

Should one adopt the OMP concept? Our last word on the subject.

“The danger of computers is not that they will eventually get as smart as men, but that we decide to agree to meet them halfway.” -Bernard Avishai

This is our last article on the OMP management concept. In our two previous articles we tried, as objectively as possible, to explain the OMP concept and to present different views regarding its merits and demerits. It would however have been clear from the tone of our articles that we are not personally sold on many aspects of the philosophy and implementation of OMPs. And while we agree that the rationale underlying the present impetus for OMPs is probably here to stay, we have issued a warning against an over-zealous approach to the OMP concept, and we caution that OMPs are not a panacea for all ailments and uncertainties associated with fisheries management.

We feel that there is considerable merit in setting a management system which includes clearcut objectives and a feedback mechanism to make changes in output or input controls in response to observed deviations in expected fisheries performance trends. But we also argued that one should not adopt a management philosophy which promotes a hands-off, automatic, management system which is blind to new science, new information, new interpretations and new socio-economic developments.

Our justification for this position is that despite the beliefs and wishes of many people, fisheries scientists and managers can never have a good grasp of the dynamics of fish stocks. This is unlike the autopilot discussed in our previous article, where the manual pilot has easy and continual access to accurate information about its destination, present location, distance covered, fuel consumption, speed and height of the aeroplane. OMPs operate in a “knowledge vacuum” where one cannot be sure of anything, including the number of fish in the sea, the size of the resource as a proportion of its pristine size, the optimal (i.e. desirable) population size and the prevailing productivity of the resource. There is also uncertainty about fish growth rates, their longevity, their exact migration patterns, how they respond to environmental changes and how they are affected by ecosystem effects such as changes in the populations of their prey, their predators and their competitors. The question is therefore whether one can practically and ethically compare an OMP to an automatic pilot, and accept the pro-OMP argument, that a lack of knowledge and high levels of uncertainty are in fact a valid motivation for the adoption of management procedures.

Consider the situation where there are two unresolved views on resource dynamics:

View 1: The pessimistic view in which resource biomass is small, resource production is low, and there is little or no potential for growth in either the resource biomass or the TAC under the prevailing TAC levels.

View 2: The optimistic view in which there is a larger and more productive resource with more potential for growth in the resource biomass or the TAC.

Assume for the purpose of this illustration that the management objective is to rebuild the resource biomass by 50% over ten years. The advocate of the pessimistic view argues for an OMP that on average achieves 50% growth in resource biomass, when View 1 (the pessimistic one) is chosen as “reality”. Calculations are presented which indicate that the same OMP would achieve 65% growth over ten years if View 2, the optimistic one, is accepted. The argument of the pessimists is that their OMP is robust to uncertainty about View 1, and defend a position to stick with a TAC based on the OMP developed with the pessimistic view as the reference case.

What the pessimists often do not show is what the TAC could be if View 2 were chosen as the reference case for the development of the OMP, viz. an additional TAC of 15% of the resource biomass over 10 years, or 1.5% of resource biomass per year. In a situation where the catch is only, say, 10% of resource biomass, this implies a 15% increase in the commercial TAC. This example

illustrates the importance of presenting the implications of different assumptions about the reality of the resource in a fair way, with an attempt to represent biological and economic risk in a transparent manner.

In reality the government management agency is more often than not the advocate of the more conservative view (this is probably a good thing). But this normally leads to the management authority giving political weight to View 1. The net effect is that even though the basic argument is that the proposed OMP is robust to any of the above views, implying indifference to whether View 1 or View 2 is chosen as the reference case for the final determination of the OMP, the management authority is frequently drawn into insisting that View 1 is the formal view and resisting any suggestion to shift to using View 2 as the basis of the reference case.

This argument is somewhat convoluted but it is critical to the OMP development process. As a result, industry people are often denied the opportunity to meaningfully participate in resource management. As a result the management process is typically driven by a “formal” reality of resource dynamics rather than by a range of possible realities. Under the OMP philosophy, industry effectively lose the opportunity to participate in management for the entire implementation period, typically a period of between 3 and 5 years.

To conclude the OMP chapter we have listed a number of recommendations for the future implementation of management procedures and OMPs in fisheries management world-wide.

- More often than not, complex problems require complex solutions. An attempt to provide what appears to be a simple TAC setting mechanism in a complex and variable biological and political environment is very appealing, but very risky.
- There is nevertheless a need to eliminate unnecessary wrangling in the determination of the TAC and/or other input and output control levels. It is also crucial to get fishermen and managers to appreciate and accept the need to manage fisheries on a medium to long term basis, and to remove as much arbitrariness and “ad-hoc-ness” as possible from the determination of the TAC. We would therefore support the principle of the implementation of a medium term management plan which includes an OMP as an important component.
- Having said this, it is clear that the OMP process should be linked to a high level of security of fishing rights. It seems inconceivable to expect that fishing companies and fishermen support and comply with long term management approaches but simultaneously be denied the long term benefits that such management may produce, by virtue of there being very little or no security of access to the resource.
- Members of the fishing industry should also be presented with clear biological objectives for the OMP which are distinct from economic and political objectives. In cases where the OMP objectives are defined in economic terms, e.g. a policy of resource rebuilding aimed at improving catch rates for economic purposes and not necessarily to reduce biological risk, members of the fishing industry should have the last say.
- There are countless technical aspects to the development of OMPs. This is not say that input from members of the fishing industry should be limited to setting OMP targets. As has been demonstrated above, the assumed “reference or base case reality” which forms the basis upon which the OMP is developed is often more critical than the OMP formula which is eventually selected. The development of the “reference or base case reality” should be achieved in close collaboration with industry personnel. Industry experience and knowledge is indispensable and cannot be replaced by mathematical models and computer simulations.
- OMPs should not be linked to the elimination of the process of critically re-examining base data and the stock assessment model each year, and accommodating new scientific findings where justified. This critical process should be the duty of both industry representatives and government scientists. We emphasise that this does not mean reopening the TAC debate

each year, since the OMP will be the default TAC setting mechanism if nothing fundamental and substantive (enough to warrant revisiting the OMP) is tabled.

- The notion that the “burden of proof” for revisiting or changing an OMP lies with the fishing industry is wrong. The process of critically re-examining all data and scientific arguments on an ongoing basis is surely the duty of all persons involved in the fisheries management process, including government scientists, academics and industry representatives.
- Resource management by OMPs should not be permitted to become a ‘push of the button’ approach to fisheries management for extended periods of five to ten years, Such an approach will inevitably leads to the overlooking of important alternatives, and may lead to unacceptable biological or economic risk.
- In cases where views about the resource and/or a proposed OMP differ markedly, an international and independent peer review process can be very useful provided the local parties bind themselves to the recommendations from such a forum. This review process can generate valuable new ideas and research directions which are not tainted by local political agendas.