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Poster: Symposium 49- Managing Fishery Impacts on Deep Sea Coral Habitats

Title: Effects of bottom trawling on a deep-water coral ecosystem

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Abstract: In 1984, deep-water *Oculina* coral reefs off eastern Florida were designated as the *Oculina* Habitat Area of Particular Concern (OHAPC), prohibiting bottom trawls and longlines. Unfortunately, the northern two-thirds of the reef system remained open to these gear until 2000 when the OHAPC boundaries were expanded. In the 1970s, the *Oculina* reefs were teeming with large spawning aggregations of grouper and snapper. By the early 1990s, commercial and recreational fishing had decimated the fish populations, and the coral had been severely impacted by bottom trawling for rock shrimp. Photographic transects, made in the 1970s with the *Johnson-Sea-Link* submersibles, provide crucial evidence of the status of the reefs prior to heavy fishing and trawling activities. These photographs were recently digitized and the data were compared to recent submersible surveys. Quantitative analyses of the photographic images by point count (CPCE software) reveal drastic loss of coral cover between 1975 and 2001. Six reef sites had nearly 100% loss of live coral, whereas only two reefs which were within the boundaries of the original OHAPC were not impacted by trawling. Management plans for deep-sea coral reef ecosystems worldwide must be based on sound scientific understanding as well as adequate enforcement; this study will help build a foundation for this understanding.