

## Appendix C1: SAW50 Meeting with Pollock Fishermen

January 22 2010 – Mass DMF Annisquam River Marine Fisheries Field Station, Gloucester MA. This summary includes comments and discussions from the meeting and subsequent correspondence.

### Discussion

#### *General Approach –*

Liz Brooks presented a brief review of the assessment history of pollock, plans for the benchmark assessment and some data exploration. The pollock assessment was based on a virtual population analysis from the late 1980s to the mid 1990s, but the approach was replaced with a survey index approach because of few samples in the mid 1990s. The current method of assessing and managing pollock cannot be continued, because the Albatross survey ended in 2008, and results from the calibration experiment are not expected to allow comparison of Bigelow and Albatross survey series. The general approach for the 2010 benchmark assessment is to develop an age-based model that incorporates fishery and survey data to replace the current index-based assessment method and overfishing definition.

#### *Surveys –*

The survey data currently available are the Albatross spring and fall surveys (discontinued in fall 2008, replaced with the Bigelow survey in 2009), the Gulf of Maine shrimp survey (which only surveys shrimp habitat in the western Gulf of Maine), the inshore Massachusetts survey (which samples state waters, and typically catches only small pollock). A request was made to get pollock data from the Maine-New Hampshire survey, which might provide a recruitment index similar to the Massachusetts survey. A question was also raised whether Pollock are seen on the acoustic survey, and this will be examined.

All surveys are somewhat ‘noisy’ with large inter-annual fluctuations. There was general consensus that monitoring trends in the pollock resource is difficult with trawl surveys, because of pollock behavior and distributional patterns:

- Pollock are distributed more off-bottom than other groundfish. Gillnet fishermen typically catch more pollock by adding meshes to increase the height off bottom. Catches of pollock in gillnets typically decrease when there is large dogfish bycatch, presumably because nets drop with the weight of dogfish. Off bottom behavior is particularly apparent in March and April.
- Pollock are more abundant over hard bottom, and unless surveys are designed to trawl hard-bottom, they will miss many concentrations.
- Pollock have an extremely patchy distribution. This ‘hit or miss’ aspect of pollock is shown by surveys that have many tows with no pollock and a few tows with pollock.
- Pollock are strong swimmers, with endurance to out-swim trawls.
- Availability of pollock varies seasonally. They are typically more catchable as temperatures cool in the fall. Increased catchability may be associated with spawning, more on-bottom distribution or seasonal movement patterns
- Pollock school by size, with large concentrations of fish of a similar size.
- Pollock behavior appears to have changed, with different patterns than 15 years ago.
- Inshore surveys may be too slow. Fishermen’s experience is that you have to tow at least 3 knots to catch any Pollock and the best speed is 3.5 knots.

Environmental factors that may help explain pollock availability and catchability were identified:

- Pollock is considered to be a cold-water species, and survey catches may be associated with cold temperature.
- Fishermen also observed that pollock are typically following concentrations of sand lance. Tidal stage (slack tides are favored) and moon phase might be associated with greater probability of encountering Pollock; gillnetters catch more at night (exploration of trawl survey indicated no consistent difference between catches of day and night tows)
- Catchability of pollock may also be influenced by midwater trawling, which may disrupt pollock schooling or feeding.
- Pollock get 'spooked' by gear, and move higher in the water column after a pass is made with gear; some waiting is required before Pollock are likely to re-settle towards the bottom.

One fisherman asked why the 2005 fall survey index was excluded from the stock status determination during the GARM. Although the answer wasn't clear at the meeting, correspondence after the meeting revealed that GARM III reported the status of pollock based on only one year of the trawl survey rather than a three-year centered moving average (e.g., stock size for 2000 is the average of 1999-2001), as the criteria was established by the Reference Point Working Group in 2002. When the 2008 fall trawl survey results became available a few months after the GARM, the stock was confirmed to be overfished in 2007 based on the centered three-year moving average of the trawl survey (2006-2008).

The focus of the presentation was on how the assessment can be improved using currently available data. The group requested that the benchmark assessment also identify what information would improve future assessments. Given the difficulty indexing abundance of pollock with a trawl survey, an industry-based fixed-gear survey (e.g., variable-mesh gillnet) might complement existing survey programs. Similarly, acoustic surveys might help to assess pollock and other off-bottom species that are not well sampled by bottom trawls.

#### *Fisheries –*

The series of commercial landings was reviewed. The increase in recent commercial catches was interpreted as increased availability of pollock in recent years. Fishermen considered the pattern of landings to be largely influenced by regulations. For example peak landings in the mid-1980s were composed of much smaller fish than are retained by the large-mesh that is currently regulated. Restrictions on roller gear do not allow fishing hard bottom. Days-at-sea restrictions also did not allow exploratory fishing for concentrations of pollock or fishing in hard-bottom areas that require mending nets at sea.

Fishermen don't often target pollock, but they felt that when they do target pollock they usually can find them. The market has also held the landings lower than they could have been in recent years. Several years ago the United States government changed their criteria for pollock bids and we lost the military markets (they allow twice frozen fillets) all that market has moved to the west coast pollock. Before that pollock was worth \$0.70 to \$1.00 per pound on a consistent basis. Since then, pollock value can be as low as \$0.35 cents. Therefore, many boats have not targeted pollock due to relatively low cost fish price, high labor costs to dress and higher fuel costs. Traditional fishing grounds are currently closed to commercial fishing. For example concentrations of pollock are in the western Gulf of Maine closure, just east of 70° 15' W. Traditional fishing grounds were also in the Cashes Ledge closure.

Many pollock were also traditionally caught Down East and into the Bay of Fundy. Vessels no longer fish there because it is too far to go for cheap fish and high fuel costs, and the Hague Line was established. On George's Bank the larger boats fishing east of the Hague Line used to catch very large quantities of pollock this traditional fishing ground is no longer available to US fishermen.

The apparent increase in recreational landings (e.g., a substantial increase in 2008) was considered to be realistic. The increase was considered to result from concentrations of pollock in areas that are closed to commercial fishing, and a general increase in availability of pollock in recent years. It was suggested that recreational catch included small fish, despite the recreational size limit. This information is considered anecdotal at present, until size samples can be examined.

Participation in the meeting and candid contributions were appreciated. The meeting was informative for all participants, and the information presented at the meeting will be considered in the development of the benchmark assessment. Participation in the upcoming data meeting, model meeting and SARC were also encouraged.