Special Topics

Treatment of Historical Data

The Panel noted some inconsistencies in how historical data have been treated among assessments. Several stocks "hindcast" recruitment estimates in years when there were research survey indices of recruitment but no commercial catch at age estimates. However, hindcast recruitment estimates were not used for the Southern New England yellowtail flounder stock because "They extended well above the range of 'observed' recruitments and may not be representative of current stock productivity." (GARM III 'BRP' review). On the other hand, the Atlantic Halibut assessment included catch data going back to the late 1800's, and based biological reference point estimates on the results. The rationale for these apparent inconsistencies needs to be highlighted on a stock – specific basis.

Alternative Assessment Methods

Many different styles of stock assessment methods have been used at the NEFSC and these have been described in the GARM III 'models' review. The methods vary in terms of complexity and data requirements. The tendency appears to be to move toward age-structured methods with VPA as perhaps the ultimate goal. However, it is not clear in the scientific literature and in practice that this is necessarily the best way to proceed. There will be trade-offs between accuracy and precision among methods. Given that the NEFSC staff has considerable experience with this range of methods and that the methods appear to be backward compatible, i.e. that data poor methods could be used for data rich stocks, it would be informative to compare and contrast key model estimates among models applied to the same data/stock. This could also be tested in a management strategy evaluation framework. In this case, fishery performance could be measured relative to conservation and sustainable use objectives in closed loop simulations. Alternative assessment methods could be used in these simulations. It would be interesting to see if age-structured and VPA methods outperform "data-poor" methods.