Washington State's

Blue Ribbon Panel on Ocean Acidification

Meeting #5: July 20, 2012

Seattle, WA

MORNING AGENDA

9:00-9:10	**Welcome** Bill Ruckelshaus and Jay Manning, Panel Co-Chairs Lara Whitely Binder, CIG
9:10-9:30	**Expectations for the Day and Updates** Facilitated by Lara Whitely Binder, CIG
9:30-10:30	*Workgroup Presentation and Discussion* **Recommendations for Research and Monitoring** Jan Newton, UW Applied Physics Laboratory and Shallin Busch, NOAA Northwest Fisheries Science Center
10:30-10:45	*Break*
10:45-11:45	*Workgroup Presentation and Discussion* **Recommendations for Local Sources Reduction** Ted Sturdevant, Washington Dept. of Ecology
11:45-12:15	**Lunch** (provided for Panel members and invited guests)

AFTERNOON AGENDA

12:15-1:15	*Workgroup Presentation and Discussion* **Recommendations for Post-Panel Needs** Bill Ruckelshaus, Co-Chair
1:15-2:15	*Workgroup Presentation and Discussion* **Recommendations for Adaptation and Remediation** Brad Warren, Sustainable Fisheries Partnership
2:15-2:30	*Break*
2:30-3:30	*Workgroup Presentation and Discussion* **Recommendations for Public Education and Outreach** Betsy Peabody, Pacific Shellfish Institute and Puget Sound Restoration Fund
3:30-3:45	**Next Steps and Meeting Close** Lara Whitely Binder, UW CIG and Panel Co-chairs
3:45-4:00	**Public Comment Period** Facilitated by Lara Whitely Binder, UW CIG

Process Status

Product	Current Status	Major Next Steps
Science summary	• Draft completed • Comments due Fri, 7/27	• 7/30-8/7: Science members review comments and identify needed changes • 8/8: Scientists brief Panel about any important changes • 8/13-9/20: Science summary edits made • 9/20-9/28: Layout • 10/1: science summary released with Panel report

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Recommendations	• Working towards consensus on the final recs	• 7/23-8/3: Further refinement & adding necessary supporting information to the recommendations • 8/6: Final draft of recommendations to Hedia and Lara for prep • 8/8: Presentation and discussion; final agreement on the recommendations by the Panel • 8/6-8/10: science writer starts integrating recs into draft report

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Communications strategy	• In development, implementing	• Continue developing and updating panel

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Communications strategy	• In development, implementing	• Continue developing and updating panel
Final report	• Hiring science writer • Internal discussions about outline	• 7/23-8/10: First draft prepared • 8/8: Briefing to Panel on expected format • 8/13-8/14: Internal review of first draft by Hedia, Lara, Meg (co-chairs get to 8/16) • 8/15-8/23: Second draft prepared • **8/24-9/7: Panel review**; comments due no later than Fri, 9/7 *(no extensions! please send earlier if possible)* • 9/10-9/14: Edits made • **9/17: Final Panel review** *(will try our best to get it to you for the weekend)* • **9/18: Final Panel meeting; report approval** • 9/19-9/20 (noon): Final edits • 9/20-9/28: final formatting and preparation for delivery to the Governor • 10/1: delivery to the Governor

Primary Goal and Expected Outcome: July 20

By the end of the meeting, we will have preliminary agreement on the body of recommendations developed by the workgroups.

What does this mean?

- Concerns or comments about the recommendations will have been acknowledged and addressed in the meeting to the extent possible.
- Further editing, word-smithing is expected but on the whole, Panel members are okay with moving forward with the recommendations
- We are on track for reaching agreement on the recommendations on August 8

Additional Comments

Comments and questions will be taken after each group's presentation.

All recommendations are open for discussion and deliberation by the Panel.

Some modifications may be warranted in the effort to reach consensus and move forward with the process.

Evaluation Criteria

The Spock Test

"Is the action logical?"

Does the action make sense given what we know and don't know about ocean acidification?

Evaluation Criteria

The Goldilocks Test

"Is the action just right?"

Is the action at the right level? We don't want recommendations that are too broad or overly-prescriptive.

Evaluation Criteria

The Upgrade Test

"Does the action make it better?"

Where there is overlap with existing activities, does the action add value to those activities by enhancing or accelerating the activities?

We don't want to reinvent the wheel unless we need a better wheel.

Draft U.S. Research Plan: Themes

Theme 1. Monitoring of Ocean Chemistry and Biological Impacts**

Theme 2. Research to Understand Responses to Ocean Acidification**

Theme 3. Modeling to Predict Changes in the Ocean Carbon Cycle and Impacts on Marine Ecosystems and Organisms**

Theme 4. Technology Development and Standardization of Measurements

Theme 5. Assessment of Socioeconomic Impacts and Development of Strategies to Conserve Marine Organisms and Ecosystems **

Theme 6. Education, Outreach, and Engagement Strategy on Ocean Acidification**

Theme 7. Data Management and Integration

*Themes include recommendations and short-term (3- to 5-year) and long-term (10-year) goals; **** overlap with OA Panel draft recs*

Anticipated Accomplishments (w/in 10 years):

- Implementation of a **comprehensive global and regional ocean acidification observing system** that includes the monitoring of biological effects.

- **Quantification of the physiological effects** of ocean acidification on a wide variety of marine organisms.

- **Enhanced modeling efforts** will lead to improved understanding of the global biogeochemical processes of ocean acidification and its impact on marine ecosystems.

Anticipated Accomplishments (cont'd):

- **A National Ocean Acidification Program** will be established to lead U.S. coordination of ocean acidification activities

- A **national ocean acidification data management and information exchange program** will ensure that ocean acidification information reaches scientists, decision makers, and the public in a timely manner.

- The U.S. will join other countries in establishing a **robust international research program** to address what is truly a global challenge.

Related Recs* from Theme 1. Monitoring of Ocean Chemistry and Biological Impacts

Short-term (3-5 years)

- Expand existing coastal and ocean measurements by deploying new ocean acidification monitoring instrumentation on research ships, volunteer observing ships, moorings, floats, and gliders. *(R&M)*

- Identify and deploy monitoring instrumentation in coastal and estuarine sites to extend the open-ocean monitoring parameters and methods to these shallow water systems. *(R&M)*

- Document trends in ocean acidification and biological responses that can be used for real-time early warning systems and for verification of computer model outputs. *(R&M)*

** Excerpted from draft plan; addition recs in draft plan. Overlap with other recommendations in the draft plan but not listed here is possible.*

Related Recs* from Theme 2. Research to Understand Responses to Ocean Acidification

Short-term (3-5 years)

- Conduct research to identify potential field sites and candidate species for long-term ecosystem-level monitoring, and subsequently develop and increase their capacity for long-term, ecosystem-level monitoring *(R&M; Adaptation & Remed.)*

- Quantify changes in physiological processes ….caused by ocean acidification and its interaction with other stressors *(R&M; Adaptation & Remed.)*

- Encourage modelers and data collectors to work together, determine appropriate modeling efforts, and coordinate with data collection efforts. *(Post-Panel)*

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Related Recs* Theme 3. Modeling to Predict Changes in the Ocean Carbon Cycle and Impacts on Marine Ecosystems and Organisms

Short-term (3-5 years)

- Develop and improve models less complex than end-to-end models that can predict direct and indirect effects on economically and ecologically important species and processes (R&M)

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Related Recs* **in** Theme 5. Assessment of Socioeconomic Impacts and Development of Strategies to Conserve Marine Organisms and Ecosystems

Short-term (3-5 years)

- Encourage marine policy programs to incorporate ocean acidification and its socioeconomic impacts into their curricula and areas of study. *(Public Ed)*

- Conduct nonmarket valuation studies to estimate damages from anticipated impacts of ocean acidification. *(Public Ed – ecosystem services)*

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Related Recs* in Theme 6. Education, Outreach, and Engagement Strategy on Ocean Acidification

Short-term (3-5 years)

- Design an implementation strategy for education and outreach for ocean acidification which will: *(Public Ed)*
  - Identify all domestic and international stakeholders in ocean acidification for education and outreach efforts;
  - Identify additional resources and partners required for education and outreach domestic and international efforts;
  - Link to existing partners, especially those that represent high priority audiences.
  - Identify potential new partnerships, especially with partners that represent high priority audiences;
  - Solidify funding streams to foster development and maintenance of education, outreach, and engagement programs and activities.

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