

Session: Performance Measures

Performance Measures Program of the Social Sciences Branch: Past, Present and Future Vision

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The Social Sciences Branch (SSB) has a long history of constructing metrics to measure socio-economic performance in the region's fisheries. The SSB's predecessor, the Economic Investigation group, began compiling and producing metrics annually in the 1980s, including simple vessel trends centered on landings and revenue, as well as landings value by port. With the addition of Social Scientists with expertise outside of economics in the early 1990s, the newly named SSB sought to expand the set of performance metrics to include those constructed around the concepts of community and the well-being of fishermen. Unfortunately, some of this early momentum was lost and the development of performance metrics became fragmented. Some work continued through staff involvement in fishery management council work. Starting in the year 2000, several performance metrics were constructed in response to individual initiatives within NMFS, funded by the Office of Science and Technology in Silver Spring, MD. These included studies to estimate vessel capacity and capacity utilization, productivity and profitability, and also social indicators of fishing community vulnerability and resilience. With the emergence of catch shares as a management tool, a fishery based set of performance indicators was developed by the SSB in 2011. The five broad categories of performance measures identified were financial viability, distributional outcomes, governance, stewardship and well-being. At the same time, initial work had begun nationally within NMFS to produce a standard set of performance indicators which could be measured in all catch share fisheries. The result of the national effort was a set of indicators that were broken into three categories, termed tier 1, 2 and 3. Tier 1 metrics were those that could be easily constructed given available data, while tier 2 and 3 metrics would need further research and development.

Fundamentally, the objective of the Performance Measures Program is to provide a set of metrics that are equivalent to what the stock assessments scientists provide that are focused on people. That is, a "people oriented process", focused on the well-being of those who are involved with harvesting fish, either commercially or recreationally. In doing this, our desire is to shift our focus from fishery management plan (FMP) based performance metrics to ones which fit within the large marine ecosystem (LME) paradigm by aligning our metrics, where appropriate, with the LME areas defined by the NEFSC ecosystem program. During this alignment, we will revise and expand our data collection efforts and seek to cover data gaps. This will be accomplished through additional survey efforts or the use of additional quantitative models. We also plan to build further capability for data sharing and storage as called for under the Public Access to Research Results (PARR) initiative. Our regional office (GARFO) will continue to have responsibility for reporting the tier 1 metrics which were developed for catch share fisheries and selected non-catch share fisheries, as the regional office controls the data sets used to create those metrics.

Currently, there are seven broad categories of performance indicators that are being pursued at an LME level. They are gross revenue, profit, effort, crew status, community fishing involvement, social well-being and recreational fishing. Within five of the categories, we have identified one or more metrics that we believe can be tracked. Further research is needed to develop indicators in the social well-being and recreational fisheries category. Work with NEFSC ecosystems program staff has already begun. Discussion has taken place around creating common data sets that can be used for our performance measure work. Focusing on the gross revenue category, we have constructed a Bennet price and volume indicator to examine changes in landings in four LME areas from 1964-2015. Next we will move to profit based measures of change in conjunction with a larger national NMFS effort to define net returns. It is expected that the national group will finalize their work in the fall of 2017.

In order to support regular reporting of performance metrics, we will also focus our efforts on better integration of our data collection efforts. The SSB has used surveys to collect specific cost data, as well as crew and owner information, and we refer to these data as “primary” data. We also draw upon data that is collected by other groups at the NEFSC and from other agencies. We use GARFO landings data collected through dealer reports, effort information from vessel trip reports, and cost and discard data collected through our at-sea observers. An example of data collected from other agencies includes labor wage rates from the Bureau of Labor Statistics, and social data such as poverty rates and education level from the US Census American Community Survey. We call these “secondary” data sources. Both types of data are needed to create the performance metrics we desire. We plan to 1) re-evaluate our survey methods in order to collect cost and earnings data on a regularly scheduled cycle; and 2) determine which secondary data sources can be used to construct performance metrics and fill in “data gaps.” When there are data gaps which still exist after using secondary data, we plan to use additional surveys to fill those gaps.

The SSB performance measures program also has a relevant research function, centered on construction of the various performance metrics, along with survey design and sampling strategies. Some of the research we plan is focused on developing trip and fixed cost models for both, performance indicators and regulatory work, estimating fishing vessel capital and permit value, estimation of natural capital value, ownership studies and vessel safety studies. Finally, we seek to create data products that can be used both internally by SSB staff, and by external partners and other interested parties. This will continue prior work that the SSB has conducted to develop web based data query tools to make our data products available to the public, and also to SSB staff.

Presently, there are 2.6 FTEs allocated to performance measures through our Science Planning Evaluation and Reporting System (SPERS) plans, and one contractor whose responsibility is to work on our cost surveys. However, the 2.6 FTE total is misleading because it is the sum of fractional FTE allocations from 8 different individuals and two vacant positions. The highest amount of FTE time is 0.5 for two different SSB staff. We seek to expand our FTE labor dedicated to this task to 4-6 FTEs, and one contractor, in order to form a self-contained group within the SSB. The Northeast region has over 4,000 permitted commercial fishing vessels. The shift in focus to indicators at the ecosystem level means we need to expand our performance indicator effort beyond what we have done previously. At the same time, there are more requirements being placed on the SSB from outside the NEFSC concerning data storage, and for data sharing (or data accessibility; PARR). This will require more staff time to service these

externally driven functions. We note that at least one other region (the northwest) has 4 full-time positions dedicated solely to cost and earnings work, for a much smaller population of vessels. Expansion of the group will allow the SSB to move forward with much more in-depth products.

In summary, the direction of the performance measures group will be to develop metrics which can be applied within the LME framework and to integrate this work with staff at the NEFSC involved with ecosystems. We also seek to develop measures which blend traditional economic measures with those reflecting well-being at the community level. Through this, we will develop surveys which will enable development of improved data products that can be shared internally and externally. In order to fully accomplish these tasks, we will need to expand the number of FTEs devoted to this task to between four and six.