

**2011 Addendum to the Assessment Plan for Juvenile Sea Turtles in *Sargassum*
Communities**

Potentially Exposed to MC 252 Discharge

Prepared by

¹Industrial Economics, Inc.

For the
Mississippi Canyon 252 Trustees

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This document represents an addendum to the November 2010 Assessment Plan for Juvenile Sea Turtles in *Sargassum* Communities Potentially Exposed to MC 252 Discharge (2010 *Sargassum* Sea Turtle Plan). It describes activities completed in 2010 and presents a budget for sampling to be conducted in 2011.

Approach and Rationale

The approach and rationale for assessing juvenile sea turtles in *Sargassum* remains unchanged from the 2010 *Sargassum* Sea Turtle Plan. Floating *Sargassum* is a key oceanic habitat that may have been impacted by the release of MC 252 oil and application of dispersants (hereafter referred to as “MC 252 oil”). Floating *Sargassum* patches are an important habitat for a variety of invertebrate and vertebrate species. In particular, *Sargassum* patches are a key nursery habitat for four of the species of sea turtles that inhabit the Gulf of Mexico: loggerhead (*Caretta caretta*), green (*Chelonia mydas*), Kemp’s ridley (*Lepidochelys kempii*), and hawksbill (*Eretmochelys imbricata*). As *Sargassum* clumps and mats are concentrated in the nGOM, some of these neustonic habitats and associated fauna were exposed to surface oil, sheens, and chemical dispersants introduced as a result of the MC 252 discharge. The overall evaluation of *Sargassum* communities in 2011 in the nGOM will include invertebrates and fish of several life stages; however, this addendum and the associated 2010 *Sargassum* Sea Turtle Plan are designed to address only juvenile sea turtles and *Sargassum*.

The main objectives of this addendum are to:

- (1) Determine the 2011 areal extent and distribution of *Sargassum* in the north-central and eastern Gulf of Mexico; and
- (2) Document the density, condition, diet, and potential MC 252 oil exposure of pelagic neonate sea turtles associated with floating *Sargassum* in the north-central and eastern Gulf of Mexico.

Study Area

Principal study components of this proposal currently focus on areas potentially impacted by MC 252 oil south and east of the Mississippi River Delta and extend to locations along the Florida Panhandle where pelagic, neonate sea turtles occur. This addendum reduces the number of sampling grids to two: Venice, LA and Pensacola, FL (See Figure 1), but maintains the same number of sampling events at each remaining grid. The two other Florida grids originally included were eliminated from this effort because they were considered unlikely to contain exposed *Sargassum* and turtles.

The study design used in both this addendum and the 2010 *Sargassum* Sea Turtle Plan is intended to be sufficiently robust to support empirical or modeling-based injury assessment approaches.

**Sargassum Plan Proposed Grid and Transect Sites
West Region**

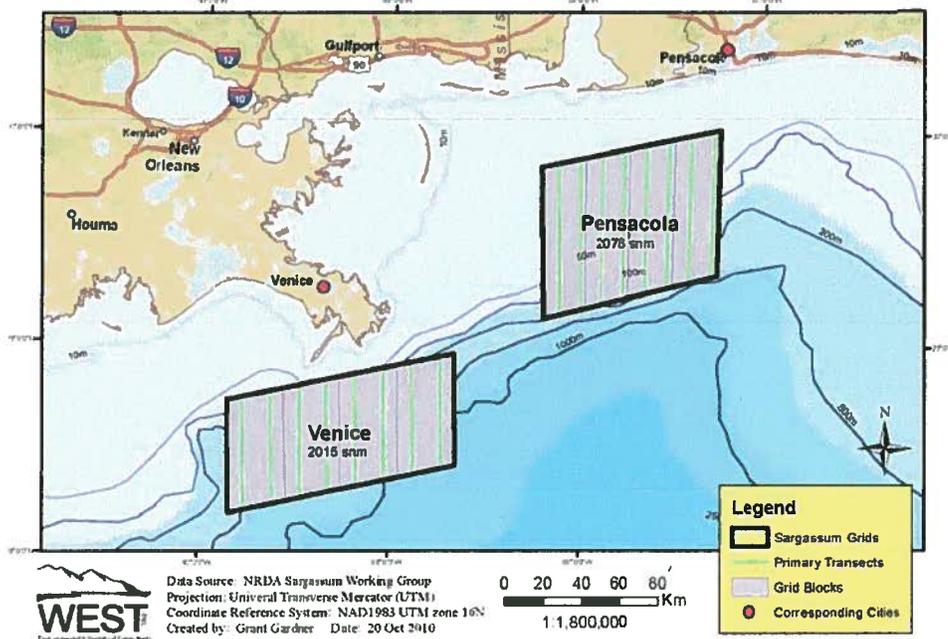


Figure 1 Two Turtle Sampling Grids Venice, LA; Pensacola, FL

Timeline and sampling effort

As stated in the 2010 Sargassum Sea Turtle Plan, the trustees and BP “intend to conduct, and BP agreed to fund, 8 sampling events extending into 2011.” It was anticipated that up to 2 of these sampling events would be completed during 2010.

The initial 2010 sampling took place as weather and sea conditions permitted through December 2010. The specific sampling conducted included:

- Two aerial *Sargassum* surveys for the Pensacola grid.
- Two offshore sea turtle and *Sargassum* sampling trips for the Pensacola grid.
- Two aerial *Sargassum* surveys for the Sarasota grid.
- Two offshore sea turtle and *Sargassum* sampling trips for the Sarasota grid.
- One aerial *Sargassum* survey for the Venice grid.¹

¹ Note that an attempt to complete an associated offshore sea turtle and *Sargassum* sampling trip for the Venice grid was prevented by unfavorable weather conditions.

There were delays in getting into the field in 2010, and field teams were unable to complete all planned surveys in all 4 grids. Given that sampling did not commence until late in the season, and that this resulted in a limited number of 2010 sampling events, and given that sampling was not successful in capturing any turtles, this addendum proposes to do 8 sampling events in each of the 2 grids in 2011, and it proposes that the same samples be collected as described in Section III of the 2010 Sea Turtle *Sargassum* Plan.

The 2011 turtle surveys will be initiated in mid-May and are anticipated to be completed over approximately a four month period. The specific order and frequency of sampling the two grids will be based on the observed conditions of *Sargassum* and weather patterns throughout the study period. Results of the 2010 sampling efforts indicated that changes in field methods are not warranted for the 2011 surveys.

Data Handling and Sharing

MC 252 NRDA chain-of-custody procedures will be observed at all times for all NRDA samples. All samples will be transferred with appropriate chain-of-custody forms.

All field and laboratory data will be collected, managed and stored in accordance with written SOPs. The appropriate training on particular equipment or in the conduct of specific field studies for all personnel involved with the project shall be documented and those records shall be kept on file for the duration of this project.

Field teams will complete data sheets each day. Each team member will sign the data sheet indicating agreement on the content of the data sheet. The Trustee representative will retain custody of all completed data sheets until they are transferred to the data intake team, which will meet the field crew after each day of vessel-based sampling. BP/CardnoENTRIX representatives, if present, may obtain a copy of all data sheets and photographs once data intake has been completed. In the event that field work is carried out without BP or its designated representative present, the data (data sheets, track logs, photos) will be made available through the NOAA/NRDA.org within 48 hours of completion of data intake.

Each laboratory shall simultaneously deliver raw data, including all necessary metadata, generated as part of this work plan as a Laboratory Analytical Data Package (LADP) to the trustee Data Management Team (DMT), the Louisiana Oil Spill Coordinator's Office (LOSCO) on behalf of the State of Louisiana and to BP (or CardnoENTRIX on behalf of BP). The electronic data deliverable (EDD) spreadsheet with pre-validated analytical results, which is a component of the complete LADP, will also be delivered to the secure FTP drop box maintained by the trustees' Data Management Team (DMT). Any preliminary data distributed to the DMT shall also be distributed to LOSCO and to BP (or CardnoENTRIX on behalf of BP). Thereafter, the DMT will validate and perform quality assurance/quality control (QA/QC) procedures on the LADP consistent with the authorized Analytical Quality Assurance Plan, after which time the validated/QA/QC'd data shall be made available simultaneously to all trustees and BP (or

CardnoENTRIX on behalf of BP). Any questions raised on the validated/QA/QC results shall be handled per the procedures in the Analytical Quality Assurance Plan and the issue and results shall be distributed to all parties. In the interest of maintaining one consistent data set for use by all parties, only the validated/QA/QC'd data set released by the DMT shall be considered the consensus data set. In the interest of maintaining one consistent data set for use by all parties, only the validated/QA/QC'd data set released by the DMT shall be considered the consensus data set. In order to ensure reliability of the consensus data and full review by the parties, no party shall publish consensus data until 7 days after such data has been made available to the parties. Also, the LADP shall not be released by the DMT, LOSCO, BP or CardnoENTRIX prior to validation/QA/QC absent a showing of critical operational need. Should any party show a critical operational need for data prior to validation/QA/QC, any released data will be clearly marked "preliminary/unvalidated" and will be made available equally to all trustees and to BP (or CardnoENTRIX on behalf of BP).

All analytical and non-analytical data will be provided simultaneously to all Trustees and BP or their representative within a reasonable timeframe. All samples collected pursuant to this plan will be submitted to an NRDA-approved laboratory.

Durable Equipment - All durable equipment (such as cameras, GPS, etc.) purchased by BP for this study will be returned to BP or their designated representatives at the conclusion of its use for this study unless otherwise agreed.

Some equipment needed for this study may be in BP's existing inventory. BP-owned equipment will be used if available and when appropriate to the needs of the proposed work.

Lead Investigators

Dr. Blair Witherington: Florida Fish and Wildlife Conservation Commission, Fish and Wildlife Research Institute [REDACTED]

Dr. Jonathan Gorham: InWater Research Group, Inc., Jensen Beach, FL 34957

Dr. Michael Bresette: InWater Research Group, Inc., Jensen Beach, FL 34957

Description of Duties for Lead Investigators

Name	Role
Dr. Blair Witherington Florida Fish and Wildlife Conservation Commission	Lead Investigator for Sea Turtle Component. Responsible for training field staff, development of data-collection protocols.
Dr. Jonathan Gorham InWater Research Group, Inc.	Co-Investigator for Sea Turtle Component. Responsible for procuring equipment, data collection, analyses, and leading report preparation.
Dr. Michael Bresette InWater Research Group, Inc.	Co-Investigator for Sea Turtle Component. Responsible for procuring equipment, data collection, analyses, and leading report preparation.

Estimated 2011 Budget

Budget for Turtle Component of Sargassum Study				
Ship Based Surveys – Turtles				
Equipment				
Weighing/measuring equipment, subject restraining table				\$950
PIT tags and electronic reader (100 tags@\$750; 1 reader @\$250)				\$1,000
Veterinary lavage pumps and tubing, speculum				\$350
Sample jars and preservative				\$600
Data paper, office supplies				\$500
Oil gauze-sampling supplies				\$200
Satellite phone minutes				\$500
Capture nets				\$1,000
Vessel expenses:				
Chartered vessels (24 days - allowing up to 3 days per grid per month [including contingency for bad weather] @3500/day)				\$84,000
Equipment Subtotal				
				\$89,100
Personnel expenses:				
2 ports - 80 days in field including crew change time				
Chief Scientist - 20 days/month, 10 hrs/day, 1 scientist for 4 months, plus training project management, data analysis and report preparation				
Research staff - 20 days/month, 10 hrs/day for three staff for 4 months, plus training				
Personnel Subtotal				
				\$273,935
Travel				
	Rate	Days/Miles	People	Total
<i>Orange Beach, AL</i>				
Lodging	\$101.00	40	4	\$16,160
Meals	\$51.00	40	4	\$8,160
Mileage and/or vehicle rental	\$0.50	6,000	1	\$3,000
Subtotal				\$27,320
<i>Venice, LA</i>				
Lodging	\$131.00	40	4	\$20,960
Meals	\$71.00	40	4	\$11,360
Mileage and/or vehicle rental	\$0.50	6,000	1	\$3,000
Subtotal				\$35,320

Sargassum Sampling Plan

	Rate	People	Per Month	4 months
Airfare for crew rotation	\$500	8	\$4,000	\$16,000
Travel Subtotal				\$78,640
Required HAZWOPER Training tuition (8 staff at \$250)				\$2,000
Total for Ship Based Surveys - Turtles				\$443,675
Note: Costs for use of helicopters for aerial observation are being paid by BP and are not included in this budget.				

The Parties acknowledge that this budget is an estimate and that actual costs may prove to be higher. BP's commitment to fund the costs of this work includes any additional reasonable costs within the scope of this approved work plan that may arise. The trustees will make a good faith effort to notify BP in advance of any such increased costs.