

**The Deepwater Horizon Oil Spill's Impact:
Extending Science for Collaborative Management**

**El Impacto del Derrame de Petróleo de Deepwater Horizon:
Se Extiende la Ciencia para la Gestión Colaborativa**

**Impact de la Marée Noire de Deepwater Horizon:
L'extension de la Science pour la Gestion Collaborative**

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EXTENDED ABSTRACT

The 2010 Deepwater Horizon oil spill, the largest accidental oil spill in American history, occurred off the U.S. coast of Louisiana in the Gulf of Mexico. The ruptured wellhead released 172 million gallons of oil into the Gulf (Griffiths 2012). As part of the emergency response effort, managers applied an estimated 1.8 million gallons of the dispersants Corexit 9527A and 9500A to the spilled oil (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). Coastal residents and businesses began asking questions about where the oil went and how oil and dispersant affected wildlife and public health. Agencies closed fishing areas, tourists cancelled reservations, and resource managers worked to protect resources and assess damages from the spill.

During the spill, the responsible party, BP, invested \$500 million of non-penalty funds toward research to investigate impacts from the oil spill, creating what is now known as the Gulf of Mexico Research Initiative (GoMRI). Led by an independent, academic research board and administered by the Gulf of Mexico Alliance, GoMRI is a 10-year research program. Through its support of scientific research, GoMRI aims to mitigate the impacts of hydrocarbon pollution and stressors on the marine environment and public health from the spill, as well as improve society's understanding of oil spill issues.

In 2014, GoMRI provided support to the four Sea Grant programs of the Gulf of Mexico (Florida, Mississippi-Alabama, Louisiana and Texas) to form an oil spill-focused extension program (Hale et al. 2016a). The Sea Grant Oil Spill Science Outreach Program's mission is to increase the understanding and use of oil spill science by people whose livelihoods depend on a healthy Gulf. Sea Grant specialists utilize emerging science about the oil spill's impacts to deliver answers to audiences across the region and beyond. Since 2014, the Sea Grant specialists have regularly engaged with a variety of target audiences to keep a pulse on their needs, building a foundation of understanding and trust as they work to create targeted oil spill extension products.

To date Sea Grant has authored and released 14 extension publications that synthesize and translate science for diverse audiences, such as fishing communities, tourism operators, natural resource managers, and emergency responders. Several publications cover topics related to fisheries and habitats. For example, *Skin lesions in fish: Was there a connection to the Deepwater Horizon oil spill?* addresses the concern fishers had when they observed skin lesions on offshore marine fish species after the spill. The publication explains that fish skin lesions can develop on fish for a variety of reasons, such as poor nutrition, drastic changes in weather, contact with harmful organisms, or environmental pollution. Many of these factors occur simultaneously, challenging scientists and resource managers when they try to identify root causes of fish skin lesions. Thus far, scientists have not been able to reveal a clear cause-and-effect relationship between the Deepwater Horizon oil spill and observed fish skin lesions because they lack necessary fish health and monitoring baseline data (Murawski et al. 2014, Hale et al. 2016b). Additionally, the publication *The Deepwater Horizon oil spill's impact on Gulf seafood* lists the results of federal, state, and independent seafood testing after the spill. It explains that federal and state agencies closed waters to fishing during the oil spill and developed a plan to collect seafood samples and test them for chemicals found in oil and dispersants before reopening fishing. Of the 22,000 seafood samples tested for chemicals, no samples were over the U.S. Food and Drug Administration's level of concern (Ylitalo 2012, Graham et al. 2015).

In addition to extension publications, Sea Grant hosts seminars and workshops on topics of interest to their audiences. The seminars and workshops provide audiences the opportunity to learn from and interact with scientists tackling many of the challenging questions about understanding oil spill impacts. Another benefit of these seminars and workshops is that Sea Grant collects new audience feedback so that extension products can evolve and the program continues to serve changing needs.

Due to the initial success, GoMRI will continue to support the Sea Grant Oil Spill Science Outreach Program for a second term of three years. The Gulf of Mexico Sea Grant Oil Spill Science Outreach Team will be engaging with Caribbean stakeholders in partnership with University of Puerto Rico Sea Grant College Program, and the US Virgin Islands Marine Advisory Service, to share the latest oil spill science and related information.

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KEYWORDS: Oil, spill, impact, fisheries, coral

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