Title: **Modelling Economic Effects of Fishery Regulations**

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Abstract: Due in part to limitations in data and models, fishery managers have been hindered in their efforts to simultaneously address economic and ecological effects of management measures. In the US, this promotes violation of National Standard 8 of the Magnuson Stevens Fishery Conservation and Management Act, which mandates that conservation and management measures minimize adverse economic impacts on [fishing] communities to the extent practicable. In some cases, fishermen's livelihoods have been sacrificed for sound ecological ends; in other cases neither economic nor ecological goals have been achieved.

This paper describes a model that integrates social and environmental data to enhance managers' ability to evaluate outcomes of various policy options. While the implementation is local, the methods are applicable worldwide.

Previous economic models have shown expected changes in fishery revenue due to management measures. This project further demonstrates changes in direct and indirect effects and displays those impacts geographically, providing a multifaceted picture of the consequences of a given management measure.

This model incorporates government labor statistics, commercial fishery landings and industry survey data to depict a baseline economic status of the commercial fishing industry in Monterey County, California. An interface with an Ecosystem Based Management (EBM) model incorporates ecological data. The economic & EBM data are integrated to produce a thorough cost benefits analysis of various fishery management measures. The model further displays the results spatially. The final output, a map, explicitly demonstrates fishery regulation effects on the coastal communities of Monterey County, enabling managers to compare policy options.