

Considerations in the Design of New Fishery Independent Survey Systems

The following list of considerations for the design and implementation of new fishery independent survey systems was generated by participants at a trawl survey workshop with stakeholders held from January 14- 15, 2003 in Woods Hole, Massachusetts. The list represents a compilation of all ideas generated by stakeholders rather than consensus points among participants.

Sampling Design Considerations

- Restratification of survey strata with consideration of finfish and invertebrate stock boundaries and habitat.
- Investigation of other sampling designs (grid or systematic designs)
- Selection of seasonal timing to minimize the variability in the distribution of fish stocks
- Optimization of sample allocation weighted both by species and relative importance of survey information to assessments
- Estimate the fraction of the stock that is not in the survey area at time of the survey
- Research design that incorporates interests of all stakeholders
- Multiple surveys with differential targeting
- Monitor entire ecosystem components and functioning
- Environmental data incorporated into surveys
- Regular update of survey technology every 10 years
- Incorporation of fixed stations

Gear Considerations

- Trawl net and door combination with consistent bottom tending and geometric characteristics
- Footgear appropriate to habitat (use of more than one type of footgear)
- Gear with robust performance characteristics
- Dedicated cruise cruises to focus on gear experimentation
- Commercial vessel trials of current gear vs. improved/new gear
- Real commercial gear
- Stakeholder confidence/acceptance of survey gear
- Alternate non-capture methods of sampling (hydroacoustics, etc.)

Vessel Personnel Training/Experience:

- Experienced vessel captains and gear operations personnel
- Training programs for individuals deploying gear
- Examine changes in catchability with changing crew experience
- Put industry on the vessels
- Scientists on industry vessels

Research Survey Vessels/Platforms:

- New federal research vessels/platforms
- Fishermen running the survey on industry vessels

Fishing Operations

- Optimize set, tow and retrieval speed
- Tow direction standardized relative to tide
- Longer tows
- More tows
- Examine tradeoff between tow time and number of stations
- Auto trawl system to optimize the performance of the gear
- Manageable Size Catches for processing and data collection
- Deployable instrumentation package to monitor trawl performance
- Trawl mensuration data routinely collected on every tow in real time
- Comprehensive plan between the Service, States and the Councils concerning interference of fixed gear in state waters and federal waters

Cooperative Research / Stakeholder Involvement

- Streamlining Experimental research permit process
- More cooperative research
- Industry vessel to conduct shadow survey
- More funding for industry involvement and Center survey operations

Communications and Interactions with Stakeholders

- Remove political pressure to act quickly
- Ongoing open communication
- Training efforts to promote a better understanding of data uses for stakeholders
- Promote a better understanding of the use of survey data in the assessment process
- Mandatory regular coordination meetings between Center and stakeholders
- Web based feedback system for providing for stakeholder input on surveys
- Immediate initiation of post-cruise meeting involving stakeholders to discuss unaudited survey results
- Modify database to include flags for stakeholder input relative to fishing activity, weather, etc.