

Section 3. Working Group Comments and Recommendations

The Joint Working Group noted that the quality of the data used for assessment purposes continues to deteriorate. The most serious concerns are:

- Continued reliance on provisional landings estimates by stock which are derived by prorating total landings to stock based primarily on unaudited VTR data.
- Continued deterioration of biological sampling of commercial landings in the ports.
- Continued poor spatial and seasonal coverage of most major gear sectors in the NEFSC Sea Sampling program and the effect on discard estimation accuracy.

The Joint Working Group developed the following generic and stock-specific recommendations:

1) Generic Recommendations

The most over-riding concern of the Joint Working Group was the continued deterioration of biological sampling of the commercial landings in the ports in 1999. Poor sampling intensity and seasonal coverage in 1999 required an unprecedented degree of pooling of samples across calendar quarters for many stocks, including Georges Bank cod, Georges Bank haddock, Georges Bank yellowtail flounder, Gulf of Maine cod, Southern New England yellowtail flounder and Cape Cod yellowtail flounder. Other stocks, including American plaice, witch flounder, Georges Bank winter flounder and Southern New England/Mid-Atlantic winter flounder, would have been included in the above list had VPAs been attempted this year.

This is an undesirable outcome and may have biased the estimation of catch numbers at age for use in VPA. In the case of Southern New England yellowtail flounder, poor sampling was the primary factor leading to the rejection of the VPA by the Working Group. In other cases, poor biological sampling contributed substantially to the uncertainty of the assessment results.

Therefore, the Working Group *recommends that biological sampling criteria including overall sampling levels and seasonal coverage as specified in annual requests be strictly met.*

Regulatory discarding has become an increasingly important component of fishing mortality for several stocks. Accurate estimates of discards depends on the availability of independent observations of kept and discarded components of the catch, obtained primarily from at-sea observer data. However, observer coverage in the groundfish fisheries is sparse, except for the sink gillnet gear sector, due to protected species priorities. Therefore, it has been necessary to rely on Vessel Trip Reports filed by individual vessel operators to estimate discard rates. It is unknown whether these reports are completed in a comprehensive and accurate manner.

Therefore, the Working Group *recommends that sea sampling coverage of major gear sectors involved in the Northeast groundfish fisheries be increased to a level which will allow estimation of discard rates for major gear types with sufficient seasonal and spatial resolution. The Working Group suggests that a minimum of 5 sea sample trips be completed within each 2-digit area per quarter for each major gear type (e.g., large mesh otter trawl, small mesh otter trawl, gill net, dredge, etc.).*

The Working Group noted a number of inconsistencies in the specification of the Harvest Control Rules across stocks. For example, for index level assessments, where mortality and biomass proxies are derived from research vessel survey biomass indices, approaches used to determine recent conditions vary among stocks (e.g., 3-year averages of exploitation ratio or biomass index). In other cases, reference points are based on absolute biomass and F , while the assessment of current stock conditions is derived from survey indices raised by swept area calculations, or B_{msy} and F_{msy} incorporate ages which are not part of the exploitable stock.

Therefore, the Working Group *recommends that the Harvest Control Rules be re-examined with a goal of achieving a more consistent derivation of reference points and specification of the Control Rule among stocks which are assessed in a similar manner.*

2) Stock-specific Recommendations

a) Recommendations for Georges Bank cod, as listed in 2000 TRAC Proceedings.

- Determine the effects of the following on NMFS survey indices:
 - 1) exclusion of survey data from areas south of Georges Bank and
 - 2) removal of unusually large catches
- Examine the appropriateness of assuming a flat-topped partial recruitment pattern for recent years.
- Review maturity ogives for 5Z and 5Zjm cod and reconcile differences if possible.

b) Recommendations for Georges Bank haddock, as outlined in 2000 TRAC Proceedings:

- Examine options for transformations of survey data to reduce the influence of large tows.
- Explore the use of inverse weighted by the variance of tuning indices relative to VPA formulations.
- Study the reproductive biology and factors affecting changes in maturation schedules.
- Develop consistent methods for inclusion of discards in the construction of the catch-at-age matrix.

c) Recommendations for Georges Bank Yellowtail flounder

- USA catches should be characterized by age/length keys dis-aggregated by sex if feasible
- The TAWG and the TRAC should further evaluate biological reference points with particular reference to MSY, including other methods of estimating MSY
- Other biological attributes of the stock should be included in future assessments to help characterize stock status

d) Recommendations for Gulf of Maine cod

- Examine sea sampling and other available data to determine the size composition of 1999 discards,
- Examine spatial aspects of 1999 discard rates with respect to perceived differences in density of cod between inshore and offshore regions of the Gulf of Maine,
- Examine VTR data to evaluate the level of fishing effort applied to Gulf of Maine cod in 1998 and 1999, and
- Examine the VTR data for the presence of outliers with respect to discard rates.

e) Recommendations for witch flounder:

- Examine inconsistency between VPA biomass and survey biomass trends in recent years.