Greater San Antonio and Espíritu Bay Cleanup Master Plan



June 1, 2020

San Antonio Bay - Guadalupe Estuary - Adopt a Bay - Removing Plastic Pollution

Introduction

Plastic pollution in the marine environment is a problem. The Texas GLO sponsors beach cleanups at various shoreline locations along the Texas Coast to address the issue. The largest effort in the State may be the Padre Island National Seashore where volunteers mobilize to cleanup miles of Padre Island Gulf shores.

The San Antonio Bay – Guadalupe Estuary system is of national significance given that it is the winter home of the endangered Whooping crane. While a relatively undeveloped segment of the Texas Coast, it too is subject to plastic pollution. There are several annual beach cleanups occurring on frequently used beaches within the bay systems in Calhoun County, but nothing is being done to address the problems along remote bay shorelines and beaches.

This proposal is to develop a program that will remove plastic litter from the shoreline of the San Antonio Bay – Guadalupe Estuary System, from the Aransas National Wildlife Refuge on the south to Pass Cavallo on the north. This proposed program would involve volunteers in a systematic and comprehensive approach to cleaning the shorelines of the greater SA Bay system of visible plastic trash.

The San Antonio & Espiritu Santo, and adjacent bays includes over 180 miles of bay shoreline and countless additional miles within adjacent marsh systems. This program will search and remove plastic litter from the most exposed shorelines and survey the marsh to identify any concentrated plastic litter sites that need to be addressed. All these shorelines are only accessible by boat.

Proposal

Develop and implement a systematic and comprehensive program to remove visible plastic litter from the shorelines of the San Antonio Bay-Guadalupe Estuary System and adjacent waters.

The program will involve recruiting and mobilizing volunteers to clean up over 180 miles of shoreline, removing what is anticipated to be mostly consumer plastics by foot, kayak, or by boat, as appropriate for the shoreline. (This activity is like the Abandoned Crab Trap Removal Program coordinated by SABP each February.) Additionally, a survey of marsh shorelines will be conducted to ascertain the magnitude of the issue in the marsh systems.

A data collection protocol will be identified to estimate both the volume and type of trash collected (e.g., 5 gal buckets, water/soda bottles, other consumer plastic containers, aluminum cans, commercial or recreational fishing debris, A preliminary search indicates that cellphone-based apps are available at no charge that should meet the needs. Further, media campaign developed to educate the public on what they can do to reduce marine litter.

The inaugural program will be conducted on Sept 11-12, 2020 in conjunction with land based TGLO Beach Cleanup scheduled for September 12, 2020. Initial contact has been made with TGLO Adopt a Beach to discuss whether SABP can adopt Antonio and Espiritu Santo Bays.

Objectives: The objectives of this effort are three-fold:

- 1. Remove visible plastic trash from bay shorelines;
- 2. Improve the understanding of where and why trash accumulates and possible root causes; and
- 3. Engage the public in making a difference in protecting the Bays.

Potential Scope of Bay Cleanup around the San Antonio Bay System



Legend: White - Kayak; Yellow-Walk; Red-Boat

The greater SA Bay area includes over 183 miles of bay and island shorelines that are subject to the accumulation of plastic pollution. The targeted pollution would include typical beach trash (bottles, cans, buckets, smaller containers) that are visible from the water and that can be safely handled by a person. None of the shorelines are accessible by land—boat access is required. Excluded in this figure are additional shorelines in marsh complexes—several of these marsh sites will be added later, after further reconnaissance.

The shorelines have been preliminarily characterized for cleanup as follows:

Walkable (shown on map in yellow) - volunteers would be taken to the shorelines where the cleanup could be conducted by walking down the beach—however getting feet wet and occasional wading will be required. Most of these segments have higher shell or sand beaches. Trash collected would be taken back to the shuttle boat and be transported to a staging site on the mainland for later transport to a waste disposal facility.

Kayak (white) – volunteers and kayaks would be taken by boat to the shorelines that are not walkable, either due to muddy bottoms, mangrove lined shorelines, or that have shallow beaches that prevent getting the boat close. Getting out the kayak will be required, and there will be spots where wading and pulling the kayak will be appropriate. Any marsh shorelines added would likely be in this category.

Boat (red)- Some of the shorelines have deeper water close to the shore allowing the volunteer to disembark, retrieve the trash, and return efficiently to the boat.

Each of the shorelines has been characterized as to which technique is appropriate. Clean up rates have been estimated for each so that resource needs can be determined. Based on these preliminary estimates, a total of 29 boat-days, 115 volunteer-days, and 17 kayak-days are required to accomplish a comprehensive shoreline trash pickup.

The implementation plan will start smaller in September 2020 on higher priority and easily accessible shoreline near Port O'Connor. The experience gathered will inform next year's efforts.

It is anticipated that the participation in the event can be grown over time as has occurred for SABP's abandoned crab trap removal program which attracted 164 volunteer days and 68 boat days over the 10-day closure period in February 2020.

Shoreline Characterization

		Shore	Miles -		Miles-
San Antonio Bay - Estuary Cleanup	Method	Faces:	Walk	Kayak	Boat
Espiritu Santo Bay	!!				
Blackberry Island	Walk	S	5.3		
Dewberry Island	Walk	S		3.7	
Shoalwater Outer Shore	Kayak	S		6.2	
Steamboat Pass	Walk	S	0.6		
Steamboat Island - East Shore	Walk	S	0.9		
South Pass Shore	Kayak	N	1.7		
Contee Cove	Kayak	N		2.0	
Vandeever Island	Walk	N	2.6		
Pringle Outer Shore	Kayak	N		2.3	
Lighthouse Cove	Kayak	N		2.9	
Farwell Island	Walk	N,S	1.3		
Grass Island	Kayak	N,S		5.1	
Big Pocket Shore	Kayak	N,S		3.0	
Whitakers Shore	Kayak	N		1.8	
Saluria	Boat	N,S			4.1
Chris'	Kayak	N		1.7	
Tellers	Kayak	N		2.2	
Bayucos Point	Walk	N	0.2		
Bayucos South Shore	Kayak	S		1.5	
Big Bayou	Boat	N,S			4.0
Barroom	Kayak	N		2.8	
Bill Day Reef	Kayak	S		2.3	
Intracoastal Waterway	Boat	N,S			18.9
Espiritu Santos Marsh -tbd					
Matagorda Bay					
Pass Cavallo	Walk	N	1.1		
Coast Guard Shore	Walk	N	0.9		
E Bayucos	Kayak	N		1.6	
Little Jetty Shore	Walk	N	1.1		
Sunday Cove	Kayak	N		3.8	
Broad Bayou	Walk	N	1.2		
Powderhorn East Shore	Walk	N	3.6		
Powderhorn Lake - South Shore	Kayak			7	
Powderhorn Lake - North Shore	Kayak			7	
Marsh - tbd	nayan			•	
San Antonio Bay					
East Shore	Boat	S			13.2
Longs to Pats	Kayak	N		1.7	
Pats to Cedar	Kayak	N		3.1	
Cedar to Panther	Kayak	N		3.6	
Panther to Ayres	Kayak	N		7.5	
'	Kayak	S		1.4	
FLO Point ANWR	Kayak	S		8.8	
	Boat	S		0.0	10.0
Hynes Guadaluna / Mission					10.9
Guadalupe / Mission	Boat	S			15.2
Marsh tbd	De-+				47
GIWW West	Boat				4.7
VBC	Boat				8.9
Total	183.4		20.5	83.0	79.9

Sta	ffing Assumptions		Walk	Kayak	Boat	
Per	Boat Team					
	Captains per Boat		1	1	1	
	Deck/Data Hand		1	1	1	
	Trash Collectors		2	2	2	
	Total Volunteers		4	4	4	
Kay	raks (2 man) per Boat		0	2	0	
Cle	an up Rate					
	MPH		1	1	2	
	work hours / day		5	5	5	
	Miles / day		5	5	10	
Shc	oreline Miles to clean		20.5	83.0	79.9	
						Total:
Boa	at-Days required to accor	mplish	4.1	16.6	8.0	29
Volunteer - Days required to accomplish		16.4	66.4	32.0	115	
Kav	aks-Days required to acc	omplish	0.0	16.6	0.0	17

Boat-days – 29

Kayaks-days - 17

Volunteer-days - 115

Note: Crab Trap effort used 68 Boat-days and 164 volunteer days

Project Description

Timing – September, 2020 in conjunction with TGLO beach cleanup day scheduled each year (Saturday Sept 12, 2020.)

Initial correspondence with the General Land Office does not indicate a willingness to allow SABP to 'Adopt a Bay' but the publicity generated by that event may prove helpful in growing the event

Stage out of:

- TPWD / USFW Dock POC
- Swan Point Boat Ramp
- Indianola Marina

Potential Partnering organizations:

- SABP
- Dallas Zoo
- Houston Zoo
- USFW
- Mid-Coast CCA Chapter
- Dow Chemical Employees
- Lavaca Bay Foundation

- Guadalupe-Blanco River Authority
- Guadalupe Blanco River Trust
- San Antonio River Authority
- International Crane Foundation
- Texas Seagrant
- TPWD Coastal Fisheries
- Mid-Coast Texas Master Naturalists
- GLO as extension of the Adopt a Beach program

Budget	<u>#</u>	R	<u>Rate</u>		<u>\$</u>	
Equipment				\$	-	
Gloves	100	\$	10	\$	1,000	
Buckets / Bags	120	\$	5	\$	600	
Bins/ disposal	3	\$	500	\$	1,500	
Volunteer Boats-gas cards	30	\$	50	\$	1,500	
Volunteer Reward						
Caps	100	\$	15	\$	1,500	
Dinner	75	\$	20	\$	1,500	
Water Canteens	100	\$	10	\$	1,000	
Entertainment				\$	500	
				\$	9,100	
Round-up				\$	900	
Total Budget				\$	10,000	

Event Logo building on SA BAY RAT (Removing Abandoned Traps), eg: "Removing Awful Trash" (or Appalling or Atrocious?)

Personal Gear required:

- Hat
- Sunglasses
- Sunscreen
- Wading boots/waders
- Mosquito Repellant
- Gloves
- Mesh bags for smaller items

Appendix

Pilot Learnings

















