Responses to OMB's Comments on Alaska Gulf Coast Data Collection Project

1. Please provide more information and basic documentation on the IMPLAN model including published references of its use and application to similar problems.

Since input-output (IO) model was developed by Leontief, the model has been fundamental to regional economic analysis. In the IO model, changes in final demand, an exogenous variable, are estimated and the effects of these changes on the economy are calculated using multipliers. Since the development of IO model, many studies have used it to analyze agriculture (e.g., Leones et al. 1994, Sills et al. 1994), regional economic issues (e.g., Hughes et al. 1991, Holland and Cooke 1992), resource management problems (e.g., Hamilton and Gardner 1986, Waters et al. 1994), environmental issues (e.g., Rose 1983), and marine recreational fisheries (Schorr et al. 1995, Storey and Allen 1993, Hamel et al. 2002). Applications of IO models to commercial fisheries are found in, for example, Hushak et al. (1986), Herrick and Huppert (1988), and Seung and Waters (2006a). A fundamental features and more detail on IO models are found in Miller and Blair (1985) and Hewings (1985). Schaffer (1999) provides a more recent description of basic IO model construction and implementation. A survey of IO studies is found in Richardson (1985). A good survey of IO models and other regional economic models used for US fisheries is found in Seung and Waters (2006b).

IO models are often called IMPLAN model (IMpact analysis for PLANning, Minnesota IMPLAN Group, Inc.) since IMPLAN software is widely used by economists for implementing regional IO models. IMPLAN was originally developed by the U.S. Forest Service to assist in land and resource management planning. Beginning in 1993, development of IMPLAN was privatized under the Minnesota IMPLAN Group, Inc. (MIG). IMPLAN has two components: database and software. The IMPLAN database includes 21 economic and demographic variables for 509 NAICS-based industry sectors for every county (borough) and state in the United States. The economic variables include: employment, value-added components, government purchases, and household consumption. IMPLAN software includes a linear algebra algorithm for solving the IO model and calculating impacts.

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2. Given that the inputs to the model will be survey data subject to both sampling and non-sampling errors, how will this uncertainty be handled explicitly in the model or through sensitivity analyses?

The investigators will conduct sensitivity analyses in the regional economic model to be developed using the non-survey and survey data. By allowing the estimated population parameters to change (by standard deviation), they will examine how the economic impacts of a certain current or potential fishery management policies change. The results of the sensitivity analyses will provide upper and lower bounds of a fishery management policy.

3. While it seems plausible that local businesses could report total sales to vessels, how do you know that they keep and maintain records on their sales to different size vessels separately and do so in the size classes you are asking them to report. It's not clear why they would have and track this kind of information to report to you.

The fishing industry in Alaska relies upon personal relationships and mutual respect in business dealings. Businesses in rural Alaska that do significant amounts of trade with the fishing fleets have encyclopedic knowledge about their business dealings because of the high level of personal interaction between the boat owners, skippers, and mechanics; and business owners and managers. If they are to serve the fleet effectively, they must know their customers. It is this mutual knowledge and respect for customers that this study will use to gather reliable and useful data for the model. When the contractor of this data collection project (Professor Hans Geier) had interviews with owners or managers of local business in a fishery-dependent region for his other project, he found out that they can answer very easily what percentage of their trade is with which class of vessel without looking at any record. In some cases, he was surprised to find out that the interview took only about one minute and the questions were answered very quickly. These people know who their customers are!