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South Texas Coastal Zone  
Area Contingency Plan  
(STCZACP)

Surface Washing Agent Preauthorization  
Consultation

Annex 7a  
May 2022

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**Record of Changes**

<b>Change Number</b>	<b>Change Description</b>	<b>Section Number</b>	<b>Change Date</b>	<b>Name</b>
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## 1000 Introduction

### 1100 Purpose

This document was prepared to assist the Federal On-Scene Coordinator (FOSC) with utilizing surface washing agents (SWA) with preauthorization in the Corpus Christi Inner Harbor. This preauthorization is only for the use of these agents on vessel hulls and hard structures in these areas.

### 1200 Background

SWAs are chemicals that are used to enhance oil removal from hard surfaces. They generally contain a mixture of a non-polar solvent and a surfactant. The solvent dissolves into the highly viscous or weathered oil to create a less viscous and somewhat uniform liquid oil or oily mixture. The surfactant reduces the interfacial tension between the liquid oil and the surface the oil has adhered to. Depending on environmental conditions and the combination of solvents and surfactants, the removed oil will either float or disperse. The latter may have a negative environmental impact, making SWAs with the "*lift and float*" characteristics generally preferable.

SWAs cannot be used unless they are listed on the NCP Product Schedule. SWA use is preauthorized by RRT-6 for "*lift and float*" products only for locations pre-identified within the Area Contingency Plan. For the most up-to-date policy, procedures and checklists when using SWAs within the RRT-6 coastal zone please refer to RRT-6 Surface Washing Agents (SWAs) Policy, [Annex 23](#) of the RRT-6 RCP. The policy provides guidance for an incident where the FOSC does not have prior authorization (Annex 23-Section 5), guidance for utilizing a preauthorization (Annex 23-Section 6), monitoring forms (Annex 23-Enclosure 3), and After Use reports (Annex 23-Enclosure 4).

In 2018, the South Texas Coastal Zone Area Committee obtained preauthorization for the use of SWAs in the Corpus Christi Inner Harbor (Figures 1-6). Appendix B provides the correspondences amongst the agencies during the consultation process for establishing this preauthorization. During the process, it was determined that no specific areas within the boundary require additional restrictions. However, coordination through the Incident Command System Environmental Unit or resource coordinators engaged in the response would ensure proper safety precautions are utilized. For example, if there is an adjacent fringing marsh habitat, additional containment boom might be recommended. Alternatively, isolation distances from sensitive habitat would be created. Given the complexities of oil spill cleanup, the workgroup desired to maintain a degree of flexibility and develop restrictions and/ or additional safety precautions on a case-by-case basis. It was also determined that riprap would be considered a hard structure suitable for the use of surface washing agents only if there is consensus from the Environmental Unit and resource agency personnel engaged in the response.

### 1300 Area Characterization

The Corpus Christi Inner Harbor is an industrial area with relatively few natural resources that are considered highly sensitive with respect to the use of surface washing agents. The shorelines in the proposed preapproval area are dominated by hard man-made structures (including riprap) with some smaller isolated marshes, mixed sand and gravel beaches, and scarps. Section 4000 provides Resources at Risk (RAR) analysis for the proposed area. Identified in the RAR are threatened/endangered species (piping plovers) that reside or frequent the area to feed.

## 2000 Minimum Requirements for Preauthorized Use

In addition to the requirements in the RRT6 Policy, the following outlines the minimum requirements that the FOSC must consider when approving the use of surface washing agents.

- Ensure public safety. This has not been an issue in past responses since the public is generally excluded from cleanup areas. Regardless, ensuring public health and safety is the basic premise for any response action.
- The location where surface washing agents are to be used is within the preauthorized zone (Figure 1).
- Consultation with the Environmental Unit or natural resource protection managers to determine if any additional restrictions or additional safety precautions are required in the proposed operation. Such consultation would also be required for any cleaning of riprap to evaluate if response trade-off is appropriate.
- Ensure that the spill management team develops an approved plan that includes worker safety precautions. This plan should be submitted in writing to the FOSC and should be incorporated into the Incident Action Plan.
- Surface washing agents are not intended to be used in or near sea grass areas.
- In consideration of the safety of workers assigned to the application of surface washing agents, and in consideration of the protection of the environment, it is preferred that surface washing agents are applied during daylight hours.

## 3000 Summary of Preauthorized Areas

As previously stated, this document was prepared to assist the FOSC utilize RRT6 surface washing agent preauthorization for the cleanup of vessel hulls and hard structures in port and industrial areas of the Corpus Christi Inner Harbor.



**Figure 1 A full overview of the proposed Corpus Christi Inner Harbor Preauthorized Area for surface washing use.**



**Figure 2 Note Index Map at lower left, indicating corresponding divisions of the Corpus Christi Inner Harbor, providing a more detailed view of the identified segment “1.”**





**Figure 3 Note Index Map at lower left, indicating corresponding divisions of the Corpus Christi Inner Harbor, providing a more detailed view of the identified segment “2.”**



**Figure 4 Note Index Map at lower left, indicating corresponding divisions of the Corpus Christi Inner Harbor, providing a more detailed view of the identified segment “3”**



**Figure 5 Note Index Map at lower left, indicating corresponding divisions of the Corpus Christi Inner Harbor, providing a more detailed view of the identified segment “4.”**



**Figure 6 Note Index Map at lower left, indicating corresponding divisions of the Corpus Christi Inner Harbor, providing a more detailed view of the identified segment “5.”**



## 4000 Resources at Risk

### 4100 Introduction

This report was prepared in Sep 2015 as part of the request process for the preapproval use of surface washing agents within the Inner Harbor Port of the Port of Corpus Christi. The ESI shorelines, essential fish habitat, and species information for the proposed area was compiled from the latest data collected by Texas General Land Office, Texas Parks and Wildlife Department and the USFWS to ensure the most up-to-date information was available for this project.

### 4200 Geographic Region Covered

The area covered by this report is identified as the Inner Harbor Port of the Port of Corpus Christi and an area extending out 0.5 nautical miles out from the entrance mouth in Corpus Christi Bay, Nueces County. The Inner Harbor is a dredged channel, extending approximately 7.5 nautical miles inland, and is dredged to a depth of approximately 45 feet deep. It is located just south of Nueces Bay, running parallel to this system, opening up to Corpus Christi Bay (Fig 1).

Although not intended to be part of the preapproved area, Tule Lake is included in this report due to its connectivity to the Inner Harbor. Tule Lake is an intertidal estuarine wetland, just south of the Inner Harbor. It's hydrologic connected to the Inner Harbor is via Tule Channel at the Tule Lake turning basin.

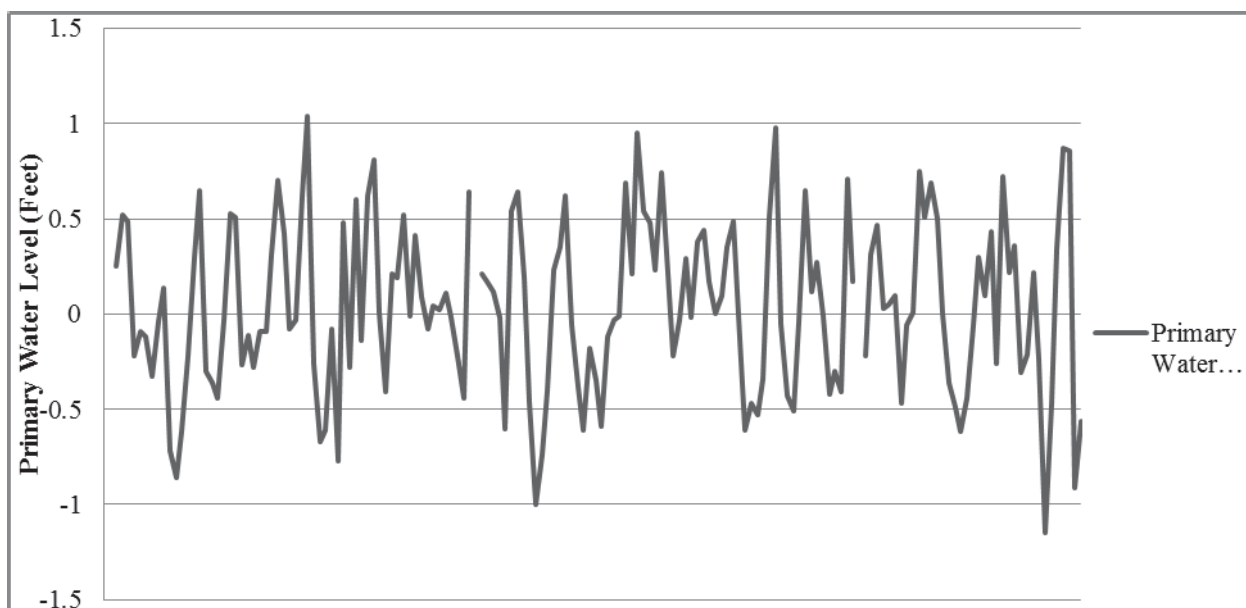
### 4300 Habitat Shoreline

The shorelines along the Inner Harbor are predominantly armored with sheltered man-made structures, riprap and other erosion control structures. Sections of unarmored shoreline area are wetlands characterized as estuarine; intertidal; unconsolidated; excavated shores that have naturalized to tidal flats, scarps, beaches of varying grain sizes and fringe salt water marshes.

Tule Lake includes two wetland classifications. The inner, deeper section of the lake is classified as estuarine; intertidal; unconsolidated; irregularly exposed with the perimeter of the wetland classified as estuarine; intertidal; emergent; persistent; regularly flooded.

### 4400 Physical Environment

Tidal movement within the inner harbor is minimal. Data collected by the [Conrad Blucher Institute](#) from January 2000 to July 2013, indicates monthly averages ranging between 0.5 to -0.5 feet mean sea level with some increase in range from 1.0 to -1.0 feet. Although considered minimal, tidal movement is a predominate factor for the flushing of Tule Lake to the inner harbor.



**Figure 7 Corpus Christi Inner Harbor monthly water levels (2000 – 2013)**

A review of Texas Commission for Environmental Quality water quality standards for Inner Harbor Port indicates no listed impairments. A review of water temperature (°C), salinity (ppt), and dissolved oxygen (mg/L) was conducted with the results listed in Table 1. Minimal stratification is observed between surface and bottom measures with the greatest variability observed with seasonal shifts.

**Table 1 Surface and bottom observations April 2000 to November 2012**

	Water Depth	Mean	Range
Temperature (°C)	Surface	24.22	13.00 – 32.40
	Bottom	23.59	12.20 – 31.00
Salinity (ppt)	Surface	31.64	17.40 – 41.30
	Bottom	32.44	24.17 – 41.70
Dissolved Oxygen (mg/L)	Surface	7.00	4.30 – 11.20
	Bottom	5.86	0.64 – 9.60

### 4500 Essential Fish Habitat

The inner harbor is located within the Essential Fish Habitat (EFH) designated areas for red drum, reef fish, shrimp, stone crab, and coastal migratory pelagic fish (NOAA, 2005). EFH consists of areas of higher species densities, based on the NOAA atlas and functional relationships analysis for these species. The Inner Harbor is not considered a habitat area of particular concern (HAPC) or an EFH area protected from fishing.

The bay bottom and channel are characterized as a soft bottom mud substrate, terrigenous in origin. The substrate of the Inner Harbor and Corpus Christi Bay are ideal for white shrimp populations and ichthyofauna associated with the white shrimp grounds (NOAA, 2004). Manmade structures provide habitat for intertidal hard shore communities. Examples of the structures within the Inner Harbor include pilings, groins, and breakwaters and other structures to stabilize shorelines and prevent erosion. The flora and fauna associated with the structures is suspected to be a combination of epibenthic organisms from offshore areas and oyster reefs (NOAA, 2004).

### 4600 Biological Resources at Risk - Birds

The inner harbor falls within the range of the federally listed endangered whooping crane. This species migrates annually to the area and is present from October to May. The federally threatened piping plover may be present from August through May, in and around beaches and tidal flats of the area. The recently delisted brown pelican resides in the area throughout its life stage. The recent delisting marks the beginning of a five year monitoring project to evaluate its population status.

In addition to threatened/endangered birds, the area also includes a number of species characterized as diving birds, gulls and terns, migratory song birds, raptors, shore birds, wading birds and waterfowl. The absence of a species from the list does not necessarily imply that the species is not present at the given location. Many species are considered ubiquitous. The aforementioned categories are intended to capture multiple species that populate similar habitats. Individual species listed in the table are based on breeding location or are known to occur in high concentrations in the area.

Use of SWAs should have no significant direct effects on birds beyond those normally associated with use of flushing techniques on shorelines. Normal procedures are to contain and recover any floating oil that is released. Use of SWAs that disperse the treated oil into the water column could increase the exposure of water-column resources in areas of restricted water flow, which could result in acute toxic effects to fish in these areas and a reduction in prey species for diving birds.

### 4700 Aquatic Resources

#### 4701 Fish

Fish known to be present in Corpus Christi Bay near the mouth of the Inner Harbor, the Inner Harbor, and Tule Lake are: Atlantic croaker, red drum, black drum, gulf menhaden, hardhead catfish, sand sea trout, spotted sea trout, ladyfish, pinfish, pigfish, sheepshead, crevalle, snook, and stripped mullet. Fish management plan for red drum indicate the Inner Harbor contains suitable habitat for the entire life stage of this organism including the channel bottom, wetland habitats and bay bottom.

### **4702 Invertebrates**

Several invertebrates are common along Corpus Christi Bay including blue crabs, brown shrimp, white shrimp, and encrusting organisms such as barnacles and American oysters. Blue crabs may be spawning during April through July with larvae and juveniles present from May through August.

Use of SWAs that result in most of the oil being dispersed into the water column could result in acute toxicity to fish and shellfish, particularly the larval and juvenile life stages. Product that lift and float the oil might have a slightly increased risk to fish and shellfish compared to normal flushing techniques because of the added toxicity of the SWA product. However, at the recommended application rate (one gallon per 100 square feet) dilution to non-toxic levels is expected to be rapid.

### **4703 Marine Mammals**

Bottlenose dolphin may be present throughout the year within the Inner Harbor and Corpus Christi Bay. The endangered West Indian Manatee in the Inner Harbor is also documented. Although a resident population is not thought to exist in the proposed area, environmental conditions may be suitable to attract such species. Any effects of spilled oil are likely to be temporary (eye, nose, skin irritation). Use of SWAs is not likely to cause any significant additional impacts.

### **4704 Reptiles**

Threatened and endangered sea turtles identified in the proposed preapproved area include Green sea turtles, Hawksbill sea turtle, Kemp's Ridley sea turtle, and Loggerhead. Any effects of spilled oil are likely to be temporary (eye, nose, skin irritation). Use of SWAs is not likely to cause any significant additional impacts.

### **4800 Human-Use Resources**

Commercial ship traffic moves through the Inner Harbor Port of the Port of Corpus Christi. Water intakes are numerous along the ship channel. Use of SWAs that lift and disperse could increase the amount oil that mixes into the water column, which would increase the risk of oil entering water intakes. Only lift and float products should be used where there is a risk to water intakes, and oil containment and recovery efforts should be closely monitored. The Texas Coastal Oil Spill Planning and Response Toolkit should be utilized to identify water intakes, and other applicable human-use resources.

### **5000 Surface Washing Agent Consultation Correspondence**

The various pieces of correspondence capturing the Surface Washing Agent consultations for establishing a preauthorization site at the Port of Corpus Christi Inner Harbor may be located in Section 10000 of the South Texas Coastal Zone Area Contingency Plan.