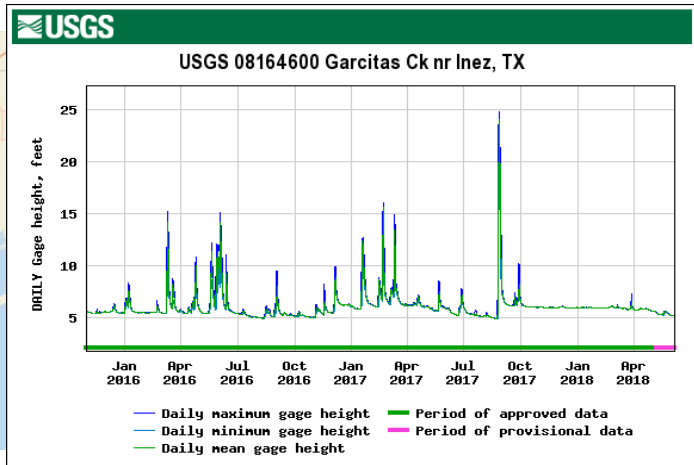
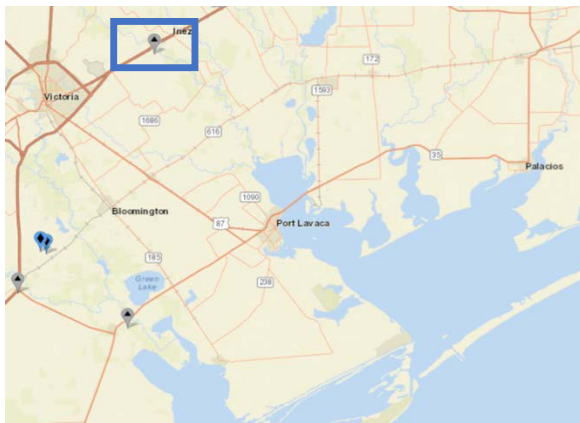


Figure 39. (a) Nearest USGS gage station upstream from Port Lavaca on Garcitas Creek. **(b)** Garcitas Creek stream gage height from March 2017 through January 2018.

Table 1. Densities of common plastic polymers. Polymers listed above the **dashed orange line** are less dense than water and therefore float in water. Polymers below the orange line do not float in stationary water but could be suspended in the water column when water moves.

| Plastic Polymer | Density (g cc ⁻¹) |
|--|-------------------------------|
| Polypropylene (PP) | 0.86 to 0.90 |
| Polyethylene (low-density; LD-PE) | 0.92 |
| Polyethylene (high-density; HD-PE) | 0.95 |
| Polystyrene (PS) | 1.05 |
| Nylon | 1.01 to 1.14 |
| Polycarbonate (PC) | 1.2 |
| Polyethylene terephthalate (PET, PETE) | 1.385 |
| Polyvinyl chloride (PVC) | 1.4 |

Table 2. Debris removed from Cox Creek and Lavaca Bay as stated in ISS 209 with estimates for multiple ranges of possible plastic materials removed. These calculations are based only on HDPE density, making pellet counts conservative due to the lower density of PP, which is some portion of plastic released by Formosa into the environment. Estimates also do not account for the PE powder or potential PVC contamination which has a much higher density than PE or PP. ♦Based on numbers provided by Formosa in presentation. *Based on Formosa estimates.

| Lavaca Bay | | Cox Creek | |
|--|-----------------------------|-----------|-------------|
| Total Bags | ~4,950 | ~43,500 | |
| ♦Bag Mass | ~50 lbs | | |
| *Pellets | 22000 lb ⁻¹ | | |
| Powder | Particles Per Pound Unknown | | |
| | lbs | Tons | Pellets |
| All Debris Removed | 247,500 | 124 | |
| Possible Range ♦ of % Plastic Mass Removed Per Bag | | | |
| 10% | 24,750 | 12.4 | 544,500,000 |
| 5% | 12,375 | 6.2 | 272,250,000 |
| 1% | 2,475 | 1.2 | 54,450,000 |
| | | | 21,750 |
| | | | 11 |
| | | | 478,500,000 |

Table 3. Summary and summation of information from Table B for the total debris removed from Cox Creek and Lavaca Bay as well as the mass and number of pellets removed. These calculations are based only on HDPE density, making pellet counts conservative due to the lower density of PP, which is some portion of plastic released by Formosa into the environment. Estimates also do not account for PE powder or potential PVC contamination which has a much higher density than PE or PP.

| | lbs | Tons | Pellets |
|---|-----------|-------|---------------|
| Total Debris Mass Removed | 2,422,500 | 1,211 | |
| Possible Range of % Plastic Mass Removed Per Bag | | | |
| If 10% Plastic Per bag | 242,250 | 121 | 5,329,500,000 |
| If 5% Plastic Per bag | 121,125 | 61 | 2,664,750,000 |
| If 1% Plastic Per bag | 24,225 | 12 | 532,950,000 |