Nearshore Water Column Injury Ephemeral Data Collections:
Submerged Oil Reconnaissance Plan
Deepwater Horizon Oil Spill (DWHOS)
June 5, 2010

Objective

- Nearshore shallow water and benthic habitats are known to be extremely valuable in terms of fisheries productivity, and characterizing the extent and nature of oil introduced into these habitats is an important first step in determining injury resulting from the DWHOS. Work under this plan will accomplish an initial reconnaissance of very shallow (<3m) subtidal habitats in the very nearshore water column (within 100m from the shoreline). Sampling will target areas where submerged oil is observed or is expected to be found based on shoreline assessment observations, to characterize the extent of oiling and document exposure of the water column and benthos to hydrocarbons.

Methodology:

Vessel-Submerged Oil Recovery Systems (V-SORS)

The primary data collection method for submerged oil is through the use of chain-weighted snare drags using devices know as V-SORS. Though initially conceived as a submerged oil recovery device during another spill, the V-SORS are likely most useful as a means of detecting submerged oil during this incident.

Due to operational constraints including water depth, deployment of a small-scale version, known "V-SORS Light," is likely to be most useful for this reconnaissance. The V-SORS Light device consists of two 8-foot lengths of heavy-link chain each carrying three snare pompoms attached to the end of a single rope. V-SORS Light are deployed and retrieved by hand, with two units simultaneously towed from opposite sides of a vessel.

V-SORS Light will be towed across the shallow water bottom along designated transects using GPS for navigation. At specified intervals, the V-SORS devices will be hoisted to the surface to inspect the pompoms. The amount of oil on the pompoms will be visually assessed and a qualitative level of oiling (heavy, medium, light & very light) will be assigned to the transect. A pictorial job aid has been created to help ensure consistent classification of oiling levels on snares across multiple teams. In addition, the composition of V-SORS survey teams will remain as consistent as possible, also to promote uniformity in the results.

V-SORS will provide a spatially integrated assessment of submerged oil along transects at a specific point in time. Survey resolution is dependent upon distance between transects and retrieval frequency. Survey transect locations will be determined by information derived from incident response or NRDA shoreline assessment observations. Transects 100m in length will be made perpendicular to the shoreline at 50m intervals along 10 shoreline segments identified as heavily, moderately, or lightly oiled. Due to the patchy nature of the oil affecting the shorelines, additional transects may be made in areas where oil is observed but would not be captured or documented by regularly spaced transects. All transect locations and times will be GPS-

referenced and recorded on data sheets, and all drag results will be photo-documented. Survey teams will also attempt to document the extent of any submerged oil that is visible from the surface.

Opportunistic biological sampling

As able, survey teams will carry out reconnaissance of biota present at snare drag locations. Deployment of small seine or trawl nets and/or ponar grab samples will be made concurrent with snare deployments for in situ recording of conspicuous biota, for the purpose of characterizing the biological communities present at sampling locations.

Equipment

- (2) 15'-20' shallow-draft boats capable of handling near-shore beachfront conditions
- V-SORS hardware (header bars, chain, rings, etc.)
- (6) trained personnel (staff recommended)
- (4) 12 hr days for sampling per boat
- (2) 8 hr days for sample prep, handling, and shipping
- (6) boxes Nitrile gloves, Nomex coveralls
- (2) Ponar grab samplers mounted on poles
- 1200 sorbent pompoms
- Plastic sheeting
- Decontamination supplies (detergent, garbage bags)
- Food/water for remote deployment of personnel
- 2 GPS units with extra batteries
- 2 digital cameras with extra batteries
- 2 trawl or seine nets
- Clear tape

Sample collection methodology, handling, and decontamination procedures will follow accepted standards to ensure the highest quality data will be collected.

Estimated costs

Agency personnel and boats will be used for V-SORS deployment.
Biological sampling gear (nets, grab samplers): $500
V-SORS hardware and snares: $3000
PPE & decontamination supplies: $500
Miscellaneous (batterics, tape, food & water, etc.): $500
Total: $4500

Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment. Parties each reserve its right to produce its own independent interpretation and analysis of any data collected pursuant to this work plan.

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