Southeast Texas (SETX)
and
Southwest Louisiana (SWLA)
Area Contingency Plan

Natural Disaster Response Plan

Annex 10

July 2021

Record of Changes

Change Number	Change Description	Section Number	Change Date	Name
1	Renamed Appendix 23 to Annex 10 and removed Reference to Vol 2	All	31 July 2021	Todd Peterson, CGD 8
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1000 Introduction

Oil and chemical production and storage facilities in southeastern Texas and southwestern Louisiana are susceptible to dangerous hurricanes and severe weather. More than 45 hurricanes have passed close to the Texas and Louisiana coastal zone in the last century, causing severe damage from wind and storm surge. On average, a tropical storm or hurricane is expected to strike somewhere along the Texas and Louisiana coasts about once a year. The flat coastal zones of Texas and Louisiana make tropical storms and hurricanes especially dangerous. Storm surge pushed by an approaching hurricane can reach heights of more than 20 feet and spread far inland, devastating anything in its path. After a hurricane, access to most of southeastern Texas and southwestern Louisiana is very difficult as the roads and supporting infrastructure are either flooded or destroyed by the storm. High water, waterways closures, and obstructions in what were previously deemed as safe navigable waters, eliminate many conventional transportation methods.

Unlike most oil discharges and chemical releases, where there is a single point source at one location from which the spill spreads, the pollution associated with hurricanes and tropical storms are usually widespread. There is a higher potential for pollution incidents along the Southeast Gulf Coast because of the wide distribution of oil and chemical production activities within the state. In addition to pollution from production facilities, oil storage tanks, and pipelines, there will typically be smaller discharges of refined oil products such as diesel fuel and gasoline from fishing vessels, small fuel storage tanks, and motor vehicles. The total destruction caused by a storm can leave tens of thousands of containers of industrial and household hazardous waste and materials dispersed throughout the area.

Pollution response, under the umbrella of the National Response Framework (NRF), is possible using plans, capabilities, and partnerships forged in accordance with the National Contingency Plan (NCP), combined with the effective use of the Incident Command System (ICS). The NCP should not get lost in the shuffle of the massive federal, state and local response associated with the full implementation of the NRF.

To successfully respond to a natural disaster, it is paramount that there is effective, simultaneous management of large amounts of discrete pollution targets. Incident management teams must ensure that the data management tools selected are scalable and adaptable to suit the dynamic information needs of the response.

2000 Funding Authorities

2100 FEMA Mission Assignments

When a natural disaster is of such magnitude that a state government's resources are overwhelmed, the state may request federal response assistance to supplement ongoing disaster relief activities. The reimbursement of federal agency expended funds in support of Federal Emergency Management Agency (FEMA) disaster relief efforts is permitted when support is provided under a Mission Assignment (MA). An MA is a work order issued to a Federal agency by FEMA directing the completion of a specific task, and citing funding, management controls, and guidance. Although most agencies assigned a MA will be reimbursed for their efforts, under the Stafford Act FEMA can task agencies without expectation of reimbursement. MAs are directives issued by FEMA. They are not contracts or Interagency Agreements (IAAs). MAs are agreements between

FEMA and the responding agencies. In most cases, MAs are issued only for assistance under the Stafford Act, not for assistance provided that would normally fall under an agency's independent authorities or responsibilities. For example, the Coast Guard would not receive an MA for search and rescue activities conducted offshore after a hurricane because mission is conducted under the Coast Guard's statutory authority.

MAs are typically assigned by FEMA to address actions required under one of the 15 different Emergency Support Functions (ESFs) described in the NRF. The NRF establishes a comprehensive all-hazards approach to enhance the ability of the federal government to manage domestic incidents. Consequently, the ESFs are categorized around the major response and recovery functions associated with an incident, such as ESF 1 – Transportation, ESF 9 – Search and Rescue, and ESF 10 – Oil and Hazardous Materials. The Coast Guard has primary for ESF 9 and ESF 10. In addition to its role as primary, the Coast Guard may receive tasking by FEMA under several MAs for the other ESFs; e.g. an air station launches a helicopter to provide damage assessments for FEMA (ESF-5 Emergency Management) and launches a second helicopter to provide transportation (ESF-7 Logistics Management and Resource Support) for disaster personnel and supplies.

2200 Oil Spill Liability Trust Fund (OSLTF)

The (OSLTF) pays for removal costs and damages resulting from oil spills or substantial threats of oil spills to navigable waters of the United States. The OSLTF is used for costs not directly paid by the polluter, referred to as the responsible party (RP). The fund is also used to pay costs to respond to "mystery spills," for which the source has not been identified. Since mystery spills are anticipated before a storm impacts southeast Texas, it is likely the FOSC will have a relatively small OSLTF funding stream open to get contracted resources deployed as quickly possible after the storm passes. The ceiling limit on this OSLTF project will vary depending on the needs of the response and how soon a mission assignment can be issued to take over the costs. It is likely that responsible parties, natural resource trustees and other third parties will submit claims against the OSLTF after the storm.

2300 Comprehensive Environmental Response, Compensation, and Liability ACT (CERCLA)

CERCLA enables Federal agencies to respond immediately to hazardous substance releases and contamination problems that pose a threat to public health and the environment. Removal costs are recovered from the RP(s) by EPA. Post-storm, there will be a prevalent threat to public health due to the presence of orphaned containers in yards, schools, playgrounds, workplaces and other public locations as citizens return to their parishes after the flooded and impacted areas are accessible. Threats to the environment exist when orphaned containers are deposited into the wetlands, wildlife refuges, and many other sensitive ecosystems. Additional threats include releases from chemical facilities, chemical transfer facilities, and various other facilities that use, produce, transport, or have a supply of hazardous substances. The Superfund was designed to address discrete incidents and not multiple chemical releases across a large region. Hence, the full impact of hazardous substances to the public and the environment cannot be ascertained in totality with limited CERCLA funding. For HAZMAT, an ESF-10 mission assignment is ***critical*** to

completing a comprehensive needs assessment and mitigating all actual and potential releases of hazardous substances that are an imminent and substantial threat to the coastal zone.

The highest priority HAZMAT targets will be those that are actively leaking, an imminent threat to public health or welfare and/or have actual or potential impact to navigable waterways. Where the responsible parties are known, an initial effort initially shall be made, to the extent practicable, to determine whether they can and will perform the necessary removal action promptly and properly.

3000 Data Management during a Natural Disaster Response

The pollution response component of a natural disaster response presents a set of challenges unlike other pollution responses. The pollution threats are numerous and spread over a large geographic area. Oil and hazardous material data needs to be collected into a central response database in order to track all targets for prioritization, management of resources and situational awareness. The multitude of pollution targets can be from a variety of sources, including wellheads, facilities, orphan containers or vessels. Effective data management is critical during a multi-target response in order to ensure appropriate use of resources. The following document is designed to assist in ensuring the success of data management during a natural disaster response.

3100 Procedures for Field Data Documentation

Field documentation is critical for the success of any response, either for a single barrel of oil being discharged by a vessel or for a large scale Type 1 incident. The command cannot make sound decisions without sound data flowing from the field. As field personnel report data captured in the field, they must ensure that the information is accurate and timely.

3101 Data Fields and Valid Values

Data fields are the pre-determined pieces of information that the response wants to capture. Valid values are the acceptable inputs for those data fields. Once an agreement upon the data fields and valid values is reached, the field data collection forms, response database and other deliverables are created. Data fields and valid values are considered a minimum description of a oil and hazardous material target and DO NOT alleviate the need for traditional investigation, SCAT, reporting to NRC and other required documentation of a target. The data fields, valid values, and resulting products are intended to capture baseline data for Unified Command and Operations Section. This information allows the UC and Operation Section to properly manage their resources and mitigate oil and hazardous material threats during a post-natural disaster response with multiple targets.

3102 Unique Identifier

While the NRC number usually plays this role, during a post-natural disaster response an NRC number might not be immediately available. To fill this gap, a temporary unique identifier for each target shall be assigned. A unique identifier is an alpha-numeric label identifies a particular target for tracking purposes. The unique identifier shall be formatted as follows: YYYYMMDD_Team Name_Daily Number. For example: **20121006_HEG2_002** = the second target found by HEG Team 2 on Oct 06, 2012.

The unique identifier should not change throughout the response. To prevent confusion, field teams should, if possible, mark the target (with a sticker, hanging tag or spray paint) so that subsequent teams will know that this target was already assessed and assigned a unique identifier. When a target eventually receives its primary NRC number, this update should be reflected on the labeling of the target itself. The temporary unique identifier, primary NRC number and secondary NRC number(s) will be listed in the database for cross reference purposes.

3103 Latitude and Longitude

Obtain a latitude/longitude point with a satellite enabled GPS unit for observed discharges or releases at facilities, vessels or other sources. If the oil and hazardous material target covers an area (not a single point location) obtain lat/long points that outline the target. Make certain that the GPS unit is set to use "WGS84" as the horizontal datum, set to read coordinates in decimal degrees (dd.ddddd) and Auto Tracking is turned on. Documentation needs latitude/longitude to 5 decimal points. The safest location for observing an oil and hazardous material target is upwind.

All personnel **MUST VERIFY** all lat/long position data by comparing observations against satellite imagery by means of GIS application (Google Earth, ERMA, Enterprise GIS, SONRIS, Response Manager, etc). This step, when combined with data entry, is time consuming and field personnel should return to ICP/FOB early enough in the day to ensure sufficient time is dedicated to data entry and QA/QC.

3104 Photo Documentation

Prior to departure to field, ensure that camera is set to local time and spare batteries are available. A clear photo of GPS unit with the time (in 24-hr, hh:mm:ss format) taken at the beginning of operations will allow for geo-referencing of photos by using the Track Log from the GPS unit.

It is better to take a few good photos than many useless photos. Utilization of photo scales, recognizable landmarks and "the rule of thirds" will help ensure photos are useful to command post personnel.

3105 Aerial Team Procedures

Aerial Team could consist of a Rapid Needs Assessment Task Force or a Hazard Evaluation Group Task Force. Aerial Assessment Teams are not expected to conduct detailed documentation of targets, but are expected to capture critical data for decision makers. A special form with limited data entry has been created to reduce the data collection requirements and expedite the assessment process. Data that aerial assessment teams will be capturing include nature of oil versus hazardous material, source, location, and size of affected area.

3106 Surface Team Procedures

Surface Assessment Team (ground and/or water) and other group task forces will conduct more detailed documentation and complete a more thorough field data collection process because ground assets generally travel slower and have more time to make detailed observations. The field data collection forms will contain most all the data fields.

3107 Procedures for Processing Field Data

The most challenging aspect of data processing is ensuring that the incoming data is of high quality. In order to overcome this challenge, it has to be emphasized to field personnel the importance of thorough observations and proper documentation. The quality of the incoming data will directly affect the quality of the deliverables that the Unified Command, Section Chiefs and other decision makers will be using to manage the response. The illustrations below illustrate the general flow of data from the field to decision makers. Refer to the diagram below.

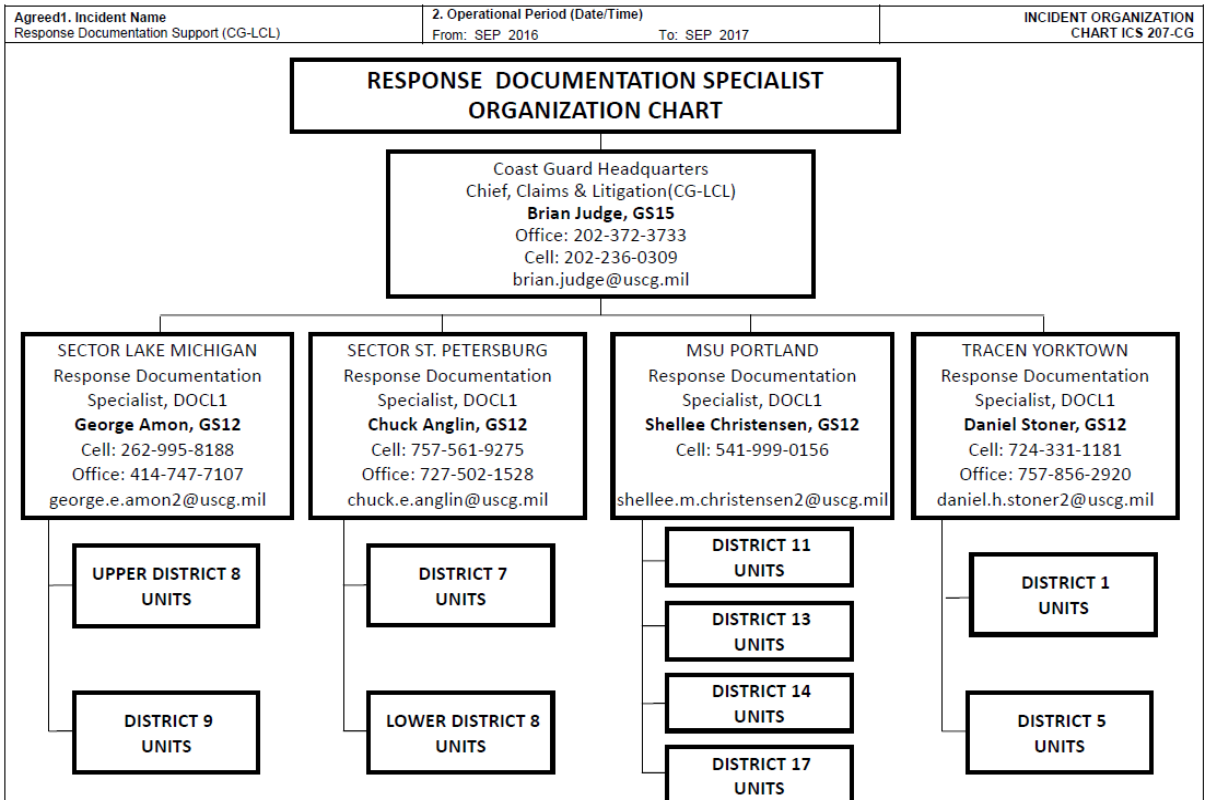


Figure 1 Type 1 Documentation Unit Leader support organization chart (ICS-207)

3200 Data Flow and Review Process

Please note that the Task Forces Debrief Process intersects/feeds into the *OPS and DMU Review Data* portion of the process.

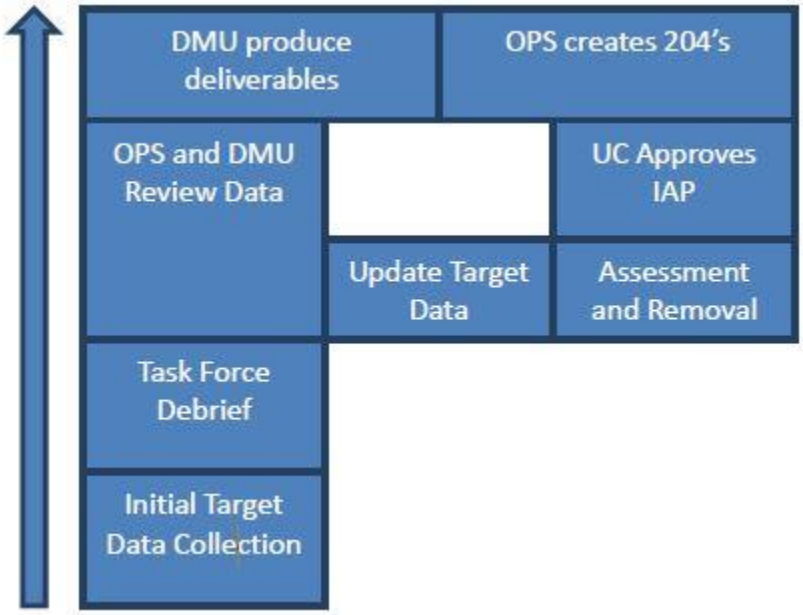


Figure 2 Data Flow diagram

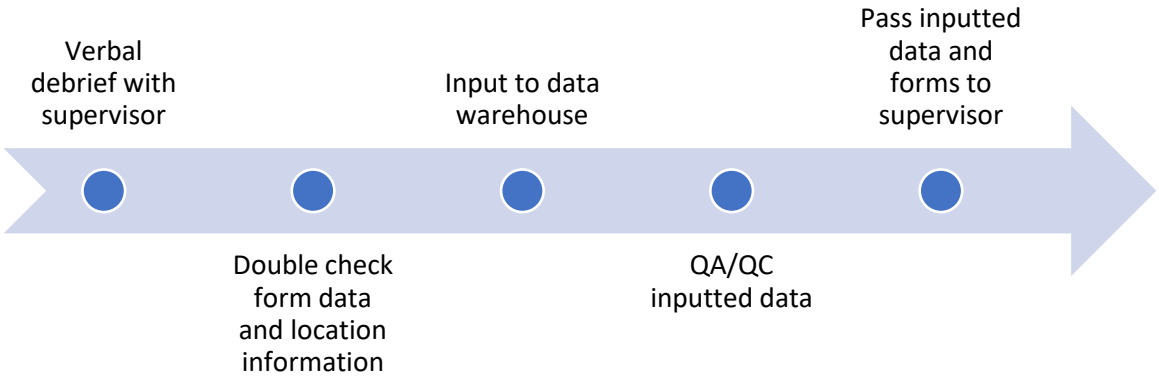


Figure 3 Task Forces Debrief Process

Task Forces are the eyes and ears in the field for the response and collect invaluable data not only about targets, but also about operational challenges and recommendations. This acquired knowledge needs to be debriefed to their respective supervisor and inputted into the response database for processing. The team leader is responsible for initial data entry and initial QA/QC of data because they are the experts about their own field observations. Generally, the team leader is the most experienced member of the team.

3300 Data Fields and Valid Values

The following table describes the data fields and valid values for the Texas Natural Disaster Response Plan - Marine Environmental Response. The data fields and valid values in this table define the terms utilized during the response to ensure clear communication. The response database and associated forms are built around these data fields and valid values.

Table 1 Data Fields and Valid Values of the Texas Natural Disaster Response Plan

Data Field	Format	Valid Values
Date Initially Assessed	YYYYMMDD	Date that target was first discovered
Field Team Initially Assessed	AAA0	Three letters and one number – the field team which discovered target
Daily Number	Three digit number	000 to 999, resets each day for each team
Date Updated	YYYYMMDD	Date that entry to spreadsheet is modified, this will allow for tracking the timeline of changes to target information
Field Team Updated	AAA0	Three letters and one number – tracking which field team has provided updated information about target
Location Name	BLANK BAYOU	Waterway, street, landmark, etc
Responsible Party	BLANK ENERGY	When known
Target Latitude	DD.DDDDDD	Positive Number, 0 to 90
Target Longitude	DD.DDDDDD	Negative Number, 0 to 180
Grid	A00	One letter and two numbers
Hazardous Category **Not explicitly in form**	OIL or HAZ	To delineate for OPS
HAZ Type **Only for HAZ targets (CERCLA)**	Three letter code	DRM = Drum CYL = Cylinder TOT = Tote BCK = Bucket TNK = Tank FAC = Facility **DBL = Debris Line (not a single target)**

Data Field	Format	Valid Values
HAZ Count **Only for HAZ targets (CERCLA)**	Number	Number, or approximate number, of HAZ targets within a debris field or contained within the specified target
Oil Type **Only for oil targets (OPA 90)**	Three letter code	VSL = Vessel PPL = Pipeline FAC = Facility WHD = Wellhead SHN = Sheen UNK = Unknown, Mystery Source
% Coverage **Only for oil targets (OPA 90)**	Percentage of area being covered by product	Percentage of oil within the given length, width
Length **For 2D targets**	Number in feet	For debris fields and oil targets
Width **For 2D targets**	Number in Feet	For debris field and oil targets
Capacity	Number in Gallons	5, 55, 250, 1000, UNK, Worst Case Discharge
Discharge/Release Amount	Number in Gallons, lbs, cubic meters **1 Oil Barrel = 42 US gallons**	50, 100, 10000, UNK – units of measure need to be noted!
Condition	Three letter code	DNO = Damage-No Discharge/Release DDR = Damaged-discharge/release NOD = No damage FIR = Fire EMG = Emergency UNK = Unknown

Data Field	Format	Valid Values
Status	Three letter code Color designation is for target maps	<u>RED</u> FAR = Further Assessment Required RP = Requires RP action SOP = Requires Special Ops <u>YELLOW</u> MIT = Mitigation underway RDY = Ready for stakeholder site visit and sign off <u>GREEN</u> INF = Item not found REF = Refer to other agency (and agency is noted in comments) LIP = leave in place and no further action NFA = No Further Action REM = Removed and brought to pad RRP = Removed by RP DIS = Disposed SGN = closed by stakeholder site visit and sign off
Concurrence	Drop-down	*No Concurrence (No Sign-off)* *No Further Action (Signed-off)* *Referred to Regulatory Agency (Signed-off)* *Unfounded (Signed-off)*
Concurrence Note	Comment Box	Notes about concurrence
Action Taken	Text Box	Details to support the chosen STATUS
Recommendations	Text Box	Recommendation for mitigation
Resource Needs	Text Box	Supporting the recommendations
Comments	Text Box	Catch all for other data
Photographs	Text Box	For listing the names of photographs associated with target
Primary NRC Number	123456	This should have only one value and used as the primary NRC number
Support NRC Number(s)	123456	This is a listing of other NRC numbers associated with this one target i.e. 123456. 234567, 345678, 987654

3301 Surface Hazard Evaluation Form

Table 2 Surface Hazard Evaluation Form

Field Team:		TIME - 24hr Format Start:	End:
Date (YYYYMMDD):			
Evaluation by: Foot / Boat / Airboat / Helicopter / Plane		Weather: Sun / Cloud / Fog / Rain / Snow / Windy	
Start Latitude:		Start Longitude:	
End Latitude:		End Longitude:	
Name	Organization	Phone	
Unique Identifier: *(i.e. 20130801_HEB1_002)*			
Date (YYYYMMDD):	**Team Name (ABC#)**	**Daily Seq Number:**	
Latitude (dd.dddddd):		Grid:	
Longitude (dd.dddddd):		Responsible Party:	
Location Description:		**HAZ Type:**	**Oil Type:**
		HAZ Count:	**% Coverage:**
Capacity: gallons/lbs/ cubic meters			
Discharge/Release Amount: gallons/lbs/ cubic meters		Length: feet	Width: feet
Condition:		Status	
Action Taken:			
Recommendations:		Resource Needs:	
Comments:		Photographs:	
Primary NRC:		Support NRC:	
Unique Identifier: *(i.e. 20130801_HEB1_002)*			
Date (YYYYMMDD):	**Team Name (ABC#)**	**Daily Seq Number:**	
Latitude (dd.dddddd):		Grid:	
Longitude (dd.dddddd):		Responsible Party:	
Location Description:		**HAZ Type:**	**Oil Type:**
		HAZ Count:	**Oil % Distr:**
Capacity: gallons/lbs/cubic meters			
Discharge/Release Amount: gallons/lbs/ cubic meters		Length: feet	Width: feet
Condition:		Status	
Action Taken:			
Recommendations:		Resource Needs:	
Comments:		Photographs:	
Primary NRC:		Support NRC:	

3302 Aerial Hazard Evaluation Form

Table 3 Aerial Hazard Evaluation Form

Field Team:		TIME - 24hr Format Start:	End:
Date (YYYYMMDD):			
Evaluation by: Foot / Boat / Airboat / Helicopter / Plane		Weather: Sun / Cloud / Fog / Rain / Snow / Windy	
Start Latitude:		Start Longitude:	
End Latitude:		End Longitude:	
Name	Organization	Phone	
Unique Identifier: *(i.e. 20130801_HEB1_002)*			
Date (YYYYMMDD):	**Team Name (ABC#)**	**Daily Seq Number:**	
Latitude (dd.dddddd):		Grid:	
Longitude (dd.dddddd):		**HAZ Type:**	
Location Description:		**HAZ Count:**	**Oil Type:**
		HAZ Count:	**% Coverage:**
Capacity: gallons/lbs/ cubic meters			
Discharge/Release Amount: gallons/lbs/ cubic meters		Length: feet	Width: feet
Unique Identifier: *(i.e. 20130801_HEB1_002)*			
Date (YYYYMMDD):	**Team Name (ABC#)**	**Daily Seq Number:**	
Latitude (dd.dddddd):		Grid:	
Longitude (dd.dddddd):		**HAZ Type:**	
Location Description:		**HAZ Count:**	**Oil Type:**
		HAZ Count:	**% Coverage:**
Capacity: gallons/lbs/cu m			
Discharge/Release Amount: gallons/lbs/cu m		Length: feet	Width: feet
Unique Identifier: *(i.e. 20130801_HEB1_002)*			
Date (YYYYMMDD):	**Team Name (ABC#)**	**Daily Seq Number:**	
Latitude (dd.dddddd):		Grid:	
Longitude (dd.dddddd):		**HAZ Type:**	
Location Description:		**HAZ Count:**	**Oil Type:**
		HAZ Count:	**% Coverage:**
Capacity: gallons/lbs/ cubic meters			
Discharge/Release Amount: gallons/lbs/ cubic meters		Length: feet	Width: feet

3303 Target Site Inspection Form

Table 4 Target Site Inspection Form

1. GENERAL INFORMATION	Date (ddmmyy)	Time (24h rs Local Time)	Tide Height LMH
Site Name:			
SCAT Division/Grids:			
Inspection By: Foot -Airboat -Boat -Other		Sun- Clouds- Fog -Rain- Snow -Windy	

2. INSPECTION TEAM	Name , Organization , and Signature	

3. Grids	Description of Shoreline Surveyed:

4 SHORELINE TYPES	Select Primary (P) and Secondary (S) Habitat Types Present		
	Marsh or Wetlands (includes Floating Marsh)		Manmade Structures
	Tidal Flats/Mud Flats		Wave-cut Scarps
	Shell or Mixed Sand & Shell Beaches		Other:

5 CLEANUP ENDPOINTS	**REFER TO ENDPOINTS (09 SEPTEMBER 2012)**

Yes No

Has Operations remediated the target such that all endpoints been reached?

If no, please explain:

Other oiling conditions or observations:

6 RECOMMENDATIONS

Yes No Recommend Additional Active Cleanup (Stage 1). Comments:

Yes No Recommend continued maintenance of passive sorbent recovery for sheens (Stage 2). Comments:

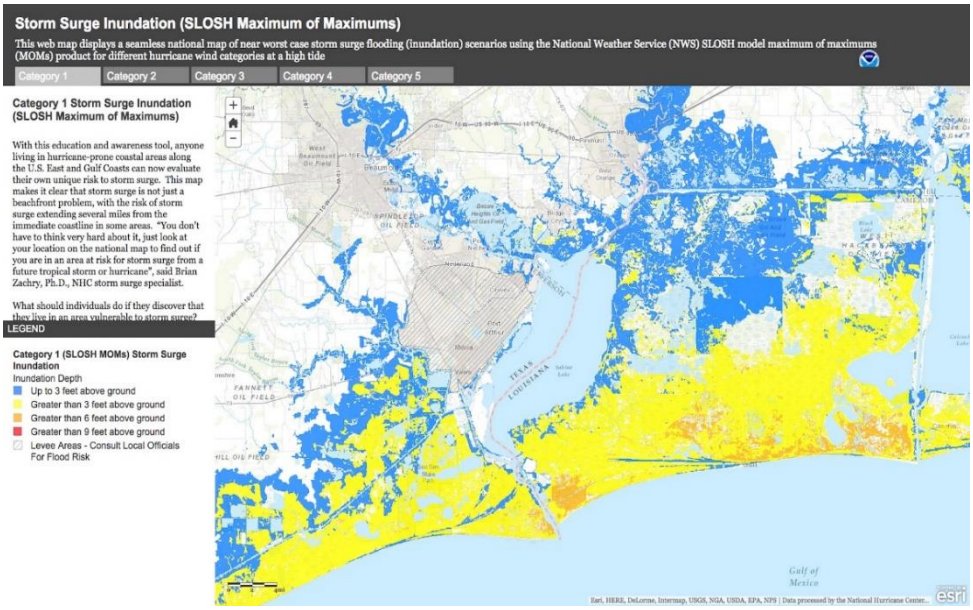
Yes No Site meets the interim cleanup endpoints (Stage 3). Recommend natural recovery for residual pollution.

Photos taken? Yes – No Additional Comments: Yes – No (if yes, see attached)

4000 MSU Port Arthur Impact Zones

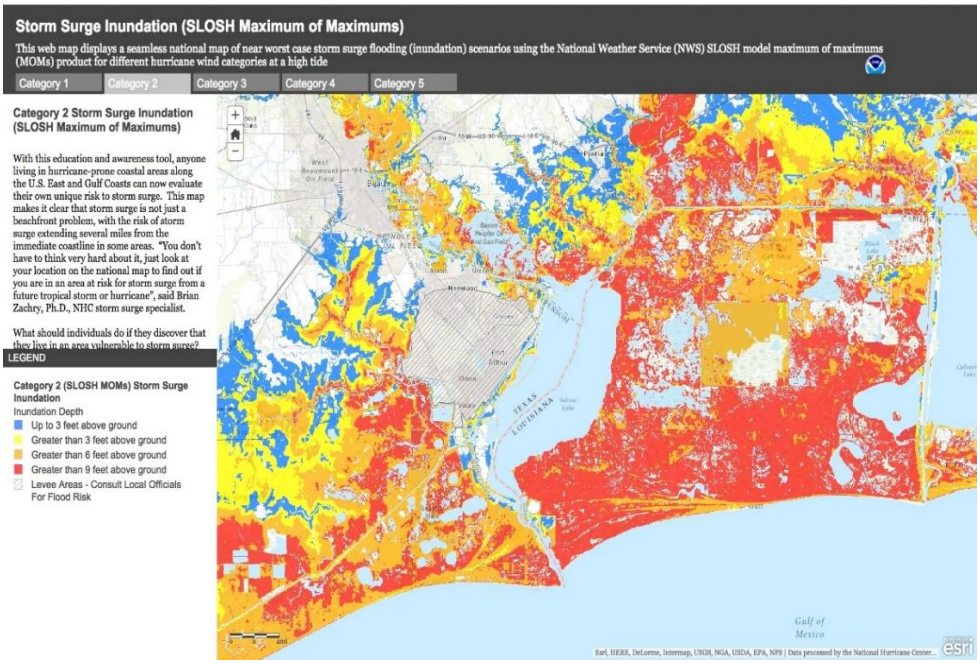
4100 Risk Graphics

4101 Storm Surge Category 1 Hurricane



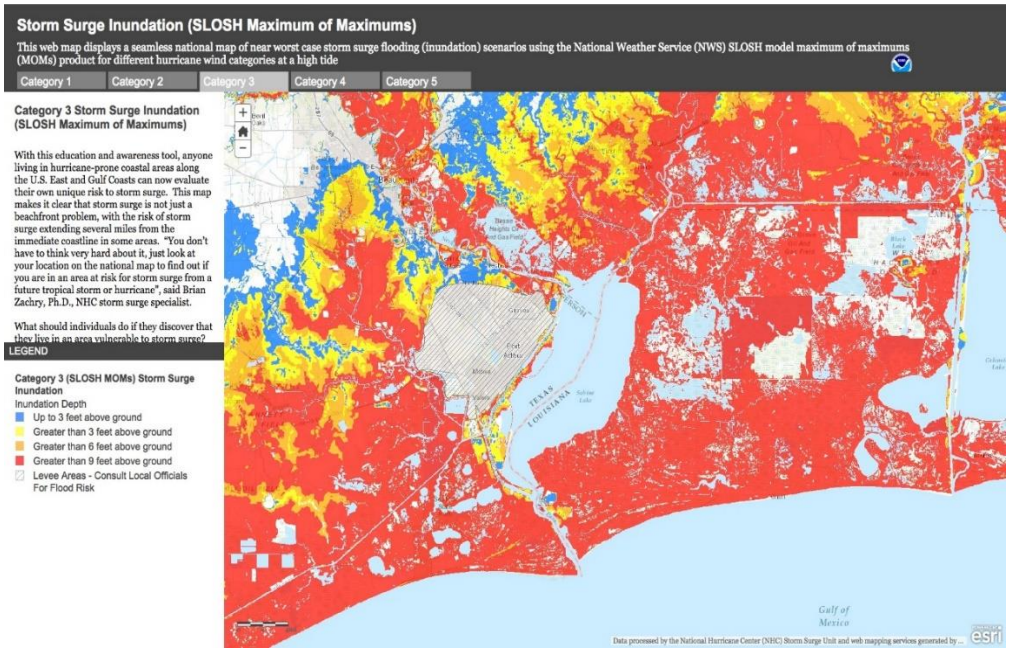
Picture 1 Storm Surge Category 1 Hurricane

4102 Storm Surge Category 2 Hurricane



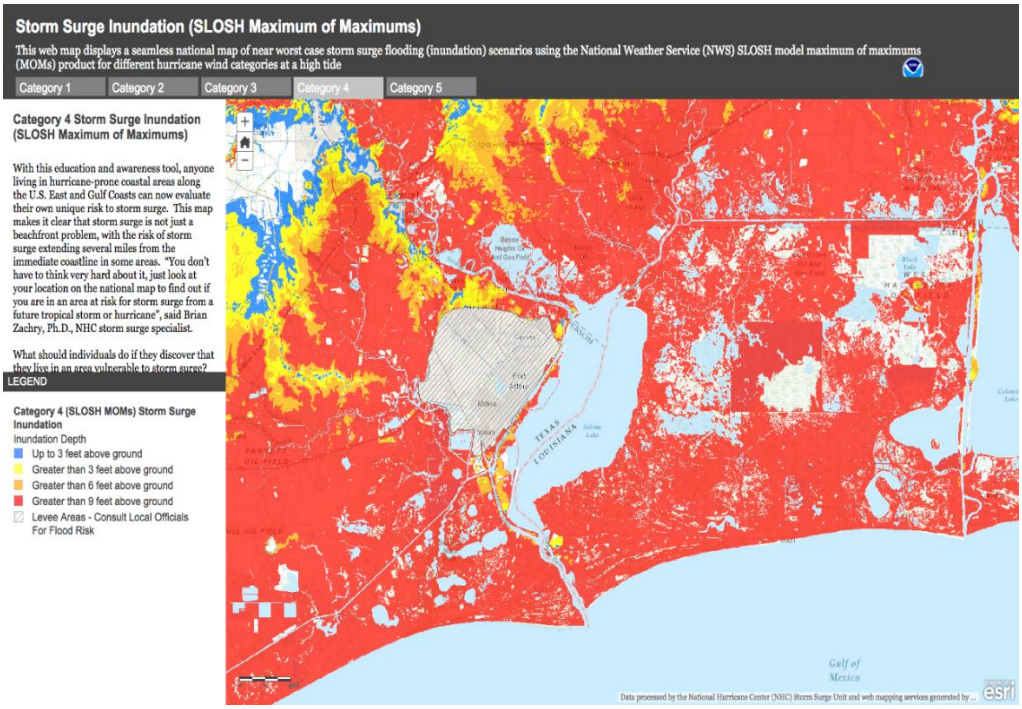
Picture 2 Storm Surge Category 2 Hurricane

4103 Storm Surge Category 3 Hurricane



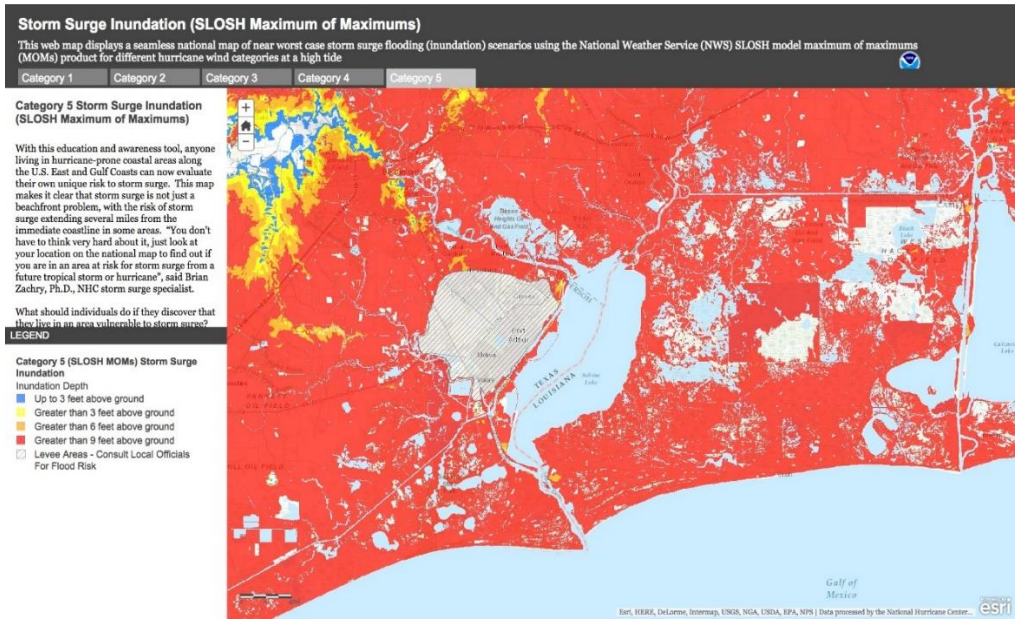
Picture 3 Storm Surge Category 3 Hurricane

4104 Storm Surge Category 4 Hurricane



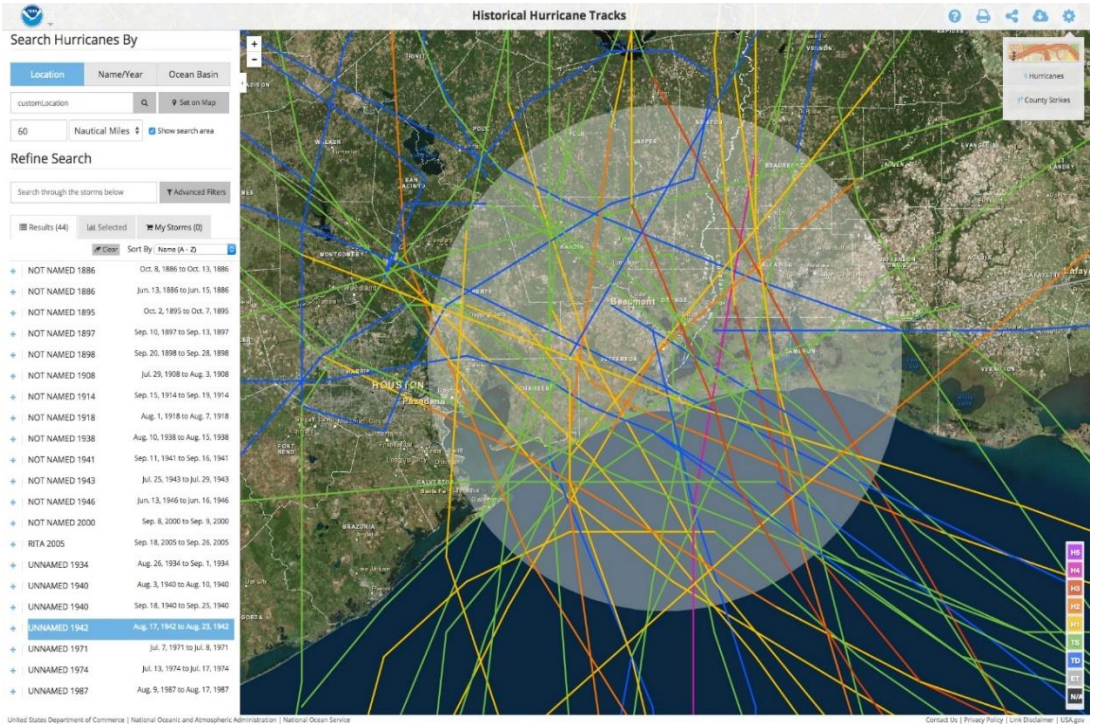
Picture 4 Storm Surge Category 4 Hurricane

4105 Storm Surge Category 5 Hurricane



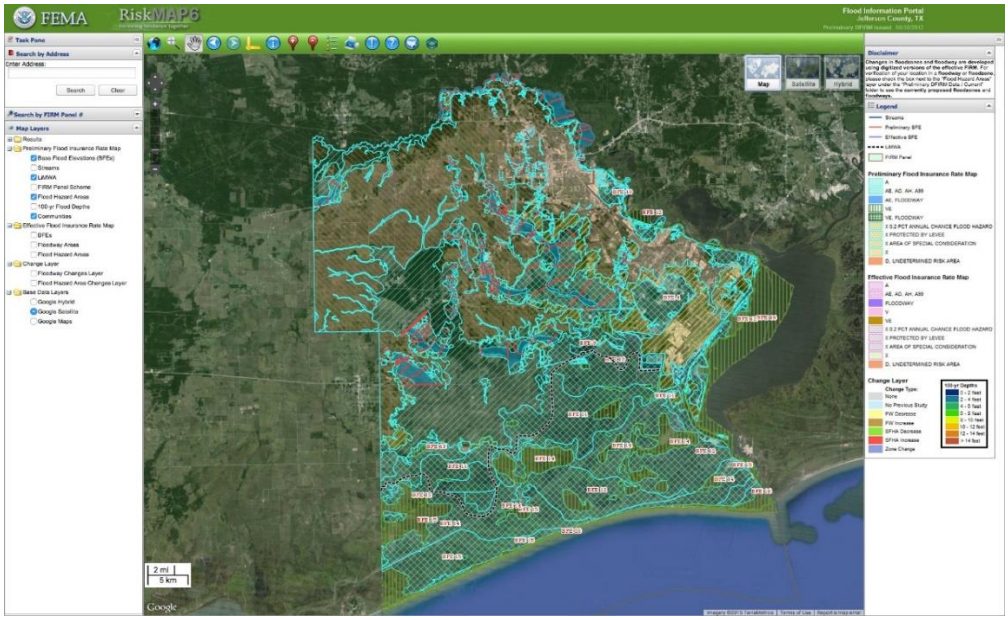
Picture 5 Storm Surge Category 5 Hurricane

4106 Historical Hurricane Landfall Data



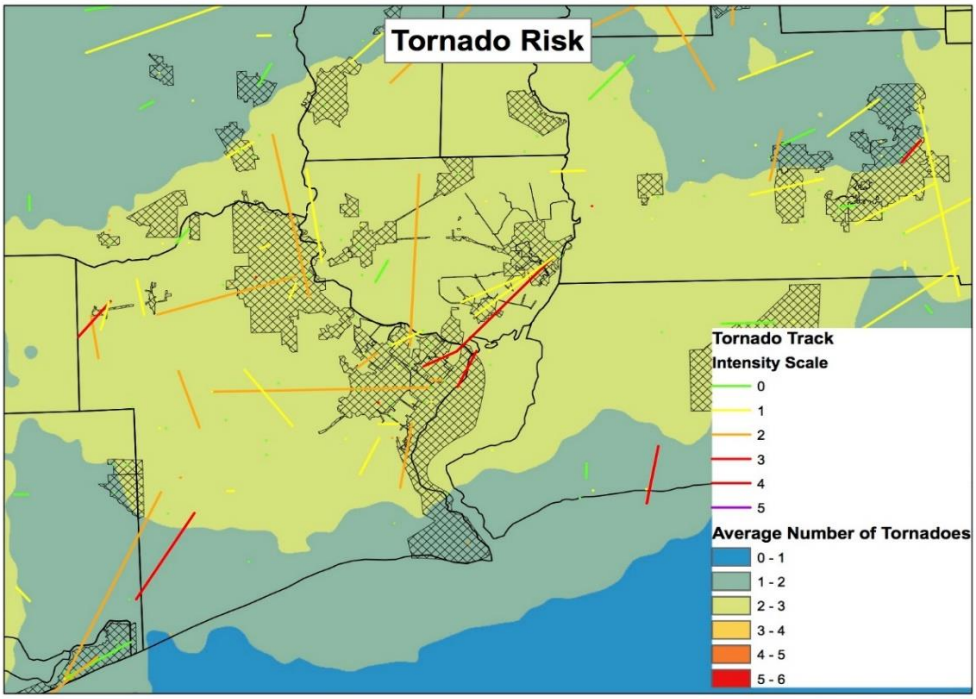
Picture 6 Historical Hurricane Landfall Data

4107 Flood Information Map



Picture 7 Flood Information Map

4108 Tornado Risk Data



Picture 8 Tornado Risk Data

5000 Operation Strategy for Marshes

This guidance is developed to ensure net environmental benefit during natural disaster response operations. This document focuses primarily on oil releases into marshes, but similar practices should be adapted for chemical releases. If the techniques below are not applicable to non-oil release, then consult with the Environmental Unit for target review and recommendations.

5100 Marsh Cleanup Protocols

Aggressive cleanup of free product releases in marshes may actually cause greater long-term damage than the pollutant itself. Any physical cleanup activities in marsh areas must be in accordance with the following guidelines to prevent unacceptably high collateral damage to marsh vegetation and entrainment or entrapment of oil product into sediments:

- Any foot traffic in the marshes shall avoid oiled grasses and sediments and utilize one-way-in and one-way-out traffic patterns. Walking boards shall be placed in travel lanes and crosswalks in the marsh.
- All treatment operations in the marshes will be done from the walking boards, without direct foot traffic in the marsh. Walking boards should not be placed in un-oiled marsh areas or landward of the oiled wrack line. No foot traffic or other entry by response personnel or equipment should occur in these un-oiled areas unless approved by the Unified Command.
- All vessel approaches to the marshes shall be limited to grounding the bow of the vessel on the fringe of the marsh. Vessels shall avoid landing directly on top of the marsh grasses as much as possible.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.

Sorbent boom should be staked along the front edge of oiled marsh for passive recovery of sheens. These sorbents must be inspected and replaced routinely. Best professional judgment by the Environmental Unit should be used to determine if further treatment or cleanup would aid or delay recovery of the vegetation. This judgment should be based on fact, past studies or data from previous oil spills.

Oiled vegetative wrack at the water's edge can be manually picked up and removed with hand tools such as shovels, rakes, and pitchforks. Wrack in the marsh interior should not be removed, even near the source, unless it is heavily oiled with the potential to cause sheen or substantial contact risk to wildlife. In difficult to access areas due to water depth, pooled oil may potentially be collected from a shallow skiff or airboat. This collection can be conducted by using sorbent pads or vacuum systems with duck bills or other applicable and approved methods.

Low-pressure, high-volume flushing can be utilized by operations to mobilize oil from marsh and into a containment boom with sorbent tubes and/or collection system. The Environmental Unit is to be notified if this technique is desired.

Cleanup is expected to progress in three phases:

- Phase 1 – Source Control and Removal Phase that focuses on containment, recovery of mobile oil, and initial shoreline cleanup (e.g., bulk oil removal/gross decontamination).
- Phase 2 – Managed Recovery Phase that consists of any final cleanup activities to mitigate residual pollution. The Managed Recovery Phase would typically include oil recovery using sorbent booms, demobilization and cleaning of equipment no longer needed, and final disposal issues. Although generally reduced, the Managed Recovery Phase still requires federal and state oversight to ensure that all threats to the environment, to public health, and to safety are minimized.
- Phase 3 – Natural recovery and restoration. No additional cleanup or active mitigation is required. Once any and all remaining booms, sorbents, cleanup materials, and response waste (if any) has been removed, the site will be left for natural recovery and closure and sign-off procedures will be implemented.

The overall cleanup objective is to minimize or eliminate threats to wildlife and natural resources while avoiding doing more harm than good. Site-specific guidance for each cleanup division grid may be generated by the Environmental Unit. The defined cleanup criteria may not be applicable (or even achievable) at all sites. Best professional judgment and the consensus of the Environmental Unit should be used to assess when the cleanup meets the above objectives. There may be additional requirements defined by private landowners or municipal managers, and such requirements may be outside the scope of the Unified Command.

6000 Operation Strategy for Orphan Containers

Following a natural disaster, the Texas coastal zone can littered with numerous drums, cylinders, tanks, and other containers that contain crude oil, refined petroleum products, chemicals and other hazardous materials (HAZMAT). Many of these items are stranded in and adjacent to residential communities, but others are stranded in adjacent coastal habitats that are accessed and utilized by the public. Most of these items are classified as orphaned, or abandoned, and are a threat to public health and safety because of the potential for direct exposure or secondary contamination. An additional concern is the unknown nature of the containers' contents. Changing weather conditions or exposure to fires may cause releases that would result in increased public risk and the potential need for evacuations.

To mitigate the threats posed by orphaned drums and hazardous materials, field operations will include a wide range of response activities and techniques. Due to the geographic extent of operations, Forward Operating Base(s) may need to be established to enhance operational effectiveness. The goal of all recovery operations will be to minimize the risk to the public and responders, and minimizing the environmental impact of the response operations overall. Any orphan container that can be accessed by field response teams is also accessible by the public and therefore constitutes a potential threat to public health and safety.

There are several phases to the orphaned drum and hazardous material container removal project: Assessment, Investigation, Operational Planning, Oil/Hazardous Material Removal and Disposal.

Assessment includes ground and aerial surveillance using small boats, airboats, and helicopters to identify and chart suspected threats. Aerial photographs will be correlated with recorded GPS overflight track lines for mapping and display in ERMA. Identified hazardous material and oil pollution related debris will be classified as drum, tank, cylinder, container, or other and prioritized by: no damage, damaged no spill, damaged leaking, or could not discern. The reconnaissance information will be used to develop situational awareness as to the scope of the problem and to direct future field activities.

Investigations relate to large orphan containers that have a known and viable industry owner. One objective of the investigation process is to attempt to contact the suspected owner to coordinate removal and any required pollution response under the owner's funding.

Operational Planning includes charting suspected targets using a GIS system, development of operational tactics, and any required natural resource trustee consultations. Technical experts and appropriate spill response guides such as the Emergency Response Guide (ERG), Material Safety Data Sheets (MSDS's), Chemical Hazards Response Information System (CHRIS), and Computer-Aided Management of Emergency Operations (CAMEO) reference resources should be consulted during operational planning to ensure a safe and properly mitigated response.

Actual Oil/Hazardous Material Removal will be conducted in a safe manner. Based on mitigation options available, consideration will be given to that which results in the least environmental impact, i.e., "do no more harm than good".

6100 Orphan Container Response Options

Because of the variability in habitat and accessibility, each container or accumulations of orphan containers along a debris line might require a unique recovery project using a different assemblage of field equipment. Hazardous Household Waste (HHW) may be recovered by orphaned drum and orphan container recovery teams at sites where field activities are being conducted.

Disposal for the field component of this operation is limited to transferring the material to one of the established disposal staging areas. Final disposal of collected Oil/HAZMAT debris is outside of the scope of this document. As previously stated, all orphan containers that pose a risk to public health and safety will be removed unless the risk for habitat damage exceeds the benefit of removal.

6101 Damaged and Leaking Orphan Container

Container is leaking and there is an observable spill of oil/hazardous material:

- Non-Oil/HAZMAT responders should only function in the First Responder role – identify threat, secure area with caution tape, and notify appropriate response team for technical support.
- Secure leak if it can be done safely.
- Mitigate and recover spilled material using appropriate technology and qualified Oil/HAZMAT personnel.
- Remove gross environmental contamination using appropriate technology.
- Recover contents by a transfer to drum or other temporary storage container.
- Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.
- Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat damage. Ensure the container is properly cleaned, marked and documented if left.

6102 Damaged, Not Leaking Orphan Container

Container is damaged, but not leaking:

- For damaged drums and smaller containers, consider over-packing and removal.
- Recover contents by transfer to a drum or other temporary storage container.
- Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.
- Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat injury. Ensure the container is properly cleaned, marked and documented if left in the environment.

6103 Undamaged Orphan Container

Container is undamaged and structurally sound:

- Recover the container intact and transport to staging area for disposition if feasible.
- Recover contents by transfer to a drum or other temporary storage container.
- Recover lightered, partially evacuated, or partially empty container to remove threat of residual Oil/HAZMAT contents.

- Leave lightered, partially evacuated, or partially empty container in place if removal would create unacceptable habitat injury.
- Consider leaving container and contents in place if inaccessible or access with heavy equipment would result in unacceptable habitat damage relative to Oil/HAZMAT risk. Ensure the container is properly cleaned, marked and documented if left.

7000 Endpoints for Target Closure

These guidelines establish target endpoints for cleanup operations for pollution targets, including free product release and containerized product. As all releases are unique and present distinct cleanup challenges, these endpoints may be amended to address as yet unforeseen circumstances and do not constitute shoreline restoration or full recovery criteria, which may be addressed through a longer-term process. These endpoints define the conclusion of cleanup operations while attempting to minimize overall impact (including those from operations) to sensitive resources.

The Unified Command recognizes the importance of partnerships with trust resource agencies and the stewardship of the environment. The procedures below are intended to expedite target closure and sign-off process while allowing opportunity for trustee input.

The Operations Section will use their professional judgment to apply the appropriate status (open or closed) to a target in the database. Once a target is set to be closed, that target will be routed to the Environmental Unit via spreadsheet summary for review. The Environmental Unit will determine if concurrence with closed status exists by approved methods. If concurrence does not exist, recommendations for further action will be provided to Operations Section. If concurrence exists, then the database will be updated to reflect change and supporting documentation completed.

The acceptable methods for achieving concurrence on closure status of a target may include administrative decision, aerial inspection or site inspection. The Environmental Unit will use their best professional judgment to determine the risk of a target and an appropriate method for achieving concurrence.

For HAZMAT Targets

- Low risk targets will achieve concurrence by administrative decision, provided collected field observations and data can sufficiently justify concurrence.
- Potentially high risk targets may require aerial inspection or site inspection to achieve concurrence.

For Oil Targets

- Any target that threatened or impacted navigable waters per National Contingency Plan (40CFR300.3), may require an aerial or site inspection to achieve concurrence.

To support proper documentation of the above closure and concurrence process, the database will contain fields to capture such information. “Status” is a field that tracks operational status and is described in Data Management Plan. “Concurrence” is a field that tracks the consensus on target closure between Operations Section, Environmental Unit, Unified Command and supporting resource agencies. An additional field, “Concurrence Comment,” will capture any additional

information that will ensure thorough documentation. The following table lists the valid values for "Concurrence" with definitions and examples.

Table 5 Target Closure Concurrence Definitions

Concurrence	Definition	Example
No Concurrence (No Sign-off)	UC has determined that clean up endpoints have not been met and additional cleanup is required	-Operations determines that cleanup endpoints have been met, but UC determines otherwise
No Further Action (Signed-off)	UC determines that no further action is required and cleanup endpoints have been met	- UC concurs that endpoint has been met for a given target -Orphan container left in place in a satisfactory condition
Referred to Regulatory Agency (Signed-off)	UC determines that another agency is better suited to take responsibility for the target based on authority and jurisdiction and notes agency in comments field. Target responsibility is handed off.	-LDEQ assumes responsibility for target -USFWS, LDWF, LDEQ and/or Corps of Engineers
Unfounded (Signed-off)	Target lacks the minimum information to be further investigated	-Unsubstantiated reports -No lat/long info -No known pollution threat

NOTE: For initialization of "Concurrence" field, each entry will be populated with No Concurrence (Pending) and this will be the default value for new entries.
All targets on graphical representations shall conform to the following convention:

- All targets Open and No Sign-off will be shaded red
- All targets Closed and No Sign-off will be shaded blue
- All targets Closed and Signed-off will be shaded green
- All oil targets will be a circle with a black border and black dot in the centroid
- All HAZMAT targets will be a triangle with a black border and black dot in the centroid

7100 Endpoint Criteria for Free of Oil Product

- Oiled shorelines shall be free of recoverable product and not produce continuous sheen under normal weather and tidal conditions.
- There shall be no recoverable oiled debris.
- Oil stain or sporadic coat on vegetation and large immobile debris that does not produce continuous sheen and is not a contact risk to wildlife may be allowed to weather and degrade naturally. If the Environmental Unit Leader determines that further recovery will not produce environmental benefit, the oil stain or sporadic coat will be left to degrade naturally. Follow-up monitoring of the area must occur.

7200 General Cleanup Endpoint Criteria for Orphan Containers

- An orphan container that poses actual or potential imminent or substantial threat to a navigable waterway will be removed, unless removal will cause undue harm to sensitive resources as is determined under the best professional judgment of the Environmental Unit Leader.
- Leaving an orphan container in place will be decided on a case-by-case basis. Net environmental benefit shall exist and the container shall be properly cleaned and identified, including documented coordinates.
- Responsible Party is identified and assumes responsibility for removal.

7300 Target Closure for Oil Pollution Targets

A joint site visit or an administrative review by Unified Command will be acceptable for Target closure. A joint site visit shall be made by an assessment team consisting of representatives of the Unified Command, natural resource trustees and, when possible, a parish representative. Incident-specific cleanup assessment and inspection forms will be generated to track progress. The FOSC and SOSC will sign off each target as having met the endpoints based upon the administrative review or on the observations and recommendations of the assessment team. Sign off on endpoints does not constitute any acknowledgment that damages to natural resources caused by this incident have been adequately addressed.

It is recognized that the above endpoints may not be applicable (or achievable) at all sites. Best professional judgment and the consensus of federal, state and, if applicable, the RP's environmental consultants (identified herein as "Environmental Unit") should be used to assess when the cleanup meets the above objectives. The Environmental Unit Leader for these endpoints will be a representative of the state of Texas or Louisiana. If a responsible party exists for a given target, there may be additional requirements defined by private landowners or municipal managers, and such requirements may be outside the scope of the Unified Command.

8000 Best Management Practices (BMPs) for the Protection of Sensitive Ecological & Cultural Resources

All operations shall be conducted with the overarching philosophy of "do no more harm than good". Many of the following BMPs are provided for the protection of federal and state protected species and other sensitive resources. For species identification, refer to the "EU Guidance on Threatened/Endangered Species".

Generally, all personnel should:

- Watch for and avoid collisions with wildlife. Report all distressed or dead wildlife to Wildlife Rehab Task Force.
- Report any distressed or dead sea turtles or marine mammals.
- Remove all personal & response trash or anything that would attract wildlife to work areas.

To protect Cultural Resources:

- Any Native American graves or burials must be reported to the State Historic Preservation Office.
- Native American and historic-era artifacts (e.g. pot shards & arrowheads) must not be collected.
- When activity occurs within 250 meters of a sensitive cultural resource as indicated by EU, a qualified archaeologist or other qualified historic preservation professional must be present to monitor the work.

To protect Natural Resources:

- Do not disturb wildlife or habitat (including foraging or nesting areas).
- Report any distressed or dead sea turtles or marine mammals to the stranding networks:
    - Report sea turtles to **1-866-TURTLE-5 (1-866-887-8535)**
    - Report dolphins to **1-877-WHALEHELP** (**1-877-942-5343**)
- Perform site visits & work from waterway, paved surfaces or existing roadways whenever possible to minimize impacts to sensitive habitats.
- Select vehicles and equipment which are least likely to disturb soils/sediments and keep loading to a minimum to reduce ground pressure (on unpaved surfaces).
- Sensitive, non-ecological sites (i.e. cultural, historical, pipelines, water control structures, etc.) must be avoided unless otherwise authorized. EU will identify sensitive sites in the vicinity of actionable targets, though all field personnel should take care when transiting to and from actionable targets.
- Minimize the release of contaminants from orphaned containers into critical habitat and other aquatic areas.
- Removal of orphan pollution containers from sensitive habitats may require specialized operations to minimize impacts. Such operations shall be closely coordinated with Environmental Unit.

For Aerial Operations:

- Avoid hovering or landing aircraft in/near posted bird sites or areas with high bird concentrations.
- No flights below 500 feet over Wildlife Refuges, Management Areas, bird rookeries or National Parks.

For open water operations:

- Do not block major egress points in channels, rivers, passes, and bays.

- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.
- All vessel approaches to the marshes shall be limited to grounding the bow of the vessel on the fringe of the marsh, avoiding landing directly on top of the marsh grasses as much as possible.
- Special Use Permits are required for conducting Air Boat operations in National Wildlife Refuges. Contact EU to ensure proper permits have been obtained.
- If using Air Boats, maintain a distance of 1,000 feet from critical habitats, rookeries, and/or other high bird use areas to minimize disturbance.
- Monitor boom, lines and underwater equipment regularly to prevent fish/wildlife entanglement/entrapment.
- If a sea turtle or marine mammal is observed trapped or entangled in a boom, line, or anchoring systems, open the boom to free the animal and notify the Wildlife Branch and Environmental Unit.
- Watch for and avoid collisions with sea turtles and dolphins.

For land based operations (includes river levees, battures and spoil banks):

- Minimize ground-disturbing activities to as small an area as feasible to complete the task.
- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for endangered species.
- When working on/near sand beaches, do not disturb piping plovers.

For marsh operations:

- Maximize use of open water, dikes, existing roads and trails and stay away from undisturbed marsh. Access routes should be planned to minimize impacts to the environment.
- Do not create unnatural ruts, channels, dikes or drainage routes and do not re-use previously made tracks.
- Use care around bank and shoreline crossings at canals, natural water bodies and ditches.
- Avoid disturbing vegetation, marsh soils, or peat with foot traffic/boats/equipment.
- Travel corridors should be as narrow as possible with designed turn around area. Stay within designated access or travel lanes when present.
- Minimize removal of clean sediment, seaweed and natural debris. Replace removed materials if practical.
- Use low-pressure tire vehicles (e.g. ATVs, Gators) when practical and consult with the EU to minimize impact.
- Avoid posted/marked or other high bird use areas and minimize activities in critical habitat areas for endangered species.
- Activities that may require removal of forested and shrub or scrub habitat should be minimized.

- Any foot traffic access to the marshes shall avoid oiled grasses and sediments and utilize one-way-in and one-way-out traffic with walking boards in travel lanes and crosswalks on the marsh.
- All foot traffic in oiled marshes will be done on the walking boards, with no direct foot traffic in the marsh. Walking boards should not be placed in un-oiled marsh areas, and no foot traffic or other entry by response personnel or equipment should occur in these un-oiled areas unless approved by the Unified Command.
- If a pollution target location is inaccessible or access with heavy equipment would result in unacceptable habitat damage relative to that posed by the pollution threat, specialized operations may be needed to minimize impacts. Specialized operations shall be closely coordinated with Environmental Unit.
- Water channels shall be used for navigation through the marshes. Under no circumstances shall vessels run over the top of or across the marsh grasses. Stopping or landing a vessel on top of the marshes is prohibited.