Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs
Ocean Management Planning Initiative

Meeting Summary of the Ocean Science Advisory Council

September 28, 2009
100 Cambridge Street, Second Floor Hearing Room D, Boston

September 28, 2009 SAC Meeting Participants:

In Attendance
Ocean Science Advisory Council Members (SAC)
Brooks, Priscilla: Conservation Law Foundation
Brown, Wendell: UMass Dartmouth
Callaghan, Todd: Massachusetts Office of Coastal Zone Management
Ford, Kathryn: Massachusetts Division of Marine Fisheries
Frankic, Anamarija: UMass Boston, Environmental, Earth and Ocean Sciences
Hunt, Carlton: Battelle
Krauss, Scott: New England Aquarium
Terkla, Dave: UMass Boston, Environmental, Earth and Ocean Sciences

Guests
Babb-Brott, Deerin: MA Executive Office of Energy & Environmental Affairs
Carlisle, Bruce: Massachusetts Office of Coastal Zone Management
Chambliss, Emily: MA Executive Office of Energy & Environmental Affairs
Chesnin, Noah: Conservation Law Foundation
Napoli, Nick: Massachusetts Ocean Partnership
Starbuck, Kim: Massachusetts Ocean Partnership
Vella, Prassede: MA Executive Office of Energy & Environmental Affairs

SAC MEETING INTRODUCTION (9:00 AM)
(Deerin Babb-Brott, EEA)

Mr. Babb-Brott reviewed the topics for discussion and they included:

1) Brief review of Draft Ocean Plan – EVI, SSU, management areas/measures
2) Discussion/initial feedback from SAC
3) Review of science plan/discussion of priorities
4) MOP workplan/synthesis with science plan
5) Next steps/other

Deerin: First we are going to focus on EVI. The team was not able to deal with EVI this time around. We are also going to talk about Special, Sensitive and Unique (SSU) areas and how we dealt with them in the draft plan. If folks have any initial feedback or reactions, those would be helpful. Also, it would be helpful for the SAC to write comments about the plan for the record.

Bruce will then discuss the science plan and priorities from the draft. We want to end up with very specific action items in the final plan (i.e. here are 6 specific things we would like to do). That will help us focus our research and efforts. The action items will also be closely tied to the Massachusetts Ocean Partnership and investments they make. I will start with the presentation and then Bruce will take over.

Ecological Valuation Index (EVI)

Deerin: We got as far as we could get with the EVI. We spent a lot of time on it before the Draft Plan came out, but we figured it was not sufficient to propose management efforts based on the EVI.

We ended up using 10 or 11 of the key datasets that went into the EVI under 4 general food groups – marine mammals, birds, seafloor creatures, and finfish/shellfish/crustaceans. These four groups were surrogates for the EVI. We thought internally that these four groups were representative data that could stand in for ecological significance. As a management measure, we proposed a new regulatory standard under NEPA. The proponent would need to avoid these resources under NEPA unless they show there is no other place to put the project that is more environmentally friendly. The point is for the project to have the least impact as possible. Another option is to figure out from the data that the project does not impact the resource.

Within the multiuse area, we went through an analysis to see what is allowed in certain areas. Then, we looked at the resources and checked to see which activities impacted what resources. If commercial/tidal energy proponents were to propose a project, they have to look at the various resources in those areas (shown in a map). The same goes for sand/gravel, telecommunication and electric cables, pipeline, etc.

SAC Comments on EVI – Q & A Format

Q (Todd): How would the proponent consider the areas where something could be developed, but there are some resources that may need avoiding?

> ***A (Deerin)****: It's a relation exercise and there are certain places they need to avoid. For the uses, we have said minimize/mitigate... it's softer to lay down as a siting standard. It doesn't mean that a project can't be proposed in a commercial fishing area. We just have to really look at the impact of the proposed project. This plan "ups" the standard.*

Comment (Scott): I am confused about the tidal current map.

> **Comment (Bruce)**: Those areas are where the current velocities achieve viable speeds for tidal energy. We aren't saying that is where the projects need to go.
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> **Comment (Deerin)**: There is an inconsistency in how we presented the data.
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> **Comment (Wendell)**: You may need to note that it in the analysis.
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> **Comment (Carlton)**: You may need a guide that shows how to use the map.

Comment (Deerin): We would like to develop an implementation guide that discusses how to use the maps (after December).

Comment (Anamarija): You should create a decision tool for management based on science/data. It is very important to determine how to use this information.

Comment (Deerin): That is the next step towards what we initially didn't think we could do with this Plan. We would like to do tradeoff comparisons. Right now, here is the baseline.

Comment (Bruce): This is our analysis of how our project may interact with these resources. This is the "cut at" the spatial screening.

Comment (Carlton): You have blocked areas that could be un-usable. Now the proponent would need to come in with more details on the project and how the project may interact with the resources.

Comment (Bruce): Life may be a lot easier if the proponents avoid those areas. They would spend a lot of time getting permits, etc.

Q (Carlton): What if someone says they want to put aquaculture in the white area?

A (Deerin): Aquaculture is a regulated fisheries activity and it is a DMF regulation. This is helpful information for DMF when they go through their process.

Q (Carlton): Is that well-spelled out?

Comment (Kathryn): We need to spell it out more clearly.

Comment (Todd): The temporal component is not clear in the text of Chapter 4 (i.e. "or show that the species is not there during that time period").

Comment (Carlton): People need to consider the life cycle of whales, etc.

Comment (Bruce): A lot is based on how the proponent defines the project. The proponent has to show the need for the project. We are taking a careful approach but have some flexibility built in.

Comment (Todd): Is there really any true "avoid"? Everyone will say that the impact can be temporary. If you really want to "avoid", you need to be careful with how you phrase that.

Q (Anamarija): From all the information we have, do we have a best possible scenario? Is there a good example from one map that discusses the next steps and how to fill in missing information?

Comment (Deerin): I would go back to the SSU maps and say, the white areas are white because we don't have data.

> **Comment (Almost everyone)**: There is some data in those white areas.
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> **Comment (Carlton)**: The white actually does have some information.
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> **Comment (Deerin)**: We have used a color ramp with some of the whale maps.

Comment (Priscilla): I think it would help to be more specific about what an area of high fishery resource area means. You have to really flip back a long way to figure out what that means.

> **Comment (Todd)**: A lot is embedded in the metadata of the file.
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> **Comment (Priscilla)**: I have gotten a lot of feedback from fishermen that that type of information would be helpful.
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> **Comment (Carlton)**: I agree - what does value mean? How is it defined? It would be good to have something concrete written.

Q (Priscilla): What does "practicability" mean?

> **Comment (Deerin)**: This takes into account technology, feasibility, and cost. We could avoid this resource, but it is going to cost us this much money, etc.
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> **Comment (Priscilla)**: The word "practicable" makes it difficult, especially when economics come in.

SPECIAL, SENSITIVE AND UNIQUE (SSU) AREAS

Deerin: We should discuss what these SSUs mean in terms of management. The SSU resources cover 63% of ocean management area. The act is to blend both use and protection. We can't protect all 63% of the area, so we needed to think about how much of the area should be protected and is then acceptable to the public. For the most part, we had to stick with birds and whales. In some areas, we looked at essential fish habitat. We couldn't figure out a way to say "avoid" and make it justified.

SAC Comments on SSU – Q & A Format

Comment (Priscilla): I think this framework enables some flexibility. This allows the state to look at the effects of specific activities on areas. Proponents can show that their project can work in some areas. I think it is good as long as there is solid protection for the SSU areas.

Comment (Deerin): We should be really focused on EVI in the future. I don't want to wire these layers in so toughly that we can't change it in the future. We know we will need to change it in the future. We would like EVI to be the next thing.

> **Q (Dave)**: This would be for the next draft, right?
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> **Comment (Priscilla)**: The EVI may be an additional layer, and we keep these layers here.
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> **Comment (Deerin)**: We would like to enlarge the SAC.

Comment (Bruce): The OAC is looking to write a letter.

> **Comment (Deerin)**: Yes, we don't want to force consensus around the table. If the SAC feels there is a position that they would like represented on the table, then that would be appreciated.
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> **Comment (Bruce)**: We wanted to get more detail on the science plan. In Chapter 5, we wanted to look into the science framework itself. This may make a difference in terms of the commonwealth and the Massachusetts Ocean Partnership moving forward. We would like to talk about science priorities. The time ran out so we weren't able to include the priorities. We think those priorities need more peer review and more open thinking; we didn't want to rush it. We are working on a review panel for the EVI.

(Deerin Babb-Brott leaves, Bruce Carlisle takes over)

Comment (Prassede): On October 20th, we will have panelists come in and help us develop EVI. We are working on a draft agenda.

> **Comment (Bruce)**: We are envisioning the panel to be some kind of an offshoot of the SAC.
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> **Comment (Priscilla)**: It could be useful to have a few people from the SAC involved in this.

Comment (Priscilla): There are two activities that are not addressed in the plan – dredging and LNG. Should we consider tankers and their environmental impacts (i.e. impacts on whales with noise, etc.)? That activity was not considered in the plan.

> **Comment (Todd)**: I know they are considering ships and desalinization in California. We should consider this also in terms of sound, space, and mooring lines that sweep the bottom.
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> **Comment (David)**: We shouldn't be so dependent on identifying these uses upfront, but we should have the option of identifying uses in the future (unknown uses that we haven't thought about). Which chapter would consider these unknown uses?
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> **Comment (Bruce)**: We should definitely consider a process for unknown uses that could come into play.

Comment (Todd): There is a gray area if some offshore wind creeps around the eastern part of the cape. We need to articulate that.

Q (Priscilla): This calls for fisheries to be included into the ocean management plan. How are you going to do that?

> ***A (Bruce):*** *In this duration of time, we weren't able to deal with that. We will probably leave it to the Division.*
>
> **Comment (Kathryn)**: We are hoping to lay out an action plan that will make DMF consistent with the ocean management plan.

Comment (Scott): There is a movement to integrate offshore aquaculture and offshore renewable energy. Neither is a new use, but together they are.

Q (Priscilla): I am still wondering about the role of fishery habitat protection areas. How do those areas apply to any of this?

> ***A (Kathryn)****: That has been the whole challenge with the EVI. Right now we don't have the high resolution EFH maps for MA. It really is important to figure this out.*
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> **Q (Priscilla)**: The cod conservation zone is an area of spawning. Can we allow certain activities to go in those areas?
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> **A (Kathryn)**: Most fish regulation areas are there for protecting resource. We don't know what uses are compatible with the cod conservation zone.

Q (Priscilla): For the SSUs and the map, are there any areas where all 11 SSUs happen in one place?

> ***A (Bruce)****: No.*
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> **Comment (Priscilla)**: Some people are looking at the EVI hot spots and wondering if those are the areas we should focus on.
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> **Comment (Bruce)**: We could cut those hot spots a number of different ways.
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> **Comment (Kathryn)**: A lot of the EVI stuff is biased by where fish are being caught.

SCIENCE PLAN

Bruce: Let's now talk about the science plan. We will be having a committee come together and talk about developing the EVI. We are missing a lot of data, and we are trying to prioritize what data to gather. We have also heard that the recreational boating information we have is inadequate. We need another approach to get after that. We have heard from the Vineyard that they would like a view shed analysis.

SAC Comments on the Science Plan – Q & A Format

Q (Priscilla): What type of quality control is put forth on data introduced by interest groups?

> ***A (Bruce)****: We do need to articulate a process for this. We need to have a process for how we use data that is introduced. We are proposing a two tiered approach. We need to have a process for accepting new data without the plan being re-written.*
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> **Comment (Carlton)**: You should also let them know the metadata requirements for the type of data that you are accepting.
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> **Comment (Priscilla)**: There is an expectation at these stakeholder meetings that certain information will be used. It should be clear that not all information will be used.
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> **Comment (Anamarija)**: Some people are upset that certain data is introduced but not used.
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> **Q (Kathryn)**: Are there any existing standards in other ocean management processes?
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> **Comment (Carlton)**: There is some information about what is acceptable metadata. EPA has a number of sites to identify acceptable stuff.

Comment (Bruce): We should put definitions around the SSU areas. We are continuing to move forward with seafloor mapping and groundtruthing. We would like to add on some biotic information and look at linkages. The Massachusetts Ocean Partnership will be helpful with moving forward some of these initiatives.

(Bruce starts discussing priorities)

1) Data network: Data discoverability
2) Indicator framework: Broader framework
3) Commercial fishing data layers: Gear type and economic input

4) Habitat portion: FVCOM model. The FVCOM model can provide a whole list of parameters in the water columns (i.e. SST, fronts, currents, wave height). MOP will be working with this. This model could be useful when looking at sediment transport. At this point it is all abiotic. Our hope is that we can link some kind of biotic component. We need some groundtruthing for the data, aside from just using the models alone.

Comment (Scott): This brings up a piece that is worrisome. If there is a white space, does that mean there is no information, or no one has done research there? These maps will guide recommendations about where to do future sampling.

Comment (Todd): There is someone in mind for human use characterization (i.e. recreational boating).

Comment (Carlton): I still think we need to identify ecosystem functions and processes that we are the most interested in. The modeling frame is the stage that everything plays on. We need to really consider the linkages. There needs to be more linking in terms of dynamics. That is going to drive everything specified in 3.2, and applied research.

> **Comment (Scott)**: It seems that 3.2 and 3.3 should be more integrated. We should be concerned with how nutrients, etc. affect productivity.
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> **Comment (Bruce)**: We need to discuss the steps necessary for this.

Comment (Carlton): We need to deal with the indicator development. This is very important.

> **Comment (Prassede)**: We are trying to figure out the main goals of the plan and then what questions we will ask. Indicators will be two tracks: have we done what the management plan has asked us to do, and then track any changes in socio-economic and ecological effects. We are compiling a list of indicators that will tie into those questions. We will have a meeting later in October that will bring together folks to discuss indicators.
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> **Comment (Todd)**: If anyone knows of people that should be involved in that team, let us know.
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> **Comment (Priscilla)**: We have to take our best shot at this and do it. Mining other indicator projects is a very good idea. You can start with a certain sweep of indicators as a start.
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> **Comment (Prassede)**: We also need to figure out if changes that we see are because of the plan. We need interpreting variables.

Q (Kathryn): I have a question about existing gap analyses. How will all of these pieces of information be brought into this?

> ***A (Bruce)****: We went back to work group reports, but didn't build it from work group reports. We didn't put forth a comprehensive inventory.*
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> **Comment (Todd)**: In the original science framework, there was a laundry list of everything that should be done in state waters. Everything that wasn't included didn't fit into the goals of the ocean management plan.
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> **Comment (Bruce)**: We need to come to a consensus of the projects that need money since these are tough economic times.
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> **Comment (Carlton)**: That is why we have to really focus on the indicator piece. We need to focus on certain projects

Comment (Bruce): We will need to get back to you on the EVI and the committee, and we will need to let you know about the indicator framework development. Let us know if you have any suggestions.

Comment (Scott): My focus is really on the environmental indicators. The ones listed here are really "old school" environmental indicators. There is a lot of new technology that could be very useful.

> **Comment (Bruce)**: Any suggestions would be very useful.

Q (Priscilla): What about fishery data? What can be done with it? In terms of fishery distribution, what is being done there?

> **Comment (Dave)**: We have broad data, and we know NMFS has more narrow information.
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> **Comment (Kathryn)**: We are adding additional stations to the existing framework. A lot of species that we have a lot of information for are caught in our trawl surveys. There will be species that we will not survey at all, and we will need to collect those data.

Q (Scott): Is there a plan to move toward a more precise view of the fishery data, as opposed to blocking off huge strata?

> ***A (Kathryn)****: To do this best, we need to combine the strata ranking with the actual locations of the survey. It would be a better visualization tool. With the survey, it would be useful to have*

more stations, but we would probably keep it very similar. It is reasonable to think that certain species are distributed across strata.

Comment (Scott): I don't trust an assumption like that because there is a lot of variability across the ocean. When you treat data like that, you lose the ability to detect any kind of trend. The variability within strata may change a lot. I would get rid of the strata and do an analysis of the station so that you have a map of contours that give you a capture of variability.

Comment (Kathryn): It is worth discussing this. It is very tricky to analyze fishery data. We are very limited by the trawl survey data.

Comment (Scott): When we are talking about indicator species, it will be interesting to look at long term variability in numbers.

Comment (Kathryn): The effort now is how we use this data in a format that is useful. The EFH is very loosely based on the federal approach. We may need a different approach for Nantucket Sound. We can't say right now that we need to scrap the trawl survey.

Comment (Priscilla): I think this should be a priority (i.e. getting it into a form that is useful).

Comment (Kathryn): I think certain species can be pulled out for indicators.

Q (Wendell): Are the state and federal datasets integrated in any sort of analyses? How are the federal datasets and state datasets viewed differently?

A (Kathryn)*: They are used together in the stock assessments. The only federal waters we sample are in Nantucket Sound.*

Comment (Carlton): I think you should think about monitoring as a separate entity. The indicators will lead to more long-term monitoring. Monitoring and assessment of the monitoring could be a separate action. While we have a lot of monitoring going on, I think the monitoring still needs to be developed more. I think the way that this is written now is more of an assessment of information gathering. "Creating a monitoring plan based on indicators" should be a separate action.

Comment (Bruce): Any monitoring program will be broken down into its own parts. It all rolls up into a monitoring plan for the oceans.

Comment (Carlton): The continuation of certain monitoring plans is critical to this. We also need to discuss ecosystem services. The EVI is sort of trying to get at that, but isn't quite there. At some point, we will need to use that language.

Comment (Scott): Section 3.4 and 3.5 discusses quantifying ecosystem services.

Comment (Nick): Ecosystem services is another area the Massachusetts Ocean Partnership is looking to invest.

Comment (Carlton): Some people at Battelle have looked at a process of how to value to ecosystem services. I will give you a name.

Q (Priscilla): I don't see a specific model about quantifying cumulative impacts. How do we prioritize data needs? We need certain data to really understand and evaluate what is going on. The indicator piece will come in parallel. Understanding the ecosystem needs to be a priority.

Comment (Dave): How do you figure out what you need an indicator for? We need to figure out what data are available for the indicator.

Comment (Carlton): What decisions are you going to make based off of those indicators?

Comment (Anamarija): We need to really think about the cumulative effects.

Q (Priscilla): Is there no data on turtles?

A (Bruce)*: There is little data. We asked a lot of people.*

Q (Kathryn): We need more information on wind turbine structures on the seafloor (building on a hard bottom vs. a soft bottom). Is the assumption that if anyone wants to build a turbine, they would be responsible for collecting the missing data?

A (Bruce)*: Perhaps they can fill in data gaps that need to be filled.*

Comment (Priscilla): In terms of the exclusionary areas, hard complex bottom did not come up as a SSU for wind turbines. I found that interesting.

Comment (Scott): We know there are a lot of different types of benthic habitats. It may be OK to alter the bottom a bit. We don't want to be overly protective. We need a study on resilience: if you disturb a habitat, how long does it take to come back?

Comment (Priscilla): With the action items, some started with a verb, while others were more general. I feel like all should start with a verb.

Comment (Anamarija): I also wouldn't use words like "they" – it can be confusing.

Comment (Carlton): It is also helpful when you explain what the objective of the action is.

Comment (Bruce): Not everything in there is going to be a priority. There will be tradeoffs with some hard decisions. We will also look to our partners to help. If you so choose to write a collective comment, or your own, please let us know what you think are the top three priorities. It would be great if you could identify the benefits and achievements. We can do this again in a month. The comment period ends November 23rd.

Comment (Wendell): We could comment on key partnerships that would be helpful. We could describe how to use limited resources to augment work getting done. Possibly highlight the resources that could be relevant. We should find some sort of common ground.

Comment (Todd): EEA should send the council what is already moving forward. You shouldn't waste your time when we already have certain things moving forward.

SAC MEETING CLOSING NOTES

- EEA will send minutes from today's meeting and next steps that are already happening to everyone in the next week to week and a half.
- We may have another meeting in a month.
- Anamarija, Carlton and Priscilla will compile some sort of letter after looking at the minutes and send it around for people's comments.

Meeting adjourned (12:27PM)