
19.0 Matagorda Ship Channel

Matagorda Ship Channel was completed by the United States Army Corps of Engineers (USACE) in 1966. It is located in Matagorda County, bordered on both sides by Matagorda Peninsula. The nearby towns of Port O'Connor, Port Lavaca, Palacios, Point Comfort, and Victoria have experienced significant industrial expansion and economic growth. The Matagorda Ship Channel and the intersecting Gulf Intracoastal Waterway (ICW) provide access for barges and ships to reach these ports and industries. The inlet at the Matagorda Ship Channel is not accessible by vehicle. Vessels are the quickest way to reach the remote area of Matagorda Ship Channel from the ICW and the nearest town of Port O'Connor.



West bank of the Matagorda Ship Channel, facing Matagorda Bay.

19.1. Preliminary Protection Strategy

For every offshore oil spill the primary strategy is to collect oil in the Gulf of Mexico. Oil that cannot be collected offshore should be diverted away from the tidal inlets. If oil enters the tidal inlets, a series of collection, protection, and deflection boom configurations are established in strategic locations to maximize oil capture.

At Matagorda Ship Channel, oil must be captured in the inlet before dispersing into the more sensitive areas in and around Matagorda Bay. Collection of oil would become much more difficult if it were able to disperse into the bay. Relatively calm and protected waters, eddies, and natural collection points exist in and near the inlet. These collection points have been identified by the accumulation of debris and seaweed within the boundaries of the inlet (see Figure Matagorda Ship Channel Eddies). The specific location of these natural collection points may vary with tides, currents, and over time, but they should generally be incorporated into the booming strategies for the Matagorda Ship Channel. Additionally, a Geographic Response Plan (GRP) for the Matagorda Ship Channel located on the Texas General Land Office Oil Spill Toolkit should be implemented.

To ensure a safe and successful response, responders must not rely solely on the recommended response strategies found in this document. Real-time observations and on-scene judgements must guide responders during the response operations. It is up to the responding party to use their judgement and knowledge of response tactics to deploy an effective response effort.

19.2. Inlet Characteristics

Inlet Classification: Artificial Inlet	Degree of Difficulty Ranking: B <i>(see Section 6.3)</i>
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Inlet Width: Matagorda Ship Channel has two distinct inlet widths. The width at the inlet mouth between the tips of the jetties is 2,000 feet. The width between the groins at the inlet throat is 1,000 feet.

Inlet Length: Matagorda Ship Channel is approximately 10,700 feet in length measuring from the mouth of the jetties to the jetty structure on the east bank where the inlet enters Matagorda Bay.

Inlet Depth: The main channel at Matagorda Ship Channel ranges in depth from 45 to 110 feet. The deepest area is located at a scour at the entrance to Matagorda Bay with a depth ranging from 120 to 130 feet. Additional depth information is available in Section 19.3 and in the electronic database accompanying this document.

Current Speed and Direction: Strong currents at Matagorda Ship Channel are present in the center of the channel. Currents dissipate towards the banks and areas where the channel widens into Matagorda Bay. The strongest currents are present through the long inlet throat as the water is forced through this narrow pinch-point. Matagorda Ship Channel has a typical tidal current speed of 3 knots. Current speeds are known to reach as high as 5.5 knots through the

inlet throat.

Tidal Information: Matagorda Ship Channel experiences normal diurnal tides with wind and storm driven tidal fluctuations.

Eddy Locations: Significant eddies occur as Matagorda Ship Channel begins to disperse into Matagorda Bay. Two of these eddies occur around the northwestern tips of the jetties located in Matagorda Bay. Several small but significant eddies were observed in the inlet throat. Three eddies are located just northwest of the inlet throat; two eddies on the west bank and one eddy on the east bank. These small natural eddies are evidenced along the rock jetty because these are sites where debris, seaweeds, and trash accumulate. See Figure MSC-3 for a detailed map of eddy locations. One other eddy location (not identified in Figure MSC-3) occurs at Collection Point #1, just outside the inlet throat.

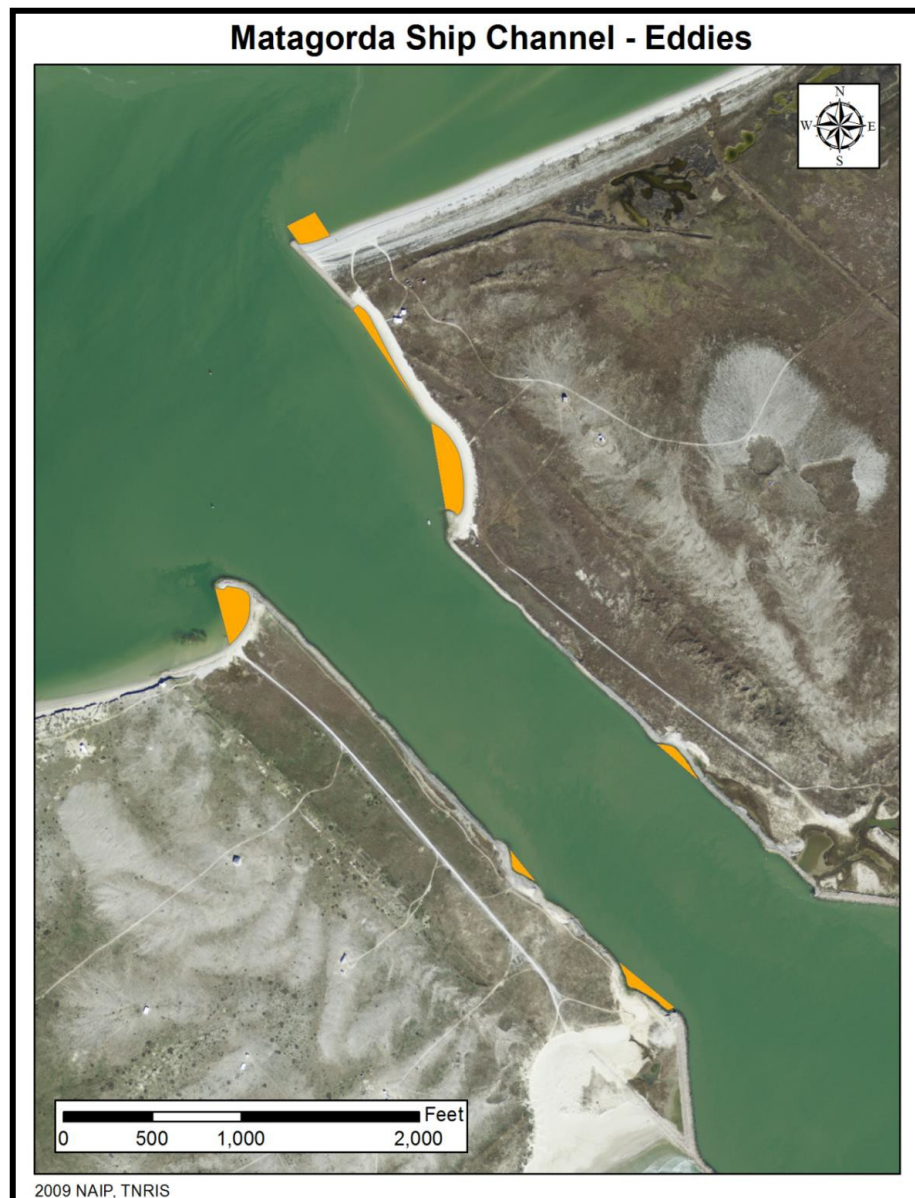


Figure MSC-3: Matagorda Ship Channel eddy locations.

Field Survey Date: April 26, 2014

Longshore Flow Direction: Matagorda Ship Channel typically exhibits a longshore current heading south throughout most of the year. Prevailing southeast trade winds are the driving force behind these longshore currents. Seasonal winds, especially during the winter months, may cause longshore currents to change direction. Longshore currents at this location should be monitored frequently. Strategies to divert oil may need to be adjusted to accommodate shifting currents.

Sediment Type: The Matagorda Ship Channel has a hard sandy bottom and strong currents. Sediments, especially in the center channel, are transported by these strong currents. Additional anchoring may be required due to the shifting sand bottom.

Points of Interest: The large jetties and Matagorda Peninsula are the most notable features at this inlet. There are numerous small private and primitive fishing camps on the peninsula on either side of this inlet. A small rookery island, known as Bird Island, Sundown Island, or Chester's Island, is located close to this inlet in Matagorda Bay. Port O'Connor is the nearest town. During the Texas City "Y" Spill, the Incident Command Post and the staging areas for this region were located in Port O'Connor. Port O'Connor has various public and private marinas, launch ramps, fuel, and facilities.

Shoreline Type: Large riprap comprises the jetty structure. There is a distinct transition to small riprap landward from the large riprap jetties. Intermittently spaced throughout the small riprap are small eroded cliffs. These small areas may contain small riprap mixed with sandy patches. The Matagorda Ship Channel has another large riprap structure on the west bank when the inlet enters into Matagorda Bay.

19.3. Inlet Transects

Any inlet has the potential to undergo significant changes in the bottom profile due to sediment erosion and deposition. Tides, storms, and longshore currents can cause bottom shifting and reconfiguration. Jetties may limit or slow such shifts. Matagorda Ship Channel was measured in 2014. Figure MSC-4 illustrates the locations of the depth transects. Figure MSC-5 through Figure MSC-9 show a detailed graph of each of the recorded depth transects.

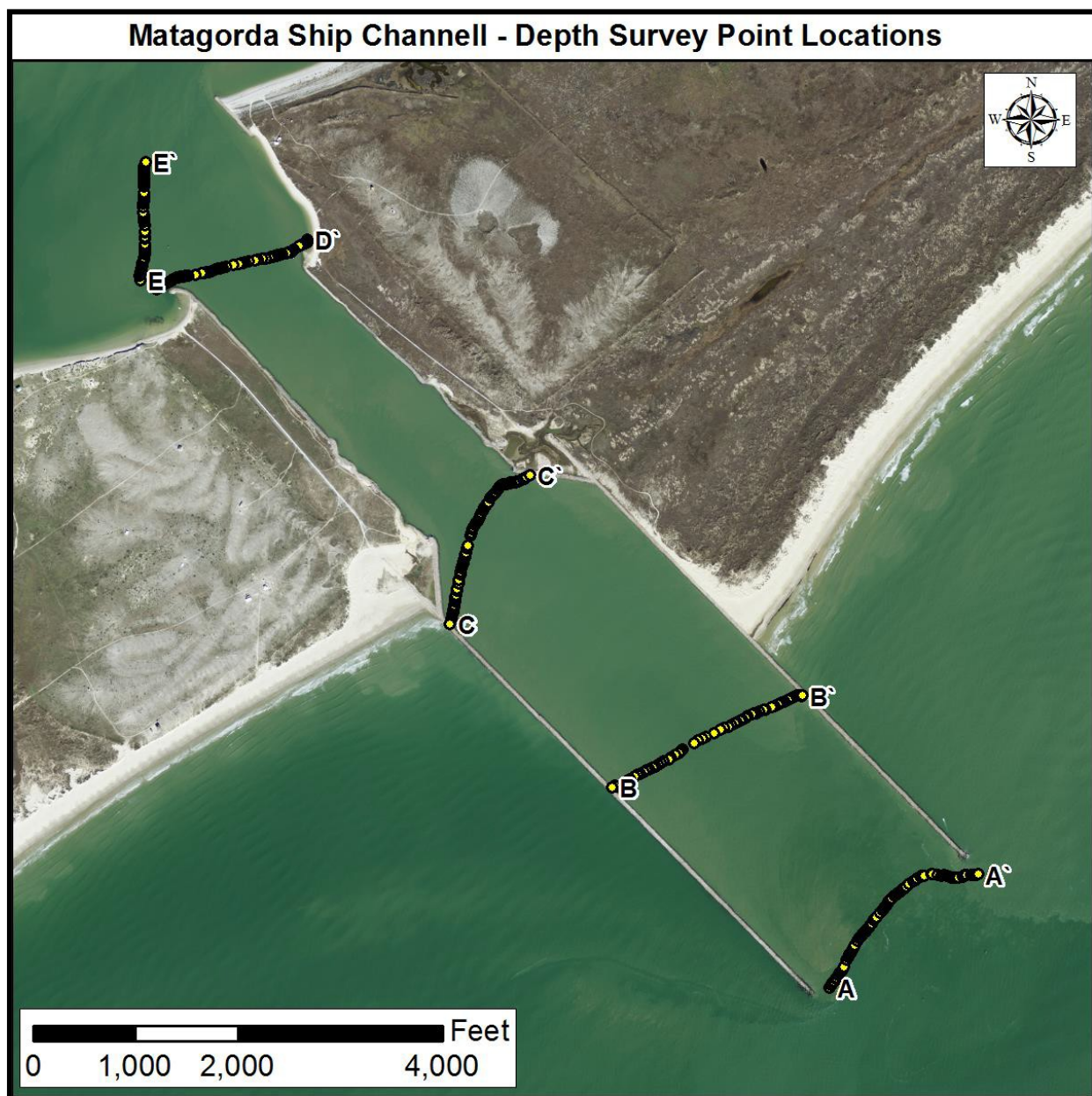


Figure MSC-4: Matagorda Ship Channel depth transect locations.

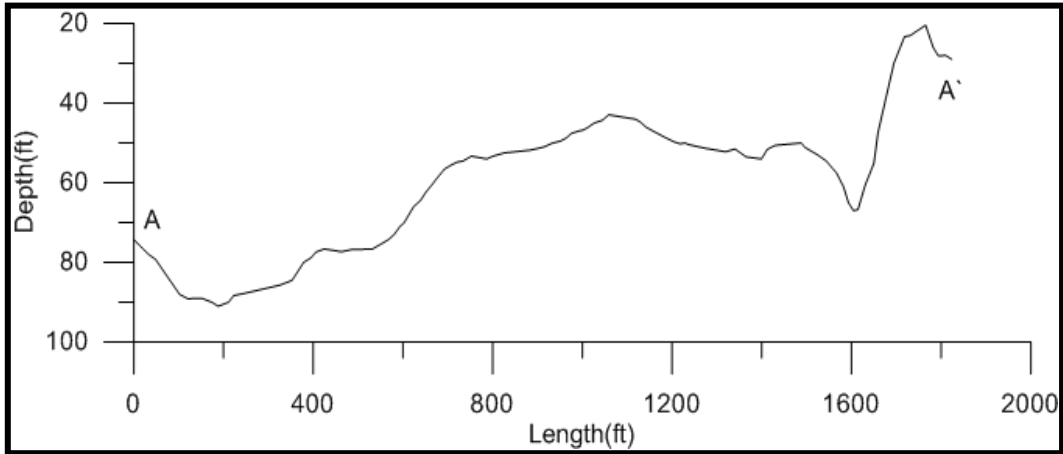


Figure MSC-5: Depth transect from the tip of the west jetty to the tip of the east jetty.

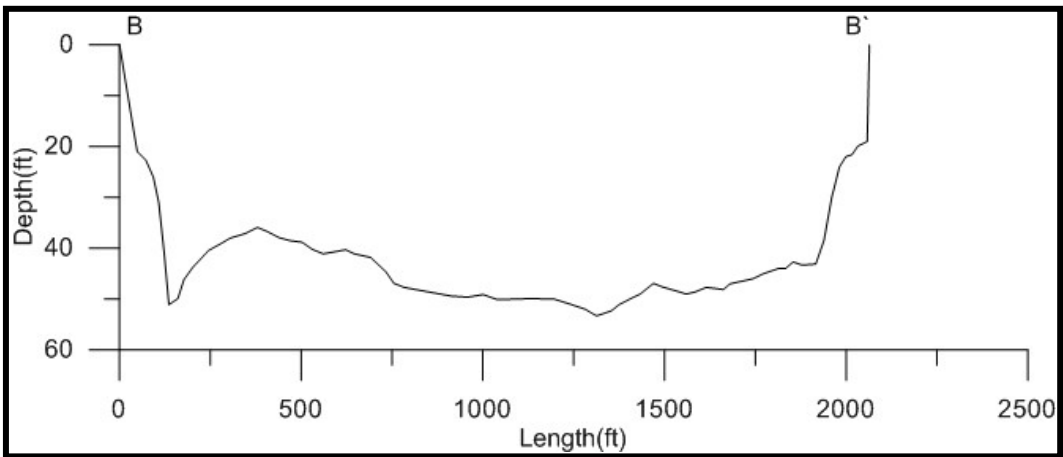


Figure MSC-6: Depth transect from the west jetty to the east jetty.

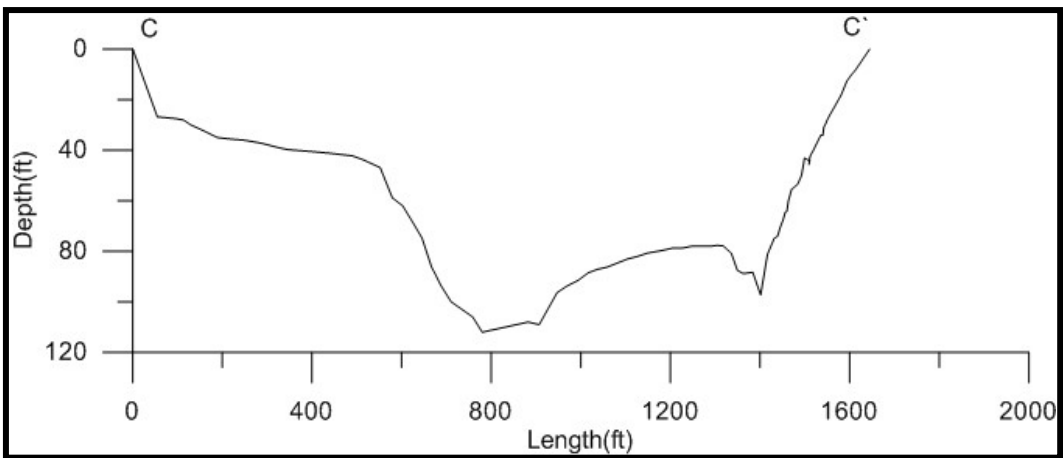


Figure MSC-7: Depth transect from west bank to east bank.

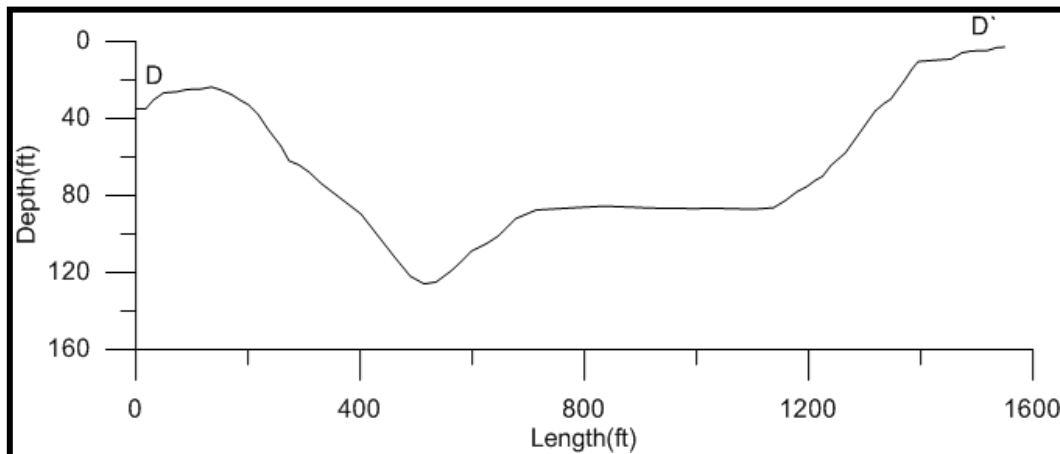


Figure MSC-8: Depth transect from west jetty entering Matagorda Bay to east bank.

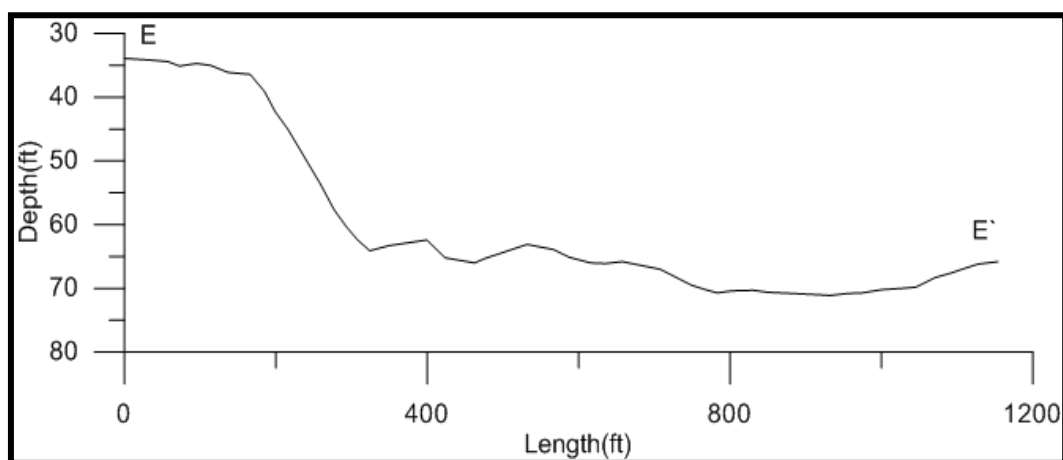


Figure MSC-9: Depth transect from Matagorda Ship Channel into Matagorda Bay.

19.4. Principle Resources at Risk

The primary feature of this inlet includes Matagorda Bay, Matagorda Peninsula, Matagorda Island, and Port O'Connor. Landward of the Matagorda Ship Channel is the ICW and the sensitive habitats of the Matagorda Bay including Bird Island.

Matagorda Ship Channel and the adjoining beaches are not easily accessible but are frequently visited by recreational fishermen. This area is also known for recreational and commercial activities such as boating and commercial shipping. Matagorda Ship Channel is a migratory pass used by numerous species of marine life and birds. Responders should be especially aware that certain species are common in the area and could be adversely affected by spilled oils or response actions. These include numerous bird species, various species of marine turtles, vegetation, and marine mammals. Some of these species are endangered, threatened, or otherwise protected. Vegetative cover and immobile species exist in all of the adjoining coastal habitats. Responders should use appropriate caution in any areas that are not paved or covered by riprap. Avoid vehicular travel in vegetated grasslands to minimize the chance for wildfires initiated by exhaust heat.

For further information, including a list of sensitive species found within the vicinity of Matagorda Ship Channel, refer to the Environmental Sensitivity Index (ESI) maps identified below:

ESI located at Texas General Land Office TOOLKIT:
http://gisweb.glo.texas.gov/atlas/atlas/lo_texas/maps/decropnt.pdf

19.5. Safety Hazards

General safety concerns related to response activities at all coastal inlets are listed in Section 4.0. Special safety precautions associated with Matagorda Ship Channel include surface hazards, recreational & commercial vessel traffic, exceptionally high currents, and animal interactions. Caution should be used when traversing all parts of the jetties, riprap, or shorelines in this inlet. The walkways and jetty rocks may become slippery when wet and may form extremely slippery algal growth due to being subjected to constant splash. The small riprap structures located within the inlet throat are very tall and contain steep banks. Caution should be taken to avoid interaction with stingrays, mosquitos, rattlesnakes, and coyotes. Fishing gear and fish carcasses may also represent hazards. Several small underwater rock structures exist next to the south jetty in Matagorda Bay. Another small rock structure exists next to the west jetty structure upon entering Matagorda Bay.

19.6. Response Times

The Matagorda Ship Channel is accessible only by vessel. Port O'Connor is the nearest town with multiple available launch ramps. Paved road access is available to Port O'Connor. The distance between Port O'Connor and the Matagorda Ship Channel is approximately 4.25 nautical miles. Table MSC-1 lists travel times and distances to Port O'Connor from surrounding areas.

Start Point	Distance	Time
TGLO Region 3 Office in Corpus Christi via TX-35	105 miles	2 hours
TGLO Region 5 Office in Port Lavaca	27 miles	45 minutes
Corpus Christi International Airport via TX-35	105 miles	2 hours
Houston, TX via US-59 & TX-172	152 miles	2 hours & 30 minutes
San Antonio, TX via US-181 & TX-239	164 miles	3 hours
Victoria, TX via US-87	48 miles	1 hour
Victoria Regional Airport via US-87	53 miles	1 hour

Table MSC-1: Travel Times to Port O'Connor from surrounding areas.

19.7. Possible Staging Areas

There are no large staging areas present in the immediate vicinity of the Matagorda Ship Channel. Port O'Connor is the nearest town to this inlet and is the logical host for a staging area supporting deployments anywhere around Matagorda Ship Channel, Pass Cavallo, or Matagorda Bay. During the Texas City "Y" Spill (2014), the Incident Command Post and staging areas for the Matagorda Ship Channel were located in Port O'Connor. One of the most effective staging areas was located south of TX-185. This location had a large parking lot, marine fueling stations, permanent facilities, and restroom facilities. Another Incident Command Post was previously established north of TX-185 at a Martin Midstream Partners facility.

19.8. Inlet Accessibility

Vehicle Access: There is no vehicle access to the Matagorda Ship Channel inlet but several privately-owned-vehicles have been delivered to the islands and currently operate in this area. Transport vessels (barges) would need to be utilized to import 4WD vehicles or ATVs if vehicle access is deemed necessary for response efforts. Matagorda Peninsula has Off-road trails can be found around Matagorda Ship Channel allowing access to any section of the shoreline. See Figure MSC-10 for a detailed map of 4WD accessible roads.



Figure MSC-10: 4WD accessible roads at Matagorda Ship Channel.

Vessel Access: The easiest access to Matagorda Ship Channel by trailerable vessels is by use of one of the many launch ramps located in Port O'Connor. The sum of the local launch ramps are capable of launching or recovering four small to medium trailerable vessels at a time. Matagorda Ship Channel can be reached by leaving Port O'Connor and following the ICW northeast until reaching Matagorda Bay. Then turn east towards Matagorda Ship Channel. Although navigational markers exist, experienced captains with the local knowledge are recommended when traversing the open waters of Matagorda Bay, especially during adverse weather conditions or small craft warnings. Use caution.

Aerial Access: Multiple airfields surround Matagorda Ship Channel and Port O'Connor. Pierce Field is a small airfield on Matagorda Peninsula, north of the Matagorda Ship Channel. Big Duke's Place airport is located north of Port O'Connor. The larger airports in the surrounding area include the Victoria Regional Airport and the Calhoun County Airport.

19.9. Nearby Waste Disposal Facilities

Multiple waste disposal facilities are located within the Lower Texas Coastal Area. The Corpus Christi Sector Area Contingency Plan lists various nearby waste disposal facilities that may accept spilled oil and residues:

Southwest Land and Marine
7300 Greenwood Dr.
Corpus Christi, Texas
Phone: 361-855-4551

Allied Waste Service of Corpus Christi
4414 Agnes Street
Corpus Christi, Texas
Phone: 361-882-1878

Waste Management
4010 Callis Street
Victoria, Texas
Phone: 361-578-0982

El Centro Landfill, Allied Waste Industries
3189 County Road 69
Robstown, Texas
Phone: 361-767-7905

US Ecology Texas L.P.
3277 County Road 69
Robstown, Texas
Phone: 361-387-3518

Prior arrangements should be made before transporting oil and residues to these locations.

19.10. Imagery



Boat Landing (West Bank)



Eroded Cliffs (West Side of Island)



Rock Hazard (West Side of Island)



Off Road Trail (West Side of Island)



West Jetty at Entrance to Matagorda Bay



Collection Point (East Bank)



West Bank (Facing West)



West Bank (Facing East)



West Jetty (Facing East)



East Jetty (Facing East)

19.11. Special Stakeholder Concerns

Matagorda Ship Channel provides significant recreational, environmental, and economic services. This inlet is home to sensitive habitats of Matagorda Bay including bird nesting areas, and sea turtle populations. The residential, commercial, and industrial areas of Port O'Connor, Port Lavaca, Point Comfort, and Palacios are located in the vicinity of the Matagorda Ship Channel. Fishing and commercial shipping are the common activities utilizing this inlet. Bird Island is a recognized and important bird nesting ground. Other land and shoreline areas in and near Matagorda Peninsula and Matagorda Bay are of significant ecological value.