Recommendations

Ecosystem Objectives and Indicators

1. Ecosystem-level and community-level conservation thresholds are relatively new ideas in marine conservation. Since they will require new kinds of indicators, research is needed for their development and application to the Bering Sea.
2. New research is needed to understand how to synthesize the large set of Bering Sea data records into a reasonable number of ecosystem status indicators.
3. A formal process of evaluating and selecting ecosystem indicators is a general requirement. The Alaska Fisheries Science Center should consider developing and applying such a process to the indicators in its *Ecosystem Considerations* appendix.
4. Enhancements to the ocean/ecosystem monitoring network are needed to fill data gaps at ecological pulse points (plankton, benthic infauna and epifauna, seasonal species interactions and movements, small pelagics, and cephalopods) to improve predictive models and the development of ecosystem indicators.
5. More collaboration between modelers at the Alaska Fisheries Science Center and the Pacific Marine Environmental Laboratory, and elsewhere is encouraged to link various climate/ecosystem and conservation/assessment models, and to use these models to evaluate management strategies.

Socio-economics

While the workshop did not address socio-economic operational objectives for the Bering Sea and North Pacific, linkages between the well-being of people and healthy marine ecosystems require a level of attention comparable to those for ecosystem conservation objectives:

6. Socio-economic objectives related with the marine environment should be developed for the region, along with their indicators and reference points.
7. The North Pacific Fishery Management Council should play a central role in shepherding the development of these socio-economic objectives and indicators for the southeastern Bering Sea and Gulf of Alaska ecosystems;
8. There is a need to conduct scientific and policy analyses of pathways to achieve socio-economic objectives while remaining within ecosystem-level conservation limits.

Communication

9. Plans should be developed at an early stage on how the information from indicators can best be communicated to scientists, policy and decision makers, and the general public. The plans should include publishing concise, attractive executive summaries of major ecosystem status reports that will describe important trends and patterns in marine ecosystems for non-scientists.
10. To reach policy makers and the public in Asian countries, future iterations of the Synthesis chapter in the PICES North Pacific Ecosystem Status report should be published in multiple languages.
11. The development by the National Marine Fisheries Service of an *Ecosystem Considerations* website greatly increased access to time series of ecosystem indicators for the Alaska region, and should be maintained and enhanced.
12. An overview of the status of the Bering Sea ecosystem(s) should be presented at the annual *Marine Science in Alaska* Symposium to foster broader communication among the diversity of regional scientists, managers and the public.

Specific recommendations from individuals/groups can be found under Discussion Group Results in this report.