

Gregory Boland

Biological Oceanographer

Headquarters



Long-Term Monitoring of Impacted Deep-Water Corals

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45	HE	Long-Term Ecosystem Monitoring of the Deep Gulf of Mexico, Phase 1: Deep-Water Coral Sites Impacted by the 2010 Deepwater Horizon Oil Spill	10
<p>**PO = Physical Oceanography FE = Fate & Effect HE = Habitat and Ecology PS = Protected Species SE = Social & Economic OT = Other</p>			



BOEM Information Need:

- OCS Lands Act mandate for monitoring
- Information needed for ongoing description of impacts and recovery
 - NEPA analysis
 - Management decisions for
 - Future avoidance policies
 - Decisions for future use of subsurface dispersants

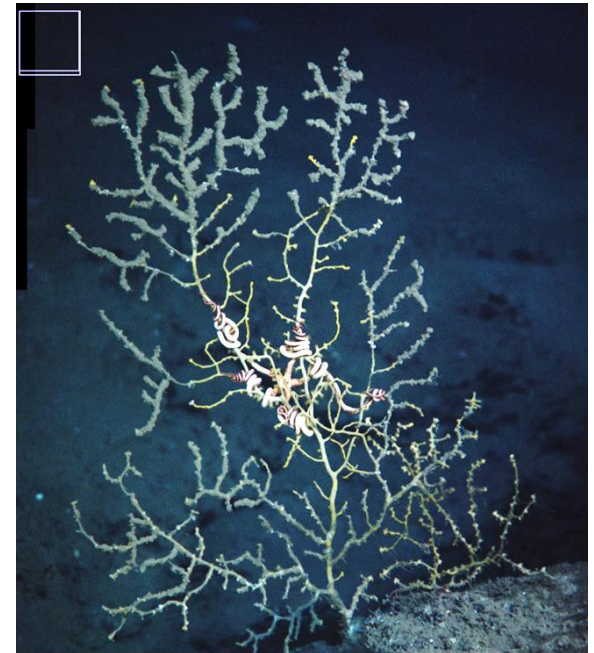
Date Information is Required:

- Monitoring funded from other sources ending in 2013
- Opportunities for collaboration beginning early 2015

Background:

A) Relationship with Previous Work/Efforts

- Initial damaged deep-water coral site discovered during BOEM/NOAA OER Lophelia II mission November 2010
- Direct tie to all DWH spill-related work funded or co-funded by BOEM



MC294 November 2010

Background:

B) Relationship with Concurrent/Future Efforts

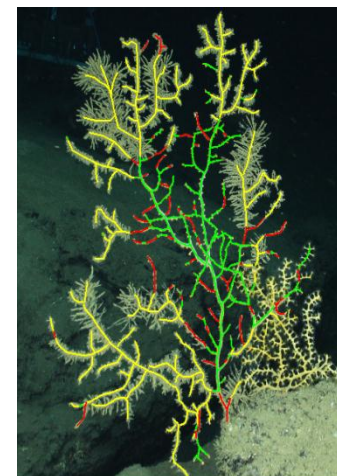
- Continuation of strong partnering efforts with NOAA OER and USGS over past 10 years (Chemo III, Lophelia II, Atlantic Canyons).
- Allows complex and expensive missions that could not be accomplished without partnerships
- Phase 1 of larger vision for establishing long-term monitoring at all major types of deep GOM habitat

Study's Objectives:

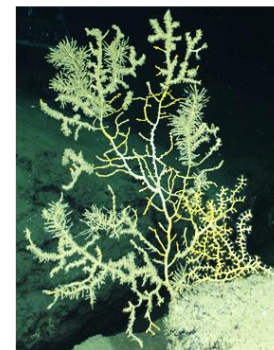
- Continue initial three years of monitoring that began with initial discovery during Lophelia II project.
 - Do impacted corals continue recovery or degradation?
- Include additional impacted deep-water coral sites discovered in 2011.
- Include control sites for recovery comparisons but also establishing new baselines.
- Contribute to larger program of monitoring



Nov. 2010



March 2012



Images from journal publication in prep., Hsing et al; not for duplication

Intermediate period, natural colors showing hydroids

Study's Methods:

- Depth is about 1,400 m requiring extraordinary facilities
 - Large research vessel with DP
 - Capable science-class ROV or HOV (*Jason/Alvin*)
- Multidisciplinary approach for comprehensive monitoring data
 - Imagery (primary tool for recovery monitoring)
 - Water quality
 - Sediment chemistry
 - Biological sample collections

- Collaboration anticipated similar to present Atlantic Canyons project
 - BOEM science contract
 - NOAA OER facilities? (vessel and submergence)
 - USGS partnership utilizing “OCS budget” for BOEM needs