

**Statement of
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**Before the
House Committee on Natural Resources
Subcommittee on Energy and Mineral Resources**

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Chairman Gosar, Ranking member Lowenthal and members of the Subcommittee, I am pleased to appear before you today to discuss and review recent scientific advances with the Rigs-to-Reef program in the Gulf of Mexico. My name is Greg Stunz, and I am a Professor of Marine Biology and Endowed Chair for Fisheries and Ocean Health at the Harte Research Institute for Gulf of Mexico Studies at Texas A&M University – Corpus Christi. I direct the Center for Sportfish Science and Conservation, where a large component of our fisheries research program involves investigations into artificial reefs, and in particular Rigs-to-Reefs, which represent the dominant structured habitat in the western Gulf of Mexico and hotspots for fishing activities.

In short, our science along with research investigations of many of my colleagues around the Gulf are showing high value of artificial reefs and especially Rigs-to-Reefs in supporting and enhancing our marine fisheries resources, and in particular Red Snapper. However, our science is simply refining and validating what we have long known: structured habitat in otherwise mud or featureless bottom enhances fisheries resources. Early fishermen recognized that sunken vessels and a variety of other material on the seafloor are quickly colonized and become flourishing ecosystems. During the early 1800s, directed artificial reef construction began and now has expanded to modern programs across the Gulf States and other areas. Thus, we are not talking about a new concept, but how we can use wise scientific practices to inform and maximize the effectiveness of reefing opportunities we have with the Rigs-to Reef program.

Oil and gas industry operators in the Gulf of Mexico estimate there are approximately \$18 billion dollars worth of “reef-able” material currently in place, primarily in the form of oil and gas platform jackets. Many of us involved with habitat restoration science are routinely faced with limited resources, particularly materials, and this lack of this restoration substrate represents a significant bottleneck. However, that is not the case for Rigs-to-Reefs, and capitalizing on the existing reefing opportunity provided by these platforms in the Gulf is a win for all parties. An opportunity we should not miss.

Up until recently, scientific information that would validate or justify Rigs-to-Reefs has been relatively sparse. However, those knowledge gaps are quickly closing, as today’s scientists are equipped with some of the latest technologies in terms of Remotely Operated Vehicles (ROVs), advanced sonar systems, and other scientific methodologies that bolster traditional SCUBA and fishery-based surveys. Science has quickly moved past some of the initial, first-order questions such as, “how do you sample such enormous structures underwater and in a very difficult environment,” to now, focusing our efforts on higher-order questions such as, “how can we effectively create these structures to maximize fisheries enhancement, diving opportunities, and ecological performance?” This new science grounded in the

peer-reviewed literature is optimizing best reefing practices such as the appropriate depths to reef, how much relief from the bottom is necessary, and a host of other key factors that can inform managers as to the best reefing practices.

We have been surveying reefed platforms in the NW GOM since 2012, and our work documents a variety of species inhabiting these structures from small reef fishes to large sharks. Rigs-to-Reefs structures act as recruitment habitat for juvenile fish and are important to a variety of species at different life stages. We have documented an array of economically important species (snappers, groupers, amberjacks, etc.) residing at Rigs-to-Reefs habitat, highlighting the economic value of these structures to enhance fisheries. Overall, we find that rigs-to-reefs structures in our region of the Gulf provide important fisheries habitat in an otherwise structure-poor environment.

A central question of our research is, “how do these structures perform in relation to mother nature - natural bottom habitat?” I am pleased to report that in every parameter we use to measure success for Rigs-to-Reefs, we see that artificial reefs perform at least as good if not better in all cases. For example, we observe higher densities of fish, faster growth or at least the same growth rate, and even similar reproductive output when compared to natural bottom. Thus, by all measures, our data shows Rigs-to-Reefs are functioning equivalently or better, and contribute similarly on a per-capita basis as natural habitat.

No discussion on this topic would be complete without addressing the pervasive Attraction vs. Production argument. The scientific community is well-beyond this debate; nevertheless, the attraction criticism still persists. That is, do these structures simply attract what is already there versus actually producing new biomass? Attraction is simply the re-distribution of biomass from existing habitat to the artificial reef, while production is an increase in biomass over time. Recent science shows that artificial reefs including Rigs-to-Reef habitats function in both attracting and producing new fish biomass. And, this makes sense. Attraction and production are not mutually exclusive as the argument implies, and an artificial reef can serve to attract and produce new fish biomass simultaneously and at varying levels through time.

Our research and others clearly show production coming from these structures. However, criticism of stems from the assumption that attraction is a bad thing, when in fact, attraction is beneficial, and these artificial habitats would not function if some level of attraction did not exist. Scientific consensus is that both attraction and production are occurring, and both are key parameters for artificial reef performance and function. Moreover, recent research shows that the enhanced production from these platforms is substantially greater than in many other marine ecosystems.

The fact that these artificial reefs attract fish is a positive one for the Gulf's limited supply of hard bottoms, because they also attract anglers. Today's anglers have fast, long-range boats equipped with remarkable electronic capabilities to locate fish even over the smallest and remote structures. There are no longer, “secret fishing spots,” and our entire Exclusive Economic Zone can be easily accessed. The number of such anglers has grown remarkably over the last ten years. They are going to fish somewhere. With no alternatives to natural more sensitive habitats, anglers will easily (and already are) targeting these natural reefs in large numbers. For example, anglers frequently make day-trips on a one-way 100-mile trip to sensitive areas like the Flower Garden Banks National Marine Sanctuary on a routine basis. Fortunately, anglers are most interested in areas that are easy to locate and with easy access. This is exactly what Rigs-to-Reefs provide – a spatial management tool offering anglers high

success that is easy to find. These artificial reefs can disperse fishing effort and direct it away from sensitive areas affording these rare and sensitive natural habitats a refuge from fishing pressure. Moreover, as the management community considers alternative fisheries management strategies such as depth and regional management, Rigs-to-Reefs show much promise as a very effective management tool in this arena.

The scientific discussion has not ended but is really just beginning. There is a need for refinement of reefing science and subsequent monitoring to develop the most effective reefing plans given limited resources and materials. Just last year NOAA-Fisheries convened the National Artificial Reef Workshop here in Alexandria hosted by the Atlantic States Marine Fisheries Commission. The meeting stems from the National Fishing Enhancement Act of 1984 that directs the Department of Commerce to develop a long-term, national plan to guide artificial reef development in U.S. waters. The group included leading artificial reef scientists from across the United States and its territories, state artificial reef programs, and federal managers. The goal was to update the latest science and discuss the need to revise the 2007 plan. Rigs-to-Reefs was prominent in the discussion. There were two key recommendations from this group regarding Rigs-to-Reefs:

1. Enhance fishery resources to the maximum extent practical;
2. Use artificial reefs to minimize conflicts among competing uses for resources in our marine waters.

This group emphasized monitoring as a critically important component of artificial reef management. There is a clear need to develop precise agreement among various agencies and individuals on what constitutes acceptable and/or scientifically rigorous monitoring that would coalesce existing state and local program planning documents. Some essential points were the importance of establishing baselines, ongoing monitoring of artificial reefs, and to evaluate performance in meeting program goals. Newly emerging from this discussion was using socioeconomic research as a means to examine artificial reef valuation, return on reefing investments, and ecosystem services resulting from these activities. Thus, the timing of this hearing is very appropriate given with large amount of activity within this arena.

The most convincing evidence as to the value of Rigs-to-Reefs can literally be right in front of your own eyes. I recommend diving High Island 389 platform, perhaps the crown jewel of platforms and likely a future Rig to Reef. Located in the Flower Garden Banks National Marine Sanctuary, this platform is one of the most popular dives in the sanctuary, often getting more accolades than the astonishing coral banks themselves. Seeing these underwater oases in person, or even the numerous videos available, reveals that these structures are covered in corals and teeming with marine life. Seeing is believing and certainly allays concerns regarding whether these should be removed from the water. Even some of the industry's staunchest critics are becoming increasingly convinced, and while publicly stating that they would have preferred these structures not be there in the first place; however, presently they do not condone removal once the communities have been established. Additionally, divers almost always state this artificial reef dive is the highlight of their trip to the Flower Gardens Sanctuary. Diving there means fewer dives and less pressure on the more sensitive natural reef. This is an analogous situation to reducing fishing pressure on natural hard bottom communities.

In conclusion, Rigs-to-Reefs work and are an effective management tool. In my opinion, from a practical standpoint and particularly at the federal level, Rigs-to-Reefs is an under-utilized option in the fisheries manager's toolbox. They produce fish, reduce pressure on natural systems, and are a wonderful

example of the partnership between the oil and gas industry and resource managers, where both the Gulf environment, economy, and public benefit. However, time is not on our side with Rigs-to Reefs. The decommissioning and removal of what is widely regarded as the largest man-made reef complex in the world is happening at an accelerated pace, and the opportunity to access this habitat resource will not long be available. My advice would be to encourage you to take an active interest to ensure as much of this habitat stay in the water as possible.

Thank you for this opportunity to address the committee today, and I will be happy to answer any questions.