

Symposium on the State of Conservation of Whales in the 21st Century

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**State of the world's whale stocks:
Implications for policy-makers.**

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A perspective from within the IWC

Scientific Issues (i)

1. MSY Theory

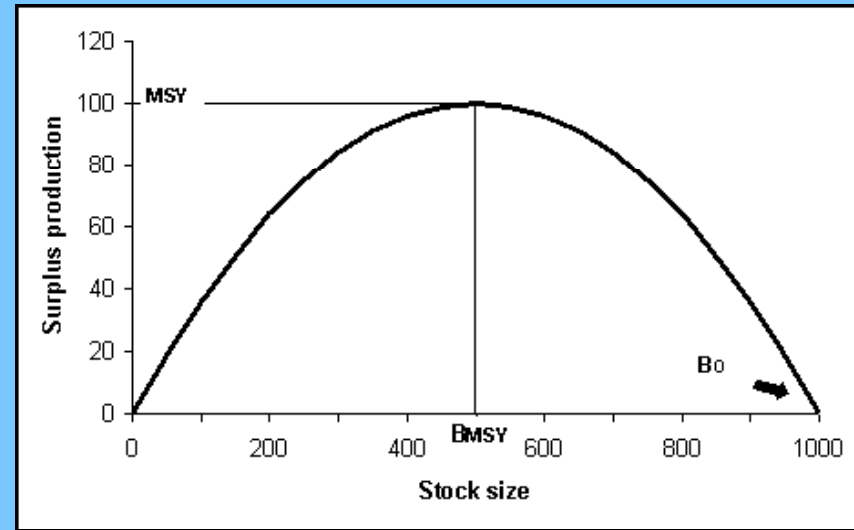
NMP based upon Maximum Sustainable Yield Theory.

Requires information on:

- Stock abundance (relative/absolute).
- Net population productivity.
- Variation of net productivity as function of stock size.

Major Flaws:

- No direct evidence of nature or shape of yield curves for whales.
- Idea that seriously depleted stocks would recover.
- Does not account for effect of environmental change nor ecological relationships within a given habitat.



NMP provided no means of:

- Adjusting catches in response to these factors.
- Assigning risk levels for uncertainties.

Scientific Issues (ii)

2. Status of Stocks

Scientific Committee unable to ascertain status of many stocks.

- Stocks with sufficient CPUE data already below critical cut-off point.
- Declines likely even greater.

Challenge was what to do about the remaining stocks for which:

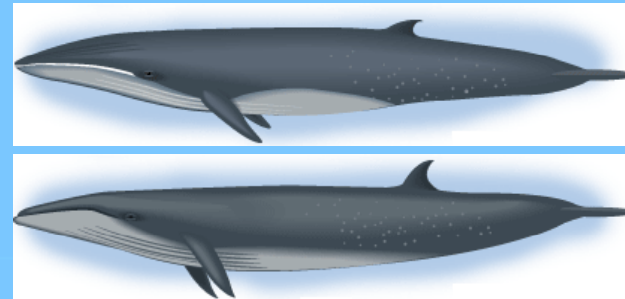
- No estimates of abundance were available.
- Indices of abundance were equivocal or lacking entirely.

3. Lack of Critical Data

Also lacked data on:

- Birth rates and/or natural mortality rates.
- The rate of net productivity.

Thus, assumed certain rates applied “by analogy”(e.g.):



How reasonable is this? Two ecologically dissimilar species :

- Sei whale is a temperate/polar water species.
- Bryde's whale is tropical in nature.

Scientific Issues (iii)

4. Stock Identities

Separate stocks of the same species might mix together on the same whaling ground (a presumed stock):

- Tagging data showed they might indeed mix together in feeding grounds or migratory corridors.

Conundrum:

While a safe catch limit might be set for a presumed stock, it might be so large that it inadvertently drove to extinction a small stock mixing with a larger one.

CONCLUSION

The Scientific Committee failed in its scientific responsibility of advising the Commission about the risks inherent in the advice we provided about catch limits.

Technical Issues

1982 - The Commercial Moratorium calls for a “comprehensive assessment”.

1986 – The Scientific Committee undertakes program to improve the scientific basis for managing whales.

1992 – Resolution on the Revised Management Scheme (RMS) calls for a “a *fully effective inspection and observation scheme*”.

- RMS includes the scientific component, the RMP, plus the rules to ensure that agreed management measures are enforced.

Observer Scheme

Consisted of bilateral arrangements between nations:

- But these proved unsatisfactory & time has shown that collusion and/or cheating occurred (see, for example, Yablokov 1994).
- Emergence of IUU issues elsewhere.

Besides shoring up the scientific side of management, the technical side also needed serious revision before a resumption of commercial whaling could conceivably be considered.

Where are we now? (i)

Scientific Issues

By 1994 the Commission adopted the Committee's recommended RMP.

- NB It only applies to Baleen whales.

Committee concluded only two trustworthy sources:

- Estimates of abundance from sighting surveys.
- Catch data submitted to the IWC.
- Wide confidence intervals but they could at least give uncertainties.

Committee able to finesse the multiple stocks issue:

- Computers used to divide up whaling grounds into statistical areas
- Information about stock identities not needed to provide a catch limit.

Monitoring showed recovery of stocks

RMP (i)

Enter estimate of abundance, with confidence limits & catch history.



Obtain species & region-specific catch limit.

Repeated simulations ensured errors did not result in a stock becoming at risk.

Looked at consequences of (e.g.):

1. Falsification of catch data up to 50%.
2. Undetected catastrophic pop. decline.
3. Differing forms of pop. models.

Exceedingly conservative: 0.1 % of stock estimate.

Where are we now? (ii)

RMP (ii)

Ultimate goal of the Committee is:

Obtain more & improved scientific information about stocks in management areas.

Provide rewards for advancing scientific knowledge and punishment for not improving the status quo:

- Increased catch limits for submitting new estimates of abundance.
- Catch limits reduced to 0 within 5 years, if no new estimates of abundance submitted.

RMS

Good support for an international approach to inspection & observation.

The Commission has yet to adopt measures to deal with IUU catches.

- Verification scheme based upon DNA technologies.
- Adapt catch documentation schemes used by CCAMLR, ICCAT and IATTC.

However, has not yet resolved different opinions on these two technical issues.

Conclusions

Scientific Committee has made a good effort to deal with, or finesse, the issues Doug Chapman and I raised.

The RMS process has broken down over high order problems that emerged during deliberations:

- Should the moratorium be lifted upon adoption of the RMS?
- Costs of the RMS.
- Scientific whaling.
- New sanctuaries.
- Animal welfare.
- Dispute resolution.

Recommendations

RMP would be a reasonable means for managing commercial whaling, should it ever be resumed.

- Whether to do so, of course, depends upon one's moral, ethical and/or political views.

The IWC certainly needs modernizing, but this is not a cause for throwing it on the trash heap.

- What would replace it?
- What is right for whales?
- First, do no harm.