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Result-Based Management (ResBM) in fisheries

The concept

1. Result-Based Management in fisheries is management by objectives and targets where the fisher enjoys a maximum of freedom to choose and innovate technology and methods to optimize results that meet these.

2. To ensure consistency between targets and results and a level playing field, fishermen must fully document their results. The accountability is the tool to successive improvements in management.

3. Result Based Management ensures incentives for the fisher to steadily improve the results and it produces knowledge relevant for gradual development of the targets.

Expanding the understanding

What objectives do we have for the use of marine resources and what operative targets should we formulate and develop?

<u>Objectives and targets for commercial utilization</u>

EU has adopted the MSY principle. It is expected to work on a single stock basis and as a TAC/quota management (as opposed to e.g. effort management). The principle might well be used in what I term as a primary ecosystem context. That is a management where species interaction and trophic factors (including fish we must leave for birds and mammals) enter into the equation. Economic factors may also be included.

The objective remains optimal utilization of the resource, and the resultant operative target is the catch quota.

Catch Quota Management (CQM) with full documentation makes the fisher accountable for his total catch, including eventual discards. This, in contrast to the present landing quota management, aligns real and registered catches with the fishing mortality, thus qualifying CQM as a ResBM. The introduction of CQM can immediately dispose of the perhaps most serious flaw of the CFP - discarding. This is demonstrated by the most extensive trials in the

history of the CFP (Ref3). However, there are also opportunities to refine and further optimize CQM (Ref1).

Ecosystem aspects

While the primary ecosystem considerations relate to the use of species targeted for commercial purposes the secondary considerations relate to species, habitats etc that must be protected.

This may be more difficult to put into the ResBM framework. A few examples may illustrate the opportunities:

- Protected species are normally protected by restrictions posing a problem with regard to knowledge about the actual pressure and lack of incentives for the fisher to reduce pressure. This may however be the only relevant regulation if data are scarce.

  Given the necessary data these species may be managed on basis of quotas or other effect targets. The discussion on choke-species effects is not taken here, but ResBM might be supplemented by forced closings or qualified advice on non-target areas to prevent commercial fisheries to stop due to lack of quota for protected species (i.a. Canada and Alaska has broad experience on this)

- Protection of habitats may be less suitable for ResBM. Closed areas, gear regulations etc may still be the best tools. However, it should be remembered that regulations on gear and behavior may have an insufficient correlation with actual effect. To the extent that effects – or perhaps indicators, can be developed as a basis for ResBM, this may be a way forward. However precision in targets, in full documentation of the result and in accountability should not be sacrificed just to have ResBM

In the sense that ResBM can be refined with regard to target definition and it can be gradually expanded to include more and more secondary ecosystem consideration it will develop in a hierarchical approach to obtain full accountability of the use of our natural capital.

Accountability

Full documentation of the results obtained is a sine qua non for ResBM. The documentation must ensure that the results meet the targets and that relevant data to establish the effects and produce relevant knowledge.

Accountability entails self control and adaptation of the fishery and reversal of the burden of proof.

ResBM is an incentive system where the individual fishermen strive to obtain the optimal result of his fishery. This does not exclude that fishermen cooperate in e.g. a community based context to optimize their results. Fishermen are often tied together by infrastructure as harbours, distribution chains etc and cooperation on quota utilization may be valuable

provided the cooperative spirit aligns the individual aspirations with those of the community.

Developing ResBM

ResBM should only be expanded with a pace that respects the need for clear and legitimate targets and for documentation.

A core issue in aligning the interests of fishermen and scientists must be addressed. More documentation may show more problems and areas of concern. This may often inspire scientists to focus on damage effects. Better data may however also allow for fisheries to continue within a more intelligent ResBM, thus ensuring the marine food output. Science must consider the balancing and serving of these two considerations. Basically, good science is to consider solutions in relation to observed problems.

Why result based management?

The need for sustainable food production is better achieved by private ingenuity than by public regulation for 3 reasons. The industry is closer to the problem; the industry will develop methods and technology applicable to the situation while public management uses generally applicable rules irrespective of the concrete situation. The industry may change and develop methods and technology with short notice, while public legislative processes take time.

Postscript

Following i.a. the EU proposal for a new Common Fisheries Policy and ICES' discussions on ResBM in Gdansk September 2011 I found no clear statement regarding the conceptual understanding of ResBM. Googling didn't help a lot hence, as I am a fan of tying together the abstract with the concrete this paper was produced.

Hopefully somebody may suggest helpful improvements.

Not to confuse with RBM (Right Based Management) I have used ResBM here.

References

1. Developing science for result-based management in fisheries - a digression? www.fvm.dk/yieldoffish . The paper illustrates some science areas in support of ResBM
2. Optimization of Catch Quota Management in mixed fisheries: The CQMopt model Henrik Holm, Mogens Schou (not published)
3. Reports on CQM and full documentation www.fvm.dk/yieldoffish