

MC252 Deepwater Horizon Oil Spill ADCP-Measured Currents Monitoring Plan

Addendum to February 26, 2011 ADCP Maintenance Mission & HARP Recovery and Maintenance Plan

HARP servicing plan for Gulf of Mexico
March 2011

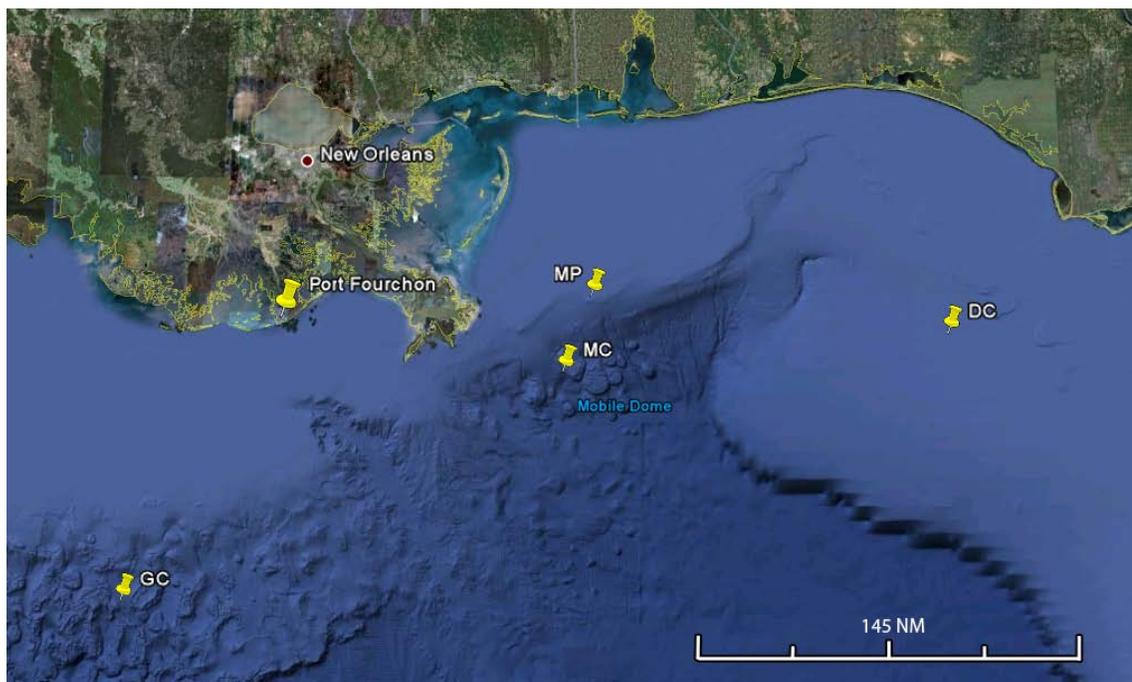
Prepared by the Scripps Institution of Oceanography and Continental Shelf Associates (CSA)

Overview and justification

There are currently five High-frequency Acoustic Recording Packages (HARPs) deployed in the Gulf of Mexico (Figure 1) for the purpose of acoustically monitoring marine mammals following the Deepwater Horizon (DWH) spill. This study is a part of the NRDA-funded plan for evaluating the environmental impacts of the DWH oil spill. HARPs are autonomous, seafloor instrument packages that make long-term continuous recordings of underwater sound at frequencies from 10Hz up to 100kHz during deployment periods of up to five months. This enables them to gather a continuous record of the presence and acoustic behavior of most species of marine mammals found in the Gulf of Mexico, including dolphins, sperm whales, and beaked whales. These long-term time series of acoustic data are useful for investigating the effects of the spill on the presence, acoustic behavior, and species composition of marine mammals over a large area of the Gulf of Mexico.

In order to maintain continuous data collection at the HARP sites, it is necessary to return to each site to perform a recovery and refurbishment every three to five months when the instrument's data storage capacity has been reached. This addendum to CSA's recent request for additional ship time will provide for ship support to recover and refurbish the four HARPs in the northern Gulf of Mexico (Figure 1) between March 18 and 25, 2011. Upon completion of this effort, the HARPs will record for a period of five months and will not require further servicing until mid-August, 2011.

Figure 1. HARP locations in the Gulf of Mexico



HARP operational requirements and servicing schedule

The instruments are designed to require minimal ship time on station during deployment and recovery operations. Recovery is achieved by returning to the site of deployment and sending release commands acoustically to transponders on the instrument. Upon release, the instruments rise to the surface where they are recovered, refurbished, and redeployed within a period of four hours. Deployment of the refurbished HARPs involves positioning the ship over the site and dropping either a single integrated seafloor package or a short mooring less than 30 meters long.

Integration of HARP operations with ADCP mooring maintenance:

Recovery and repair of the primary ADCP mooring will require a main vessel and a support vessel. During the cruise, both vessels will have windows of time up to a day in length, during which neither boat will need to remain on station. These windows present an excellent opportunity to perform recovery and deployment of HARPs. The following plan outlines a proposed schedule for integration of ADCP operations with the recovery and refurbishment of all four HARPs in the northern Gulf of Mexico.

Budget:

The cost of the additional ship time is \$57,000 (3 days at \$19,000/day)

Schedule:

Day 1 Chase boat: Pick up MC HARP en route to or from Pt. Fourchon to the ADCP site

- Distance: 115 NM
- Time in transit: 12 hours
- Time on site: one hour
- Operational plan: The chase boat would pick up the MC HARP, and refurbishment would be carried out during initial ADCP mooring support operations.

Day 1 Main boat: Travel to primary mooring site and begin communications with the ADCP mooring.

- Distance: 125 NM
- Time in transit: 13 hours
- Time on site: one hour

Day 2: Both boats engaged in ADCP operations.

Day 3 Chase boat: Transit to Green Canyon site to recover and swap HARPs

- Distance: 200 NM
- Time in transit: 20 hours
- Time on site: two hours
- Operational plan: The chase boat would leave the main boat and travel to the Green Canyon HARP site. Upon arrival, the HARP would be released from the seafloor and recovered on deck. The refurbished HARP from site MC would then be deployed at Green Canyon. Following this deployment, the chase boat would travel back to rendezvous with the main boat at the ADCP site.

Day 3 Main boat: Transit to Desoto Canyon to recover and swap HARP moorings

- Distance: 130 NM
- Time in transit: 13 hours
- Time on site: three hours
- Operational plan: The main boat would travel to the Desoto Canyon HARP site. Upon arrival, the HARP would be released from the seafloor and recovered on deck. A replacement HARP mooring would be ready for deployment and could be dropped immediately following recovery. Following this deployment, the main boat would travel back to the primary mooring site to resume ADCP operations.

Day 4: both boats engaged in ADCP operations

Day 5 Main boat: deployment of HARP mooring at site MP

- Distance: 27 NM
- Transit time: three hours
- Time on station: one hour
- Operational plan: The main boat would travel to the MP HARP site. The refurbished HARP mooring from the Desoto Canyon site would be deployed. Following successful deployment of this instrument, the main boat would return to Port Fourchon.

Day 5 Chase boat: deployment of HARP at site MC

- Distance: 8 NM
- Transit time: one hour
- Operational plan: The chase boat would travel to HARP site MC and would deploy the refurbished HARP from the Green Canyon site. Following successful deployment of the HARP, the chase boat would return to Port Fourchon.

Day 5-6: both boats return to Port Fourchon

- Distance: 115-125 NM
- Transit time: 12 to 13 hours

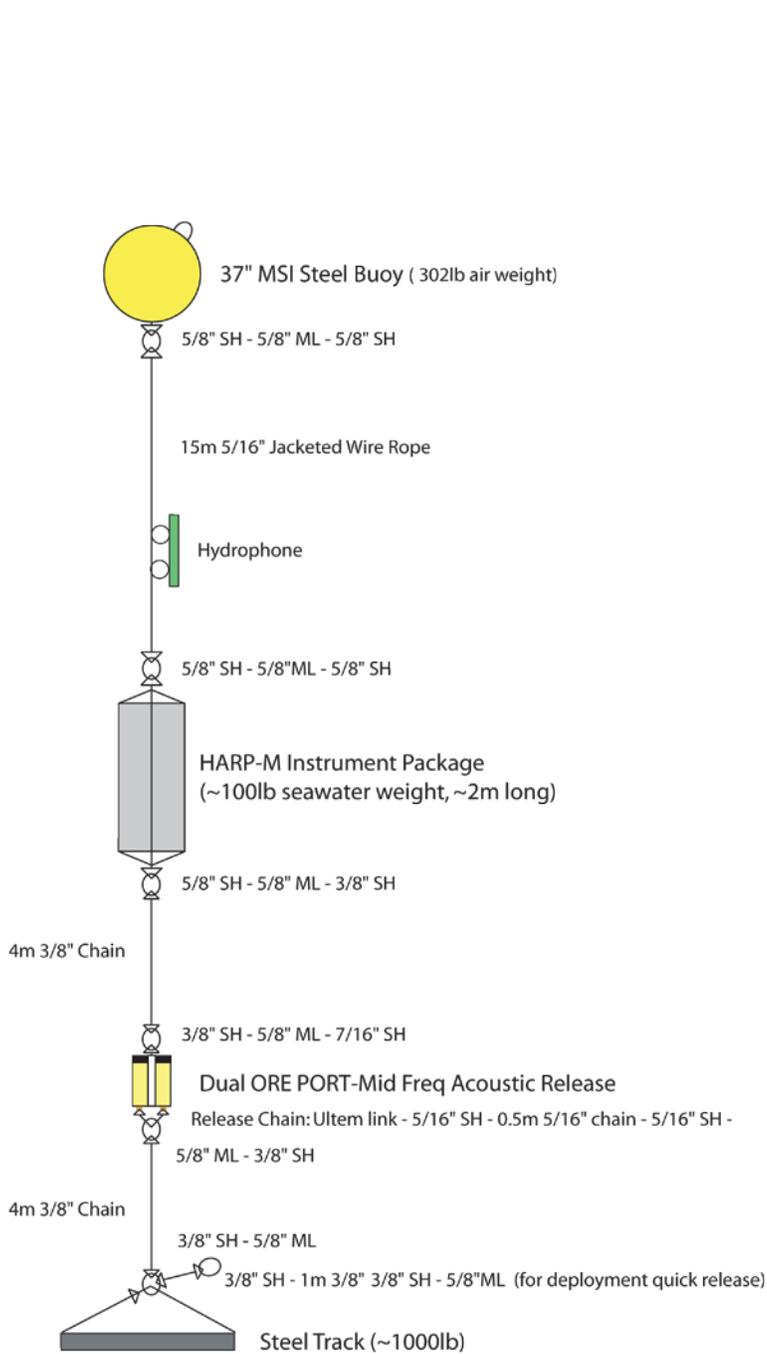


Fig 2.1: MP and DC HARP configurations

Weight:

900lb anchor

Dimensions

30m overall length

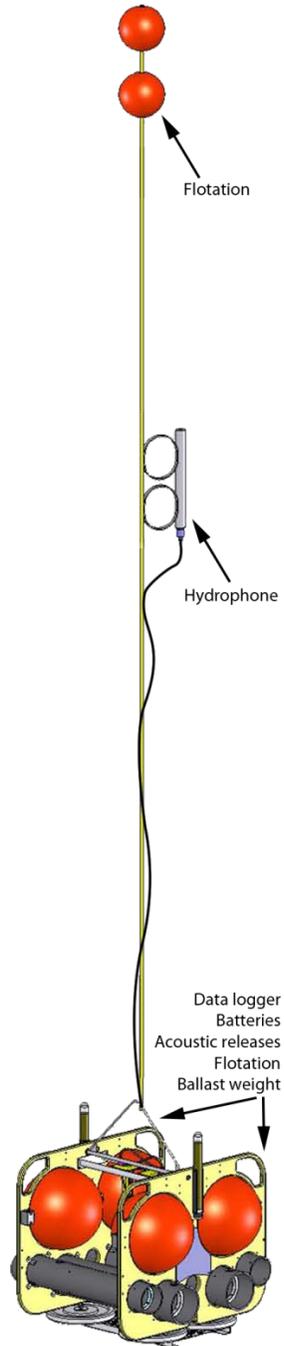


Fig 2.2: MC and GC HARP configurations

Weight:

700 lb with ballast

400 lb without ballast

Dimensions

42"x42"x36"

10m height

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Approvals

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

BP Approval:

Joyce Miley
Printed Name

Joyce Miley
Signature

3/18/2011
Date

Federal Trustee Approval:

Jessica White
Printed Name

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Signature

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