Electronic Monitoring in Alaska - Synopsis for Agenda Item B.3

The 2013 Alaskan Observer Program differs from that used in the North Pacific since 1990 as the commercial fleet now has either a full or a partial observer coverage requirement. The partial coverage category covers primarily the smaller catcher vessels, many of which have not had observers before. The National Marine Fisheries Service (NMFS) is now randomizing deployment among vessels designated to be in the partial coverage category. In expanding the observer program, the North Pacific Fisheries Management Council (Council) recognized that observers may not be workable on many smaller vessels and has considered electronic monitoring (EM) as a potential tool to provide information for the future. The Council included EM in their motion on proposed observer regulations (NPFMC, 2011), setting a "goal of integrating EM into the observer program as an alternative tool for meeting program requirements". For EM to be viable, it must provide useful information in a cost effective manner. To date, the results of EM studies have been n mixed (e.g. Bonney et al. 2009, Cahalan et al. 2010, Dalskov and Kindt-Larson 2009). However, well designed EM programs do offer a way to obtain specific independent fishery data on board vessels and to validate self reported data. NMFS in Alaska will begin testing Electronic Monitoring (EM) systems on small (<57.5 LOA) fixed gear halibut and sablefish IFQ vessels in April 2013.

Our project strategy and design incorporates many of the lessons learned from past studies in Alaska and elsewhere. This study is intended to assess the efficacy of using technology for capturing, quantifying discard and effort; and build Agency infrastructure for an information system that can be scaled to support large scale implementation. The study will address challenges to managing a fishery using an integrated system approach that incorporates data collected through a variety of sources that includes electronic reporting (eticket, elog and sensors), data obtained from camera based systems and observer information. We will specifically examine; 1) the durability of EM equipment under Alaskan fishing conditions; 2) precision and accuracy of the data collected by EM, 3) infrastructure issues related to cost, data management, post processing, enforcement, fleet management, and integration with the catch accounting database, and 4) the need for timely data for quota fishery management.

In an effort to reduce post-processing cost of video data we will also conduct a feasibility study for automated image processing techniques to identify and capture serial catch events and obtain length measurements of catch using stereo cameras. This work is already well underway at the AFSC through development of a survey CamTrawl (RACE) that tracks individual fish caught in an underwater trawl and provides length measurements. We will also conduct a feasibility study (EM light) for collection of temporal-spatial catch and effort data in the small boat commercial groundfish and halibut fleet. These data may have the potential to inform; 1) post stratification assumptions, 2) observer effect, 3) accuracy of eticket area landings data, 4) define high bycatch rate areas 4) inform stock assessments (Index of CPUE) 5) and inform enforcement in a near real time basis. These studies have the potential to not only greatly reduce costs of an electronic monitoring program, but greatly advance cutting edge technology that will lead to improved data quality and control.

To better inform the NMFS and Council process for establishing or modifying the existing AK monitoring program, we will present a strategic technology monitoring plan to the NPFMC in June 2013 for their review and comment. This plan will focus on implementation process and consider a broad range of goals, objectives and information that NMFS is currently responsible for and those specific to the AK fishery management plan(s). The plan will contrast how different monitoring tools and strategies can contribute to achieving a wide range of objectives. It will also serve to help identify specific high priority goals and objectives that the Council believes is vital for attaining the management goals of the fishery or mission of NOAA-Fisheries.