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Bridging the Gap Between Fisheries and Protected Species Professionals in NOAA Fisheries

March 2003

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**Bridging the Gap Between Fisheries and Protected Species Professionals
in NOAA Fisheries**

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Executive Summary

Background: NOAA's National Marine Fisheries Service (NOAA Fisheries) is mandated by a variety of federal statutes to manage, conserve, and protect the Nation's living marine resources. Some of the main tenets of the agency's legislative mandates conflict. For instance, the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) directs the agency to manage living marine resources for optimum sustainable utilization, while the Marine Mammal Protection Act (MMPA) prohibits exploitation of marine mammals and directs the agency to protect and maintain them at optimum sustainable population levels. The Endangered Species Act (ESA) prohibits the agency from taking actions that jeopardize the continued existence of threatened and endangered species. As an implementer of the ESA, the agency must consult internally to determine whether its actions that authorize fisheries might cause jeopardy. The consultation process is sometimes complicated by the role of the regional fishery management councils mandated under the MSFCMA. When these legislative mandates collide, the staffs assigned to carry out the conflicting responsibilities have developed what many perceive as a "cultural gap". External constituents also perceive this "gap", and have pointed out that NOAA Fisheries behaves as if it were two different agencies.

The agency's MSFCMA responsibilities are generally carried out by staff in the Office of Sustainable Fisheries in Silver Spring and the Sustainable Fisheries Divisions (SF) in the regions around the country. Responsibilities under the MMPA and ESA are generally assigned to the Office of Protected Resources at headquarters and the Protected Resources Divisions (PR) in the regions. Several recent and highly visible clashes between SF and PR staffs, between headquarters and regional staffs, and between NOAA Fisheries staff and the regional fishery management councils, as well as conflict between the management and conservation approaches of the agency and its research components in the science centers, led NOAA Fisheries leaders to convene a conference to identify causes and seek solutions that would bridge the cultural gap.

The resulting 3-day conference was attended by over 90 people from within the agency, representing all headquarters' offices, regional offices and science centers. After background presentations, the conference divided into five break-out groups that were asked to discuss examples of "the gap", identify causes and recommend solutions. The groups were brought together for the final half day to hear reports from the other groups.

Results: The five break-out groups identified over 90 potential causes of the cultural gap and nearly 90 actions to bridge the gap. Some of the recommendations were as extreme as eliminating the gap by moving the protected species functions of NOAA Fisheries into a separate line office within NOAA or to another agency. Many people identified inadequate funding as a cause of uncertainty and stress within the agency and a cause of competition between different groups. Many other recommendations were smaller in scope and could more easily be implemented in a reasonable period of time. While the break-out groups did not strive for

consensus on recommendations, several consistent findings and recommendations emerged from almost all groups.

Break-out groups generally agreed that the “cultural gap” is caused by the following:

- 1) The lack of clearly articulated quantitative standards for making decisions under the ESA (e.g., jeopardy/adverse modification, listing criteria).
- 2) The considerable uncertainty inherent in information required to make decisions under all of the agency’s statutory mandates, and there is a lack of clear policy guidance on how to treat uncertainty in implementing the ESA in particular.
- 3) The lack of clear procedures on how to conduct internal Section 7 consultations.
- 4) The lack of clearly defined roles and responsibilities of the different offices and divisions, regions and headquarters, agency staff and fishery management councils.
- 5) The lack of familiarity by staff in the respective offices and divisions with all of the statutory mandates of the agency and the role each office has in carrying out the different mandates.

The break-out groups generally agreed that the following actions would assist greatly in bridging the cultural gap:

- 1) Develop quantitative standards or procedures for making decisions under the ESA (e.g., jeopardy/adverse modification, listing of species under the ESA, delisting of species under the ESA).
- 2) Provide policy guidance from NOAA Fisheries leadership regarding the treatment of uncertainty in making decisions under the ESA (e.g., to what extent should the precautionary principle be applied?).
- 3) Develop and publicize procedures (including schedules and deadlines) for conducting internal Section 7 consultations.
- 4) Provide policy guidance from NOAA Fisheries leadership regarding the roles and responsibilities of the different offices and divisions, regions and headquarters, agency staff, science centers, and regional fishery management councils.
- 5) Provide training to all staff on the statutory mandates of the agency and the role that each part of the agency plays in carrying out different mandates. This training should be part of an orientation given to all new staff.

- 6) Strongly encourage rotations of staff among different positions within the agency.

The following report provides details of the presentations made in plenary, discussions about those presentations, and complete presentations by each break-out group. Appendices include the meeting agenda, list of participants, and details of the discussions for some of the break-out sessions.

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Introduction and Overview

Welcome - Bill Hogarth, Assistant Administrator for Fisheries

Bill Hogarth, Assistant Administrator for NOAA Fisheries, welcomed meeting participants and thanked everyone for making this meeting a priority. He noted that the public perception is that NOAA Fisheries staff in sustainable fisheries (SF) and protected resources (PR) offices exist in totally different worlds and that there are, in effect, two agencies within one NOAA Fisheries. Hogarth stated a hope that, by convening this meeting on “Bridging the Gap”, NOAA Fisheries staff can move beyond this apparent split.

Hogarth thanked Mike Sissenwine and the steering committee for their hard work.

Opening Remarks - Mike Sissenwine, Northeast Fisheries Science Center

Mike Sissenwine echoed Hogarth’s thanks to the steering committee, which consisted of Doug DeMaster (Alaska Fisheries Science Center; AKC), Mike Schiewe (Northwest Fisheries Science Center; NWC), Georgia Cranmore (Southeast Regional Office; SER), Sam Pooley (Southwest Fisheries Science Center, SWC), Craig Johnson (Office of Protected Resources; F/PR), Sue Salveson (Alaska Regional Office; AKR), Jack Dunnigan (Office of Sustainable Fisheries; F/SF), and Nancy Thompson (Southeast Fisheries Science Center; SEC). Cheryl Ryder (Northeast Fisheries Science Center; NEC), convenor of the conference, was recognized for the fantastic job she had done in organizing the meeting.

Sissenwine noted that the excellent attendance at this meeting signified a high level of interest in resolving the perceived gap between SF and PR staff. Although planning for this meeting had only been going on for about a year, the “buzz” regarding the gap had been going on for quite some time. The steering committee deliberately invited those NOAA Fisheries personnel who currently influence the attitudes of staff, or who are likely to be influential in the future. The products of this meeting will include this report and, hopefully, positive changes in agency cultural attitudes that disperse informally over time.

Sissenwine posed the question: “What is the cultural gap?” Everyone has some appreciation for this gap. Sissenwine compared recognition of “the gap” with recognition of “ecosystem management”, where we all know it when we see it, but can’t put our fingers on a precise definition. One recent example of “the gap” involved a conversation with Don Knowles (F/PR) regarding funding for research and staff to address sea turtle conservation. Sissenwine indicated that he gave high priority to funding at-sea estimation of direct take in order to provide data analysts with better information. Knowles gave high priority to funding research on cold shock or other non-lethal impacts that may make turtles more susceptible to take. Sissenwine indicated that, from a broader perspective, the disagreement was based on different personal backgrounds in fisheries versus protected species.

Sissenwine went on to note that the gap is caused by many real and perceived differences within

the agency. Obviously, the legislative mandates are different for PR and SF staff. From an agency culture perspective, the gap is caused by SF staff who think that PR staff are a bunch of “tree huggers” and by PR staff who think that SF staff are good-ole boys who happen to have a degree in fisheries. The gap is caused by SF staff who believe that all the new money in the agency goes to PR staff. The gap is caused by some staff who think that science is neutral and others who think science should be used for conservation purposes. There are some staff who think that it’s appropriate for NOAA Fisheries headquarters to generate part of the science used to support management, and other staff who believe that science is solely the responsibility of the science centers.

Regardless of the perspectives, there are many overarching similarities. For instance, Sissenwine noted that we are all drawing from the same book of population dynamics and demographics. And regardless of the species involved, the same models of population dynamics typically apply. In addition, all staff share the fundamental objectives of policy aimed at sustainable use of living marine resources in a healthy marine environment, although there are admittedly some differences in perspective between SF staff and PR staff regarding what the threshold for “sustainable” is or should be.

Sissenwine added that, by the end of this meeting, we should come away with a better understanding of agency cultural gaps and ideas for bridging the gap and we should gain appreciation and a greater level of mutual respect for our differences.

“F_{max} Meets Flipper” – Keynote Address by Michael Weber, California Fish and Game Commission

Each of us brings a set of values, an ideology, and a culture to any discussion of most any issue, including sustainable use of natural resources. Those values shape the way we interpret problems and solutions, and the way we understand other people. Those values also underlay how we understand and implement laws, such as the MMPA, the ESA, and the MSFCMA.

Weber noted that he had gained his values in the 1970s when concern about marine mammals was on the rise. Initially, his concerns were humane, but soon moved to concerns about the use of science to justify a policy position--in this case, continued commercial whaling. In his view, overexploitation was a common pattern, not an exception, and uncertainty in our understanding generally was used to continue exploitation at unsustainable levels. He also came to believe that there is more to marine wildlife than their market value.

Weber’s involvement in efforts to reduce the capture and drowning of sea turtles in shrimp trawls exposed him to broader concerns about bycatch in fisheries. Working as a representative of a conservation organization, he found that solving the problem of sea turtle bycatch was embedded in a fishery management system that treated such issues as secondary.

In the Federal government system, collective choices or values become embodied in law. Laws

reflect the values or ideology not simply of the agency but of interest groups and Congress. The title of this talk was meant to contrast two major sets of values or ideologies: the former underlying the MSFMCA and the latter underlying the MMPA and ESA.

F_{\max} , which is the rate of fishing mortality that results in the maximum level of yield per recruit, represents the traditional view of marine fisheries management. That is:

- Marine life in the ocean are to be used.
- The aim of management is maximum production for consumption and economic benefits.
- Marine wildlife populations must bear the risk from our imperfect knowledge and understanding.

The Flipper ideology is entirely different:

- Marine wildlife are more than commodities.
- Exploitation cannot be assumed to be sustainable.
- Protected species should not bear the burden of risk from uncertainty.
- Marine wildlife populations are part of something larger that is worth conserving.

F_{\max} has a much longer tradition in the Federal government. Until the 1970s, Federal fisheries agencies had little to do with management, but much to do with basic science as well as various forms of industry assistance. Agency staff believed strongly that rational management, such as that for the northern fur seal hunt, was better than the politically driven management of fisheries by State governments.

Weber noted that the late 1960s and 1970s brought a sudden shift in ideology. Animal protection activists generated broad public support for treating some species differently, while scientists dissatisfied with the limits of single-species management for maximum sustainable yield wanted managers to recognize uncertainty and the role of marine wildlife in their ecosystem. These two strains were combined, uneasily, in the MMPA. Passage of the MMPA and ESA did not significantly change the behavior of NOAA Fisheries, whose delays provoked lawsuits that compelled implementation of measures to protect dolphins in the tuna fishery and Hawaiian monk seals, for instance.

According to Weber, the Magnuson-Stevens Act reflected an ideology of abundance that had dominated the history of Federal fisheries management. This ideology assumed that ocean fisheries could produce 400-500 million metric tons annually rather than the actual 90 million metric ton maximums that have been achieved to date. The aim of management was to manipulate individual fish populations to produce maximum catches, which were thought to be limited by the size of fishing fleets rather than the size of fish populations. There was greater concern about underexploiting than about overexploiting.

Weber went on to point out that the Magnuson-Stevens Act contributed to spectacular increases

in U.S. fish catches. Both Congress and NOAA chose to defer to development over conservation and to the councils in the management process. But in the late 1980s, this *laissez-faire* approach led to declines in flagship fisheries that provoked the involvement of conservation organizations whose values derived largely from the MMPA and ESA. With passage of the Sustainable Fisheries Act in 1996, the Magnuson-Stevens Act converged somewhat with the MMPA and ESA in the following ways:

- The definition of optimum yield no longer allowed catch levels to be placed above maximum sustainable yield.
- Overfishing was formally recognized.
- Rebuilding plans needed to be developed and implemented for overfished fisheries.

Weber ended by commenting that two opportunities for further convergence in the future are the following:

- Reduction in the size of fishing fleets that, in turn, can reduce such fisheries problems as habitat damage and bycatch, including bycatch of protected species.
- Designation of marine reserves that can protect habitat, fish populations at key life stages, and protected species, as well as help maintain ecosystems and improve understanding of natural systems.

He commented to conference participants that it was his sincere wish for NOAA Fisheries and for the public that progress in achieving both opportunities would be realized in the near future.

Discussion: At the conclusion of Weber's presentation, DeMaster (AKC) questioned whether the international fishery and protected resources communities had converged in a manner similar to that seen in the United States with the MSFCMA and the MMPA/ESA. Weber replied that by the mid-90s, many of the basic tenets of U.S. legislation, such as overcapacity and the need to be precautionary in the face of uncertainty were being discussed worldwide. Phil Williams (F/PR) asked about the original rationale for requiring that NOAA Fisheries have authority under the MSFCMA/MMPA/ESA. Weber indicated that the congressional decision to place jurisdiction for both marine commercial fisheries and protected resources under NOAA was political.

Science Underpinnings of Fisheries Management and Protected Species Conservation – Grant Thompson, Alaska Fisheries Science Center

I. The Hypothetico-Deductive Method: A Shared Heritage

One of the major forces that shaped the philosophy and practice of science during the last century was the rise of the “logical positivist” school and its descendants. The logical positivist school gave rise to the hypothetico-deductive method which, buoyed by advances in the field of statistics, gave rise to the hypothetico-deductive method and, more specifically, to the view that the practice of science consists of “hypothesis testing”. In the hypothetico-deductive method, a “good” hypothesis takes a form such as, “Crop yields will not be affected by treatment X”. The hypothesis is then subjected to an experimental test and rejected if it is false with probability greater than $1-\alpha$. Both fisheries science and conservation biology developed in the context of this paradigm, and both disciplines have benefited and, to some extent, been impaired by it. One of the consequences of being trained in the hypothetico-deductive method is that both fisheries scientists and conservation biologists tend to feel most comfortable when they can phrase questions in a form that sounds like a hypothesis test. An example from fisheries science might be, “The true target fishing mortality rate will not be exceeded if the stock is harvested at a nominal rate of X”, while an example from conservation biology might be, “The species will not go extinct in the next 100 years if the current metapopulation size is greater than X”.

Of course, the value of α used in the hypothesis test is critical to the answer. In some scientific disciplines, adoption of the customary value of 5% is an easy choice requiring no justification and imposing little practical impact on society. However, in fisheries science and conservation biology, this is often not the case. For example, the value of α in the two hypotheses posed in the paragraph above can have major social, economic, and biological impacts on society. Unfortunately, the hypothetico-deductive method offers little guidance on how the value of α is to be chosen. In some ways, there is a fundamental disconnect between the hypothetico-deductive method and the questions that fishery scientists and conservation biologists are increasingly being asked to answer; questions in which not only the *probabilities* of outcomes but the *values* of outcomes matter. For questions such as these, statistical decision theory provides a better basis for arriving at answers than traditional hypothesis testing, but both fisheries science and conservation biology are only beginning to move in that direction.

II. Mathematical Models: Another Shared Heritage

As with other scientific disciplines, such as physics, both fisheries science and conservation biology have relied heavily on the use of mathematical models. The maturation of fisheries science and conservation biology has coincided with an increase in the complexity of these models. Perhaps as a result of their shared heritage in physics (at least Newtonian physics), fisheries scientists and conservation biologists have often behaved as though a single, “true” mathematical depiction of nature existed, waiting to be discovered. In this view, a model is a translation of nature. Furthermore, again relying on the hypothetico-deductive method, much effort is expended in an effort to “test” whether a given model (hypothesis) is “true”.

Unfortunately, given the immense complexity of the natural systems being studied, it is certain that any model simple enough to be written down will ultimately fail as a one-to-one translation of nature. Instead of viewing models as *translations of nature*, the objectives of fisheries scientists and conservation biologists are better served by viewing models as *metaphors for nature*. Thus, instead of testing a given model to determine whether it is *true*, a more appropriate test for fisheries scientists and conservation biologists is to determine whether a given model is a *useful tool* for making decisions.

To illustrate how mathematical models constitute a major scientific underpinning of fisheries science and conservation biology, two questions may be selected to represent their respective fields of inquiry. The questions addressed by fisheries science can reasonably be symbolized by the example, “What fishing mortality rate will maximize sustainable yield?” while the questions addressed by conservation biology can reasonably be symbolized by the example, “What is the lowest fishing mortality rate that will place the stock in danger of extinction?” Let these two questions be determined the “ F_{MSY} ” and “ F_{ext} ” questions, respectively.

When deterministic models are used, it is typically possible to address the F_{MSY} and F_{ext} questions simultaneously. In such models, the time trajectory of the stock is determined entirely by the initial conditions and the fishing mortality rate. The time trajectory provides the information necessary to answer both the F_{MSY} and F_{ext} questions. The answer to the F_{MSY} question begins with the fact that each time trajectory *typically* converges on an equilibrium stock size in the limit as time approaches infinity. Often, this equilibrium stock size will be determined entirely by the fishing mortality rate, although initial conditions may play a role as well if some sort of depensatory mechanism is built into the model. Because yield is determined by stock size (perhaps structured by age or other categories) and the fishing mortality rate, an equilibrium yield will also correspond to each fishing mortality rate, meaning that the F_{MSY} question can be answered by solving for the fishing mortality rate that maximizes equilibrium yield. The answer to the F_{ext} question begins with the fact that, because the stock’s time trajectory is determined entirely by the initial conditions and the fishing mortality rate, the *range* of sizes that the stock will encounter is similarly determined. The time trajectory, which gives stock size as a function of time, can be inverted to describe the point(s) in time at which the stock encounters each size within the range. For stock sizes encountered more than once, this inverted trajectory can be filtered to describe the *first* point in time at which the stock encounters each size within the range (the “first passage time”). In some cases, the range of stock sizes encountered includes the origin, in which case the first passage time represents the extinction time. Like all other properties of the time trajectory, the extinction time, when it exists, is determined entirely by the initial conditions and the fishing mortality rate, meaning that the F_{ext} question can be answered by solving for the minimum fishing mortality rate that results in a finite first passage time through the origin.

However, when deterministic models are replaced by stochastic ones, the answers to the F_{MSY} and F_{ext} questions typically become much more complicated. Worse still, it is no longer even clear whether these questions can be addressed simultaneously. The stochastic analogue of the deterministic time trajectory is the “transition distribution”, which describes the probabilistic

behavior of the stock over time. Although the time trajectory is no longer determined entirely by the initial conditions and the fishing mortality rate, the transition distribution is. The answer to the F_{MSY} question now begins with the fact that each transition distribution *may* converge on a “stationary distribution” (the stochastic analogue of equilibrium) as time approaches infinity. If the stationary distribution exists, the F_{MSY} question can be answered by solving for the fishing mortality rate that maximizes the expected value of the stationary distribution of yield. Just as the time trajectory is replaced by the transition distribution when deterministic models are replaced by stochastic ones, so the extinction time is replaced by a distribution of first passage times through the origin. The potential for eventual extinction typically increases greatly when deterministic models are replaced by stochastic ones. In fact, deterministic models exhibiting a finite equilibrium typically imply certain extinction when recast in stochastic form, provided that the time horizon is long enough. This makes the F_{ext} question much more difficult to answer, in part because the definition of “danger” becomes much less obvious. Presumably, such a definition would be cast in terms of some property of the distribution of first passage times through the origin, for example, a 5% chance of extinction within 100 years. Given a suitable definition of “danger,” the F_{ext} question can then be answered by solving for the minimum fishing mortality rate that meets the definition.

Unfortunately, the answers to the F_{MSY} and F_{ext} questions proposed in the above paragraph are not necessarily consistent. If the origin is an absorbing state (i.e., if extinction is forever), then a model in which eventual extinction is a certainty cannot exhibit a stationary distribution, in which case the F_{MSY} question is meaningless (no yield can be sustained, so sustainable yield cannot be maximized). On the other hand, if the origin is an unattainable state, then the F_{ext} question is meaningless (extinction is impossible, so no rate of fishing can endanger the stock). What is needed is a class of stochastic models in which the stationary distribution exists and in which the origin is attainable. These features *can* coexist in models where the origin is a reflecting barrier (i.e., once the stock goes extinct, it recovers) or in which the origin is not a barrier at all (i.e., negative population sizes are mathematically possible). A reflecting barrier at the origin can be viewed either as a real biological possibility (e.g., if immigration from neighboring populations is allowed) or simply a mathematical convenience, whereas removing the assumption of any barrier at the origin would obviously have to be viewed only as a mathematical convenience. However, there are few examples where such a model has been used to address both the F_{MSY} and F_{ext} questions simultaneously. Until such applications are thoroughly developed and tested, the commonality of the models used by fisheries science and conservation biology will remain an open question.

Discussion: Rebecca Lent (F) questioned whether the schism between fishery and protected resources occurs in the social sciences as well as in the biological sciences and management. Thompson stated that he assumed this was the case. Larry Jacobson (NEC) asked whether there were technical barriers between models created for fish and those created for protected resources, and Thompson responded that in his opinion such technical barriers do not exist.

Legal Framework – Craig Johnson, Office of Protected Resources

Johnson presented an overview of the following statutes: 1) National Environmental Policy Act (NEPA), 2) Marine Mammal Protection Act (MMPA), 3) Endangered Species Act (ESA), 4) Administrative Procedure Act (APA), and 5) Data Quality Act (DQA). A majority of the presentation was focused on the ESA, APA, and DQA.

The ESA is a statute that contains 18 sections. Of particular relevance are Sections 2 (Purpose), 4 (Listing, Recovery, and Monitoring), and 7 (Interagency Cooperation). The purposes of the ESA “are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (b) of this section”. Johnson noted that in Section 4, the Act requires NOAA Fisheries to list species and to designate critical habitat based on the best scientific and commercial data available. Regarding Section 7, it was noted that the Act requires that “each Federal agency shall, in consultation with and with the assistance of the Secretary, ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat”. As was the case for ESA listing and critical habitat designation, each agency shall use the best scientific and commercial data available in making this determination.

Every final decision made by Federal employees is subject to review under the APA. The APA sets forth procedures that all Federal agencies must follow in order to make a reasoned decision within a reasonable time period. The APA allows courts to: 1) compel agency action this is unlawfully withheld or unreasonably delayed and 2) hold unlawful and set aside agency actions, findings, and conclusions that are found to be arbitrary and capricious, an abuse of discretion, otherwise not in accordance with law, contrary to constitutional right, in excess of statutory jurisdiction, or without observance of procedure required by law. Of most relevance to NOAA Fisheries employees is the definition of what constitutes an arbitrary and capricious action. A rule or action would be arbitrary and capricious if NOAA Fisheries 1) relied on factors which Congress has not intended NOAA Fisheries to consider, 2) entirely failed to consider an important aspect of the problem, 3) offered an explanation for our conclusion that runs counter to available evidence, or is so implausible that it could not be ascribed to a difference in view or the product of expertise, or 4) failed to articulate a satisfactory explanation for a conclusion. It was further noted that the courts would focus on the administrative record in existence at the time of the NOAA Fisheries action in making a determination as to whether the action was arbitrary and capricious.

The DQA is a new statute designed to ensure and maximize the quality, objectivity, utility, and integrity of information disseminated by Federal agencies. The OMB guidelines related to the DQA require Federal agencies to establish administrative mechanisms allowing affected persons to seek and obtain correction of information maintained and disseminated by the agencies that

does not comply with the guidelines they issue. The Act also requires Federal agencies to report on the number and nature of complaints and how such complaints were handled by each agency.

In summary, Johnson noted that of primary importance to NOAA Fisheries was the hierarchical relationship between the ESA and other statutes. That is, Congress intended that no Federal agency would allow an act that was likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat. This determination must be made absent consideration of social and economic costs to impacted parties. However, Congress did intend that a Federal agency would select from the set of reasonable and prudent alternatives (RPAs) that avoided jeopardy and adverse modification of critical habitat the one that minimized economic and social impacts to parties affected by the RPA.

Discussion: Michael Payne (AKR) questioned how the Data Quality Act is different from the Freedom of Information Act (FOIA). Johnson responded that the DQA is very different: it requires that agencies provide a process that allows interested parties to challenge data that are used by the agency to make decisions, whereas FOIA requires the agencies to make certain government documents available to the public. Sue Salvesson (AKR) pointed out that Johnson did not discuss the impacts of protected resources legislation on the fishing industry. Johnson indicated that impacts are considered when the agency develops reasonable and prudent alternatives (RPAs) under the ESA. During the development of RPAs, the alternative which results in the least socio-economic impact can be selected as the preferred alternative. However, it is clear that the legislative mandate of the ESA trumps the mandate of the MSFMCA. That is, economic reasons alone are not sufficient justification for an agency to authorize an activity that was likely to jeopardize the continued existence of a listed species.

Closing the Gap Via the Regulatory Process: Where the Gap Ends – Rebecca Lent, Deputy Assistant Administrator for Regulatory Programs

Because our mission at NOAA Fisheries ranges from science and analysis to policy development and enforcement, it is not surprising that we often have internal debate in reaching consensus. These gaps take many forms - between PR and SF staff, headquarters and the field, legal and policy issues, science and management, etc. Different perspectives give us strength, as they ensure that we are considering all aspects of an issue when developing possible solutions. Indeed, these differences play well into the National Environmental Policy Act (NEPA) process, which requires us to consider a wide range of alternatives and their impacts on the entire human environment. Through the regulatory process we must continue our efforts to bridge gaps among the various players in the process. Given NOAA Fisheries' stewardship under our various legislative mandates (including the ESA, MMPA, and MSFCMA), the gap must be closed when a decision is made.

The Regulatory Streamlining Project is the ultimate “gap spanner” in that it encourages the full use of the NEPA process in our decision-making with the regional fishery management councils and our constituents. The Regulatory Streamlining Project focuses on using NEPA as a tool to “front-load” consideration of all issues early in the rulemaking process, including issues such as protection of endangered species and habitat. The Regulatory Streamlining Project is an important change in the way NOAA Fisheries does business, with increased focus on regional responsibility and accountability, and headquarters playing a more general, policy and training role in our stewardship mission. Through the process of “front-loading” we can identify gaps early in the rulemaking process and work together to find solutions. With the help of our regional and national NEPA coordinators, the Regulatory Streamlining Project will ensure policy decisions that are fully informed and more robust to challenges based on process as well as substance.

Discussion: Hogarth (F) pointed out that the Regulatory Streamlining Project is a new way to carry out the fishery and protected resources management process. Process is very important because the courts closely scrutinize the process, while they typically defer to the agency on the science. Chris Mantzaris (Northeast Region; NER) asked whether the implementation of the Regulatory Streamlining Project would be accompanied by an increase in funding over the next few years. Lent responded that funds had been requested and that they would continue to request funds to support this program.

Case Study: Alaska Experience of Development of the 2001 Biological Opinion on Steller Sea Lions and Alaska Groundfish Fisheries Interactions – Doug DeMaster, Alaska Fisheries Science Center

Doug DeMaster presented a summary of events leading up to the development of the Steller sea lion Biological Opinions (BiOp) in 1999-2001, as a case study to illustrate the existence and evolution of a cultural gap between PR and SF staff. The gap, as it appeared in 1999, was described by comparing an “ideal communication model”, where PR and SF concerns should be given equal consideration in decisions made by NOAA Fisheries management and the North Pacific Fishery Management Council (NPFMC), to a “perceived communication model”, where long standing SF interests in maintaining viable fisheries overshadowed PR objectives to recover ESA listed species. While the perceived model set the tone for the events during the development of the biological opinions, DeMaster suggested participants look for indications that NOAA Fisheries might be moving toward the ideal communication model as a consequence of lessons learned in this case study.

Four key events in the development of the Steller sea lion biological opinions were used to compare and contrast PR and SF views of how well a balance between favoring protective values versus consumptive values had been struck. They were: 1) a ruling by U.S. District Judge Thomas Zilly in July 2000 that, while a jeopardy determination was reasonable, adequate rationale supporting the RPAs were lacking; 2) the review of the first five chapters of BiOp 3 (July 2000); 3) the completion of BiOp 3 (November 2000); and 4) the completion of BiOp 4

(October 2001).

The first key event that provided an opportunity to detect a cultural gap between PR and SF staff was the court rulings against NOAA Fisheries on BiOp 1 and BiOp 2. While the judge supported the agency's jeopardy determinations, the reasonable and prudent alternatives contained in BiOp 1, and embodied in BiOp 2, were found to be "arbitrary and capricious" and remanded back to NOAA Fisheries. An injunction was also placed on the Alaskan groundfish trawl fisheries until such time as a revised biological opinion was accepted by the court. The potential impacts to the Alaskan groundfish fisheries were sufficiently grave for NOAA Fisheries to have considered resolution of this issue the agency's highest priority. Pressure and expectations of staff working on this document were consequently high.

Protected resource staff in the Alaska Regional Office considered the new biological opinion in need of substantive revision. That is, the nature of the interaction between Steller sea lions and the fisheries warranted a fresh look to not only respond fully to the judge's orders, but also to take a more conservative stance protecting the endangered population of Steller sea lion in the face of uncertainty. Conversely, SF staff considered the new biological opinion in need of better documentation and rationale only, not wholesale redrafting. Thus, while PR staff viewed the biological opinion remand as a sign of imbalance, having swung too far in favor of consumptive interests, SF staff considered the existing biological opinion a balanced approach and was motivated to take necessary actions that would lift the court injunction with a minimum of disruption to the fishery.

The drafting of BiOp 3 during FY2000 was undertaken by Alaska Regional Office PR staff and Office of Protected Resources staff with the understanding that a "firewall" existed between the Consulting Agency (PR in this case) and the Action Agency (SF). Thus, when the contents of the first five chapters of draft BiOp 3 emerged for initial agency review in October (second key event), it became clear that the intention of the authors of the draft biological opinion was to significantly curtail the groundfish fisheries in Alaska in an effort to avoid jeopardizing the continued existence of the western population of Steller sea lions and adversely modifying critical habitat. In addition, the technical accuracy of some of the aspects of fishery management described in draft BiOp 3 was questioned by some Alaska Regional Office and Alaska Fisheries Science Center staff. At this point, the agency's concern greatly intensified as headquarters' offices became involved in the deliberations. Subsequently, a new team of 10 writers, referred to as the "consult team" was formed to revise the first draft, while an analytical team of 9 staff from the AFSC was also formed to address specific technical issues related to fishery assessment and management. Further, the consult team received guidance from the Assistant Administrator to incorporate an adaptive management experiment into the RPA being crafted to avoid jeopardy and adverse modification of critical habitat. The consult team was given 6 weeks to submit a completed BiOp 3 to the Alaska Regional Administrator. The purpose of the adaptive management experiment was to allow the agency to test the efficacy of any conservation measures in avoiding jeopardy and adverse modification. The consulting team consisted of 10 staff from Alaska Regional Office PR Division, Office of Protected Resources, NOAA General Counsel (GC); AKC staff included those from the AKC Directorate, the National Marine

Mammal Laboratory and the Resource Ecology and Fisheries Management Division.

All parties involved in the writing effort agreed that draft BiOp 3 required both corrections to technical errors and a moderation in tone, but the underlying differences in perspective remained and intensified. Whereas the consult team believed that the breadth of issues raised in the draft warranted attention which would lead to greater implications for the fisheries, the analytical team generally believed that several of the issues that had been raised in the first five chapters of the draft BiOp 3 were misconstrued and did not provide a compelling rationale for imposing further restrictions on fisheries. Based on these differences, and differences on where the burden of proof should be, coupled with a decided lack of policy direction, staff scientists and managers polarized into opposing camps, tasked with crafting arguments consistent with the roles they had been assigned. By early November, the consult team presented a completed version of BiOp 3 to the Alaska Regional Administrator.

The final version of BiOp 3 was completed by a third team of writers (referred to as the “dream team” and composed of staff from Alaska Regional Office, Office of Protected Resources, NOAA Fisheries, and NOAA General Counsel) over a period of approximately 7 days and released to the public on 30 November 2000 (third key event). The RPA included in the final version of BiOp 3 for the groundfish fisheries was much more severe than many constituents had expected, while several key features of the RPA developed by the consult team, had been deleted. Ironically, many PR and SF staff could finally agree on something at this point: they had been immersed in a process that exacerbated the differences between SF and PR staffs in their underlying philosophy regarding the management of living marine resource under the MSFCMA and the ESA and that too little guidance and mixed signals from leadership had caused unnecessary angst and confused their roles. Further, both sides saw in the final product that some of their recommendations had been either modified or removed.

NOAA Fisheries leadership, on the other hand, considered the final version of BiOp 3 balanced, despite having made difficult decisions on the suite of measures contained in the RPA and coming to grips with the fact that groundfish fisheries in Alaska would be severely impacted by these measures. However, the intensity of the backlash to BiOp 3 from the North Pacific Fishery Management Council (NPFMC) at their December 2000 meeting in Anchorage was beyond the expectation of most. The Council rejected the RPA and demanded alternative conservation measures be considered, while the Scientific and Statistical Committee of the Council found BiOp 3 to be “scientifically deficient”. Of even greater consequence was Alaska Senator Ted Stevens’ reaction: he denounced BiOp 3 on the Senate floor and demanded restoration of the groundfish fisheries in Alaska. Ultimately, Stevens was able to attach a rider to the 2001 Omnibus Appropriations Bill that delayed the immediate implementation of the RPA and echoed the Council’s demand for consideration of new alternatives. Many agency staff involved with

the drafting of BiOp 3 were left feeling very unclear about the relationship between ESA and MSFCMA mandates and the role of science in the development of fisheries policy within NOAA Fisheries.

The fallout from BiOp 3 set the stage for the fourth key event, which was the development of BiOp 4. NOAA Fisheries expanded participation in the ESA consultation process to include both the NPFMC and constituent groups (from both the fishing industry and the environmental community) while promising a more transparent process. In so doing, any vestiges of a firewall between the consulting and action agency roles were dissolved as the development of revised RPAs was tasked to a Council-appointed committee (referred to as the RPA committee and made up of 12 members from the fishing industry, 6 scientists, including 2 from NOAA Fisheries, and 3 members from the environmental community). Under this arrangement, PR staff would provide recommendations on avoidance of jeopardy and adverse modification, while SF staff would help fit such recommendations into operationally feasible management actions. Both PR and SF staff were to engage in both response to suggestions and offering of alternatives throughout deliberations. Active interaction among all participants was encouraged.

Clearly this approach avoided much of the confusion and angst associated with BiOp 3, and more clearly articulated the contributions expected of AKC staff in particular. However, the relative calm and less obvious cultural gap experienced by NOAA Fisheries staff during the development of BiOp 4 was in part due to the addition of more time to develop a new approach (basically one year), the perception that NOAA GC and the leadership of NOAA Fisheries would provide unambiguous guidance as to whether a particular set of conservations measures avoided jeopardy and adverse modification of critical habitat, and the sense that the new approach would be derived through consensus of all stakeholders. However, as the process had essentially become a Council driven process and because the new RPA committee had a majority of members chosen from the fishing industry, the stakeholders from the environmental community were not satisfied with the process and effectively did not contribute to the development of the conservation measures recommended by the RPA committee. Nonetheless, the conservation measures recommended by the RPA committee were adopted by the NPFMC, after the NPFMC made them more conservative, and subsequently were adopted by NOAA Fisheries. Elements of both BiOp 3 and BiOp 4 have been litigated, and a ruling by Judge Thomas Zilly is pending (as of 1 December 2002).

In summary, DeMaster identified the following lessons learned:

1. The communication process required as part of an ESA consult, absent a protocol, will erode as the stakes and uncertainty grow.
2. The protocols for balancing ESA and MSFMCA concerns within NOAA Fisheries were insufficiently defined at the time to allow for an orderly consultation process under the ESA.
3. The lack of policy guidance at the time with respect to avoidance of jeopardy/adverse modification of critical habitat put scientists in unreasonable roles that exacerbated the culture gap.
4. NOAA GC's role in ESA consultations and development of policy guidance remains

unclear.

5. With increasing pressure to reach consensus on jeopardy/adverse modification, the scientific basis supporting proposed actions becomes more tenuous.
6. Better communication between PR, SF and science center staff would help reduce the cultural gap in NOAA Fisheries.
7. The cultural gap cannot be eliminated entirely by streamlining or making the process more transparent.

Discussion: Considerable discussion ensued at the conclusion of this presentation. Knowles (F/PR) noted that when the process of conducting a Section 7 consultation on the groundfish fishery was initiated in 1999, most NOAA Fisheries senior managers had only been in positions for a few months, which might have contributed to making the process more difficult.

Johnson (F/PR) commented that the characterization of the firewall between SF and PR staff was not quite fair. One reason for needing the firewall in the consultation process that led to the development of BiOp 3 was that the record for BiOp 3 did not demonstrate clear consultation between two identified parties. Creating the firewall forced the definition of two parties and resulted in an administrative record that involved communication and deliberation between the parties.

Several participants noted that the process followed for the consultation on the Alaska groundfish fishery resulted in a heavy human toll. The process caused fairly deep rifts between individuals and little effort has been made to repair the damage that occurred during the deliberations. Thompson (AKC) noted that two reasons for the heightened staff frustration was that the process was very confusing and the rules changed almost daily, both of which resulted in a tremendous increase in staff workload. Jim Coe (AKC) pointed out that, in this case, senior managers, including the Alaska Regional Administrator, the Assistant Administrator of NOAA Fisheries, and NOAA GC were in residence at the Alaska Fisheries Science Center and were actively pitting scientists against each other.

Mike Payne (AKR) commented that the jury was still out regarding whether BiOp 4 was successful in terms of providing better options for the conservation of Steller sea lions. The bottom line is that after 4 years and a great deal of work, NOAA Fisheries is still not sure what caused the decline in the species or whether the selected RPAs will work and whether they will meet the legal mandates under the ESA (as of 1 December 2002).

Ron Berg (AKR) suggested that better defining the role of NOAA GC would help narrow the cultural gap within the agency. In particular, it seems that NOAA GC relies too heavily on finding a clear scientific solution, when the science may simply not be available for such an approach. In situations like this, a clear policy is needed to help managers and scientists meet the mandates of the ESA. The existence of such a policy is currently lacking within NOAA Fisheries.

Robin Waples (NWC) questioned how the science was used in the management decision. At the

Northwest Fisheries Science Center (NWC), the science is done by Center staff but all management decisions are made by the Northwest Regional Office staff. DeMaster responded that the AKC staff have provided the Alaska Regional Office with considerable scientific advice over the years in the form of peer-reviewed publications, unpublished reports, and draft text for management related documents. Regarding the consultation for this biological opinion, DeMaster noted that the AKC staff provided a series of white papers that were developed to provide guidance in addressing the Steller sea lion/Alaska groundfish fishery issue. However, in addition to providing summaries of the best available science, the line between science and management became blurred, and scientists were asked to provide direct input into whether the jeopardy/adverse modification threshold was met. In part, this condition may have been created because of the extremely compressed timeline for completing BiOp 3.

Knowles indicated that one lesson learned is that better agency guidance is needed for listing decisions and the threshold for what should be considered jeopardy/adverse modification. DeMaster added that it would have been tremendously useful to have a summary of relevant case law (both terrestrial and marine) in hand, so this could be used to provide sideboards on what should be considered a threshold for jeopardy/adverse modification. Case law regarding how agencies should make decisions in the face of considerable uncertainty would have been particularly useful. Hogarth indicated that, when agency staff need policy guidance for issues such as jeopardy/adverse modification, staff should alert NOAA Fisheries headquarters.

Fox (F/ST) noted that this was the first time that he had heard the details of how BiOps 3 and 4 were developed. He did not see that a cultural gap existed. Instead, he noted that a dichotomy seems to exist, in which NOAA Fisheries must grant authorization to fish, and must do so in a way that does not jeopardize endangered species. This type of dichotomy is present in other agency decision-making processes (e.g., the need to authorize a fishery in a manner that prevents overfishing), and it is the responsibility of the agency leadership to be able to implement both objectives. DeMaster responded that he was aware of a cultural gap during the development of the 2000 BiOp in issues such as how “unlikely” should be defined in making a determination about jeopardy/adverse modification of critical habitat or how the burden of proof standard should be interpreted. That is, there was considerable difference in opinion on the implementing definitions of these terms, and the differences were clearly aligned with whether one was associated with a SF or PR office.

Sissenwine (NEC) stated that the Section 7 consultation process is generally poorly managed, and questioned whether participants in the Alaska groundfish fishery consultation generated part of the problem themselves by misunderstanding problems with the science. He recommended revisiting the process to consider whether pursuing all steps taken were an efficient use of resources. DeMaster pointed out that, conceptually, some of the parties involved in the Section 7 consultation within NOAA Fisheries believed strongly that it was not possible to reduce an endangered species’ food supply to 40-50% of its carrying capacity and not have an effect on the endangered species. Payne added that, just because fishing at B40¹ is precautionary under the

¹ Fishing at B40 means that the female spawning biomass is 40% of what it would

MSFCMA does not mean that fishing at B40 is precautionary under the ESA.

Charles Karnella (SWR, Pacific Islands Area Office) briefly described a similar conflict between fisheries and protected resources issues in Hawaii during a recent consultation addressing potential longline interactions with sea turtles. In this case, PR staff left SF staff out of the loop.

Cultural gaps seem to occur when there are no standards and guidelines to fall back on; in these situations, Karnella noted that things are open ended and the person who wins is he/she who argues the best. There was general agreement among participants that the consultation process should evolve to the point where this is not the case.

Summary and Discussion of Break-out Group Sessions

Sissenwine challenged participants in each of the five break-out groups to address the same two questions:

1. What is the cause of the gap between SF and PR staff?
2. What are recommended solutions for reducing or eliminating the gap?

Each break-out group met for one day and reported their findings on the last day of the workshop. The following provides a summary of each break-out group session, as summarized by the breakout group leaders; details regarding break-out group discussions (if recorded) are included in Appendices 3-5.

Break-out Group 1: Mike Schiewe

Break-out Group 1 explored a variety of examples of “the gap” separating professionals working in the sustainable fisheries arena and those working on protected resources issues. In the end, the steps that could be taken by NOAA Fisheries leadership to narrow the gap were grouped in four categories: guidelines and standards, clarification of roles, in-service education, and professional recruitment.

A major theme that surfaced repeatedly throughout the group’s discussion was the lack of, and hence need for, guidelines and standards for dealing with reoccurring issues in the protected resources area. Examples included guidelines and standards for determining jeopardy/adverse modification, setting recovery goals, defining listing criteria, and the like. Also noted was the need for procedural guidelines for developing biological opinions (i.e., what are the steps, who is responsible for which steps, what are the timelines). Two major areas of policy that were identified as contributing to the gap were the reoccurring questions of how to deal with scientific uncertainty and how to distribute the conservation burden among different groups over which NOAA Fisheries may have more or less control. A clear policy on these issues would go a long way in resolving the tension that periodically builds between SF and PR staff.

be if there were no commercial fishing on the species.

Another major theme that shaded much of the discussion revolved around the respective roles of science and management. The simple dictum that “science does science” and “management makes policy choices and promulgates regulations” is one that some group members felt needs to be periodically highlighted...and religiously practiced. At the heart of many of the controversies that were discussed was a blurring of the lines between science and management, with the result being both scientists and managers occasionally playing inappropriate roles. The use of “neutral science” is a key to balancing the range of issues that NOAA Fisheries must manage.

The group also noted numerous examples of gap-associated problems that arose because of a perceived failure to recognize or understand the full range of NOAA Fisheries roles and responsibilities. This was largely attributed to ignorance. Particularly noteworthy was the apparent lack of fundamental knowledge of the legal mandates that define NOAA Fisheries’ mission. Regular refresher classes on these might go a long way towards minimizing these kinds of conflicts. Also noted was the potential value of periodic refresher courses for managers on technical issues such as stock assessment, fishing techniques, and modeling. A comprehensive approach to education would seek a balance between continuing education at colleges and universities, in-service training targeting specific topics and segments of the work force, and greater use of rotational assignments. It was noted that rotational assignments should be between and among management and science offices.

The final area that was identified as an important opportunity to narrow the gap was in the recruitment of new employees. It was generally agreed that the single most important decision supervisors make, whether on the science or management side of the house, is selecting new employees. As the field of fisheries becomes more dependent on quantitative models and sophisticated statistical analyses, it is imperative that NOAA Fisheries place a priority on recruiting professionals with increasingly sophisticated quantitative skills. At the same time, it is equally imperative that NOAA Fisheries place a premium on those candidates with strong communication skills and those with a track record of working collaboratively to resolve contentious issues.

In closing, the group believed that several programs were in place that provide opportunities for substantive progress on many of these issues. These included the RSP, Science Quality Assurance, and the move toward ecosystem management. Finally, it was noted that most in the group believed that the gap between SF and PR professionals was not all bad. The differences in perspective and opinion regarding resources issues, if managed in healthy and respectful way, sharpens the discussion and makes for more thoughtful analyses and decisions and enabling the agency to take sound conservation and management actions that are legally defensible.

Discussion: Some participants noted that many of the issues raised in this break-out session were very similar to those which arose in other sessions, and recognized that many of the recommended solutions have been brought up in previous attempts to improve how NOAA Fisheries functions (e.g., by the regulatory effectiveness charter team, others). This led some participants to question whether many of the cultural gap problems are intractable and whether we have made significant progress since previous discussions of this type.

There were, however, some “new” solutions being offered. For example, the recommendation to develop quantitative criteria for jeopardy/adverse modification of critical habitat, as well as ESA listing criteria, is new. Also, conference participants generally agreed that the RSP alone would not serve as a solution to the cultural gap problem in NOAA Fisheries.

Break-out Group 2: Sam Pooley

While some members of this group believed there was little gap, others were quite convinced there was an almost unbridgeable gap between PR and SF staff. Some were concerned that the role of science and scientists was not clear in the context of preparing biological opinions and fishery management decisions. Members of the break-out group identified a range of solutions from major institutional transformations to smaller changes affecting individuals. The institutional transformations ranged from creating a separate NOAA Protected Resources agency, to moving PR consultations to the U.S. Fish and Wildlife Service, to collapsing the division between PR and SF staff within the agency into a renamed NOAA Marine Ecosystems agency. The smaller, incremental changes included policy guidance on the role of risk and uncertainty in jeopardy decisions, clarifying the roles of different offices in the biological opinion process, and training in the basic legislative mandates of the agency. There was also some discussion of the role of science in the management process, but the break-out group did not suggest any changes that might resolve this issue.

In the context of the opening introductions, in which participants were asked to identify who they knew best on the other side of the gap, three positions rapidly emerged: “Gap, what gap?”; “The gap is precarious”; and “We ought not even use the term ‘gap’.” (Although a variety of “gaps” were identified, most of the discussion focused on that between fisheries and protected species decisions in the context of biological opinions). It was also clear that there were different experiences across regions, centers, and headquarters’ offices. A number of break-out group participants were quite eloquent in identifying what they thought about the gap(s), what the constituent elements are, and from where the gap(s) originates. The result was that this break-out group, evidently more than any other, emphasized what might be considered organic or institutional causes of the gap and hence similar organizational changes required to resolve the gap.²

² This report was compiled by the break-out group facilitator from the group work conducted at the workshop. No individual participant in the break-out group should be identified with any particular issue or solution proffered by the individuals in the group (who acted in the

Issues: Almost 40 issues or problems were identified in response to the initial trigger question [*What is the most significant difference between your approach and those of others concerning issues in this context?*]. These included a wide range of issues, including³:

- Multiple mandates for the agency
- Lack of understanding of the ESA
- Different value systems (Consumptive vs. Non-consumptive)
- Different Regional Office/Center views of “best available” information
- Differences in timing of actions
- Role of scientists in providing advice to managers
- Gaps with and between constituents
- Ambiguous attitudes toward the role of the courts in NOAA Fisheries decision-making

Solutions: There were then more than 30 solutions⁴ offered by members of the break-out group to resolve the suite of issues identified in the first trigger question. (The solutions were not identified in response to a specific issue but subsequently the group attempted to ensure that each issue had at least one solution.) Although the group did not categorize the solutions they might be categorized as:

- institutional
- incremental
- process-oriented
- education/training/inter-personal
- miscellaneous.

Members of the break-out group were provided with colored dots to help identify which solutions had the greatest saliency to them (five dots per person, no limit to the number of those five dots that could be placed by an individual on any solution; i.e., a person could place five dots on one solution (but then none on any other), or a person could place one dot on five solutions, 80 dots were distributed to the group members in all). Twenty solutions received dots, with the most for any individual solution being ten dots. No effort was made to identify a majority or consensus point of view, and apparently no individual solution received a “vote” from a majority of the group members. The solutions receiving the largest plurality of dots (i.e., those which either a larger number of group members placed dots or where a smaller number placed a large number of dots each) are listed below in rank order; one can note that in some

form of a structured conversation, not a decision-making group).

³ Listed in Appendix 4, Table 4-1.

⁴ Listed in Appendix 4, Table 4-2.

cases the proposed solutions receiving the most dots⁵ contradict each other but might be viewed as alternative methods for resolving similar issues.

- Issue policy advice on risk and jeopardy
- Create a separate NOAA agency (e.g., NOAA Protected Species) for PR functions
- Reorganize NOAA Fisheries into an integrated Marine Ecosystem agency (eliminate the PR/SF divide)
- Depoliticize the Assistant Administrator position (i.e., make it an Senior Executive Service position)

The breakout group recognized that three of these potential solutions represent basic institutional changes in NOAA that might be difficult to accomplish, but a substantial number of participants urged that these suggestions be taken seriously by NOAA Fisheries leadership because they were both symbolically important recognitions of the depth of feeling concerning the PR and SF gap and because some believed they would actually be functionally reasonable ways to resolve the gap. [It is important to reiterate that no individual solution received a majority of dots, which would have been 40 dots, nor apparently did a majority of group members place a dot on any individual solution; however, the four major institutional changes (identified in Appendix Table 4-2, as letters F, G, J, U) did receive 26 dots; i.e., one-third of the total dots).]

Other potential solutions that received three or more dots include (in no particular order):

- Create a more clearly defined (and understood) process for internal consultations on biological opinions
- Regulatory streamlining
- Use different roles and world views constructively – communicate, cooperate, teamwork
- Reconsider the role of fishery management councils in ESA-related decisions (including reviewing composition of council membership)
- Rename the agency (remove the “Fisheries” emphasis)
- Provide more opportunities for inter-personal interactions, details, rotational assignments, and exchanges
- Clarify and standardize roles across regions (review regional office/science center operating agreements)
- Reduce harvesting capacity (and/or fishing effort) dramatically
- Improve outreach and public relations functions

Several people in the break-out group expressed appreciation that the agency had taken this issue seriously enough to hold such a large workshop on the topic. The group noted that many of the

⁵ This approach might be viewed as a type of alternative voting scheme used in some European elections such as proportional representation or as a consumer demand approach where the dots represented willingness to pay for particular solutions.

solutions listed above, plus those in Appendix Table 4-2 that received a smaller number of dots or no dots but were still considered important, could be implemented at the “local” level without formal institutional change. Many participants emphasized that it was important to foster better inter-personal relationships within the agency. Finally, several participants noted that it was important that the agency’s leadership report back to the participants in this workshop on what would be done to resolve the gap, and that something needed to be done, sooner rather than later.

Discussion: Participants asked why one recommendation from the break-out group was to create a separate NOAA PR agency, particularly since this seems to run directly counter to the recommendation to implement regulatory streamlining. Pooley indicated that some break-out group participants believed that there was a fundamental split between PR and SF staff that would not be solved just by delegation of authority to the regional offices. In addition, there was considerable tension within the group regarding whether regulatory streamlining was the best approach. Pooley also indicated that, while some SF members of the break-out group originally recommended that a NOAA PR agency be developed, this did receive significant support from some PR staff in the group.

One participant noted a contradiction between some of the recommended solutions to the cultural gap. For instance, the recommendation to create a separate NOAA agency (e.g., NOAA Protected Resources) for PR functions and the recommendation to reorganize NOAA Fisheries into an integrated Marine Ecosystem agency (eliminate the PR/SF divide) were in direct conflict. Pooley responded that there was substantial disagreement about which approach would be preferred.

Break-out Group 3: Sue Salvesson

Break-out Group 3 conducted a roundtable discussion exploring different perceptions of the “cultural gap” between managers of SF and PR offices. Individual experience and views ranged from fairly strong feelings that the “gap” is inherent within the agency and that it potentially frustrates working relationships and the agency’s mission, to no personal experience indicating that a “gap” existed. In general, participants in Group 3 believed that differences in perception between SF and PR managers exist and that ideally, these differences should provide the basis for positive and open discourse. Further, existing inconsistency or uncertainty in ESA standards; scientific information; and consultation procedures and roles aggravate current negative connotations associated with the “cultural gap”. Agency efforts should be focused on addressing these issues and encouraging an environment of open communication that would foster “bridging” the gap. Group 3 subsequently developed a list of recommended actions to achieve these objectives. They are as follows:

- I. Provide clear policy guidance on recurring significant issues (to be developed by the agency). Major issues include criteria and reference points for ESA decisions (listing, delisting, jeopardy/adverse modification) and treatment of uncertainty and unknowns
 1. A steering committee should be established to organize process to identify ESA listing criteria⁶.
 2. A steering committee should be challenged to identify criteria for jeopardy/adverse modification
 3. Establish a workgroup to integrate ESA reference points with other applicable law and agency policy (e.g., MSFCMA – Habitat, ecosystem based criteria)
 4. Establish a workgroup to develop policy guidance on how to treat uncertainty, imprecision, or lack of data
 5. Working group/committee products must be subject to public review and comment. The development of implementation strategy must include representation from all affected perspectives within and outside the agency
 6. Poll regional offices and science centers on top issues needing policy clarification (help to open process)
 7. Office of Protected Resources should articulate policy guidance to field offices to the extent that guidance already has been developed. The agency should ensure ongoing assessment of existing policy relative to new policy development to avoid confusion and misunderstanding

- II. Enhance transparency and informed decision making
 1. Internal
 - a. Regulatory Streamlining Project action plan
 - accept councils as part of “action agency”
 - ensure sufficient time to realize expectations
 - b. Healthy, candid communication of issues that leads to understanding of informed decision making (engage SF/PR/science center/fishery management council staff communication early – from staff level on up)
 2. External – public
 - a. Regulatory Streamlining Project – ensure sufficient time
 - b. Provide education/training on ESA to councils, public

- III. Provide clear direction on roles and responsibilities for each process throughout organization
 1. Long-term planning (need to resolve potential conflict of Regulatory Streamlining Project workload with existing workload priorities)

⁶ A group to develop ESA listing criteria was recently formed by NOAA Fisheries Leadership.

2. Map out different processes (ESA, NEPA, agency policy) to identify where they are exclusive and where they interact
3. Reassess roles and responsibilities in consideration of workload associated with different processes defined under applicable law, current agency standard operating procedures and policy.
4. Make sure adequate staff expertise is assigned to fulfill designated roles
5. Clarify ESA decision hierarchy
6. Refocus on the public process associated with the action agency's development of complete biological assessments so that the product of consultation, the biological opinion, can be focused, concise, and short (no more than 10 pages)

IV. Support long-term planning/culture change (proactive vs. reactive practices)

1. Ensure adequate resources to implement RSP (front loading) as envisioned
2. Need for NOAA Fisheries to be more successful in obtaining funds and additional staff resources to achieve expectations. Refuse to take on assignments/projects without adequate resources
 - Need to promote similar culture change at the Department of Commerce.
3. Embrace initiative promoted by NOAA to identify plan of actions, costs, schedules and performance measures for fulfilling expectations or management challenges
4. Prioritize “to do” list in recognition that resources likely will not allow all expectations to be fulfilled
 - Articulate consequences of inaction

V. Provide staff development opportunities

1. Orientation for new employees – Would provide information on agency structure, missions, applicable law, policy, information sources, information on how to pursue different career paths: what does it take to “move up” in the agency, Q&A opportunities
2. Mentoring for purposes of career development
3. Rotational assignments (short term and long term)
4. Professional training
 - Everyone (including managers and supervisors) gets basic training in applicable law: NEPA, ESA, MSFCMA, APA, administrative record, conflict resolution. Periodic updates in training must be provided
5. Take advantage of existing training centers; rotate existing staff expertise into training initiatives
6. Make training a mandatory element in performance plans

7. NOAA Fisheries Leadership Council – develop training program/standards
8. Institutionalize rotational assignments to provide ongoing effort to bridge the cultural gap. Expectations for rotational assignments should accommodate concerns about uprooting personal lives/family (e.g., reasonable time frame for rotations; rotations within a regional office among different divisions)

Discussion: A participant asked about the break-out group's point regarding articulating what the agency could not accomplish using existing resources. Specifically, how does NOAA Fisheries approach situations where new resources are needed, and how does this differ from the approach used by other agencies? Apparently, in the U.S. Fish and Wildlife Service (FWS), each office is highly aggressive about pursuing new funds for new projects, and if Congress does not provide the funds, FWS does not do the work. For example, in the Alaska Regional Office, there are 3 people handling marine mammal/endangered species issues for over 30 stocks of marine mammals in Alaska, while the Alaska FWS Regional office has 40 staff to cover the management of 6 stocks of marine mammals. In NOAA Fisheries, the agency tends to try to cover new projects within the funding level currently available. In addition, when developing RPAs for a fishery management action that requires an increase in the staff workload, it's clear that some other part of NOAA Fisheries will be responsible for carrying out the tasks, and often these tasks must be completed using existing resources. When NOAA Fisheries develops RPAs for a different agency, that agency approaches Congress to request funds in order to comply with the RPAs. It was recognized that NOAA Fisheries, as a line office in NOAA, is not necessarily in charge of the representations made to Congress and others regarding its capabilities or needs. Nonetheless, there was general agreement that NOAA Fisheries tries to do too much with too few resources. Clearly for purely political reasons, an agency can't say "no" to Congress absent funding in all cases; however, in some cases such a response is likely the correct long-term approach to avoid staff burn-out and other morale problems.

Some participants stressed that the annual timelines for completion of actions under the MSFCMA sometimes conflict with the timelines for completion of biological opinions. Early scoping of issues will help resolve this problem.

One participant questioned at what point the precautionary principle would be applied and who was authorized to determine the extent to which the precautionary principal should be applied. It was agreed that the agency needs to develop policy regarding this issue. To a large extent, the case-by-case nature of how this problem is addressed in practice contributes to a cultural gap within the agency.

Break-out Group 4: Doug DeMaster

Because of the large number of participants, members of Break-out Group 4 agreed to a revised approach in addressing the issues of to what extent a cultural gap exists in NOAA Fisheries and what solutions should be implemented to improve the current situation. Rather than ask each

member for a testimonial regarding the culture gap in their experience in NOAA Fisheries, Group 4 members agreed to focus on several well-known issues within NOAA Fisheries where group members had direct experience (e.g., management of Northwest salmon and groundfish, management of Alaska groundfish fisheries, management of Hawaiian monk seal-fishery interactions, management of North Atlantic groundfish). Specific goals were identified that would improve the existing work environment in NOAA Fisheries such that a better working relationship between staff associated with SF, PR, and habitat conservation could be expected.

Five specific goals were identified and agreed by Break-out Group 4:

1. Improve the understanding of NOAA Fisheries staff of the legal framework under which NOAA Fisheries manages living marine resources, the hierarchical relationship among these statutes, and the legal standards used to evaluate whether the agency has met its statutory mandate.
2. Clarify intra-agency policies regarding the roles of the various offices in the management and recovery of living marine resources and the processes by which these policies will be implemented.
3. Obtain adequate resources to allow for the management and conservation of living marine resources as mandated by Federal statutes.
4. Improve interpersonal skills among NOAA Fisheries staff.
5. Identify existing fiscal and legal constraints facing NOAA Fisheries in the management and conservation of living marine resources.

For each of these goals, a list of activities that would support the achievement of the goal was identified. The group agreed that as possible all of the activities would be approved by a consensus vote of the group. After some discussion, all of the activities listed below were agreed by the group.

1. Improve the understanding of NOAA Fisheries staff of the legal framework under which NOAA Fisheries manages living marine resources, the hierarchical relationship among these statutes, and the legal standards used to evaluate whether the agency has met its statutory mandate.
 - Expand legal training for staff in science centers and regional offices (e.g., hierarchy of laws and standards for review)
 - Add legal skills to position descriptions of staff that have a critical need to understand the legal mandates under which NOAA Fisheries manages living marine resources
 - Train NOAA Fisheries staff on National Standards associated with the MSFCMA
 - Improve NOAA GC involvement in development of NEPA and ESA documents at the start of a project
2. Clarify intra-agency policies regarding the roles of the various offices in the management and recovery of living marine resources and the processes by which these policies will be implemented.
 - Develop guidelines for

- internal consultation process (who develops, who signs, who is accountable, etc.)
 - Science center/regional office responsibilities
 - Field offices/headquarters responsibilities
 - Interactions with fishery management councils
3. Obtain adequate resources to allow for the management and conservation of living marine resources as mandated by Federal statutes.
 - Don't use historical funding levels as a starting point for spending plans; rather, make the effort to determine the actual cost of the activities for which a science center or regional office is making a commitment to achieve in a given fiscal year
 - Educate stakeholders about NOAA Fisheries mission and current capabilities
 - Obtain sufficient vessel time and funding to support the at-sea research needed to meet the management and conservation mandates of Federal statutes
 - Improve staff ability to access "best available data" and a process to get these data in an APA compliant manner
 4. Improve interpersonal skills among NOAA Fisheries staff.
 - Expand use of processes for sharing information, attitudes, and experiences among the different financial management centers (e.g., retreats and workshops- members of Break-out Group 4 only knew one-third of the group; that is two-thirds of the members had never met each other!)
 - Increase support for and encourage social interactions among staff within financial management centers
 - Improve conflict resolution skills of staff, especially among the different divisions/branches/offices that make up a financial management center
 - Develop a NOAA Fisheries culture that accepts differing views of philosophy regarding the management of living marine resources; however, as possible educate NOAA Fisheries staff regarding agency policy regarding the management of marine resources
 - Improve communication skills among staff (e.g., encourage positive reinforcement)
 - Develop capability to track training by staff and funds spent on training by financial management center
 - Expand job switching by considering the development of incentive pay associated with rotational assignment and expand the use of rotational assignments at the local level
 5. Identify existing fiscal and legal constraints facing NOAA Fisheries in the management and conservation of living marine resources.

- Identify and list the non-legal constraints and limits (e.g., funding, staffing, data) on actions by SF and PR staff
- Identify and list the legal constraints and limits that influence the way in which NOAA Fisheries manages living marine resources
- Expand use of job switching to change perspective of NOAA Fisheries staff on how the “other side” functions

Conclusions: There was general agreement among Break-out Group 4 members that a cultural gap between various levels exists within the agency. The group did not evaluate the relative degree of dysfunction associated with these gaps, but rather recommend to NOAA Fisheries Leadership that differences in perceptions and expectations between science centers, regional offices, and headquarters, fishery managers and protected resources managers, and councils and field offices be examined. To some extent the group believed that such differences were to be expected and could be tolerated. However, it was recognized that in some cases tension between groups that compete for limited resources or that have completely different roles in the agency has been elevated to the point where distrust and intolerance has appeared. While not typical (and in fact by most accounts rare), Break-out Group 4 considers this condition a potential force that will lessen the efficiency by which NOAA Fisheries converts its resources of staff and funding into the day-to-day activities needed to conserve healthy marine ecosystems.

Discussion: Some participants questioned the recommendation of the break-out group that science center staff should have a better understanding of legal frameworks. DeMaster responded that the group did not mean to imply that all science center staff should become equally familiar with the details of the MSFCMA, ESA, MMPA, etc, but that staff should have a general understanding of these acts, and that senior staff should receive additional training. Berg commented that staff at the Alaska Fisheries Science Center do a lot of analyses used by fishery managers at the Alaska Regional Office, so it makes sense for Alaska Fisheries Science Center staff to understand how the fishery management process works under the MSFCMA. There was general agreement that all staff should be familiar with is the need for a complete administrative record as required under the Administrative Procedural Act (APA).

Participants questioned the importance of the recommendation to improve agency credibility by losing fewer lawsuits. DeMaster clarified that the scientific credibility and regulatory credibility of the agency suffers when lawsuits are lost. This is particularly true when the lawsuit is lost due to the quality of the science, as opposed to shortcomings in agency process. In addition, when the agency consistently loses challenges in court, staff pride in the organization is eroded.

One participant questioned why legal skills should be added to position descriptions. DeMaster responded that it was apparently still common to announce positions at the regional offices which required no knowledge of the major enabling legislation for NOAA Fisheries. In a sense, this is really part of “hiring the right people for the job”. Some participants indicated that this was an issue and should be changed.

Participants questioned whether the agency should have an expanded public affairs program, given that the break-out sessions all highlight public outreach as a key agency need. It was recognized that all regional offices currently have public outreach offices, but science centers typically rely informally on staff to take this role, as well as using the regional office's PR staff person. It was suggested that, if the stakeholders had a better idea of the broader NOAA Fisheries mission, less pressure would be placed on certain parts of NOAA Fisheries. Some participants indicated that it currently takes too much time to issue a press release since the new administration has added additional levels of clearance. They noted that it was not uncommon for NOAA to take so long in clearing a "hot topic" press release that by the time all the necessary clearances are obtained, the news release is no longer timely or has been released by some other organization (e.g., the fishing industry or the environmental community).

DeMaster pointed out that leadership at most NOAA Fisheries science centers believe that most of their resources should be directed at conducting publication-quality science. Instead, it might be appropriate for center leadership to consider having at least one person dedicated to community outreach to free up other staff. Centers might also consider adding one legal advisor, with strong background or experience in applied research and resource management.

A quick poll of the participants was taken, and most had responded to reporters, many had filed legal briefs, many had made presentations to Congress or to fishery management councils, and almost no participants had received any formal training on any of the above.

Break-out Group 5: Nancy Thompson

The group was unanimous in agreement that there are "gaps" in NOAA Fisheries culture. This summary is organized so that each reason for a gap tracks to the consequences and solutions by number. Also, it was agreed that names/comments would not be publicized as this will only provide further fuel to personalize issues, point fingers and assign blame and exacerbate any existing gaps.

Reasons for or definitions of gaps:

1. Lack of quantitative protocols for PR staff as compared with SF staff. Everyone knows the rules for SF and they are the same for everyone; the perception is that the rules are dynamic for PR and that there is lack of consistency between regions and issues.
2. Decision making is unclear relative to roles at regional versus headquarters level and those without authority are often the decision makers by default.
3. Tension between the need by management for information "now" based on crisis of the moment and need for science to be long-term commitment to obtain best available information.
4. Unclear lines of authority between headquarters and regional financial management centers.
5. Perception that NOAA Fisheries functions as two separate agencies: one for sustainable fisheries and a separate one for protected resources. Not a single cohesive agency that knows what each part is doing or why.

6. Concerns that staff promote certain agendas or positions and become advocates for these rather than rely on results of science. Scientists remain neutral and advocate for research to provide information.
7. Lack of training in all aspects of agency mission leads to misperceptions regarding agency mission. This results in having staff that are on different pages.

Consequences of Gap:

1. Lack of quantitative protocols:

Scientists are asked to develop risk scenarios that are used to determine “jeopardy” when jeopardy calls are clearly policy not science decisions and should be based on predefined quantitative criteria such as in SF with national standards. The role of science in decisions becomes confused and scientists are no longer viewed as neutral. Lines are drawn in the sand and often these lead to personalization of results which leads to conflicts.

2. Decision making:

Not everyone who is affected by a decision is included in the decision making. Perceptions are that headquarters determines regional priorities and thus is making decisions for the region. This results in headquarters committing regional resources. However, there is no associated assessment of the impacts of such decisions relative to expected results.

3. Tension between science and management:

This issue will never go away. However there seems to be little understanding among managers of the need for research/monitoring to be long term. These are the data needed to provide management with the information they require to manage living marine resources. There is also a perception that not everyone who was key to developing or implementing solutions gets appropriately recognized. In addition, there is finger pointing and blaming for failures rather than an effort to find solutions to fix problems. In reality, science needs to be ahead of the problem and needs help in determining future crises. In particular, there is no real direction or commitment with how to deal with rare species.

4. Headquarters-field relationship:

The perception is that there are unreasonable deadlines imposed on science centers by management and on regional offices by headquarters. In addition, the roles and authorities of each are not well defined and often there are conflicts about who is in charge. When roles and authorities are defined often the resources to get the job done are not sufficient nor forthcoming. Overlaying these conflicts is the perception that top leadership is often more focused on external constituents rather than on the processes needed within the agency to get the job done. This confusion results in differences between the headquarters PR offices especially and those in the field.

5. Perception of NOAA Fisheries as two separate agencies:

The view is that outside of the agency in particular, NOAA Fisheries functions as two separate agencies: one for fisheries and one for protected resources. The perception is that within NOAA

Fisheries there are some who would prefer taking the next step and structurally separate these functions with SF being NOAA Fisheries and PR going somewhere else. This “agenda” results in unnecessary conflict because of a desire to not really want to know what the “other side” is doing or why. From a PR view it appears that they don’t even want to know why SF does what it does.

6. Advocacy:

There is a perception that within sustainable fisheries and protected resources there are staff members who advocate for one “side” rather than being “neutral”. This may be due to different backgrounds and educational training or in on-the-job training such that some staff are entrenched only in fisheries biology or management and others only in protected resource management or biology. This also tends to fuel personalization of conflicts and results in polarization of staff which leads to a desire to establish firewalls between offices and programs.

7. Lack of Training:

Staff in general and scientists especially don’t understand even the generic concepts of the various laws that provide NOAA Fisheries authority to carry out its mission. At the same time, managers are not well versed in the use of quantitative methods and analyses for resource management and can misinterpret results. On top of this, constituents don’t understand the Federal process which can result in long delays in action. On the other hand, some constituent groups understand the Federal process well and can use it to force or delay actions.

Solutions:

1. Quantitative Protocols:

The Office of Protected Resources should develop quantitative protocols, as required, while scientists should be allowed to do science. Managers should be asked to make management decisions relative to specific criteria as with SF and the Sustainable Fisheries Act.

Policy makers in protected resource management should frame questions appropriately to scientists to determine the impact on protected resources of anticipated management approaches. The policy maker or manager then determines what level of risk is acceptable.

2. Decision Making:

Authority should be provided to regional offices to make decisions at the regional level. In this way, regions will be assured of establishing their priorities, and the roles of regions and headquarters will be clearly defined and understood. Headquarters must provide clear written guidance to ensure this happens. Lines of communication must be maintained to eliminate any surprises at the region as a result of a headquarters decision. Finally, follow-up must be

conducted after a decision was made to determine what the management action/decision did relative to the fishery resource, fishery or protected resource.

3. Science-management relationship/tension:

Leadership should conduct a reality check as to whether adequate resources are available at the onset of a decision making process. Absent adequate resources, the decision to undertake a particular decision making process should be re-evaluated. The agency must make a commitment to long-term research, while the science centers and regional offices need to come up with realistic solutions and plans to providing information to meet management needs both over the short and long term. There is a real need for the development of a method to determine status and condition of rare species and how these are to be managed. Scientists within SF and PR (often this is where there is overlap and many scientists are involved with both) must come to an understanding of the role of all resources within systems, and factors, such as trophic relationships, habitat requirements, and fishing, must be considered in addition to the needs of a single species. There is a need to accept that this will never go away, yet agency staff must be sensitive to this tension, and recognize everyone who was involved in solving problems.

4. Headquarters relationship with science centers and regional offices:

Headquarters should minimize the imposition of impossibly short deadlines on regional office and science center staff. Clear written guidance needs to be developed with field input. Resources need to be in place before a decision to undertake a particular process is publicized. Top leadership needs to foster internal relationships as opposed to focusing solely on external groups. Leadership should develop a single PR agenda that NOAA Fisheries staff can buy into and “advocate”.

5. Cohesiveness:

Planning documents, such as the Stock Assessment Improvement Plans for fisheries and protected resources, should be merged as they are conceptually the same. As the agency moves to ecosystem management there is going to be increasing need for scientists in PR and SF to work together and share data and information. This will only result if agency staff work together.

6. Advocacy:

Staff should focus on the issue not the persons or personalities involved. Exchange of staff between headquarters offices and science center/regional offices, and headquarters and labs/programs should be expanded and flexible programs that recognize the changing needs of the workforce should be adopted. Enhanced teamwork and collaboration among teams should be encouraged. Science in NOAA Fisheries should be emphasized. More effort to promote collaboration between scientists in PR and SF is needed.

7. Training:

Training programs through university partnerships or with professional training organizations should be developed to provide sufficient overviews on the laws and mandates under which NOAA Fisheries operates. These programs should be available to all staff. NOAA Fisheries should expand work with constituent groups (e.g., fishing organizations) to provide outreach on

federal management and science (e.g., NEC program on teaching fundamentals of population dynamics to fishers).

The “not so hidden agenda”: There is an expectation that because of the Gap workshop, there will be substantive changes in how we do business at least internally. At the very least there is an urgency to progress on the establishment of quantitative criteria and protocols for the determination of jeopardy that will represent the agency policy. In addition, there is an expectation that guidelines regarding who is in charge of what will be provided in writing. Furthermore, everyone impacted by a decision should have input into the decision including the regional fishery management councils. In particular, the councils need to be involved in Section 7 consultations. Finally, NOAA Fisheries needs to communicate the results of the three experiments regarding making available draft biological opinions as part of a draft Environmental Impact Statement to all of its constituents.

Discussion: One participant asked about the “3-issue experiment”. Laurie Allen (F) responded that this experiment involved making three controversial draft biological opinions available to fishery management councils and the public prior to finalizing the opinions. The opinions chosen for this experiment were the Hawaii longline opinion, the Alaska groundfish opinion, and the Atlantic longline opinion. However, it was noted that the Regulatory Streamlining Project has overtaken the 3-issue experiment.

Waples (NWC) noted that fishery biologists and conservation biologists have very different perspectives on many issues, but this should not be seen as a difference in “advocacy” positions. Instead, the perspectives are the result of different training. Fishery biologists are trained in a system where productivity is high when densities are moderate and “extra” animals can be harvested. Conservation biologists are trained in a system where productivity is low and population sizes are small. The gap between these perspectives can be narrowed when both sides specify the assumptions they are making. Sissenwine (NEC) responded that these differences come from different communities of people. He further noted that G. Thompson’s (AKC) presentation concluded that population dynamics can be consistently applied across diverse taxa and that the differences should be resolvable through science.

One example of how fishery biologists and conservation biologists would have different perspectives on a situation involved a court decision where some NOAA Fisheries’ staff proposed that a 12% likelihood of rebuilding a stock was sufficient to protect a stock, but the judge indicated that the likelihood must be at least 50%. Waples pointed out that most conservation biologists would tell you that having even a 50% chance of rebuilding the stock was insufficient. It is quite clear that SF staff and fishery management councils are far more willing to accept a higher level of risk to a stock than are conservation biologists.

Some participants countered previous comments about separating protected resources staff into a NOAA “protected resources agency” by stating that separating the science conducted on fisheries and protected resources would make ecosystem management much more difficult to achieve. There was insufficient time for conference participants to come to agreement on this

issue.

Closing Comments

DeMaster noted that during the workshop participants identified three different factors that have contributed to a cultural gap within the agency. These are: 1) differences in training between fishery and conservation biologists, 2) differences in philosophies regarding resource management combined with a general lack of agency policy in implementing the ESA and MSFCMA, and 3) a lack of resources (e.g., shiptime, office space, and funding) that contributes to competition among fishery and conservation biologists. He also noted that there seemed to be a consensus among conference participants that a little bit of “gap” (or tension) between the various offices and programs was to be expected. However, as an agency we should strive for a working environment that respects the principles of all of the major disciplines that make up the NOAA Fisheries family and allows NOAA Fisheries to manage and conserve marine living resources in such a way that healthy marine ecosystems are maintained.

DeMaster thanked Mike Weber for participating and agreeing to present one of the keynote speeches. Weber noted that he was impressed by the commonality of themes and recommendations reported in the plenary session and the break-out groups and indicated that this process is very similar to what the California Fish and Game Commission has gone through. He noted that since the NOAA Fisheries mission was an amalgam put together by Congress, NOAA Fisheries probably should not expect it to withstand any kind of analysis for consistency. Weber also urged NOAA Fisheries staff to include our “constituents” that run the Department of Commerce in the decision-making process. That is, Department of Commerce staff are important and need to be brought on board with NOAA Fisheries’ mission and objectives.

Knowles also provided some closing comments. He finds three words that are problematic:

- **“Firewall”** The firewall issue is often characterized as the PR staff wanting to go off in a corner and write a biological opinion without interacting with the SF staff. I do not believe in creating a firewall between SF and PR staff. In terms of how the ESA is to be implemented, however, I do think the biological opinion is supposed to be the expert opinion of the consulting agency, in this case the PR staff, not the SF staff. So, in lieu of a firewall concept, Knowles more frequently thinks of it as being able to have an “arm's length” transaction, where the PR staff is able to interact fully with SF staff, but in the final analysis the biological opinion reflects fully the perspective of PR staff.
- **“Hierarchy”** Congress and the courts have established and provided a legal hierarchy of how Federal decision making is to work and how various statutes relate to one another. NOAA Fisheries staff do not have to figure out whether the MSFCMA (or Clean Air or Water or 404 programs or any other Federal program) takes priority over the ESA or NEPA, or whether the ESA and/or NEPA takes priority over the MSFCMA, because this decision has already been made by

Congress and the courts. What NOAA Fisheries staff lack is the knowledge and training as to how these pieces of legislation are to be integrated. NEPA and ESA both set up frameworks and procedures within which Magnuson decisions get implemented--Magnuson decisions must be implemented within those other statutes or we do not have a legal decision.

- **“Advocacy”** We need to be able to be advocates, particularly within the agency. We need to be advocates not so much in terms of a given outcome on a specific issue, but in terms of stating that our commitment to conservation is one of the agency's valued missions. There are obviously several measures of this, including advocating for money, personnel, space, respect, and in the final analysis, making the right decisions.

In closing, DeMaster thanked Cheryl Ryder again for her leadership in organizing the conference. He asked that summaries of the presentations be sent to Robyn Angliss, and indicated that a draft report of the workshop would be circulated shortly.

Appendix 1: Agenda

Agenda Bridging the Gap Between Fisheries and Protected Species Professionals November 20-22, 2002 Charleston, SC

Wednesday, November 20

12:00 - 1:00 Light lunch available for incoming participants in plenary meeting room

Introduction and Overview

- 1:00 - 1:20 Bill Hogarth, Mike Sissenwine - Welcome and Opening Remarks
- 1:20 - 1:50 Keynote Address by Michael Weber - California Fish and Game Commission
“F_{max} Meets Flipper”
- 1:50 - 2:10 Grant Thompson - “Science Underpinnings of Fisheries Management and Protected Species Conservation”
- 2:10 - 2:30 Craig Johnson - “Legal Framework”
- 2:30 - 2:50 Rebecca Lent - “Closing the Gap via the Regulatory Process”
- 2:50 - 3:15 Coffee Break**

Real World Implementation

- 3:15 - 5:15 Doug DeMaster - Case Study: Alaska experience of development of the 2001 Biological Opinion on Steller sea lions and Alaska groundfish fisheries interactions
- 5:15 - 5:30 Working group directives for Thursday, November 21
- 5:30 Break for day
- 6:00 - 7:30 Pre-dinner Social (Renaissance Charleston Hotel)

Thursday, November 21

Break-out Group Discussions

9:00 - 10:00	Break-out Group Session I
10:00 - 10:20	Coffee Break
10:20 - 12:00	Break-out Groups Complete Session I
12:00 - 1:00	Lunch (Renaissance Charleston Hotel)
1:00 - 3:00	Break-out Group Session II - Chair: Doug DeMaster
3:00 - 3:20	Coffee Break
3:20 - 5:30	Break-out Groups Complete Session II
5:30	End Day

Friday November 22

9:00 - 10:00	Break-out groups report findings and recommendations back to the plenary for feedback and facilitated discussion - Chair: Mike Sissenwine
10:00 - 10:20	Coffee Break
10:20 - 11:30	Complete break-out group reports
11:30 - 12:00	Doug DeMaster - Summary, Conclusions, Closing Remarks
12:00	End

Appendix 2: Participants

* Break-out Group Leaders

Last name	First name	FMC
Allen	Laurie	NOAA Fisheries
Angliss	Robyn	Alaska Fisheries Science Center
Antonelis	Bud	Southwest Fisheries Science Center
Berg	Ron	Alaska Regional Office
Boreman	John	Northeast Fisheries Science Center
Butler	John	Southwest Fisheries Science Center
Carlson	John	Southeast Fisheries Science Center
Chappell	William	Office of Sustainable Fisheries
Christopher	Peter	Northeast Regional Office
Coe	Jim	Alaska Fisheries Science Center
Cranmore	Georgia	Southeast Regional Office
Darcy	George	Northeast Regional Office
Darm	Donna	Northwest Regional Office
Davis	Steve	Alaska Regional Office
DeMaster*	Doug	Alaska Fisheries Science Center
Dunnigan	Jack	Office of Sustainable Fisheries
Dygert	Peter	Northwest Regional Office
Fay	Ginny	Office of Sustainable Fisheries
Faris	Tamra	Alaska Regional Office
Ferrero	Richard	Alaska Fisheries Science Center
Fox	William	Office of Science and Technology
Fritz	Lowell	Alaska Fisheries Science Center
Garza	Carlos	Southwest Fisheries Science Center
Hansel	John	NOAA Fisheries
Henwood	Terry	Southeast Fisheries Science Center
Hohn	Aleta	Southeast Fisheries Science Center
Hollowed	Anne	Alaska Fisheries Science Center
Husted	Rachel	NOAA Fisheries
Jacobson	Larry	Northeast Fisheries Science Center
Johnson	Craig	Office of Protected Resources
Jones	Linda	Northwest Fisheries Science Center
Jones	Rob	Northwest Regional Office
Karnella	Charles	Southwest Region, Pacific Islands Area Office
Katekaru	Alvin	Southwest Region, Pacific Islands Area Office
Keys	David	Southeast Regional Office
Knowles	Don	Office of Protected Resources
Kope	Robert	Northwest Fisheries Science Center
Koplin	Steve	Office of Science and Technology
Lankshear	Lynn	Northeast Regional Office

Laurs	Mike	Southwest Fisheries Science Center
Leathery	Steve	Office of Protected Resources
Lecky	Jim	Southwest Regional Office
Lee	Jennifer	Southeast Regional Office
Lent	Rebecca	NOAA Fisheries
Mace	Pamela	Office of Science and Technology
Mantzaris	Chris	Northeast Regional Office
McCracken	Marti	Southwest Fisheries Science Center
Menashes	Emily	Office of Protected Resources
Merrick	Richard	Northeast Fisheries Science Center
Method	Rick	Northwest Fisheries Science Center
Millikin	Mark	Office of Sustainable Fisheries
Mohr	Michael	Southwest Fisheries Science Center
Morton	Tony	Southwest Regional Office
Overholtz	Bill	Northeast Fisheries Science Center
Packer	Dave	Northeast Fisheries Science Center
Payne	Mike	Alaska Regional Office
Pentony	Mike	Northeast Regional Office
Perryman	Wayne	Southwest Fisheries Science Center
Ponwith	Bonnie	Office of Science and Technology
Pooley*	Sam	Southwest Fisheries Science Center
Powers	Joe	Southeast Fisheries Science Center
Prager	Mike	Southeast Fisheries Science Center
Robinson	Bill	Northwest Regional Office
Rodrigues	Kathi	Office of Habitat Conservation
Rogers	Chris	Office of Sustainable Fisheries
Ruvelas	Penny	Southwest Regional Office
Ryder	Cheryl	Northeast Fisheries Science Center
Salvador	Glenn	Northeast Fisheries Science Center
Salveson*	Sue	Alaska Regional Office
Schiewe*	Mike	Northwest Fisheries Science Center
Schroeder	Barbara	Office of Protected Resources
Schulze-Haugen	Margo	Office of Sustainable Fisheries
Sepez	Jennifer	Alaska Fisheries Science Center
Sexton-McCarty	Cheri	Office of Sustainable Fisheries
Shimada	Allen	Office of Science and Technology
Sigler	Mike	Alaska Fisheries Science Center
Sissenwine	Mike	NOAA Fisheries
Spallone	Regina	Office of Sustainable Fisheries
Sutter	Frederick	Southeast Regional Office
Swartz	Steve	Southeast Fisheries Science Center
Thompson	Grant	Alaska Fisheries Science Center
Thompson*	Nancy	Southeast Fisheries Science Center
Tomey	Dave	Northeast Regional Office

Viele	Dan	Southwest Regional Office
Waples	Robin	Northwest Fisheries Science Center
Wieting	Donna	Office of Protected Resources
Williams	John	Northeast Fisheries Science Center
Williams	Phil	Office of Protected Resources
Zimmerman	Roger	Southeast Fisheries Science Center

Appendix 3: Ideas Generated by Break-out Group 1

The following list reflects the ideas generated by individuals in this group. No effort was made to prioritize or come to consensus on this list. Major points of consensus were reported by Mike Schiewe (NWC) in the plenary session, and are summarized in the main text of this report.

Trigger Question 1: What would you identify as the most significant cause of the gap?

- Narrow interests and tendency to not consider the broader picture
- Treatment of precaution (PR - "as precautionary as possible"; SF - "balance precaution with benefit to society"); lack of guidance regarding how to treat precaution/what level of precaution is necessary
- Unequal distribution of conservation burden (tendency to regulate fisheries for conservation purposes, but not regulate other industries which may also have an impact but over which NOAA Fisheries has less control)
- Differences in how PR and SF staff define the "public" in "public interest"; perception is that the "public" served by PR consists of environmental groups, while the "public" served by SF staff consists of commercial fisheries/FMCs
- Lack of agency policy/guidelines on certain issues (e.g. - jeopardy/adverse modification)
- Lack of PR staff with quantitative skills (much more of an issue for sea turtles than for marine mammals)
- Lack of transparency regarding where the science originated (from the science center or from the Office of Protected Resources?)
- Lack of quantitative measurements in PR legislation (seems to be more of a problem under the ESA than under the MMPA)
- Lack of understanding of mandates (both SF and PR)
- Over-reliance on simple parameters to describe complex interactions (example: using M to describe fishing mortality and expecting that a meaningful biological opinion can be constructed without an understanding of where/when fish are harvested on a scale important to protected species)
- Geographic distances greatly increase communication challenges
- No clear strategy for decision making processes that involves multiple products that must merge prior to completion
- Lack of communication and outreach to industry; caused at least in part because PR staff are overloaded and cannot/do not prioritize outreach over other activities
- Little cross training between PR and SF staff
- Tendencies to prefer one protected species over another (e.g., is ESA-listed marine mammal protection more important than ESA-listed seabird protection?)
- Different philosophies under MSFCMA vs. ESA (achieving the maximum sustainable take vs. ensuring minimal impact practicable)

- End-runs by constituents to force agency action
- Need better understanding of process/lack of integration of PR and SF processes
- Lack of interest in staff movement (no professional incentives for science center staff to go on details)
- The lines between science and management seem to be quite strict in SF, and much less strict in PR
- Tension between setting budget priorities in the science centers vs. headquarters
- Role of science: do scientists have an advocacy role? SF preaches scientific neutrality; perception is that PR preaches conservation via science

Trigger Question 2: What are actions that can fix the problem?

- Education
 - To get a better understanding of fisheries, spend some time with the fisheries
 - provide training on mandates to commercial fishermen
 - Integrate training opportunities (do NOT hold separate training for PR and SF staff)
 - Provide education on a topic-specific, small scale
 - Initiate institutionalized, in service, joint training program (for all new staff, for current staff, for constituents; cover agency mandates, technical issues; integrate training into daily work)
- Change from reactive to proactive by . . .
 - dedicating staff time
 - working thru the council process
 - listening to “early warning signs” and implementing solutions early
- Regulatory streamlining program (should help transparency, participation, and generation of reasonable alternatives)
- Incorporate more information in PR stock assessments and recovery goals
- Move PR out of NOAA Fisheries
- Develop guidelines and policies (expanded on this later)
- Ensure that adequate technical expertise is accessible to PR
- Need more quantitative thresholds/definitions (e.g. - overfishing, Potential Biological Removal levels)
- Ecosystem management will help bridge the gap - moving from single species management to ecosystem management will institutionalize simultaneous consideration of fisheries and protected resources
- The gap can be good!
 - Forces us to provide better justification for our decisions
 - Helps us make better decisions
- Separation of science center and regional office - should there be a firewall?
- Change structure of science centers to “house” all stock assessment

scientists in the same division

- Set up interdisciplinary teams from day 1 to address issues
- Develop a policy for sharing conservation burden (problem for salmon and sea turtle conservation)

Appendix 4: Ideas Generated by Break-out Group 2

Editor's note: Appendix Table 4-1 identifies the issues raised by individual break-out group members. Appendix Table 4-2 identifies potential solutions designed to address the issues. The letters in brackets following each item in Appendix Table 4-1 map to the solutions provided in Appendix Table 4-2.

Table 4-1: Gap Issues – Answers to the first trigger question⁷

1. Perceptions of conflicting agency mandates. [B, H, Q, N, F, C, U]⁸
2. Actual differences in agency mandates. [B, H, Q, F; J, U, C, V]
3. Funding gap (between statutory requirements and ability to fulfill them). [X, U]
4. Role of the councils (in decision-making related to ESA issues). [E, A, B, M, N, W]
5. Artificial geographical boundaries for NOAA Fisheries regions (e.g., East and Gulf coasts). [Y, U]
6. Lack of understanding of ESA (by the Office of Sustainable Fisheries and science center staff). [B, H, N]
7. Value systems (consumption vs. preservation). [B, H, D, L, N; J]
8. World views of science centers and regional offices in terms of what constitutes “best available information” [A, D, I, C, M, K]
9. Conflicting expectations about goals of agency (fisheries promotion and economic value of fisheries vs. conservation). [1,2]
10. Preferred mandate within NOAA Fisheries is MSFCMA. (Agency not structured for ESA requirements). [1,2]
11. Lack of understanding of various statutes (too early specialization within one or the other discipline or paradigm). [1,2,6]

⁷ In the absence of contrary specification, these issues refer to differences between fisheries and protected species personnel and/or functions with NOAA Fisheries.

⁸ References in brackets refer either to solutions identified in Appendix Table 4-2 or to the solutions identified in previous issues.

12. Differences in the time-critical nature of decisions (e.g., immediacy, in-season nature of fisheries management). [A, B, H, X, O]
13. Different understandings of term “conservation”. [1, 2, 6, 7, W]
14. Constituent’s efforts to create a wedge between Office of Sustainable Fisheries and Office of Protected Resources. [U, E, 1, 2, 11, G]
15. Whether scientists should be “advocates” (for particular decisions/goals/objectives and/or as offering/being asked for opinions as experts or most knowledgeable people). [M, A]
16. Different uses of the precautionary approach. [13, W]
17. Office of Protected Resources decisions made out of synch with Office of Sustainable Fisheries decisions (e.g., after councils have already acted). [A, AA]
18. Perspectives of “preventing something bad from happening” vs. “accomplishing something good.” [13]
19. Species-by-species approach to fisheries decisions (and related BiOps) vs. examining an entire area’s fisheries for protected species effects. [U, P, AB]
20. Inadequate resources to accomplish tasks. [X, S]
21. Methods/approaches for dealing with uncertainty. [8, 16, W]
22. Political forces. [T, G]
23. Gap with constituents (both within and between mandates). [14, B, D, E, F]
24. Degree of contact with directly affected parties (i.e., public nature of fisheries management). [H, AC]
25. Respective roles of scientists vs. managers, headquarters vs. field. [4, 8, 15; H, E]
26. Respective roles of NOAA Fisheries vis-a-vis other Federal/State agencies. [1, AC]
27. Ambiguous attitude toward role of courts in NOAA Fisheries mandates. [E, 1, 2, J]
- 27b. Litigation reflecting failure to do our jobs and resolve our differences internally. [G, T]
28. Lack of respect for other disciplines within science centers. [L]
29. Differences in setting priorities. [1, 2]

30. Dealing with conclusions from imprecise data. [8, 16]
31. Determining how scientists can offer advice (to decision-makers). [15, 8, 16]
32. Science centers feel as if they are considered an “infinite” resource in development of BiOps. [H, M, X]
33. Lack of appreciation of everyone’s workload – everyone feels stretched too thin. [H]
34. Science centers need a better balance between short-term analysis (for BiOps, etc.) and long-term research (which provides the scientific basis for decision-making). [X, O, B]
35. Tendency of some to think in “us/them” terms. [L, M]
36. The change in the relationship of the science centers with the regional administrators (i.e., the direct reporting to F). [25, M]

Table 4- 2: Potential Solutions – Responses to Trigger question 2
[with number of dots in brackets].

- A. Create a more clearly defined (and understood) process for internally conducted BiOps [5 dots]
- B1. Implement the Regulatory Streamlining Project [3]
- B2. Undertaking increased training and details (rotational assignments) relative to RSP [1]
- C. Recruit stock assessment and similar quantitative expertise into Office of Protected Resources (termed “Move Grant Thompson to Office of Protected Resources”)
- D. Use different roles and world views constructively – communication, cooperation, and teamwork [5]
- E. Reconsider role of fishery management councils in the ESA process – including composition of membership.
- F. Rename NOAA Fisheries (eliminate “Fisheries” predominance) [5]
- G. Depoliticize the Assistant Administrator position (make it career appointment) [6]
- H. Provide more opportunities for details and exchanges (rotational assignments) {see also B2} [3]
- I. Increase face time within science centers/regional offices [1]
- J. Move the functions of the Office of Protected Resources to the NOAA level {see also V, AE} [8]
- K. Provide policy guidance on risk and jeopardy [10]
- L. Encourage a shared culture of respect and professionalism [2]
- M. Clarify and standardize roles across regions – review science center/regional office operating agreements and delegations of authority
- N. Provide opportunities to understand all statutes affecting agency decision-making / orientation for new and existing employees
- O. Reduce harvesting capacity dramatically {see AF} [4]
- P. Create “programmatic” BiOps (across gears and fisheries)

- Q. Rewrite NOAA Fisheries Mission Statement to emphasize relationship of statutes
- R. Implement solutions at regional level (not national mandates)
- S. Identify issues across the range of “gaps” and evaluate methods for achieving balance between mandates
- T. Minimize Congressional micro-management
- U. Reorganize NOAA Fisheries into an integrated Marine Ecosystem agency (eliminate the PR/SF divide) [7]
- V. Move (fisheries) consultations to the U.S. Fish and Wildlife Service.
- W. Shift burden of proof from “we fish” to “we don’t fish unless ...” [2]
- X. Increase staffing levels [2]
- Y. Rethink regional boundaries (geographical)
- Z. Implement harvest shares/property rights regimes (to improve incentives)
- AA. Redefine MSFCMA and ESA decision-making schedules
- AB. Revised legislation to make objectives achievable [1]
- AC. Improve outreach/public relations [4]
- AD. Obtain firm policy guidance on a range of related issues (emphasize importance of getting resolution to issues) {see K above}
- AE. Move Protected Resources functions to the Fish and Wildlife Service
- AF. Reduce fishing effort dramatically {see O above} [1]

Appendix 5: Ideas Generated by Break-out Group 4

In addition to those items listed under the summary of the discussions of Break-out Group 4, the following action items were also agreed by the group:

- Reduce bycatch by –
 - Reducing fishing capacity, where appropriate
 - Expanding use of ecosystem management
- Develop ESA delisting criteria for all listed species
- Revisit current time lines for document production, and revise as necessary
- Use NEPA as vehicle for public comment
- Delegate authority to the regional offices, as possible
- Train all new hires regarding NOAA Fisheries mission (e.g., give them the broad NOAA Fisheries perspective)

Appendix 6: Commonly used Abbreviations

AKC – Alaska Fisheries Science Center
AKR – Alaska Regional Office
APA – Administrative Procedures Act
BiOP – Biological Opinion
DOC – Department of Commerce
DQA – Data Quality Act
ESA – Endangered Species Act
F – NOAA Fisheries Headquarters
F/HC – NOAA Fisheries Headquarters, Habitat Conservation
F/OPR – Office of Protected Resources
F/SF – Office of Sustainable Fisheries
F/ST – Office of Science and Technology
FWS – U.S. Fish and Wildlife Service
GC – General Counsel
MMPA – Marine Mammal Protection Act
MSFCMA – Magnuson-Stevens Fishery Conservation and Management Act
NEC – Northeast Fisheries Science Center
NEPA – National Environmental Policy Act
NER – Northeast Regional Office
NOAA – National Oceanic and Atmospheric Administration
NWC – Northwest Fisheries Science Center
PIAO – Pacific Islands Area Office
RPA – Reasonable and Prudent Alternative
SEC – Southeast Fisheries Science Center
SER – Southeast Regional Office
SWC – Southwest Fisheries Science Center
SWR – Southwest Regional Office