

Submitted by:

Dr. David Dow

18 Treetop Lane

East Falmouth, Ma. 02536-4814

Phone: 508-540-7142 (e)

E-mail: ddow@cape.com

I submitted comments on the draft report that the U.S. Commission on Ocean Policy released on April 20, 2004 and will limit my comments to changes made in the final report. I have decided to address these changes under some broad general themes.

1. Regional Ocean Councils

I feel that the Gulf of Maine Council on the Marine Environment (GOMC) provides a model that is a voluntary group involving New England Governors and Eastern Canadian Premiers, who are joined by federal agencies (NOAA in the case of the U.S.) and local non-government organizations (NGOs) on the council. The GOMC has a five year action plan which identifies priority action for joint action, such as contaminants, habitat restoration/conservation, stewardship, aquaculture, regional monitoring program employing mussels, etc. The GOMC is supported by a working group (WG) of representatives from diverse federal/state/provincial agencies to help flesh out the priorities identified by the council. The GOMC is supported financially by contributions from the U.S. and Canadian governments plus the states and provinces. The GOMC has organized a Gulf of Maine (GOM) Summit for October 26-29, 2004 in St. Andrews, N.B. which will discuss a State of the Environment (SOE) report for the region and draft indicators for: fisheries and aquaculture; land development, and toxic contaminants (chemical and microbiological).

It would be prudent to use existing organizations as the basis for the regional councils proposed by the U.S. Ocean Commission. The GOMC could be expanded to include tribes and a wider array of constituent groups (commercial/recreational fishermen/women; transportation/shipping interests; extractive industries; etc.) on the council or its working group. It is important to include adequate funding for the Regional Councils to be effective and certainly the GOMC has been constrained in some of its endeavors by a lack of resources. The GOMC's Action Plan and Summit illustrate the need to come up with a regional vision on the priority issues to be addressed, followed by a strategy (with measurable targets) for meeting the goals that have been established. The GOMC has organized a number of outreach endeavors to garner citizen input on the Action Plan and for involvement in the Summit. It is important to develop support at the grassroots for the political action required to bring some of goals into fruition.

There are some inherent conflicts between the GOMC (or other regional councils) and existing state/federal management authorities. Fisheries is a good example. The GOMC has a focus on addressing sustainable fisheries harvesting in the context of the integrity of the GOM ecosystem and developing indicators for the SOE report that focus on ecosystem health. NOAA Fisheries and the New England Fishery Management Council (NEFMC) develop fishery regulations for federal jurisdictional waters (3-200 miles) using biological reference points, performance measures and control rules contained in fishery management plans (FMPs). The states develop FMPs for their jurisdictional waters (0-3 miles) using somewhat different standards than the the federal FMCs and coordinate their activities through the Atlantic States Marine Fisheries Commission (ASMFC).

The biotic integrity indices for fish communities is a commonly used tool for assessing ecosystem health and utilizes a natural, unstressed (by humans) fish community as a baseline. The FMCs develop FMPs based upon concepts such as spawning stock biomass (SSB), fishing mortality (Fmsy), recovery targets for overfished stocks and overfishing, etc. An SOE based upon a biotic integrity index is likely to arrive at an entirely different conclusion on the status of stocks than an FMP based upon Bmsy and Fmsy. Also an ecosystem based recovery plan based upon the shifting baseline phenomenon of the stock sizes for target and non-target species is likely to be much different than the recovery plan based upon the overfished and overfishing targets in an FMP. There is a good likelihood of conflict between the goals of the regional councils and existing management entities (FMCs and NOAA Fisheries) and some thought needs to be given on how these will be resolved. The Pew Ocean Commission report proposed that the regional councils have the dominant role in establishing regional ecosystem plans with goals and targets.

An emphasis on ecosystem health focuses on additional issues not emphasized in single/multispecies FMPs, such as: biodiversity(using Marine Protected Areas or MPAs as a conservation tool); impacts of fisheries harvesting on non-target species and protected species; effects of fishing gear on habitat, food chain, and species at risk; including environmental factors such as climate change; etc. The U.S. Ocean Commission recommends that the regional councils involve diverse constituent groups in the planning and evaluation of MPAs, but leaves it up to the federal/state governments to implement these. One presumes that NOAA Fisheries and the FMCs will organize constituent sessions to receive inputs on MPAs designed to enhance/protect fish populations and essential fish habitat (EFH). Having separate groups (regional councils versus FMCs) with different goals (ecosystem health versus sustainable harvesting) developing dual strategies for MPAs would not seem a wise public policy and would diminish public support if different visions emerge. Some thought should be given to resolving this potential conflict in a pro-active manner.

2. Watershed Management

Having worked on an EPA-lead risk assessment project on the Waquoit Bay Watershed on Cape Cod, there is certainly a need to catalogue best management practices (BMPs) and provide more financial support to localities to address issues such as non-point pollution. For the Waquoit Bay watershed the largest source of nitrogen entering the watershed was from the regional airshed and control of this would require action by state/federal authorities. Within the watershed the largest source of nitrogen enrichment is septic systems. Given the dispersed nature of this input, localities can't afford to pay for a regional wastewater treatment approach involving sewerage/centralized wastewater treatment plants. There is obviously a need to develop a regional approach involving technical and non-technical (restoring wetlands, vegetated buffers, increasing forested conservation land, etc.). This regional approach would benefit from watershed BMPs, but would also require a significant infusion of outside funds to complement betterment fees paid by homeowners.

Other far field human stressors within the watershed included mercury contamination of freshwater fish and diminished stocks of estuarine fish from offshore harvesting. Reduced nitrogen loading to Waquoit Bay from the watershed would help restore eelgrass beds and aid the recovery of bay scallop populations. National/state management entities would have to address mercury input from the regional airshed and offshore harvesting of finfish.

It requires a joint federal/state/local initiative to address these problems, since they cross jurisdictional boundaries and require a significant infusion of new money to solve. Non-point pollution from land use within coastal watersheds and regional air pollution is a national problem with Waquoit Bay being an example. The national and regional ocean councils will need to come up with a strategy to address this problem. The U.S. Ocean Commission recommended that the National Ocean Council (NOC) consider combining EPA's Clean Water Act 319 program with NOAA's CZARA 6217 program. This is just the tip of the iceberg on what needs to be done to address the non-point pollution challenge.

3. Monitoring of Regional Water and Sediment Quality and Status of Living Marine Resources

In order to find out whether the goals of the national and regional councils are being met requires regional monitoring programs within a nationwide context. Current monitoring endeavors are designed to meet the legal mandates of federal/state environmental/natural resource agencies. There needs to be either increased coordination between these diverse agencies monitoring endeavors or an entirely new monitoring program to address regional water/sediment quality and status of living marine resources (LMRs). Much of the effort is currently done by ship board surveys, but these need to be supplemented by ocean observing systems for biological, chemical and physical parameters and satellite remote sensing. The U.S. Ocean Commission report discusses these in separate sections which diminishes the linkage and the need for a holistic strategy for regional monitoring and avoiding the current restrictions of agency mandates driving their monitoring programs.

More research is required on biomarkers to link chemical contaminant measurements in water and sediments to biological effects in organisms. Better predictive models are required to link biomarkers in organisms to the population and community consequences of diminished water and sediment quality on the status of LMRs. One needs to know both the effects of the toxic contaminants (chemical and microbiological) and the status of the natural trust resource populations in order to infer the consequences at the population and community levels. Plans need to be made to convert this regional monitoring data into information useful for managers and policy makers, in order to avoid the data rich, but information poor problem. Research translators need to convert this scientific information into a form that can be understood by the public, since it is hard to take action without public support.

Certainly inshore, toxic contaminants, habitat loss/degradation, land use activities in coastal watersheds, and climate change exert as much or more stress on LMRs than fish harvesting. I would suggest a National Academy of Sciences (NAS) Panel address the issue of the proper design for an independent regional monitoring program, with an indication on the key parameters to be measured and the available technologies for making these measurements. There have been workshops on regional monitoring programs in Southern California, Great Lakes, and Gulf of Maine that provide ideas for the NAS Panel to consider.

Thanks for your consideration of these comments