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# Deepwater Horizon 2011 Shoreline Plan for Louisiana

## UNIFIED COMMAND

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## 1. INTRODUCTION

The Shoreline Cleanup Assessment Technique (SCAT) process involves interagency teams of trained observers who survey the affected coastal area to document the shoreline oiling conditions. These data are being used to plan the 2011 shoreline treatment program and an inspection process to ensure that the treatment goals (No Further Treatment guidelines) are achieved by common agreement within the Unified Command (UC). This 2011 Shoreline Plan is intended to guide the field survey program for the generation of treatment recommendations to move the response through to the next phase of the cleanup program.

This document has been prepared by the Louisiana Core Group (Attachment A), for Stage 4 of the Deepwater Horizon Response SCAT program. The UC Nearshore and Shoreline Stage I and II Response Plan defined three stages of the SCAT program:

- |                  |  |
|------------------|--|
| <i>Stage I</i>   | <i>On-water recovery of floating oil slicks in near shore waters</i>                     |
| <i>Stage II</i>  | <i>Initial cleaning of bulk oil from intertidal areas until the source is controlled</i> |
| <i>Stage III</i> | <i>Removal of oil to habitat-specific cleanup goals once source control is achieved</i>  |

Stage III began when the UC determined that there was "No recoverable oil on water."

- |                    |   |
|--------------------|---|
| <i>Stage III.1</i> | <i>SCAT <u>survey</u>, generation of STR/SIR Forms, shoreline <u>treatment</u> and <u>inspection</u> based on Stage III 2010 No Further Treatment (NFT) guidelines developed by the Core Group for Stage III.</i> |
| <i>Stage III.2</i> | <i>Post-treatment <u>Monitoring and Maintenance</u>: Periodic SCAT surveys and monitoring supported by maintenance cleanup teams</i>  |

For the sake of simplicity, a new numbering scheme will be applied with the spring 2011 SCAT resurvey. From this point onwards each cycle of survey-treatment-inspection will be numbered as a new stage.

### **Stage 4**

- SCAT Survey in early 2011
- Preparation of Shoreline Treatment Recommendations (STR-4) to meet Stage 4 2011 No Further Treatment (NFT) guidelines
- Generation of a Shoreline Inspection Report (SIR-4) for a segment after completion of treatment
- Transition of segments that are below the Stage 4 2011 NFT guidelines out of Stage 4 to Level V: End State Stage, Unified Area Command Louisiana Transition Plan.

The UC-approved STR is effectively a work order for Operations to conduct treatment

within the defined guidelines and constraints. Segments are then inspected following treatment and are designated as:

- Having oil that is below the Stage 4 NFT guidelines and are at low risk of chronic re-oiling, thus moved out of Stage 4, and into Level V: End State Stage, Unified Area Command Louisiana Transition Plan (although monitoring can continue);
- Having oil that is below the Stage 4 NFT guidelines and are at high risk of chronic re-oiling, a new STR-4 may be generated to prescribe the methods and frequency of patrols by Operations to remove recurrent re-oiling.
- Having oil that is above the Stage 4 NFT guidelines, thus treatment needs to continue through the existing STR, a revised STR, or under a new STR as appropriate.

It is understood that during Stage 4 the intent is to be continuously responsive to events. Stage 4 field activities that will address how segments are monitored could include any or all of the following:

- Monitoring in non-operational areas (e.g., bird nesting restrictions on operations)
- Repeat SCAT photo/documentation sites and profile lines
- Segment-specific SCAT surveys following major storm events.

It is emphasized that SCAT teams will be active in Louisiana continuously throughout 2011. In addition to post-storm surveys and repetitive surveys at designated monitoring sites and along established beach profiles, SCAT teams will visit other locations on a selective basis to maintain an overall picture of shoreline conditions throughout the affected area. This will include those shoreline segments moved to the UAC Level V Condition. The exact timing and location of these visits will be decided by the Teams based on their experience on this response and on the need to understand change as this occurs (See Figure 1 and Figure 2).

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## **2. OBJECTIVES FOR STAGE 4**

The objectives of the Stage 4 phase of the SCAT program are to:

- Resurvey the shorelines within the affected area, by ground, to document the 2011 oiling conditions.
- Complete a Stage 4 Shoreline Inspection Report (SIR-4, see Attachment B) with the participation of local government representative, resource trustee/manager for segments, and/or if possible, the landowner/manager for segments where the oiling is below the 2011 NFT guidelines, as defined by the Core Group (Tables 1 through 3).
- Generate Shoreline Treatment Recommendation (STR-4) forms for segments that are above Stage 4 2011 NFT guidelines, as defined by the Core Group (Tables 1-3), and identify (a) appropriate treatment techniques and (b) ecological, historic/cultural resource concerns, or safety constraints.



- Liaise with Operations to ensure that they understand the STRs for implementation.
- Ensure that there is a positive Net Environmental Benefit as a result of the cleanup operations (In other words, avoid actions that would delay recovery or would do more harm than allowing oil residues to attenuate naturally).

Figure 1. DWH SCAT Program Timeline

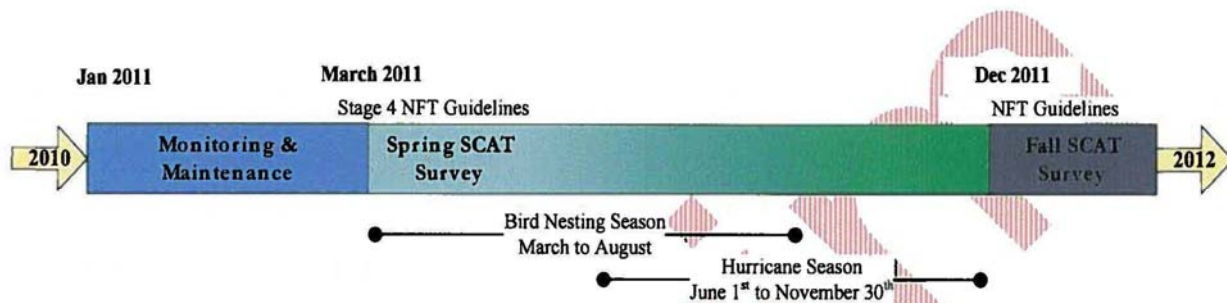
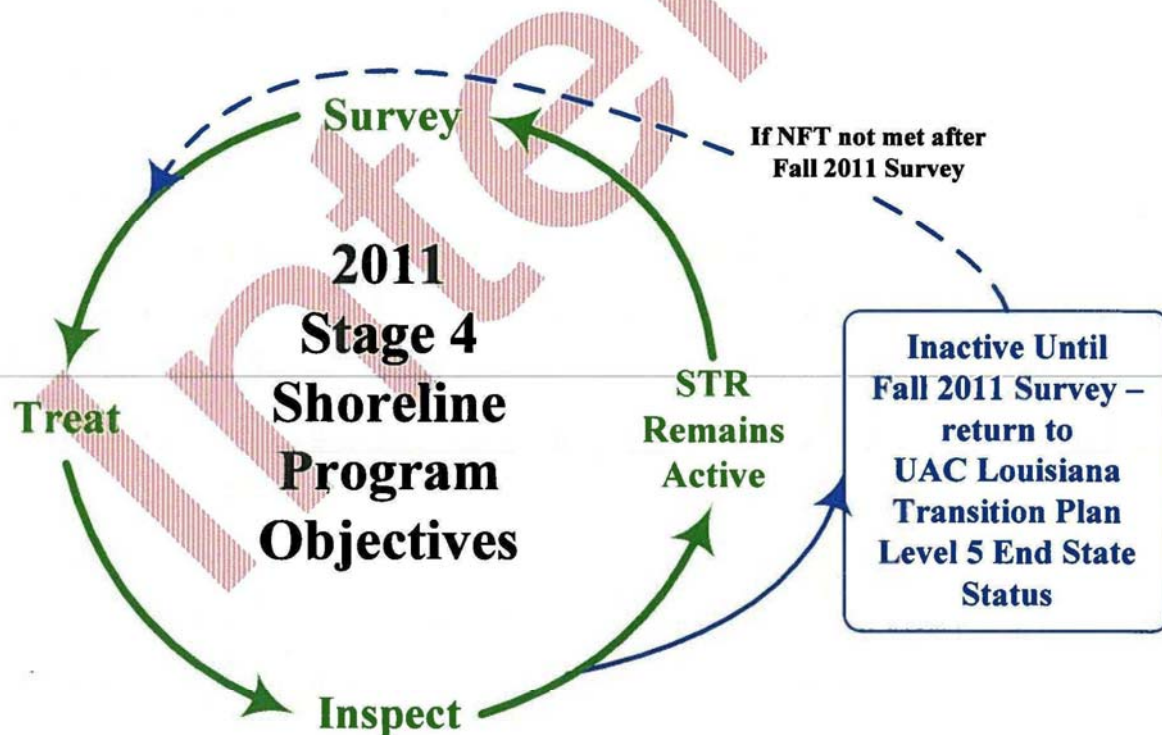


Figure 2. The SCAT Cycle



\*May return to the response if confirmed re-oiling with MC-252 oil.

### 3. STAGE 4 SCAT FIELD SURVEY STRATEGY

Stage 4 begins with a SCAT survey of all segments within which oil has been documented at any time since April 2010 in the coastal area in Louisiana. The SCAT Coordinator or SCAT Community Liaison Coordinator will provide the relevant Parish with the survey schedule in the event that the Parish wishes to send a representative on the survey.

The Stage 4 SCAT survey will generate one of the following documents for each segment that is appropriate to the findings of the survey:

- Stage 4 Shoreline Inspection Report (**SIR-4**) form that specifies:
  - No Further Treatment (Stage 4 2011 NFT) for those locations where observed oil meets the appropriate Stage 4 2011 guidelines or
  - No oil is observed (NOO)

If the survey shows that further treatment is required, SCAT team will explain and provide support documentation which will trigger the generation of:

- Stage 4 Shoreline Treatment Recommendation (**STR-4**) form that specifies the appropriate treatment for those locations where oil is observed and where treatment is required to meet the appropriate Stage 4 2011 NFT guidelines

The Stage 4 2011 NFT guidelines for sand beaches, coastal marshes and mangroves, and man-made structures are provided in Tables 1-3. These guidelines are based on many of the considerations that are discussed in detail in the Stage III Shoreline Treatment Implementation Framework for Louisiana (dated 22 December 2010) and monitoring of on-going treatment methods. These Stage 4 2011 NFT guidelines will be modified by SCAT as appropriate to the segment-specific conditions and constraints during development of the 2011 STRs. The NFT guidelines below will be achieved, or as low as reasonably practical considering the allowed treatment methods and net environmental benefit.

STRs will also indicate the removal of all response-related materials (e.g., boom, sorbents, supersacks, pilings, etc.) from the shoreline. SCAT will identify these materials for removal, even along segments where no oil treatment is recommended.

Table 1. Stage 4 2011 NFT Guidelines for Sand Beaches in Louisiana

Beach Type	Treatment Methods Recommended	Surface Oil NFT Guidelines	Subsurface Oil NFT Guidelines
Residential Beaches (e.g. Grand Isle and 100 yards on either side of the public access point on Elmers Island)	Mechanical removal Manual removal Grooming Sediment tilling Sediment relocation	No visible oil that is MC 252, or as low as reasonably practical considering the allowed treatment methods and net environmental benefit	No visible subsurface oil above stain, or as low as reasonably practical considering the allowed treatment methods and net environmental benefit
Non-Residential Beaches (e.g. Grand	Manual removal Mechanical removal	< 1% distribution of oil and oiled debris, or as low as	No subsurface oil exceeding 1 inch in



Terre(s), East Timbalier) and Non-Federal Special Management Areas (e.g. South Pass, Whiskey Island)	Sediment tilling Natural attenuation	reasonably practical considering the allowed treatment methods and net environmental benefit	thickness and patchy (<50% distribution) that is greater than Oil Residue, or as low as reasonably practical considering the allowed treatment methods and net environmental benefit
Beaches in Federal Special Management Areas (e.g. Chandeleur Islands)	Manual removal Natural attenuation	< 1% surface oil and oiled debris, or as low as reasonably practical considering the allowed treatment methods and net environmental benefit	No attempt to remove subsurface oil

**Table 2. Stage 4 2011 NFT Guidelines for Coastal Marshes and Mangroves**

<b>Treatment Methods Recommended</b>	<b>NFT Guidelines</b>
Low-pressure, ambient-temperature flushing Use of sorbents (on water) Manual removal Sorbents (on substrate) Vacuum Vegetation cutting	No flushable oil on the vegetation or soils No release of sheens that can affect sensitive resources No thick oil residues at the edges of: The marsh The beach/shell berm/overwash areas No thick or pooled oil in the marsh interior, including isolated oiling patches within the marsh No more thick or pooled oil in the marsh interior or below the vegetation. No oil that is sticky to fur and feathers Or as low as reasonably practical considering the allowed treatment methods and net environmental benefit
Natural attenuation	For all other oiling conditions

**Table 3. Stage 4 2011 NFT Guidelines for Man-made Shorelines**

<b>Treatment Methods Recommended</b>	<b>NFT Guidelines</b>
Sorbents Low/high-pressure, ambient-temperature water flushing Low/high-pressure, heated-water flushing Manual removal Shoreline cleaning agents Vacuum Natural attenuation	No accessible oiled debris For non-amenity areas, no surface oil greater than Stain or Coat >20 % distribution No oil on surfaces that rubs off on contact In high public use or high visibility areas, no surface oil greater than Stain or 10% Coat distribution on solid surfaces In inaccessible or remote areas where oil removal was not possible because of safety restrictions or ecological/cultural restraints, no longer generates petrogenic sheens that can affect sensitive resources under all weather conditions Or as low as reasonably practical considering the allowed treatment methods and net environmental benefit



#### 4. STAGE 4 SCAT FIELD SURVEY METHOD

The objective of the Stage 4 SCAT Survey is to determine what, if any, treatment actions are necessary to meet Stage 4 2011 NFT guidelines on a segment-by-segment basis.

SCAT teams with BP, federal, and state representation (including land owner/manager, local government, and/or resource manager/trustee participation, as appropriate) will conduct a systematic ground-based shoreline survey of all segments in which oil has been documented at some point in time since April 2010. The Stage 4 survey will be conducted by foot, boat, and/or UTV. The Team Lead will be a BP representative who will be responsible for the safe conduct of the survey team, development of consensus opinions or recommendations, and submission of appropriate field documentation.

The possible outcomes of the Stage 4 2011 Spring SCAT surveys are described below.

- a. For the segments where no oil was observed (NOO) in the Stage II or Stage III surveys,** no action is required. SCAT will prepare a list of these segments for submittal to the State OSC. Unless requested in writing by local government, landowners/land managers, through the State OSC, these segments will administratively transfer out of Stage 4. The UC would be responsible for an SIR to the effect that Stage 4 NFT guidelines have been met.
- b. For segments where oil is present but below the Stage 4 2011 NFT guidelines,**
  - The SCAT team (including land owner/manager, local government, and/or resource manager/trustee participation, as appropriate) generates a Stage 4 Segment Inspection Report (SIR-4: Attachment B) form with the No Further Treatment (Stage 4 2011 NFT) box checked.
  - For segments at a high risk of chronic re-oiling, a new STR-4 may be generated to prescribe the methods and frequency of patrols by Operations to remove chronic re-oiling. (See Figure 1)
- c. For segments where oil is present and is above the Stage 4 2011 NFT guidelines,** the SCAT team will generate a Stage 4 Shoreline Treatment Recommendation (STR-4) form to identify (a) appropriate treatment techniques and (b) ecological resource, cultural/historic resource, and safety constraints. If an STR-3 is already active for those segments, and the recommended treatment remains valid, the existing STR will remain in place for continuing treatment during Stage 4. If a new method of treatment is recommended, we may revise the STR-3, or a new STR-4 may be written.

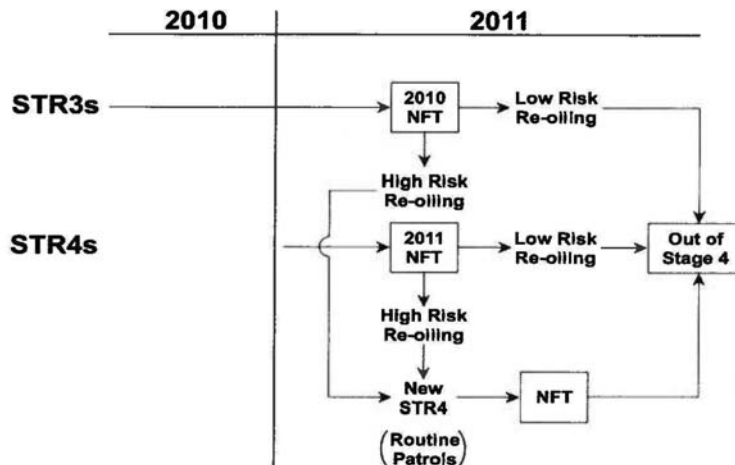


Figure 1. Flowchart showing that existing Stage 3 STRs will remain active and be inspected against the 2010 NFT guidelines even while other segments are being treated and inspected against the Stage 4 NFT guidelines. Those segments that are below the NFT guidelines but have a high risk of re-oiling will be treated under a new Stage 4 STR.

The STR-4s will be generated by the SCAT team, with input by Operations, and Section 7 and Section 106 consultations. The STR-4 is reviewed, signed by the appropriate UC representatives, and submitted through the ICS 204 process. The STR-4 effectively is a work order for Operations to conduct the treatment within the defined guidelines and constraints.

## 5. STAGE 4 INSPECTION METHOD

When Operations considers that sufficient treatment has been completed and that the oiling conditions are below Stage 4 2011 NFT guidelines, the Branch Operations or the SCAT Operations Liaison will then notify the SCAT Coordinator requesting a pre-inspection by a SCAT Team Lead and/or SCAT-Ops Liaison. The pre-inspection is intended only to verify that a segment is ready for inspection by a SCAT team that includes land owner/manager, local government, and/or resource manager/trustee participation, as appropriate. If during the pre-inspection visit, it is determined that the oiling conditions are above Stage 4 2011 NFT guidelines within a segment, Operations will be provided with guidance on further treatment needed to achieve that status via two approaches:

- If the additional treatment is covered under the existing STR, verbal and written guidance will be provided on where and what needs additional work.
- If the additional treatment is not covered by the existing STR, a SCAT team will conduct a new survey to document the oiling conditions and prepare an STR-4 amendment that will be re-submitted through the approval process.

When notified that a segment is below Stage 4 2011 NFT guidelines, the SCAT Coordinator will arrange a SCAT inspection to include the land owner/manager, resource manager/trustee, and/or local government representatives, as appropriate. If the survey shows that the segment is below Stage 4 2011 NFT cleanup guideline, the UC representatives will complete and sign an SIR-4 which states that sufficient treatment has



been completed and that either:

- No oil observed (NOO), or
- The oiling is below Stage 4 2011 NFT guidelines and that segment of shoreline will move to Level V: End State Stage, per the UAC Louisiana Transition Plan.

If the oiling conditions are above the Stage 4 2011 NFT guidelines, the SCAT team will provide Operations with guidance on further treatment needed to achieve that status via the two approaches described above.

## **6. GEOGRAPHIC SURVEY AREA (LOUISIANA)**

The geographic area to be surveyed is:

- The Louisiana coast from the Pearl River to the Texas border including Lake Pontchartrain up to the Causeway.
- The shorelines of the Mississippi River drainage areas below Venice.

## **7. SCHEDULE AND FIELD PRIORITIES**

The Stage 4 SCAT survey is scheduled to begin no later than 1 March 2011. Sensitive bird nesting islands and rookeries will be surveyed as soon as possible (with a target completion date of 1 March; surveys after 1 March will be conducted in consultation with LDWF to assure that surveys do not disturb nesting birds) so that cleanup can be completed prior to the start of the nesting season. The timing of the segment surveys would be based on low-tide windows with predicted water levels of 0.5 feet or less. The survey design would take into consideration the fact that the low-tide windows become infrequent after the second week in April, possibly requiring that all survey work in the lower half of the intertidal zone be completed by mid April.

The proposed field survey priorities include:

- Those segments in the list of bird nesting and rookery provided by the State and Federal resource agencies
- Segments requested by the State and Federal agencies
- Initial focus on shoreline segments where STR-3 treatment operations were conducted, or on those segments adjacent to segments where STR-3 treatment operations were conducted (e.g., canals, lagoons, or bays)
- Other segments for which STRs were prepared as part of Stage III not covered by the above
- All other segments for which oil has been documented at some point in time since April 2010

If a segment is in active cleanup, then a survey would not be necessary until that work is completed.

## **8. FIELD TEAMS**

The SCAT program was designed to ensure that appropriate federal and state

government entities, along with SCAT and other technical specialists, are represented on the team in the field. This approach is important to obtain a complete assessment of the shoreline conditions and to reach a consensus on recommended actions for each segment. Each SCAT team has, at a minimum:

- The Team Lead who is a BP representative, who is an experienced shoreline oil observer, who participated in the Stage II and III SCAT program and who will be responsible for completing the oiling and inspection documentation.
- A federal representative, who is an experienced shoreline observer, who preferably participated in the Stage II and/or III SCAT Program, and who will be responsible for providing input on completing the oiling documentation and ecological resources of concern, and
- A state representative, who is an experienced shoreline observer, who preferably participated in the Stage II and/or III SCAT Program, and who will be responsible for providing input on completing the oiling documentation and ecological resources of concern.

The team may have, depending on the segment to be surveyed:

- A land owner or land manager representative,
- A resource manager or trustee if Section 106, Section 7 or tribal resource(s) are present in the segment, and
- A local government representative.

The SCAT Team Lead ensures that the following activities are completed and agreed by the team members:

- Completion of the Combined Shoreline Oiling Summary (CSOS) or the Wetland Oiling Summary (WOS) form,
- Preparation of sketch(es) or "photo-sketches" of the zone/segment if oil is observed – no sketch is required if no oil is observed in the segment,
- Recording GPS coordinates of the zone/segment boundaries and other features,
- Taking digital photographs and log date/time/location – no photos are required if no oil is observed in the segment, but one alongshore general photograph typically should be taken at the high water level to record the shore-zone character,
- Digging (including auguring) pits/trenches or supervising this activity if subsurface oil is suspected,
- Recommendations that will be used in preparation of an SIR-4 or a Shoreline Treatment Recommendation Form (STR-4). All SCAT team members will discuss and work toward consensus on these recommendations; if a team member does not agree with the recommendation, he/she will provide comments on the SIR form, and
- Completion of a SIR-4 following segment inspections.

Teams will continue with the Combined Shoreline Oiling Summary (CSOS) or the Wetland Oiling Summary (WOS) form as conditions require.



## ATTACHMENT A – Louisiana Core Group Members

Name	Representing
Jacqui Michel, co-chair	NOAA SCAT Coordinator
Toni DeBosier, co-chair	BP SCAT Parish Liaison
Ann Hayward Walker	BP Technical Advisor / SCAT Stakeholder Liaison
Ed Owens	BP/Polaris SCAT Technical Advisor
Gary Hayward	BP SCAT Program Manager
Gary Petrae/ Frank Csulak/Scott Stolz	NOAA SSC
LCDR Brian Moore	USCG Dep PSC - Environmental Unit Leader
LCDR Heather Paetow	USCG - Environmental Unit Advisor
LCDR Kenneth Boda	USCG OSAT-2
LTJG William Spoon	USCG SCAT Liaison
MECS James Richardson	USCG SCAT Liaison
MSTC Aaron Hemme	USCG Operations
Larry Murphy	NHPA Section 106 Specialist (HPSO)
Toby Darden	NHPA Section 106 Houma Tribal Liaison
Roberta Gerson / Henry Maddox	USFWS Section 7 Endangered Species Act
David Oge	LA Env. Liaison
Gary Reiter	LA SCAT OPS Liaison
Daniel Dearmond	LA OCPR
Melissa Braud	LA SHPO
Pat Breaux	LA DEQ
Matt Weigel	LDWF
Andy Graham	LA SCAT Tech Advisor
Stephen Spencer / Gary Edwards	USDOI IC
Gregory Hogue / Allison O'Brien	USDOI/DOI Trustee Advisor
Curt Sauer	DOI Deputy IC & NPS Liaison
David Maple / John Saxhaug	USFWS Liaison
James Burnett	USFWS Refuge Liaison; North Florida Refuges
Jereme Phillips	USFWS Bon Secour Refuge
Dave Anderson / Tony Velasco	US NPS/Wildlife Operations
Maury Bedford	USFWS/ Project Leader Gulf Coast NWR Complex
Jack Bohannon	USFWS/Breton Island & Delta NWR Manager
Ken Litzenberger	USFWS/SE Louisiana Project Leader
Terry Delaine	USFWS/NWR
Rick Kanaski	USFWS/Archeologist

## ATTACHMENT B – Blank Stage 4 SIR Form

### DEEPWATER HORIZON RESPONSE: SEGMENT INSPECTION REPORT - STAGE 4

#### SIR-4

Location Name	State - Parish - Division
Segment	
Local Name	

Date of Survey	_____
Time of Survey	_____
Tide Stage	_____
Weather	_____
Method	_____
<small>(i.e. Foot / Boat / ATV - if more than one circle primary)</small>	

Inspection Completed Along Entire  
Segment?

*circle one*

YES

NO

SCAT Team Members	
Name	Signature
_____	RP rep _____
_____	FOSC rep _____
_____	SOSC rep _____

**OILING CONDITION** (Describe: No Oil Observed, Stage 4 2011 NFT Conditions, ALARP, NEBA, safety, other)

\_\_\_\_\_

CHECK APPROPRIATE BOX BELOW AND SCAT (UC) REPS SIGN ABOVE

<input type="checkbox"/> NOO	<input type="checkbox"/> Further Treatment Required
<input type="checkbox"/> Stage 4 2011 NFT	Explain and provide support documentation SOS, maps, photographs
Comments - Landowner/Trustee:  Concurrence:  Name: _____ Date: _____	

FOSC \_\_\_\_\_ SOSC \_\_\_\_\_ BP EUL \_\_\_\_\_

Date: \_\_\_\_\_

ver. 15 February 2011