

Assessment Plan for Marsh Edges and Sandy Shorelines: Addendum for Chemical Analysis of Blue Crab
Samples

Prepared by:
the Fish Technical Working Group of the
Mississippi Canyon 252 Trustees

For the
Mississippi Canyon 252 Trustees

Version 1.2
October 25, 2012

Comments and questions should be addressed to:

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Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment (NRDA). Each party reserves its rights to produce its own independent interpretations and analyses of any data collected pursuant to this work plan.

The trustees have developed a preliminary conceptual model of the DWH release, potential pathways and routes of exposure, and potential receptors. This preliminary model has informed the trustees' decision to pursue the studies outlined in the work plan. By signing this work plan and agreeing to fund the work outlined, BP is not endorsing the model articulated in the work plan.

APPROVED:



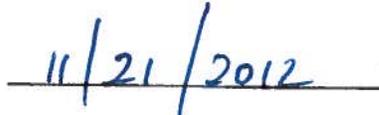
NOAA Trustee Representative:



Date



Louisiana Trustee Representative:



Date



BP Representative:



Date

Assessment Plan for Marsh Edges and Sandy Shorelines: Addendum for Chemical Analysis of Blue Crab Samples

Blue crabs (*Callinectes sapidus*) were by-catch from trawls and cores collected under the *Assessment Plan for Marsh Edges and Sandy Shorelines* (the “MESSh” plan). The NRDA Trustees had intended to transfer and analyze these specimens under a separate work plan for the collection and analysis of a suite of benthic organisms, which ultimately was not funded. This addendum provides for the analysis of these crabs under the MESSh Plan.

Samples

During the summer/fall 2011 MESSh field effort, blue crab samples were collected in 7 cores, 1 quadrat sample, and 66 trawl samples. Analytic experience with deep water red crabs (*Chaceon quinque-dens*) from this spill event indicates that the best tissues for detecting oil exposure are the eggs and hepatopancreas. Gill, gonad, and muscle tissues may also be individually dissected out and analyzed, and may also show oil exposure. However, the intended GC/MS analysis (see Deepwater Horizon Analytical Quality Assurance Plan, v. 3.0) is most appropriate if the tissues to be analyzed are available in sufficient mass (typically ~5g) or if they have high contaminant loads. Fifteen of the blue crab samples have at least 53g mass (wet wt.), and are anticipated to yield sufficient mass of the target tissues for GC/MS analysis. An additional 59 samples have between 0.006g and 15g mass; these smaller samples with less than 15g total whole body mass will remain in archive.

Hydrocarbon Analysis Plan

Laboratory methods will follow the Deepwater Horizon Analytical Quality Assurance Plan v. 3.0 (AQAP) for PAH and biomarker quantification (plus lipids) using modified Method 8270c, GC/MS SIM (for alkylated PAH). Only the 15 largest samples with 53-700g mass will be analyzed under this addendum. Tissues of interest include: eggs, hepatopancreas, gills, gonads and muscle.

The laboratory will dissect out and composite the target tissues from the crabs that comprise each sample. Each tissue type per sample will form a separate composite. It may be the case that not all tissue types for every sample will provide sufficient mass for analysis. Any unanalyzed tissues will be returned to archive.

All samples will be submitted to laboratories that are operated in a manner that is consistent with the guidelines of the Analytical Quality Assurance Plan for the Mississippi Canyon (Deepwater Horizon) Natural Resource Damage Assessment (version 3.0).

All materials associated with the collection or analysis of samples under these protocols or pursuant to any approved work plan, including any remains of samples and including remains of extracts created during or remaining after analytical testing, must be preserved and disposed of in accordance with the preservation and disposal requirements set forth in Pretrial Orders (“PTOs”) # 1, # 30, #35, # 37, #39 and #43 and any other applicable Court Orders governing tangible items that are or may be issued in MDL No. 2179 IN RE: Oil Spill by the Oil Rig "DEEPWATER HORIZON" (E.D. LA 2010). Destructive analytical

testing of oil, dispersant or sediment samples may only be conducted in accordance with PTO # 37, paragraph 11, and PTO # 39, paragraph 11. Circumstances and procedures governing preservation and disposal of sample materials by the trustees must be set forth in a written protocol that is approved by the state or federal agency whose employees or contractors are in possession or control of such materials and must comply with the provisions of PTOs # 1, # 30, # 35, 37, #39 and #43.

MESSh Blue Crab Samples with a mass of 53g or greater.

Sample ID	Sample mass (g)	Number of Organisms	Lat	Long
LAAQ43-B1025-T305M0084-04TCT	53	15	██████	██████
LAAR43-B0819-TW2M1811-01TCT	71	1	██████	██████
LAAQ37-B0817-TN2M1774-07TCT	90	9	██████	██████
MSAJ44-B0924-T303M12-07TCT	95	1	██████	██████
LAAQ40-B1011-T305B0727-Q3O	103	2	██████	██████
LAAP40-B0813-TU8M1308-01TCT	141	1	██████	██████
LAAQ40-B0811-TU8M1267-07TCT	143	1	██████	██████
LAAQ43-B1024-T305M0088-01TCT	143	2	██████	██████
LAAQ40-B0821-TU8M373-07TCT	158	4	██████	██████
LAAR34-B1022-T309M0141-01TCT	199	1	██████	██████
LAAR36-B0925-T308M901-04TCT	255	2	██████	██████
LAAP39-B1014-T305M0910-10TCT	298	3	██████	██████
MSAL42-B0811-TQ7M533-07TCT	309	2	██████	██████
LAAQ43-B0818-TU8M122-07TCT	337	8	██████	██████
LAAP40-B1021-T305M1001-01TCT	700	3	██████	██████

Data Handling and Sharing

Refer to the main work plan: Assessment Plan for Marsh Edges and Sandy Shorelines.

Estimated Cost

This estimate covers the maximum number of samples that may be run. The actual number depends on a number of factors including: the size of the crabs, the ability of the lab to isolate the selected tissues, and the mass of the individual tissue samples.

Samples	Tissues	Cost per Analysis	Total Cost
15	5*	\$802**	\$60,150

*Hepatopancreas, eggs, gonads, gills, muscle.

** Alkylated PAHs, biomarkers, lipids, and moisture.