

**MINUTES**  
**Marine Protected Areas Federal Advisory Committee Meeting**  
**April 21-23, 2009**  
**Annapolis, Maryland**

**TUESDAY, APRIL 21, 2009**

The Committee convened at 9:00 A.M.

**Meeting Opening**

Lauren Wenzel, National System Coordinator and Designated Federal Official, opened the meeting and called roll. Twenty-five members were present, representing a quorum. The Chair, Mark Hixon, then welcomed members, and read a brief letter from Captain Philip Renaud that expressed his regret at missing the meeting. Members and guests then introduced themselves, including their respective affiliations and experience relevant to marine protected areas (MPAs).

**Approval of Minutes**

Dr. Hixon asked members to review the minutes from the November 2008 meeting. Victor Mastone moved approval of the minutes, which was seconded by Russ Moll. The minutes were unanimously approved. Brian Melzian emphasized the importance of keeping detailed and accurate minutes, and commended the MPA Center in the fulfillment of this task.

**MPA FAC Elections**

In the fall of 2009, 14 members of the Marine Protected Areas Federal Advisory Committee (MPA FAC) will complete their terms, including Chair Mark Hixon, Vice Chair Bob Zales, and Parliamentarian George Lapointe. Elections for new Chair, Vice Chair, and Parliamentarian will be held at the September 2009 meeting of the FAC. Dr. Hixon asked continuing members to consider whether they would be willing to accept a leadership role, and noted that he had heard that both Steve Gaines and Phil Renaud had expressed their availability to serve as either Chair or Vice Chair. (In reviewing the Minutes, Dr. Hixon noted that he had also heard that Lori Arguelles was also available to serve, but he had failed to recall her availability at the time.) In the coming months, the FAC Executive Committee will decide on a specific process for the elections, and will notify the FAC.

**Subcommittees Meet**

The Subcommittees met from 10:00 A.M. until 12:00 P.M. The Committee broke for lunch and resumed at 1:35 PM.

**Presentation:<sup>1</sup> MPA Center FY2009 Key Priorities**

Joe Uravitch, MPA Center Director, presented key priorities for FY2009, updates on staff, and updates on the budget, including an appropriation that grew from \$1,463,000 in FY2008 to \$2,900,000 for FY2009. With this funding, the MPA Center plans to hire a cultural coordinator to help address and develop aspects of the cultural heritage goal of the National System, and has hired a webmaster shared with the NOAA Coral Reef Program. Primarily, the MPA Center will

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<sup>1</sup> Please note: all presentations noted in this document are available at: [http://mpa.gov/mpafac/mpafac\\_meetings.html](http://mpa.gov/mpafac/mpafac_meetings.html)

focus on continuing and restoring core functions and allocating funds to address the question of how sites and programs benefit from being part of the National System. John Ogden inquired about a potential partnership with the NOAA Sanctuaries office to help address the benefits question. Mr. Uravitch replied that the MPA Center is exploring adapting the international training capabilities of the National Marine Sanctuary Program to meet some of the domestic needs of National System sites. Ellen Goethel asked whether or not the cultural coordinator would also encompass anthropology. Mr. Uravitch explained that while the MPA Center does hope to hire an anthropologist eventually, the current focus will be on developing the cultural resource component of the National System.

Mr. Uravitch completed the talk with a brief update on the May 2009 International Marine Conservation Congress (IMCC). Dr. Hixon asked FAC members will be in attendance at the IMCC if they would be willing to provide relevant updates at the September 2009 meeting of the FAC. Lori Arguelles, Tony Chatwin, Elliot Norse, and John Ogden agreed to report on the IMCC to the FAC in September.

**Presentation: MPA Center Communication and Outreach Initiatives**

Kara Schwenke, MPA Center Communications Coordinator, updated the Committee on new and proposed initiatives to enhance communications, including: an MPA video at the Smithsonian Ocean Hall Kiosk; a special podcast featuring MPA Center Director Joe Uravitch; an MPA special edition of the comics *Mark Trail* and *Sherman's Lagoon*; April/May 2010 sponsorship of Current--The Journal of Marine Education; an MPA Federal Advisory Committee DVD; ongoing redesign of [www.mpa.gov](http://www.mpa.gov); and an initiative of particular importance to National System sites and programs, the *National System of MPAs Outreach Toolkit*. The toolkit provides participating sites with guides and resources, fact sheets, graphics, key messages and multimedia, with which sites can enhance their own outreach initiatives.

Gil Radonski mentioned a recent article in *Salt Water Sportsman* magazine in which President Obama noted the importance of MPAs as a conservation tool. Rick Gaffney offered to also provide the FAC with an earlier interview that the then President-elect gave to *Sport Fishing* magazine regarding MPAs. Tony Chatwin noted that if we want to increase the number of sites in the system, then effort should be given to targeting future outreach products at MPA programs who are not yet participating. Ms. Schwenke agreed, but explained that in this initial effort much of the focus has been on informing participating site managers and the general public. A second stage will involve more targeted outreach aimed at nonparticipating programs, Congress and other decision-makers. Rick Gaffney suggested that it would be useful to target outreach toward tourists, as this user group is easily reached and often interested in conservation efforts. Elliot Norse inquired whether the MPA Center had thought about depicting MPAs on various types of maps. Lauren Wenzel noted that the MPA Center is working with the Office of Coast Survey and others to place MPA boundaries and site characteristics on nautical charts. Chris Barrows added that MPAs are now depicted on Google Earth as well.

**Presentation: Nomination Process and Initial National System**

Lauren Wenzel presented the nomination process and the initial National System, explaining that a goal of the National System is to be diverse in terms of geographic region, ecosystem type, level of government, and conservation goals. The first round on nominations resulted in a mix of

225 sites in the National System, including: federal MPA programs (National Marine Sanctuaries, National Parks, National Wildlife Refuges); Federal/State Partnerships (National Estuarine Research Reserve System or NERRS, the Papahānaumokuākea Marine National Monument); and 9 States and Territories, including NERRS sites. These MPAs are located in American Samoa (1), California (63), Florida (2), Hawaii (7), Maryland (1), Massachusetts (1), New Jersey (1), Virginia (7), and Washington (19). The initial National System, with 225 sites, includes a marine area of 183,000 miles<sup>2</sup> and covers 10% of the U.S. EEZ. Most of the system (78% of the area) is contained within a small number of very large, recently designated MPAs in Hawaii and other Pacific Islands. About 25% of the National System's total area is considered no-take, due mostly to the 366,000-km<sup>2</sup> Papahānaumokuākea Marine National Monument, in which commercial fishing will be banned in 2011. By itself, the Papahānaumokuākea site in the Northwestern Hawaiian Islands accounts for nearly all of the area considered no-take in the system. Most of the sites in the initial National System have a primary conservation focus on natural heritage, although cultural heritage and sustainable production sites are also represented.

FAC members noted that it would be useful to also run the statistics of the initial system without including Papahānaumokuākea, as the size of this site greatly skews the data. Bob Zales noted the need to clearly define the concepts and levels of protection. Terry O'Halloran agreed, suggesting that messages could emphasize the majority of MPA area in the U.S. as allowing for multiple uses, rather than describing the area that is "no take." Mark Hixon further suggested that the nominated sites map should clearly state that it is showing the location of sites, not their area. Charlie Becker applauded the inclusion of cultural heritage in the outreach materials, but noted his great concern with a lack of National System cultural heritage sites in the Great Lakes and the Florida Keys. Ms. Wenzel agreed, and reported that the MPA Center recognizes the need for more targeted outreach toward cultural resource managers. She noted, however, that shipwreck sites in Michigan do not qualify as eligible for the National System because they do not yet have a management plan. Jesús Ruiz inquired about the sites in California, wondering why more were not included in the initial National System. Melissa Miller-Henson explained that California made a conscious decision to only focus on those Marine Life Protection Act (MLPA) sites that have been through the state process. California regions with more cultural resources have not yet been through the MLPA process and were thus not included in this round of nominations. Many members noted that, as the system gains visibility, beginning with the initial sites leading the way, the interest of additional sites in joining the system will likely increase. However, it will take some time to increase interest and convey the benefits of the National System. Members also asked that the MPA Center resend the recent Fishery Management Council (FMC) policy for including the Councils in future nominations.

### **Presentation: Update on Gap Analysis Workshop**

Charlie Wahle, MPA Center Senior Scientist, gave a presentation on the current status of the gap analysis process and the Ocean Uses Atlas, including a briefing on the outcome of the most recent gap analysis scoping workshop held in February 2009. The planned gap analysis is attempting to address multiple conservation mandates at regional scales. The next steps in this process include the identification of key partners and resources, and the tailoring of each priority conservation objective to specific regions. Dr. Wahle noted that the first Ocean Uses Atlas covers California and is gathering and mapping information on a wide range of ocean uses, and can be used for many different management applications. There is growing recognition of the

need for comprehensive planning in and outside of NOAA, and this project can help to inform MPA managers in the broader spatial context.

Members praised the efforts of the MPA Center in this process, and noted the connections between the Ocean Uses Atlas and other mapping and planning efforts occurring around the nation, particularly those focused on human uses in a geospatial assessment. Examples include Maine's ocean energy planning, the Coast Guard's focus on Maritime Domain Awareness, and the initiatives of the Regional Ocean Councils. Dr. Wahle agreed that there has been recent strong interest in marine spatial planning, and that the Center will work to establish strategic connections in various regions. Bruce Tackett noted the need to include non-living marine resources in such an assessment or gap analysis. Dr. Wahle responded that the MPA Center is collaborating with the Minerals Management Service, which has information on mineral and energy resources. Mark Hixon suggested that the issue of non-living marine resources may be best addressed through marine spatial planning, which addresses the use of such resources. Dennis Heinemann added that the issue of whether or not non-living marine resources will require protection might be a useful discussion, as these resources might have future values currently unknown. Members ultimately recommended the Center conduct outreach to inform potential partners about these efforts, as the gap analysis and Atlas have broad potential use.

### **Subcommittees Report**

Subcommittees reported to the FAC. Tony Chatwin, Chair of the Review and Evaluation Subcommittee, described their efforts to develop a set of outcome indicators to serve as potential performance measures for the National System of MPAs. Following the morning discussion, which included participation from outside experts, the Subcommittee agreed to revise the draft performance measures and present the revisions at the end of the FAC meeting. Further, noting the overlap among the Subcommittees, Dr. Chatwin stated that the Subcommittee may ask for assistance from the Scientific and Technical Subcommittee in developing biological and ecological indicators.

Dennis Heinemann, Chair of the Scientific and Technical Subcommittee, reported that the Subcommittee's work would focus on finalizing two documents for discussion and action by the full FAC, including: 1) Ecological Resilience and Gap Analysis of the National System of MPAs, and 2) Guiding Principles for an Ecological Gap Analysis of the National System of MPAs. Dr. Heinemann asked for further comments to the two documents. Comments included: the documents should be consistent with the Framework regarding definitions; the Subcommittee should consider non-living marine resources as part of a gap analysis, to fully represent needs and choices; a distinction should be made to separate these guidelines as applicable to the initial steps of the gap analysis process, focusing on ecological gap analysis, with further detail to be provided later on as part of a more comprehensive gap analysis process, including socioeconomic aspects; language should be incorporated that states that MPAs are only one component of a suite of management tools that already exist; further detail should be provided on how the principle of viability fits in a gap analysis process; and the cultural aspect in the gap analysis should either be better incorporated or made a separate process. The Subcommittee agreed to revise the documents based on FAC comments.

**Public Comment**

No public comments were offered.

The Committee recessed for the day at 5:30 P.M.

**WEDNESDAY, APRIL 22, 2009**

The Committee convened at 8:30 A.M.

**Presentation: Input on NOAA’s Next Generation Strategic Plan**

Paul Doremus, NOAA Director of Strategic Planning, presented NOAA’s *Next Generation Strategic Plan*, including the purpose of the strategic plan, current environmental, social, and financial trends, and planning for an uncertain future. Dr. Doremus emphasized that there is a need to better understand climate change and its effects, including long-term trends in fisheries. While enhancing our understanding, we must also pay attention to low-probability yet high-risk events, while anticipating unprecedented pressure on all discretionary public spending. Dr. Doremus ended with ways in which the MPA FAC can contribute, including through regional stakeholder events and by directly commenting on the Strategic Plan, as the potential goals, objectives, and strategies will be derived using input from FACs, among others.

Jim Ray noted that much of the current oceanography will need to be redone as the effects of climate change alter the marine environment. Dr. Ray asked about the process for ensuring future funding for such observations to fill information gaps. Dr. Doremus noted that while we cannot predict the budgetary process, we can predict that these commitments will be stronger and will include input from all stakeholders on solutions for moving forward. Discussion also centered on the need to better incorporate social science in future planning. Dr. Doremus noted that NOAA does have an advisory board specifically tasked with addressing this issue. Members complemented Dr. Doremus on a thought provoking presentation.

**Presentations: Perspectives on Ocean Conservation and Management from NOAA and Department of the Interior Leadership**

Dr. Jane Lubchenco, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator, presented on *NOAA’s Ocean Conservation Role*, including how NOAA is approaching an ecosystem approach to management, restoring fisheries, addressing climate change, coastal management and marine spatial planning, and the role of the National System of MPAs. Dr. Lubchenco noted that the National System should build MPA capacity for adaptation, buffer climate impacts on surrounding areas and resources, and account for climate impacts in analyzing conservation gaps. Dr. Lubchenco also emphasized that she is looking forward to the FAC recommendations on building resilience, and that the MPA FAC should explore how the National System can support and be integrated with broader marine spatial planning efforts. Dr. Lubchenco highlighted the importance of openness, transparency, and the need to include a diversity of perspectives, and noted that the FAC is uniquely positioned to provide advice on moving forward in marine spatial planning.

Will Shafroth, Principal Deputy Assistant Secretary for Fish and Wildlife and Parks (DOI), discussed DOI's extensive role in managing ocean resources, including endangered species, ocean parks and refuges, and ocean energy and minerals. He emphasized Secretary Salazar's commitment to a strong partnership with the Department of Commerce (DOC) that will benefit both the resources managed by the agencies and ocean stakeholders. Priorities for the Secretary include energy, preservation of treasured landscapes, re-engaging youth, and climate change. Secretary Salazar also places an emphasis on an inclusive process, with outreach to the Hill and outside organizations, so that the best possible information and sound science is used in decision-making processes.

Mark Hixon noted past concerns regarding the relationship between DOC and DOI, which has been fragmented, particularly in funding and supporting the National System. Dr. Hixon commended the agencies for their current efforts toward collaboration. Dr. Lubchenco noted that Secretary Locke is also committed to this partnership, and that the Departments have already held a number of key meetings on how to best move forward, and have established priorities. Elliot Norse inquired about the position of NOAA in DOC, and whether this has impeded the ability of the agency to catalyze the transition from sectoral management toward ecosystem-based management (EBM) of the nation's waters. Dr. Norse further noted his concern over the declining population of the only marine mammal endemic to the waters of the U.S., the Hawaiian monk seal. Dr. Lubchenco responded that the Council on Environmental Quality has begun an interagency process centered on marine spatial planning, which will include several federal agencies. NOAA will be looking to the MPA FAC for advice on this topic. Mr. Shafroth added that DOI is interested in focusing on large landscapes, such as Puget Sound and the Chesapeake Bay. Jesús Ruiz asked about future contributions from DOI to the budget of the MPA Center, and added that the agencies should seek ways to codify Executive Order 13158 into law. Mr. Shafroth said he would obtain more information on the budget question. John Ogden highlighted the need for increased funding for ocean observation systems, and asked how the FAC can contribute to this issue. Dr. Lubchenco agreed that this is a very important issue, and explained that the FAC can help generate support by raising the visibility of the applications for ocean observations in the global, regional and local sense. Further, increased contact with Congress by their constituents is needed about how and why ocean observations are important.

Bob Zales noted that stakeholder involvement through the FAC has been given serious consideration, but expressed his concern with the level of stakeholder involvement in National Marine Fisheries Service (NMFS) interactions with Regional Fishery Management Councils. Both Dr. Lubchenco and Mr. Shafroth stated their commitment, and the commitment of the Administration, in addressing the issue of transparency and consultation. They noted that stakeholders may not always agree with the outcome, but that the agencies will strive to operate in a consistent, open and transparent manner. Gil Radonski added that more outreach is needed, citing the internet as a means to provide more opportunities for enhanced involvement.

Terry O'Halloran expressed his support for the increase in the budget of the MPA Center. Mr. O'Halloran explained that the Joint Ocean Commission Initiative (JOICI) just released their ocean priorities, and asked whether securing funding for the oceans is moving forward. Dr. Lubchenco agreed that this is a big challenge, noting that not only is NOAA a \$4 billion agency with an \$8 billion mission, but also, in the recent economic crisis, everyone in the Cabinet has been charged

with reducing their budgets. The agencies need help from the FAC and the public in sustaining support for the oceans. Mr. Shafroth agreed and added that much future work will involve the prioritization of the agencies' missions. Some initiatives will enjoy increased funding, while others may see less support.

Dennis Heinemann stated that the presence of leadership from DOC and DOI showed a welcome commitment to science. However, Dr. Heinemann expressed concern that population growth and the pressure of climate change will cause large-scale, non-linear changes in the biosphere, resulting in unexpected events. He noted that current managers are not prepared to address these types of shifts. Dr. Lubchenco agreed that this is a serious problem, but noted that there is a lot of new thinking on the topic of resilience. Mr. Shafroth added that a focus of the agencies will also be to ensure that we are hearing the latest thinking from universities, to help us better understand how to incorporate concepts of the ecosystem approach into regional management, and into our thinking about the National System.

Lori Arguelles encouraged the agencies to continue to have conversations that embrace marine spatial planning, and asked how we can increase constructive stakeholder involvement in this area. Dr. Lubchenco noted that groups like the FAC are a major venue for stakeholder input, but that there are other ways to increase involvement, including through outreach to local places, states and regions, and by transferring lessons learned to demonstrate the value of MSP.

Comments ended with Dr. Lubchenco noting that earlier that morning Secretary Locke signed the papers to formally appoint Joe Schumacker to the FAC.

#### **Announcement of First Sites Accepted to National System of Marine Protected Areas**

Dr. Lubchenco, Mr. Shafroth, members of the FAC, presenters, and guests gathered for the official announcement of the first sites accepted to the National System of Marine Protected Areas from 11:00 A.M. – 12:00 P.M., breaking for lunch shortly thereafter.

#### **Invited Panel Discussion: Review and Evaluation of the National System of MPAs**

The Committee reconvened at 1:35 P.M. Tony Chatwin, Review and Evaluation Subcommittee Chair, introduced the invited panel focused on review and evaluation of the National System.

David Fluharty, School of Marine Affairs, University of Washington, presented approaches for evaluation of the National System of MPAs, focusing on regional integrated ecosystem assessments and the use of ecosystem-based management (EBM). Dr. Fluharty emphasized that we know more about ecosystems than we apply in management, and that MPAs must be assessed in the larger EBM context. Evaluation of the National System will be complex, particularly when considering socioeconomic indicators and tradeoffs. He emphasized the importance of consistent data for measuring progress. Dr. Fluharty further recommended that the FAC look at the condition reports of the National Marine Sanctuary program, to determine whether they may serve as a model for planning and scoping of National System evaluation, and noted that the FAC must also consider implementation at various scales and under constrained resources. Integration of the National System with ocean observation systems is also important, as these systems are critical to EBM. Finally, the evaluation of the National System must take climate change into account, and establish a baseline from which to measure change.

Paul Orlando, NOAA Office of National Marine Sanctuaries, presented from a practitioner's perspective on the condition reports of the sanctuary system. Sanctuaries has identified outcome indicators based on the maintenance and/or improvement of: 1) water quality; 2) habitat; and 3) living resources. Mr. Orlando emphasized the importance of long-term monitoring to inform decisions, and recommended that the National System consider at least one long-term outcome measure and establish a monitoring approach that is consistent, yet tailored to meet local needs. Ultimately, Mr. Orlando recommended that, in the evaluation of the National System, the MPA Center should strive to: keep it simple, yet recognize the need to include representative measures; nest or sequence input/output measures; stay within the authority of Executive Order 13158; and proceed with the evaluation in spite of the inherent difficulties. An evaluation cannot achieve perfection, but can and should strengthen site-based outcomes and can create prototypes to effectively demonstrate system performance.

Richard Pollnac, Department of Marine Affairs, University of Rhode Island, discussed socioeconomic indicators for MPAs and for the National System, emphasizing that large systems need more indicators to account for their complexity. In addition, participation needs to be carefully evaluated, and socioeconomic impacts need to be standardized in order to generalize findings across sites and allow comparative statistical analyses. Participation is required at all stages of MPA management, and the type, representativeness and perceptions of participation must be understood and addressed. While such an evaluation effort should strive for simplicity, there is a need to acknowledge the complexity of evaluation, particularly when scaling-up to the National System level.

John Parks, The Nature Conservancy of Hawai'i, presented lessons learned from the development of the guidebook *How is Your MPA Doing?* and considerations for evaluating networks of MPAs. Mr. Parks noted that the evaluation of management effectiveness can help to promote adaptive management, improve project planning, enhance priority setting, promote internal and external accountability, and demonstrate public value. The guidebook was a joint project of IUCN, NOAA and several NGOs. The authors focused on the evaluation of biophysical, socioeconomic and governance indicators in 20 pilot sites to test the draft guidebook over a span of two years, and four pilot sites to test the final version over one year. Mr. Parks stressed the critical importance of the pilot tests in the development of the guidebook, as well as the expert consultation and peer review. Also of importance were small grants (\$5-\$30 K) made available to the test sites and a 1-week training workshop. Through this process, a core set of standardized indicators was developed that includes biophysical, socio-economic and governance indicators. Ultimately, Mr. Parks recommended that the evaluation of the National System: 1) measure at both the site- and system-levels; 2) use both comparative and synthesis analysis; 3) identify and standardize a limited, minimum set of indicators and offer incentives to measure these indicators; 4) develop a simple, easy-to-interpret status scale and index score; 5) establish and support regional evaluation teams; and 5) plan to meet needs for increased site-based socioeconomic measurement capacity.

The floor was opened to questions for the panelists. Joe Shumacker noted that tribes in Washington thought that the sanctuary condition report for the Olympic coast was not sufficiently tailored to their region. He asked how we can ensure that these types of exercises are



more regionally-based to meet the needs of local populations. Mr. Orlando responded that the scale at which these exercises are conducted is very important. In the case of the Olympic coast, the sanctuary scale might have been too large for some local stakeholders. In such a case, the sanctuary could be subdivided. Bob Zales noted the importance of Dr. Pollnac's presentation, and pointed to the Council meetings, where many people speak but are concerned that their points are not adequately considered by decision-makers at the federal level.

Lauren Wenzel asked Mr. Orlando about the types of socioeconomic indicators that are being incorporated in the condition reports. Mr. Orlando responded that these indicators are under development, but are currently focused on the number of people pursuing various activities in a sanctuary. George Lapointe noted the difficulties of measuring participation, which cannot be captured through typical quantitative means. Dr. Pollnac emphasized that we do need more research in this area, but that it is possible in a continual monitoring and evaluation process to determine values for the level of meaningful participation.

Tony Chatwin asked Mr. Parks for examples of where aggregate system-level measures are being applied. Mr. Parks noted that currently the system-level of analysis is still a new concept, but that work is being conducted in the Mediterranean and the Coral Triangle. He encouraged the FAC to act as leaders in developing system-level measures.

Bruce Tackett expressed his concern at the lack of inclusion of non-living marine resources in terms of the socioeconomic indicators being assessed at the system-level, and in particular the lack of focus on use and access. Mr. Parks agreed that it will be important to go beyond largely ecological principles, and that social indicators, including access and use, merit consideration. Charlie Wahle added that considering climate change in efforts to develop and evaluate the National System will further complicate the process, and that the FAC should consider the sensitivity of indicators to climate change. Mr. Parks agreed, and suggested that the resilience of MPA networks to climate change impacts may be regionally-based, which may affect the design of an evaluation process.

### **Subcommittees Meet**

The Subcommittees met from 3:35 P.M. until 5:00 P.M. The Committee adjourned afterward.

## **THURSDAY, April 23, 2009**

The Committee convened at 8:40 A.M.

### **Public Comment**

No public comments were offered.

### **Committee Deliberations: Scientific and Technical Subcommittee Recommendations**

The Committee reviewed changes to the two sets of recommendations to the Departments of Commerce and Interior for discussion and action by the FAC: 1) Ecological Resilience and Gap Analysis of the National System of MPAs, and 2) Guiding Principles for an Ecological Gap

Analysis of the National System of MPAs..

*Ecological Resilience and Gap Analysis of the National System of MPAs*

Regarding the resilience document, members inquired why the concept of social resilience was not included. Dennis Heinemann, Subcommittee Chair, noted that the concept was removed from the document because it appeared to be outside the document's scope. Members of the Subcommittee decided instead to limit their recommendations to addressing ecological resilience. Charlie Wahle noted that because the goals of the National System are resource based, the focus has centered on ecological resilience, with the intention that the ecological services under consideration will support community resilience. Thus, the concept of social resilience will be acknowledged but not set up as a target. Bob Pomeroy added that the Review and Evaluation Subcommittee had discussed this issue and that they had determined that the goal of sustainable production includes both biological and social aspects. Dr. Wahle suggested that a footnote could explain why the focus has been limited to ecological resilience and where, in the work of the FAC, the concept of social resilience is being addressed.

Bruce Tackett restated his concern that the document does not sufficiently incorporate non-living marine resources. Dr. Heinemann noted that the issue of non-living marine resources has been an issue in FAC discussions and is also addressed in the Framework. Thus, without further guidance from the MPA Center, this specific issue might be better addressed elsewhere. Mark Hixon added that the FAC should work on the concepts of social resilience and non-living marine resources, but not within the scope of the current document. Tony Chatwin asked whether the Subcommittee had identified measures of resilience. Dr. Heinemann said this was an important topic that had not yet been addressed. Dr. Hixon noted the importance of the Scientific and Technical Subcommittee working with the Review and Evaluation Subcommittee to develop ecological indicators for the National System. Joe Schumacker contributed that it might be useful to include the protection of genetic variability in the document, which was subsequently addressed through an additional sentence drafted by Dr. Hixon and Mr. Schumacker. Dr. Hixon also agreed to add scientific references regarding the value of genetic variability. Gil Radonski moved to adopt the document as amended, which was seconded by David Benton. The motion passed unanimously.

*Guiding Principles for an Ecological Gap Analysis of the National System of MPAs*

Dennis Heinemann summarized changes to the gap analysis document based on comments received from the FAC, including the distinction that this set of recommendations is focused only on ecological gap analysis and a future document might address socioeconomic aspects as part of a comprehensive gap analysis.

There was some debate over proposed wording in the document related to cost benefit analysis. David Benton noted that at some point the gap analysis will need to address social factors, as well as ecological factors, but that this could occur in a subsequent document. Tony Chatwin agreed and suggested that instead of including it in this document, the FAC could develop more detailed recommendations in the future. Joe Uravitch added that the MPA Center plans to develop guidelines on both ecological gap analysis and the comprehensive gap analysis, and is willing to provide for public comment on these guidelines so that any concerns can be better

addressed. Terry O'Halloran supported this initiative. Victor Mastone moved to adopt the document as amended, which was seconded by Ellen Goethel. The motion passed unanimously.

**Presentation: Global Perspective on MPAs**

Dan Lafolley, World Commission on Protected Areas – Marine (WCPA – Marine), gave a presentation on a global perspective on MPAs and updates on the activities of WCPA – Marine, including a broad-based effort to increase public awareness and support for marine conservation initiatives. Dr. Lafolley addressed the issue of climate change and the oceans, including expected impacts on marine ecosystems and ocean acidification. He also touched on proposed mitigation initiatives that use or rely on the ocean, their uncertainties, and the potential impacts of such proposals on our seas and coasts. Dr. Lafolley described the International Union for Conservation of Nature (IUCN) initiative 'Protect Planet Ocean,' which uses a framework of 18 regions to develop a 'network' of networks of MPAs. This initiative endeavors to alter the public's perception on the status and urgency of ocean issues, thereby engendering political support and will. IUCN is partnering with Google to disseminate information about MPAs to global audiences in new and interactive ways. Dr. Lafolley ended the presentation with forthcoming issues, including carbon management in the marine environment (e.g. ocean carbon sequestration), enhancing the global social network on oceans, increasing outreach and the visibility of MPAs, MPAs in the high seas, focusing on developing country needs, and a greater focus on marine World Heritage Sites.

Lori Arguelles inquired about the opportunities for disseminating the messages of Protect Planet Ocean to the general public. Dr. Lafolley replied that the best way to do this is to create hard-hitting sound bites that include the relevant information. Messaging is a key component of an outreach strategy, and we must look at both how that messaging is conducted as well as what it says, in order to enhance its effectiveness.

John Ogden noted that Dr. Lubchenco emphasized the importance of marine spatial planning in the future of ocean and coastal management, and asked whether MPAs will be a sufficient enough tool for management. Dr. Lafolley responded that MPAs are not the sole solution, but that their effectiveness can and should be enhanced. In particular, greater attention should be given to MPA mapping, planning, and the transfer, dissemination and application of lessons learned. Regarding Protect Planet Ocean, he noted that there are advancements to be made, and asked the FAC to review the project online and submit suggestions for improvement, particularly focusing on areas that the project could contribute to that are not being addressed elsewhere.

Bob Pomeroy noted the difficulties of getting this type of information to the large global population who do not have access to computers. Dr. Lafolley agreed that this is a great challenge and that there is no simple solution. Through social networking these messages must still be delivered, and he welcomed any insights into how this problem might be addressed.

Victor Mastone expressed his concern regarding potential quality-control issues associated with allowing the public to upload MPAs information to Google Earth. Dr. Lafolley agreed that this is an issue, but emphasized that the majority of the information is accurate, and that key data sets are controlled by IUCN and cannot be edited by the public. Ultimately, the project presents a continual learning process, and he welcomes all suggestions for improvement.

The Committee thanked Dr. Lafolley for his presentation and broke for lunch at 12:45 P.M.

### **FAC Nominees and Exiting Members**

The Committee reconvened at 2:00 P.M. with a brief discussion regarding incoming and outgoing members. Lauren Wenzel updated the Committee on the nomination process for new members. In total, there were 79 highly qualified nominees. Recommended selections have been sent to NOAA and DOI leadership and are now under consideration. Mark Hixon noted that it might be useful to include the selected individuals in the September 2009 meeting of the FAC, to help orient new members and provide them with the history and context of the FAC. Gil Radonski further suggested that outgoing members conduct exit interviews with the MPA Center, which was an idea supported by various members.

### **Subcommittees Meet**

The Subcommittees met from 2:30 P.M. until 3:30 P.M.

### **Subcommittees Report**

The Committee reconvened at 3:45 P.M. for Subcommittee reports. Subcommittee Chair Dennis Heinemann spoke about the future work of the Scientific and Technical Subcommittee, which will include drafting a white paper on climate change and MPAs by the September 2009 meeting. This paper will focus on the impacts of climate change on marine ecosystems, specifically on MPAs, and implications for MPA management. The paper will scope the key issues involved, which will potentially feed into a charge for future work by the FAC. Dr. Heinemann also noted that the Subcommittee has suggested the creation of a working group to develop the cultural aspect of the National System, as this focus is currently lacking. Joe Uravitch agreed with this, but stated that the MPA Center would like to wait until a cultural resource coordinator is hired to begin this effort.

Subcommittee Vice Chair Bob Pomeroy talked about the upcoming work for the Review and Evaluation Subcommittee, including the need to devise appropriate outcome indicators at the site, regional and national scales, and determining how social, ecological and cultural indicators are relevant to the National System. The Subcommittee has planned to meet with experts in the early summer of 2009 to complete these tasks and produce: 1) an indicators matrix; 2) a white paper; and 3) identification of possible additional white papers on other topics (e.g., socioeconomic issues).

### **Committee Business**

Lauren Wenzel briefly reviewed the logistics for the upcoming meeting of the FAC in Anchorage, Alaska, September 9-11, 2009, including the possibility of inviting two panels to the meeting, one focused on MPAs in Alaska and the other on climate change and MPAs.

The Committee adjourned the meeting at 4:15 P.M.

### **Committee members present:**

Ms. Lori Arguelles

Mr. Charles Beeker  
Mr. David Benton  
Dr. Anthony Chatwin, Subcommittee Chair  
Mr. Rick Gaffney  
Ms. Ellen Goethel  
Dr. Dennis Heinemann, Subcommittee Chair  
Dr. Mark Hixon, Chair  
Mr. George Lapointe, Parliamentarian  
Mr. Victor T. Mastone  
Ms. Melissa Miller-Henson  
Dr. Russell Moll  
Dr. Elliott Norse  
Dr. John Ogden  
Mr. Terry O'Halloran  
Mr. Alvin D. Osterback  
Mr. Eugenio Piñeiro Soler  
Dr. Robert Pomeroy, Subcommittee Vice Chair  
Mr. Gilbert Radonski  
Dr. Jim Ray, Subcommittee Vice Chair  
Mr. Jesús C. Ruiz  
Mr. Joe Schumacker  
Mr. Bruce A. Tackett  
Mr. David H. Wallace  
Mr. Bob Zales II, Vice Chair

**Ex officio members/representatives present:**

Mr. Randal Bowman, Fish and Wildlife and Parks, Department of the Interior  
Ms. Laura Furgione, Program Planning and Integration, NOAA  
Ms. Tracy Rouleau, Program Planning and Integration, NOAA  
Mr. Chris Barrows, US Coast Guard / Department of Homeland Security  
Dr. Brian Melzian, US Environmental Protection Agency  
Ms. Heather Sagar, National Marine Fisheries Service

**Invited panelists and guests:**

Dr. Jane Lubchenco, Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator  
Mr. Will Shafroth, Principal Deputy Assistant Secretary for Fish and Wildlife and Parks, Department of the Interior  
Ms. Elizabeth Burkhard, Minerals Management Service, Department of the Interior  
Dr. Paul Doremus, Program Planning and Integration, NOAA  
Mr. Jack Dunnigan, NOAA/NOS Assistant Administrator  
Dr. David Fluharty, School of Marine Affairs, University of Washington  
Mr. Andrew Gude, US Fish and Wildlife Service, Department of the Interior  
Mr. David Kennedy, NOAA Office of Ocean and Coastal Resource Management  
Dr. Susan Langley, MD Underwater Archeology Program  
Dr. Dan Lafolley, IUCN World Commission on Protected Areas – Marine

Mr. Cliff McCreedy, National Park Service, Department of the Interior  
Ms. Laurie McGilvray, NOAA Estuarine Reserves Division  
Mr. Peter Mier, Norwegian Embassy  
Mr. Paul Orlando, NOAA Office of National Marine Sanctuaries  
Mr. John Parks, The Nature Conservancy – Hawai'i  
Dr. Richard Pollnac, Department of Marine Affairs, University of Rhode Island  
Mr. Samuel Rauch, NOAA National Marine Fisheries Service  
Dr. Paul Ticco, NOAA Office of National Marine Sanctuaries  
Mr. Jim Toomey, Cartoonist for Sherman's Lagoon

**NOAA National Marine Protected Areas Center staff:**

Mr. Joseph A. Uravitch, Director  
Mr. Jae Kwan Chung, Republic of Korea visiting fellow  
Ms. Nicole Haynes-Bell, Administrative Assistant  
Ms. Kara Schwenke, Communications Coordinator  
Dr. Charles Wahle, Senior Scientist  
Ms. Lauren Wenzel, National System Coordinator  
Ms. Katya Wowk, National System Policy Specialist