

**Summary of Findings for Sea Turtles Documented by Directed Captures,  
Stranding Response, and Incidental Captures Under Response Operations During  
the BP Deepwater Horizon (Mississippi Canyon 252) Oil Spill**

**With 2015 Update: Summary of Stranded Sea Turtles Reported as Oiled within the Original BP  
Deepwater Horizon Response Area from October 21, 2010 through 2015**

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#### ACKNOWLEDGMENTS

The BP Deepwater Horizon oil spill threatened sea turtles throughout the Gulf of Mexico.

Response to this disaster was a monumental undertaking that required the cooperative efforts of many government agencies, private institutions and organizations, dedicated volunteers, and the public. Many dedicated people played invaluable roles in planning, logistical support, daily operations, and rehabilitation and release of sea turtles.

Summarization of directed capture operations included in this report was prepared with considerable input from personnel of the Florida Fish and Wildlife Conservation Commission and members of the Inwater Research Group, who planned and conducted many of the Unified Command operations, and collated and managed data. Blair Witherington, Michael Bresette, David Clark, Jonathan Gorham, and Shigetomo Hirama merit special mention. In addition, much appreciation goes to Mandy Tumlin and field personnel of the Louisiana Department of Wildlife and Fisheries for the state directed capture efforts. Essential organizations included Georgia Department of Natural Resources, Inwater Research Group, Louisiana Department of Wildlife and Fisheries, National Oceanic and Atmospheric Administration – National Marine Fisheries Service, Riverhead Foundation, United States Fish and Wildlife Service, the University of Florida, and personnel serving in the Wildlife Branch of the Unified Command in Houma, LA and Mobile, AL. In addition, the considerable efforts of charter vessel captains and crew, as well as pilots, aerial observers and ground transportation drivers, were critical to operations. Rehabilitation facilities for directed capture efforts included Audubon Nature Institute (New Orleans, Louisiana) , Gulf World (Panama City, Florida), Clearwater Marine Aquarium (Clearwater, Florida), Disney Animal Kingdom (Lake Buena Vista, Florida), Florida Aquarium (Tampa, Florida), Mote Marine Laboratory and Aquarium (Sarasota, Florida), and SeaWorld (Orlando, Florida). Much appreciation goes to the devoted personnel and volunteers who cared for these animals.

Stranding response was especially arduous given the many demands and requirements related to the oil spill. Facilities that provided all manner of support include the University of Florida (College of Veterinary Medicine and Aquatic Pathobiology Laboratory), The Institute for Marine Mammal Studies, and the Audubon Nature Institute. Responders from the Audubon Nature Institute, Ecological Associates, Inc., Florida Fish and Wildlife Conservation Commission, Institute for Marine Mammal Studies, Louisiana Department of Wildlife and Fisheries, National Oceanic and Atmospheric Administration-National Marine Fisheries Service (Pacific Islands Fisheries Science Center, Southeast Science Center, Office of Law Enforcement, others), and U.S. Fish and Wildlife Service were particularly invaluable. Although by no means a complete list, those individuals that bear specific mention for their significant contributions include Shane Boylan, Nancy Evou, Allen Foley, Jennifer Keene, James Kejonen, Michele Kelley, Meghan Koperski, Wendy Hatchett, Secret Holmes, Jackie Isaacs, Sara McNulty, Karen Mitchell, Barbara Schroeder, Delphine Shannon, Wendy Teas, and Mandy Tumlin.

Kristy Juaire of the United States Coast Guard Marine Safety Laboratory is credited with managing and reporting of the petrochemical analyses performed on oil samples collected from sea turtles.

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## EXECUTIVE SUMMARY

### SUMMARY OF FINDINGS FOR SEA TURTLES DOCUMENTED BY DIRECTED CAPTURES, STRANDING RESPONSE, AND INCIDENTAL CAPTURES UNDER RESPONSE OPERATIONS DURING THE BP DEEPWATER HORIZON (MISSISSIPPI CANYON 252) OIL SPILL

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The BP Deepwater Horizon oil spill, the largest spill in U.S. history, threatened sea turtle populations within the Gulf of Mexico and continues to be a significant concern with regard to long-term effects on the ecosystem. As part of the comprehensive spill response, federal and state agencies and non-governmental organizations mounted an extensive effort to document effects on protected sea turtles and mitigate harm to the extent possible. The designated spill response area included Louisiana, Mississippi, Alabama, and the western panhandle of Florida. Response operations formally lasted from April 26, 2010 to October 20, 2010. Immediate effects from the BPDWH spill were observed in offshore convergences where hundreds of oiled oceanic juvenile sea turtles were rescued and taken to rehabilitation centers. In addition, large numbers of sea turtles that were not visibly oiled were found dead on or near shore within the response area, most during May and June. Investigation of these deaths found that a substantial proportion of cases were consistent with forced submergence. Incidental capture in fishing gear is the primary suspected cause. Traumatic injuries indicative of trauma caused by watercraft were another considerable cause of mortality. Additional assessments and analyses of the findings from this report are anticipated under the Natural Resources Damage Assessment process.

## INTRODUCTION

Documentation and recovery of live and dead sea turtles was initiated as part of wildlife operations under the Unified Command for the BP Deepwater Horizon (BPDWH) Spill Incident (Mississippi Canyon 252). The first objective of this effort was to assess exposure to released oil, determine any associated effects on sea turtles, and mitigate harm to the extent possible. The second objective was to investigate other potential factors contributing to sea turtle mortality during the spill response. These objectives were accomplished through initiation of offshore surveys to document and rescue oiled sea turtles at sea (hereafter referred to as directed capture); enhancement of the Sea Turtle Stranding and Salvage Network (STSSN), which primarily documents dead or debilitated turtles on or near shore; and recovery of animals through other on-water operations in the region related or unrelated to the spill response. The response area included Louisiana, Mississippi, Alabama, and the western panhandle of Florida (Alabama State line to Apalachicola). Activities under the official response lasted from April 26, 2010 through October 20, 2010.

Many live and dead sea turtles were documented by these efforts, including hundreds of live oiled turtles found during the offshore directed capture operations. This report summarizes these findings and includes information on species and life stages observed, visible exposure to oil, results of initial petrochemical analyses of oil samples, postmortem (necropsy) findings, and available diagnostic analytical results. Detailed clinical assessment of live oiled turtles, comprehensive analyses of field data from directed capture operations, and analyses of biological samples for petrochemicals and dispersants are being conducted or are proposed under the Natural Resources Damage Assessment (NRDA) process and are not included in this report. Also reported elsewhere are the results of the sea turtle nest translocation effort.

## SUMMARY OF OPERATIONS AND GENERAL METHODOLOGY

### **Sea turtle records and mortality data**

Multiple sources of data were used to compile reports of live and dead sea turtles, including records from the offshore directed captures (compiled by the Inwater Research Group, Inc.), stranding reports from the STSSN (coordinated nationally by Wendy Teas, Southeast Fisheries Science Center), documentation received with sea turtle carcasses, and medical records and other materials from rehabilitation centers. Findings are presented by operation as follows: directed capture operations specifically rescuing sea turtles offshore within oiled habitat; sea turtles collected under stranding response that were found onshore or at-sea by stranding responders, members of the public, beach workers, or opportunistically by vessel operators; sea turtles observed to be captured during dredging operations or by recreational fisheries, commercial fisheries or response skimmer vessels. Additional descriptions of operations and procedures are provided under individual sections. Protocols and data sheets related to these operations are given in Appendix A.

### **Detection of oil and petrochemical analyses**

Available field photographs and notes were reviewed and sea turtles were scored by degree of visible oiling based on a scale of zero (not visibly oiled) to four (heavily oiled) (Figure 1). Turtles given a score of one were minimally oiled and oil was either limited to one region of the body or coverage was very light (thin smear or staining only). Lightly oiled turtles were given a score of two and had a thin layer of oil lightly covering multiple parts of the body. Thicker aggregated oil, if present, was focally distributed. A score of three was given to moderately oiled turtles that had heavier layers of oil covering multiple areas of the body, often accompanied by generalized brown staining. Heavily oiled turtles had aggregates of thick, tenacious oil diffusely covering the body and were given the highest score of four.

Also, field notes, rehabilitation center records, and necropsy findings were reviewed for presence or absence of oil in the mouth as an indicator of probable ingestion of petroleum.

Samples of suspected petroleum oil were collected in accordance with response protocols and were submitted to the United States Coast Guard Marine Safety Laboratory (USCG-MSL) for identification and comparative analysis to confirm the presence of petroleum and determine whether material was derived from the BPDHW spill. Samples from all sea turtles reported as oiled through the Unified Command, described as oiled in the stranding report, or observed to have suspected oil present at necropsy were submitted for analysis<sup>1</sup>. Oiling status was regarded as confirmed if presence of petroleum was confirmed by petrochemical analysis. Those cases in which analyses were inconclusive or petroleum was not detected were regarded as suspect oiled, but unconfirmed and subject to further review.

#### **Necropsy protocols and data format**

Under response directives, it was mandated that all retrievable sea turtle carcasses, including animals found dead and turtles that were recovered alive and later died, be examined to the degree possible based on postmortem condition. Most of the necropsies were performed by Dr. Brian Stacy, a board-certified veterinary pathologist with the National Marine Fisheries Service (NMFS), Office of Protected Resources and the University of Florida, College of Veterinary Medicine (UF-CVM). Assistance was provided by Ms. Jennifer Keene, biological scientist from the UF-CVM. Eleven examinations were performed early in the response by Ms. Lisa Belskis of the NMFS Southeast Fisheries Science Center (NMFS-SEFSC) and one by Ms. Carrie Horton of NMFS-SEFSC. Necropsies were performed at the

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<sup>1</sup> All findings herein related to petrochemical exposure should be considered preliminary pending completion of all analyses for the BPDWH/MC252 spill as determined by trustee agencies, law enforcement, and the Natural Resources Damage Assessment process.

following locations: UF-CVM (Gainesville, Florida); the Institute for Marine Mammal Studies (Gulfport, Mississippi); the University of Florida, Aquatic Pathobiology Laboratory (Gainesville, Florida); the Audubon Nature Institute (New Orleans, Louisiana); and a temporary field response station in Venice, Louisiana.

All carcasses received were examined to the extent possible, as determined by postmortem condition, using guidelines and data sheets developed for the BPDWH response. Cases were accessioned into a sea turtle evidentiary database and chain-of-custody procedures were followed. Notes and findings from gross necropsies were entered into an "Oiled Sea Turtle Gross Necropsy Report" immediately following examination (Appendix A). This data sheet was completed for all examined carcasses under response protocol, regardless of the presence or absence of visible petroleum oil. Another data sheet, the "Sea Turtle Stranding and Salvage Network – Gross Necropsy Notes," was used for additional documentation of fresh dead and moderately decomposed cases (Appendix A). Additional data and results forms were included for other analyses or supplementary observations. All available findings and results were summarized into a "Pathology Consultation Report" for each case. The signed final hardcopies of these documents comprise the official record. Electronic copies of reports and digital photographs documenting examinations were archived and included in a searchable database.

#### **Explanation of key terms**

Necropsies were categorized as full, partial, or limited. Full necropsies were performed on carcasses that were complete and in a condition that allowed some degree of assessment of major organ systems. Partial examinations were performed on carcasses that were badly damaged due to scavenging, trauma, or decomposition. Limited examinations were performed most often on

skeletalized carcasses or desiccated remains. Nonetheless, findings such as major traumatic injuries often were detected by these limited assessments.

Postmortem condition was assigned a number based on the standard convention of the STSSN. The numerical designations are as follows: 1 fresh dead animals (no foul smell and little or no decomposition); 2 moderate decomposition (foul smell, skin and scutes intact or beginning to peel, internal organs distinguishable); 3 severe decomposition (foul odor, scutes lifting or gone, skin peeling or liquefying, internal organs beginning to liquefy and hard to distinguish); 4 desiccated carcasses (dried remains, leathery, internal organs completely decomposed); and 5 skeletal remains (minimal to no soft tissue remaining). Example photographs of examples of postmortem conditions are shown in Appendix G1. Nutritional condition was determined as emaciated, thin, fair, or good based on the state of skeletal muscle and fat stores (see example photographs in Appendix GII). Species was determined using key morphological characteristics. Gender was determined whenever the condition of the carcass allowed sufficient examination of the gonads. Sizes of turtles were reported as straight carapace length (SCL) from nuchal notch to pygal tip. If SCL was not recorded, it was converted from curved measurements using regression equations (Teas, 1993) or estimated from photographs using internal scales within the images.

Cause of death was assigned when determinable based on available findings. When possible, consideration was given to proximate cause of death (condition or process that initiated a chain of events leading to death) and immediate cause of death (condition or complication that directly precedes death). Cause of death was considered multifactorial when multiple significant problems of indeterminable sequence or causative relation were present. Cause of death was considered probable when evidence of likely cause was present. Conclusions regarded cause of death were conservative, often because assessment was limited by decomposition or insufficient circumstantial information. The

basis for probable cause of death determinations are provided under individual report comments. In addition, notable findings were included in the case comments for those animals in which cause of death could not be determined.

Traumatic injuries were classified as antemortem, postmortem, or as undetermined in relation to time of death. Antemortem indicates that injuries were inflicted prior to death. Postmortem injuries were inflicted after death. Determinations were based on a combination of wound characteristics, presence of associated hemorrhage, inflammatory exudate or generalized blood loss, and observations noted in the stranding record. Wounds were only diagnosed as antemortem if there was an inflammatory response (vital reaction) or clear evidence of hemorrhage or blood loss.

Traumatic injuries were classified as blunt trauma, linear blunt trauma, chop wounds, shark bites, fishing gear-related injuries, or miscellaneous injuries attributed to other human interaction or injuries of unknown cause. Blunt trauma was characterized by fractures, contusions, abrasions, or lacerations involving one or more areas of the body. Linear blunt trauma was characterized by a distinct linear pattern, as is consistent with collision with propulsion and steering components of watercraft, including skegs and rudders. Chop wounds were characterized as linear, curvilinear, or sigmoidal injuries with sharp force features. Multiple parallel chop wounds are typical of injuries from watercraft propellers. Single chop wounds also can be caused by collisions with sharp, non-rotating features of watercraft, such as sharp skegs. Shark bite wounds were identified by semicircular ablations of the carapace or plastron, sharply incised tooth marks, and characteristic deep scoring of bone at the wound margins. Fishing gear-related injuries were associated with hooks and line.

Proximate cause of death was attributed to drowning when circumstances surrounding death were indicative of drowning (e.g., a turtle found dead within a trawler net), gross findings included the presence of fluid within airways with or without aspirated foreign material in the lungs, and no other

lesions explaining cause of death were present. Suspect or probable drownings were those animals in which these same observations were present, but circumstances surrounding death were unknown (e.g., a sea turtle found dead on a beach). Drowning and probable drowning were further subcategorized as asphyxia if there was evidence of complete occlusion of the airway by sediment or other material.

Contents of the gastrointestinal (GI) tract were examined and specifically characterized whenever possible by type and location within the GI tract. Data are given by total numbers of animals in which postmortem condition was sufficient for examination of the GI contents, and excludes those cases in which contents could not be evaluated due to decomposition or missing organs. Some variability in numbers examined between different segments of the GI tract reflect postmortem state (e.g., cases where the oral cavity and esophagus were intact and examinable, but the stomach was missing or decomposed beyond recognition). General taxa of interest, especially fish and Penaeid shrimp, are given in this report; however, identification of all food items to lowest taxonomic level possible will be performed under Natural Resources Damage Assessment.

#### **Additional specifics on summarization of causes of death and key findings**

Cases were categorized by cause of death or by key necropsy findings if cause of death was undeterminable. Cases in which cause of death was not determined were placed into additional categories: (1) those with notable weight loss (emaciated or thin nutritional condition) or significant pathological lesions indicating disease; (2) those with major trauma; (3) animals without significant anomalies (no trauma, no evidence of disease, fair to good nutritional condition); and (4) cases that were uncategorized due to limited assessment. Drowning was considered as a primary differential diagnosis for cases in the third category based on exclusion; therefore, sea turtles within this category often were considered in combination with probable drowning cases for various comparisons and

statistical analyses. Similarly, cases with disease as the cause of death were combined with those that exhibited significant weight loss and animals that died from trauma were combined with turtles that had major injuries (unknown if antemortem or postmortem).

Select necropsy findings were compared with cause of death (if determined) and general findings (nutritional condition, presence or absence of traumatic injuries) to look for correlations of potential relevance to the circumstances of death. Comparisons of variables between groups were evaluated for statistical significance using Pearson's chi squared test (PCS) if expected frequencies were ten or greater (with one degree of freedom). Two-tailed Fisher's exact test (FE) was used if expected frequencies were less than ten. Differences were considered significant if p-values were less than 0.05.

### **Analyses for biotoxins**

Organ samples and gastrointestinal contents from select cases documented by stranding response were submitted to the NOAA National Ocean Service, Marine Biotoxins Program Laboratory and analyzed for biotoxins of concern in the northern Gulf of Mexico, including domoic acid, brevetoxin, saxitoxin, and okadaic acid. Cases were selected to be representative of predominant necropsy findings and included sea turtles in good nutritional condition with fish or shrimp in the digestive tract. Specific analytical methodologies for detecting biotoxins are given in Appendix H.



Figure 1. Examples of degrees of external oiling observed in sea turtles documented by directed capture operations during the BPDWH oil spill response: (1) minimally oiled green turtle (AMF2010073104); (2) lightly oiled Kemp's ridley sea turtle (BAS2010061409); (3) moderately oiled Kemp's ridley sea turtle (AMC2010080307); (4) heavily oiled Kemp's ridley sea turtle (BAS2010060604).

SUMMARY OF DOCUMENTED LIVE AND DEAD SEA TURTLES, NUMBERS OF NECROPSIES PERFORMED,  
VISIBLE OIL STATUS, AND PETROCHEMICAL ANALYSES (ALL OPERATIONS)

A total of 1,465 individual reports of live sea turtles, documented carcasses, and necropsy records were reviewed (Table 1). Most of the live turtle reports resulted from offshore directed captures and incidental captures, whereas most sea turtles recovered on or near shore by stranding response were found dead. Five hundred and eighty-four (90.8%, 584/643) animals that were either found dead or were alive and later died while undergoing rehabilitation were necropsied.

Oiling status of sea turtles based on visual examination and USCG-MSL analytical results are summarized in Table 2. Details of these results, including species, straight carapace length, location, and USCG-MSL results and accession numbers are provided in Appendix B. Petroleum was detected in external samples collected from 290 sea turtles. Two hundred and seventy of these oiled animals were collected by offshore directed capture operations, 17 oiled sea turtles were documented by stranding response, and three oiled turtles were captured during other vessel operations. Conclusive comparative analytical results were obtained for samples from 223 sea turtles, 218 of which were found to be derived from the BPDW. Analytical results for confirmed oiled sea turtles are provided by species in Table 3.

Table 1. Sea turtles documented by response operations within the BPDWH response area during the period of 4/26/2010 through 10/20/2010. The response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Directed capture operations surveyed offshore habitat for documentation and rescue of oiled sea turtles. Dead or debilitated sea turtles were documented mostly onshore or near shore as part of stranding response by participants in the Sea Turtle Stranding and Salvage Network (STSSN). Other captures refers to dredging activities, recreational fisheries, commercial fisheries, and skimmer vessels participating in oil clean-up activities. Dead sea turtles that were not necropsied were extremely decomposed and most were not collected from the field.

	Found alive, released	Found alive, later died	Found dead	Total documented	Total necropsied
Offshore directed captures	565	4	5	574	9
Stranding response	16	15	613	644	569
Other captures	241	0	6	247	6
Total	822	19	624	1465	584

Table 2. Detection of visible oil and petrochemical analytical results for sea turtles documented by response operations during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Directed capture operations surveyed offshore habitat for documentation and rescue of oiled sea turtles. Dead or debilitated sea turtles were documented mostly onshore or near shore by participants in the Sea Turtle Stranding and Salvage Network (STSSN). Other captures refers to dredging activities, recreational fisheries, commercial fisheries, and skimmer vessels participating in oil clean-up activities. Oil detection and comparison analyses were performed by the United States Coast Guard Marine Safety Laboratory.

	Offshore directed captures	Stranding response	Other captures	Total
Reported as not visibly oiled	110	620	244	974
Reported as visibly oiled	464	24	3	491
Petroleum oil confirmed / derived from BPDWH	199	16	3	218
Petroleum confirmed / not derived from BPDWH	5	0	0	5
Petroleum confirmed / source inconclusive	6	0	0	6
Petroleum confirmed / insufficient quantity for comparison	60	1	0	61
Petroleum not detected by analysis conducted	96	1	0	97
Inconclusive detection result	83	6	0	89
Sample not available	15	0	0	15

Table 3. United States Coast Guard Marine Safety Laboratory results for samples collected from sea turtles documented during the BPDWH oil spill response. Results of comparative analysis of samples in which the presence by petroleum was confirmed are given by species.

Species	Petroleum confirmed/derived from BPDWH	Petroleum confirmed/not derived from BPDWH	Petroleum confirmed/ source inconclusive	Petroleum confirmed/ insufficient quantity for comparison	Total
Kemp's ridley	135	2	4	29	170
Green	64	3	2	31	100
Loggerhead	10	0	0	0	10
Hawksbill	9	0	0	1	10
Total	218	5	6	61	290

## DIRECTED CAPTURES

**Summary**

Field crews were dispatched offshore to rescue oiled sea turtles from convergence zones and other marine habitat effected by oil during the BPDWH spill. Ocean convergence zones may include aggregated lines and mats of *Sargassum* macroalgae and are essential habitat for oceanic stage juvenile sea turtles, as well as other marine life. The same natural forces that aggregate *Sargassum* also accumulated oil within these zones during the BPDWH spill.

Offshore directed captures were initiated during a pilot effort out of Pass-a-Loutre, Louisiana from May 18 through May 20, 2010 in joint operations conducted by the Wildlife Branch of the Unified Command (UC) and Louisiana Department of Wildlife and Fisheries (LDWF). Subsequent operations through the UC were based in Venice, Louisiana beginning on May 31, 2010; Destin, Florida beginning July 8, 2010, and Orange Beach; and Alabama beginning July 22, 2010. Additional surveys were conducted by LDWF out of Grand Isle, Louisiana beginning on June 1, 2010. Directed captures operations were ended port by port based on formal step-down criteria adopted by the UC. The last sea turtles were documented for Venice operations on August 21, 2010, and for Destin and Orange Beach on September 3, 2010. The last sea turtle documented offshore by LDWF was reported on July 27, 2010. As per the step-down protocol, a spot check of convergence areas and additional captures of sea turtles for examination were conducted out of Venice on September 16 and 17, 2010, and out of Orange Beach on September 20 and 21, 2010. The UC directed capture operations were officially concluded on September 21, 2010.

Convergence areas and *Sargassum* were located using a combination of remote sensing data, input from vessel captains and capture crews, aerial surveys, and other available information. Sea

turtles were captured using long-handled dip nets. The capture and sample handling protocol and field data sheet are provided in Appendix A.

Initially, all oiled turtles were brought into rehabilitation for observation and treatment. This practice was amended on August 5, 2010, following placement of a temporary cap on the wellhead on July 15, 2010 and based on collective input from veterinarians and observations in the field and at rehabilitation centers. Thereafter, only moderately to heavily oiled sea turtles or clearly weak or debilitated animals were brought into captivity. Active, minimally or lightly oiled sea turtles were cleaned and released on site.

#### **Numbers of sea turtles by species, capture port, and degree of oil coverage**

Five hundred and seventy-four sea turtles were documented, including 317 Kemp's ridley sea turtles, 220 green turtles, 19 hawksbill turtles, and 18 loggerhead sea turtles. Two hundred and thirty-eight sea turtles were documented during UC operations out of Venice, Louisiana and 43 sea turtles were documented by LDWF (including three animals documented during joint operations based in Pass-a-Loutre). One hundred and twenty-three sea turtles were documented during operations based in Orange Beach, Alabama, and 170 from operations out of Destin, Florida. Size composition of captured sea turtles is shown in Figure 2. Most (539/574, 93.9%) of the turtles were less than 25.0 cm SCL. The median SCL for the four species captured: 22.1 cm (range = 17.2 to 65.1 cm) for Kemp's ridleys; 21.0 cm (range = 15.3 to 31.7 cm) for green turtles; 19.8 cm (range = 14.3 to 21.5) for hawksbills; and 18.7 (range = 6.5 to 76.0 cm) for loggerheads.

Numbers of sea turtles captured by degree of oil coverage and species are given in Table 4. Four hundred and sixty-four sea turtles were reported as visibly oiled and 110 were reported as not visibly oiled. Of the visibly oiled turtles, 266 were minimally oiled, 87 were lightly oiled, 47 were moderately oiled, and 61 were heavily oiled. There was insufficient data available to evaluate three cases. Capture

locations by degree of oil coverage and species are shown in Figure 3. The proportion of turtles with oil in the oral cavity correlated with degree of visible oiling. Results of examination of the oral cavity were noted for 250 minimally oiled sea turtles. Oil was noted in the mouth of 123 of these turtles (49.2%) and an unknown substance was observed in one turtle. The oral cavity was examined for 80 lightly oiled turtles; oil was observed in 61 (76.3%). Of the 44 moderately oiled turtles examined; 41 (93.2%) had visible oil in the mouth. Fifty-eight heavily oiled turtles were examined and 56 (96.6%) had visible oil in the mouth.

Numbers of sea turtles by degree of oil coverage and capture port are given in Table 5. All heavily oiled turtles were encountered by operations based in Venice, Louisiana, by LDWF field crews, or during the initial joint UC/LDWF captures, and primarily were documented around and to the west of the Deepwater Horizon platform (Figure 3). Moderately and heavily oiled turtles comprised 34.9% (98/281) of sea turtles captured out of ports in Louisiana. Ten moderately oiled sea turtles were documented by operations from Orange Beach, Alabama, and Destin, Florida (3.4%, 10/293); the remaining turtles captured from these ports were lightly oiled, minimally oiled, or were not visibly oiled.

Proportions of captured sea turtles by degree of oiling and capture date are shown in Figure 4. The majority (49/61) of all heavily oiled turtles were found during May and June operations, and the remaining 12 were recovered in July. The degree of visible oiling in captured turtles declined precipitously at the end of July after placement of a temporary cap on the wellhead on July 15, 2010. Most animals encountered during August were either minimally oiled or not visibly oiled. Of the thirty sea turtles encountered during the spot check at the conclusion of directed capture operations, three were minimally oiled and the remaining animals were not visibly oiled.

### **Petrochemical analytical results**

External swab samples collected from 449 sea turtles noted to be oiled in the field were analyzed by the USCG-MSL. Results by degree of oiling are shown in Table 6. Results by identification number, species, SCL, disposition, location of discovery, and USCG-MSL number are provided in Appendix B. The presence of petroleum oil was confirmed for 270 cases, and was determined to have been derived from the BPDWH for 199 cases, including all 61 heavily oiled sea turtles. Capture locations of sea turtles from which oil samples were found to be derived from the BPDWH are shown in Figure 5. Samples from five cases were found to be derived from a source other than the BPDWH. Comparative analyses from an additional five cases concluded that samples were derived from a source common with the BPDWH, but small differences were detected that were not attributable to weathering (inconclusive result). Another inconclusive comparative result was obtained due to interference by non-petroleum contamination. The quantity of material collected was insufficient for comparative analysis for the remaining 60 cases in which the presence of petroleum was confirmed. Non-petroleum contamination and traces of hydrocarbons were detected in 83 cases; however, it was not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the samples. Samples from 96 sea turtles reported as visibly oiled did not contain a quantity of petroleum oil detectable by the analysis conducted. Therefore, the oiling status of 179 sea turtles originally reported as minimally or lightly oiled based on field observations is regarded as suspect oiled, unconfirmed.

### **Disposition of recovered sea turtles**

Five turtles were found dead, three were heavily oiled and two were not visibly oiled. A total of 328 sea turtles were brought into captivity for cleaning, treatment, and observation. Of these animals, two were not visibly oiled (treated for other medical conditions), 143 were minimally oiled, 76 were lightly oiled, 46 were moderately oiled, 58 were heavily oiled and insufficient data were available to

assess degree of oiling for three turtles. Three oiled Kemp's ridleys died during the first week of rehabilitation and one oiled green turtle died during the fourth month of captivity, thus a total of seven confirmed oiled turtles collected during directed captures were either found dead or died during rehabilitation. All of the remaining turtles that were brought into captivity survived and were released. In addition, 241 live turtles were released at sea shortly after capture, including 106 turtles that were not visibly oiled, 123 that were minimally oiled, 11 that were lightly oiled, and one that was moderately oiled. Most or all visible oil was removed using absorbent pads prior to release and these releases occurred after the well was temporarily capped on July 15, 2010 and following a substantial reduction of oil in convergences as reported by capture crews.

### **Necropsy findings**

#### **Oiled sea turtles**

Oil samples from all seven of the necropsied, oiled sea turtles collected during directed captures were found to be derived from the BPDWH. Three Kemp's ridleys<sup>2</sup> were found dead at sea and were heavily oiled; one animal was in good postmortem condition and two were severely decomposed. All three were in good nutritional condition and the proximate cause of death was attributed to oiling. Evidence of asphyxiation by oil was found in two of these turtles, and was concluded to be the immediate cause of death. In one turtle, the glottis was completely obstructed by thick, heavy oil and another had plugs of thick, aggregated oil within the trachea and bronchi. The third turtle was severely decomposed and had abundant oil in the mouth, nasal cavity, and esophagus. The immediate cause of death could not be conclusively determined for this animal; however, as subsequently presented in the discussion (Section 7 of this report), medical opinion that oiling was the proximate cause of death was based on the heavy degree of oiling, exclusion of other findings (to the extent possible given the

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<sup>2</sup> Identification references: BAS2010060605, BAS2010061001, and SDD2010060105

postmortem state), and direct observations of the environmental conditions encountered by heavily oiled turtles. Necropsy photos of these cases are provided in Appendix D1, DII, and DIII.

Four sea turtles collected during directed captures were rescued alive, were moderately to heavily oiled, and later died during rehabilitation. Three of these turtles were Kemp's ridleys that died approximately four days following capture after developing severe hyponatremia (low blood sodium concentration) of less than 100 mmol/L while being kept in freshwater pools. This degree of hyponatremia (low blood sodium) is associated with fatal complications in humans (Ellis 1995). Significant traumatic injuries (likely a predator interaction) and infection were concluded to be a contributing cause of death for one these turtles based on histological evidence of systemic inflammatory response and probable septicemia. Notably, all three turtles still had a substantial amount of oil coating the esophagus at the time of death. The fourth animal, a green turtle, collected alive by directed capture was humanely euthanized in a moribund state 142 days after capture. This animal had developed severe chronic bacterial enteritis, resulting in enteric obstruction and septic coelomitis (infection of the body cavity).

No grossly visible cutaneous, ocular, or mucosal lesions were associated with direct contact with petroleum in the necropsied turtles. Histological examination was performed on five oiled turtles that were in relatively good postmortem condition, including one of the oiled Kemp's ridleys found dead at sea, three Kemp's ridleys that died shortly after capture, and the oiled green turtle that died after months in rehabilitation. Examination included comparisons between oiled epithelia and organs, and control tissues from non-oiled turtles. No morphological cellular changes or inflammation attributable to chemical or toxicological insult were observed.

### **Non-visibly oiled sea turtles**

Two sea turtles, a green turtle (SCL = 19.2 cm) and a Kemp's ridley (SCL = 65.1 cm), were found dead, were not visibly oiled, and both had significant traumatic injuries. The green turtle had injuries resulting from blunt trauma that were determined to be the cause of death. The Kemp's ridley was moderately decomposed and incomplete due to extensive shark bites. It could not be determined whether the shark bites were antemortem or postmortem due to decomposition and the incomplete condition of the carcass.

Table 4. Numbers of sea turtles documented by directed capture operations during the BPDWH oil spill response by degree of oil coverage, species, and petrochemical comparative analytical result.

Species	Not visibly oiled	Minimally oiled	Lightly oiled	Moderately oiled	Heavily oiled	Unknown	Total	Derived from BPDWH
Kemp's ridley	50	141	47	26	51	2	317	121
Green	49	112	36	17	6	0	220	62
Loggerhead	6	5	2	3	2	0	18	8
Hawksbill	5	8	2	1	2	1	19	8
Total	110	266	87	47	61	3	574	199

Table 5. Numbers of sea turtles documented by directed capture operations during the BPDWH oil spill response by degree of oil coverage and capture port.

Capture Port	Not visibly oiled	Minimally oiled	Lightly oiled	Moderately oiled	Heavily oiled	Unknown	Total
Louisiana <sup>1</sup>	45	79	56	37	61	3	281
Orange Beach, AL	39	65	12	7	0	0	123
Destin, FL	26	122	19	3	0	0	170
Total	110	266	87	47	61	3	574

<sup>1</sup>Includes Unified Command (UC) operations based in Venice, LA; Louisiana Department of Wildlife and Fisheries (LDWF) operations based in Grand Isle, LA; and joint UC/LDWF operations based in Pass-a-Loutre, LA.

Table 6. United States Coast Guard Marine Safety Laboratory analytical results by degree of visible oil coverage for samples collected from sea turtles recovered by directed capture operations during the BPDWH oil spill response.

	Minimally oiled	Lightly oiled	Moderately oiled	Heavily oiled	Unknown	Total
Petroleum oil confirmed / derived from BPDWH	30	64	43	61	1	199
Petroleum oil confirmed / not derived from BPDWH	2	3	0	0	0	5
Petroleum oil confirmed / source inconclusive	2	2	2	0	0	6
Petroleum oil confirmed / insufficient quantity for comparison	50	9	1	0	0	60
Petroleum oil not detected by analysis conducted	92	2	0	0	2	96
Inconclusive detection result <sup>1</sup>	80	3	0	0	0	83

<sup>1</sup>Samples contained non-petroleum contamination and traces of hydrocarbons. It was not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the samples.

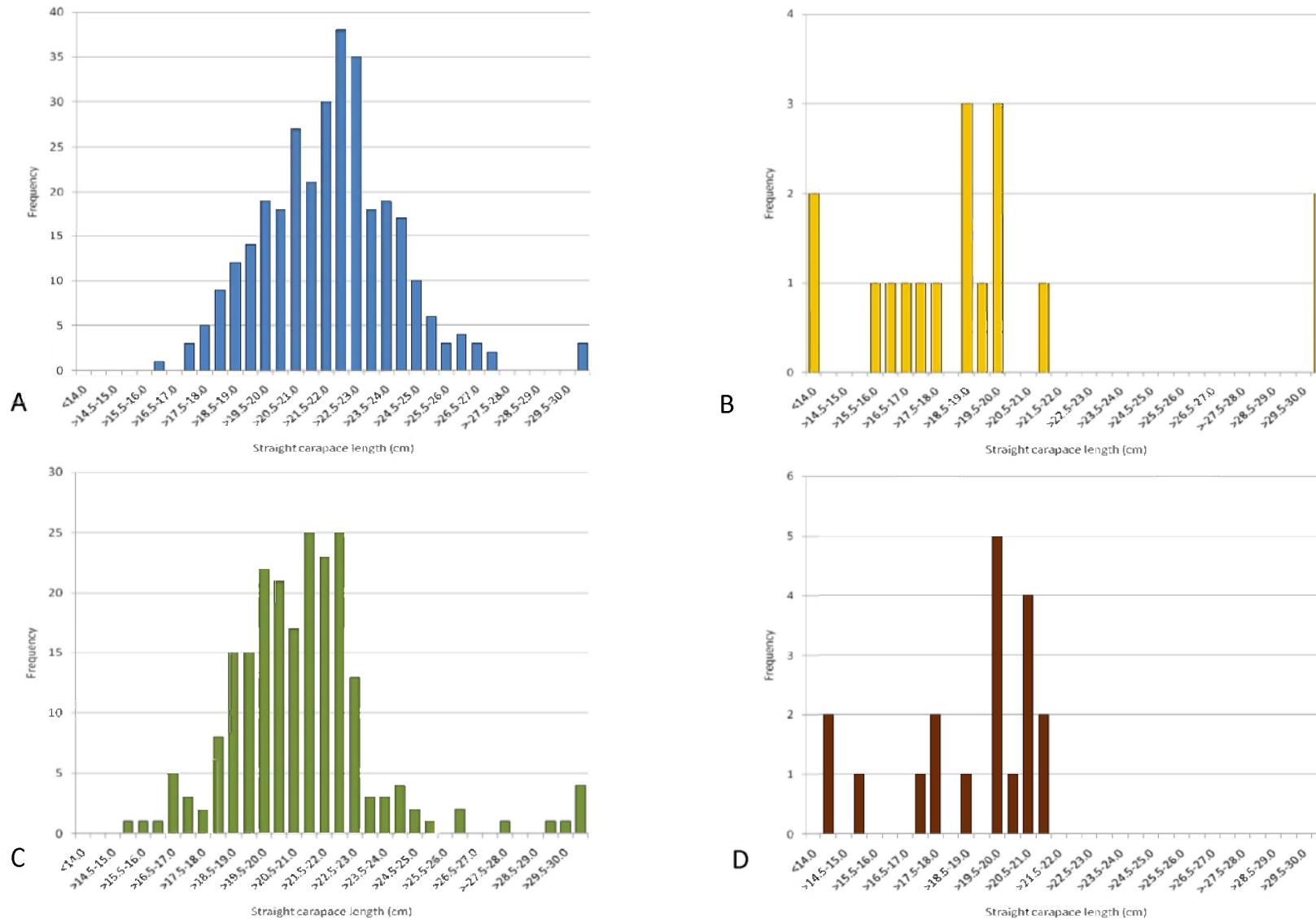


Figure 2. Histograms of straight carapace lengths (nuchal notch to pygal tip) of sea turtles collected by directed capture during the BPDWH oil spill response. Operations targeted rescue of sea turtles from oiled offshore habitat. Sizes of Kemp's ridley sea turtles (A), loggerhead sea turtles (B), green turtles (C) and hawksbill turtles (D) are shown.

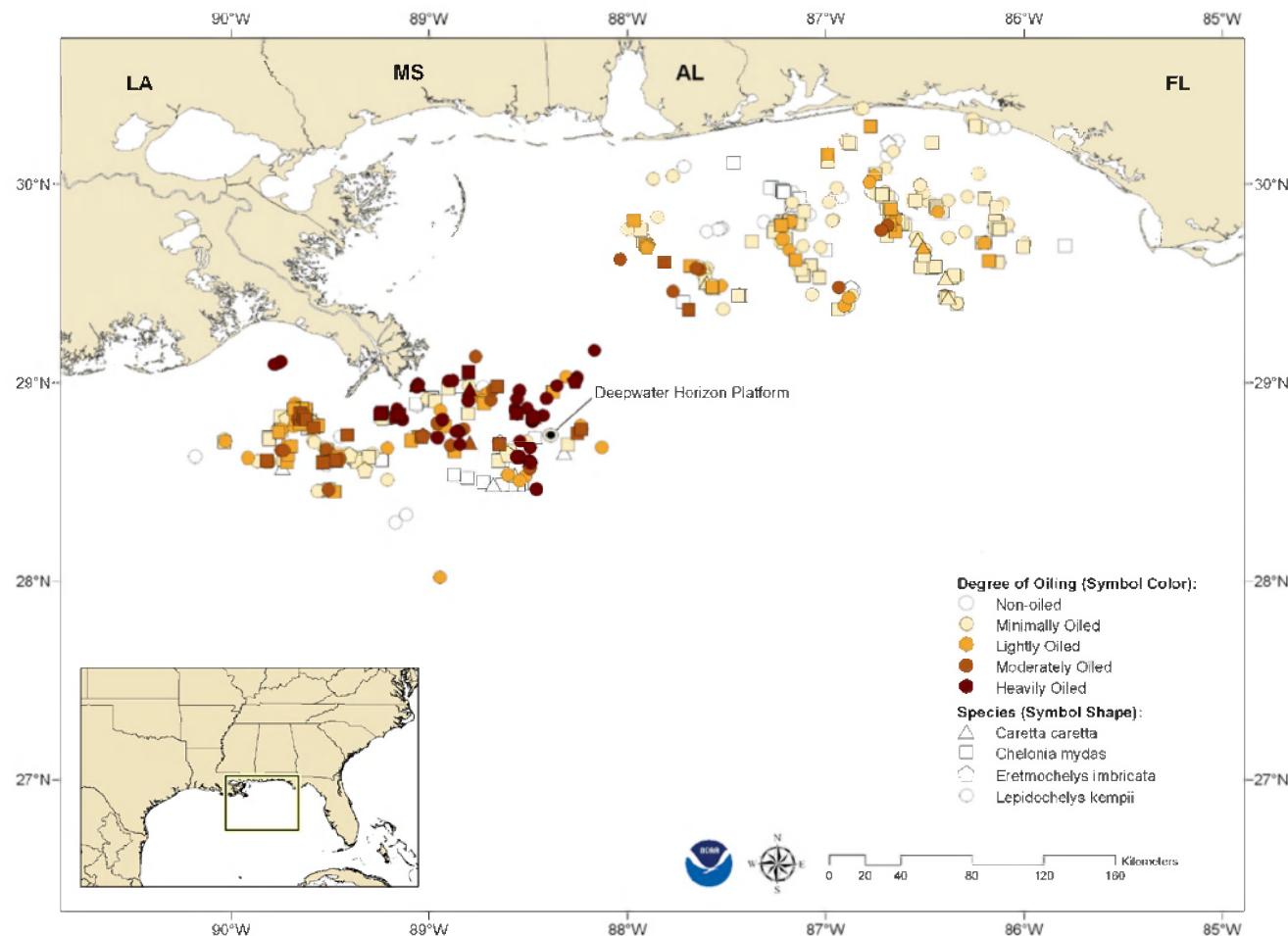


Figure 3. Map of locations where sea turtles were documented by directed capture operations during the BP Deepwater Horizon oil spill. Capture location icons indicate species and degree of visible oiling.

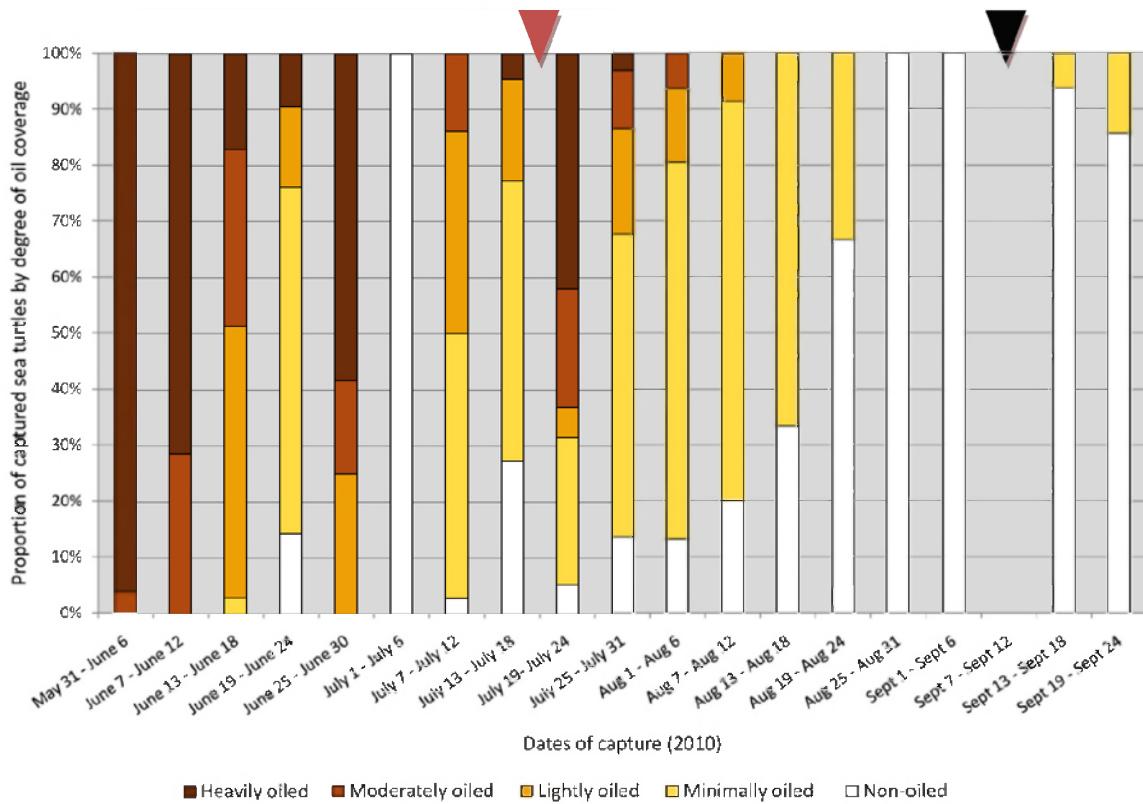
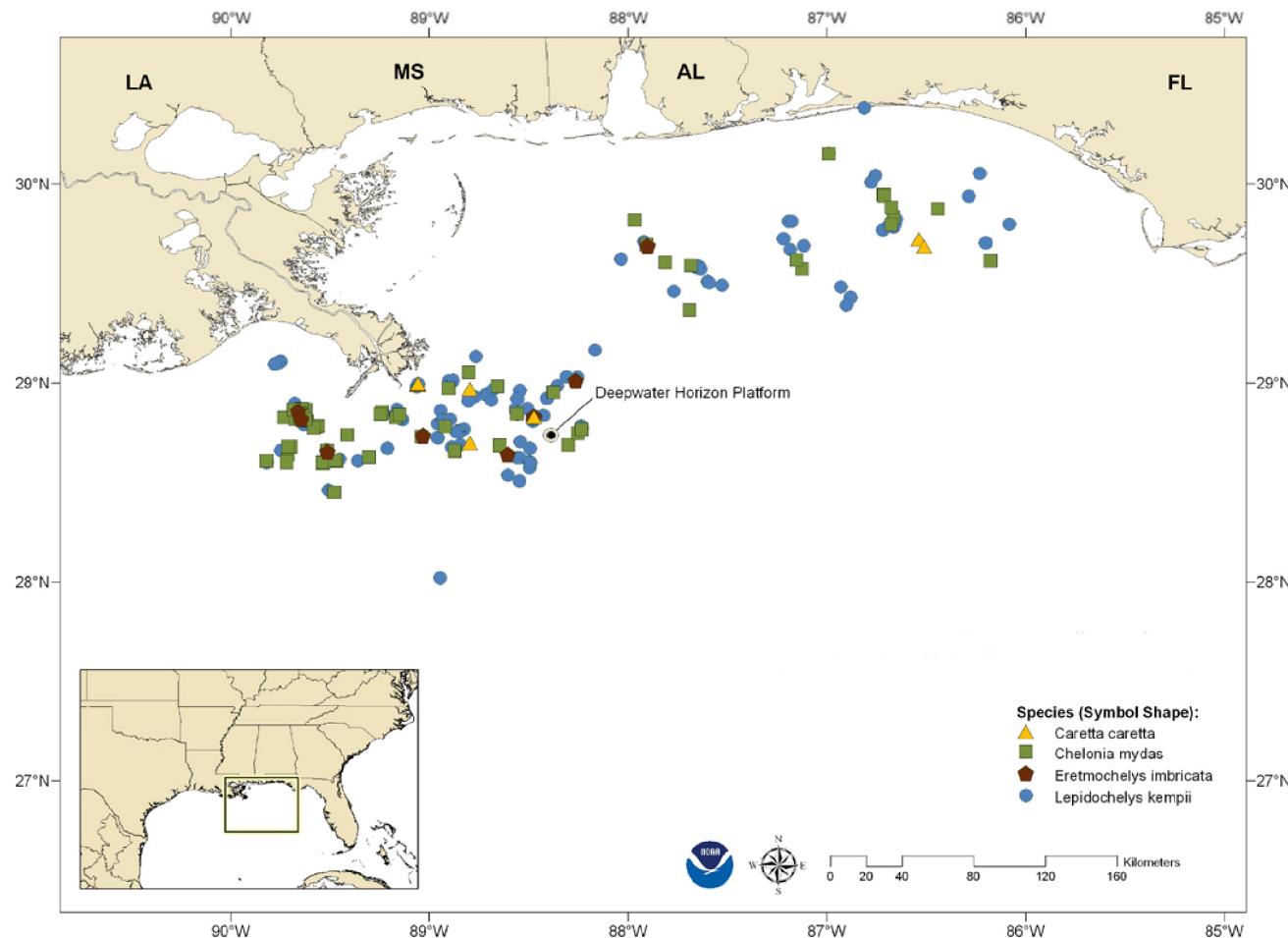


Figure 4. Proportional bar graph of sea turtles documented by directed capture operations during the BPDWH spill response. Proportions reflect degree of visible oiling and are shown by capture date. Three additional heavily oiled turtles captured during an initial pilot operation in late May are not shown. The degree of visible oiling sharply declined at the end of July following placement of a temporary cap on the well on July 15, 2010 (red arrowhead). The period from July 1 to July 6 during which no oiled turtles were encountered reflects low effort and poor sighting conditions due to bad weather. The gap in captures in September (black arrowhead) corresponds to conclusion of regular operations and a return operation (spot check) in late September in accordance with the protocol for final stand down of all directed capture operations.



## STRANDING RESPONSE

**Summary**

Six hundred and thirteen sea turtles were found dead and 31 were found alive by stranding response. The numbers of dead and live sea turtles are given by species and month in Tables 7 and 8. These data are provided by state in Appendix FI. Five hundred and sixty-nine sea turtles were necropsied, of which 554 were found dead and 15 were found alive but later died. Carcasses not examined were extremely decomposed, most were left in the field, and 35 of 53 were found in Cameron Parish, LA in May 2010. Kemp's ridleys were the predominant species documented, comprising 82.9% of all reports (534/644). Fewer loggerheads (11.2%, 72/644), green turtles (5.3%, 34/644), and hawksbills (0.3%, 2/644) were observed. Two carcasses were not identified to species (0.3%, 2/644).

There were two large turtle stranding peaks in May and June (Figure 6). Four hundred and fifty-six stranded sea turtles were reported from late April through the end of June. Reports declined at the end of June and thereafter only occasional smaller peaks were observed. One hundred and eighty-eight stranded turtles were found from July 1, 2010 through the conclusion of the response on October 20, 2010.

The greatest numbers of sea turtles were found on beaches within the Mississippi Sound and Mobile Bay, especially in Harrison County, MS and Mobile County, AL (Figure 7). The shore of Cameron Parish, LA was another relatively intense area of reports. Most stranded turtles in these areas were Kemp's ridleys. In contrast, the highest proportions (by state) of loggerhead and green turtles were documented in Florida, where loggerheads were the predominant species observed (Appendix FI).

Size structure of stranded turtles is presented by species in Figure 8. Straight carapace length was measured for 355 Kemp's ridleys, was estimated for 176, and was not determined for three animals.

The median SCL of Kemp's ridleys was 32.9 cm (range = 13.8 cm to 63.1 cm, excluding one 4.4 cm post-hatching). The frequencies were similar for estimated SCL (data not shown). Gender was determinable for 298 Kemp's ridleys; 188 were female and 110 were male (ratio = 1.7:1). Straight carapace length was measured for 43 loggerheads, was estimated for 26, and was not determined for three turtles. The median SCL of loggerheads was 76.3 cm (range = 58.1 cm to 93.1 cm, excluding two small immature turtles, SCL = 13.7 cm and 28.3 cm). Similar frequencies were observed for estimated SCL (data not shown). Gender was determinable for 33 loggerheads; 29 were female and four were male (ratio = 7.3:1). The SCL's of green turtles were measured for 23 animals, were estimated for 10, and was not determined for one turtle. The median SCL was 38.7 cm (range = 16.7 to 66.5, excluding a single 96.7 cm female). Similar frequencies were observed for estimated lengths (data not shown). Gender was determinable for 18 green turtles; 14 were female and four were male (ratio = 3.5:1). The SCL's of the two hawksbills that were found were 13.0 cm and 14.1 cm. One of the hawksbills was a male and the gender of the other was undetermined.

Twenty-four sea turtles (nine found alive, 15 found dead) were initially reported as oiled based on field observations. Species, date and location of discovery, SCL, and USCG-MSL reference are provided in Appendix B. Samples were confirmed to be petroleum for 17 animals (seven found alive and 10 found dead) and were found to be derived from the BPDWH spill in 16 cases. Fourteen of 17 (82.4%) confirmed oiled turtles were less than 25 cm SCL.

#### **Sea turtles collected alive**

##### **Live oiled sea turtles**

Seven live, confirmed oiled sea turtles were documented by stranding response and oil samples were found to be derived from the BPDWH in all cases. Five were found in Alabama, one in Florida, and one in Louisiana. Two turtles were heavily oiled, one turtle was moderately oiled, one turtle was lightly

oiled, and the degree of oiling could not be determined for three turtles because an unspecified amount of oil was removed in the field prior to documentation. Two oiled Kemp's ridleys (SCL = 18.8 and 22.1 cm; one heavily oiled and one with an unknown degree of oiling) were opportunistically captured offshore and were brought in for evaluation by vessels that were not part of the directed capture operations. Both turtles were released following rehabilitation. An oiled loggerhead (SCL = 13.7 cm; degree of oiling unknown) was found stranded on shoreline oil boom. This turtle developed anemia of unknown origin during the second month of rehabilitation, later recovered, and was released. The remaining four live, oiled sea turtles were found on shore. These included two green turtles (SCL = 16.7 cm and 20.9 cm; moderately and heavily oiled) that were released following rehabilitation. An oiled hawksbill (SCL = 14.1 cm; unknown degree of oiling) had pneumonia with associated abnormal buoyancy upon admission and required prolonged, intensive treatment prior to release. The fourth turtle found onshore was a Kemp's ridley (SCL = 20.1 cm; lightly oiled) that died during the first week of rehabilitation and had multiple significant injuries (see necropsy findings).

#### **Live sea turtles reported as oiled, unconfirmed**

Two turtles found alive were reported to be oiled, but presence of petroleum was not confirmed. Both were lethargic upon discovery and died on the day of admission to rehabilitation facilities. The first case was a hawksbill (SCL = 13.0 cm) that was found on shore in Florida and was reported to have small aggregates of oil on the neck and carapace. The USCG-MSL analysis for petroleum was inconclusive. This animal was underweight and had mycobacteriosis (see necropsy findings). The second turtle, a Kemp's ridley found floating in Rigolet's Pass, LA (SCL = 31.6), was found to be severely dehydrated with substantial metabolic derangement (acidosis, hyperkalemia) upon admission to the rehabilitation facility. Oil was reported within the mouth and esophagus by rehabilitators, but was not sampled. Analysis of external swabs taken in the field did not detect petroleum. The underlying cause of this animal's condition was not identified (see necropsy findings).

### **Live non-visibly oiled sea turtles**

Seven of 22 non-visibly oiled, live sea turtles had significant traumatic injuries. Injuries in five turtles resulted from blunt trauma (four died), one animal was emaciated and entangled in monofilament (survived and released), and one loggerhead had multiple chronic amputations that likely resulted from a shark attack (survived and designated non-releasable). Fifteen of 22 turtles were found weak and lethargic without significant external injuries. Eight of these turtles died, four within 24 hours of admission. Clinical observations included weight loss (n=7), dehydration (n=2), anemia (n=4), and abnormal buoyancy (n=3). Of the 11 turtles that survived long enough to be clinically evaluated, one animal had a gastroenteric impaction (survived and released), four were emaciated and anemic (three died, one survived and was released), two animals with abnormal buoyancy had pneumonia (both survived and were released), and a specific illness was not clinically diagnosed in four cases (three survived and were released; one died). Necropsy findings for turtles that died are included in the next section.

### **Necropsy findings**

The state of decomposition and extent of necropsy are given by species in Tables 9 and 10, respectively (by state in Appendices FII and FIII). Most of the animals were moderately or severely decomposed. Ten sea turtles (all found dead) were visibly oiled and petrochemical analyses concluded the oil to be derived from the BPDWH spill in nine cases. A sample from one Kemp's ridley was confirmed to be moderately degraded crude oil, but the quantity was insufficient for comparison. An additional seven turtles initially were reported as oiled based on field observations, but oil was not observed at necropsy and petrochemical analyses on external samples were either inconclusive (n=6), or petroleum was not detected (n=1). Five hundred and fifty-one of 569 necropsied turtles were not visibly oiled.

### **Oiled sea turtles**

Confirmed oiled turtles collected under stranding response that were necropsied included nine Kemp's ridleys and one loggerhead that were found dead, and one live Kemp's ridley that died. These turtles were found in Alabama (n=3), Florida (n=1), and Louisiana (n=7).

Five of the Kemp's ridleys were heavily oiled and four had oil within the mouth and esophagus. The head was missing (predator interaction or scavenging) from one heavily oiled turtle, thus the mouth and esophagus could not be evaluated. All of the heavily oiled turtles were moderately or severely decomposed, were in fair or good nutritional condition, and all but one were less than 20.0 cm SCL. One heavily oiled Kemp's ridley had an estimated SCL of 32 cm. Specific immediate cause of death could not be determined for any of these cases due to decomposition. However, as subsequently outlined in the discussion (section 7 of this report), proximate cause of death was attributed to oiling for three of these Kemp's ridleys<sup>3</sup> based on the degree of oiling, exclusion of other findings to the extent possible, and the harsh environmental conditions to which heavily oiled turtles were exposed (as observed during directed captures). Photographs of these cases taken at necropsy are provided in Appendices DIV, V, and VI. Cause of death is suspected to be related to oiling in the other two heavily oiled Kemp's ridleys documented by stranding response; however, determination was precluded by the incomplete condition of the carcasses.

The remaining six confirmed oiled turtles were minimally to lightly oiled, including the loggerhead (SCL = 77.0 cm), which had a line of aggregated oil on the carapace. Oil was not observed in the mouth or esophagus of these animals, with the exception of one Kemp's ridley (SCL = 18.1 cm) in which oil coated the anterior esophagus (insufficient volume for comparison analysis). Cause of death was

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<sup>3</sup> Identification references: AJH2010063001, BAS2010060901, and MCT2010060701

determined for two lightly oiled animals and was attributed to traumatic injuries in both cases; one acute mortality and one delayed. Cause of death could not be determined for the four remaining oiled turtles, which were moderately or severely decomposed. Three turtles were in good nutritional condition, and nutritional status of one animal could not be determined. Three animals did not have any traumatic injuries or evidence of disease. A front flipper of one Kemp's ridley was amputated by a shark bite (predator interaction or scavenging).

The live oiled Kemp's ridley that died during rehabilitation was lightly oiled on its flippers and in thin nutritional condition. The cause of death was attributed to a combination of significant chronic traumatic injuries and acute pneumonia.

#### **Sea turtles reported as oiled, unconfirmed**

Five sea turtles (all Kemp's ridleys; SCL's = 32.0 to 35.0 cm; three males, one female, one undetermined) were found dead and were reported through response as visibly oiled. These animals were documented in Alabama (n=3), Louisiana (n=1), and Mississippi (n=1). Substance suspicious for oil was not observed during necropsy in any of these cases and USCG-MSL analyses of external samples were inconclusive. In one case, material corresponding to drawings of suspected oil in the stranding report was found to be brown algae. All turtles were in fair or good nutritional condition and were moderately or severely decomposed. All turtles had traumatic injuries, which were determined to be the cause of death of one turtle and could not be classified as antemortem or postmortem in four cases (cause of death undetermined).

Two suspect oiled turtles, a hawksbill and a Kemp's ridley were found alive and died during rehabilitation. The hawksbill turtle had severe multisystemic inflammation. Death was attributed to infectious disease and mycobacteria were found within splenic lesions. The Kemp's ridley was

underweight, dehydrated, and had severe metabolic derangements that likely contributed to its death.

The underlying cause of this animal's condition could not be determined at necropsy.

#### **Non-visibly oiled sea turtles**

##### **Species and nutritional condition**

Five hundred and fifty-one necropsied sea turtles were not visibly oiled, including 459 Kemp's ridleys, 61 loggerheads, and 31 green turtles. The nutritional conditions of these animals are provided by species in Table 11 (given by state in Appendix FIV). Of those animals in which nutritional condition could be evaluated, 94.9% (351/370) of Kemp's ridleys and 85.2% (23/27) of green turtles were in fair or good nutritional condition. In contrast, only 56.0% (28/50) of assessable loggerheads were in fair or good nutritional condition and 44.0% (22/50) were thin or emaciated (most were found in Florida).

There was a correlation between nutritional condition and postmortem condition. A greater proportion of thin or emaciated turtles were recovered alive or in good postmortem condition (9/36) as compared to those in fair or good nutritional condition (17/385) (PCS,  $p<0.0001$ ).

##### **Cause of death and major necropsy findings**

Cause of death (COD) or probable cause of death was determined in 23.0% (127/551) of cases and is given by species in Table 12 (given by state in Appendix FV). Trauma was the most frequently identifiable cause of death of Kemp's ridleys and green turtles, whereas more cases of disease were observed in loggerheads. Cause of death was undetermined for 424 sea turtles, including 80.6% (370/459) of Kemp's ridleys. Of those cases in which COD was undetermined, numbers of animals without any significant abnormalities (fair to good nutritional condition without significant injuries or evidence of disease), those with major injuries, and turtles with evidence of disease or that were underweight are given by species in Table 13 (data provided by state in Appendix FVI). As stated under general methodology, drowning was suspected in those animals without significant abnormalities based

on exclusion. Considerable numbers of both Kemp's ridleys and loggerheads could not be further characterized due to postmortem condition.

Figures 9, 10, and 11 show maps of locations where sea turtles were found with the following combinations of COD and predominant postmortem findings (if COD undetermined): Figure 9 - probable COD was drowning/asphyxiation or no abnormalities were found; Figure 10 - COD was trauma or injuries were observed; and Figure 11 - COD was disease or turtles were thin, emaciated or had notable pathological lesions suggestive of a disease state. Animals within these categories are presented by date of discovery in Figure 12. The following summary of data and analyses only consider those cases in which COD was determinable and those that could be categorized by major necropsy findings. Uncategorized cases in which assessment was limited by advanced decomposition are not included.

Many of the sea turtles documented during peak stranding periods in May (59.1%, 88/149) and June (58.5%, 96/164) did not have any visible anomalies or were probable drownings (Figure 12). Most of these animals were found within the Mississippi Sound, Mobile Bay, and dispersed along the Louisiana coastline (Figure 9). Strandings substantially declined at the end of June, and fewer animals without anomalies or that were probable drownings were observed in July (16.4%, 9/55). Cases within these categories increased again during August (31.6%, 18/57) through September (51.6%, 16/31); although the number of reports was lower than in May and June. The majority of these turtles were Kemp's ridleys. Significantly more Kemp's ridleys (227/399) were categorized as probable drownings or without apparent anomalies than either loggerheads (11/48; PCS,  $p<0.0001$ ) or green turtles (5/31; PCS,  $p<0.0001$ ).

Sea turtles with traumatic injuries comprised 26.2% (39/149) and 37.8% (62/164) of cases during May and June, respectively, and represented the majority of animals examined during July (74.5%, 41/55) and August (63.2%, 36/57) (Figure 12). Most of these turtles were found within the Mississippi

Sound and Mobile Bay, although cases were distributed throughout the response area (Figure 10).

Traumatic injuries were observed in a significantly greater proportion of green turtles (22/31) than either Kemp's ridleys (157/399; PCS,  $p = 0.0006$ ) or loggerheads (19/48; PCS,  $p = 0.006$ ).

Numbers of turtles in the disease/underweight categories were highest in May (14.7%, 22/149) (Figure 12) and most reports were animals found in Florida (Figure 11). A significantly higher proportion of loggerheads (18/48) were observed as compared to Kemp's ridleys (15/399; FE,  $p < 0.0001$ ). The proportions of loggerheads and green turtles (4/27) in the disease/underweight categories were not significantly different (FE,  $p = 0.07$ ).

### **Gastrointestinal contents**

Fish was found in the GI tracts of 63.1% of Kemp's ridleys (198/314), which was significantly more than either loggerheads (4/38; PCS,  $p < 0.0001$ ) or green turtles (1/20; FE,  $p < 0.0001$ ). Penaeid shrimp were found in 12.7% (39/306) of Kemp's ridleys and one (2.6%, 1/38) loggerhead. Shrimp were not found in any green turtles (0/20). When only those animals with food items in the mouth, esophagus, or stomach were considered (excluding cases without ingested material), food items included fish or shrimp in significantly more Kemp's ridleys (160/210) than either loggerheads (0/19; FE,  $p < 0.0001$ ) or green turtles (1/22; FE,  $p < 0.0001$ ).

Figure 13 shows a map of locations where sea turtles found to have ingested fish or shrimp were discovered. The greatest numbers were observed within Mississippi Sound, Mobile Bay, and dispersed along the Louisiana coast. When considered by state, fish were found in 69.1% (132/191) of turtles collected in Mississippi, 54.1% (40/74) of turtles in Alabama, 50.0% (27/54) of turtles in Louisiana, and 7.5% (4/53) of turtles in Florida. Shrimp were found in 16.5% (31/188) of turtles found in Mississippi and 15.4% (8/52) of turtles in Louisiana. Shrimp were only found in one turtle collected in Florida (1.9%, 1/53) and no turtles in Alabama (0/71).

Gastrointestinal contents of Kemp's ridleys were specifically evaluated given the predominance of this species and were considered by date of discovery and examined for associations with cause of death and major necropsy findings. The anatomic locations (e.g., mouth, esophagus, stomach, and intestine) and type of food items were specifically analyzed as indicators of active or recent feeding near the time of death. The presence of food items within the mouth, esophagus, or stomach (referred to hereafter as upper GI tract) and the type of food item are shown by the date of discovery in Figure 14. Of those animals in which the GI tract was examined, 73.3% (162/221) of Kemp's ridleys that were recovered during peak stranding activity in May and June had food items within the upper GI tract. Items were identified as fish or shrimp in 80.9% (131/162) of cases. Example photographs of cases in which fish and shrimp were found in the upper GI tract are shown in Appendices FIII, FIV, and FV. No fish were found in the few strandings that occurred during late July and early August. Fish and shrimp were observed again as reports increased in August and September, and again as the response ended in October.

Gastrointestinal contents were compared among the following three combinations of COD and postmortem findings (if COD undetermined): (1) probable COD was drowning/asphyxiation or no gross abnormalities were found (suspected drownings); (2) COD was trauma or injuries were observed; and (3) COD was disease or turtles were thin, emaciated or had notable pathological lesions suggestive of a disease state. These data and results of statistical comparisons are shown in Table 14. Significantly more turtles that were probable or suspected drownings had fish or shrimp in the mouth or esophagus at the time of death as compared to those with traumatic injuries. No animals in the disease/underweight categories were found to have fish or shrimp in the mouth or esophagus. Food was found in the stomachs of significantly more turtles that were probable or suspected drownings than those in the disease/underweight group. When the items found within stomachs were specifically compared between groups (those with empty stomachs were excluded), fish or shrimp were included among the

contents of significantly more turtles that were probable or suspected drownings (116/141) as compared to animals with injuries (19/42; PCS,  $p<0.0001$ ). Proportions of turtles in which fish and shrimp were found anywhere in the gastrointestinal tract (mouth to cloaca) were also compared. Fish was found in significantly more turtles that were probable or suspected drownings as compared to those with trauma or disease. Shrimp also were found in significantly more turtles that were probable or suspected drownings than in animals with injuries.

### **Sediment within the respiratory tract**

The occurrence of sediment within the glottis, trachea, or bronchi of turtles without injuries or evidence of disease was compared with animals in the other necropsy categories. Photographs of examples of sea turtles with sediment within the respiratory tract are shown in Appendix GVI. Probable drownings were not included given that sediment within the lungs (and thus likely present in other areas of the respiratory tract) was component of the cause of death determination. There were no significant differences in the proportion of turtles with sediment in the respiratory tract without other anomalies compared to the proportion with traumatic injuries or the proportion with evidence of disease. However, a significantly greater proportion of turtles without anomalies had sediment within the respiratory tract (37/170) as compared to these two categories combined (12/111; PCS,  $p=0.02$ ).

### **Traumatic injuries**

Traumatic injuries (antemortem and undetermined) were categorized by wound characteristics and cause, if determinable, and are summarized by species in Table 15 (by state in Appendix FVII). Photographs of examples of different wound types are shown in Appendix GVII. The most commonly observed type of injury was blunt trauma, which characterized 52.7% (109/207) of all significant injuries. Other traumatic injuries that were more specific to watercraft, including chop wounds and linear blunt trauma, comprised 20.3% (42/207) of injuries. If all blunt injuries and chop wounds are considered as

evidence of watercraft interactions, watercraft collisions were the cause of as many as 72.9% (151/207) of significant injuries. Other injury categories included shark bites, fishing gear-related injuries, combinations of injuries (shark bites and other injuries), and other injuries, which included blast trauma (associated with demolition of an oil platform), anthropogenic injuries of unknown nature, and miscellaneous injuries. Of those injuries that were determined to be antemortem and the cause of death, blunt injuries accounted for 43.7% (31/71), chop wounds were observed in 22.5% (16/71), linear blunt injuries were 5.6% (4/71), injuries related to fishing gear were 8.5% (6/71), shark bites were 7.0% (5/71), combinations of injuries were 5.6% (4/71), and 'other' injuries were 7.0% (5/71).

Associations between injury categories and species and location of discovery were observed. Blunt trauma comprised a significantly higher proportion of major injuries in Kemp's ridleys (94/163) as compared to loggerheads (6/21; FE, p=0.02). Significantly more injuries were characterized as blunt trauma in Mississippi (48/84; PCS, p=0.003), Alabama (34/56, PCS, p=0.002), and Louisiana (19/36, PCS, p=0.0248) as compared to Florida (8/31). In Florida, significantly more chop wounds (9/31) were observed than in Alabama (5/56; FE, p=0.04). No significant differences in other wound categories were observed.

Of those eight turtles with significant injuries attributed to fishing gear, four were trauma caused by or consistent with hooking injuries, two were enteric plication (pathological folding of the intestine) due to ingestion of monofilament line, and two were external entanglements. Fish hooks (including those incidental to the COD) were recovered from the gastrointestinal tracts of 18 turtles (8 from Mississippi, 5 from Alabama 5 from Florida,).

Four sea turtles had injuries attributed to malicious human action. All were found in Alabama, and all had injuries involving the head and neck resulting in cervical dislocation or fractures. Two of

these cases also had extensive esophageal injuries that were suggestive of aggressive hook removal and one carcass had been tied into an onion sack.

### **Disease**

A summary of necropsy findings for non-visibly oiled sea turtles for which the cause of death was attributed to disease is provided in Table 16. Examples of cases encountered during response are shown in Appendix GVIII. Of the 20 turtles for which death was attributed to disease, 45.0% (9/20) were recovered alive or in good postmortem condition. Seventeen turtles for which disease was determined to be the cause of death were found in Florida and 11 were loggerheads that were in poor nutritional condition with multiple ongoing problems, including severe bacterial infections and anemia.

### **Biotoxin analyses**

A complete report of biotoxin analyses is provided in Appendix H. Low concentrations of brevetoxin (3 to 7 ng PbTX-3 equivalents per gram) were detected by enzyme-linked immunosorbent assay (ELISA) for samples from seven turtles. Confirmatory analyses (liquid chromatography-mass spectrometry) for these samples were negative, which most likely reflects differences in sensitivity of the assays. Domoic acid was found at very low concentrations (3.8 to 5.0 ng per gram) in the stomach contents of three turtles.

Table 7. Numbers of dead sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). The numbers of animals that were necropsied are given in parentheses. Those carcasses that were not necropsied were severely decomposed and most often were not collected due to logistical reasons.

	April	May	June	July	Aug	Sept	Oct	Total
Kemp's ridley	5 (5)	200 (154)	176 (175)	49 (49)	44 (44)	29 (28)	13 (12)	516 (467)
Loggerhead	0 (0)	25 (19)	17 (16)	5 (5)	10 (10)	6 (6)	1 (1)	64 (57)
Green	0 (0)	7 (6)	7 (7)	7 (7)	3 (3)	3 (3)	4 (4)	31 (30)
Unknown	0 (0)	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
Total	5 (5)	234 (179)	200 (198)	61 (61)	57 (57)	38 (37)	18 (17)	613 (554)

Table 8. Numbers of live sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). The numbers of animals that died are given in parentheses. All animals that died were necropsied.

	April	May	June	July	Aug	Sept	Oct	Total
Kemp's ridley	1 (1)	3 (1)	5 (1)	4 (3)	4 (2)	1 (0)	0 (0)	18 (8)
Loggerhead	0 (0)	3 (2)	1 (0)	2 (2)	2 (1)	0 (0)	0 (0)	8 (5)
Green	0 (0)	0 (0)	2 (0)	1 (1)	0 (0)	0 (0)	0 (0)	3 (1)
Hawksbill	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)
Total	1 (1)	6 (3)	10 (2)	7 (6)	6 (9)	1 (0)	0 (0)	31 (15)

Table 9. Postmortem condition at the time of necropsy of sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola).

	Fresh dead	Moderate decomposition	Severe decomposition	Desiccated remains	Skeletal remains	Total
Kemp's ridley	11 (2.3%)	113 (23.8%)	327 (68.8%)	15 (3.2%)	9 (1.9%)	475
Loggerhead	9 (14.5%)	9 (14.5%)	38 (61.3%)	2 (3.2%)	4 (6.5%)	62
Green	8 (25.8%)	8 (25.8%)	15 (48.4%)	0 (0%)	0 (0%)	31
Hawksbill	1 (-)	0 (-)	0 (-)	0 (-)	0 (-)	1
<b>Total</b>	<b>29 (5.1%)</b>	<b>130 (22.8%)</b>	<b>380 (66.8%)</b>	<b>17 (3.0%)</b>	<b>13 (2.3%)</b>	<b>569</b>

Table 10. Extent of postmortem examination (necropsy) of sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). A full necropsy was conducted when condition of the carcass allowed for complete examination of the major organ systems. A partial necropsy was conducted when parts of the carcass were missing or decomposed beyond recognition. A limited examination was conducted when the carcass was desiccated or skeletalized. Carcasses not examined most often were skeletalized, desiccated, or incomplete remains left in the field due to logistics of recovery.

	Full examination	Partial examination	Limited examination	Total
Kemp's ridley	295 (62.1%)	137 (28.8%)	43 (9.1%)	475
Loggerhead	33 (53.2%)	19 (30.6%)	10 (16.1%)	62
Green	19 (61.3%)	12 (38.7%)	0 (0%)	31
Hawksbill	1 (-)	0 (-)	0 (-)	1
<b>Total</b>	<b>348 (61.2%)</b>	<b>167 (29.3%)</b>	<b>54 (9.5%)</b>	<b>569</b>

**Table 11. Nutritional condition of necropsied non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Assessment of nutritional condition was subjectively based on the condition of skeletal muscle and abundance of body fat.**

	Good	Fair	Thin	Emaciated	Undetermined	Total
Kemp's ridley	314 (68.4%)	37 (8.1%)	16 (3.5%)	3 (0.7%)	89 (19.4%)	459
Loggerhead	23 (37.7%)	5 (8.2%)	5 (8.2%)	17 (27.9%)	11 (18.0%)	61
Green	20 (64.5%)	3 (9.7%)	2 (6.5%)	2 (6.5%)	4 (12.9%)	31
Total	357 (64.8%)	45 (8.2%)	23 (4.2%)	22 (4.0%)	104 (18.9%)	551

Table 12. Proximate causes of death of necropsied non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola).

	Trauma	Probable drowning/ asphyxiation	Disease	Undetermined	Total
Kemp's ridley	50 (10.9%)	34 (7.4%)	5 (1.1%)	370 (80.6%)	459
Loggerhead	10 (16.4%)	1 (1.6%)	13 (21.3%)	37 (60.7%)	61
Green	11 (35.5%)	1 (3.2%)	2 (6.5%)	17 (54.8%)	31
Total	71 (12.9%)	36 (6.5%)	20 (3.6%)	424 (77.0%)	551

Table 13. Necropsy findings in non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill in which cause of death could not be determined. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Cases with evidence of disease were underweight or had pathological lesions of concern with regard to general health. Traumatic injuries were potentially fatal, but could not be characterized as antemortem or postmortem due to carcass condition. Animals without significant anomalies were in fair to good nutritional condition and did not have any evidence of disease or major injury. Cases were uncategorized due to inability to assess nutritional condition or detect injuries as a result of decomposition.

	Evidence of disease	Major traumatic injuries	No significant anomalies	Uncategorized	Total
Kemp's ridley	10 (2.7%)	107 (28.9%)	193 (52.2%)	60 (16.2%)	370
Loggerhead	5 (13.5%)	9 (24.3%)	10 (27.0%)	13 (35.1%)	37
Green	2 (11.8%)	11 (64.7%)	4 (23.5%)	0 (0%)	17
Total	17 (4.0%)	127 (30.0%)	207 (48.8%)	73 (17.2%)	424

Table 14. Select necropsy findings in non-visibly oiled Kemp's ridley sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Variability in total numbers examined within necropsy categories is due to carcass condition, e.g. esophagus intact, but stomach missing or too decomposed for examination. Other food items refer to ingested organisms other than fish or Penaeid shrimp. Groups with similar necropsy findings (A, B, C) were combined for statistical analyses. Significant differences ( $p<0.05$ ) in proportions between categories are shown in the right-most column. PCS = Pearson's chi square test (if expected frequencies  $\geq 10$ ); FE = Two-tailed Fisher's exact test (if expected frequencies  $<10$ ).

	A		B		C		Significant differences in proportions	
	Trauma	Unknown COD, trauma	Probable drowning/asphyxiation	Unknown COD, no anomalies	Disease	Unknown COD, underweight/disease	Total	
Food in mouth or esophagus	3/45 (6.7%)	7/67 (10.4%)	5/30 (16.7%)	34/179 (19.0%)	0/5 (0%)	0/10 (0%)	49/336 (14.6%)	
Fish or shrimp in mouth or esophagus	1/45 (2.2%)	4/67 (6.0%)	3/30 (10.0%)	30/179 (16.8%)	0/5 (0%)	0/10 (0%)	38/336 (11.3%)	A≠B (PCS, $p=0.003$ )
Other food items in mouth or esophagus	2/45 (4.4%)	3/67 (4.5%)	2/30 (6.7%)	4/179 (2.2%)	0/5 (0%)	0/10 (0%)	11/336 (3.3%)	
Food in stomach	22/38 (57.9%)	20/34 (58.8%)	25/32 (78.1%)	116/166 (69.9%)	2/5 (40.0%)	4/10 (40.0%)	189/285 (66.3%)	B≠C (FE, $p=0.03$ )
Fish or shrimp in stomach	10/38 (26.3%)	9/34 (26.5%)	18/32 (56.3%)	98/166 (59.0%)	1/5 (20.0%)	3/10 (30.0%)	139/285 (48.8%)	A≠B (PCS, $p<0.0001$ ) B≠C (FE, $p=0.03$ )
Other food items in stomach	12/38 (31.6%)	11/34 (32.4%)	7/32 (21.9%)	18/166 (10.8%)	1/5 (20.0%)	1/10 (10.0%)	50/285 (17.5%)	A≠B (PCS, $p=0.0002$ )
Ingested fish (any part of GI)	12/37 (32.4%)	17/38 (44.7%)	22/32 (68.8%)	130/180 (72.2%)	1/5 (20.0%)	4/10 (40.0%)	186/302 (61.6%)	A≠B (PCS, $p<0.0001$ ) B≠C (FE, $p=0.03$ )
Ingested shrimp (any part of GI)	0/37 (0%)	1/37 (2.7%)	2/30 (6.7%)	33/177 (18.6%)	0/5 (0%)	1/10 (10.0%)	37/296 (12.5%)	A≠B (PCS, $p=0.0002$ )

**Table 15. Categories of traumatic injuries (antemortem and undetermined) in non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola).**

	Blunt trauma	Linear blunt trauma	Chop wound(s)	Shark bites	Entanglement, hooking, line ingestion	Combination of injury types	Other
Kemp's ridley	94/163 (57.7%)	11/163 (6.7%)	16/163 (9.8%)	20/163 (12.3%)	7/163 (4.3%)	10/163 (6.1%)	5/163 (3.1%)
Loggerhead	6/21 (28.6%)	0/21 (0%)	6/21 (28.6%)	5/21 (23.8%)	1/21 (4.8%)	1/21 (5.0%)	2/21 (9.5%)
Green	9/23 (39.1%)	1/23 (4.3%)	8/23 (34.8%)	3/23 (13.0%)	0/23 (0%)	1/23 (4.3%)	1/23 (4.3%)
Total	109/207 (52.7%)	12/207 (5.8%)	30/207 (14.5%)	28/207 (13.5%)	8/207 (3.9%)	12/207 (5.8%)	8/207 (3.9%)

**Table 16. Necropsy findings for non-visibly oiled sea turtles documented by stranding response during the BP DWH oil spill in which death was attributed to disease. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Cc = loggerhead; Cm = green turtle; and Lk = Kemp's ridley.**

Species	Date of discovery	State	Summary of major findings
Lk	5/3/10	FL	Emaciated; epibiotia accumulation with ulcerative dermatitis (chronically debilitated)
Cc	5/8/10	FL	Emaciated; ulcerative colitis; epibiotia accumulation with ulcerative dermatitis; sand aspiration (chronically debilitated)
Cc	5/8/10	FL	Emaciated; chronic cholecystitis; chronic colitis; pulmonary edema (chronically debilitated)
Cc	5/8/10	FL	Emaciated, generalized dermatitis, epibiotia accumulation, ulcerative colitis (chronically debilitated)
Cm	5/11/10	FL	Fair nutritional condition; severe generalized dermatitis
Cc	5/13/10	FL	Emaciated; blood fluke infection (chronically debilitated)
Cc	5/14/10	FL	Emaciated; ulcerative colitis; embolic hepatitis; blood fluke infection; aspirated sand and pulmonary edema (chronically debilitated)
Cm	5/17/10	FL	Emaciated; epibiotia accumulation; ulcerative dermatitis and osteomyelitis; pulmonary edema
Cc	5/17/10	FL	Emaciated; ulcerative colitis; epibiotia accumulation with dermatitis; blood fluke infection (chronically debilitated)
Cc	5/18/10	FL	Emaciated; ulcerative colitis; ulcerative dermatitis (chronically debilitated)
Cc	5/18/10	FL	Emaciated; ulcerative colitis; ulcerative dermatitis (chronically debilitated)
Lk	5/19/10	FL	Emaciated; ulcerative colitis; ulcerative dermatitis (chronically debilitated)
Lk	5/22/10	AL	Good nutritional condition; multisystemic inflammation with vasculitis (probable septicemia)
Cc	6/14/10	FL	Emaciated; colon impaction (sea urchin spines) with ulcerative colitis
Cc	7/8/10	FL	Emaciated; ulcerative colitis; embolic hepatitis; anemia; hypoproteinemia (chronically debilitated)
Cc	7/29/10	FL	Emaciated; ulcerative colitis; embolic hepatitis; anemia; hypoproteinemia (chronically debilitated)
Cc	8/18/10	FL	Thin nutritional condition; chronic bacterial encephalitis with abscess formation
Lk	8/28/10	AL	Good nutritional condition; bacterial coelomitis; pulmonary edema (probable septicemia)
Cc	9/18/10	FL	Fair nutritional condition; bronchopneumonia; pulmonary edema

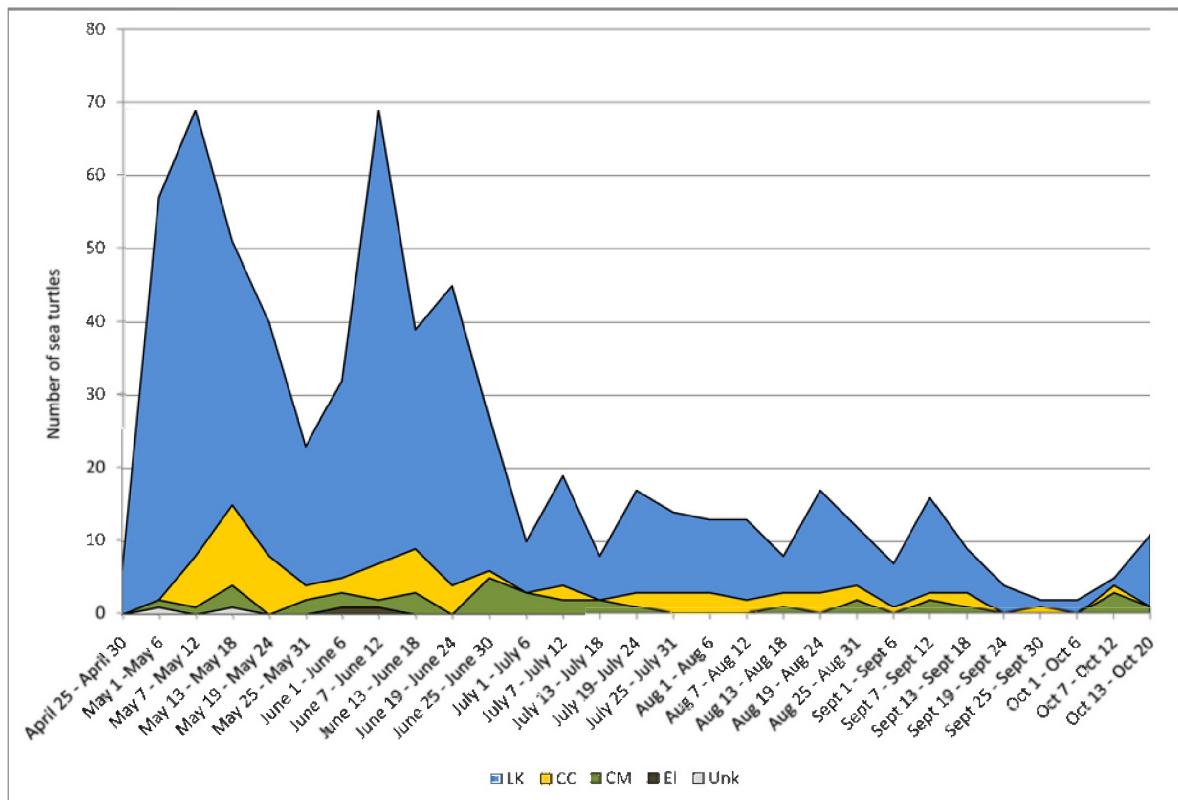


Figure 6. Stacked area graph of live and dead sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). CC = loggerhead; CM = green turtle; EI = hawksbill; LK = Kemp's ridley; and Unk = unidentified species.

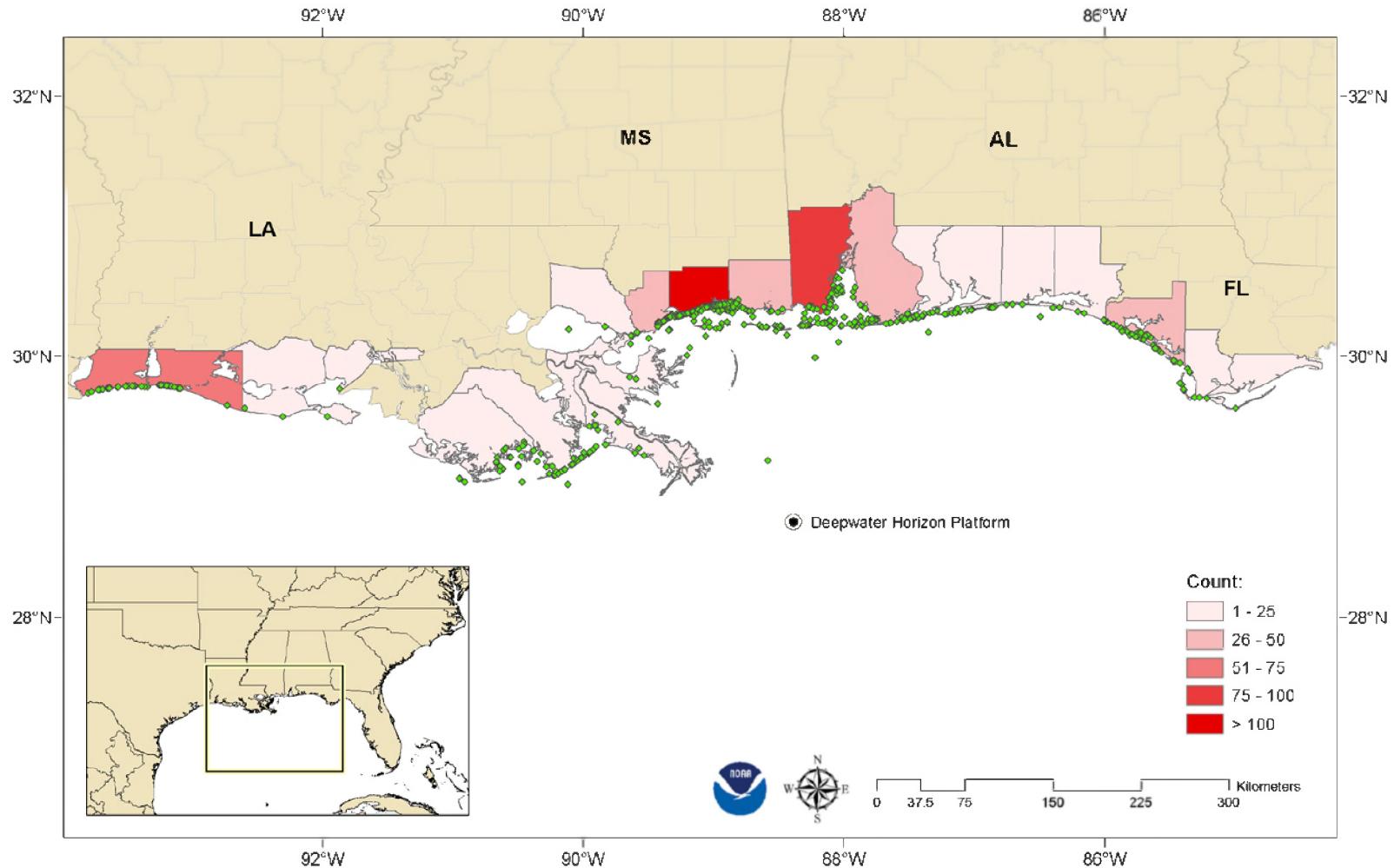
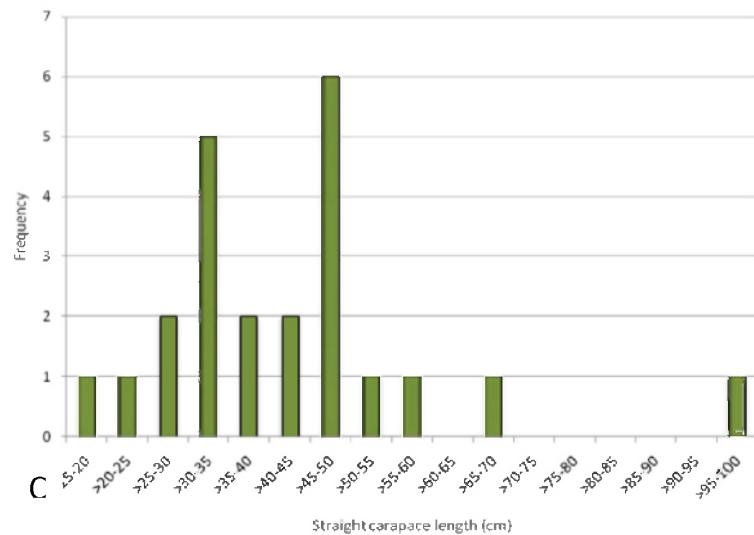
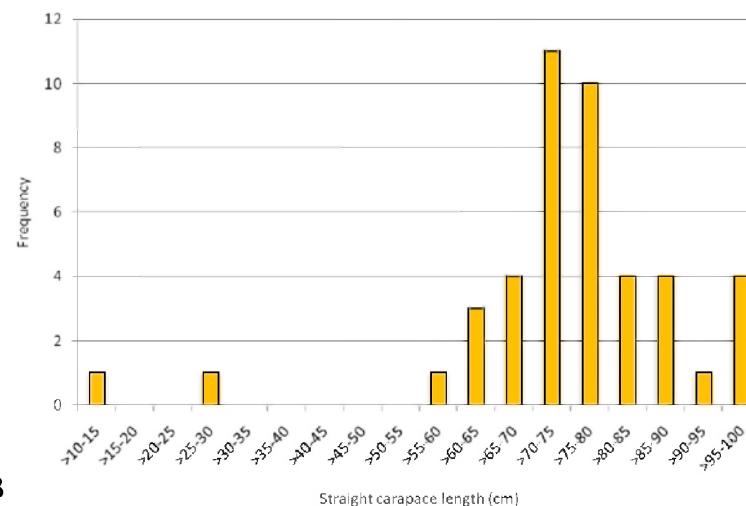
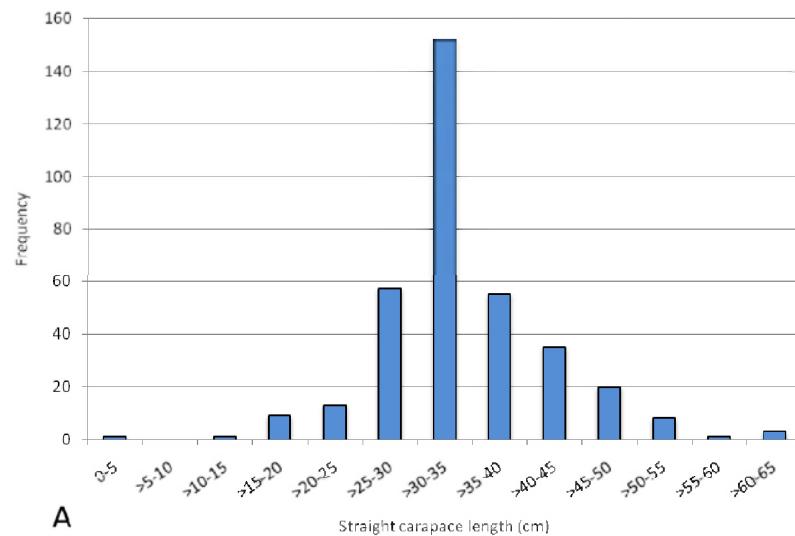


Figure 7. Map of locations where sea turtles (all species) were documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Counties/Parishes are shaded to indicate the density turtles found within those areas.



**Figure 8.** Histogram of straight carapace lengths (nuchal notch to pygal tip) of dead and live Kemp's ridley sea turtles (A), loggerhead sea turtles (B), and green turtles (C) documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola).

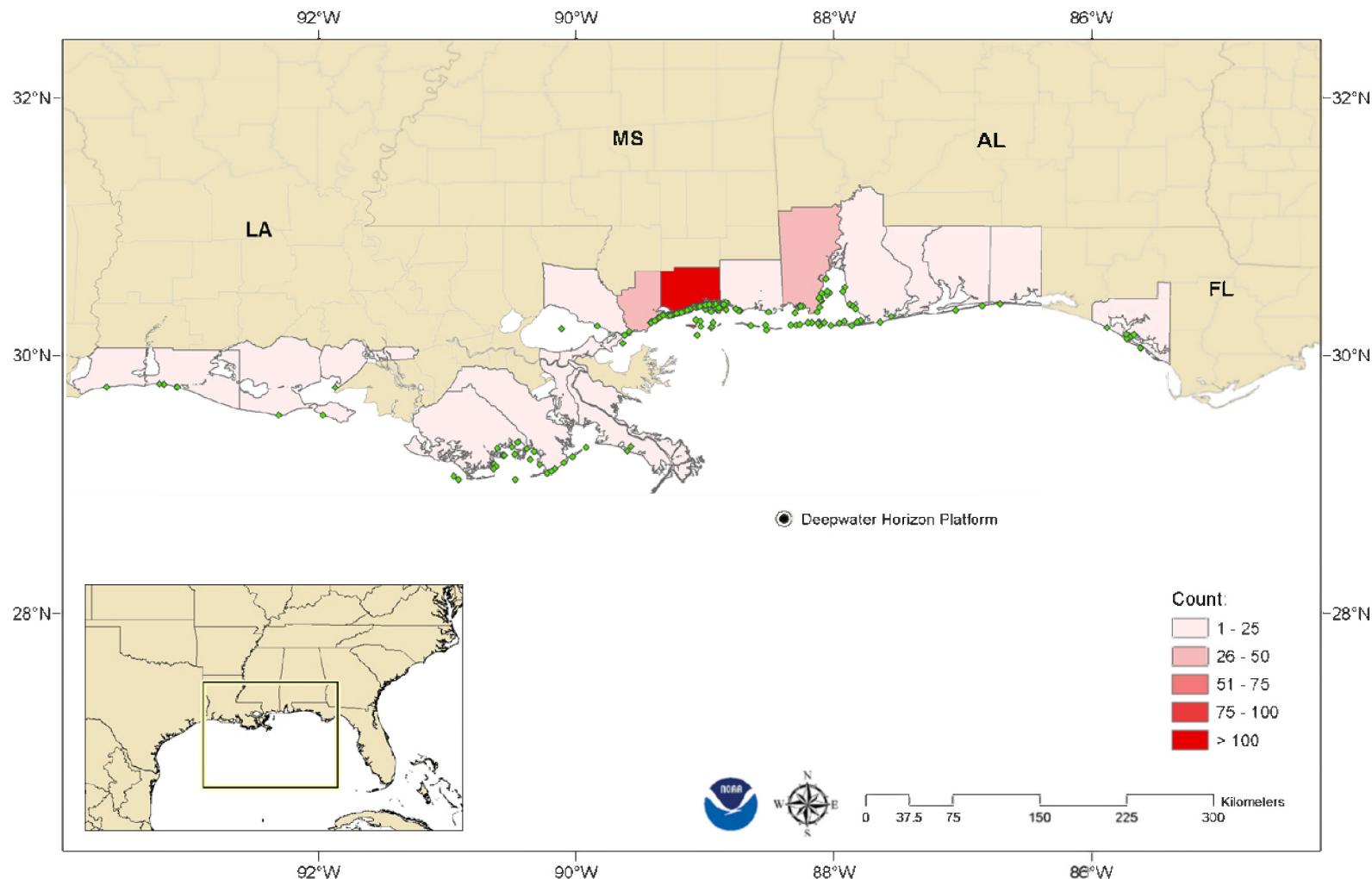


Figure 9. Map of locations where non-visibly oiled sea turtles were documented (all species) by stranding response during the BP Deepwater Horizon oil spill in which death was attributed to or suspected to be drowning based on necropsy findings. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Counties/Parishes are shaded to indicate the density animals found within those areas.

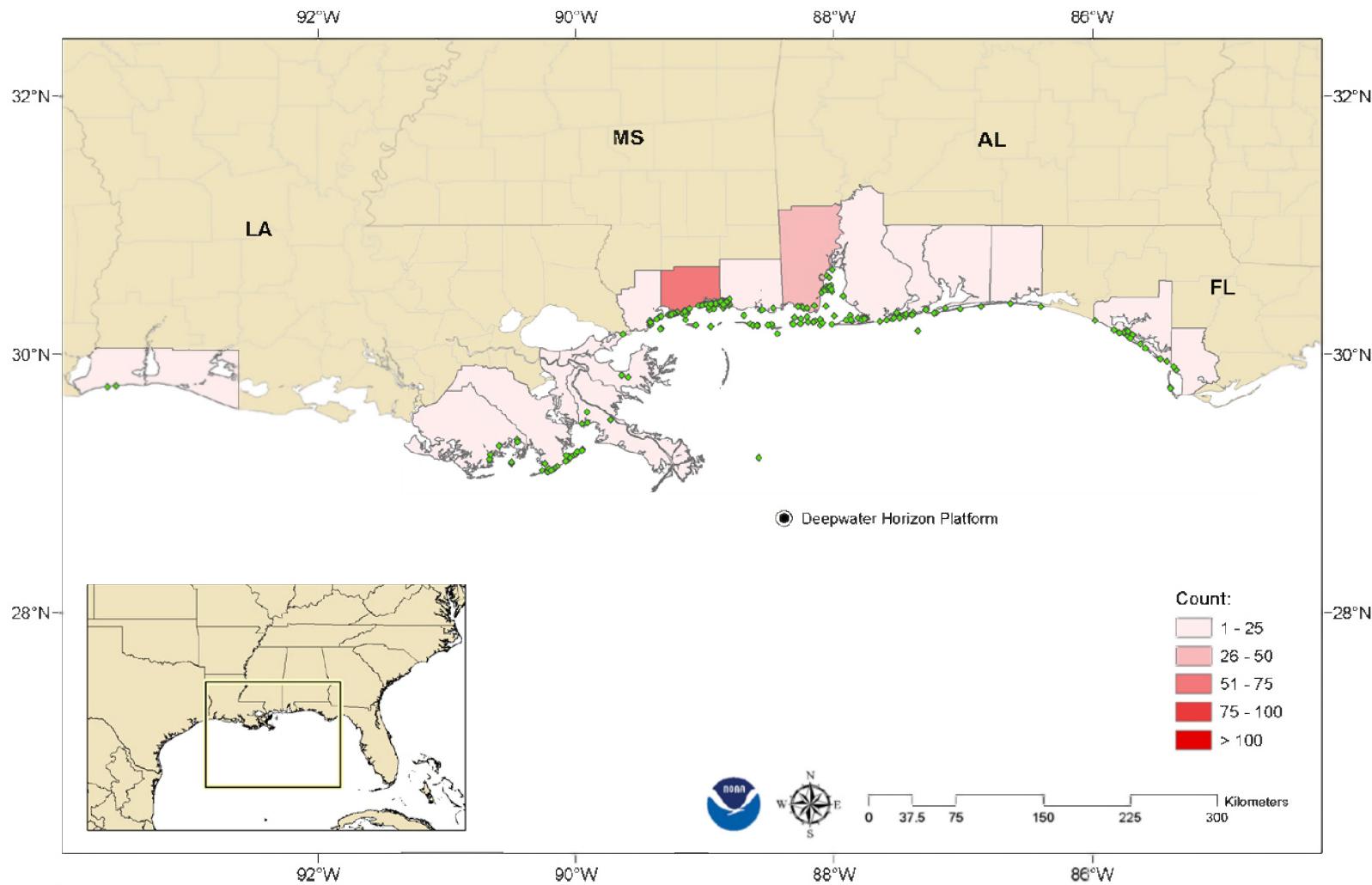


Figure 10. Map of locations where non-visibly oiled sea turtles with traumatic injuries were documented (all species) by stranding response during the BPDWH oil spill. Included are animals in which trauma was determined to be cause of death and animals with injuries (unknown if antemortem or postmortem) in which cause of death was undetermined. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Counties/Parishes are shaded to indicate the density animals found within those areas.

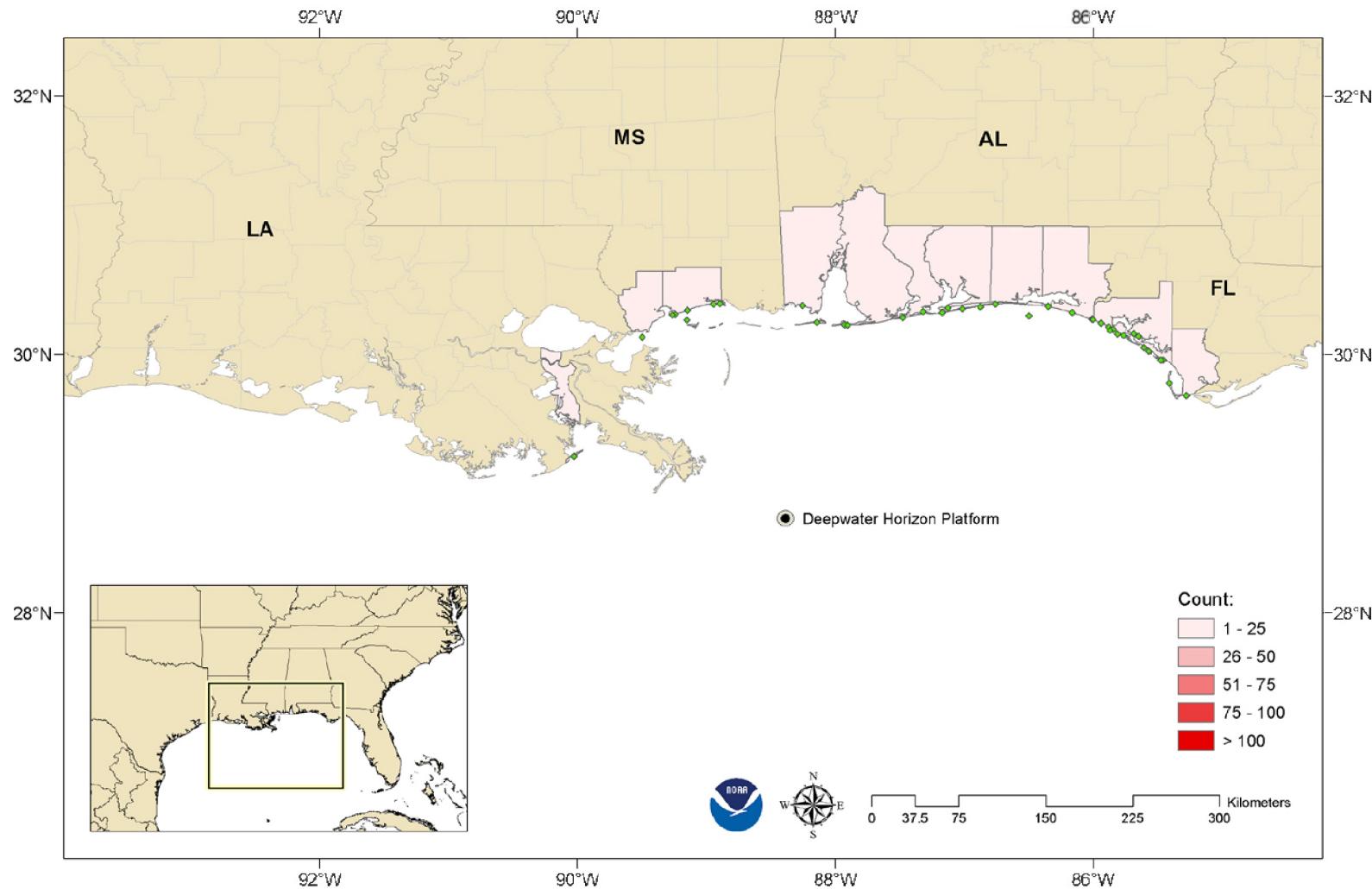


Figure 11. Map of Locations where non-visibly oiled sea turtles were documented (all species) by stranding response during the BP Deepwater Horizon oil spill in which evidence of disease (weight loss, pathological lesions of concern) was observed. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Counties/Parishes are shaded to indicate the density animals found within those areas.

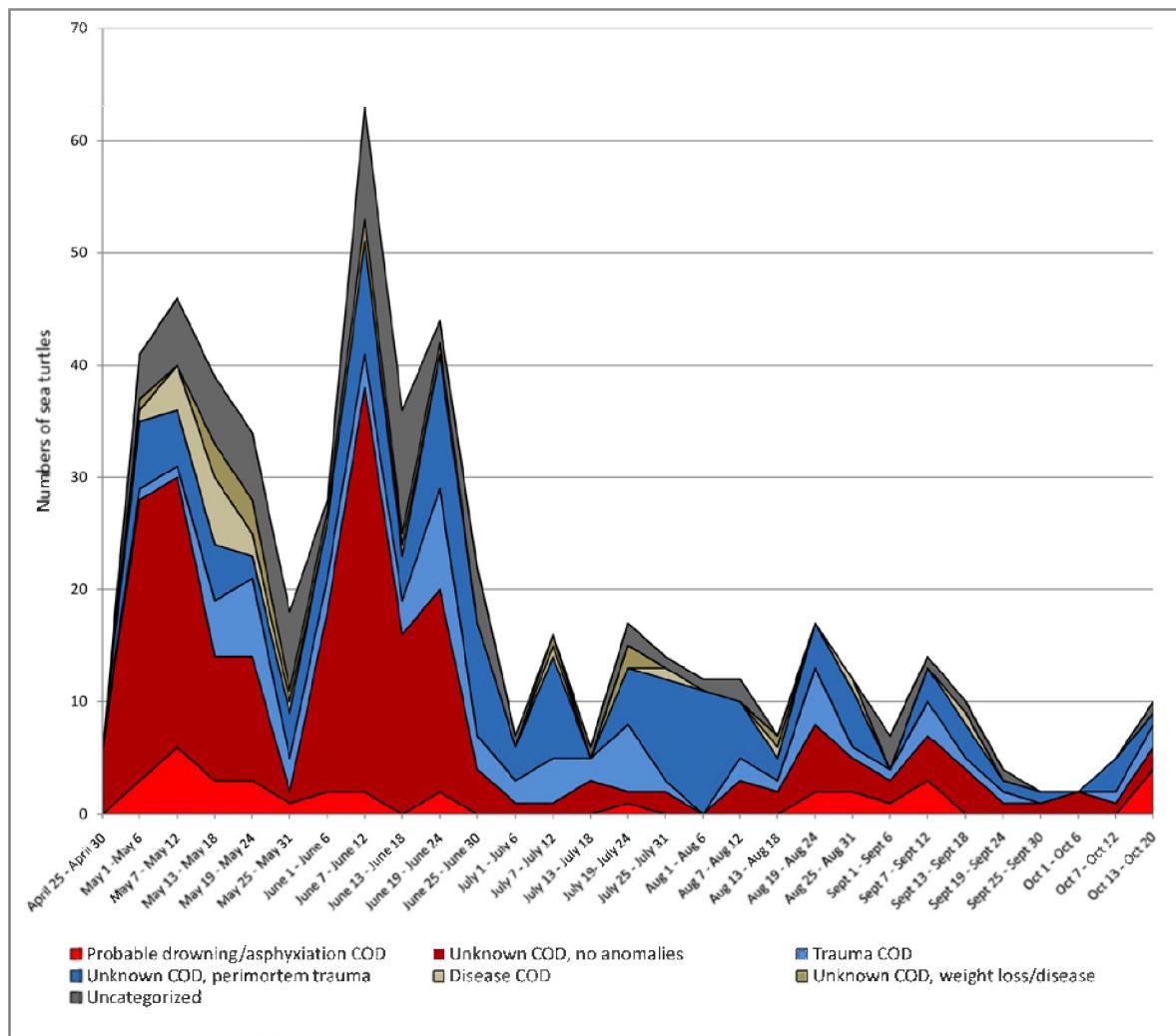


Figure 12. Stacked area graph of necropsy findings in non-visibly oiled sea turtles (all species) documented by stranding response during the BPDWH oil spill. Cases are categorized by cause of death (COD) or major necropsy findings if COD was undetermined. Uncategorized cases could not be further characterized due to decomposition. The response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). The period of the response was from April 26, 2010 through October 20, 2010.

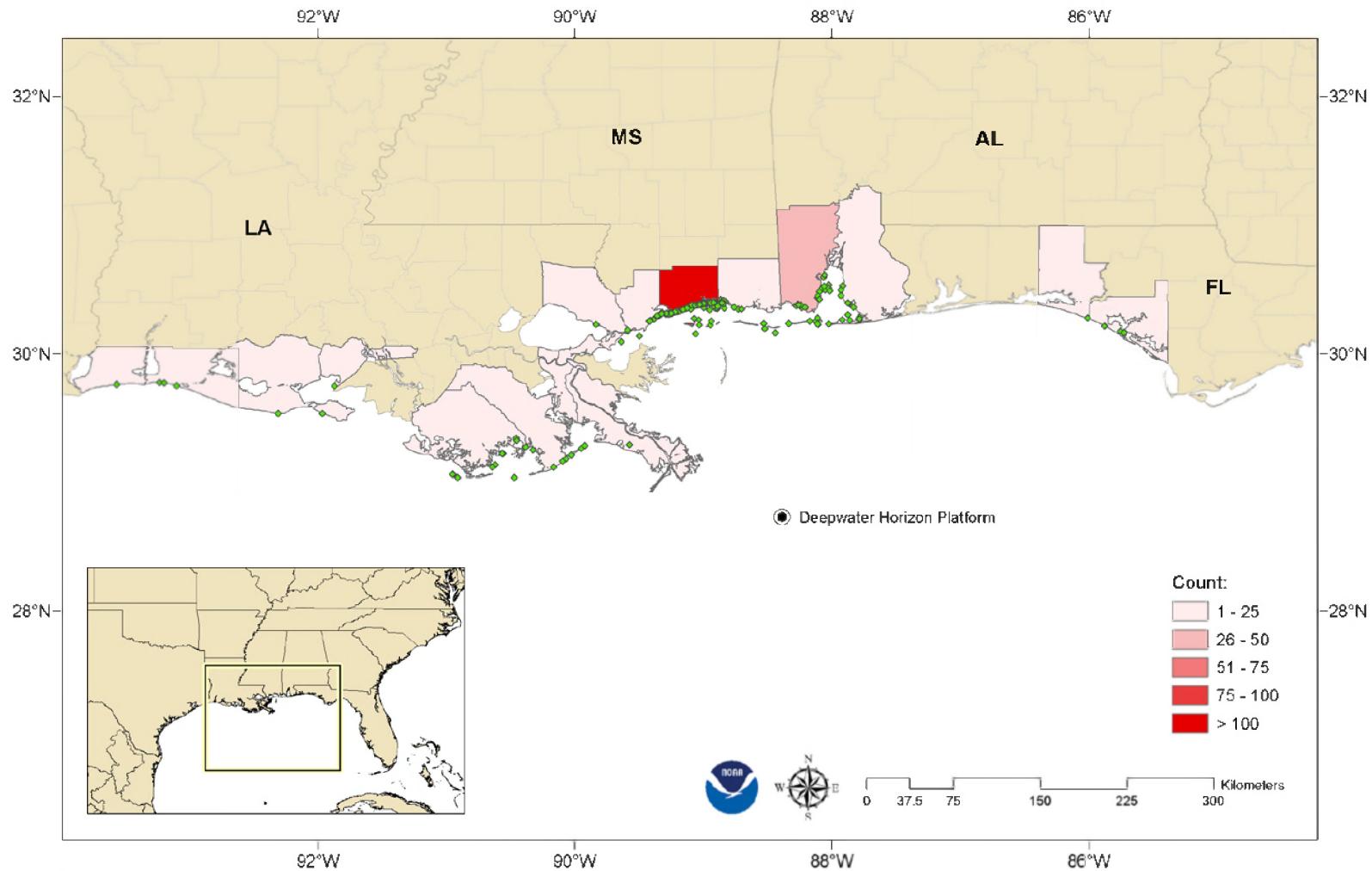


Figure 13. Map of locations where non-visibly oiled sea turtles were documented (all species) by stranding response during the BPDWH oil spill in which fish or shrimp were found within the gastrointestinal tract. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Counties/Parishes are shaded to indicate the density animals found within those areas.

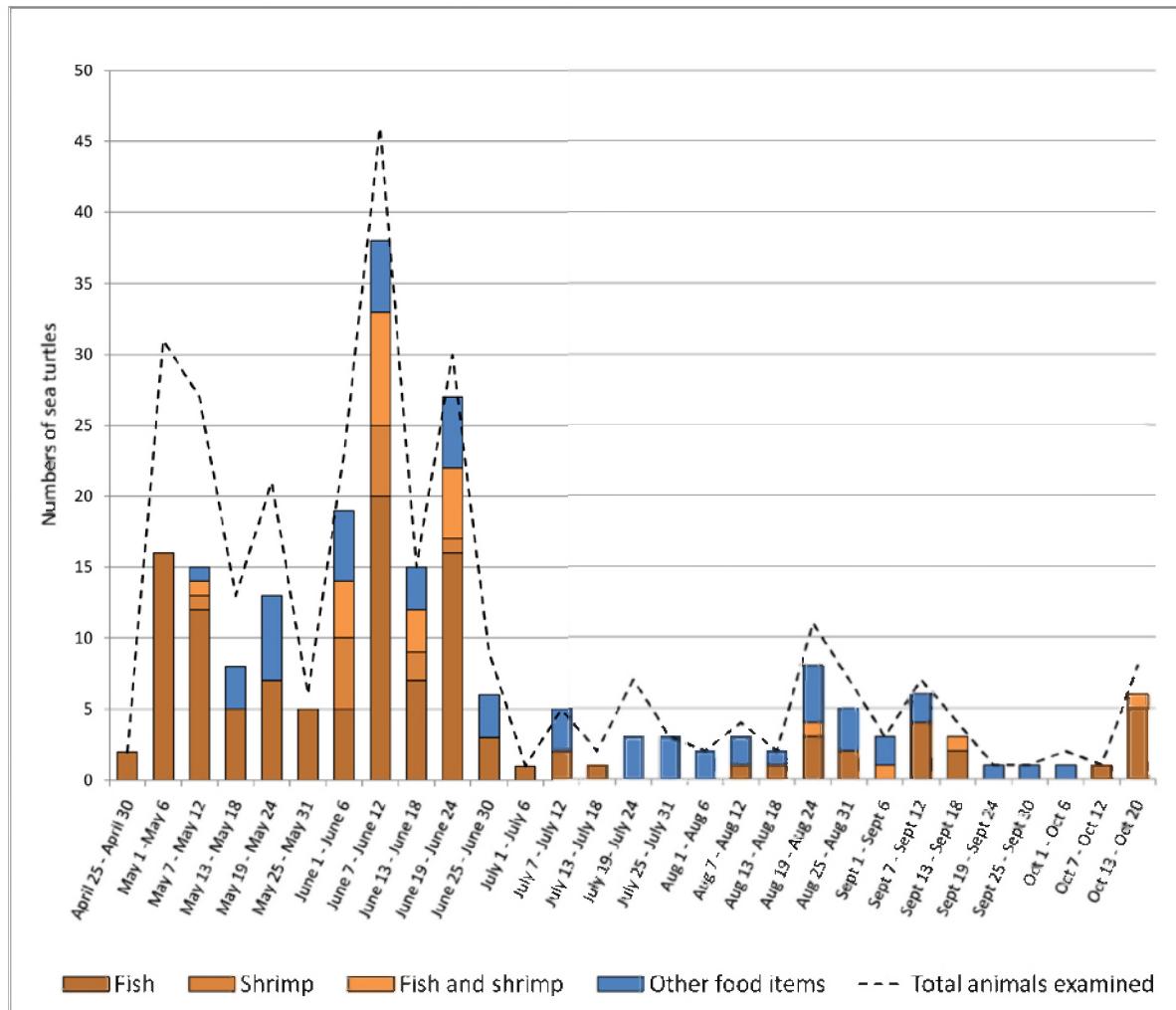


Figure 14. Stacked bar graph of food items observed within the mouth, esophagus, and stomach of non-visibly oiled Kemp's ridley sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola).

## OTHER CAPTURES

(OBSERVED CAPTURES ABOARD RELOCATION TRAWLERS AND REPORTED INCIDENTAL CAPTURES)

**Summary**

Some records of captures may not be included in this report. The focus of this summary was records received by the preparer (B. Stacy), which included all animals subsequently brought into captivity for evaluation and veterinary care under response.

One hundred and ninety-four turtles (186 loggerheads and eight Kemp's ridleys) were caught during the period of July 9 through July 23, 2010 by turtle relocation trawlers operating in conjunction with dredges in the Chandeleur Islands. Most of these turtles were reported to be loggerheads that were greater than 60 cm SCL. Two loggerheads (SCL = 63.9 cm and 80.6 cm) were brought into captivity for veterinary care, one for a minor eye injury and one for monitoring after being found comatose in a trawler net, both were later released. Three loggerheads (SCL = 62.1 cm, 65.7 cm, and 87.4 cm) were found dead in trawler nets and later necropsied. In addition, three loggerhead mortalities were documented aboard dredges. These three carcasses were incomplete, and all were estimated to be approximately 60 to 80 cm SCL.

Three additional sea turtles, one loggerhead (estimated SCL = 87 cm) and two Kemp's ridleys (estimated SCL = 31 cm and 60 cm) were captured by turtle relocation trawlers working with dredges in the Florida panhandle in June 2010 and were brought into a Florida rehabilitation center for evaluation. The smaller Kemp's ridley had a small amount of oil around the base of the flippers and mouth that was found to be derived from the BPDWH spill (Appendix B). All three turtles survived and were subsequently released.

Two oiled Kemp's ridleys (SCL = 17.4 cm and 18.4 cm) were collected by oil skimmer vessels working offshore of Louisiana on 5/29/2010 and 5/31/2010. Samples collected from both turtles were concluded to have been derived from the BPDWH spill (Appendix B). The oil was partially removed while on board the vessels. Both turtles likely were moderately to heavily oiled based on the amount of residual oil documented when they were brought ashore. No cutaneous or ocular lesions were observed. Both turtles were released following rehabilitation.

Forty-two Kemp's ridleys were caught by recreational fishermen on hook and line (SCL = 21.5 cm to 52.5 cm). Thirty-eight of these incidents were associated with fishing piers in Mississippi and occurred during May (n=9), June (n=18), August (n=3), September (n=7), and October (n=1). Other fisheries-related turtle records included one Kemp's ridley (SCL = 33.0 cm) found aboard a skimmer trawl by Mississippi Department of Marine Resources on 6/19/2010, one Kemp's ridley (SCL = 30.2 cm) captured by a research sampling trawler in Louisiana on 6/9/2010, and a Kemp's ridley (SCL = 33.0 cm) found entangled in an illegal unattended gill net in Alabama on 5/19/2010. None of these turtles were visibly oiled. All survived and were released following evaluation or treatment at a rehabilitation facility.

#### **Necropsy findings**

All three of the loggerheads found dead in nets of relocation trawlers working in the Chandeleur Islands were determined to have drowned as the result of forced submergence. Two were immature females and one was a mature female based on the condition of the reproductive system. All three turtles were in good nutritional condition and had been feeding on small benthic invertebrates (including tube-dwelling annelids, anemones, and bivalves). Intrapulmonary froth and fluid accumulation, consistent with drowning, was observed in all three turtles, and one animal also had aspirated sediment within the lungs. No visible oil was observed on or within any of the turtles and there was no gross or histological evidence of any significant underlying disease.

The three incomplete loggerhead carcasses submitted as dredge mortalities were extensively damaged and were limited to a partial skull of one animal and partial carapace of two animals. Much of the soft tissue had been excoriated away and the remains were heavily inundated by sediment.

## DISCUSSION

**Visible oiling and effects on sea turtles**

Four species of sea turtle, Kemp's ridley, green turtle, loggerhead, and hawksbill, were documented to have been visibly oiled during the BPDWH spill. The presence of petroleum was confirmed in samples collected from 290 sea turtles, and comparative analyses concluded that 218 were derived from the BPDWH. The results of the comparative analyses for most of the remaining cases were either inconclusive or the volume of petroleum was insufficient for comparison. Most of the oiled sea turtles were collected by offshore directed capture operations and most were small immature turtles less than 25 cm SCL.

The life histories of all four sea turtle species included in this report have oceanic and neritic (inshore) stages (Bolten 2003). The predominant size range of the oiled sea turtles was consistent with the oceanic juvenile stage (Bolten 2003). The immediate effect of the spill on oceanic juveniles was not surprising given the location of the wellhead, the offshore distribution of much of the oil during the response, and the epipelagic nature of oceanic juveniles. Exposure of leatherback turtles to oil also is a concern given their oceanic life history and occurrence within the Gulf of Mexico.

Of the 218 oiled turtles in which oil samples were found to be derived from the BPDWH spill, 206 were found alive. Of the 12 oiled turtles that were found dead, seven had oil in the mouth and esophagus similar to that observed in live turtles, and thus are concluded to have become oiled prior to death. Four turtles were found dead, were decomposed, and had relatively small amounts of external oil. Oil either was not found in the upper GI tract or postmortem condition precluded examination of the mouth and esophagus. An additional oiled turtle had a distinct line of aggregated oil on its carapace suggestive of postmortem exposure. The timing of oil exposure in relation to death for these five

animals is regarded as unknown, thus 213 sea turtles were determined to have been oiled with petroleum from the BPDWH spill while alive. In addition to these documented visibly oiled turtles, estimation of numbers of sea turtles exposed throughout the spill area and studies of potential exposure through inhalation and ingestion is of interest under NRDA.

There were substantial limitations in both the discovery of oiled sea turtles and confirmation of oiling by petrochemical analysis. Small oceanic sea turtles originating offshore are less likely to be found on shore by stranding response due to drift, decomposition, and dispersion by scavengers. Only 5.3% (34/637) of sea turtles recovered by stranding response (for which size data are available) were less than 25 cm, as compared to 93.9% (539/574) of those recovered by the directed captures. Over 40% (14/34) of the small turtles (<25.0 cm) documented by stranding response were confirmed to be oiled. In addition, small oiled turtles were obscured by surface oil in heavily oiled areas and were difficult to observe from capture vessels. Warm summer temperatures likely were another substantial factor that limited discovery due to acceleration of decomposition. Limited studies have shown that Kemp's ridley carcasses can transition from good postmortem condition to severely decomposed in as little as 24 hours at 91° to 93°F (33° to 34°C) and may become negatively buoyant within 48 hours (Benjamin M. Higgins, NOAA, Southeast Fisheries Science Center, Galveston, Texas, personal communication). Lastly, samples from many turtles in lesser oiled categories did not yield detectable petroleum or conclusive comparative results. Possible explanations for these results are that the quantity of material sampled was insufficient for analysis and that non-petroleum biological material, such as brown algae, was mistaken for oil in some cases.

In addition to exposure to oil, a primary objective of the response efforts was to determine any associated effects on protected sea turtles. Studies of toxicological effects of petroleum and dispersants on sea turtles are very limited, thus comments herein reflect the most evident effects given

currently available information and personal experience during directed capture operations. During rescue of oiled turtles offshore, small oceanic juveniles were observed to become heavily mired in surface oil, potentially leading to physical exhaustion, fatal physiological derangement, or asphyxiation. Hyperthermia was another concern as oil removed from sea turtles collected offshore was palpably warm. Sea surface temperatures in excess of 120°F (49°C) were opportunistically recorded in heavily oiled *Sargassum* during directed capture operations (Appendix C). A study of thermal stress on nesting green turtles reported that no live animals were found with body temperatures over 102 to 106°F (39° to 41°C) (Jessop et al. 2000). Furthermore, plasma corticosterone, part of the adrenocortical stress response, significantly increased as body temperature rose from 89.6° to 96.8° F (32° to 36°C) (Jessop et al. 2000).

The deaths of six sea turtles<sup>4</sup> included in this report are concluded to be directly attributable to oil. Necropsy photographs of these cases are provided in Appendix D. All were oceanic stage juvenile Kemp's ridley sea turtles and oil samples from all cases were derived from the BPDWH spill. Two were asphyxiated by oil. An immediate cause of death was undeterminable for four turtles; however, the opinion that oil is the proximate cause of death is based on the severity of oiling, exclusion of other findings to the extent possible given the postmortem state, and direct observations of the environmental conditions to which heavily oiled turtles were exposed. None of these animals had ingested fish or Penaeid shrimp as discussed in the next section. One turtle was found floating inshore in Louisiana and had fluid within the lungs and sediment within the anterior airway, thus drowning was given as a consideration for immediate cause of death. Given the concern for exhaustion and hyperthermia, this animal may have drowned as a result of debilitation. As previously stated, it is

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<sup>4</sup> Identification references: AJH2010063001, BAS2010060605, BAS2010060901, BAS2010061001, MCT2010060701 and SDD2010060105

assumed that the ambient temperatures and offshore location of many of the oiled turtles substantially reduced the probability of finding dead oiled turtles.

In addition to the documented dead oiled turtles, fifty-nine live oceanic juvenile turtles were heavily oiled (all derived from BPDWH spill) and, in my opinion, were unlikely to have survived had they not been captured and brought into captivity. Fifty-eight of these animals were documented at sea and one was found on shore. Photographs of these cases are provided in Appendix E. This assessment does not preclude potential injury to those sea turtles with lesser degrees of oiling or injury to the larger oiled turtles. In addition to potential chronic effects, there was a risk that animals with lesser degrees of oiling would have become more heavily oiled, especially during the period of active discharge from the well.

Most of the oiled sea turtles admitted to rehabilitation centers were released following removal of oil, supportive care, and monitoring. Examination of clinical data, including hematological and blood chemistry results, is being conducted under NRDA and may further inform assessment of injury associated with the BPDWH spill. With regard to mortalities of animals while in captivity, only five oiled sea turtles died during rehabilitation. Three of these animals developed fatal hyponatremia following exposure to freshwater, which was intended to provide hydration. These observations suggest that oceanic stage Kemp's ridleys may be relatively sensitive to freshwater exposure. No further cases of hyponatremia were encountered when the practice was altered. It is unknown whether or not toxicity from exposure to petroleum or dispersants may have contributed to electrolyte dysfunction in these cases; however, evidence of any mechanistic association is lacking at this time. Another oiled turtle succumbed to bacterial colitis during the fourth month of captivity. This condition is sporadically encountered in stranded sea turtles and any potential link with previous oil exposure is unknown. The

fifth oiled turtle that died was lightly oiled, underweight, and death was attributed to complications from multiple, chronic traumatic injuries.

### **Sea turtle mortality within the spill area**

The second objective of response efforts was to investigate other factors contributing to sea turtle mortality within the spill response area. Sea turtle reports through stranding response were characterized by large peaks in numbers of sea turtles found dead in May and June, with much lower numbers encountered from July 1<sup>st</sup> through the end of the response on October 20<sup>th</sup>. The peak strandings in May and June resulted in high levels of concern among state and federal agencies, scientific and conservation communities, and the public. Although quantifiable effort for stranding surveillance was not available for comparison with previous years, the high number of strandings encountered, especially in the regions of the Mississippi Sound and Mobile Bay, is of great concern. More Kemp's ridleys were found dead in Mississippi and Alabama during May and June than reported for any entire year in any Atlantic or Gulf coast state (verified data available for 1998-2006, STSSN online database). In addition, it must be acknowledged that data for Louisiana is considered incomplete, largely due to the difficulty in surveying the wetland areas and barrier islands that comprise much of the coastline. Data deficiencies for Louisiana likely are a limitation in characterization of total sea turtle mortality for the region.

The majority of sea turtles, predominantly Kemp's ridleys, found during May and June were in adequate nutritional condition and did not have any significant injuries or evidence of any debilitating conditions. Photographs of example cases are provided in Appendices FIX, FX, and FXI. Most were found dead and were moderately to severely decomposed. Drowning was given as the probable cause of death for those animals that had sediment throughout the lungs, and was strongly suspected in cases without any apparent anomalies or explanation for cause of death. Diagnosis of drowning is difficult,

especially in decomposed animals with little or no circumstantial information, thus sea turtles with a cause of death determination are considered a small proportion of the total cases. Many animals without sediment in the lungs had sediment within the anterior airway, thus drowning or asphyxiation was given as a consideration in necropsy reports. This assessment was conservative due to potential introduction of sediment into the airway after death or by agonal aspiration.

Acute toxicosis was investigated as a possible underlying or contributing cause of sea turtle mortality. Biotoxins produced by harmful algae were not detected in postmortem samples at concentrations expected to cause mortality of megavertebrates. The observed values were interpreted as consistent with background exposure and were similar to those detected in free-ranging, apparently healthy bottlenose dolphins (Twiner et al. 2011). In addition, the discovery of predominantly dead, decomposed turtles contrasts with previous sea turtle events attributed to harmful algal blooms. Sea turtle strandings associated with harmful algal blooms, of which those associated with the red tide organism *Karenia brevis* are the best characterized, typically result in some proportion of live turtles (Fauquier et al. 2013). Similarly, other stranding events, such as those suspected to be caused by novel biotoxins and hypothermic (cold) stunning events, also have manifested with numbers of live and fresh dead turtles because moribund animals come ashore and are detected in the early postmortem interval by stranding response (Witherington and Ehrhart 1989; Jacobson et al. 2006).

Another concern as a cause of numbers of sea turtles being found dead on or near shore was toxicosis from oil or dispersants. The toxicological effects of oil and dispersants on sea turtles are largely unknown. No unusual ocular or cutaneous lesions were found in the non-visibly oiled sea turtles, as might be expected based on irritation described in the material safety data sheets for the dispersants and as described from limited studies of exposure of post-hatching loggerheads to crude oil (Lutcavage et al. 1995). Also, many sea turtles were collected in Mississippi, Alabama, and western Louisiana prior

to reports of inshore oil and no confirmed visibly oiled turtles were found in Mississippi during response. Complete summary information on application of dispersants was not available at the time of the writing of this document; however, the greatest volumes were reported to be dispensed offshore. Therefore, based on currently available information and experience with known oiled sea turtles during the BPDWH spill, acute mortality due to toxicity from petroleum oil or dispersants in sea turtles without any observable presence of oil is considered unlikely as a cause of the large numbers of dead, non-visibly oiled turtles documented by stranding response during the BPDWH spill. This statement does not negate other immediate or long-term effects of oil or dispersants on sea turtles, but asserts that there is no indication that toxicity from petroleum oil or dispersants caused the observed mortality of non-visibly oiled animals, especially those documented during peak strandings in May or June.

A notable finding was the high prevalence of ingested fish and Penaeid shrimp in turtles during peak strandings. Significantly more Kemp's ridley's with evidence of drowning or that had no significant anomalies (suspect drowning) had ingested fish and shrimp as compared to those with traumatic injuries. A number of the turtles suspected to have drowned had food items within the mouth or esophagus, which suggested that the cause of death was relatively sudden. Sea turtles do not typically prey on live fish and shrimp as a significant part of their diet. Detection of these items within the gastrointestinal tract generally is attributed to foraging on dead or injured bycatch (Shoop and Ruckdeschel 1982, Shaver 1991, Young 2001), or potentially marine life that has died of other causes, such as fish kills unrelated to fisheries. Only one fish kill was referenced in a sea turtle stranding record (Louisiana), and that incident was attributed to discard of bycatch from a purse seine fishery (the possible cause of the associated sea turtle death as well). Although scavenging upon fish from various sources is possible, foraging on discarded bycatch is the most plausible explanation for high prevalence of fish ingestion on such a large scale. In many instances, fish bones were observed throughout the gastrointestinal tract, indicating multiple feeding events and possible habituation to the food source.

The observation that shrimp were limited to the mouth, esophagus, and stomach in almost all instances suggests that many turtles died during ingestion, or soon thereafter. Specific identification of fish and shrimp species collected from dead sea turtles are being performed as part of gastrointestinal contents analysis under NRDA. Initial analyses have identified multiple taxonomic families of fish including (examples of common names provided in parentheses): Ariidae (marine catfish species), Trichiuridae (cutlass fish), Clupeidae (menhaden), Bothidae (flounder), Carangidae (jack), Haemulidae (grunt), Lutjanidae (snapper), Sciaenidae (weakfish, croaker), Scombridae (mackerel), Serranidae (grouper), Stromateidae (butterfish), and Synodontidae (lizardfish). These fish are included among that many taxa reported as fisheries bycatch in the Gulf of Mexico (Watson et al. 1986, Nance 1998).

Based on all available evidence, absence of any apparent debilitating conditions suggests drowning of otherwise healthy sea turtles, as occurs when animals are forcibly prevented from reaching the surface for air (forced submergence). These cases represent a substantial proportion of sea turtles documented by stranding response during May and June in Mississippi, Alabama, and Louisiana. Incidental capture in fishing gear (nets) is the only plausible cause of forced submergence in a mass mortality event of this size and is strongly suspected based on exclusion of other causes of mortality, evidence of drowning in some animals, and a high rate of ingestion of food items commonly associated with fisheries. Mortality of this nature precipitously declined by July 1<sup>st</sup> and emerged again at a much reduced level during the months of August, September, and October.

Specific fisheries effort data were not available at the time this report was written and would be of considerable relevance if obtained. The shrimp trawl fishery produces the majority of sea turtle bycatch among US fisheries and is of particular concern (NMFS and USFWS 2008, NMFS et al. 2011). There was notable irregularity in fisheries openings and closures due to the oil spill, which makes some aspects of reconstruction of events very difficult. In addition, the large number of concurrent activities

related to the spill may have affected enforcement and compliance with regulations. An initial assessment is that the general timeline of early fisheries openings in advance of the spill in late April and extensive closure of federal and state waters by early July is compatible with peaks in observed sea turtle mortality.

Trauma was another significant cause of sea turtle mortality and a frequent necropsy finding during response. Most turtles that stranded during July and early August had major injuries. In most cases, due to decomposition, it was not possible to determine cause of death or whether injuries occurred antemortem. A majority of injuries were characterized as blunt force. Although many blunt injuries are inherently nonspecific, collision with watercraft is considered the most likely cause in most cases given the force necessary to produce many of the observed injuries. Mortality resulting from watercraft collisions is a conservation concern for sea turtles and prevalence of watercraft injuries has been documented as high as 60% of strandings in some areas (FFWCC, unpublished data, cited in NMFS and USFWS 2008). Interaction with dredges is another possible cause of blunt trauma in sea turtles; however, none of the carcasses collected by stranding response were heavily inundated by sediment as was observed in the dredge mortalities from the Chandeleur Islands berm construction and as is often observed in sea turtles killed by hopper dredges. Examination of the spatial distribution of animals with injuries relative to dredging operations could further investigate dredge interaction as a potential cause of some injuries. Multiple parallel chop wounds (typical of propeller injuries) and distinctly linear blunt injuries were also relatively common types of injuries and are more specific to watercraft collisions. Attempted quantification of watercraft usage, especially activity related to response, and correlation with numbers of turtles with injuries was beyond the scope of this report but may of interest under NRDA. Total numbers of blunt injuries and chop wounds peaked during late June and early July. The differences between Florida and other states in the proportion of chop injuries as compared to blunt

trauma was interesting and may reflect regional differences in watercraft characteristics, conditions of interaction, and prevalence of other causes of blunt injuries.

Sea turtles with disease comprised the smallest number of reports within the response area. The exception was animals documented in Florida, where the greatest numbers of chronically debilitated sea turtles, predominantly loggerheads, were found. The observed conditions were consistent with findings in sporadic strandings during previous years (Stacy, unpublished data). Loggerheads in poor nutritional condition with accumulated epibionts and various associated conditions, such as bacterial infections, are encountered relatively frequently by stranding responders in the southeastern US. Primary underlying cause(s) of the illness often is not determinable due to advanced chronicity at the time of presentation. These animals are of general concern with regard to long-term population health. Studies of contaminant exposure and chronic debilitation in loggerheads have not yielded a causative association (Day et al. 2010). In addition, the BPDWH spill followed a cold-stunning event of unprecedented scale in January 2010 that resulted in the strandings of thousands of sea turtles (and other marine life) throughout Florida. Delayed hypothermic effects from the harsh winter may have been a factor in some of the cases of underweight or diseased turtles included in this report, and could have contributed to the number of chronically debilitated sea turtles documented in Florida during response.

## CONCLUSIONS

Immediate effects from the BPDWH spill were observed in offshore convergences, from which hundreds of oiled oceanic juvenile sea turtles were rescued. Oiled surface habitat resulted in miring of small sea turtles and created conditions where physical exhaustion, suffocation, and potential thermal stress were imminent threats. Detection and recovery of oiled turtles was limited by the offshore location of many of the animals, widespread distribution across the spill area, and environmental conditions within the spill area.

In addition to documentation and rescue of oiled animals offshore, large numbers of sea turtles, primarily Kemp's ridleys, were found dead on shore within the response area. Most of these animals were not visibly oiled. Although increased effort certainly enhanced documentation and recovery, it is generally agreed that the high number of strandings during May and June was unusual. Regardless of any contribution resulting from increased effort, mortality of this nature involving endangered species is of great concern.

Enhanced stranding response and necropsy efforts resulted in investigation of mortality factors in unprecedented scale and detail for the region. Decomposition limited assessment of the majority of turtle carcasses recovered and prevented cause of death determination for many cases. Nonetheless, postmortem examination yielded important information and allowed reasonable conclusions to be reached as to the nature of mortality and likely causes. A substantial proportion of cases documented during peak stranding activity in May and June was characterized by acute mass mortality of many nutritionally robust animals with no evidence of traumatic injury, no apparent significant disease, high prevalence of ingested fish and shrimp, and clear indications of drowning in some cases. Biotoxins were not detected at concentrations expected to result in mortality nor was there any indication of any other

toxicant compatible with mortality of this nature. It is concluded that findings in many of the dead, non-visibly oiled sea turtles found on shore within the response area are consistent with forced submergence and that incidental capture in fishing gear is the suspected predominant cause. Another considerable cause of mortality during the spill response was trauma injuries, most of which were consistent with trauma caused by watercraft.

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APPENDIX A. PROTOCOLS AND DATA SHEETS USED FOR SEA TURTLE DIRECTED CAPTURE OPERATIONS  
AND NECROPSIES DURING THE BP DEEPWATER HORIZON OIL SPILL RESPONSE

## Protocol for examination, documentation, and sample collection from oiled sea turtles during field rescue operations

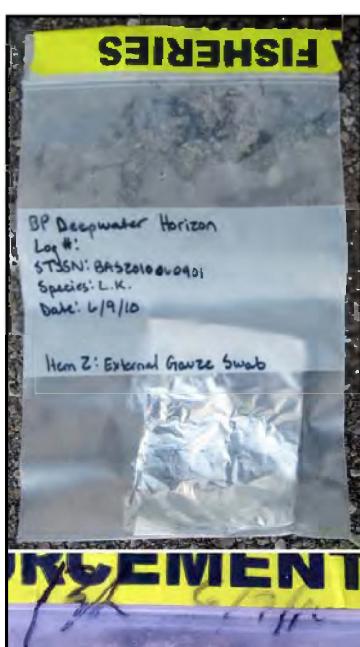
There are three forms that must be filled out upon recovery of sea turtles: 1) **Field data sheet**, 2) **Field evaluation/treatment sheet**, and 3) **Chain of custody form**. Collection of samples includes 1) **dorsal and ventral photographs** and 2) **gauze oil swab in aluminum foil**. During each of these steps, work as efficiently as possible with one person or two people carefully labeling cards/sample bags and filling out data sheets, and another handling the turtle. As described below, it is best if one person in the operation assigns identification numbers (STSSN) and that same person initiates chain of custody. Call the rehabilitation center contact (Michelle Kelly 504-235-3005) and ground transport coordinator (Jeff 337-945-6170) when the first turtle is collected and call Michelle with the final number as the boat returns at the end of the day and when the ground transport leaves for Audubon.

Upon capture:

**A. Perform an initial examination while the Field data sheet is begun:**

- Note whether the animal appears alert and active or is weak, depressed, etc., as well as any injuries. Contact Brian Stacy with any medical emergency or concerns 352-283-3370.
- If the animal is collected from heavy oil and/or is mired in thick oil, take a temperature with the infrared thermometer on the carapace and in the prefemoral fossa. Do this as quickly after recovery as possible. Also, if possible, collect a surface temperature representative of the oil around the turtle.
- The data entry person should **assign an identification number in STSSN style**: Observer initials (three letters), year (four digits), month (two digits), day (two digits), number of turtle for the day (two digits). For example, the first turtle recovered by John A Smith on July 4, 2010 would be JAS2010070401. Again, it is easiest if *one designated person* on the operation assigns the numbers so that turtles are *consecutively numbered* for each field day.

**B. Collection of external swab:** Collect the external oil swab using the following methods (best done with two people, one that handles the foil and bags the sample, and a person that collects the swab):



- Label the bag with the following (see Figure):
  - BP Deepwater Horizon
  - Space for log number (left blank)
  - STSSN number (as assigned above)
  - Species
  - Date
  - Item number (this refers to the Chain of Custody (as described below) and will be "2" for these operations).
- Using tongue depressors, remove a clean gauze from a foil packet (previously prepared) or sleeve of gauze being careful not to touch the gauze with either gloves or anything else.
- Swab a representative oiled area (carapace is fine if oil is present there) and place the swab in foil with the dull side facing the gauze.
- Fold the aluminum foil into a pouch such that no gauze will be externally exposed. (continued)

- Place the pouch into a plastic bag and press out all of the air before sealing the bag closed.
- Seal the entire top of the bag with tamper proof evidence tape and initial and date at the edge of the tape (see figure, bottom).
- Immediately place the sample in a cooler with ice (samples in the transport cooler will be given to the ground transport with the turtles to be taken to Audubon).

### C. Collect dorsal and ventral photographs

- Label a photograph card with the following:
  - "MC 252"
  - Species
  - STSSN number
  - Way point number
  - Latitude
  - Longitude
  - Date
- *Using the designated field camera and data card*, take dorsal and ventral photographs (be mindful of shadows and clarity as much as possible).
- Take additional photos of any significant visible injuries (with card in photo).
- A photolog will have to be completed for all field photos, but can be done later.



### D. Removal of external oil, attachment of flipper tag, transport

Much of the external oil can be removed relatively quickly using absorbent pads. Removal of oil at this stage not only facilitates maintaining an appropriate temperature, but reduces contamination of containers and equipment, and human exposure. Initial cleaning is most easily done in a kiddie pool on an absorbent pad. Tear off pieces of absorbent pad and wipe oiled areas of the turtle. Within a couple of minutes, much of thick oil can be removed from even heavily oiled animals. After this step is completed, **place a plastic flipper tag labeled with the STSSN on the left front flipper** using a zip-tie (cut off the excess plastic) (snug, but not tight), place the turtle in a plastic bin/crate on an absorbent pad, and cover the container with a wet towel. Place the bin in the shade or in a climate controlled area such that ambient temperature is no warmer than the low 80's (F). If a climate controlled cabin is used, maintain temperatures no colder than the high 70's. Pay close attention to animals throughout the day. Do not allow containers to be inadvertently left in the sun during operations. The towels can be dampened with cool water to control temperature.

### E. Collection of measurement data

Turtles can be weighed and measured either during field operations or at the end of the day, as personnel and conditions permit.

#### F. Completion of data sheets

Transfer the required data fields from the **Field Data Sheet** to the **Field Sea Turtle Evaluation Sheet**. Include comments on quantity of external oil, activity level, and any other relevant observations for the rehabilitation personnel. State whether or not oil was removed in the field. Next, complete a **Chain of Custody Form**. The fields that will completed include the following (see example of completed for below):

- Date and time of seizure (date and time of collection)
- Evidence/property seized by (This is the custodian designated for the entire operation - it is easiest if this a single person for the entire day and must be the person that transfers animals and gauze samples to the ground transport)
- Found at (enter lat and long), leave the "taken from" and "received from" blank.
- Enter "BP Deepwater Horizon Spill Incident" under Defendant
- Indicate the turtle as item number 1 (live turtle and give the STSSN number) and the gauze as item number 2
- Sign off the chain of custody, thus transferring the animal and gauze sample to the ground transport.
- The Case number and Duty station will be assigned by the rehabilitation center

CHAIN OF CUSTODY RECORD			Case Number:	
DATE AND TIME OF SEIZURE: 5/31/2010 12:30 PM	DUTY STATION:	EVIDENCE/PROPERTY SEIZED BY: Brian Stacy		
SOURCE OF EVIDENCE/PROPERTY (person and/or location) TAKEN FROM: RECEIVED FROM: FOUND AT: Lat: 28° 57.4' N Long: 88° 32.2' W	DEFENDANT/COMPANY NAME AND REMARKS: BP Deepwater Horizon Spill Incident			
ITEM NO:	DESCRIPTION OF EVIDENCE/PROPERTY (include Seizure Tag numbers and any serial numbers): 1 Kemp's ridley turtle (live) BAS2010053101 2 Gauze sample in foil			
ITEM NO: 1,2	FROM (PRINT NAME, AGENCY) Brian Stacy NOAA	RELEASE SIGNATURE: 	RELEASE DATE: 5/31/2010	DELIVERED VIA: FEDEX U.S. MAIL IN PERSON OTHER:
ITEM NO:	TO (PRINT NAME, AGENCY)	RECEIPT SIGNATURE	RECEIPT DATE	
ITEM NO:	FROM (PRINT NAME, AGENCY)	RELEASE SIGNATURE	RELEASE DATE	



## Oiled Sea Turtle

### Gross Necropsy Report

<b>Spill Name:</b> BP Deepwater Horizon Spill Incident		
<b>Animal Log #</b>		
<b>STSSN #</b>		
<b>PIT tag:</b>		
Flipper tags: R	L	
<b>Sex:</b> <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown <b>Age:</b> <input type="checkbox"/> Immature <input type="checkbox"/> Mature		
<b>Weight:</b> kg <input type="checkbox"/> actual <input type="checkbox"/> estimate		
<b>SON:</b> emaciated <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 obese		
<b>Measurements</b>	SCL(N-T) cm	SW(widest) cm
	SCL(N-N) cm	

Form completed by: Dr. Brian A Stacy		Date:
Enforcement Officer:		
Strand/Capture location:		
Collectors Name:		
Intake date:	Euthanasia	
Death date:	Time:	<input type="checkbox"/> yes
Post mortem date:	Time:	<input type="checkbox"/> no
<b>Carcass Classification:</b>		<b>Frozen:</b> <input type="checkbox"/> yes <input type="checkbox"/> no
<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5		
Photographs: <input type="checkbox"/>		
Radiographs: <input type="checkbox"/>		

Clinical signs/diagnosis	
Antibiotics given	
Pertinent lab results	

### GROSS NECROPSY ABNORMALITIES:

<b>HYDROCARBON ANALYSIS SAMPLES</b> <input type="checkbox"/> 1x <input type="checkbox"/> 2x			<b>MICROBIOLOGY</b>	<b>SWABS: other</b>
bile <input type="checkbox"/>	kidney <input type="checkbox"/>	fat <input type="checkbox"/>	Lung	
blood <input type="checkbox"/>	muscle <input type="checkbox"/>	other:	Liver	
urine <input type="checkbox"/>	lung <input type="checkbox"/>		other	
liver <input type="checkbox"/>	intestine <input type="checkbox"/>			
<b>HISTOLOGY SAMPLES</b> <input type="checkbox"/> 1x <input type="checkbox"/> 2x			<b>FROZEN SAMPLES</b> <input type="checkbox"/> 1x <input type="checkbox"/> 2x	
lung <input type="checkbox"/>	thyroid <input type="checkbox"/>	ileum <input type="checkbox"/>	Kidney <input type="checkbox"/>	muscle <input type="checkbox"/>
trachea <input type="checkbox"/>	pharynx <input type="checkbox"/>	colon <input type="checkbox"/>	oviduct <input type="checkbox"/>	gonad <input type="checkbox"/>
heart <input type="checkbox"/>	tongue <input type="checkbox"/>	pancreas <input type="checkbox"/>	urinary bladder <input type="checkbox"/>	skin <input type="checkbox"/>
aorta <input type="checkbox"/>	esophagus <input type="checkbox"/>	spleen <input type="checkbox"/>	adrenal <input type="checkbox"/>	eye (L/R) <input type="checkbox"/>
pulmonary artery <input type="checkbox"/>	stomach <input type="checkbox"/>	liver <input type="checkbox"/>	bone marrow <input type="checkbox"/>	fat-site: <input type="checkbox"/>
thymus <input type="checkbox"/>	duodenum <input type="checkbox"/>	gall bladder <input type="checkbox"/>	spinal cord <input type="checkbox"/>	
salt gland <input type="checkbox"/>	jejunum <input type="checkbox"/>	brain <input type="checkbox"/>		
other:				
<b>Cause of death (preliminary diagnosis):</b>				

Examiner: Brian A Stacy, DVM, PhD, DACVP      Examiner's signature:      Date:

# SEA TURTLE STRANDING AND SALVAGE NETWORK – GROSS NECROPSY NOTES

## IDENTIFICATION

1. STSSN #:	2. Other identifier(s) #:	3. Rehab: <input type="checkbox"/>
4. Found dead: <input type="checkbox"/>	5. In no, date of death	leave blank if unknown (Use mm/dd/yyyy for dates)
6. Euthanized: <input type="checkbox"/>	7. Frozen/Thawed: <input type="checkbox"/>	8. Condition at necropsy: <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5
9. Date necropsied:	10. Examiner:	11. Affiliation:
12. Necropsy description: <input type="checkbox"/> External & internal examination <input type="checkbox"/> External examination only <input type="checkbox"/> Incomplete carcass		
13. Disposition of carcass: <input type="checkbox"/> Buried on beach <input type="checkbox"/> Buried off site <input type="checkbox"/> Rendered <input type="checkbox"/> Incinerated <input type="checkbox"/> Other		
14. Species: <input type="checkbox"/> CC <input type="checkbox"/> CM <input type="checkbox"/> DC <input type="checkbox"/> LK <input type="checkbox"/> EI <input type="checkbox"/> LO <input type="checkbox"/> HYBRID <input type="checkbox"/> UNK		15. Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Undetermined

## EXTERNAL EXAMINATION

16a. Body weight: <input type="checkbox"/> kg <input type="checkbox"/> lb	16b. <input type="checkbox"/> actual <input type="checkbox"/> est.	17. Eyes sunken: <input type="checkbox"/>	18. Skeletal features prominent: <input type="checkbox"/>
19. Heavily encrusted w/ epibiotia: <input type="checkbox"/>	20. Leeches: <input type="checkbox"/>	21. Gooseneck barnacles: <input type="checkbox"/>	
22. Epibota coverage: <input type="checkbox"/>	22a. Head/appendages: %	22b. Carapace: %	22c. Plastron: %
23. External Trauma/evidence of Human Interaction (T/HI): <input type="checkbox"/> Yes <input type="checkbox"/> CBD <u>If yes, complete 25</u>		Use STSSN scale 	
24. Other anomalies: <input type="checkbox"/> Yes <input type="checkbox"/> CBD <u>If yes, complete 26</u>		CBD - Cannot Be Determined <input type="checkbox"/> PHOTOGRAPHS TAKEN	

ANATOMIC LOCATION CODES: Head (H) Neck(N) Eyes(E) Mouth(M) Carapace(C) Plastron(P) Tail(T) Vent(V)  
Use for 25a & 26a Front flipper - Right(R) Left(L) Rear flipper - Right(F) Left(G) All appendages(Y) Pectoral girdle(J) Pelvis(I)

<b>25a. T/HI-Type:</b> (check all that apply and diagram in 25c) <b>Enter anatomic codes in blanks:</b> (Example: <input checked="" type="checkbox"/> Parallel slicing wounds(1) <u>C</u> )	<b>25b. T/HI- Description:</b> (check all that apply) <b>Enter 25a. + anatomic codes:</b> (Example: <input checked="" type="checkbox"/> Exudate/fibrin <u>1C</u> )
<input type="checkbox"/> Parallel slicing wounds(1) <input type="checkbox"/> Non-parallel/single linear wounds(3) <input type="checkbox"/> Partial/complete amputation(5) <input type="checkbox"/> Fractures/Broken bones(6) <input type="checkbox"/> Probable bite wound(9) <input type="checkbox"/> Ligature/entanglement-type(11) <input type="checkbox"/> Entangling material attached(12) <input type="checkbox"/> Hook and/or line present (13) <input type="checkbox"/> Other(14) describe under 25c	<input type="checkbox"/> Blunt/crushing(2) <input type="checkbox"/> Dislocations(4) <input type="checkbox"/> Paint transfer(6) <input type="checkbox"/> Puncture(8) <input type="checkbox"/> Tar in mouth(10)  <sup>a</sup> <sup>a</sup> <u>If yes, complete 25d</u>
<input type="checkbox"/> Exudate/fibrin <input type="checkbox"/> Fibrous tissue formation <input type="checkbox"/> Bone formation/remodeling <input type="checkbox"/> Hemorrhage <input type="checkbox"/> Encapsulated sand/debris <input type="checkbox"/> Blood clots <input type="checkbox"/> Completely healed <input type="checkbox"/> Other describe under 25c <b>Diagram wounds/measurements 25c</b> <input type="checkbox"/> PHOTOGRAPHS TAKEN Use STSSN scale in photos 3 Standard photos: 1. Perpendicular to wound(s) <u>with scale</u> 2. Wound margins (close-up) 3. Head, neck, shoulder region	

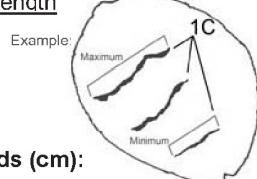
25c. T/HI-Comments & External Diagram (cont. pg 4):

Parallel slicing wounds (cm):

Straight (chord) cut length

Maximum:

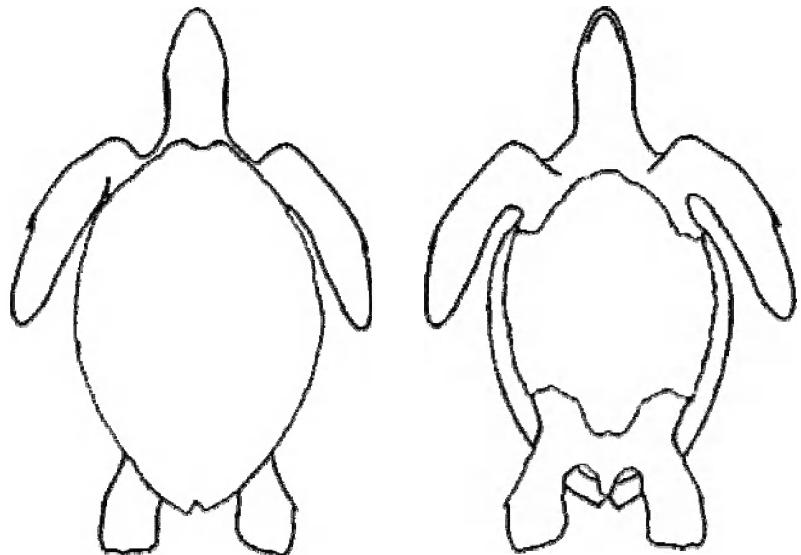
Minimum:



Single linear wounds (cm):

Wound length:

Width: Depth:



## EXTERNAL EXAMINATION (CONT.)

<b>25d. T/HI-Fisheries/Entanglement data:</b> (Fisheries gear, other entangling material) <b>Gear type:</b> <input type="checkbox"/> Line & pot <input type="checkbox"/> Line & buoy <input type="checkbox"/> Line, buoy & pot <input type="checkbox"/> Unknown gear/line <input type="checkbox"/> Netting <input type="checkbox"/> Hook <input type="checkbox"/> Monofilament <input type="checkbox"/> Braided line <input type="checkbox"/> Other <b>Number of wraps around body part:</b> , <b>location:</b> <sup>1</sup> (use anatomic codes) Additional areas: <sup>2</sup> , <sup>3</sup> , <sup>4</sup> , <sup>5</sup> (Example: <u>4</u> , <u>R</u> )		<input type="checkbox"/> Material removed prior to necropsy <b>Ligature injury:</b> (additional comment under 25c) <input type="checkbox"/> Ligature – mild, non-penetrating <input type="checkbox"/> Ligature – skin incised/ulcerated <input type="checkbox"/> Ligature – full thickness (deep tissue/bone exposed) <input type="checkbox"/> Ligature – partially/completely healed
<b>T/HI-Material collected*:</b> <input type="checkbox"/> <b>Disposition of material:</b> <b>Gear description (color, shape, size):</b> <b>Gear identification information:</b>		

<b>26a. External anomalies-Type:</b> (check all that apply and diagram in 25c) <b>Enter anatomic codes in blanks:</b> (Example: <input checked="" type="checkbox"/> Ulcers(16) <u>Y</u> ) <input type="checkbox"/> Fibropapillomas/Papillomas(15) <input type="checkbox"/> Ulcers(16) <input type="checkbox"/> Crust/exudate(17) <input type="checkbox"/> Masses (non-FP or uncertain)(18) <input type="checkbox"/> Other(19) describe under 26c <input type="checkbox"/> <b>PHOTOGRAPHS TAKEN</b>	<b>26b. Other anomalies-Description:</b> (check all that apply) <b>Extent of observation:</b> (Refer to Pap Map for FP turtles) <b>Enter 26a. + anatomic codes:</b> (Example: <input checked="" type="checkbox"/> 10-25% affected <u>16Y</u> ) <input type="checkbox"/> <5% surface affected <input type="checkbox"/> 10-25% affected <input type="checkbox"/> >25-50% affected <input type="checkbox"/> >50% affected <input type="checkbox"/> Visual field involved <input type="checkbox"/> Both eyes <input type="checkbox"/> Mouth obstructed <input type="checkbox"/> Cloaca obstructed
<b>26c. Anomalies-Comments</b> (cont. pg 4):	

## INTERNAL EXAMINATION (comments extended to page 4 – optional)

<b>NUTRITIONAL CONDITION - INTERNAL</b>	
<b>27. Muscle status:</b> <input type="checkbox"/> Well-muscled/No atrophy <input type="checkbox"/> Mild to moderate atrophy <input type="checkbox"/> Severe atrophy	
<b>28. Fat status:</b> <input type="checkbox"/> Abundant/No atrophy <input type="checkbox"/> Mild to moderate atrophy <input type="checkbox"/> Severe atrophy	<input type="checkbox"/> <b>PHOTOGRAPHS TAKEN</b>
<b>29a. MUSCULOSKELETAL (internal) –</b> <input type="checkbox"/> EXAMINED <b>29b. Joint Fluid:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Cloudy/solid material <input type="checkbox"/> Blood-tinged	
<b>29c. Skeletal Findings:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Fractures <input type="checkbox"/> Dislocation <input type="checkbox"/> Avulsions <input type="checkbox"/> Deformities <input type="checkbox"/> Other (note location(s) in comments)	
<b>29d. Musculature findings:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Trauma <input type="checkbox"/> Hemorrhage <input type="checkbox"/> Pallor <input type="checkbox"/> Necrosis <input type="checkbox"/> Other	
<b>29e. MUSCULOSKELETAL-Findings/Comments:</b>	

<b>30a. COELOMIC CAVITY –</b> <input type="checkbox"/> EXAMINED	<b>30b. Coelomic Fluid Volume:</b> ml <b>30c.</b> <input type="checkbox"/> actual <input type="checkbox"/> est.
<b>30d. Coelomic Fluid:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Cloudy/solid material <input type="checkbox"/> Blood-tinged <input type="checkbox"/> Blood clots <input type="checkbox"/> Fibrin <input type="checkbox"/> Other	
<b>30e. Coelomic Lining:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Masses (<2mm) <input type="checkbox"/> Masses (>2mm) <input type="checkbox"/> Hemorrhage <input type="checkbox"/> Adhesions <input type="checkbox"/> Other	
<b>30f. COELOMIC CAVITY-Findings/Comments:</b>	

<b>31a. CARDIOVASCULAR SYSTEM (heart/major vessels) –</b> <input type="checkbox"/> EXAMINED	<b>31b. Blood in Heart chambers:</b> <input type="checkbox"/>
<b>31c. Pericardial Fluid:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Cloudy/solid material <input type="checkbox"/> Blood-tinged <input type="checkbox"/> Blood clots <input type="checkbox"/> Fibrin <input type="checkbox"/> Other	
<b>31d. CV Findings:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Trauma <input type="checkbox"/> Endocarditis/arteritis <input type="checkbox"/> Blood clot(s) <input type="checkbox"/> Vessels thickened <input type="checkbox"/> Adhesions <input type="checkbox"/> Other	
<b>31e. CV-Findings/Comments:</b>	

<b>32a. HEPATOBILIARY SYSTEM (liver and gall bladder) –</b> <input type="checkbox"/> EXAMINED
<b>32b. Liver Findings:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Pallor <input type="checkbox"/> Atrophy (shrunken, black) <input type="checkbox"/> Trauma <input type="checkbox"/> Masses (<2mm) <input type="checkbox"/> Masses (>2mm) <input type="checkbox"/> Other
<b>32c. Biliary Findings:</b> <input type="checkbox"/> No findings <input type="checkbox"/> Gall bladder thickened <input type="checkbox"/> Bile ducts thickened <input type="checkbox"/> Ulcers <input type="checkbox"/> Exudate <input type="checkbox"/> Stones <input type="checkbox"/> Other
<b>32d. HB-Findings/Comments:</b>

**INTERNAL EXAMINATION (CONT.)**

ANATOMIC LOCATION CODES: Mouth(O) Esophagus(Es) Stomach(St) Small intestine(Si) Colon(Co) Cloaca(Cl)

**33a. ALIMENTARY SYSTEM –  EXAMINED**

**33b. GI-Findings:** (check all that apply) **Enter anatomic codes in blanks:** (Example:  Ulcers(20) Co.)

Ulcers(20)  Perforation (21)  Masses(22)  Impaction(23)  
 Obstruction(24)  Intussusception(25)  Plication(26)  Other(27)

**33c. GI-percentage of affected area:** **Enter 33b. + anatomic codes:** (Example:  >25-50 affected 20 Co.)

<5%  10-25%  >25-50%  >50%  N/A

**33d. GI-Foreign material:**  **If yes, complete 33k)**

**33e. Injury/lesion associated with foreign material:**  **If yes, give entry for 33b:** (Example: 21.St.)

GI-Contents(include & note any biotic impacted material):

**33f. Esophagus:**  Empty  Contents, describe:

**33g. Stomach:**  Empty  Contents, describe:

**33h. Small intestine:**  Empty  Contents, describe:

**33i. Colon:**  Empty  Contents, describe:

**33j. GI-Findings/Comments:**

**33k. GI-Foreign material - type:**

**PHOTOGRAPHS TAKEN**

Hook(29)  Line(30)  Hard plastic(31)  Plastic bag(33)  Misc soft plastic(33)  Balloon(34)  Tar(35)  Other(36)

Material/lesion location(s): (use anatomic codes)

Material collected\*:  Disposition of material:

Foreign material-Description of material & comments:

**34a. SPLEEN –  EXAMINED**

**34b. Spleen Findings:**  No findings  Trauma  Enlarged  Masses  Other

**34c. PANCREAS –  EXAMINED**

**34d. Pancreas Findings:**  No findings  Trauma  Masses  Congested  Other

**34e. SPLEEN/PANCREAS-Findings/Comments:**

**35a. UROGENITAL SYSTEM (kidneys, reproductive, urinary bladder) –  EXAMINED**

**35b. Kidneys Findings:**  No findings  Trauma  Enlarged  Asymmetrical  Masses  Other

**35c. Gonads identified as:**  Testes(complete 35d-f)  Ovaries(complete 35g-i)  Unknown (Indicate sex on Page 1, Field 15)

**35d. Testes-characterization:**  Cylindrical  Ellipsoidal  Flat **35e. Testes-size:** length x width (cm)

**35f. Epididymis-characterization:**  Not expanded from wall  Distinct ridge  Pendulous  Obvious white coils

**35g. Ovaries-characterization:**  All follicles <4mm  Developing follicles (4-24mm)  Corpus luteum (>7mm)  Corpus albicans

**35h. Ovary length:** (cm)

**35i. Oviduct-characterization:**  White, straight (<3mm diameter)  Partially convoluted (3-15mm diameter)

Very convoluted (>15mm diameter)  Contains eggs (>24mm) † Optional fields by state

**35j. UG-Findings/Comments:**

**36a. RESPIRATORY SYSTEM –  EXAMINED**

**36b. Foam/froth in trachea:**

**36c. If froth present:**  Anterior to bifurcation  Posterior to bifurcation **36d. Froth amount:**  Small  Moderate  Copious

**36e. Sand/sediment in trachea:**  **36f. Trachea/bronchi:**  No findings  Exudate  Masses  Ulceration  Other

**36g. Lungs Findings:**  No findings  Wet/frothy  Hemorrhage  Trauma  Exudate  
 Masses (<2mm)  Masses (>2mm)  Aspirated debris  Other

**36h. RESP-Findings/Comments:**

**INTERNAL EXAMINATION (CONT.)****37a. CENTRAL NERVOUS SYSTEM –  Brain EXAMINED****37b.  Spinal Cord EXAMINED****37c. Brain findings:**  No findings  Trauma  Hemorrhage  Necrosis  Exudate  Blood fluke eggs  Other**37d. Spinal cord findings:**  No findings  Trauma  Hemorrhage  Necrosis  Exudate  Blood fluke eggs  Other**37e. CNS-Findings/Comments:****38. Other Comments** (include any continuation from previous sections & label notes by data field number (e.g. 25c):

Specimen (label w/ ID#)	Fixed	Frozen-bagged	Frozen-Foil	Other (specify)	Location
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

**DISCLAIMER**

\*All fisheries gear should be submitted to Pascagoula (SE) or North Kingston (NE) NOAA laboratories for ID

APPENDIX B. UNITED STATES COAST GUARD MARINE SAFETY LABORATORY (USCG-MSL) SUBMISSIONS  
FOR SEA TURTLES REPORTED AS VISIBLY OILED BY IDENTIFICATION REFERENCE, SPECIES, STRAIGHT  
CARAPACE LENGTH (NUCHAL NOTCH TO PYGAL TIP), COLLECTION DATE, DEGREE OF OILING,  
DISPOSITION, USCG-MSL REPORT NUMBER, ANALYTICAL RESULTS<sup>5</sup>, AND LOCATION OF COLLECTION

Species designations are LK = Kemp's ridley, CC = loggerhead, CM = green turtle, and EI = hawksbill. Straight carapace lengths are measured or estimated (indicated by asterisk). Numerical scores of degree of oiling are as follows: (1) minimally oiled turtles in which oil was either limited to one region of the body or coverage was very light (thin smear or staining only); (2) lightly oiled turtles with a thin layer of oil lightly covering multiple parts of the body or focally distributed thicker aggregated oil; (3) moderately oiled turtles with heavier layers of oil covering multiple areas of the body, often accompanied by generalized brown staining; and (4) heavily oiled turtles with aggregates of thick, tenacious oil diffusely covering the body. Degree of oiling is listed as unknown (unk) if there was insufficient information available regarding the degree of oiling present at the time of discovery.

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<sup>5</sup> All findings herein related to petrochemical exposure should be considered preliminary pending completion of all analyses for the BPDWH/MC252 spill as determined by trustee agencies, law enforcement, and the Natural Resources Damage Assessment process.

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
Directed capture operations								
ALP2010080101	LK	23.0	8/1/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-1. Sample 11-119-1 is derived from the Deepwater Horizon oil spill.	N28 39 46.4 W89 31 08.1
ALP2010080201	CM	20.3	8/2/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-1. Sample 11-120-1 is derived from the Deepwater Horizon oil spill.	N28 36 27.2 W89 28 34.4
ALP2010080202	CM	18.6	8/2/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-2. Sample 11-120-2 is derived from the Deepwater Horizon oil spill.	N28 36 20.1 W89 27 54.2
ALP2010080203	CM	21.7	8/2/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-3. Sample 11-120-3 is derived from the Deepwater Horizon oil spill.	N28 36 00.4 W89 42 58.8
ALP2010080206	CM	20.0	8/2/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-4. Sample 11-120-4 is derived from the Deepwater Horizon oil spill.	N28 40 37.4 W89 42 03.4
ALP2010080207	CM	20.6	8/2/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-5. Sample 11-120-5 is derived from the Deepwater Horizon oil spill.	N28 40 40.7 W89 42 40.0
ALP2010080801	EI	17.6	8/8/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-1. Sample 11-128-1 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 38 12.0 W89 24 02.6
ALP2010080802	LK	24.3	8/8/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-2. Sample 11-128-2 is derived from the Deepwater Horizon oil spill.	N28 36 20.6 W89 21 35.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
ALP2010080803	EI	20.7	8/8/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-3. Sample 11-128-3 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 33 52.9 W89 19 24.1
AMC2010072801	LK	24.9	7/28/10	2	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-2. Sample 11-119-2 is derived from the Deepwater Horizon oil spill.	N28 51 36.1 W88 56 30.0
AMC2010072803	LK	21.6	7/28/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-3. Sample 11-119-3 is derived from the Deepwater Horizon oil spill.	N28 47 28.4 W88 57 21.6
AMC2010072804	EI	20.8	7/28/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-4. Sample 11-119-4 is derived from the Deepwater Horizon oil spill.	N28 43 57.9 W89 01 49.5
AMC2010072805	CM	18.0	7/28/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-5. Sample 11-119-5 is derived from the Deepwater Horizon oil spill.	N28 43 37.9 W89 02 22.8
AMC2010080103	CM	18.6	8/1/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-6. Sample 11-119-6 is derived from the Deepwater Horizon oil spill.	N28 35 52.0 W89 31 57.8
AMC2010080302	CM	21.1	8/3/10	2	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-1. Sample 11-118-1 is derived from the Deepwater Horizon oil spill.	N28 49 25.9 W89 38 25.1
AMC2010080304	EI	19.9	8/3/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-6. Sample 11-120-6 is derived from the Deepwater Horizon oil spill.	N28 49 02.1 W89 38 37.5

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMC2010080305	CM	21.5	8/3/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-7. Sample 11-120-7 is derived from the Deepwater Horizon oil spill.	N28 48 57.3 W89 38 49.8
AMC2010080307	LK	20.3	8/3/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-8. Sample 11-120-8 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 48 52.7 W89 39 51.4
AMC2010080310	CM	20.6	8/3/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-9. Sample 11-120-9 is derived from the Deepwater Horizon oil spill.	N28 49 24.3 W89 43 48.3
AMC2010080510	CM	26.1	8/5/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-1. Sample 11-117-1 contains traces of slightly too moderately degraded crude oil. While there are sufficient similarities to conclude this sample is related to the Deepwater Horizon oil spill through a common source of petroleum oil, there are small differences that are not attributable to the noted weathering. The results of the comparison are inconclusive.	N28 50 34.5 W88 48 05.2
AMC2010080601	CM	19.7	8/6/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-4. Sample 11-128-4 is derived from the Deepwater Horizon oil spill.	N28 41 07.4 W88 18 03.7
AMF2010072801	CC	19.9	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-1. Sample 11-103-1 is derived from the Deepwater Horizon oil spill.	N29 43 15.1 W86 32 06.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010072802	LK	23.6	7/28/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-2. Sample 11-103-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 43 56.2 W86 32 32.2
AMF2010072803	CM	23.6	7/28/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-3. Sample 11-103-3 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 47 43.3 W86 35 47.9
AMF2010072804	CM	31.4	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-4. Sample 11-103-4 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 48 03.8 W86 36 39.0
AMF2010072805	CM	21.1	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-5. Sample 11-103-5 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 48 45.5 W86 37 50.5
AMF2010072806	CM	22.6	7/28/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-6. Sample 11-103-6 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 49 11.8 W86 38 33.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010072807	CM	20.4	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-7. Sample 11-103-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 49 17.2 W86 38 44.8
AMF2010072808	CM	19.6	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-8. Sample 11-103-8 is derived from the Deepwater Horizon oil spill.	N29 49 55.8 W86 39 40.6
AMF2010072809	CM	21.6	7/28/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-9. Sample 11-103-9 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 50 15.2 W86 39 56.8
AMF2010072810	LK	21.9	7/28/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-10. Sample 11-103-10 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 51 42.7 W86 41 04.2
AMF2010072811	CM	21.6	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-11. Sample 11-103-11 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 52 30.8 W86 41 22.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010072813	CM	21.8	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-12. Sample 11-103-12 is derived from the Deepwater Horizon oil spill.	N29 56 23.6 W86 42 40.2
AMF2010072815	CM	21.0	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-13. Sample 11-103-13 is derived from the Deepwater Horizon oil spill.	N29 56 50.0 W86 42 41.9
AMF2010072901	CM	19.4	7/29/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-1. Sample 11-102-1 contains moderately degraded crude oil. This sample is not useful for conclusive comparison purposes based on the analysis conducted due to the combination of limited petroleum oil and significant non-petroleum contamination.	N29 52 19.4 W86 40 03.0
AMF2010072902	CM	20.0	7/29/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-2. Sample 11-102-2 is derived from the Deepwater Horizon oil spill.	N29 52 53.3 W86 40 24.3
AMF2010072903	CM	22.5	7/29/10	1	Released upon capture	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-3. Sample 11-102-3 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 55 51.5 W86 40 48.0
AMF2010072904	CM	20.5	7/29/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-4. Sample 11-102-4 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 51 45.9 W86 40 25.4

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010072905	LK	20.0	7/29/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-5. Sample 11-102-5 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 53 16.3 W86 40 18.8
AMF2010073001	LK	21.9	7/30/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-2. Sample 11-142-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 43 49.9 W86 22 51.3
AMF2010073002	LK	22.6	7/30/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-1. Sample 11-089-1 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 55 10.2 W86 22 53.1
AMF2010073101	LK	22.5	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-1. Sample 11-088-1 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 26 34.1 W87 04 08.3
AMF2010073102	CM	19.7	7/31/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-2. Sample 11-088-2 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 32 18.2 W87 06 35.4

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010073103	CM	21.2	7/31/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-3. Sample 11-088-3 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 32 31.6 W87 06 40.6
AMF2010073104	CM	22.3	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-4. Sample 11-088-4 is derived from the Deepwater Horizon oil spill.	N29 34 13.1 W87 07 24.5
AMF2010073105	LK	23.6	7/31/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-5. Sample 11-088-5 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 35 34.8 W87 08 10.9
AMF2010073106	CM	19.9	7/31/10	2	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-6. Sample 11-088-6 is derived from the Deepwater Horizon oil spill.	N29 37 00.5 W87 09 04.4
AMF2010073107	LK	25.0	7/31/10	2	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-7. Sample 11-088-7 is derived from the Deepwater Horizon oil spill.	N29 40 13.0 W87 11 01.7
AMF2010073108	CM	20.0	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-8. Sample 11-088-8 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 23.1 W87 12 23.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010073109	LK	22.6	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-9. Sample 11-088-9 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 42.1 W87 12 34.7
AMF2010073110	LK	18.6	7/31/10	2	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-10. Sample 11-088-10 is derived from the Deepwater Horizon oil spill.	N29 43 25.8 W87 13 00.9
AMF2010073111	LK	21.7	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-11. Sample 11-088-11 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 43 43.2 W87 13 09.5
AMF2010073112	LK	23.4	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-12. Sample 11-088-12 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 44 21.9 W87 13 43.1
AMF2010073113	LK	25.0	7/31/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-13. Sample 11-088-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 44 59.9 W87 14 19.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080101	LK	22.9	8/1/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-3. Sample 11-142-3 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 26 22.7 W86 23 59.8
AMF2010080102	LK	23.4	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-1. Sample 11-090-1 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 26 14.0 W86 23 56.4
AMF2010080103	CM	23.5	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-2. Sample 11-090-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 25 49.0 W86 23 44.5
AMF2010080104	CC	20.0	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-3. Sample 11-090-3 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 25 48.4 W86 22 51.7
AMF2010080105	CM	22.2	8/1/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-4. Sample 11-142-4 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 25 33.1 W86 22 55.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080106	CM	22.5	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-4. Sample 11-090-4 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 25 35.5 W86 22 52.2
AMF2010080107	LK	24.5	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-5. Sample 11-090-5 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 24 06.1 W86 20 22.4
AMF2010080108	LK	22.9	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-6. Sample 11-090-6 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 24 01.2 W86 20 24.7
AMF2010080110	LK	21.7	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-7. Sample 11-090-7 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 54 45.8 W86 28 39.6
AMF2010080111	LK	22.6	8/1/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-5. Sample 11-142-5 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 57 25.9 W86 30 20.7

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080112	LK	24.2	8/1/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-6. Sample 11-142-6 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 58 32.2 W86 30 52.0
AMF2010080113	LK	22.8	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-8. Sample 11-090-8 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 59 39.1 W86 31 18.1
AMF2010080114	LK	21.6	8/1/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-7. Sample 11-142-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 59 55.2 W86 31 20.2
AMF2010080201	CM	26.1	8/2/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-6. Sample 11-102-6 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 28.1 W87 04 25.7
AMF2010080202	LK	23.0	8/2/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-7. Sample 11-102-7 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 32 27.6 W87 01 55.5

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080203	CM	22.8	8/2/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-8. Sample 11-102-8 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 31 47.8 W87 01 39.9
AMF2010080301	LK	22.7	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-1. Sample 11-101-1 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 17 04.8 W86 13 00.2
AMF2010080302	LK	22.7	8/3/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-2. Sample 11-101-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 44.4 W86 30 59.8
AMF2010080303	CM	21.1	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-3. Sample 11-101-3 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 37.2 W86 30 58.6
AMF2010080304	LK	24.3	8/3/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-4. Sample 11-101-4 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 58.4 W86 30 47.8
AMF2010080305	LK	22.1	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-5. Sample 11-101-5 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 08.4 W86 28 59.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080306	CM	20.4	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-6. Sample 11-101-6 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 06.4 W86 28 54.1
AMF2010080307	LK	23.8	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-7. Sample 11-101-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 35 04.3 W86 28 39.7
AMF2010080308	CM	22.0	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-8. Sample 11-101-8 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 49.7 W86 27 44.8
AMF2010080309	LK	22.1	8/3/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-9. Sample 11-101-9 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 38 26.6 W86 30 01.2
AMF2010080310	CM	19.7	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-10. Sample 11-101-10 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 38 27.6 W86 30 15.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080311	LK	25.6	8/3/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-11. Sample 11-101-11 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 40 16.2 W86 29 53.4
AMF2010080313	LK	24.2	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-12. Sample 11-101-12 is derived from the Deepwater Horizon oil spill.	N29 47 47.9 W86 04 57.4
AMF2010080314	LK	22.6	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-13. Sample 11-101-13 is derived from the Deepwater Horizon oil spill.	N29 56 16.3 W86 16 56.5
AMF2010080315	CM	21.8	8/3/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-14. Sample 11-101-14 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 55 34.4 W86 11 51.6
AMF2010080316	LK	22.5	8/3/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-15. Sample 11-101-15 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 55 41.9 W86 11 40.3
AMF2010080401	CM	21.1	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-1. Sample 11-091-1 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 52 49.9 W86 08 33.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080402	LK	21.9	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-2. Sample 11-091-2 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 54 08.1 W86 06 27.4
AMF2010080404	CM	22.8	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-091-3 (mouth sample) and 11-091-4 (external sample). Sample 11-091-3 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present. Sample 11-091-4 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 48 24.2 W86 08 13.5
AMF2010080405	LK	19.8	8/4/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-5. Sample 11-091-5 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 48 22.6 W86 08 44.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080406	CM	22.1	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-091-6 (mouth sample) and 11-091-7 (external sample). Sample 11-091-6 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample. Sample 11-091-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 48 43.8 W86 08 38.9
AMF2010080407	LK	22.8	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-091-8 (mouth sample) and 11-091-9 (external sample). Samples 11-091-8 and 11-091-9 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 47 03.0 W86 08 48.3
AMF2010080408	LK	23.2	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-091-10 (mouth sample) and 11-091-11 (external sample). Samples 11-091-10 and 11-091-11 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 47 14.1 W86 09 03.7
AMF2010080409	LK	23.3	8/4/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-1. Sample 11-092-1 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 47 02.0 W86 08 55.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080410	CM	19.0	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-091-12 and 11-091-13. Samples 11-091-12 and 11-091-13 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 47 00.8 W86 08 45.8
AMF2010080411	LK	22.5	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-2. Sample 11-092-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 46 49.4 W86 08 31.1
AMF2010080412	LK	24.1	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-3. Sample 11-092-3 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 46 40.4 W86 08 01.2
AMF2010080413	CM	19.2	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-4. Sample 11-092-4 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 46 42.0 W86 08 00.7
AMF2010080414	CM	21.4	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-5. Sample 11-092-5 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 46 18.6 W86 07 26.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AMF2010080415	LK	20.7	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-6. Sample 11-092-6 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 32 26.2 W86 20 00.6
AMF2010080416	LK	23.8	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-7. Sample 11-092-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 32 12.9 W86 20 50.7
AMF2010080417	CM	21.8	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-8. Sample 11-092-8 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 31 44.6 W86 21 42.4
AMF2010080418	CM	21.6	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-9. Sample 11-092-9 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 31 43.6 W86 22 09.6
AMF2010080419	CC	18.6	8/4/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-10. Sample 11-092-10 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 31 44.2 W86 23 46.7

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
AWH2010072201	LK	20.2	7/22/10	3	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-14. Sample 11-088-14 is derived from the Deepwater Horizon oil spill.	N29 37 13.5 W88 02 06.8
AWH2010072202	LK	23.8	7/22/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-15. Sample 11-088-15 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 34 48.3 W87 38 11.1
AWH2010072203	LK	22.8	7/22/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-16. Sample 11-088-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 41.6 W87 37 46.1
AWH2010072204	LK	22.6	7/22/10	1	Released upon capture	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-17. Sample 11-088-17 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 33.0 W87 36 07.2
AWH2010072205	LK	21.1	7/22/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-18. Sample 11-088-18 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 34 35.3 W87 35 51.3
BAS2010053101	LK	20.5	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-2. Sample 11-117-2 is derived from the Deepwater Horizon oil spill.	N28 57 34.7 W88 32 30.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010053102	LK	19.2	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-3. Sample 11-117-3 is derived from the Deepwater Horizon oil spill.	N28 55 05.6 W88 33 18.5
BAS2010053103	LK	19.8	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-4. Sample 11-117-4 is derived from the Deepwater Horizon oil spill.	N28 51 53.8 W88 33 56.8
BAS2010053104	LK	18.3	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-5. Sample 11-117-5 is derived from the Deepwater Horizon oil spill.	N28 51 13.5 W88 33 41.9
BAS2010053105	LK	18.4	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-6. Sample 11-117-6 is derived from the Deepwater Horizon oil spill.	N28 50 49.3 W88 33 31.9
BAS2010053106	LK	20.1	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-7. Sample 11-117-7 is derived from the Deepwater Horizon oil spill.	N28 50 25.6 W88 33 20.6
BAS2010053107	CM	17.5	5/31/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-8. Sample 11-117-8 is derived from the Deepwater Horizon oil spill.	N28 50 32.4 W88 33 27.8
BAS2010060101	LK	21.7	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-1. Sample 11-104-1 is derived from the Deepwater Horizon oil spill.	N28 48 16.2 W88 28 37.6
BAS2010060102	LK	18.8	6/1/10	4	Rehabilitation, died	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-4. Sample 11-128-4 is derived from the Deepwater Horizon oil spill.	N28 48 16.2 W88 28 37.6
BAS2010060103	LK	21.7	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-2. Sample 11-104-2 is derived from the Deepwater Horizon oil spill.	N28 48 26.1 W88 28 41.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010060104	LK	23.4	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-3. Sample 11-104-3 is derived from the Deepwater Horizon oil spill.	N28 48 48.5 W88 28 49.4
BAS2010060105	LK	20.1	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-4. Sample 11-104-4 is derived from the Deepwater Horizon oil spill.	N28 48 55.3 W88 28 45.3
BAS2010060106	LK	19.6	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-5. Sample 11-104-5 is derived from the Deepwater Horizon oil spill.	N28 49 00.1 W88 28 40.9
BAS2010060107	CC	18	6/1/10	3	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-6. Sample 11-104-6 is derived from the Deepwater Horizon oil spill.	N28 49 41.1 W88 28 16.1
BAS2010060108	EI	17.5	6/1/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-7. Sample 11-104-7 is derived from the Deepwater Horizon oil spill.	N28 49 46.6 W88 28 16.5
BAS2010060109	LK	19.5	6/1/10	4	Rehabilitation, died	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-6. Sample 11-128-6 is derived from the Deepwater Horizon oil spill.	N28 49 36.7 W88 27 53.8
BAS2010060110	LK	19.4	6/1/10	4	Rehabilitation, died	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-7. Sample 11-128-7 is derived from the Deepwater Horizon oil spill.	N28 50 03.5 W88 25 28.4
BAS2010060601	EI	14.3	6/6/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-8. Sample 11-104-8 is derived from the Deepwater Horizon oil spill.	N29 00 36.9 W88 15 49.3
BAS2010060602	LK	19.5	6/6/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-9. Sample 11-104-9 is derived from the Deepwater Horizon oil spill.	N29 00 36.9 W88 15 49.3

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010060603	LK	21.4	6/6/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-10. Sample 11-104-10 is derived from the Deepwater Horizon oil spill.	N29 00 36.9 W88 15 49.3
BAS2010060604	LK	19.6	6/6/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-11. Sample 11-104-11 is derived from the Deepwater Horizon oil spill.	N29 01 32.5 W88 15 21.1
BAS2010060605	LK	21.4	6/6/10	4	Found dead at sea	11-136	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-136-1. Sample 11-136-1 is derived from the Deepwater Horizon oil spill.	N29 09 42.7 W88 10 01.7
BAS2010061001	LK	19.2	6/10/10	4	Found dead at sea	11-136	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-136-3. Sample 11-136-3 is derived from the Deepwater Horizon oil spill.	N28 45 13.7 W88 51 21.7
BAS2010061002	LK	21	6/10/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-12. Sample 11-104-12 is derived from the Deepwater Horizon oil spill.	N28 45 04.1 W88 50 55.5
BAS2010061003	LK	17.2	6/10/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-13. Sample 11-104-13 is derived from the Deepwater Horizon oil spill.	N28 37 21.1 W88 33 24.7
BAS2010061004	LK	20.5	6/10/10	3	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-14. Sample 11-104-14 is derived from the Deepwater Horizon oil spill.	N28 45 50.3 W88 49 29.3
BAS2010061201	LK	20.1	6/12/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-15. Sample 11-104-15 is derived from the Deepwater Horizon oil spill.	N28 42 04.1 W88 32 23.2
BAS2010061202	LK	17.5	6/12/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-16. Sample 11-104-16 is derived from the Deepwater Horizon oil spill.	N28 40 10.8 W88 29 31.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010061203	LK	21	6/12/10	3	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-17. Sample 11-104-17 is derived from the Deepwater Horizon oil spill.	N28 54 43.5 W88 41 14.9
BAS2010061301	LK	16.3	6/13/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-1. Sample 11-116-1 is derived from the Deepwater Horizon oil spill.	N28 55 15.9 W88 47 56.8
BAS2010061302	LK	20.8	6/13/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-2. Sample 11-116-2 is derived from the Deepwater Horizon oil spill.	N28 55 15.4 W88 47 53.6
BAS2010061303	LK	21.3	6/13/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-3. Sample 11-116-3 is derived from the Deepwater Horizon oil spill.	N28 55 44.1 W88 46 23.6
BAS2010061304	LK	20.4	6/13/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-4. Sample 11-116-4 is derived from the Deepwater Horizon oil spill.	N28 55 40.8 W88 46 12.4
BAS2010061305	LK	22.1	6/13/10	1	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-5. Sample 11-116-5 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 55 32.1 W88 44 31.7
BAS2010061306	LK	18	6/13/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-6. Sample 11-116-6 is derived from the Deepwater Horizon oil spill.	N28 56 21.0 W88 42 50.5
BAS2010061307	LK	18.8	6/13/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-7. Sample 11-116-7 is derived from the Deepwater Horizon oil spill.	N28 56 50.6 W88 42 01.9
BAS2010061308	LK	19.6	6/13/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-8. Sample 11-116-8 is derived from the Deepwater Horizon oil spill.	N28 57 53.7 W88 40 39.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010061309	CM	31.7	6/13/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-9. Sample 11-116-9 is derived from the Deepwater Horizon oil spill.	N28 58 48.1 W88 39 20.4
BAS2010061310	LK	18.8	6/13/10	4	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-10. Sample 11-116-10 is derived from the Deepwater Horizon oil spill.	N28 45 13.7 W88 51 21.7
BAS2010061311	LK	19.1	6/13/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-9. Sample 11-117-9 is derived from the Deepwater Horizon oil spill.	N28 45 13.7 W88 51 21.7
BAS2010061401	CC	15.7	6/14/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-11. Sample 11-116-11 is derived from the Deepwater Horizon oil spill.	N28 41 53.6 W88 47 38.5
BAS2010061402	LK	20	6/14/10	4	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-12. Sample 11-116-12 is derived from the Deepwater Horizon oil spill.	N28 37 25.0 W88 32 36.6
BAS2010061403	LK	18.3	6/14/10	4	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-13. Sample 11-116-13 is derived from the Deepwater Horizon oil spill.	N28 36 09.5 W88 29 44.5
BAS2010061404	LK	23.1	6/14/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-14. Sample 11-116-14 is derived from the Deepwater Horizon oil spill.	N28 35 50.4 W88 29 32.5
BAS2010061405	LK	19.1	6/14/10	4	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-15. Sample 11-116-15 is derived from the Deepwater Horizon oil spill.	N28 35 42.0 W88 29 25.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010061406	LK	22.5	6/14/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-16. Sample 11-116-16 contains traces of slightly to moderately degraded crude oil. While there are sufficient similarities to conclude this sample is related to the Deepwater Horizon oil spill through a common source of petroleum oil, there are small differences that are not attributable to the noted weathering. The results of the comparison are inconclusive.	N28 34 33.8 W88 29 44.6
BAS2010061407	LK	20.2	6/14/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-17. Sample 11-116-17 is derived from the Deepwater Horizon oil spill.	N28 34 21.8 W88 29 39.6
BAS2010061408	LK	18.3	6/14/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-18. Sample 11-116-18 contains traces of slightly to moderately degraded crude oil. While there are sufficient similarities to conclude this sample is related to the Deepwater Horizon oil spill through a common source of petroleum oil, there are small differences that are not attributable to the noted weathering. The results of the comparison are inconclusive.	N28 34 07.5 W88 29 39.0
BAS2010061409	LK	21.1	6/14/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-19. Sample 11-116-19 contains traces of slightly to moderately degraded crude oil. While there are sufficient similarities to conclude this sample is related to the Deepwater Horizon oil spill through a common source of petroleum oil, there are small differences that are not attributable to the noted weathering. The results of the comparison are inconclusive.	N28 31 46.4 W88 30 58.2
BAS2010061410	LK	20	6/14/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-20. Sample 11-116-20 is derived from the Deepwater Horizon oil spill.	N28 30 28.6 W88 32 39.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010061411	LK	22.9	6/14/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-21. Sample 11-116-21 is derived from the Deepwater Horizon oil spill.	N28 32 11.3 W88 36 12.2
BAS2010061501	LK	19.5	6/15/10	2	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-18. Sample 11-104-18 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 54 32.2 W88 43 38.1
BAS2010061502	CM	19.5	6/15/10	2	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-19. Sample 11-104-19 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 53 40.2 W88 43 20.0
BAS2010061503	LK	17.8	6/15/10	4	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-20. Sample 11-104-20 is derived from the Deepwater Horizon oil spill.	N28 41 17.2 W88 50 40.1
BAS2010061504	CM	19.0	6/15/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-22. Sample 11-116-22 is derived from the Deepwater Horizon oil spill.	N28 39 27.0 W88 52 13.5
BAS2010061505	CM	21.3	6/15/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-23. Sample 11-116-23 is derived from the Deepwater Horizon oil spill.	N28 39 06.4 W88 52 07.7
BAS2010061506	LK	19.0	6/15/10	2	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-24. Sample 11-116-24 is derived from the Deepwater Horizon oil spill.	N28 40 29.0 W88 53 11.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010061507	LK	21.0	6/15/10	3	Rehabilitation, released	11-116	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-116-25. Sample 11-116-25 contains traces of slightly to moderately degraded crude oil. While there are sufficient similarities to conclude this sample is related to the Deepwater Horizon oil spill through a common source of petroleum oil, there are small differences that are not attributable to the noted weathering. The results of the comparison are inconclusive.	N28 41 01.8 W88 53 20.5
BAS2010061601	CM	19.2	6/16/10	3	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-1. Sample 11-130-1 is derived from the Deepwater Horizon oil spill.	N28 40 59.9 W88 38 44.6
BAS2010061602	CM	17.3	6/16/10	3	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-2. Sample 11-130-2 is derived from the Deepwater Horizon oil spill.	N28 44 38.6 W88 15 12.6
BAS2010061603	CM	18.7	6/16/10	3	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-3. Sample 11-130-3 is derived from the Deepwater Horizon oil spill.	N28 45 49.3 W88 14 07.8
BAS2010061604	LK	19.8	6/16/10	2	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-4. Sample 11-130-4 is derived from the Deepwater Horizon oil spill.	N28 45 59.7 W88 14 04.9
BAS2010061605	LK	18.9	6/16/10	2	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-5. Sample 11-130-5 is derived from the Deepwater Horizon oil spill.	N28 46 55.7 W88 14 12.5
BAS2010061606	LK	18.2	6/16/10	4	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-1. Sample 11-131-1 is derived from the Deepwater Horizon oil spill.	N28 52 12.8 W88 30 16.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
BAS2010091606	EI	19.6	9/16/10	1	Released upon capture	11-160	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-160-3. Sample 11-160-3 contains traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 49 32.3 W89 14 05.6
BAS2010092001	CM	22.2	9/20/10	1	Released upon capture	11-160	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-160-1. Sample 11-160-1 contains a small amount of petroleum oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 43 37.0 W87 11 55.2
BAS2010092004	LK	23.6	9/20/10	1	Released upon capture	11-160	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-160-2. Sample 11-160-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 54 27.5 W87 10 06.3
BEW2010051801	LK	17.7	5/18/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-22. Sample 11-130-22 is derived from the Deepwater Horizon oil spill.	N28 27 59 W88 27 40
CMK2010082001	LK	26.3	8/20/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-142-8 (carapace) and 9 (mouth). Samples 11-142-8 and 9 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 01 38.0 W87 52 09.2
CMK2010082002	LK	23.3	8/20/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-10. Sample 11-142-10 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 02 34.1 W87 46 14.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010070901	CM	20.9	7/9/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-103-14 (external sample) and 11-103-15 (oral swab). Sample 11-103-14 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted. Sample 11-103-15 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 44 27.7 W86 41 10.1
CRB2010070902	LK	21.0	7/9/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-14. Sample 11-105-14 is derived from the Deepwater Horizon oil spill.	N29 47 52.8 W86 39 21.0
CRB2010070903	CM	21.4	7/9/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-15. Sample 11-105-15 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 49 07.0 W86 38 55.0
CRB2010070904	LK	21.8	7/9/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-16. Sample 11-105-16 is derived from the Deepwater Horizon oil spill.	N29 49 19.0 W86 38 59.0
CRB2010071001	LK	20.9	7/10/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-16. Sample 11-101-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 10 04.4 W86 39 26.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010071101	LK	22.2	7/11/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-17. Sample 11-101-17 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N30 04 52.5 W86 41 46.6
CRB2010071102	CM	22.1	7/11/10	1	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-18. Sample 11-101-18 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 03 03.1 W86 44 48.6
CRB2010071103	LK	21.2	7/11/10	2	Rehabilitation, released	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-19. Sample 11-101-19 is derived from the Deepwater Horizon oil spill.	N30 02 35.0 W86 45 15.7
CRB2010071104	LK	20.4	7/11/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-9. Sample 11-102-9 is derived from the Deepwater Horizon oil spill.	N30 00 35.0 W86 46 30.3
CRB2010071201	LK	20.2	7/12/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-19. Sample 11-088-19 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N30 22 48.6 W86 49 31.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010080501	CM	25.0	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-11. Sample 11-092-11 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 55 07.6 W86 32 38.6
CRB2010080503	LK	22.5	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-12. Sample 11-092-12 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 54 50.7 W86 33 04.4
CRB2010080504	CM	19.3	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-13. Sample 11-092-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 35 03.8 W86 31 11.2
CRB2010080505	LK	21.3	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-14. Sample 11-092-14 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 35 02.0 W86 30 18.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010080506	CM	20.6	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-15. Sample 11-092-15 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 35 08.4 W86 26 40.3
CRB2010080507	LK	22.5	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-16. Sample 11-092-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 51.9 W86 28 18.9
CRB2010080508	CC	21.2	8/5/10	2	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-17. Sample 11-092-17 is derived from the Deepwater Horizon oil spill.	N29 41 08.4 W86 30 23.4
CRB2010080601	CM	19.6	8/6/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-18. Sample 11-092-18 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 32 21.8 W86 21 09.4
CRB2010080701	LK	23.0	8/7/10	1	Released upon capture	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-10. Sample 11-102-10 is derived from the Deepwater Horizon oil spill.	N30 03 10.9 W86 13 41.8
CRB2010080702	LK	23.8	8/7/10	1	Released upon capture	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-11. Sample 11-102-11 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 42 15.0 W85 59 56.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010080703	CM	21.9	8/7/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-11. Sample 11-142-11 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 40 59.2 W86 00 11.1
CRB2010080801	LK	24.5	8/8/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-19. Sample 11-092-19 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 13.2 W86 12 28.7
CRB2010080802	CM	21.1	8/8/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-20. Sample 11-092-20 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 42 13.2 W86 12 28.7
CRB2010080803	LK	24.9	8/8/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-21. Sample 11-092-21 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 08.5 W86 12 04.6
CRB2010080804	LK	24.0	8/8/10	2	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-22. Sample 11-092-22 is derived from the Deepwater Horizon oil spill.	N29 42 12.4 W86 11 56.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010080805	CM	16.7	8/8/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-23. Sample 11-092-23 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 42 21.8 W86 11 45.5
CRB2010080806	CM	22.7	8/8/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-20. Sample 11-101-20 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 21.1 W86 11 41.9
CRB2010080809	CM	22.6	8/8/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-21. Sample 11-101-21 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 36 26.3 W86 07 55.6
CRB2010080811	CM	21.8	8/8/10	2	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-22. Sample 11-101-22 is derived from the Deepwater Horizon oil spill.	N29 36 49.9 W86 10 28.0
CRB2010081801	LK	26.2	8/18/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-23. Sample 11-101-23 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 17 45.3 W86 14 42.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRB2010081802	CM	22.1	8/18/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-24. Sample 11-101-24 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 17 39.6 W86 14 38.7
CRB2010081902	LK	24.2	8/19/10	1	Released upon capture	11-101	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-101-25. Sample 11-101-25 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 19 51.1 W86 15 23.4
CRM2010071801	CM	19.7	7/18/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-17. Sample 11-105-17 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 06 46.5 W86 59 15.8
CRM2010071802	LK	19.8	7/18/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-18. Sample 11-105-18 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 07 08.4 W86 59 18.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
CRM2010071803	LK	19.4	7/18/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-19. Sample 11-105-19 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 08 37.0 W86 59 19.0
CRM2010071804	CM	22.1	7/18/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-20. Sample 11-105-20 is derived from the Deepwater Horizon oil spill.	N30 09 01.7 W86 59 22.1
CRM2010071805	LK	22.4	7/18/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-21. Sample 11-105-21 is derived from the Deepwater Horizon oil spill.	N30 09 08.1 W86 59 20.8
CRM2010071806	LK	23.7	7/18/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-22. Sample 11-105-22 is derived from the Deepwater Horizon oil spill.	N30 23 01.6 W86 48 37.0
CXF2010071501	EI	19.8	7/15/10	Unk	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-2. Sample 11-131-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	Unk
CXF2010071503	CM	17.0	7/15/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-25. Sample 11-131-25 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	Unk

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DAB2010070801	LK	22.7	7/8/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-105-1 and 2. Samples 11-105-1 and 2 contain non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 46 46.8 W86 39 34.9
DAB2010070802	CM	18.3	7/8/10	2	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-12. Sample 11-142-12 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 45 44.3 W86 38 48.4
DAB2010070803	LK	20.5	7/8/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-105-3 and 4. Samples 11-105-3 and 4 were derived from the Deepwater Horizon oil spill.	N29 46 56.8 W86 39 42.4
DAB2010070804	LK	21.8	7/8/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-5 and 6. Sample 11-105-5 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample. Sample 11-105-6 is derived from the Deepwater Horizon oil spill.	N29 47 29.4 W86 40 07.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DAB2010070805	CM	18.2	7/8/10	2	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-7. Sample 11-105-7 is derived from the Deepwater Horizon oil spill.	N29 47 47.3 W86 40 23.4
DAB2010070806	LK	25.0	7/8/10	3	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-8. Sample 11-105-8 is derived from the Deepwater Horizon oil spill.	N29 47 26.3 W86 41 06.2
DAB2010070807	LK	18.6	7/8/10	3	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-9. Sample 11-105-9 is derived from the Deepwater Horizon oil spill.	N29 47 31.1 W86 41 04.2
DAB2010070808	LK	22.8	7/8/10	3	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-10. Sample 11-105-10 is derived from the Deepwater Horizon oil spill.	N29 46 08.0 W86 42 59.8
DEW2010072601	LK	18.3	7/26/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-20. Sample 11-088-20 is derived from the Deepwater Horizon oil spill.	N29 35 11.2 W87 38 38.0
DEW2010072602	LK	22.2	7/26/10	3	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-2. Sample 11-089-2 is derived from the Deepwater Horizon oil spill.	N29 34 17.4 W87 38 07.7
DEW2010072603	LK	20.7	7/26/10	3	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-21. Sample 11-088-21 is derived from the Deepwater Horizon oil spill.	N29 34 40.4 W87 39 15.3
DEW2010072604	CM	18.5	7/26/10	2	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-3. Sample 11-089-3 is derived from the Deepwater Horizon oil spill.	N29 35 15.0 W87 41 03.5
DEW2010072605	CM	20.3	7/26/10	3	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-4. Sample 11-089-4 is derived from the Deepwater Horizon oil spill.	N29 36 17.1 W87 48 46.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010072703	LK	22.5	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-16. Sample 11-103-16 is derived from the Deepwater Horizon oil spill.	N29 41 17.1 W87 06 50.3
DEW2010072704	LK	22.0	7/27/10	2	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-17. Sample 11-103-17 is derived from the Deepwater Horizon oil spill.	N29 23 17.6 W86 53 59.5
DEW2010072705	LK	23.3	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-18. Sample 11-103-18 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 23 28.3 W86 52 55.7
DEW2010072706	LK	22.6	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-19. Sample 11-103-19 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 26 24.8 W86 51 38.6
DEW2010072801	CM	16.8	7/28/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-12. Sample 11-102-12 is derived from the Deepwater Horizon oil spill.	N29 49 02.2 W87 58 00.1
DEW2010072802	EI	14.4	7/28/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-13. Sample 11-102-13 is derived from the Deepwater Horizon oil spill.	N29 41 17.5 W87 54 08.6
DEW2010072803	CM	22.2	7/28/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-14. Sample 11-102-14 is derived from the Deepwater Horizon oil spill.	N29 41 42.9 W87 54 24.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010072804	LK	27.2	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-15. Sample 11-102-15 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 42 00.4 W87 53 50.2
DEW2010072805	LK	22.4	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-16. Sample 11-102-16 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 41 46.6 W87 53 45.5
DEW2010072806	LK	24.8	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-17. Sample 11-102-17 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 43 15.0 W87 55 13.9
DEW2010072807	CM	18.5	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-18. Sample 11-102-18 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 49.7 W87 55 15.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010072808	LK	21.5	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-19. Sample 11-102-19 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 42 43.8 W87 55 13.7
DEW2010072809	LK	20.6	7/28/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-20. Sample 11-102-20 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 40 53.5 W87 54 26.9
DEW2010072810	LK	21.8	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-21. Sample 11-102-21 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 46 53.2 W87 55 39.6
DEW2010072811	LK	20.6	7/28/10	1	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-22. Sample 11-102-22 is derived from the Deepwater Horizon oil spill.	N29 42 35.3 W87 55 13.4
DEW2010072812	LK	22.4	7/28/10	2	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-23. Sample 11-102-23 is derived from the Deepwater Horizon oil spill.	N29 41 17.5 W87 54 26.2
DEW2010072813	CM	21.1	7/28/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-20. Sample 11-103-20 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 45 58.0 W87 56 00.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010072901	LK	22.3	7/29/10	3	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-24. Sample 11-102-24 is derived from the Deepwater Horizon oil spill.	N29 27 36.9 W87 46 13.1
DEW2010072903	CM	21.0	7/29/10	3	Rehabilitation, released	11-102	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-102-25. Sample 11-102-25 is derived from the Deepwater Horizon oil spill.	N29 21 58.6 W87 41 25.7
DEW2010073001	LK	21.6	7/30/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-5. Sample 11-089-5 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 46 20.4 W88 00 06.1
DEW2010073101	LK	21.7	7/31/10	2	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-22. Sample 11-088-22 is derived from the Deepwater Horizon oil spill.	N29 25 44.2 W86 52 44.5
DEW2010073105	CM	20.5	7/31/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-23. Sample 11-088-23 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 22 11.1 W86 55 53.0
DEW2010073106	LK	18.2	7/31/10	3	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-24. Sample 11-088-24 is derived from the Deepwater Horizon oil spill.	N29 28 49.1 W86 55 39.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080102	LK	19.8	8/1/10	1	Released upon capture	11-229	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-229-1. Sample 11-229-1 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze are most consistent with biologically-derived material.	N29 49 10.5 W87 12 09.6
DEW2010080103	LK	25.0	8/1/10	1	Released upon capture	11-229	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-229-2. Sample 11-229-2 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze are most consistent with biologically-derived material.	N29 49 17.5 W87 12 08.6
DEW2010080106	CM	21.3	8/1/10	2	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-9. Sample 11-090-9 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 47 34.5 W87 13 20.3
DEW2010080107	LK	25.2	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-10. Sample 11-090-10 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 47 20.0 W87 14 32.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080108	CM	18.4	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-11. Sample 11-090-11 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 47 30.7 W87 13 59.3
DEW2010080110	CM	22.5	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-12. Sample 11-090-12 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 46 54.6 W87 14 59.1
DEW2010080112	CM	22.3	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-13. Sample 11-090-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 46 33.8 W87 15 16.7
DEW2010080113	CM	19.1	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-14. Sample 11-090-14 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 45 39.6 W87 15 37.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080114	LK	22.8	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-15. Sample 11-090-15 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 42 38.5 W87 13 41.8
DEW2010080115	LK	25.3	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-16. Sample 11-090-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 42 57.1 W87 13 32.6
DEW2010080116	LK	24.4	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-17. Sample 11-090-17 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 48 47.9 W87 10 57.7
DEW2010080118	CM	20.8	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-18. Sample 11-090-18 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 48 16.6 W87 08 11.7
DEW2010080119	LK	24.0	8/1/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-19. Sample 11-090-19 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 48 43.7 W87 11 33.7

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080121	CM	21.8	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-20. Sample 11-090-20 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 48 49.3 W87 11 02.0
DEW2010080122	CM	20.5	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-21. Sample 11-090-21 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 48 52.1 W87 10 54.2
DEW2010080123	LK	23.5	8/1/10	1	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-22. Sample 11-090-22 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 48 45.7 W87 11 13.8
DEW2010080124	LK	22.2	8/1/10	2	Rehabilitation, released	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-23. Sample 11-090-23 is derived from the Deepwater Horizon oil spill.	N29 48 43.1 W87 10 31.8
DEW2010080125	LK	21.1	8/1/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-14. Sample 11-091-14 is derived from the Deepwater Horizon oil spill.	N29 48 43.4 W87 11 34.1

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080301	LK	22.4	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-6. Sample 11-089-61 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 33 55.5 W87 36 55.4
DEW2010080302	LK	23.5	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-7. Sample 11-089-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 34 04.2 W87 37 03.7
DEW2010080303	LK	22.6	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-8. Sample 11-089-8 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 32 43.2 W87 37 09.2
DEW2010080304	LK	21.9	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-9. Sample 11-089-9 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 32 30.9 W87 36 20.2
DEW2010080305	LK	22.6	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-10. Sample 11-089-10 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 31 06.0 W87 36 19.7

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080306	CM	22.9	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-11. Sample 11-089-11 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 30 58.0 W87 36 18.3
DEW2010080308	LK	24.2	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-089-12 (oral swab) and 11-089-13 (external swab). Both samples contain non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 28 29.3 W87 33 34.4
DEW2010080310	LK	22.8	8/3/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-14. Sample 11-089-14 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 28 52.2 W87 34 15.8
DEW2010080311	LK	19.8	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-15. Sample 11-089-15 is derived from the Deepwater Horizon oil spill.	N29 30 31.1 W87 36 00.0
DEW2010080312	LK	24.3	8/3/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-16. Sample 11-089-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 28 48.6 W87 34 13.5

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080313	LK	22.4	8/3/10	2	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-17. Sample 11-089-17 is derived from the Deepwater Horizon oil spill.	N29 29 25.1 W87 31 35.8
DEW2010080314	CM	23.3	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-18. Sample 11-089-18 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 29 31.8 W87 34 58.3
DEW2010080315	CC	19.7	8/3/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-19. Sample 11-089-19 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 30 25.1 W87 35 57.1
DEW2010080316	CM	18.6	8/3/10	2	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-20. Sample 11-089-20 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 28 54.3 W87 34 21.3
DEW2010080317	LK	22.1	8/3/10	1	Rehabilitation, released	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-21. Sample 11-089-21 is derived from the Deepwater Horizon oil spill.	N29 30 03.6 W87 35 33.2
DEW2010080401	LK	21.0	8/4/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-15. Sample 11-091-15 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 22 09.9 W87 30 59.4

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080402	LK	22.2	8/4/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-16. Sample 11-091-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 26 23.5 W87 26 05.6
DEW2010080403	LK	20.9	8/4/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-17. Sample 11-091-17 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 26 33.0 W87 26 08.2
DEW2010080404	CM	20.2	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-18. Sample 11-091-18 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 26 13.3 W87 25 39.6
DEW2010080405	CM	20.0	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-19. Sample 11-091-19 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 26 15.1 W87 26 03.7
DEW2010080406	CM	19.1	8/4/10	1	Rehabilitation, released	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-20. Sample 11-091-20 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 26 12.6 W87 26 22.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DEW2010080407	CM	21.1	8/4/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-21. Sample 11-091-21 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 42 40.5 W87 22 10.1
DEW2010080501	LK	26.7	8/5/10	1	Released upon capture	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-24. Sample 11-092-24 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 50 06.8 W87 50 55.9
DEW2010080601	CM	21.5	8/6/10	1	Rehabilitation, released	11-092	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-092-25. Sample 11-092-25 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 51 40.0 W87 06 28.5
DRC2010062501	CM	29.7	6/25/10	2	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-18. Sample 11-142-18 is derived from the Deepwater Horizon oil spill.	N28 57 07.8 W88 22 25.8
DRC2010062601	LK	21.1	6/26/10	4	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-3. Sample 11-131-3 is derived from the Deepwater Horizon oil spill.	N29 00 27.6 W88 54 04.8
DRC2010062602	LK	20.8	6/26/10	4	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-4. Sample 11-131-4 is derived from the Deepwater Horizon oil spill.	N29 00 32.9 W88 52 48.6
DRC2010062603	CM	16.3	6/26/10	4	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-5. Sample 11-131-5 is derived from the Deepwater Horizon oil spill.	N29 03 09.5 W88 47 56.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
DRC2010062604	LK	19.9	6/26/10	3	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-6. Sample 11-131-6 is derived from the Deepwater Horizon oil spill.	N29 07 50.4 W88 45 52.9
DRC2010062701	LK	19.3	6/27/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-6. Sample 11-130-6 is derived from the Deepwater Horizon oil spill.	N28 58 45.2 W89 03 43.5
DRC2010062702	LK	20.8	6/27/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-7. Sample 11-130-7 is derived from the Deepwater Horizon oil spill.	N28 59 07.6 W89 03 28.1
DRC2010062703	CC	16.4	6/27/10	2	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-8. Sample 11-130-8 is derived from the Deepwater Horizon oil spill.	N28 59 20.9 W89 03 27.8
DRC2010062704	CC	18.9	6/27/10	3	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-9. Sample 11-130-9 is derived from the Deepwater Horizon oil spill.	N28 59 35.3 W89 03 23.3
DRC2010062705	LK	22.4	6/27/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-10. Sample 11-130-10 is derived from the Deepwater Horizon oil spill.	N28 59 38.8 W89 03 21.0
DRC2010062706	CC	17.2	6/27/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-11. Sample 11-130-11 is derived from the Deepwater Horizon oil spill.	N28 59 39.8 W89 03 20.5
DRC2010062707	LK	19.6	6/27/10	2	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-12. Sample 11-130-12 is derived from the Deepwater Horizon oil spill.	N28 01 09.6 W88 56 40.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
GAK2010080101	LK	22.6	8/1/10	1	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-7. Sample 11-119-7 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 38 28.4 W89 27 39.5
GAK2010080102	LK	21.2	8/1/10	2	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-8. Sample 11-119-8 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 37 34.1 W89 27 20.7
GAK2010080103	LK	23.1	8/1/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-9. Sample 11-119-9 is derived from the Deepwater Horizon oil spill.	N28 36 53.8 W89 27 02.4
GAK2010080105	CM	21.8	8/1/10	2	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-10. Sample 11-119-10 is derived from the Deepwater Horizon oil spill.	N28 35 47.8 W89 32 15.9
JHW2010071901	LK	20.6	7/19/10	4	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-10. Sample 11-120-10 is derived from the Deepwater Horizon oil spill.	N28 43 14.7 W88 57 13.9
JHW2010071902	LK	21.2	7/19/10	4	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-11. Sample 11-120-11 is derived from the Deepwater Horizon oil spill.	N28 43 24.3 W88 57 33.6
JHW2010071903	LK	20.4	7/19/10	4	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-12. Sample 11-120-12 is derived from the Deepwater Horizon oil spill.	N28 48 36.2 W88 55 57.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JHW2010071904	LK	22.3	7/19/10	4	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-120-13 and 14. Sample 11-120-13 is derived from the Deepwater Horizon oil spill. Sample 11-120-14 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 48 53.1 W88 55 55.3
JHW2010072701	CM	20.7	7/27/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-11. Sample 11-119-11 is derived from the Deepwater Horizon oil spill.	N28 49 22.2 W89 09 56.5
JHW2010072702	LK	21.0	7/27/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-12. Sample 11-119-12 is derived from the Deepwater Horizon oil spill.	N28 50 46.5 W89 09 27.6
JHW2010072703	LK	21.3	7/27/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-13. Sample 11-119-13 is derived from the Deepwater Horizon oil spill.	N28 51 54.9 W89 09 46.8
JNW2010070801	LK	20.8	7/8/10	1	Rehabilitation, released	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-105-11 and 12. Samples 11-105-11 and 12 contain traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N29 45 58.8 W86 41 49.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JNW2010070802	LK	20.6	7/8/10	1	Released upon capture	11-105	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-105-13. Sample 11-105-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 47 02.9 W86 39 49.7
JRC2010080301	CM	22.5	8/3/10	2	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-10. Sample 11-117-10 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 49 12.5 W89 39 10.0
JRC2010080302	CM	21.4	8/3/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-11. Sample 11-117-11 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 48 52.8 W89 40 27.9
JRC2010080303	CM	15.3	8/3/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-15. Sample 11-120-15 is derived from the Deepwater Horizon oil spill.	N28 48 51.9 W89 40 29.0
JRC2010080304	LK	22.3	8/3/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-16. Sample 11-120-16 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 48 46.9 W89 41 07.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRC2010080305	CM	19.4	8/3/10	1	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-12. Sample 11-117-12 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 49 40.5 W89 45 03.8
JRC2010080401	LK	24.9	8/4/10	2	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-13. Sample 11-117-13 is derived from the Deepwater Horizon oil spill.	N28 53 42.6 W89 40 39.1
JRC2010080402	LK	18.0	8/4/10	2	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-14. Sample 11-117-14 is derived from the Deepwater Horizon oil spill.	N28 52 43.5 W89 40 19.9
JRC2010080403	LK	22.3	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-15. Sample 11-117-15 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 52 25.3 W89 40 16.5
JRC2010080404	EI	21.5	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-16. Sample 11-117-16 is derived from the Deepwater Horizon oil spill.	N28 51 16.0 W89 39 35.8
JRC2010080405	CM	21.5	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-17. Sample 11-117-17 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 48 32.1 W89 35 58.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRC2010080406	EI	20.4	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-18. Sample 11-117-18 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 47 50.4 W89 34 51.0
JRC2010080409	CM	20.7	8/4/10	2	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-20. Sample 11-117-20 is derived from the Deepwater Horizon oil spill.	N28 46 51.8 W89 33 33.9
JRC2010080410	CM	22.0	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-21. Sample 11-117-21 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 46 42.4 W89 33 59.2
JRC2010080411	CM	20.7	8/4/10	1	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-22. Sample 11-117-22 is derived from the Deepwater Horizon oil spill.	N28 46 37.9 W89 34 21.7
JRC2010080412	LK	20.6	8/4/10	2	Released upon capture	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-23. Sample 11-117-23 is derived from the Deepwater Horizon oil spill.	N28 47 13.1 W89 37 51.7
JRC2010080414	CM	21.2	8/4/10	2	Rehabilitation, released	11-117	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-117-25. Sample 11-117-25 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 47 42.0 W89 39 17.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRC2010080501	CM	20.4	8/5/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-2. Sample 11-118-2 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 36 15.6 W88 39 04.2
JRC2010080503	EI	15.1	8/5/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-3. Sample 11-118-3 is derived from the Deepwater Horizon oil spill.	N28 38 19.1 W88 36 12.7
JRC2010080504	CM	20.2	8/5/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-4. Sample 11-118-4 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 38 59.1 W88 35 41.0
JRC2010080505	LK	19.3	8/5/10	1	Released upon capture	11-118	-Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-5. Sample 11-118-5 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 38 57.0 W88 35 23.6
JRC2010080506	LK	21.7	8/5/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-6. Sample 11-118-6 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 42 10.3 W88 30 30.9
JRC2010080701	LK	23.7	8/7/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-7. Sample 11-131-7 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 42 17.4 W89 35 05.0

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRC2010080702	LK	19.5	8/7/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-8. Sample 11-131-8 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 41 50.1 W89 34 42.4
JRC2010080703	LK	23.6	8/7/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-9. Sample 11-131-9 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 40 23.9 W89 31 50.1
JRC2010080704	CM	22.4	8/7/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-8. Sample 11-128-8 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 39 46.5 W89 31 05.7
JRC2010080705	CM	22.2	8/7/10	1	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-9. Sample 11-128-9 is derived from the Deepwater Horizon oil spill.	N28 39 27.3 W89 30 49.7
JRC2010080706	EI	20.6	8/7/10	2	Released upon capture	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-10. Sample 11-128-10 is derived from the Deepwater Horizon oil spill.	N28 39 03.5 W89 30 43.0
JRC2010080801	LK	21.1	8/8/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-10. Sample 11-131-10 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 38 27.7 W89 24 56.3

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRC2010080803	CM	20.1	8/8/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-11. Sample 11-131-11 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 36 48.0 W89 22 18.4
JRC2010080804	CM	20.4	8/8/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-12. Sample 11-131-12 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 36 02.8 W89 21 47.3
JRC2010080805	LK	20.4	8/8/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-13. Sample 11-131-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 30 43.7 W89 12 33.7
JRG2010072701	CM	22.0	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-21. Sample 11-103-21 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N30 12 26.4 W86 27 32.9

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
JRG2010072702	CM	22.5	7/27/10	1	Released upon capture	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-22. Sample 11-103-22 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 53 16.0 W86 26 35.0
JRG2010072703	LK	21.6	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-23. Sample 11-103-23 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 52 34.1 W86 26 18.0
JRG2010072704	CM	19.7	7/27/10	1	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-24. Sample 11-103-24 is derived from the Deepwater Horizon oil spill.	N29 52 30.2 W86 26 16.9
JRG2010072705	LK	19.7	7/27/10	2	Rehabilitation, released	11-103	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-103-25. Sample 11-103-25 contains heavy crude oil. The sample appears to be only slightly to moderately degraded, despite the absence of typical n-alkane profile, because relatively volatile compounds (i.e., naphthalenes) are present. Not derived from Deepwater Horizon oil spill.	N29 51.565 W86 25.866
KAF2010072601	CM	19.5	7/26/10	1	Rehabilitation, released	11-088	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-088-25. Sample 11-088-25 contains traces of moderately degraded crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N30 12 09.1 W86 52 08.2

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KAF2010072602	CM	19.2	7/26/10	2	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-22. Sample 11-089-22 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 17 30.0 W86 46 18.5
KAF2010072603	LK	22.3	7/26/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-23. Sample 11-089-23 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N30 13 13.5 W86 53 40.9
KAF2010072605	CM	22.2	7/26/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-24. Sample 11-089-24 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 12 29.5 W86 52 47.1
KAS2010062401	LK	18.4	6/24/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-13. Sample 11-130-13 is derived from the Deepwater Horizon oil spill.	N28 55 13.0 W88 24 30.0
KAS2010062402	LK	22.3	6/24/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-14. Sample 11-130-14 is derived from the Deepwater Horizon oil spill.	N28 59 05.2 W88 21 18.7
KAS2010062403	LK	21.2	6/24/10	2	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-15. Sample 11-130-15 is derived from the Deepwater Horizon oil spill.	N29 01 42.9 W88 18 34.4
KJH2010072001	LK	18.6	7/20/10	4	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-21. Sample 11-142-21 is derived from the Deepwater Horizon oil spill.	N28 48 46.8 W89 08 05.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KJH2010072002	CM	22.0	7/20/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-14. Sample 11-119-14 is derived from the Deepwater Horizon oil spill.	N28 50 18.2 W89 08 57.9
KJH2010072003	CM	21.5	7/20/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-15. Sample 11-119-15 is derived from the Deepwater Horizon oil spill.	N28 50 56.5 W89 14 13.7
KJH2010072004	CM	21.5	7/20/10	3	Rehabilitation, died	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-16. Sample 11-119-16 is derived from the Deepwater Horizon oil spill.	N28 50 36.0 W89 14 20.2
KJH2010072006	LK	23.0	7/20/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-17. Sample 11-120-17 is derived from the Deepwater Horizon oil spill.	N28 50 45.2 W89 14 03.8
KJH2010072007	CM	21.1	7/20/10	4	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-17. Sample 11-119-17 is derived from the Deepwater Horizon oil spill.	N28 50 24.7 W89 14 45.6
KJH2010072008	CM	19.7	7/20/10	3	Rehabilitation, released	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-18. Sample 11-119-18 is derived from the Deepwater Horizon oil spill.	N28 44 09.5 W89 24 49.3
KJH2010080201	LK	22.9	8/2/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-18. Sample 11-120-18 is derived from the Deepwater Horizon oil spill.	N28 39 31.7 W89 44 55.6
KJH2010080202	LK	21.8	8/2/10	3	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-19. Sample 11-120-19 is derived from the Deepwater Horizon oil spill.	N28 39 31.8 W89 44 08.0
KJH2010080203	CM	22.4	8/2/10	2	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-14. Sample 11-131-14 is derived from the Deepwater Horizon oil spill.	N28 38 16.2 W89 42 38.4

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KJH2010080204	CM	23.2	8/2/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-15. Sample 11-131-15 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 37 00.4 W89 43 01.6
KJH2010080205	CM	18.8	8/2/10	1	Released upon capture	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-16. Sample 11-131-16 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 36 44.3 W89 43 52.7
KJH2010080206	CM	22.4	8/2/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-20. Sample 11-120-20 is derived from the Deepwater Horizon oil spill.	N28 40 36.7 W89 41 49.2
KJH2010080401	CM	21.1	8/4/10	2	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-7. Sample 11-118-7 is derived from the Deepwater Horizon oil spill.	N28 51 48.9 W89 37 16.4
KJH2010080402	LK	25.1	8/4/10	1	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-8. Sample 11-118-8 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 51 48.9 W89 37 16.4
KJH2010080403	CM	18.4	8/4/10	2	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-9. Sample 11-118-9 is derived from the Deepwater Horizon oil spill.	N28 52 01.0 W89 38 29.9
KJH2010080404	CM	20.5	8/4/10	2	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-10. Sample 11-118-10 is derived from the Deepwater Horizon oil spill.	N28 51 58.3 W89 41 02.6

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KJH2010080405	CM	20	8/4/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-11. Sample 11-118-11 contains heavy petroleum oil. The sample is not derived from the Deepwater Horizon oil spill.	N28 50 58.6 W89 39 26.3
KJH2010080406	CM	19.9	8/4/10	3	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-12. Sample 11-118-12 is derived from the Deepwater Horizon oil spill.	N28 50 38.1 W89 38 59.4
KJH2010080407	CM	20.5	8/4/10	3	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-13. Sample 11-118-13 is derived from the Deepwater Horizon oil spill.	N28 49 41.7 W89 37 57.4
KJH2010080408	CM	22.9	8/4/10	3	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-14. Sample 11-118-14 is derived from the Deepwater Horizon oil spill.	N28 48 48.1 W89 37 12.2
KJH2010080409	LK	24	8/4/10	1	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-15. Sample 11-118-15 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 48 36.0 W89 37 04.7
KJH2010080410	CM	17.5	8/4/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-16. Sample 11-118-16 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 48 22.6 W89 36 54.5
KJH2010080411	CM	21.8	8/4/10	1	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-17. Sample 11-118-17 is derived from the Deepwater Horizon oil spill.	N28 48 22.6 W89 36 54.5

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KJH2010080412	LK	22.2	8/4/10	2	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-18. Sample 11-118-18 is derived from the Deepwater Horizon oil spill.	N28 46 43.8 W89 34 35.3
KJH2010080413	CM	20.3	8/4/10	1	Released upon capture	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-19. Sample 11-118-19 is derived from the Deepwater Horizon oil spill.	N28 46 23.6 W89 34 48.9
KJH2010080414	CM	18.8	8/4/10	3	Rehabilitation, released	11-118	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-118-20. Sample 11-118-20 is derived from the Deepwater Horizon oil spill.	N28 46 16.5 W89 35 02.4
KJH2010080415	LK	23.7	8/4/10	1	Released upon capture	11-119	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-119-20. Sample 11-119-20 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 46 00.2 W89 36 16.9
KXC2010070901	CM	18.7	7/9/10	1	Rehabilitation, released	12-007	Assigned USCG sample number 12-007-1. Sample 12-007-1 contains moderately degraded crude oil. Non-petroleum contamination is present. This sample is not useful for conclusive comparative purposes based on the analysis conducted because the noted non-petroleum contamination is interfering with several ions of interest, including some biomarker compounds.	N 28 35 30 W89 49 48
KXL2010061901	LK	22.2	7/19/10	2	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-17. Sample 11-142-17 is derived from the Deepwater Horizon oil spill.	N28 40 23 W88 07 49
LXB2010071901	LK	24.9	7/19/10	Unk	Rehabilitation, released	11-129	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-129-6. Sample 11-129-6 is derived from the Deepwater Horizon oil spill.	N28 48 58 W88 53 37

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010052001	LK	20.3	5/20/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-23. Sample 11-130-23 is derived from the Deepwater Horizon oil spill.	N28 54 26 W88 48 06
MCT2010052002	CC	76.0	5/20/10	4	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-24. Sample 11-130-24 is derived from the Deepwater Horizon oil spill.	N28 58 04 W88 47 36
MCT2010061901	CM	20.9	6/19/10	1	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-18. Sample 11-128-18 contains heavy petroleum oil with characteristics different from those of comparison samples in the series. Differences are not attributable to weathering or non-petroleum contamination. Sample 11-128-18 is not derived from the Deepwater Horizon oil spill.	N28 42 91 W89 48 31
MCT2010061902	CM	19.5	6/19/10	1	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-19. Sample 11-128-19 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 42 84 W89 48 36
MCT2010061903	CM	21.5	6/19/10	1	Rehabilitation, released	11-129	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-129-7. Sample 11-129-7 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 42 84 W89 48 36
MCT2010061904	LK	20.0	6/19/10	Unk	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-20. Sample 11-128-20 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 42 54 W89 48 16

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010061905	CM	20.9	6/19/10	1	Rehabilitation, released	11-129	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-129-8. Sample 11-129-8 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 42 47 W89 48 26
MCT2010061906	LK	20.4	6/19/10	1	Rehabilitation, released	11-129	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-129-9. Sample 11-1269-9 did not contain a quantity of petroleum oil detectable by the analysis conducted.	N28 42 47 W89 48 26
MCT2010062101	CM	19.8	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-234-1 (top) and 11-234-2 (bottom and mouth). Samples 11-234-1 and 2 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 46 54 W89 45 0
MCT2010062102	CM	20.2	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-234-3 (top) and 11-234-4 (bottom and mouth). Samples 11-234-3 and 11-234-4 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 46 37 W89 44 56
MCT2010062103	CM	16.8	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-5. Sample 11-234-5 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 46 26 W89 44 58

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010062104	LK	19.2	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-6. Sample 11-234-6 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 46 2 W89 44 49
MCT2010062105	CM	20.0	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-7. Sample 11-234-7 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 46 0 W89 44 43
MCT2010062106	CM	16.8	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-8. Sample 11-234-8 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N 28 45 52 W89 44 41
MCT2010062107	LK	20.0	6/21/10	2	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-11. Sample 11-128-11 contains heavy petroleum oil with characteristics different from those of comparison samples in the series. Differences are not attributable to weathering or non-petroleum contamination. Sample 11-128-11 is not derived from the Deepwater Horizon oil spill.	N28 45 43 W89 44 37
MCT2010062108	CM	18.6	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-9. Sample 11-234-9 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 45 31 W89 44 43

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010062109	LK	19.0	6/21/10	1	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-234-10. Sample 11-234-10 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 45 32 W89 44 42
MCT2010062110	CM	20.8	6/21/10	2	Rehabilitation, released	11-129	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-129-10. Sample 11-129-10 contains heavy petroleum oil with characteristics different from those of comparison samples in the series. Differences are not attributable to weathering or non-petroleum contamination. Sample 11-129-10 is not derived from the Deepwater Horizon oil spill.	N28 44 56 W89 45 34
MCT2010070901	CM	19.0	7/9/10	3	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-21. Sample 11-104-21 is derived from the Deepwater Horizon oil spill.	N28 36 24.1 W89 49 09.9
MCT2010070902	LK	23.2	7/9/10	2	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-22. Sample 11-104-22 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 36 8 W89 48 28
MCT2010070903	LK	21.7	7/9/10	2	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-23. Sample 11-104-23 is derived from the Deepwater Horizon oil spill.	N28 35 55 W89 49 12

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010070904	LK	17.7	7/9/10	1	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-24. Sample 11-104-24 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 36 14 W89 52 2
MCT2010070905	LK	20.1	7/9/10	2	Rehabilitation, released	11-104	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-104-25. Sample 11-104-25 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 37 16 W89 54 56
MCT2010071501	LK	22.1	7/15/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-20. Sample 11-131-20 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 42 49 W90 1 56
MCT2010071502	LK	34.0	7/15/10	2	Rehabilitation, released	11-234	Assigned United States Coast Guard Marine Safety Laboratory sample numbers 11-234-11 (top), 11-234-12 (mouth), and 11-234-13 (bottom). Samples 11-234-11, 11-234-12, 11-234 did not contain a quantity of petroleum oil detectable by the analysis conducted. The discolored portions of the gauze swabs are most consistent with biologically-derived material.	N28 42 19 W90 1 48

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010071503	CM	19.0	7/15/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-21. Sample 11-131-21 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 41 53 W90 2 2
MJB2010080801	LK	22.0	8/8/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-13. Sample 11-142-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 40 54.9 W87 01 26.7
MJB2010082303	LK	22.6	8/23/10	1	Released upon capture	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-14. Sample 11-142-14 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 47 32.9 W87 07 28.4
RDG2010071501	LK	21.3	7/15/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-23 and 24. Sample 11-131-23 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample. Sample 11-131-24 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N28 45 09.2 W88 56 44.5

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
RDG2010071801	LK	21.4	7/18/10	4	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-20. Sample 11-142-20 is derived from the Deepwater Horizon oil spill.	N28 45 12.3 W88 51 44.6
RDG2010071802	CM	18.8	7/18/10	2	Rehabilitation, released	11-142	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-142-19. Sample 11-142-19 is derived from the Deepwater Horizon oil spill.	N28 46 43 W88 55 10
SDD2010060101	LK	19.0	6/1/10	4	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-22. Sample 11-128-22 is derived from the Deepwater Horizon oil spill.	N29 5 30 W89 46 41
SDD2010060102	LK	20.2	6/1/10	4	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-23. Sample 11-128-23 is derived from the Deepwater Horizon oil spill.	N29 5 35 W89 46 29
SDD2010060103	LK	18.2	6/1/10	4	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-24. Sample 11-128-24 is derived from the Deepwater Horizon oil spill.	N29 5 59 W89 45 26
SDD2010060104	LK	18.8	6/1/10	4	Rehabilitation, released	11-128	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-128-25. Sample 11-128-25 is derived from the Deepwater Horizon oil spill.	N29 6 23 W89 44 52
SDD2010060105	LK	18.8	6/1/10	4	Found dead at sea	11-136	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-136-11. Sample 11-136-11 is derived from the Deepwater Horizon oil spill.	N29 5 29 W89 46 57
STW2010081001	LK	26.3	8/10/10	1	Released upon capture	11-089	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-089-25. Sample 11-089-25 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 49 10.9 W86 57 39.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
STW2010081002	LK	22.6	8/10/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-24. Sample 11-090-24 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 48 54.3 W86 57 49.7
STW2010081003	LK	22.8	8/10/10	1	Released upon capture	11-090	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-090-25. Sample 11-090-25 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 48 09.9 W87 13 09.3
TMC2010071603	CM	31.3	7/16/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-17. Sample 11-131-17 is derived from the Deepwater Horizon oil spill.	N28 58 15.2 W88 54 08.3
TMC2010071607	LK	21.1	7/16/10	1	Rehabilitation, released	11-131	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-131-18. Sample 11-131-18 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 58 59.5 W88 47 54.0
TTJ2010071001	LK	21.0	7/10/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-21. Sample 11-120-21 is derived from the Deepwater Horizon oil spill.	N28 40 08.5 W89 12 35.1
TTJ2010071002	LK	21.0	7/10/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-22. Sample 11-120-22 contains traces of crude oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 38 25.8 W89 17 12.3

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
TTJ2010071003	CM	21.4	7/10/10	1	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-23. Sample 11-120-23 is derived from the Deepwater Horizon oil spill.	N28 37 25.5 W89 18 05.4
TTJ2010071004	CM	15.8	7/10/10	2	Rehabilitation, released	11-120	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-120-24. Sample 11-120-24 is derived from the Deepwater Horizon oil spill.	N28 27 00.6 W89 28 40.5
TTJ2010071005	LK	17.5	7/10/10	1	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-16 and 17. Sample 11-130-16 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present. Sample 11-130-17 contains traces of petroleum oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 27 47.6 W89 30 00.4
TTJ2010071006	CM	18.4	7/10/10	1	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-18. Sample 11-130-18 contains traces of petroleum oil and non-petroleum contamination. The quantity of oil present in this sample is not sufficient for conclusive comparison purposes based on the analysis conducted.	N28 27 43.6 W89 30 09.3
TTJ2010071007	LK	20.0	7/10/10	3	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-19. Sample 11-130-19 is derived from the Deepwater Horizon oil spill.	N28 27 39.7 W89 30 29.1
TTJ2010071008	LK	22.7	7/10/10	1	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-20. Sample 11-130-20 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 27 17.1 W89 32 31.7

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
TTJ2010071009	LK	20.6	7/10/10	1	Rehabilitation, released	11-130	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-130-21. Sample 11-130-21 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N28 27 17.9 W89 33 42.1
TWW2010082301	LK	24.8	8/23/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-22. Sample 11-091-22 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 58 56.7 W86 56 35.4
TWW2010082305	LK	21.8	8/23/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-23. Sample 11-091-23 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 54 39.3 W86 58 55.9
TWW2010082401	LK	24.0	8/24/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-24. Sample 11-091-24 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 57 27.9 W86 41 49.0
TWW2010082403	LK	24.4	8/24/10	1	Released upon capture	11-091	Assigned United States Coast Guard Marine Safety Laboratory sample number 11-091-25. Sample 11-091-25 did not contain a quantity of petroleum oil detectable by the analysis conducted. Non-petroleum contamination is present.	N29 57 18.8 W86 45 30.8

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
Stranding response								
AJH2010063001	LK	18.6	6/30/10	4	Found dead	11-136	Assigned USCG sample number 11-136-18. Sample 11-136-18 is derived from the Deepwater Horizon oil spill.	N30 17 23 W87 25 48
BAS2010060901	LK	19.6	6/9/10	4	Found dead	11-136	Assigned USCG sample number 11-136-2. Sample 11-136-2 is derived from the Deepwater Horizon oil spill.	N29 25 59 W89 53 9
BJL2010070401	LK	31.6	7/4/10	Unk	Rehabilitation, died	11-157	Assigned USCG sample numbers 11-157-1 (dorsal swab), 11-157-2 (underside swab), and 11-157-3 (mouth swab). Sample 11-157-1 did not contain a quantity of petroleum oil detectable by the analysis conducted. Samples 11-157-2 and 3 contain non-petroleum contamination and traces of hydrocarbons. These hydrocarbons do not appear to be petroleum-derived, as they are consistent with hydrocarbons of biological origin.	N30 9 25 W89 38 17
CAG2010070201	LK	18.8	7/2/10	Unk	Rehabilitation, released	11-129	Assigned USCG sample number 11-129-1. Sample 11-129-1 is derived from the Deepwater Horizon oil spill.	N30 6 18 W88 2 30
EMB2010070201	LK	32.5	7/2/10	1	Found dead	11-136	Assigned USCG sample numbers 11-136-9 and 11-136-10. Sample 11-136-9 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample. Sample 11-136-10 is derived from the Deepwater Horizon oil spill.	N30 13 31 W88 6 32

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
FEC2010071102	LK	32*	7/11/10	Unk	Found dead	11-136	Assigned USCG sample number 11-136-5. Sample 11-136-5 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 17 5 W87 45 51
JEB2010052601	LK	20*	5/26/10	Unk	Found dead	11-128	Assigned USCG sample number 11-128-12. Sample 11-128-12 is derived from the Deepwater Horizon oil spill.	N29 16 56 W89 55 28
JMI2010060301	CC	13.7	6/3/10	Unk	Rehabilitation, released	11-129	Assigned USCG sample number 11-129-2. Sample 11-129-2 is derived from the Deepwater Horizon oil spill.	N30 16 42 W87 33 19
JMI2010071601	LK	32.1	7/16/10	Unk	Found dead	11-136	Assigned USCG sample number 11-136-6. Sample 11-136-6 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 17 4 W87 48 57
KLH2010062702	LK	29.5	6/27/10	Unk	Found dead	11-136	Assigned USCG sample numbers 11-136-7 and 11-136-8. Samples 11-136-7 and 11-136-8 contain non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the samples.	N30 30 25 W88 4 44

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
KLH2010063001	CM	20.9	6/30/10	3	Rehabilitation, released	11-129	Assigned USCG sample number 11-129-3. Sample 11-129-3 is derived from the Deepwater Horizon oil spill.	N30 14 25 W88 7 26
KLH2010070901	LK	20.1	7/9/10	2	Rehabilitation, died	11-129	Assigned USCG sample number 11-129-4. Sample 11-090-4 is derived from the Deepwater Horizon oil spill.	N30 14 23 W88 19 34
LAJ2010061601	CC	77	6/16/10	2	Found dead	11-136	Assigned USCG sample number 11-136-4. Sample 11-136-4 is derived from the Deepwater Horizon oil spill.	N30 15 13 W87 38 31
LDP2010052201	LK	21.1	5/22/10	1	Found dead	11-131	Assigned USCG sample number 11-131-19. Sample 11-131-19 is derived from the Deepwater Horizon oil spill.	N29 15 2 W89 57 27
MCT2010051201	LK	18.1	5/12/10	Unk	Found dead	11-128 & 11-224	Assigned USCG sample number 11-128-13. Sample 11-128-13 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.  A subsequent sample (11-224-1) from the esophagus was submitted on 5/5/2011. Analysis indicates that the sample contains moderately degraded crude oil. Non-petroleum contamination is present. The quantity of petroleum oil in sample 11-224-1 is not sufficient for comparison purposes based on the analysis conducted. The entire sample was extracted with solvent (twice), and the extract was concentrated under nitrogen. Not all of the brown material contained in the sample was petroleum oil, as there were flakes that would not go into solution.	N29 12 33 W90 1 45

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
MCT2010052503	LK	32*	5/25/10	4	Found dead	11-128	Assigned USCG sample number 11-128-15. Sample 11-128-15 is derived from the Deepwater Horizon oil spill.	N29 15 24 W89 57 10
MCT2010060701	LK	18.2	6/7/10	4	Found dead	11-136	Assigned USCG sample number 11-136-12. Sample 11-136-12 is derived from the Deepwater Horizon oil spill.	N29 18 25 W89 54 2
MCT2010060801	LK	18.8	6/8/10	4	Found dead	11-136	Assigned USCG sample number 11-136-13. Sample 11-136-13 is derived from the Deepwater Horizon oil spill.	N29 15 35 W89 59 44
MCT2010062701	LK	22.1	6/27/10	4	Rehabilitation, released	11-128	Assigned USCG sample number 11-128-21. Sample 11-128-21 is derived from the Deepwater Horizon oil spill.	N29 1 11 W90 7 7
MCT2010071001	LK	31.7	7/10/10	Unk	Found dead	11-136	Assigned USCG sample number 11-136-14. Sample 11-136-14 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N29 28 11 W89 54 36
MHF2010071801	LK	35.0	7/18/10	Unk	Found dead	11-136	Assigned USCG sample numbers 11-136-16 and 11-136-17. Samples 11-136-16 and 11-136-17 contain non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the samples.	N30 22 54 W89 1 30
RLR2010060501	EI	14.1	6/5/10	Unk	Rehabilitation, released	11-129	Assigned USCG sample number 11-129-5. Sample 11-129-5 is derived from the Deepwater Horizon oil spill.	N30 14 53 W87 40 36

Identification	Species	SCL (cm)	Date	Degree of oiling	Status/disposition	USCG-MSL Report No.	United States Coast Guard Marine Safety Laboratory Analysis Results	Location
SXH2010061001	EI	13.0	6/10/10	Unk	Rehabilitation, died	11-136	Assigned USCG sample number 11-136-19. Sample 11-136-19 contains non-petroleum contamination and traces of hydrocarbons. It is not possible based on the analysis conducted to conclusively attribute the presence of hydrocarbons to the presence of petroleum oil due to insufficient quantity of hydrocarbons in the sample.	N30 11 24 W85 52 12
SXH2010062801	CM	16.7	6/28/10	4	Rehabilitation, released	11-142	Assigned USCG sample numbers 11-142-15 and 16. Samples 11-142-15 and 16 are derived from the Deepwater Horizon oil spill.	N30 13 48 W85 54 25
Other captures								
MCT2010052902	LK	17.4	5/29/10	Unk	Rehabilitation, released	11-130	Assigned USCG sample number 11-130-25. Sample 11-130-25 is derived from the Deepwater Horizon oil spill.	N28 26 15 W89 53 44
MCT2010053101	LK	18.4	5/31/10	Unk	Rehabilitation, released	11-128	Assigned USCG sample numbers 11-128-16 and 17. Samples 11-128-16 and 17 are derived from the Deepwater Horizon oil spill.	N28 59 35 W89 50 28
PRG2010061201	LK	31*	6/12/10	2	Rehabilitation, released	11-142	Assigned USCG sample number 11-142-1. Sample 11-142-1 is derived from the Deepwater Horizon oil spill.	N30 22 20 W86 34 10

APPENDIX C: PHOTOGRAPHS OF INFRARED THERMOMETER READINGS FOR SEA SURFACE  
TEMPERATURES IN AN OILED AREA



Appendix C. Infrared thermometer measuring 86.7°F (30.4°C) on the sea surface of an area with small, discontinuous aggregates of oil (A) as compared to 129.7°F (54.3°C) on the surface of an immediately adjacent patch of heavily oiled *Sargassum* (B), the habitat of oceanic juvenile sea turtles. The images were taken on 6/16/2010 at 10:35 am (A) and 10:34 am (B) off the coast of Louisiana (N28 41 1, W88 38 43).

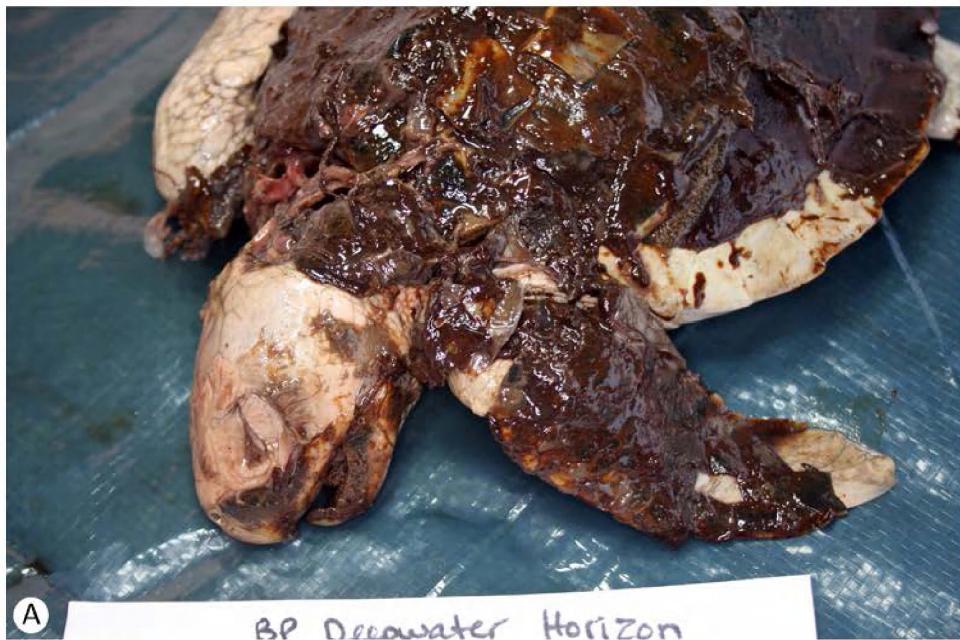
APPENDIX D: NECROPSY PHOTOGRAPHS OF SEA TURTLES IN WHICH DEATH WAS ATTRIBUTED TO OIL



Appendix D1. BAS2010060605, a juvenile male Kemp's ridley sea turtle, was found dead in oil during directed capture operations off the coast of Louisiana (N29 09 42.7, W88 10 01.7) on 6/6/2010. The entire carcass was covered with abundant oil (A). This turtle initially was thought to be alive and a large quantity of oil was removed from the mouth in the field during resuscitative measures. A large quantity of oil was still present in the mouth and around the glottis at necropsy (B).



Appendix DII. SDD2010060105, a severely decomposed juvenile Kemp's ridley sea turtle of undeterminable sex, was found during directed capture operations off the coast of Louisiana (N29 5 29, W89 46 57) on 6/1/2010. Abundant oil heavily covered the body (A) and plugs of oil were found within the trachea (B) and bronchi.



Appendix DIII. BAS2010061001, a severely decomposed juvenile Kemp's ridley sea turtle, was found in oil during directed capture operations off the coast of Louisiana (N28 45 13.7, W88 51 21.7) on 6/10/2010. Heavy oil covered the entire body (A) and filled the nares, mouth (B) and esophagus.



Appendix DIV. MCT2010060701, a juvenile male Kemp's ridley sea turtle, was found floating dead off of Jefferson Parish, Louisiana (N29 18 25, W89 54 2) by stranding response on 6/7/2010. The carcass was moderately decomposed and covered with thick oil (A). Oil coated the mouth and anterior esophagus (B).



Appendix DV. BAS2010060901, a female juvenile Kemp's ridley sea turtle, was found dead in Plaquemines Parish, Louisiana (N29 25 59, W89 53 9) by stranding response on 6/9/2010. The carcass was severely decomposed and heavily covered in thick oil (A). Abundant oil coated the mouth (B) and esophagus.



Appendix DVI. AJH2010063001, a severely decomposed female juvenile Kemp's ridley sea turtle, was found on dead a beach by stranding response in Escambia County, Florida (N30 17 23, W87 25 48) on 6/30/2010. The entire carcass was heavily covered in thick oil (A), which filled the nasal cavity and coated the mouth and esophagus. The external nares have been cut away to show plugs of oil within the nasal cavity (B).

APPENDIX E: PHOTOGRAPHS OF FIFTY-NINE LIVE, HEAVILY OILED OCEANIC JUVENILE SEA TURTLES  
DOCUMENTED DURING DIRECTED CAPTURES AND BY STRANDING RESPONSE (MORTALITY CONSIDERED  
LIKELY WITHOUT INTERVENTION)



Kemp's ridley turtle (BAS2010053101); Capture location: N28 50 25.6, W88 33 20.6; United States Coast Guard Marine Safety Laboratory sample number 11-117-2; Directed capture.

Kemp's ridley sea turtle (BAS2010053102); Capture location: N28 55 05.6, W88 33 18.5; United States Coast Guard Marine Safety Laboratory sample number 11-117-3; Directed capture.

Kemp's ridley sea turtle (BAS2010053103); Capture location: N28 51 53.8, W88 33 56.8; United States Coast Guard Marine Safety Laboratory sample number 11-117-4; Directed capture.



Kemp's ridley sea turtle (BAS2010053104); Capture location: N28 51 13.5, W88 33 41.9; United States Coast Guard Marine Safety Laboratory sample number 11-117-5; Directed capture.

Kemp's ridley sea turtle (BAS2010053105); Capture location: N28 50 49.3, W88 33 31.9; United States Coast Guard Marine Safety Laboratory sample number 11-117-6; Directed capture.

Kemp's ridley sea turtle (BAS2010053106); Capture location: N28 50 25.6, W88 33 20.6; United States Coast Guard Marine Safety Laboratory sample number 11-117-7; Directed capture.



Green turtle (BAS2010053107); Capture location: N28 50 32.4, W88 33 27.8; United States Coast Guard Marine Safety Laboratory sample number 11-117-8; Directed capture.

Kemp's ridley sea turtle (BAS2010060101); Capture location: N28 48 16.2, W88 28 37.6; United States Coast Guard Marine Safety Laboratory sample number 11-104-1; Directed capture.

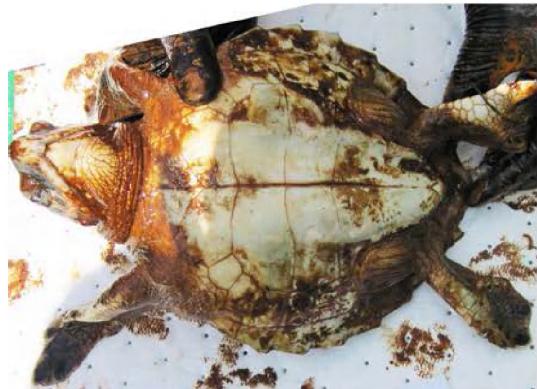
Kemp's ridley sea turtle (BAS2010060102); Capture location: N28 48 16.2, W88 28 37.6; United States Coast Guard Marine Safety Laboratory sample number 11-128-4; Directed capture.



Kemp's ridley sea turtle (BAS2010060103); Capture location: N28 48 26.1, W88 28 41.1; United States Coast Guard Marine Safety Laboratory sample number 11-104-2; Directed capture.

Kemp's ridley sea turtle (BAS2010060104); Capture location: N28 48 48.5, W88 28 49.4; United States Coast Guard Marine Safety Laboratory sample number 11-104-3; Directed capture.

Kemp's ridley sea turtle (BAS2010060105); Capture location: N28 48 55.3, W88 28 45.3; United States Coast Guard Marine Safety Laboratory sample number 11-104-4; Directed capture.



Kemp's ridley sea turtle (BAS2010060106); Capture location: N28 49 00.1, W88 28 40.9; United States Coast Guard Marine Safety Laboratory sample number 11-104-5; Directed capture.

Hawksbill turtle (BAS2010060108); Capture location: N28 49 46.6, W88 28 16.5; United States Coast Guard Marine Safety Laboratory sample number 11-104-7; Directed capture.

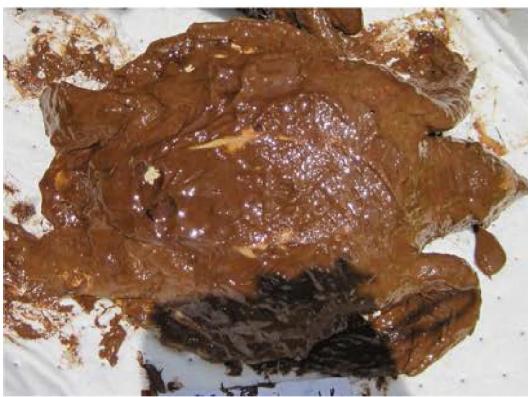
Kemp's ridley sea turtle (BAS2010060109); Capture location: N28 49 36.7, W88 27 53.8; United States Coast Guard Marine Safety Laboratory sample number 11-128-6; Directed capture.



Kemp's ridley sea turtle (BAS2010060110); Capture location: N28 50 03.5, W88 25 28.4; United States Coast Guard Marine Safety Laboratory sample number 11-128-7; Directed capture.

Hawksbill turtle (BAS2010060601); Capture location: N29 00 36.9, W88 15 49.3; United States Coast Guard Marine Safety Laboratory sample number 11-104-08; Directed capture.

Kemp's ridley sea turtle (BAS2010060602); Capture location: N29 00 36.9, W88 15 49.3; United States Coast Guard Marine Safety Laboratory sample number 11-104-9; Directed capture.



Kemp's ridley sea turtle (BAS2010060603); Capture location: N29 00 36.9, W88 15 49.3; United States Coast Guard Marine Safety Laboratory sample number 11-104-10; Directed capture.

Kemp's ridley sea turtle (BAS2010060604); Capture location: N29 00 36.9, W88 15 49.3; United States Coast Guard Marine Safety Laboratory sample number 11-104-11; Directed capture.

Kemp's ridley sea turtle (BAS2010061002); Capture location: N28 45 04.1, W88 50 55.5; United States Coast Guard Marine Safety Laboratory sample number 11-104-12; Directed capture.



Kemp's ridley sea turtle (BAS2010061003); Capture location: N28 37 21.1, W88 33 24.7; United States Coast Guard Marine Safety Laboratory sample number 11-104-13; Directed capture.

Kemp's ridley sea turtle (BAS2010061201); Capture location: N28 42 04.1, W88 32 23.2; United States Coast Guard Marine Safety Laboratory sample number 11-104-15; Directed capture.

Kemp's ridley sea turtle (BAS2010061202); Capture location: N28 40 10.8, W88 29 31.0; United States Coast Guard Marine Safety Laboratory sample number 11-104-16; Directed capture.



Kemp's ridley sea turtle (BAS2010061310); Capture location: N28 45 13.7, W88 51 21.7; United States Coast Guard Marine Safety Laboratory sample number 11-116-10; Directed capture.

Kemp's ridley sea turtle (BAS2010061402); Capture location: N28 37 25.0, W88 32 36.6; United States Coast Guard Marine Safety Laboratory sample number 11-116-12; Directed capture.

Kemp's ridley sea turtle (BAS2010061403); Capture location: N28 36 09.5, W88 29 44.5; United States Coast Guard Marine Safety Laboratory sample number 11-116-13; Directed capture.



Kemp's ridley sea turtle (BAS2010061405); Capture location: N28 35 42.0, W88 29 25.9; United States Coast Guard Marine Safety Laboratory sample number 11-116-15; Directed capture.

Kemp's ridley sea turtle (BAS2010061503); Capture location: N28 41 17.2, W88 50 40.1; United States Coast Guard Marine Safety Laboratory sample number 11-104-20; Directed capture.

Kemp's ridley sea turtle (BAS2010061606); Capture location: N28 52 12.8, W88 30 16.0; United States Coast Guard Marine Safety Laboratory sample number 11-131-1; Directed capture.



Kemp's ridley sea turtle (BEW2010051801);  
Capture location: N28 27 59, W88 27 40; United  
States Coast Guard Marine Safety Laboratory  
sample number 11-130-22; Directed capture.

Kemp's ridley sea turtle (DRC2010062601); Capture  
location: N29 00 27.6, W88 54 04.8; United States  
Coast Guard Marine Safety Laboratory sample  
number 11-131-3; Directed capture.

Kemp's ridley sea turtle (DRC2010062602); Capture  
location: N29 00 32.9, W88 52 48.6; United States  
Coast Guard Marine Safety Laboratory sample number  
11-131-4; Directed capture.



Green turtle (DRC2010062603); Capture location: N29 03 09.5, W88 47 56.8; United States Coast Guard Marine Safety Laboratory sample number 11-131-5; Directed capture.

Kemp's ridley sea turtle (DRC2010062701); Capture location: N28 58 45.2, W89 03 43.5; United States Coast Guard Marine Safety Laboratory sample number 11-130-6; Directed capture.

Kemp's ridley sea turtle (DRC2010062702); Capture location: N28 59 07.6, W89 03 28.1; United States Coast Guard Marine Safety Laboratory sample number 11-130-7; Directed capture.



Kemp's ridley sea turtle (DRC2010062705); Capture location: N28 59 38.8, W89 03 21.0; United States Coast Guard Marine Safety Laboratory sample number 11-130-10; Directed capture.

Loggerhead sea turtle (DRC2010062706); Capture location: N28 59 39.8, W89 03 20.5; United States Coast Guard Marine Safety Laboratory sample number 11-130-11; Directed capture.

Kemp's ridley sea turtle (JHW2010071901); Capture location: N28 43 14.7, W88 57 13.9; United States Coast Guard Marine Safety Laboratory sample number 11-120-10; Directed capture.



Kemp's ridley sea turtle (JHW2010071902);  
Capture location: N28 43 24.3, W88 57 33.6;  
United States Coast Guard Marine Safety  
Laboratory sample number 11-120-11; Directed  
capture.

Kemp's ridley sea turtle (JHW2010071903);  
Capture location: N28 48 36.2, W88 55 57.2;  
United States Coast Guard Marine Safety  
Laboratory sample number 11-120-12; Directed  
capture.

Kemp's ridley sea turtle (JHW2010071904); Capture  
location: N28 48 53.1, W88 55 55.3; United States Coast  
Guard Marine Safety Laboratory sample numbers 11-  
120-13 and 14; Directed capture.



Green turtle (JHW2010072701); Capture location: N28 49 22.2, W89 09 56.5; United States Coast Guard Marine Safety Laboratory sample number 11-119-11; Directed capture.

Kemp's ridley sea turtle (JHW2010072702); Capture location: N28 50 46.5, W89 09 27.6; United States Coast Guard Marine Safety Laboratory sample number 11-119-12; Directed capture.

Kemp's ridley sea turtle (JHW2010072703); Capture location: N28 51 54.9, W89 09 46.8; United States Coast Guard Marine Safety Laboratory sample number 11-119-13; Directed capture.



Kemp's ridley sea turtle (KAS2010062401); Capture location: N28 55 13.0, W88 24 30.0; United States Coast Guard Marine Safety Laboratory sample number 11-130-13; Directed capture.

Kemp's ridley sea turtle (KAS2010062402); Capture location: N28 59 05.2 W88 21 18.7; United States Coast Guard Marine Safety Laboratory sample number 11-130-14; Directed capture.

Kemp's ridley sea turtle (KJH2010072001); Capture location: N28 48 46.8, W89 08 05.8; United States Coast Guard Marine Safety Laboratory sample number 11-142-21; Directed capture.



Green turtle (KJH2010072002); Capture location: N28 50 18.2, W89 08 57.9; United States Coast Guard Marine Safety Laboratory sample number 11-119-14; Directed capture.

Green turtle (KJH2010072003); Capture location: N28 50 56.5, W89 14 13.7; United States Coast Guard Marine Safety Laboratory sample number 11-119-15; Directed capture.

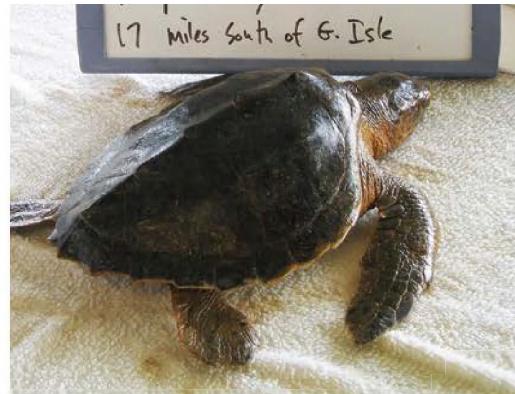
Green turtle (KJH2010072007); Capture location: N28 50 24.7, W89 14 45.6; United States Coast Guard Marine Safety Laboratory sample number 11-119-17; Directed capture.



Kemp's ridley sea turtle (MCT2010052001);  
Capture location: N28 54 26, W88 48 06; United  
States Coast Guard Marine Safety Laboratory  
sample number 11-130-23; Directed capture.

Kemp's ridley sea turtle (RDG2010071801); Capture  
location: N28 45 12.3, W88 51 44.6; United States  
Coast Guard Marine Safety Laboratory sample  
number 11-142-20; Directed capture.

Kemp's ridley sea turtle (SDD2010060101); Capture  
location: N29 5 30, W89 46 41; United States Coast  
Guard Marine Safety Laboratory sample number 11-  
128-22; Directed capture.



Kemp's ridley sea turtle (SDD2010060102); Capture location: N29 5 35, W89 46 29; United States Coast Guard Marine Safety Laboratory sample number 11-128-23; Directed capture.

Kemp's ridley sea turtle (SDD2010060103); Capture location: N29 5 59, W89 45 26; United States Coast Guard Marine Safety Laboratory sample number 11-128-24; Directed capture.

Kemp's ridley sea turtle (SDD2010060104); Capture location: N29 6 23, W89 44 52; United States Coast Guard Marine Safety Laboratory sample number 11-128-25; Directed capture.



Kemp's ridley sea turtle (MCT2010062701);  
Discovery location: N29 1 11, W90 7 7; United States  
Coast Guard Marine Safety Laboratory sample  
number 11-128-21; Stranding response.

Green turtle (SXH2010062801); Discovery location:  
N30 13 48, W85 54 25; United States Coast Guard  
Marine Safety Laboratory sample numbers 11-142-  
15 & 16; Stranding response.

APPENDIX F. DATA FROM SEA TURTLES DOCUMENTED BY STRANDING RESPONSE PRESENTED BY STATE

**Appendix Fl. Numbers of sea turtles (live and dead) documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola. The numbers of animals that were necropsied are given in parentheses. The species codes are as follows: Cc = loggerhead; Cm = green turtle; Ei = hawksbill; Lk = Kemp's ridley; and Unk = unknown.**

	Species	April	May	June	July	Aug	Sept	Oct	Total
Alabama	Cc	0 (0)	1 (1)	4 (4)	1 (1)	3 (3)	2 (2)	0 (0)	11 (11)
	Cm	0 (0)	1 (1)	1 (1)	1 (1)	0 (0)	2 (2)	0 (0)	5 (5)
	Ei	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	Lk	0 (0)	47 (39)	23 (23)	18 (18)	19 (19)	3 (3)	2 (2)	112 (104)
	Unk	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Total	0 (0)	49 (41)	29 (29)	20 (20)	22 (22)	7 (7)	2 (2)	129 (121)
Florida	Cc	0 (0)	18 (16)	10 (9)	5 (5)	5 (5)	1 (1)	1 (1)	40 (37)
	Cm	0 (0)	5 (4)	3 (3)	3 (3)	0 (0)	0 (0)	1 (1)	12 (11)
	Ei	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)
	Lk	0 (0)	8 (8)	10 (10)	5 (5)	3 (3)	1 (1)	1 (1)	28 (28)
	Unk	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Total	0 (0)	31 (28)	24 (23)	13 (13)	8 (8)	2 (2)	3 (3)	81 (77)
Louisiana	Cc	0 (0)	4 (1)	1 (1)	0 (0)	2 (2)	2 (2)	0 (0)	9 (6)
	Cm	0 (0)	1 (1)	5 (5)	3 (3)	1 (1)	0 (0)	3 (3)	13 (13)
	Ei	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Lk	0 (0)	62 (31)	24 (23)	7 (7)	11 (11)	12 (12)	2 (1)	118 (85)
	Unk	0 (0)	3 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3 (0)
	Total	0 (0)	70 (33)	30 (29)	10 (10)	14 (14)	14 (14)	5 (4)	143 (104)
Mississippi	Cc	0 (0)	4 (3)	3 (3)	1 (1)	2 (2)	1 (1)	0 (0)	11 (10)
	Cm	0 (0)	0 (0)	0 (0)	1 (1)	2 (2)	1 (1)	0 (0)	4 (4)
	Ei	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Lk	6 (6)	86 (80)	124 (124)	23 (23)	16 (16)	12 (12)	8 (8)	275 (269)
	Unk	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Total	6 (6)	90 (83)	127 (127)	25 (25)	20 (20)	14 (14)	8 (8)	290 (283)

Appendix FII. Postmortem condition of necropsied sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola.

	Fresh dead	Moderate decomposition	Severe decomposition	Desiccated remains	Skeletal remains	Total
Alabama	5 (4.3%)	33 (28.7%)	72 (62.6%)	3 (2.6%)	2 (1.7%)	115
Florida	14 (19.2%)	21 (28.8%)	37 (50.7%)	1 (1.4%)	0 (0%)	73
Louisiana	7 (7.0%)	28 (28.0%)	53 (53.0%)	7 (7.0%)	5 (5.0%)	100
Mississippi	3 (1.1%)	48 (17.1%)	218 (77.2%)	6 (2.5%)	6 (2.1%)	281
Total	29 (5.1%)	130 (22.8%)	380 (66.8%)	17 (3.0%)	13 (2.3%)	569

Appendix FIII. Extent of postmortem examination (necropsy) of sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola. A full necropsy was conducted when condition of the carcass allowed for complete examination of the major organ systems. A partial necropsy was conducted when parts of the carcass were missing or decomposed beyond recognition. A limited examination was conducted when the carcass was desiccated or skeletalized. Carcasses not examined most often were skeletalized, desiccated, or incomplete left in the field due to logistics of recovery.

	Full examination	Partial examination	Limited examination	Not necropsied	Total
Alabama	73 (59.3%)	35 (28.5%)	7 (5.7%)	8 (6.5%)	123
Florida	51 (65.4%)	17 (21.8%)	5 (6.4%)	5 (6.4%)	78
Louisiana	50 (36.0%)	35 (25.2%)	15 (10.8%)	39 (28.1%)	139
Mississippi	174 (60.4%)	81 (28.1%)	26 (9.4%)	7 (2.4%)	288
<b>Total</b>	<b>348 (55.4%)</b>	<b>168 (26.8%)</b>	<b>53 (8.4%)</b>	<b>59 (9.4%)</b>	<b>628</b>

Appendix FIV. Nutritional condition of necropsied non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola.

	Good	Fair	Thin	Emaciated	Undetermined	Total
Alabama	81 (74.3%)	11 (10.1%)	4 (3.7%)	1 (0.9%)	12 (11.0%)	109
Florida	26 (36.6%)	7 (9.9%)	10 (14.1%)	20 (28.2%)	8 (11.3%)	71
Louisiana	56 (61.5%)	11 (12.1%)	2 (2.2%)	0 (0%)	22 (24.2%)	91
Mississippi	194 (69.3%)	16 (5.7%)	7 (2.5%)	1 (0.4%)	62 (22.1%)	280
Total	357 (64.8%)	45 (8.2%)	23 (4.2%)	22 (4.0%)	104 (18.9%)	551

Appendix FV. Proximate causes of death of necropsied non-visibly oiled sea turtles that were documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola.

	Trauma	Probable drowning/asphyxiation	Disease	Undetermined	Total
Alabama	23 (21.1%)	12 (11.0%)	2 (1.8%)	72 (66.5%)	109
Florida	17 (23.9%)	0 (0%)	17 (23.9%)	37 (52.1%)	71
Louisiana	11 (12.1%)	11 (12.1%)	1 (1.1%)	68 (74.7%)	91
Mississippi	20 (7.1%)	13 (4.6%)	0 (0%)	247 (88.2%)	280
Total	71 (12.9%)	36 (6.5%)	20 (3.6%)	424 (77.0%)	551

Appendix FVI. Necropsy findings in non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill in which cause of death could not be determined. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola. Cases with evidence of disease were underweight or had pathological lesions of concern with regard to general health. Traumatic injuries were potentially fatal, but could not be characterized as antemortem or postmortem due to carcass condition. Animals without significant anomalies were in fair to good nutritional condition and did not have any evidence of disease or major injury. Cases were uncategorized due to inability to assess nutritional condition or detect traumatic injury as a result of decomposition.

	Evidence of disease	Traumatic injuries	No significant anomalies	Uncategorized	Total
Alabama	2 (2.8%)	30 (41.7%)	32 (44.4%)	8 (11.1%)	72
Florida	8 (21.6%)	12 (32.4%)	10 (27.0%)	7 (18.9%)	37
Louisiana	1 (1.4%)	24 (36.2%)	27 (39.1%)	16 (23.2%)	68
Mississippi	6 (2.4%)	61 (24.7%)	138 (55.9%)	42 (17.0%)	247
Total	17 (4.0%)	127 (30.0%)	207 (48.8%)	73 (17.2%)	424

Appendix FVII. Categories of traumatic injuries (antemortem and undetermined) in non-visibly oiled sea turtles documented by stranding response during the BPDWH oil spill. The period of the spill response was from 4/26/2010 through 10/20/2010 and the response area in Florida was from the Alabama State line to Apalachicola.

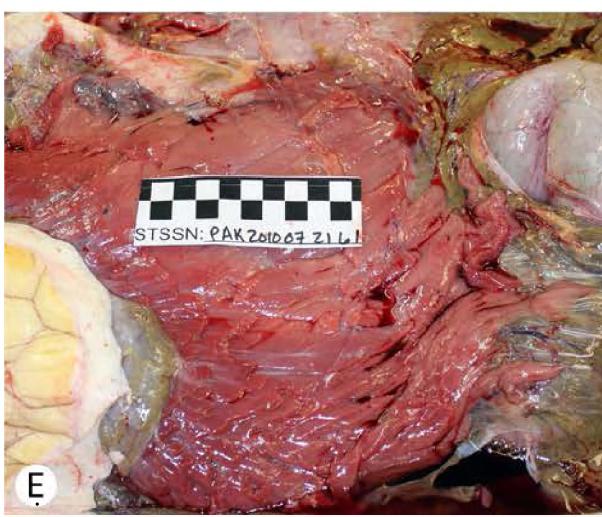
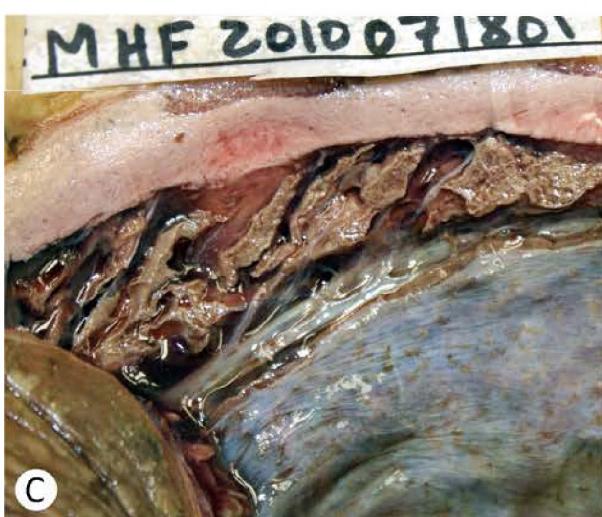
	Blunt trauma	Linear blunt trauma	Chop wound(s)	Shark bites	Entanglement, hooking, line ingestion	Combination of injury types	Other
Alabama	34/56 (60.7%)	1/56 (1.8%)	5/56 (8.9%)	4/56 (7.1%)	3/56 (5.4%)	5/56 (8.9%)	4/56 (7.1%)
Florida	8/31 (25.8%)	0/31 (0%)	9/31 (29.0%)	10/31 (32.3%)	2/31 (6.5%)	1/31 (3.2%)	1/31 (3.2%)
Louisiana	19/36 (52.8%)	4/36 (11.1%)	5/36 (13.9%)	5/36 (13.9%)	0/36 (0%)	0/36 (0%)	3/36 (8.3%)
Mississippi	48/84 (57.1%)	7/84 (8.3%)	11/84 (13.1%)	9/84 (10.7%)	3/84 (3.6%)	6/84 (7.1%)	0/84 (0%)
Total	109/207 (52.7%)	12/207 (5.8%)	30/207 (14.5%)	28/207 (13.5%)	8/207 (3.9%)	12/207 (5.8%)	8/207 (3.9%)

APPENDIX G. PHOTOGRAPHS OF NECROPSY FINDINGS OBSERVED IN NON-VISIBLY OILED SEA TURTLES  
DOCUMENTED BY STRANDING RESPONSE DURING THE BP DEEPWATER HORIZON OIL SPILL

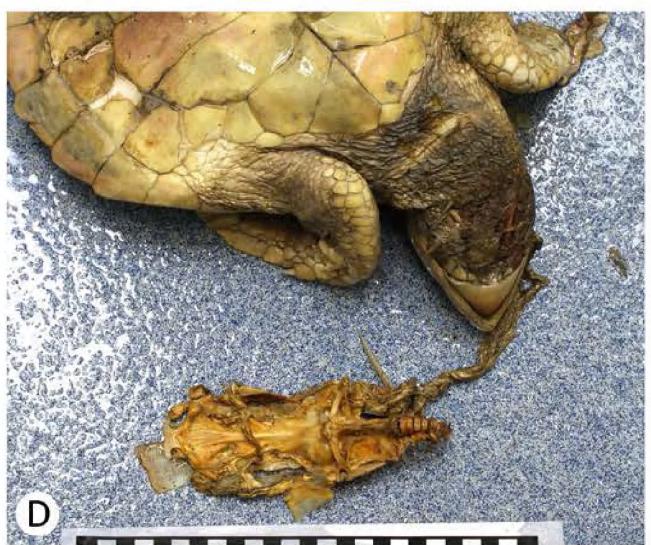


Appendix G1. Examples of postmortem conditions of sea turtles during the BPDWH spill response. (A) Kemp's ridley sea turtle in good postmortem condition (code 1). (B) Moderately decomposed Kemp's ridley sea turtle (code 2). (C) Severely decomposed Kemp's ridley sea turtle (code 3). (D) Desiccated, largely skeletalized carcass of a Kemp's ridley sea turtle (code 4).

Appendix GII. Examples of nutritional conditions of sea turtles during the BPDWH spill response. (A) Complete atrophy (depletion) of fat in a loggerhead sea turtle (poor condition). (B) Severe atrophy of fat with some residual adipose in a Kemp's ridley sea turtle (thin nutritional condition). (C) Mild atrophy of fat in a Kemp's ridley sea turtle (fair nutritional condition). (D) Abundant fat in a Kemp's ridley sea turtle (good nutritional condition). (E) Robust pectoral muscle in a loggerhead sea turtle (good nutritional condition). (F) Atrophied pectoral muscle in a loggerhead sea turtle (poor nutritional condition).



Appendix GIII. Examples of fish and shrimp in the mouths of dead stranded Kemp's ridley turtles found during the BPDWH spill response. (A) Kemp's ridley sea turtle with a small fish in its mouth. Note the multiple bite impressions in the nearly intact fish. (B) Kemp's ridley sea turtle with a shrimp in its mouth. (C & D) Kemp's ridley sea turtles with pieces of large fish still protruding from the mouth at necropsy. In (D), the fish and turtle are severely decomposed and a shred of fish skin is attached to the remaining dorsal aspect of the skull and anterior vertebrae of large catfish. (E) Fragments fish soft tissue and bone aspirated into the anterior airway of a Kemp's ridley sea turtle. (F) Shrimp tail and black sediment aspirated into the anterior airway of a Kemp's ridley sea turtle.



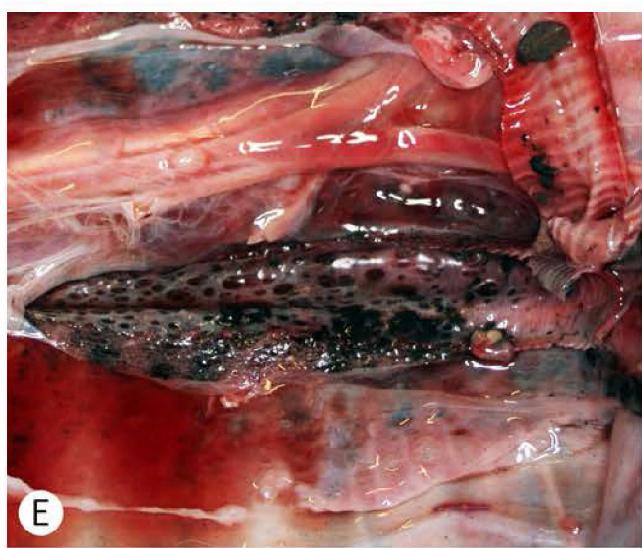
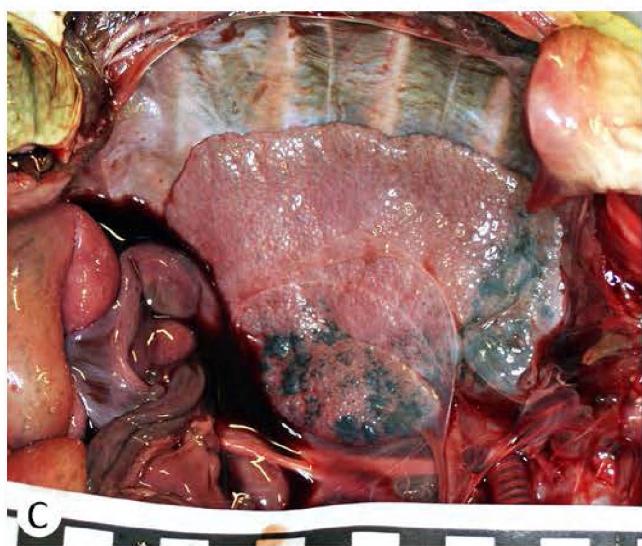
Appendix GIV. Examples of fish within the esophagus (A through D) and stomach (E through F) of dead stranded Kemp's ridley sea turtles found during the BPDWH spill response. The esophagus is opened in (A through D) revealing large pieces of fish within the lumen. The papillae (pointed projections), which are characteristic of the sea turtle esophagus, are visible. The stomachs have been opened in (E) and (F) showing abundant fish. Fragments of shrimp also are present in (E).



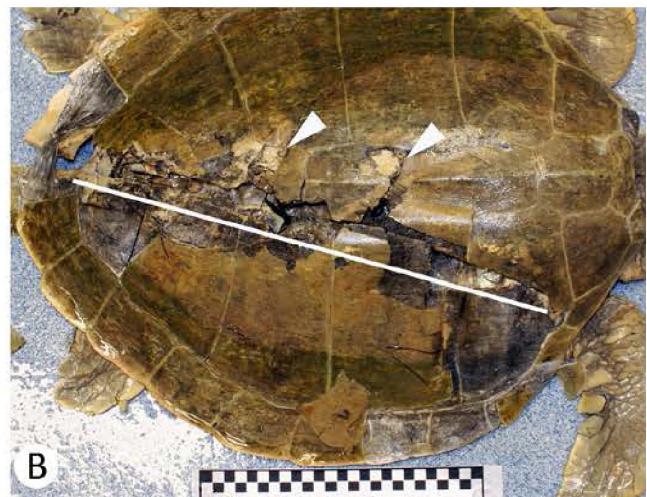
Appendix GV. Examples of shrimp found within the esophagus or stomach of dead stranded Kemp's ridley sea turtles found during the BPDWH spill response. The esophagus and stomach are opened to show shrimp within the lumen. The papillae (pointed projections), which are characteristic of the sea turtle esophagus, also are visible.



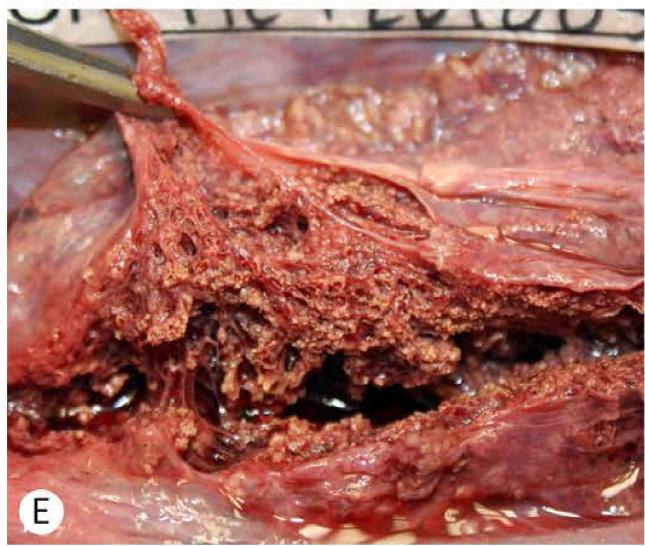
Appendix GVI. Examples of sediment within the respiratory tract of dead stranded Kemp's ridley sea turtles found during the BPDWH spill response. The glottis and trachea in (A) and (B) are filled with thick, black sediment. Aspirated black sediment is visible within the lungs shown in (C) through (F). The lungs shown in (E) and (F) are heavily inundated with sediment.



Appendix GVII. Examples of traumatic injuries observed in sea turtles found during the BPDWH oil spill response. (A) Severe blunt trauma involving the posterior carapace of a Kemp's ridley sea turtle. (B) Linear blunt trauma (white line) involving the medial carapace of a Kemp's ridley sea turtle, with superficial parallel chop wounds (white arrowheads) perpendicular to the linear blunt injury. These injuries are typical of trauma caused by the propeller (parallel chop wounds) and rudder or skeg (linear blunt wound) of a watercraft. (C) Multiple parallel and perpendicular chop wounds involving the lateral carapace of a loggerhead sea turtle. The "X" configuration of these injuries is consistent with trauma caused by a single-axis, counter-rotating watercraft propeller. (D) Kemp's ridley sea turtle with multiple series of sharply incised bite wounds typical of shark bites. (E) Kemp's ridley sea turtle with severe entanglement in monofilament fishing line. A rod and reel were still attached to this animal when it was recovered. (F) Kemp's ridley with enteric plication and intussusception resulting from ingestion of monofilament fishing line.



Appendix GVIII. Examples of diseased sea turtles found during the BPDWH spill response. (A) An emaciated loggerhead sea turtle is covered with numerous small barnacles. Barnacles often accumulate to this degree when turtles are inactive and can be an indicator of illness. Red-brown algae are present on the carapace. Similarly, the green turtle in (B) is emaciated and covered by small barnacles. Although decomposed, evidence of a severe infection of the carapace is visible as large patches inflammatory exudate covering the carpacial bone (white arrowheads). (C) Severely atrophied fat from an emaciated loggerhead. Fat becomes black as it is depleted due to the pigmented cells present within sea turtle fat. The tan area indicated by the white arrowhead is an area of necrosis resulting from pressure from a plastron bone. These lesions result from emaciation due to catabolism of connective tissues and increased mobility of some parts of the skeleton. Severe ulcerative colitis (D) is relatively common in chronically ill loggerheads. The mucosa is severely ulcerated and covered by a thick layer of tan exudate. (E) Severe subacute bacterial pneumonia in a Kemp's ridley sea turtle. The airspaces are filled with inflammatory exudate. An enlarged spleen (splenomegaly, white arrowhead) in a hawksbill turtle is shown (F). The enlargement is due to granulomatous inflammation resulting from mycobacteria infection.



Appendix GIX. Examples of stranded Kemp's ridley sea turtles found during the BPDWH spill response (Group 1). Each row shows three photographs from the same individual case.

1. (A) through (C). A severely decomposed Kemp's ridley is shown in (A). The pericoelomic fat (arrowhead) is ample, indicating good nutritional condition (B). The stomach is opened and is filled with ingested fish (C).
2. (D) through (F). A moderate to severely decomposed Kemp's ridley is shown in (D). The fat shown (arrowhead) is ample, indicating good nutritional condition (E). In (F), the stomach is opened and is filled with ingested shrimp.
3. (G) through (I). A moderately to severely decomposed Kemp's ridley is shown in (G). A large amount of fat is present (good nutritional condition) (H). The yellow appearance relative to other examples and the gas pockets are the result of bacterial action during decomposition. The posterior esophagus contains a fish.



Appendix GX. Examples of stranded Kemp's ridley sea turtles found during the BPDWH spill response (Group 2). Each row shows three photographs from the same individual case.

1. (A) through (C). A moderately decomposed Kemp's ridley is shown in (A). The esophagus is opened (B), revealing a large shrimp within the lumen. The stomach is filled with fish, and additional shrimp are seen within the posterior esophagus (upper right corner) (C).
2. (D) through (F). A severely decomposed Kemp's ridley is shown in (D). The esophagus contains a fish (E). The stomach is opened and is filled with abundant fish and fragments of shrimp (white arrowhead) (F).
3. (G) through (I). A moderately decomposed Kemp's ridley is shown in (G). The lungs are inundated with abundant fine black sediment (H). The esophagus is opened, revealing a large piece of fish (I).



Appendix GXI. Examples of stranded Kemp's ridley sea turtles found during the BPDWH spill response (Group 3). Each row shows three photographs from the same individual case.

1. (A) through (C). A severely decomposed Kemp's ridley is shown in (A). Ample body fat (white arrowhead) is present (good nutritional condition) (B). A bolus of shrimp is present within the posterior esophagus (C).
2. (D) through (F). A moderately decomposed Kemp's ridley is shown in (D). The fat (white arrowhead) in (E) is ample, indicating good nutritional condition. The esophagus is opened (F) revealing a piece of fish within the anterior esophagus and pharynx (white arrowhead).
3. (G) through (I). A moderately decomposed Kemp's ridley is shown in (G). The body fat in (H) is ample, indicating good nutritional condition. A large amount of fish is present within the esophagus (I).



APPENDIX H: REPORT OF BIOTOXIN ANALYSES, NOAA NATIONAL OCEAN SERVICE, MARINE BIOTOXINS  
PROGRAM LABORATORY

**2010 Northern Gulf of Mexico Sea Turtle Mortalities  
Algal Toxins Report**

**Date:** 25 August 2010

**Documented by:** Spencer Fire  
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**A. Suspected Event and Sample Details**

Samples from 14 Kemp's Ridley sea turtles (*Lepidochelys kempii*) stranding in Louisiana and Mississippi coastal waters between 17 May and 21 June 2010 were sent to NOS Charleston by Brian Stacy of the University of Florida. The samples were associated with a sea turtle mortality event occurring in the region and a request for analysis of biotoxins was requested as part of the mortality investigation. Sample types analyzed included liver, kidney, spleen, feces, stomach contents and intestinal contents. Samples were assigned NOS ID numbers (FT01-FT34) upon receipt in preparation for toxin extraction and analysis. A complete sample list is given in the data summary below (section H).

**B. Findings**

Domoic acid was detected in 3 of 14 animals. No other biotoxins were confirmed in these animals.

**C. Saxitoxin (STX) Analyses**

- 1. Preparation of Samples:** Samples were extracted by combining and homogenizing at a minimum a given weight of sample (typically 5-10 grams) with an equal volume of 0.1N hydrochloric acid. Homogenized samples were boiled for five minutes then volumetrically resuspended (typically 15-25 mL). The pH of the cooled mixture was measured and adjusted if necessary to fall between 3.0 and 4.0. These extracts were centrifuged at 3400 x g, then the supernatant was collected and syringe filtered (0.45 µm). Samples were prepared for analysis by Spencer Fire.
- 2. RBA Methods:** The acidic aqueous extracts and filtered samples were analyzed in a STX receptor binding assay (RBA). The receptor binding assay measures competition between radiolabeled STX and sample or FDA standard (S. Hall, USFDA/CFSAN, Washington, DC) for binding to the voltage-gated sodium channel, the pharmacological target of STX, to determine the total saxitoxin-like activity of the sample. Receptor binding analysis was performed by Trey Knott.
- 3. RBA Results:** Saxitoxin-like activity was not identified in any of the samples analyzed. The detection limit of this method was 35 ng STX equivalents per gram of extracted sample.

**D. Domoic Acid (DA) Analyses**

- 1. Preparation of Samples:** Samples were extracted by adding four volumes of 50% aqueous methanol to the sample volume, homogenizing, and then probe sonicating on ice for 2 min. These extracts were then centrifuged at 3400 x g, and the supernatant collected and syringe filtered (0.45µm) prior to analysis. Sample clean-up was performed by solid-phase extraction (SPE) using Varian 200 mg C18 columns. Samples were prepared for analysis by Bennie Haynes.
- 2. LC-MS Methods:** The methanolic extracts and filtered samples were analyzed for the presence of domoic acid using tandem mass spectrometry coupled with liquid chromatographic separation (LC-MS/MS) by Zhihong Wang. This method utilized reversed phase chromatography, using an Agilent 1100 HPLC coupled to an ABI-SCIEX API-4000 triple quadrupole mass spectrometer in ESI+ mode. Chromatographic separation was performed on a Phenomenex Luna C18(2), 5µ, 150mm x 2 mm column. Mobile phase consisted of water and acetonitrile in a binary system, with 0.1% formic acid as an additive. The elution gradient was as follows: 3 min of 5% acetonitrile, with a linear gradient to 40% acetonitrile at 16 min, 95% acetonitrile at 18 min, held for 5 min, then returned to initial conditions at 24min and held for 5 min before the next injection. In order to reduce mass spectrometer contamination, a diverter valve was used to switch the LC eluent to the waste container except for the 6 minute window of LC eluant bracketing the retention time for DA that was sent to the MS. Retention time of DA in samples was determined based on the retention time observed with a certified DA reference standard from the Institute for Marine Biosciences, NRC Canada (Halifax, NS). The detection of domoic acid by MS was achieved by

Multiple Reaction Monitoring (MRM) method with Turboionspray interface. Four MRM transitions from protonated domoic acid were monitored:  $m/z$  312 → 266,  $m/z$  312 → 248,  $m/z$  312 → 193, and  $m/z$  312 → 161.

**3. LC-MS Results:** DA was identified in 3 of the samples analyzed, at concentrations ranging between 3.8 and 5 ng/g. The limit of quantification (LOQ) of this method was 2.5 ng per gram sample, with a signal to noise ratio slightly above ten for standards.

#### **E. Brevetoxin (PbTx) Analyses**

**1. Preparation of Samples:** Samples were homogenized and extracted twice in 3 volumes of acetone, filtered via a 0.45  $\mu$ m Acrodisc syringe filter, evaporated, resuspended in 80% aqueous methanol (6 or 30 mL), twice solvent partitioned with 30 mL hexane, and the methanolic fraction collected, evaporated and resuspended in 5 mL of 100% methanol. Extracts were stored at -20°C until analysis. Extractions were performed by Spencer Fire.

**2. ELISA Methods:** Samples were analyzed using a direct competitive enzyme-linked immunosorbent assay (ELISA) for PbTx. The ELISA utilizes cross-reactivity of PbTx to anti-PbTx antibodies to determine PbTx-like activity in a sample. Quantitation is determined via competition between PbTx in the sample and PbTx conjugated to a signal enzyme for binding to anti-PbTx antibodies. Analyses were conducted by Spencer Fire.

**3. ELISA Results:** PbTx-like activity was initially detected in seven of the samples analyzed, at concentrations between 3 and 7 ng PbTx-3 equivalents per gram of sample. The limit of detection for this assay was 1.2 ng PbTx- eq. per gram of sample.

**4. LC-MS Methods:** Selected ELISA-positive samples cleaned by C18 solid phase extraction cartridges (Varian) were analyzed by liquid chromatography/mass spectrometry (LC-MS) for parent PbTx toxins and metabolites. Liquid chromatography separations were performed on a Luna C8(2) 150 × 2 mm column using an Agilent Technologies Model 1100 LC system. Mobile phase consisted of water (A) and acetonitrile (B), with 0.1% formic acid or formic acid additive with gradient elution. The mobile phase flow rate was 0.2 mL/min. The eluant from LC was analyzed by an Applied Biosystems/MDS Sciex 4000 QTRAP hybrid triple quadrupole/linear ion trap mass spectrometer equipped with a TurboV™ interface. The analysis of PbTx congeners and metabolites by mass spectrometry was achieved by multiple reaction monitoring (MRM). Brevetoxin congeners monitored included brevetoxin-A (also called PbTx-1), brevetoxin-B (also called PbTx-2), dihydrobrevetoxin-B (also called PbTx-3), dihydrobrevetoxin-A (also called PbTx-7), tetrahydrobrevetoxin-B (also called PbTx-9), oxidizedbrevetoxin-B, open A-ring brevetoxin-B (also called PbTx-2), open A-ring dihydrobrevetoxin-B (also called open A-ring PbTx-3), open A-ring tetradrobrevetoxin-B (also called open A-ring PbTx-9),, open A-ring oxidized brevetoxin-B, desoxyBTX-B2 (cysteine-PbTx-B) and its sulfoxide (BTX-B2), cysteine brevetoxin-A conjugate and its sulfoxide, glutathione conjugate (B type). LC/MS analyses were performed by Zhihong Wang.

**5. LC-MS Results:** Brevetoxin congeners were not confirmed in any of the samples analyzed. The limit of quantification (LOQ) of this method was approximately 1 ng brevetoxin per gram sample, with a signal to noise ratio slightly above ten for dihydrobrevetoxin-B.

#### **F. Okadaic Acid (OA) Analyses**

**1. Preparation of Samples:** Samples were homogenized and extracted in 3 volumes of 100% methanol, followed by centrifugation at 3000 x g for 5 min. The methanolic supernatants were filtered with a 0.2  $\mu$ m syringe filter in preparation for analysis. Samples were prepared by Spencer Fire.

**2. LC-MS Methods:** Samples were analyzed for the presence of okadaic acid (OA) and its two congeners (DTX1 and 2) using liquid chromatography (Agilent 110 series HPLC, Palo Alto, CA) coupled with tandem mass spectrometry (Applied Biosystems/MDS Sciex, Foster City, CA). For quantitation of okadaic congeners, LC separation was performed on hypersil C8 BDS, 3 $\mu$ m, 50 × 2.1 mm column, (Thermo Electro, Waltham, MA) using a mobile phase of water (A) and acetonitrile/water (95:5, V/V) (B), with 2 mM ammonium acetate and 50 mM formic acid as an additive under gradient elution at a flow rate of 0.2 mL/min (linear gradient from 30% B at 0 min to 90% B at 10 min, hold for 2 min, then return to 30% B at 13 min and hold for 8 min), MS detection was in negative ion multiple reaction monitoring (MRM) mode using an 4000 QTRAP mass spectrometer (for OA and DTX-2 with MRM transitions of  $m/z$  803.5 → 113.1, 151.0, and 255.1, for DTX-1 with MRM transitions of  $m/z$  817.5 → 113.1, 151.0 and 255.1) with limit of quantitation better than 1ng/ml with 10  $\mu$ L injection. LCMS analyses were performed by Zhihong Wang.

**3. LC-MS Results:** Okadaic acid congeners were not detected in any of the samples analyzed. The limit of quantification (LOQ) of this method was approximately 1 ng toxin per mL urine or per gram sample, with a signal to noise ratio slightly above ten for standards.

#### **G. Interpretation of Results**

Although several samples were positive for brevetoxins by assay methods, no toxin could not be detected by confirmatory analytical methods, likely due to a difference in the sensitivity of the two methods used. However, similar concentrations are frequently detected in sea turtles stranding elsewhere in the Gulf of Mexico in the absence of associated brevetoxin-producing algal blooms. Based on previous analyses of brevetoxins in large marine vertebrates in the Gulf of Mexico, these concentrations are not expected to be associated with acute mortality. Although phytoplankton monitoring efforts in the northern Gulf of Mexico reported minor bloom activity for algal species (*Dinophysis* spp.) known to produce okadaic acid and related toxins, these toxins were not detected in any of these animals. Three of the animals analyzed were positive for domoic acid in stomach content samples, however the concentrations detected here are very low in comparison to those associated with mortality in other marine vertebrates. As a point of reference, if these stomach contents were hypothetically composed of 100% seafood items, the DA concentrations detected here would be over 1000 times lower than the federal regulatory limit for seafood for human consumption. Although little data on biotoxin exposure is available to make more accurate comparisons, the role of algal toxins in the mortality of these animals appears unlikely when viewed in terms of toxin levels reported in other marine organisms.

## H. Data Summary

**Table 1.** Brevetoxin (PbTx), okadaic acid (OA), saxitoxin (STX) and domoic acid (DA) concentrations (ng/g) detected in Kemp's Ridley sea turtles (*Lepidochelys kempii*) by ELISA, RBA and LCMS methods. <dl = below detection limit. \*pos. = positive but unconfirmed by LCMS.

NOS ID	Animal ID	Stranding Location	Date	Sample Type	PbTx ELISA	PbTx-LCMS	OA-LCMS	STX RBA	DA-LCMS
FT01	LA-0014	LA - Lake Pontchartrain	5/17/10	liver	<dl		<dl		<dl
FT03				kidney	<dl				<dl
FT04				spleen	<dl				<dl
FT07				stomach contents	<dl		<dl	<dl	<dl
FT08				intestinal contents	<dl		<dl	<dl	<dl
FT09	LA-0007	LA - St. Bernard Islands	5/22/10	liver	<dl		<dl		<dl
FT11				kidney	<dl				<dl
FT12				spleen					<dl
FT15				feces	<dl		<dl	<dl	<dl
FT16				intestinal contents	*pos.	<dl			<dl
FT17	D-0108 MS	MS - Biloxi Beach	6/6/10	liver	pos.	<dl			<dl
FT19				kidney	<dl				<dl
FT20				intestinal contents	<dl		<dl	<dl	<dl
FT21	D-0175 MS	MS - Long Beach	6/17/10	stomach contents	pos.	<dl			<dl
FT22				intestinal contents	<dl				<dl
FT23	D-0188 MS	MS - Gulfport	6/19/10	stomach contents	<dl				<dl
FT24	D-0190 MS	MS - Biloxi Harbor	6/20/10	stomach contents	<dl				<dl
FT25	D-0141 MS	MS -	6/11/10	stomach contents	<dl		<dl	<dl	<dl
FT26	D-0136 MS	MS - Gulfport	6/11/10	stomach contents	pos.	<dl	<dl	<dl	<dl
FT27	D-0192 MS	MS - offshore of Biloxi Beach	6/20/10	stomach contents	pos.	<dl		<dl	5.0
FT28	D-0201 MS	MS - Biloxi Harbor	6/21/10	stomach contents			<dl		3.8
FT29				intestinal contents	pos.	<dl		<dl	<dl
FT30	D-0130 MS	MS - Gulfport	6/10/10	stomach contents	<dl				<dl
FT31	D-0183 MS	MS - Northeast of Cat Island	6/18/10	stomach contents	<dl				<dl
FT32				intestinal contents	<dl		<dl	<dl	<dl
FT33	D-0146 MS	MS - Long Beach	6/11/10	stomach contents	pos.	<dl	<dl	<dl	3.8
FT34	D-0099 MS	MS - Long Beach	6/5/10	stomach contents	<dl		<dl	<dl	

APPENDIX I. SUMMARY OF STRANDED SEA TURTLES REPORTED AS OILED WITHIN THE ORIGINAL BP DEEPWATER HORIZON RESPONSE AREA FROM OCTOBER 21, 2010 THROUGH 2015

Amended to report 8/2015

From October 21, 2010<sup>6</sup> through August 2015, nineteen sea turtles were reported by stranding responders to be visibly oiled or suspect oiled within the area that comprised the original response zone for the DWH spill. Dates of discovery, species, size, location, analytical results from the United States Coast Guard Marine Safety Laboratory (USCG-MSL), and major clinical or necropsy findings are given in Appendix I table below. Thirteen turtles were found in Louisiana, four in Florida, one in Mississippi, and one in Alabama. The extent of oiling was categorized as previously described (Page 14) and was determinable for four cases. Three were minimally oiled and one turtle was moderately oiled. Insufficient information was available for fifteen turtles, although the stranding responders described observed or suspected oil as being present in relatively small volumes and limited distribution in these cases (likely corresponding to minimal oiling). In most instances, the suspect material was completely removed during sampling in the field and was not observable at the time of necropsy.

Substance collected from three stranded sea turtles was confirmed to be petroleum derived from the BPDWH spill. A moderately oiled loggerhead hatchling (NME2010103001) was found in Bay County, Florida on 10/30/2010. Oiling was diffuse and a significant concern with regard to possible cause of death given the potential for miring and the relatively delicate nature of this life stage. No oil was visible in the mouth, digestive tract or respiratory tract. The second case was an immature Kemp's ridley (BWM2011041802) found moderately decomposed in Harrison County, Mississippi on 4/18/2011. A single aggregate of oil was present on the carapace. Suspected oil was also described in the mouth; however, this material was not found during necropsy (black sediment was observed in oral cavity). The third sea turtle in which external oil was confirmed

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<sup>6</sup> Official wildlife branch DWH response activities concluded on October 20, 2010.

to be derived from the BPDWH spill was a moderately decomposed immature Kemp's ridley (JSH2011102301) found on the bay side of Grand Isle, Louisiana on 10/23/2011. Aggregates of oil were described on the plastron and rear flipper in the field and residual oil on this skin was observed during necropsy. This turtle was in fair nutritional condition and had multiple fish within the stomach. In addition to these three cases, the most recently reported oiled stranded sea turtle within the former response zone was an adult female Kemp's ridley found on 12/17/2012 with a tar ball on its carapace. The tar ball was found to be derived from a source other than the BPDHW spill.

Substance collected from four sea turtles was confirmed to be petroleum, but comparative analyses could not identify the source. The quantity was insufficient for comparison in three samples and non-petroleum contamination in a fourth sample resulted in an inconclusive result. The volume of substance was small in all cases and was entirely removed by field sampling. One turtle (EMB2010102801) was a live Kemp's ridley found in Baldwin County, Alabama that was admitted into rehabilitation for abnormal buoyancy resulting from gas accumulation in the intestine (cause unknown). This turtle was later released alive. The remaining three turtles (CDD2011032901, SMM2011040802, and SMM2011041001) were found in the Barataria Bay and adjacent barrier islands (Grand Isle and Isle Grand Terre) in March and April 2011. All were moderately or severely decomposed.

Detection of petroleum was inconclusive in three cases MOC2011020701, MSB2011022702, NEC2011033102. Hydrocarbons were detected but could not be attributed to the presence of petroleum oil due to the low quantity of hydrocarbons present. All three cases were found in Louisiana in 2011. One animal was a Kemp's ridley that was found alive and cold-stunned on February, 7, 2011, and later died.

Petroleum was not detected by the analysis conducted in the remaining eight cases. Three were cold-stunned green turtles (SXH2010121504, SXH2010121510, SXH2010121528) found in the St. Joseph Bay, Florida. Two survived and were released, and one died. Subsequent consultation with the stranding responder and

visual examination of samples indicated that the material most likely was brown algae. Biological contamination consistent with this assessment was reported in the analysis of samples from two of these turtles. The remaining five turtles were found in Louisiana. The suspect material was entirely removed in the field was not visible at the time of necropsy.

In summary, small numbers of visibly oiled stranded sea turtles were encountered within the original DWH spill area during the five years after the official spill response ended. The presence of petroleum was confirmed by chemical analysis in eight cases and the material was shown to be derived from the BPDWH spill in three instances. Most of the turtles were found dead and none had visible oil within the digestive or respiratory tracts. The quantities of substance observed were relatively small and did not present a risk of physical fouling with the exception of the moderately oiled loggerhead hatchling, which was the only case with evidence that oiling may have been the cause of death. Necropsy findings in the remaining cases were similar to those presented in the main body of this report and those documented in subsequent years.

Appendix I table. Sea turtles reported to be visibly oiled or suspect oiled within the original BP Deepwater Horizon oil spill response area from 10/21/2010 through 8/26/2015. The response area included Louisiana, Mississippi, Alabama, and the western Florida panhandle (Alabama State line to Apalachicola). Cc = loggerhead; Cm = green turtle; Lk = Kemp's ridley; and USCG-MSL = United States Coast Guard Marine Safety Laboratory.

Date of discovery	Species	SCL	State	Coordinates	USCG-MSL Results	Summary of major findings
10/28/2010	Lk	36.6	AL	30.2791666 -87.5588888	Petroleum confirmed / insufficient quantity for comparison	Field ID: EMB2010102801; neritic juvenile; found alive with buoyancy problems; small amount of oil on multiple parts of body; gas accumulation in digestive tract and coelom (cause undermined); clinical diagnosis of concurrent pneumonia; released following 180 days rehabilitation.
10/30/2010	Cc	4.8	FL	30.2380555 -85.9236111	Petroleum oil confirmed / derived from BPDWH	Field ID: NME2010103001; hatchling, found dead and diffusely oiled. Necropsy findings: moderate amount of oil on all areas of body, no other anomalies observed.
12/15/2010	Cm	26.9	FL	29.6878 -85.3615	Petroleum not detected by analysis conducted	Field ID: SXH2010121504; neritic juvenile; found alive and cold-stunned; unidentified brown substance found on skin; died within hours of admission. Necropsy findings: no visible oil found, death attributed to hypothermia.
12/15/2010	Cm	30.5	FL	29.6879 -85.362	Petroleum not detected by analysis conducted	Field ID: SXH2010121510; neritic juvenile; found alive and cold-stunned; unidentified brown substance found on ventral neck and flippers; released following rehabilitation.
12/15/2010	Cm	32.3	FL	29.70151 -85.36986	Petroleum not detected by analysis conducted	Field ID: SXH2010121528; neritic juvenile; found alive and cold-stunned; unidentified brown substance found on ventral neck; released following rehabilitation.
2/7/2011	Lk	39.4	LA	30.142725 -89.861074	Inconclusive detection result (external and esophagus)	Field ID: MOC2011020701; neritic juvenile; found alive and cold-stunned; unidentified brown substance found on skin; died within hours of admission. Necropsy findings: unidentified black residue on esophageal mucosa; death attributed to hypothermia.
2/27/2011	Lk	37.9	LA	29.27364 -89.94268	Inconclusive detection result	Field ID: MSB2011022702; neritic juvenile; found dead and moderately decomposed; suspected oil found on multiple areas of body. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; fish within stomach.

Appendix I table continued.

Date of discovery	Species	SCL	State	Coordinates	USCG-MSL Results	Summary of major findings
3/19/2011	Lk	53.6	LA	29.20635 -90.032778	Petroleum not detected by analysis conducted	Field ID: SMM2011031901; neritic juvenile; found dead and moderately decomposed; suspected oil found on multiple areas of body. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; unidentified ingestra within esophagus.
3/20/2011	Lk	66.3	LA	29.23117 -89.99282	Petroleum not detected by analysis conducted	Field ID: MRB2011032001; adult; found dead and moderately decomposed; suspected oil found on skin. Necropsy findings: fair nutritional condition; no traumatic injuries; no visible oil, intrapulmonary sediment; ulcerative stomatitis.
3/29/2011	Lk	39.5	LA	29.288361 -89.913936	Petroleum confirmed / insufficient quantity for comparison	Field ID: CDD2011032901; neritic juvenile; found dead and moderately decomposed; suspected oil found on carapace. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; fish within stomach.
3/31/2011	Lk	35.3	LA	30.15147222 -89.19736111	Petroleum not detected by analysis conducted	Field ID: NEC2011033101; neritic juvenile; found dead and severely decomposed in oiled area; possible oil found on skin. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; blue crab within esophagus and stomach.
3/31/2011	Cc	70	LA	30.15225 -89.19586111	Inconclusive detection result	Field ID: NEC2011033102; neritic juvenile; found dead and severely decomposed in oiled area; possible oil found on skin. Necropsy findings: no traumatic injuries; no visible oil, assessment limited by postmortem condition.
4/8/2011	Lk	51.4	LA	29.24668 -89.96455	Petroleum confirmed / insufficient quantity for comparison	Field ID: SMM2011040802; neritic juvenile; found dead and severely decomposed; possible oil found on skin. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; fish within stomach.

Appendix I table continued.

Date of discovery	Species	SCL	State	Coordinates	USCG-MSL Results	Summary of major findings
4/10/2011	Lk	38.2	LA	29.43851 -89.88508	Petroleum confirmed / inconclusive comparison result	Field ID: SMM2011041001; neritic juvenile; found dead and severely decomposed; possible spot of oil found on skin. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil, assessment limited by postmortem condition.
4/18/2011	Lk	26.6	MS	30.3278 -89.20193	Petroleum oil confirmed / derived from BPDWH	Field ID: BWM2011041802; neritic juvenile; found dead and moderately decomposed; oil found on skin and within mouth. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil, black sediment within mouth and trachea.
10/23/2011	Lk	39.3	LA	29.26196 -89.96438	Petroleum oil confirmed / derived from BPDWH	Field ID: JSH2011102301; neritic juvenile; found dead and moderately decomposed; spots of oil found on plastron and rear flipper. Necropsy findings: fair nutritional condition; no traumatic injuries; oil staining on plastron, fish within stomach.
2/20/2012	Lk	38.8	LA	29.20577 -90.03365	Petroleum not detected by analysis conducted	Field ID: BCF2012022002; neritic juvenile; found dead and moderately decomposed; possible oil on carapace and front flipper. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; fish within stomach.
4/23/2012	Lk	39.7	LA	29.27848 -89.9325	Petroleum not detected by analysis conducted	Field ID: SMM2012042301; neritic juvenile; found dead and moderately decomposed; possible oil on carapace. Necropsy findings: fair nutritional condition; no traumatic injuries; no visible oil; intrapulmonary sediment; fish within stomach.
12/17/2012	Lk	60.5	LA	29.18327 -90.06095	Petroleum oil confirmed / non- BPDWH source	Field ID: JSH2012121701; adult female; found dead and moderately decomposed; possible tar ball on carapace. Necropsy findings: good nutritional condition; no traumatic injuries; no visible oil internally; intrapulmonary sediment; crab shell within colon.

AMENDMENT (CORRECTION) 5/30/2012

A minor error was found while cross-referencing clinicopathology data and “SUMMARY OF FINDINGS FOR SEA TURTLES DOCUMENTED BY DIRECTED CAPTURES, STRANDING RESPONSE, AND INCIDENTAL CAPTURES UNDER RESPONSE OPERATIONS DURING THE BP DEEPWATER HORIZON (MISSISSIPPI CANYON 252) OIL SPILL.” A minimally oiled green turtle captured out of Venice, Louisiana (JRC2010080305, NMFS10-00967) was mistakenly indicated to have been brought into captivity for rehabilitation. This turtle was cleaned at sea and released. Thus, the total number of sea turtles brought into captivity by directed capture operations was 327. This amendment does not affect other analyses included in the summary report.

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