SUMMARY OF CONFERENCE FINDINGS

from the Managing our Nation's Fisheries II Conference:
Focus on the Future
March 24-26, 2005, Washington, DC

On March 24-26 over 600 people attended the Managing our Nation's Fisheries Conference in Washington DC, sponsored by the eight Regional Fishery Management Councils, the three interstate Marine Fishery Commissions, and NOAA Fisheries. Participants and attendees included members of the commercial and recreational fishing industry, managers, scientists, environmental organizations, and others. The conference format included three primary advisory panels, four workshops, a Scientific and Statistical Committee (SSC), and a main conference panel. The advisory panels, workshops, and SSC met and provided their discussions and primary findings for consideration by the main conference panel.

The following tables are an initial summary of the findings of the panels, workshops, SSC, and the main conference panel. These findings do not represent formal regulatory actions by any Commission or Regional Fishery Management Council, nor are these findings intended to represent formal recommendations to any governmental body, as neither the Councils nor the agency intended that the conference be established or utilized for that purpose, and regulations under the Federal Advisory Committee Act (FACA) preclude the conference results from being presented as such. They do, however, reflect the positions of the 15 participants on the main conference panel (see list below, including General Counsel and rapporteur), as well as the advisory panels, workshops, and SSC, relative to a number of key issues raised by the US Commission on Ocean Policy and which are being considered in the upcoming reauthorization process for the Magnuson-Stevens Act. As such, the conference organizers hope that the conference findings are useful as general information for the public in this national dialogue, and useful in informing the Magnuson-Stevens Act reauthorization process or other national legislation addressing fisheries management issues. Where there was disagreement among the main conference panel members on a particular finding, that was captured by individual vote and is reflected in the summary. Unless so noted, findings reflect unanimous agreement.

A full proceedings of the conference is in preparation, which will include all of the panel and workshop presentations, invited speakers, background papers, panel discussions, and other information from the conference.

List of Main Conference Panel Participants

Stephanie Madsen (NPFMC)
Roy Morioka (WPFMC)
Phil Anderson (PFMC)
Louis Daniel (SAFMC)
Eugenio Pineiro (CFMC)
Vince O'Shea (ASMFC)
Larry Simpson (GSMFC)
Adam Issenberg (NOAA GC)
Tom Busiahn (USFWS)
Chris Oliver (NPFMC/rapporteur)
Frank Blount (NEFMC)
Ronal Smith (MAFMC)
Julie Morris (GMFMC)
Bill Hogarth (NOAA Fisheries)
Dave Hanson (PSMFC)
ADM James Underwood (US Coast Guard)
Stetson Tinkham (US State Department)
Mamie Parker (USFWS)

Summary Findings on Ecosystem Approaches

Topics	*Background*	*Advisory Panel Finding*	*SSC Comments*	*Main Conference Panel Findings*
Technical requirements for an ecosystem approach to fisheries	• research and science program • risk assessment strategies • collaboration with managers and stakeholders • monitoring and evaluation	• The Councils and NOAA Fisheries should work collaboratively to pursue an ecosystem approach to fisheries • Given limited funds for research and staff, and limited human capital with fisheries expertise, we need to prioritize our needs • An ecosystem approach should be evolutionary and iterative, progressing from the present	• First, the SSC recommends that all fishery stakeholders need to be involved very early in the process. Active collaboration among scientists, managers and stakeholders is a prerequisite for successful development of an ecosystem approach to fisheries that includes humans as part of the ecosystem. • Second, the SSC notes that the scale of particular marine ecosystems may not match political boundaries in particular cases, so technical requirements for development of ecosystem approaches may require the implementation of a process that crosses customary jurisdictional boundaries. • Third, just as successful attainment of biological conservation objectives in a single-species context can be judged by comparing performance indicators against a set of biological reference points, technical requirements for an ecosystem approach to fisheries include the development of a set of ecosystem characteristics deemed important, definition of management objectives concerning those characteristics, and development of reference points and performance indicators by which to measure progress. The performance measures themselves may require alternative proxies owing to imperfect knowledge within and between ecosystems. • Fourth, having defined a set of desirable ecosystem characteristics and objectives, weights should be developed for each characteristic. Weights are necessary, because ecosystems are inherently dynamic and it will be impossible to achieve all desired characteristics simultaneously. The prescription of these metrics should be robust to the role of natural variability (e.g., decadal-scale climate regimes) in structuring marine ecosystems and should recognize that alternative natural states (e.g., warm- versus cold-water species assemblages) of the ecosystem are neither “good” nor “bad.” • Finally, technical requirements must include the development of analytical procedures for ecosystem evaluation and plans for future monitoring and research. As a first step, the SSC recommends giving high priority to the process of identifying and prioritizing the set of desirable ecosystem characteristics.	• The Councils and NOAA Fisheries should work collaboratively to pursue an ecosystem approach to fisheries involving all stakeholders, managers, and scientists • The Councils and NOAA Fisheries should identify, prioritize, and develop weighting for ecosystem characteristics per SSC comments (including human characteristics and reference points and performance indicators to measure progress, future monitoring, and research) • inventory current ecosystem projects • An ecosystem approach should be evolutionary and iterative, progressing from the present

Topics	*Background*	*Advisory Panel Finding*	*SSC Comments*	*Main Conference Panel Findings*
Science limitations	• effective multispecies and ecosystem modeling is critical to implementing an ecosystem approach • requires data that is not currently available in all regions	• A lack of data should not limit our ability to adopt an ecosystem approach • However, we fully support seeking additional funding to enhance ecosystem data collection and model development • We also support continuing to use and improve on current tools • We should maximize the mining of existing data sets and knowledge	• Many ecosystem research projects are currently feasible, including predator-prey studies, bycatch estimation, basic ecosystem modeling, habitat mapping, etc. We must focus on what is feasible today and in the near future rather than on focusing on what ultimately may be desirable. • The SSC believes that the Councils must be realistic about the ecosystem management goals, objectives, and methods. While it is an exciting intellectual exercise to imagine how ecosystem management could work with unlimited resources and perfect data, we must focus our energies on the resources we have and the goals we can accomplish in the present. • While our intellect is infinite, our resources are not. Our current funding, manpower, and data are limited. Future increases are unlikely to be orders of magnitude higher. A modest increase in funding will not lead to a dramatic increase in our capabilities. An ideal implementation of ecosystem management is not one budget or reauthorization away. • Our current and planned datasets are not ideal and in many cases insufficient for our ultimate goals. This is a constraint which should not stop us, but must be acknowledged and incorporated into any legislation and any plan. • Ecosystem management must be thought of as an evolutionary process that will move in incremental steps. Over time, our capabilities will improve. Our resources will increase and will be better directed as we better identify our needs. Our data will be more focused and our time series will be longer. • The SSC urges the Councils to focus on what can be done now and in the near future with ecosystem management. Planning should focus on identifying the positive, incremental steps we can reach and the strategies that can accomplish them. Expectations must be kept realistic or we will fail before we begin.	• A lack of data should not limit our ability to adopt an ecosystem approach • However, we fully support seeking additional funding to enhance ecosystem data collection and model development and to match goals and objectives to the reality of available information and the reality of budget limitations. We must recognize the evolutionary nature of the process in this context. • Focus on improvements that can realistically be made in the short-term. • We also support continuing to use and improve on current tools • We should maximize the mining of existing data sets and knowledge • Must recognize that models and available data will differ by region.

Topics	*Background*	*Advisory Panel Finding*	*SSC Comments*	*Main Conference Panel Findings*
Regional ecosystem planning and the role of regional ocean or ecosystem councils	• NOAA Fisheries supports creating 10 regional ecosystem councils that will develop goals and objectives for the ecosystem, provide ecosystem information and performance metrics	• The panel does not support regional ecosystem councils - discomfort is with adding another layer of bureaucracy • However, the need for a forum to resolve fishery and non-fishery issues within an ecosystem is recognized • Fishery management councils should not become ecosystem councils	See *Technical Requirements* above.	• No separate ecosystem councils; but to support establistment of regional (voluntary) coordinating bodies comprised of regional authorities/jurisdictions and public expertise to address non-fisheries management issues
Type of ecosystem planning document: Fishery Ecosystem Plans, or other?	• 3 scales of ecosystem plan have been suggested: a) ocean council-level document b) fishery ecosystem plan c) ecosystem-based FMP	• Councils should develop their own ecosystem-based management documents for fisheries; requirements should not be imposed from above • Some panel support for FEPs; others concerned about data limitations • An FEP should be a strategic guidance document that looks at what we know, and where the gaps in our knowledge are • FEPs should reflect regional flexibility and the different interests in each region	The SSC did not address this issue.	• Councils should develop ecosystem-based management documents for fisheries • Ecosystem-based FMP should be a fundamental, first order goal (relative to FEPs) for each Council or region • If an overarching FEP is developed, it should be to provide general guidance to FMP development

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Process for developing ecosystem-based goals and objectives	• who is responsible for developing goals and objectives • who should be involved in development • what is the desired state of the ecosystem	• The ecosystem goal should be to manage for sustainability <u>and</u> productivity • Development of goals and objectives should be a regional, bottom-up process; should engage a broad cross-section of stakeholders (fishery and others) • Where multiple jurisdictions intersect, it is most productive to identify the relevant players and engage them in partnerships	• This topic and the one below are complementary aspects of the same theme, namely defining ecosystem-based management. Goals and objectives should first be generally outlined at the national level and should include consideration of traditional single-species objectives such as optimal yield, sustainability, bycatch reduction and protection of essential fish habitat, but should be expanded to include protection of ecosystem function, safeguarding water quality, and protection of marine biodiversity. Goals and objectives also need to include social dimensions and safeguards. Some of these objectives will have to be defined in greater detail in order to make implementation clear and practical. • Strong regional differences exist in ecosystem makeup and function; these differences are most pronounced between temperature and tropical regions. While, it would be worthwhile to attempt to develop general attributes that extend to all regions, ultimately guidelines will need to be refined at the regional, or eco-regional, level in order to address ecosystem differences that exist between regions. Guidelines should include identification of metrics that can be used to characterize ecosystem health biologically, ecologically, socio-economically, and managerially. Broad stakeholder input should be solicited during guideline development.	• Broadly defined national level objectives followed by regionally defined goals and objectives (using SSC guidance) • Agency/Council steering committee in each region (or large marine ecosystem) MOTION PASSED WITH ONE OBJECTION

Topics	*Background*	*Advisory Panel Finding*	*SSC Comments*	*Main Conference Panel Findings*
Development of national guidelines for an ecosystem approach to fisheries	• National guidelines on ecosystem management should avoid the pitfalls of the essential fish habitat guidelines • however, ocean reports have demonstrated a need to standardize regional best practices across all fisheries	• Recommendation for guidance not technical guidelines • Guidance should help Councils and regions to use tools available under MSA and other mandates, to evaluate the potential for ecosystem-based management in each region - would address uneven progress among Councils and regions	See *Process for developing ecosystem based goals and objectives,* above.	• Recommendation for guidance not technical guidelines • Guidance should help Councils and regions to use tools available under MSA and other mandates, to evaluate the potential for ecosystem-based management in each region, and - would address differences, as per SSC discussion, among Councils and regions
Elements of an ecosystem approach to fisheries that should be codified in the MSA		• The panel is cautious about amending the MSA - wary of strict regulations and guidelines that will require Councils to produce new FMP amendments across the board (e.g., SFA), rather than building an ecosystem approach into existing management practices • MSA allows for ecosystem-based management; national guidance can help Councils to move forward	Not a scientific issue	• Cautious about amending the MSA with any specific requirements - wary of strict regulations and guidelines that will require Councils to produce new FMP amendments across the board (e.g., SFA), rather than building an ecosystem approach into existing management practices • MSA allows for ecosystem-based management; national guidance and subsequent regional guidance can help Councils to move forward

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Other issues	Overfishing scorecard		• The SSC feels that development of an overfishing scorecard is not ideally placed under the topic of ecosystem approach to fisheries. However, given that it was presented, the SSC offers the following comments. • The SSC urges caution in the development and presentation of simple numerical summaries of regional performance in meeting ecosystem objectives. While simple numerical scores across species within regions are appealing because of their simplicity, the systems they purport to represent are complex and the objectives of management are multidimensional. The relative importance of single species exploitation rates, exploitation rates across species assemblages, status of non-target stocks, biodiversity, etc. may differ across regions. Because the relative importance of management objectives may differ across regions, unidimensional performance measures may not be appropriate representations of the degree to which regions have successfully implemented ecosystem management. In addition, a simple summary score to represent the number of overfished stocks within a region may not reflect the level of concern about the status of particular stocks, such as keystone species and ESA candidate or listed species. • The analysis of the correlation between the status of managed stocks and the types of management measures is interesting and warrants further development. However, the SSC cautions that while correlative models may indicate the possible existence of causal relationships, correlations are not evidence of causation. In addition, the SSC notes that the status of the stock (overfished, at risk, not overfished) is a categorical difference and should be modeled using regression procedures appropriate for multinomial-limited dependent variables. In addition, to binary variables representing differences in management measures and regions, the explanatory variables should include information about the susceptibility of the managed stock to uncontrolled effects (e.g., climate variation of regime shifts). If possible, the model should incorporate observations across several years to help isolate differences in the application of management measures across regions and within regions through time to eliminate possible collinearity between management measures and regions.	• An overfishing report card is not an appropriate measure of ecosystem health or meeting broader ecosystem objectives (though reducing or eliminating overfishing should be a primary goal of each region, and is currently required by law)

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Overall conclusions for Ecosystem approaches		• We endorse the finding of many other science and management boards, that ecosystem-based management can serve as a potentially important tool for enhancing fisheries and the ecosystems on which they depend • We endorse a preference for the use of currently available tools in that regard, and the resources and funding necessary to better engage those tools • Councils and regions need to retain the flexibility to manage their regional fisheries - the concept of 'standardization' is incompatible with the need for ecosystem approaches to reflect regional differences • A holistic approach is a realistic approach only with collaboration - among Councils and NOAA Fisheries, partner agencies, and stakeholders	(none)	• We endorse the finding of many other science and management boards, that ecosystem-based management is an important tool for enhancing fisheries and the ecosystems on which they depend • We endorse a preference for the use of currently available tools in that regard, and the resources and funding necessary to better engage those tools • Councils and regions need to retain the flexibility to manage their regional fisheries - the concept of 'standardization' is incompatible with the need for ecosystem approaches to reflect regional differences • A holistic approach is a realistic approach only with collaboration - among Councils and NOAA Fisheries, partner agencies, and stakeholders

Summary Findings on Strengthening Science Advice for Management

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Best Scientific Information Available	• ensure use of best available scientific information • SSC appointments: - criteria - terms - compensation • require training of Council members	• Scientific determinations of necessary fishery parameters should be made within the regional fishery management council process, consistent with MSA and other findings of this panel • Councils should retain appointment authority for SSC, but existing membership should have a role in nominating/recruiting new members. • SSC members should receive honoraria (compensation) for their services. • SSC members should not be subject to term limits. • SSC should meet concurrently with Council meetings, and at the same locale, when possible. • Each Council's SSC shall provide peer review of all fundamental analyses and make the determination that best available scientific information is provided prior to Council decision making. • Councils shall provide written rationale for their decisions, including how scientific information was incorporated. • Opportunity should be provided for regional or national SSC meetings, where members from different regions could discuss best practices and seek to identify analytical and research needs.	Defining and using the best scientific information available is an important goal in conducting fisheries science and implementing fisheries management objectives. Rather than define and develop these ideas in this venue we direct those interested to a recent report developed on this topic by the National Research Council and one that is soon to be released by the American Fisheries Society. One should recognize, however, that the best scientific information available includes the social and economic sciences as well as the physical and biological sciences. Unfortunately, having the best available science doesn't necessarily mean that it will be used. The existing institutional mechanism should be strengthened, for example, by having the Secretary of Commerce examine if management is at least consistent with scientific advice. This might be done, for example, as part of the EIS review. For instance, EISs prepared by the Councils in setting their annual specifications could be required to include explicit discussion of whether Council recommendations deviated from SSC advice and why. To evaluate Council effectiveness at controlling harvests, the EIS could also be required to include a table that provides an historical comparison of TACs and actual harvests. Other methods of encouraging vigilance toward and compliance with scientific advice should also be explored. If the council takes an action that deviates significantly from the scientific advice, the SOC would have the final word on whether the plan or some modified version of the plan gets implemented, or whether the fishery should be closed until an appropriate plan becomes available.	• Scientific determinations of necessary fishery parameters should be made within the regional fishery management council process, consistent with MSA • Councils should retain appointment authority for SSC • SSC members should not be subject to term limits. • SSC should meet concurrently with Council meetings, and at the same locale, when possible. • Each Council's SSC shall provide peer review of all fundamental analyses and make the determination that best available scientific information is provided prior to Council decision making. • Opportunity should be provided for regional or national SSC meetings, where members from different regions could discuss best practices and seek to identify analytical and research needs. • Best scientific information available includes the social and economic sciences as well as the physical and biological sciences. *Passed with 3 objections*

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Best Scientific Information Available **(cont.)**	•	• Require a formal but brief training course for new Council members to be provided within 6 months of appointment. NOAA and Councils should collaborate with an external organization to offer a course in several locations around the US as a condition of voting. After six months, a new member who has not completed the training should continue to participate in Council meetings, but should not be allowed to vote.	The SSC should serve as the primary entity to review and provide advice on scientific documents for the Council. It makes sense for the SSC to review scientific issues and identify information needs regularly, and we would recommend that this be done in conjunction with each Council meeting and recommendations should be provided prior to decisionmaking. If the Council is required to respond more closely to the best available science and associated SSC comments then the SSC may need to provide more detailed documentation on their deliberations to make them understandable to outside interpretation. One of the reasons for the SSC to meet regularly and in conjunction with the Council is so that the SSC can keep up with the scientific issues related to the fisheries of concern. Another is to provide advice to the Council in real time. <u>Summary of use of best available scientific information</u>: NRC and AFS reports could be used to inform this issue. If the Council makes a decision counter to the best science available, there is a need for a rationale and scrutiny of this action. There is a process in place currently to do this, but it may be necessary to introduce requirements to ensure that process is used. The SSC should serve as the primary entity to review and provide advice on scientific documents for the Council. As such, it is probably most efficient and effective for the SSC to meet in conjunction with regular Council meetings.	

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Best Scientific Information Available **(cont.)**	•	•	Summary of SSC appointment issues: Conflict of interest: If the Council chooses to implement a conflict of interest (COI) review process for SSC members, it would be useful to consider adopting the COI procedures used by the National Academies and National Research Council. Under the National Academies COI procedures, committee members are asked to prepare a Background Information/COI disclosure document and the committee meets in executive session to review the COI disclosures and determine if there are particular concerns would preclude an individual from serving as a committee member. The COI disclosure and review could take place at the beginning of the first SSC meeting of each year. External certification: It might be difficult to identify an external body with the qualifications to judge the expertise of all of the diverse areas represented by the SSCs. Perhaps the SSC could aid with this process by self-evaluation and evaluation of newly appointed members. Term limits: There is a finite pool of individuals who are qualified and willing to serve the public in this role, thus term limits may not be practical. Cross-regional SSC meeting: It may be worthwhile to have an annual meeting of all SSC members across regions to share ideas in much the same way that Council leaders from across regions regularly meet. Compensation: There is generally a large opportunity cost for academic members to serve on an SSC so compensation might be warranted. But if compensation is introduced, then appointment authority may need to be moved above the Council level to avoid the appearance or reality of a conflict of interest.	

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panels Findings*
Conservation v. Allocation	• separate science and management: - quota setting or all decisions - Secretary or NOAA	• Councils shall adopt ABC limits determined by their SSCs and shall set TACs (or control efforts) such that catch would be at or below ABC.	Important roles for the SSC in the specification of ABCs include peer review of the stock assessments and harvest formulas that are used to calculate ABC, and review of regulatory analysis describing relevant effects (including the extent of risk and uncertainty) of harvest alternatives. While computation of an ABC is a scientific process, how it is derived is based on policy. Designating the SSC as the ultimate arbiter of ABCs involves a blurring between science and policy, and is not a desirable way to ensure adequate consideration of science in management decisions. The SSC recommends that this issue be instead addressed by enhancing the process by which Council recommendations are reviewed by the Secretary of Commerce, as discussed above under "Best Scientific Information Available." There is considerable variation in the structure of SSCs and other scientific advisory panels across regions. Some regions have chosen to operate a single SSC that meets as a whole to review all information and analyses prepared in support of Council decision-making. Other regions have chosen to create multiple committees, science advisory panels, or subcommittees, each tasked with responsibility for the review of a subset of the information and analyses prepared in support of Council decision-making. These differences have arisen for historical reasons and as a reflection of differences in the types of management issues being addressed by the various Regional Councils. We conclude that it may not be desirable to mandate a subdivision of SSC functions with issues relegated to biological, ecological, economic and socio-cultural categories.	Councils shall adopt ABCs within limits determined by their SSCs (or appropriate scientific body) and shall set TACs (or control efforts) such that catch would be at or below ABC, unless fully justified by the Council.

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Conservation v. Allocation (cont.)	•	•	The SSC notes that many of the issues that arise in fisheries management are inherently interdisciplinary, that Council actions are often interdependent, and that many SSC members have multiple areas of expertise. Ecologists, marine mammal specialists, seabird specialists, turtle specialists, economists, anthropologists, sociologists, marine lawyers and other social scientists on the Council SSCs need to be aware of the status of target and non-target fish populations and the range of exploitation rates and harvest strategies that are being considered for those populations and, population biologists need to know the potential biological, ecological, social, legal, and economic consequences of those exploitation rates and harvest strategies. In addition, the ecologists, marine mammal specialists, seabird specialists, turtle specialists, economists, anthropologists, sociologists, marine lawyers and other social scientists on the Council SSCs may have particular expertise in statistical sample design, statistical inference, modeling dynamic systems, etc. that may provide important understanding and review of the data and models used in determining the status and trends of target and non-target stocks, and the probable response of those stocks to alternative exploitation rates and harvest rules. We conclude that it may not be desirable to mandate subdivision of SSC functions, such as forming separate committees for biological, ecological, economic, or sociological issues	

Topics	*Background*	*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panels Findings*
Need for Independent Review	• require SSC recommendations on: - stock assessments - other actions • independent reviews: - on some/all analyses - who to conduct	• There should be an independent external review of scientific information and processes used by each Council every five years if funds are available and other times as necessary and appropriate (e.g., if there is controversy over scientific findings).	While the SSC can provide review at one level, reviews at other levels may be needed, such as periodic review pf stock assessments by the Center for Independent Experts. Occasionally more intensive reviews of processes may be needed and conducted either by independent contract scientists or by the National Research Council. In circumstances where an issue has unusual repercussions or is particularly controversial, outside review (involving, for instance, the Center for Independent Experts) may be warranted. Such reviews should not be limited to stock assessments but could also extend to socioeconomic and other types of models and analyses used by the Council.	There should be an independent peer review of scientific information and processes used by each Council, at appropriate intervals determined by the Council. In circumstances where an issue has unusual repercussions or is particularly controversial, outside review (involving, for instance, the Center for Independent Experts) may be warranted. Such reviews should not be limited to stock assessments but could also extend to socioeconomic and other types of models and analyses used by the Council.
Using Default Measures to Ensure Progress	• ABCs: - point estimate - acceptable range	• Emergency rules may be extended as necessary to address potential violations of National Standard 1.		Emergency rules may be extended as necessary to address potential violations of National Standard 1.
Making Research Relevant	• Adequacy of science for ecosystem management	• SSCs should develop research priorities and identify data needs for effective management.	The SSC should play an active role in identifying data and models that are needed for ecosystem management. It is also important that SSC recommendations regarding research and data needs be conveyed to NOAA Fisheries and other relevant entities responsible for ecosystem management.	SSCs should develop research priorities and identify data and model needs for effective management.
Other		• There is a need for more resources to be dedicated to stock assessments and socio-economic impacts.		There is a need for more resources to be dedicated to stock assessments and socio-economic impacts.

Summary Findings on IFQ Programs

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Preamble				Regional fishery interests require that share-based management programs (could includes other forms than IFQs) be considered to satisfy specific needs by fishery and locale. To accomplish this, the regional councils require liberal authority to develop share-based programs within specified guidelines. The Secretary of Commerce in consultation with Regional Fishery Management Councils should develop national guidelines consistent with the recommendations of this conference panel, for the establishment of market-based systems (including, but not limited to, IFQs, community quotas, coops, etc). Consistent with these guidelines, the councils shall enumerate goals and objectives for the program and consistent with those goals and objectives shall define the following:

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Allocation Criteria	• is catch history a fair measure of awarding quota • should quota be awarded to persons that do not own vessels • should quota programs include allocations for entry-level fishermen	Council's should have broad authority to allocate harvest privileges to a wide-range of stakeholders (vessel owners, processors, communities, captains and crew) to suit the needs of the specific fishery. Some panelists believe that authority to allocate processor privileges may be necessary to accommodate interests of those who depend on a fishery. Some panelists believe that processor interests can be adequately protected by harvest privilege allocations to processors that would not limit the market for landings.	In allocating a resource, there are a limited set of alternatives, which can range from the use of market mechanisms, considerations of deservedness or fairness, the taking by force, or a random allocation, such as by lottery. Under current MSA provisions, market mechanisms such as auctions are somewhat off the table, but maybe should be reconsidered. We reject allocation by force, and tend to rule out allocation by lottery, leaving the Councils with considerations of deservedness or a market mechanism. It is very unlikely that one process will be right for every fishery or region. The SSC recommends openness to new ideas on allocation, leaving the choice of criteria for the Councils to decide based on the objectives of each plan. Social science tells us that the allocation criteria can make or break the IFQ system, that avoiding mistrust and unfairness is essential to success, and that even a perception of unfairness can derail the process. Alternative criteria for deservedness have various implications. Vesting interest based on past records of fish landings can create incentives for speculative fishing in the preliminary stage, often when the resource is most vulnerable. Deservedness criteria may also encompass a broader population than current participants, depending on the objective of the fishery program. Bringing user groups together to come up with allocation mechanisms might facilitate a better process. Providing analyses of social and economic consequences of alternatives is dependent on the availability of many kinds of information beyond those usually available, specifically cost data and processor information. The SSCs should be responsible for defining such data requirements and Councils should make broader reporting a condition of limited access.	• The initial allocation of interests under the program shall be fair and equitable. In developing the initial allocation, the Council shall consider the interests of those that rely on the fishery, including vessel owners, processors, communities, captains, and crew. A program may include provisions to protect these interests including the allocation of shares to any of these interests, license requirements on the harvest of shares, or limitation on landings of harvests from the fisheries (including processing shares or regional community landing requirements).

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Conservation	• should IFQ programs include incentives for participants who reduce bycatch and discards	Not addressed.		• To accomplish this, the regional councils require liberal authority to develop share-based programs within specified guidelines, including conservation.
Limitation of Interests in IFQs and the Duration of an IFQ Program	• should an IFQ program have a sunset date or term	Sunset – To avoid instability, programs should not be subject to sunset. Share tenure – The panel reached no agreement on share tenure. Some panelists believe that shares of limited duration with defined terms for reallocation would be appropriate to protect public trust interests. Some panelists believe that limited duration contributes to instability in investment.	IFQ programs can be viewed as supplying entitlements to an entity. The entitlement is composed of a bundle of endowments. The question of the appropriate duration of an entitlement is important. The MSA now allows entitlements to be removed at any time, but does not require the program to be terminated after any particular interval. The duration of a program can be different from the duration of an individual's share-based privilege. Councils can consider fixed period entitlements to comprise a permanent program (e.g., Australia's drop through program; pollution discharge program in Midwest). Longer-term entitlements tend to foster the benefits of IFQs. The role of science is to identify the economic and social consequences of the range of alternatives being considered.	• Shares under the program must have tenure sufficient to support and facilitate reasonable capital investment in the fishery; however, any shares allocated under the program will be a privilege, which may be revoked without compensation to the holder. • Program duration shall be at the Council's discretion without required sunset.
Program Review	• what is the appropriate review process • who should conduct the periodic reviews • what criteria should be used to conduct periodic reviews	Periodic comprehensive program reviews should be required to ensure that programs meet their objectives (including ecosystem goals).	Program reviews are considered an important feature of a quota share or management program. However, the lack of data, including baseline information, limits the ability to perform such reviews effectively. This problem could be reduced if the submission of economic data is made mandatory.	• Required periodic comprehensive review of the program, including the mandatory collection of social and economic data from beneficiaries to assess the extent to which the program is meeting the goals and objectives.

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Quota Transfers	• to what extent should quota be transferable in an IFQ program	Not addressed.	Transferability is considered a favorable characteristic of a quota share program. However, if there are objectives other than economic efficiency, there are no objections to adjusting or restricting transferability to account for other considerations.	• Appropriate provisions governing transferability, which may include permanent and temporary transfers subject to limitations consistent with the social objectives of the program.
Excessive Shares	• what limits should be placed on quota accumulation	Not addressed.	There is a need to identify the concerns clearly before one can make the determination that excessive shares need to be regulated in order to solve the problem. If market power is the concern, in general, the industrial structure of most fisheries is such that it should not be a problem. If excessive shares are a concern, it is the responsibility of scientists to point out the implications of the alternatives under consideration to address those concerns.	• Limits on excessive shares including caps on holdings of a person or use of shares by a person or a single vessel.

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Referenda of IFQ Program	• should a referendum be require in an IFQ program • who should be allowed to participate • what percentage should be required for approval	No agreement was reached concerning referenda (few support double referenda). Referenda prior to program development may save Council time and resources. Referenda after program development can be used demonstrate fleet support for a program. Referenda may be opposed because they may not include all interests.	In general, referenda are not considered a good mechanism to decide whether a Council should consider implementing an IFQ or share-based program. In all likelihood, the public will not approve if they do not know the characteristics of the specific program that the Council is likely to adopt. Referenda might make sense after a specific share-based program is already approved by the Council, allowing the public to vote on whether that plan should be implemented. If the Council process is working as intended, with extensive committee and public feedback, it should serve the same purpose as a referendum. If there is a decision to undertake a referendum, care must be taken to identify who should be entitled to vote. This equates to defining a set of stakeholders. For example, are communities included and do they represent one vote or more? Are we being sufficiently inclusive and soliciting the opinions from the set of stakeholders that we need? If those stakeholders are not already represented sufficiently, perhaps that represents a flaw in the Council process. Scientists can assist in the design of referenda, and in identifying mechanisms for balanced representation. Scientists can also identify and evaluate the alternatives for which information is being sought.	• Referenda shall not be required to approve a program. Referenda will, by necessity, exclude some interested persons and have the potential to substitute the interests of referenda voters for the interests of the Nation. National interests are better advanced by providing Council authority for program development and approval. Councils may however establish their own requirements for referenda.
Fees	• should an IFQ program include cost recovery fees • what should be the purpose of the fees • should some fees collected be reserved for new entrants	All management programs (possibly including non-IFQ programs) should include the collection of fees for administration, management, monitoring, and enforcement of the program. Fees could be used to mitigate impacts on parties not included in the initial allocation.	Fees are one way to make sure the public is compensated for the use of the resource by an individual. Fees can be viewed as a means of recovering management costs associated with the administration of a share-based program, or may alternatively represent payment for access to a public resource. When considering the applicability of fees, it is preferable to use the incremental cost of setting up an IFQ system, as opposed to the average cost.	• Collection of fees to cover the cost of management and monitoring or collection of portion of the value of the resource to offset management and monitoring costs, including state costs.

Topics		*Advisory Panel Findings*	*SSC Comments*	*Main Conference Panel Findings*
Enforcement, Monitoring, and Data Collection	• when should IFQ programs include increased observer coverage • should an IFQ program include a data collection program • what type of data should be collected	Data should be collected to facilitate a review of the program.	Not addressed.	• Provisions for effective monitoring and enforcement of the goals, and objectives under the program.
Other			The SSC also recognizes that there are other allocation mechanisms other than IFQs. Councils should be authorized to consider other types of allocation schemes (e.g. community allocations, cooperatives). To open up the class of rights and allocations that can be considered would be desirable. It would then be up to the Councils to select across the range of dedicated access privilege tools to achieve various objectives.	

Summary Finds on MPAs and Cold Water Corals

Topics	*Workshop Discussion/ Findings*	*Main Conference Panel Findings*
MPAs	The public is knowledgeable about the concepts of some MPAs. However continuing education to inform the public on the range and types of MPA definitions are still needed. Stakeholders need to be educated within each region. MPAs are only one tool in the management tool box; quotas, TACs, gear restrictions may also address a baseline problem prior to a closure or managed area being necessary. If needed, MPAs should be established as a subcomponent of an overall fisheries management regime. Formation should be based on clearly articulated needs based on the best available science, with participation of stakeholders in a transparent process.	The panel finds that it would be appropriate to base MPA formulation on: ✓ Clear objectives and goals ✓ Transparent process ✓ Sound science ✓ Consideration of human dimension and socioeconomic issues ✓ Stakeholder participation ✓ Monitoring and evaluation ✓ Adaptive management • Clearly define and inform stakeholders of terms such as MPAs, marine reserves, etc. • Use MPAs as a component of management and not as a standalone solution. • Address pollution and habitat loss impacts on marine resources • Acquire better information (e.g., fisher input) and science (e.g., mapping) • Acquire more funding
	MPAs have been the most successful where they have had community buy-in from all levels of the public. A key component is to identify problems before solutions are created. Successful MPAs should have adaptive management that is identified along with implementation to evaluate the efficacy of the area. A full evaluation of consequences (i.e. ramifications of effort displacement) should be necessary.	
	The committee discussed the upcoming document from National MPA advisory committee (May 2005) as guidance. Educate stakeholders on the benefits of a national system.	
	Councils need to have role in developing MPAs including National sanctuary areas.	
Cold water corals	More research is needed to identify coral /sponge abundance and distribution. Funds should be allocated for research on coldwater corals in addition to their warmer climate counterparts. A more precise definition of corals/sponges (which species are more vulnerable to gear impacts) needs to be established.	The panel finds that it would be appropriate to: • Address differential gear impacts in areas with cold water corals. • Improve mapping and comprehensive planning supported by science • Include protection through ecosystem management plans • Clearly define types of cold water corals and sponges and their vulnerability.
	Explore differential gear impacts where fisheries occur- (i.e., trawl in area of shelf, fixed gear on other) and identify problems accordingly	

Topics	***Workshop Discussion/ Findings***	***Main Conference Panel Findings***
	Western Pacific FMP for corals for 23 years; No trawling in federal waters in western pacific. This essentially is an enormous MPA for coldwater coral. Could be used as a template for other FMP or management concepts	
	Should there be some overarching legislative solutions, without having to prove that coral is linked to fish (as in current EFH provisions). This concept is Important for ecosystem approach for management.	

Summary Findings on Reconciling Statutes

Topics	*Workshop Discussion/ Findings*	*Main Conference Panel Findings*
MSA & NEPA	There are multiple challenges & options for simultaneously complying with NEPA & MSA, particularly in light of NS 2 & 7. To some, NEPA principles and intended outcomes are already contained within MSA. NEPA was intended for long-lived projects, not short-term adjustments such as annual setting of TAC required under MSA. Some believe critical NEPA provisions should be added to MSA through legislation, thereby making MSA "NEPA compliant". The process of fishery management can cope with statutory complexity through regulatory streamlining. Some believe MSA should be exempt from NEPA.	Following the addition of critical NEPA provisions to MSA, thereby making MSA fully compliant with NEPA's intent, the panel finds that legislation should be developed specifying MSA as the functional equivalent of NEPA. *(1 objection; 1 abstention)*
MSA & FOIA	Future fishery management programs will likely require more detailed data on fisheries from such sources as observers, video cameras, vessel monitoring systems, etc. Confidentiality of fishery data is of major concern to industry and future data needs will likely increase such concerns. Most fishermen are proponents of ensuring proprietary provisions regarding data collection for fisheries management are added to MSA.	The panel finds that MSA should be amended to provide for mechanisms to better shield proprietary data from FOIA. *(1 abstention)* The panel finds that State law enforcement officials should be provided access to information and data gathered by VMS operated by the Office of Law Enforcement of NMFS. The panel finds that the U.S. Coast Guard should be provided access to VMS data for homeland security purposes/Maritime Domain Awareness.
MSA & NMSA	Conflicts between NMSA and MSA have developed in the Hawaiian Islands. Some are concerned about non-Council fishery regulations proposed for the NW Hawaiian Islands Reserve. The process for establishing fishery regulations within sanctuaries is unclear and confusing. NOS fishery management regulations may pre-empt Council management (NW HI Islands Reserve). Who's in charge of fishery management in national marine sanctuaries?	The panel finds that fishery management authority in national marine sanctuaries should be clarified within NOAA and Federal Law. *(1 abstention)*

Summary Findings on Overfishing and Stock Rebuilding

Topics	*Workshop Discussion/ Findings*	*Main Conference Panel Findings*
Mixed Stock Management	Difficult to assess all species in assemblages Management of major species must take into account protection of minor species especially when assessment data on these minor species is lacking. Need to: • improve species-specific data collection • improved bycatch reporting for all stocks (especially minor stocks) Problems: • New problems emerge as effort shifts between fisheries • Controlling fishing mortality rates still primary means of managing stock status Socio-economic goals of OY should be clarified Reduce capacity to maintain healthy stocks	The panel encourages improved species-specific data collection and increased management measures to control bycatch, understanding that it is a necessary step in rebuilding minor stocks in mixed-stock fisheries The panel supports the use of fishing mortality rates as the primary tool in managing fish stocks, but also recognizes that we need more data to provide assessments for more stocks. *(One abstention)*
Rebuilding Plans	Progress made in rebuilding overfished stocks but some problems still exist for some stocks and regions Insufficient consideration given to allocative issues associated with stock rebuilding and status changes Need for improved communication of problems, successes and data and management needs Rebuilding multiple jurisdiction, international stocks are especially difficult • Need to encourage participation and action by international bodies • Continue to focus on good US management • US is leader in conservation	The panel finds that, with respect to overfishing definitions and rebuilding plans, the MSA does not need major changes, however we recognize that improved communication of fishery successes and problems may provide a more accurate portrayal of the status of our fisheries The panel endorses the use of “depleted”, where the cause is unknown or is not fishing related, while keeping focus on the need to rebuild these stocks. The panel notes the difficulty in rebuilding multiple jurisdictional international stocks. The panel encourages participation and action by international bodies. *(One abstention]*

Topics	*Workshop Discussion/ Findings*	*Main Conference Panel Findings*
Ecosystem Considerations	Ability to include environmental information in stocks assessments and MSY determinations is evolving but remains a technical and conceptual challenge Next step to prepare for long-term changes including risk modeling on the impacts of climate change Alternative strategies necessary for highly fluctuating, environmentally driven stocks Can harvest control rules be designed to more quickly access pulses of highly fluctuating stocks? Caution that the shift in blaming stock status changes on environmental factors could detract from management responsibilities	The panel encourages the incorporation of environmental variability as much as possible in stock status determination *(One abstention]*

Summary Findings on Governance

Topics	Workshop Discussion/Findings	Main Conference Panel Findings
Regional Ocean Councils	Councils should look to the U.S. Oceans Action Plan for guidance in developing governance systems.	The panel finds that Councils should look to the US Oceans Action Plan for guidance in developing governance systems.
Separating Science and Allocation	- All panel members said that we need to strengthen and improve science. - The majority of the panel believes that would be illogical to separate science from allocation. - Panel members stressed that science contributions need to be transparent, inclusive and understandable to the council and to the public.	
Council Appointments	The panel agreed on the general need for broadening the selection process for council member appointments	
Council Members - Conflict of Interest	There was broad level of agreement that Council member conflict of interest was an issue for improvement in the Council process.	The panel supports the current conflict of interest guidelines and recommends that member training include specific reference to these guidelines. (1 objection)