

## CANADIAN AP TAC POSITION

March 19, 2013

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The Canadian AP has fully considered the US - AP TAC proposal. The Canadian AP wants to recognize both countries attempt to taking a precautionary approach and rejection of the default harvest rule.

However, we have respectfully been unable to find a compromise solution with the US - AP, which addresses the Canadian industry concerns and fishery objectives. The Canadian AP agreed to turn over our TAC advice, including supporting rationale as described below to the Canadian JMC appointees to negotiate further.

The following are some of the concerns expressed which support the Canadian AP position:

The spawning biomass estimates are heavily influenced by the model's estimate of the 2010 year class. Further, the age composition of the exploitable biomass is based largely on the 2010 year class (64%) and the combined 2010/2008 year class (80%)

The squid plots show that year class strength estimates are unreliable until cohorts are age 4-6.

The model uses an average natural mortality rate of 22% (rather than an age specific mortality), which may result in an underestimate of actual mortality when the biomass is dominated by 2 year old fish. The Canadian AP also notes that the stock is currently extremely truncated with primarily young fish in the stock.

The Canadian AP is very concerned a large portion of US harvest will be comprised of the 2010 year class before they reach sexual maturity and the true strength of the year class is confirmed. The disproportionate mortality of small fish in the US zone will negatively impact the 2010 year class's future contribution to the fishery and reduce the productivity of future spawning events.

It is our opinion the female spawning biomass may be over stated in the assessment based on the predicted strength of the 2010 year class. This assumes an accurate measure of the strength of the 2010 year class and predicts that the average maturity rate for age 3 fish can be applied. Maturity is more accurately determined by size, not age. In our experience large populations of a year class tend to be smaller at age, therefore it is plausible the 2010 year class maturity rate and spawning may be below average.

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The Canadian AP believes it is important to act with precaution in setting the 2013 coastwide TAC for these additional reasons:

- Reduce the uncertainty around the 2010 year class strength, through:
  - completion of another survey
  - collection of another year's catch and age composition data from the fishery
  - completion of another assessment
- Allow for growth of the younger age classes:
  - so a higher percentage has reached sexual maturity
  - to improve stock productivity
  - so they contribute more weight to the exploitable biomass
  - to more broadly distributed throughout the geographic range of the stock

In addition, we are very concerned that, consistent with the spirit of the treaty there appears no reasonable expectation of achieving the treaty stock splits between the two countries.