

U.S .Environmental Protection Agency
Science Advisory Board (SAB)
Committee on Valuing the Protection of Ecological Systems and Services (C-VPES)
Summary Meeting Minutes of a Public Teleconference Meeting
12:30 p.m. - 2:30 p.m. (Eastern Time)
June 13, 2007

Committee: The SAB Committee on Valuing the Protection of Ecological Systems and Services (C-VPES). (See Roster - Attachment A)

Date and Time: June 13, 2007, 12:30 pm - 2:30 pm (Eastern Time) (see Federal Register Notice – Attachment B)

Location: Participation by Telephone Only

Purpose: The purpose of the teleconference is to discuss draft text developed by committee members for a draft report related to valuing the protection of ecological systems and services. (See Meeting Agenda - Attachment C)

Attendees: Members of the C-VPES:
Dr. Barton H. (Buzz) Thompson, Jr. (Chair)
Dr. Kathleen Segerson (Vice-Chair)
Dr. William Ascher
Dr. Gregory Biddinger
Dr. Terry Daniel
Dr. A. Myrick Freeman
Dr. Dennis Grossman
Dr. Stephen Polasky
Dr. Paul Risser
Dr. Holmes Rolston
Dr. Mark Sagoff
Dr. Paul Slovic
Dr. V. Kerry Smith

Consultant to the C-VPES:
Dr. Joseph Arvai

EPA SAB Staff
Dr. Angela Nugent [Designated Federal Officer, DFO]

Other Members of the Public (see Attachment D)

Teleconference Summary:

The teleconference generally followed the meeting agenda (see Meeting Agenda - Attachment C). There were no oral or written public comments received by the SAB Staff for the committee.

The committee chair, Dr. Buzz Thompson, opened the meeting with a brief agenda review and began by asking the committee to address the topic immediately below that was not fully discussed during the June 12, 2007 teleconference.

Report Conclusions and Recommendations (Part 1, Section 6, pp. 47-48) and Part 5 (Supplementary Text to be provided)

Dr. Thompson introduced the discussion by asking members for their comments on Part 1, Section 6 of the draft report and the Part 5 draft proposal (Attachment F). He summarized several comments made during the June 12, 2007 teleconference call (to include cautions about benefit transfer and address resource needs). He noted that the DFO would circulate a list of recommendations from the current draft. The list would highlight resource and research recommendations. He noted that the DFO would work to schedule a teleconference call on that topic later in the summer.

A member commented that the report presented a complex problem for analysts and project managers in selecting appropriate valuation methods and using them well. He voiced concern over the need for oversight of the use of methods and proposed a recommendation that steps be taken to address the challenge of using the right valuation method in the right way. Members considered the existing draft text (page 26, lines 16 - 20) calling for review by a standing body. Members asked that this sentence be expanded to include appropriate use of methods over time. Members expressed concern that any recommendation take note of Agency resource needs and time constraints and provide review appropriate to the impact of different Agency actions. Members generally agreed that such review needs to be done periodically and that the committee should not specify the mechanism for the review. The committee chair noted that the language on page 26 should be expanded as discussed and the recommendation be included in Section 5.

The committee then discussed recommendations relating to use of valuation methods. The vice-chair stated that Part 5 should note that the C-VPES list of methods was suggestive, not prescriptive and that EPA should carefully choose and implement methods based on the needs of specific contexts

A member then asked the committee to include a recommendation concerning EPA's practical issues related to benefit transfer, especially related to the new methods that the C-VPES plans to recommend that EPA begin using in some form. He expressed concern that, as a practical matter, when EPA begins the process of using these other methods for adding information to their Regulatory Impact Assessment (RIA) packages, it will be unlikely that the EPA will be able to conduct new research for each

RIA. He predicted that if the committee is successful in persuading EPA to try new approaches, the Agency would do a few signature generic studies and then attempt transfers from those signature or generic studies to specific cases where they need analysis. Constraints on resource and time, in his view, will make such transfers a certainty. He suggested that the committee recommend that EPA plan for research to enable successful transfers. Another member raised a parallel point regarding transfer of ecological information. The committee agreed to address this issue.

Another member asked for specific changes to some bullets in the “straw proposal.” He noted that the first bullet would be better expressed as “explicit recognition of multiple concepts of value.” He asked that the seventh bullet (“experimentation with new methods”) be reframed to include consideration of the opportunity cost of using resources to improve the use of existing methods. The chair responded that bullet seven principally pertained to regional and site-specific activities, where new methods could be tested. The intent was not to take resources away from the national level, where the focus should be on improving the use of traditional methods. Another member suggested using language such as “the Agency should seek opportunities to explore and evaluate applications of new methods.” He expressed concern that the committee not communicate that EPA should spend its limited resources on “just doing the same thing, even if it’s better.” He noted the need to improve use of existing methods and use new methods. Other committee members seconded the view that both refining use of existing methods and trying new ones are important.

A member suggested that the committee provide recommendations regarding research priorities. Another member seconded that view and expressed concern that EPA had very limited resources for research in the social sciences and that committee advice regarding priorities for research was essential. The committee generally agreed on the priority of enhancing EPA’s ability to predict ecological consequences. One member, however, noted the importance of tempering that recommendation with the need to plan for the type and amount of information needed for ecological valuation through interdisciplinary discussion and public interactions that identify relevant ecosystem services. The committee chair expressed concern that the committee may find it difficult to agree on research priorities. A member noted that this discussion might be better informed by reviewing the list of committee recommendations in the full report, especially those involving research. The committee agreed to address this issue more fully at another time and agreed on the importance of including a section in Part 5 that focuses on research.

A member next noted that the first bullet under the section “What can the approach offer EPA and the public” should expand discussion of how the approach can help EPA in making better decisions and to “go beyond a narrow risk strategy” by linking performance targets and measures to values. The chair agreed to include such changes and committed to drafting text for Section 5 reflecting committee discussion.

Discussion of Approach to Methods Presentation in report, (New Part 3 pp.112-138, Table 5, p. 113, Table 6, p. 132; Appendix A, pp. 226-367)

The committee chair reviewed the process of revising the report since the committee's May meeting and asked for comments on the structure of the report and Appendix A and the structure and contents of Tables 5 and 6. The vice-chair also asked whether it would be appropriate to integrate Parts 2 and 3 into a single part, perhaps with the heading "Building a Foundation for Ecological Valuation."

Members generally approved of the new report structure and Table 5. One member asked for the opportunity to revise the short introduction to methods that now appeared in Part 3. The DFO noted that the SAB Staff plans to introduce the electronic report as a highly inter-linked text and the chair noted that Tables 5 and 6 would include cross-references to assist readers in navigating the text.

Concerning Table 6, the chair expressed his view that it is important to provide readers a summary of committee conclusions regarding different methods in the report and asked committee members for their reactions to the table. A member asked why some rows in Table 6 did not include entries. The DFO explained that either she had not been able to extract text from Appendix A for those entries or had insufficient time to complete entries. The chair asked members at this time to consider whether the table was valuable in general and whether the basic structure was appropriate. Several members noted that the table helps readers by providing a way to scan across different methods and offering logical links to more extensive discussions in Appendix A. A member asked whether the table should focus on innovative and new methods vs. more traditional methods and voiced concern that the table may be inappropriate for fully characterizing economic methods that have a longer history. The chair noted that the table was intended to reflect information in Appendix A and not introduce new text or recommendations. Members expressed concern that they not be asked again to revised method write-ups in Appendix A. Members suggested that the draft report remove the column "Recommendations for Research" from the table and reserve those recommendations for a textual discussion in Part 5

The committee chair asked the DFO to work with the vice-chair to populate currently empty rows in Table 6, given existing text in Appendix A. The chair asked committee members to provide suggested edits for entries in Table 6, based on material existing in Appendix A.

Benefit Transfer (Part 1, Section 3, pp. 83-91)

Dr. William Ascher introduced discussion of this section of the draft report by acknowledging previous text provided by Dr. V. Kerry Smith. He noted that the introduction to the text and the chapter overall is technical and appropriately communicates caveats about the difficult nature of appropriately conducted benefit transfer. Another committee member seconded this view and noted recent benefit transfer efforts regarding ecological valuation in the State of New Jersey that inappropriately used benefit transfer.

The committee also noted that the conclusion would include a recommendation regarding benefit transfer. Dr. Terry Daniel noted that he would revise the socio-psychological section to include a small discussion of the “generalizability” of socio-psychological information beyond the original study group.

The committee briefly discussed the issue of validity and evaluation of valuations. One member noted that agencies never monitor post facto whether assessments “turned out as expected.” Members noted although such an evaluation was theoretically desirable, it was nearly impossible, because most benefit transfers likely occur in situations where there are inadequate resources for conducting research for a new valuation and where there are most likely no resources for an evaluation of valuation efforts.

The DFO asked Dr. Ascher for help in highlighting or formatting specific recommendations for the section.

Rankings Based on Energy and Material Flow (Appendix A, pp. 235-241)

Dr. Segerson introduced this topic and acknowledged the comments of Drs. Ascher, Costanza, Freeman, Huggett, and Polasky. She asked the committee to consider the language on page 241, lines 5-6 of the draft. The committee agreed to revise language to state that the committee had “substantial questions about the appropriateness of this method for value assessment of ecosystem services.”

Taxonomy of Values

The teleconference concluded with a short discussion of whether Part 1 Section 2.4 of the report should include a systematic taxonomy of different value concepts. The committee discussed the types of distinctions that members thought might be valuable to include (e.g., anthropocentric and non-anthropocentric value, individual vs. community or social value) and the rationale for including such a discussion in the report. One member stated a strong view that a major point of the report is the need for a clear distinction between different concepts of value and methods of valuation. Committee members noted that the current draft covers some of the desired points, but not all, and that many of the discussions of value appear in different parts of the report (e.g., page 6, sections 3 and 4). Dr. A. Myrick Freeman agreed to draft text for inclusion during the month of July.

Summary of Action Items

1. The DFO will develop a list of report recommendations that highlight recommendations relating to research and resources.
2. The DFO will work with the chair to schedule a teleconference to address research recommendations.

3. The DFO will work with the chair and vice-chair to include revised language about review of valuation methods on page 26 and in Section 5. by July 6.
4. Dr. Buzz Thompson will draft text for Section 5 reflecting committee discussions of the straw proposal by July 6.
5. The DFO will work with the vice-chair to populate currently empty rows in Table 6, given existing text in Appendix A by July 6.
6. Committee members will provide suggested edits for entries in Table 6, based on material existing in Appendix A by July 6.
7. Dr. Daniel will review the Appendix A section on socio-psychological method to identify if there is any text to add or change related to generalizing from existing applications of socio-psychological method to other contexts.
8. The DFO will ask Dr. Ascher for help in highlighting specific recommendations for the section on benefit transfer.
9. The DFO will work with Dr. Segerson to revise conclusions related to emergy on p. 241.
10. Dr. A. Myrick Freeman will draft text for inclusion in Part 1 section 2 on taxonomy of values during the month of July.

Respectfully Submitted:

/signed/

Angela Nugent
Designated Federal Official

Certified as True:

/signed/

Dr. Barton H. (Buzz) Thompson, Jr.
Chair
SAB Committee on Valuing the
Protection of Ecological Systems
and Services

List of Attachments

Attachment A: Roster of the SAB C-VPES

Attachment B: Federal Register Notice

Attachment C: Meeting Agenda

Attachment D: Attendees from the Public Who Requested or Were Provided Call-in Information

Attachment E: Comments received for Teleconference Call

Attachment F: Straw Proposal For Part 5

**Attachment A:
Roster of the U.S. Environmental Protection Agency
Science Advisory Board
Committee on Valuing the Protection of Ecological Systems and
Services**

CHAIR

Dr. Barton H. (Buzz) Thompson, Jr., Robert E. Paradise Professor of Natural Resources Law, Stanford Law School, and Director, Woods Institute for the Environment, Stanford University, Stanford, CA

VICE-CHAIR

Dr. Kathleen Segerson, Professor, Department of Economics, University of Connecticut, Storrs, CT

MEMBERS

Dr. William Louis Ascher, Donald C. McKenna Professor of Government and Economics, Claremont McKenna College, Claremont, CA

Dr. Gregory Biddinger, Coordinator, Natural Land Management Programs, Toxicology and Environmental Sciences, ExxonMobil Biomedical Sciences, Inc, Houston, TX

Dr. Ann Bostrom, Associate Professor, School of Public Policy, Georgia Institute of Technology, Atlanta, GA

Dr. James Boyd, Senior Fellow, Director, Energy & Natural Resources Division, Resources for the Future, Washington, DC

Dr. Robert Costanza, Professor/Director, Gund Institute for Ecological Economics, School of Natural Resources, University of Vermont, Burlington, VT

Dr. Terry Daniel, Professor of Psychology and Natural Resources, Department of Psychology, Environmental Perception Laboratory, University of Arizona, Tucson, AZ

Dr. A. Myrick Freeman, William D. Shipman Professor of Economics Emeritus, Department of Economics, Bowdoin College, Brunswick, ME

Dr. Dennis Grossman, Principal Associate - Biodiversity Protection and Conservation Planning, Environmental and Natural Resources Department, Abt Associates Inc., Bethesda, MD

Dr. Geoffrey Heal, Paul Garrett Professor of Public Policy and Business Responsibility, Columbia Business School, Columbia University, New York, NY

Dr. Robert Huggett, Consultant and Professor Emeritus, College of William and Mary, Williamsburg, VA

Dr. Douglas E. MacLean, Professor, Department of Philosophy, University of North Carolina, Chapel Hill, NC

Dr. Harold Mooney, Paul S. Achilles Professor of Environmental Biology, Department of Biological Sciences, Stanford University, Stanford, CA

Dr. Louis F. Pitelka, Professor, Appalachian Laboratory, University of Maryland Center for Environmental Science, Frostburg, MD

Dr. Stephen Polasky, Fesler-Lampert Professor of Ecological/Environmental Economics, Department of Applied Economics, University of Minnesota, St. Paul, MN

Dr. Paul G. Risser, Chair, University Research Cabinet, University of Oklahoma, Norman, OK

Dr. Holmes Rolston, University Distinguished Professor, Department of Philosophy, Colorado State University, Fort Collins, CO

Dr. Joan Roughgarden, Professor, Biological Sciences and Evolutionary Biology, Stanford University, Stanford, CA

Dr. Mark Sagoff, Senior Research Scholar, Institute for Philosophy and Public Policy, School of Public Affairs, University of Maryland, College Park, MD

Dr. Paul Slovic, Professor, Department of Psychology, Decision Research, Eugene, OR

Dr. V. Kerry Smith, W.P. Carey Professor of Economics, Department of Economics, W.P. Carey School of Business, Arizona State University, Tempe, AZ

CONSULTANTS TO THE COMMITTEE

Dr. Joseph Arvai, Professor, Environmental Science and Policy Program, and Department of Community, Agriculture, Resource and Recreation Studies (CARRS), Michigan State University, East Lansing, MI

Dr. Allyson Holbrook, Assistant Professor of Public Administration and Psychology, Survey Research Laboratory, University of Illinois at Chicago, Chicago, IL

Dr. Jon Krosnick, Frederic O. Glover Professor in Humanities and Social Sciences, Professor of Communication, Director, Methods of Analysis Program in the Social Sciences, Associate Director, Institute for Research in the Social Sciences, Stanford University, Palo Alto, CA

SCIENCE ADVISORY BOARD STAFF

Dr. Angela Nugent, Designated Federal Officer, 1200 Pennsylvania Avenue, NW
1400F, Washington, DC, Phone: 202-343-9981, Fax: 202-233-0643,
(nugent.angela@epa.gov)

Attachment B: Federal Register Notice

Science Advisory Board Staff Office Notification of Two Public Teleconferences of the Science Advisory Board Committee on Valuing the Protection of Ecological Systems and Services

[Federal Register: May 16, 2007 (Volume 72, Number 94)]

[Notices]

[Page 27563]

From the Federal Register Online via GPO Access [wais.access.gpo.gov]

[DOCID:fr16my07-71]

ENVIRONMENTAL PROTECTION AGENCY

[FRL-8315-4]

Science Advisory Board Staff Office Notification of Two Public Teleconferences of the Science Advisory Board Committee on Valuing the Protection of Ecological Systems and Services

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice.

SUMMARY: The EPA Science Advisory Board (SAB) Staff Office announces two public teleconferences of the SAB Committee on Valuing the Protection of Ecological Systems and Services (C-VPES) to discuss components of a draft report related to valuing the protection of ecological systems and services.

DATES: The SAB will conduct two public teleconferences on June 12, 2007 and June 13, 2007. Each teleconference will begin at 12:30 p.m. and end at 2:30 p.m. (eastern daylight time).

FOR FURTHER INFORMATION CONTACT: Any member of the public wishing to obtain general information concerning this public teleconference may contact Dr. Angela Nugent, Designated Federal Officer (DFO), via telephone at: (202) 343-9981 or e-mail at: nugent.angela@epa.gov. General information concerning the EPA Science Advisory Board can be found on the EPA Web site at: <http://www.epa.gov/sab>.

SUPPLEMENTARY INFORMATION: The SAB was established by 42 U.S.C. 4365 to provide independent scientific and technical advice, consultation, and recommendations to the EPA Administrator on the technical basis for

Agency positions and regulations. The SAB is a Federal advisory committee chartered under the Federal Advisory Committee Act (FACA), as amended, 5 U.S.C., App. The SAB will comply with the provisions of FACA and all appropriate SAB Staff Office procedural policies.

Background: Background on the SAB C-VPES and its charge was provided in 68 FR 11082 (March 7, 2003). The purpose of the teleconference is for the SAB C-VPES to discuss components of a draft advisory report calling for expanded and integrated approach for valuing the protection of ecological systems and services. These activities are related to the Committee's overall charge: To assess Agency needs and the state of the art and science of valuing protection of ecological systems and services and to identify key areas for improving knowledge, methodologies, practice, and research.

Availability of Meeting Materials: Agendas and materials in support of the teleconferences will be placed on the SAB Web site at: <http://www.epa.gov/sab/> in advance of each teleconference.

Procedures for Providing Public Input: Interested members of the public may submit relevant written or oral information for the SAB to consider during the public teleconference and/or meeting. Oral Statements: In general, individuals or groups requesting an oral presentation at a public SAB teleconference will be limited to three minutes per speaker, with no more than a total of one-half hour for all speakers. To be placed on the public speaker list, interested parties should contact Dr. Angela Nugent, DFO, in writing (preferably via e-mail) 5 business days in advance of each teleconference. Written Statements: Written statements should be received in the SAB Staff Office 5 business days in advance of each teleconference above so that the information may be made available to the SAB for their consideration prior to each teleconference. Written statements should be supplied to the DFO in the following formats: One hard copy with original signature, and one electronic copy via e-mail (acceptable file format: Adobe Acrobat PDF, WordPerfect, MS Word, MS PowerPoint, or Rich Text files in IBM-PC/Windows 98/2000/XP format).

Accessibility: For information on access or services for individuals with disabilities, please contact Dr. Angela Nugent at (202) 343-9981 or nugent.angela@epa.gov. To request accommodation of a disability, please contact Dr. Nugent preferably at least ten days prior to the teleconference, to give EPA as much time as possible to process your request.

Dated: May 9, 2007.
Anthony Maciorowski,
Deputy Director, EPA Science Advisory Board Staff Office.
[FR Doc. E7-9406 Filed 5-15-07; 8:45 am]
BILLING CODE 6560-50-P

Attachment C: Meeting Agenda

**EPA Science Advisory Board
Committee on Valuing the Protection of Ecological Systems and Services (C-VPESS)
Public Teleconference
June 13, 2007, 12:30 p.m. - 2:30 p.m. Eastern Time**

Purpose: The purpose of the teleconference is to discuss draft text developed by committee members for a draft report related to valuing the protection of ecological systems and services.

12:30 – 12:35	Opening of Teleconference	Dr. Angela Nugent, Designated Federal Officer
12:35 – 12:40	Review of Agenda	Dr. Buzz Thompson, Chair Dr. Kathleen Segerson, Vice- Chair
12:40 – 12:50	Public Comments	TBA
12:50 – 1:15	Discussion of Approach to Methods Presentation in report, (New Part 3 pp.112- 138, Table 5, p. 113, Table 6, p. 132; Appendix A, pp. 226-367) - Committee Discussion - Next Steps	Committee Dr. Buzz Thompson
1:15 – 1:40	Benefit Transfer (Part 1, Section 3, pp. 83-91) - Summary of written comments and response - Committee Discussion - Next Steps	Dr. William Ascher Committee Dr. Buzz Thompson
1:40 – 2:10	Rankings Based on Energy and Material Flow (Appendix A, pp. 235-241) Summary of written comments and response - Committee Discussion - Next Steps	Drs. Robert Costanza and Kathleen Segerson Committee Dr. Buzz Thompson
2:10 – 2:15	Discussion of Next Steps for Finalizing Report	Committee Dr. Buzz Thompson
2:15 – 2:30	Summary and Next Steps	Dr. Buzz Thompson

Attachment D: Attendees from the Public Who Requested or Were Provided Call-in Information

Wendy A. Eichorst
Lewis-Burke Associates, LLC

Tom Gulbransen, Battelle,

Andrea Hunt, Malcolm Perny

David Nicholas
OSWER, EPA

Pat Phibbs-Rizzuto
Chemicals, Science Policy Reporter
BNA, Inc.
Daily Environment Report

Anne W. Rea, Ph.D.
Sector-based Assessment Group
Office of Air Quality Planning and Standards, EPA

Matt Shipman
Risk Policy Report

Scott Slaughter
Center for Regulatory Effectiveness

Katherine von Stackelberg, Sc.D.
Harvard Center for Risk Analysis
Harvard School of Public Health

Barbara T. Walton, Ph.D., D.A.B.T., M.B.A.
ORD, EPA

Attachment E: Compilation of Comments from Members and Consultants of the C-VPESS

Comments from A. Myrick Freeman, received June 13, 2007

Angela,

Here are some comments on Part 3. I am still going through this, so there might be more later. But in the interest of getting these ideas out, I am sending this now and CCing the Committee as a whole (with a corrected mailing list).

I. Table 5:

1. For Embodied Energy Analysis and Emergy, in the column labeled "Does method measure observed ... ," delete the phrase "and degradation of the natural world," since neither method focuses explicitly on degradation.

2. Under Economic Methods, Survey questions measuring stated preferences, in the column for : "Form of output/units," replace "w-t-p" with "WTP."

3. For Decision-aiding/Structured Decision Making, under "Who expresses value?" shouldn't it be "Selected stakeholders" rather than "Public"?

4. For HEA, under "Who expresses value?" shouldn't it be "Experts in ecology"?

II. Summary and Recommendations: There is a lot of confusion about terminology, I think. In particular, I think that "values" and "methods" refer to different categories of things. Yet these terms seem to be used interchangeably here. Examples include:

1. P. 130, lines 15-22: This passage is confusing to me because of its misuse of terminology. The first sentence refers to different methods. Then the second and fourth sentences shift to talking about different values. But nutrient cycling is not a type of value; it is an ecosystem function. I can't propose alternative wording because I don't understand what this passage is supposed to convey.

Also, the third sentence is about recreation services and suggests survey methods be used. But survey methods is a very broad category, encompassing several different rows in Table 5; and recreation services

can also be valued with travel cost methods.

2. P. 130, lines 22-24: Legal constraints affect the choice of value concept, not the choice of method. OMB wants economic values, and they can be measured by several different methods. I can't think of a legal constraint that dictates the use of a specific method.

III. Also in this section: p. 130, lines 28-31: I would agree that sometimes EPA must decide whether the cost of using a state-of-the-art valuation method is worth it in terms of the information gained for decision making. But this sentence seems to be saying something different; and I don't understand what it is trying to say.

Rick

ATTACHMENT F: STRAW PROPOSAL FOR PART 5 (CONCLUSION)

Focus on what is different about the approach described in the C-VPES Report and what it offers EPA and the public (drawing on C-VPES Discussion from May 1-2, 2007 Meetin)

What is different?

- . • Approach encourages “ thinking big”— trying to understand changes in ecosystems and services related to EPA actions as completely as possible/useful for the decision to be made and in terms of what matters to people
- . • Analysis driven by conceptual model of ecosystems and ecosystem services, not by tradition of what has worked in the past or available data
- . • Explicit recognition of multi-dimensional nature of value. Conscious choice of methods to assess value(s) of interest.
- . • Partnership across disciplines throughout the process
- . • Partnership between experts and publics. High quality, meaningful valuations cannot be performed by experts or publics alone
- . • Transparency about what methods are able to measure, assess and what they’re not (breaking valuation out of the black box)
- . • Experimentation with new methods (e.g., citizen juries, deliberative processes); more sophisticated use and discussion of older methods (e.g., surveys)
- . • Increased, improved information sharing about the use of methods - - across different programs, different places, different scales, so that the practice of valuation is enriched.

What can the approach offer EPA and the public?

- . • More robust ecological valuation information can help EPA and the public be more proactive in ecological protection
- . • Valuation related to ecosystem services can help incorporate consideration of ecosystem services in environmental protection decisions
- . • Approach would help to educate publics about ecosystem services and their importance
- . • Clearer communication about valuation and more chance for public involvement in valuation in a meaningful way builds trust in Agency science and decision-making

Crosswalk of major report recommendations discussed at May 1-2 2007 Meeting against Major Recommendations in Different Parts of the Draft C-VPES Report

Recommendation	Part 1	Part 2	Part 3	Part 4	Part 5
1. Think big—trying to understand ecological systems and services as completely as possible/useful and what matters to people...analyze changes related to EPA actions	included	included	included	included	
2. Highlight the concept of ecosystem services and provide a mapping from changes in ecological systems to changes in services or ecosystem components that can be directly valued by the public; a. Start out with a conceptual model that captures all ecological services of concern and mapping b. Conduct valuation looking at multi-media impacts c. Make sure you have the top and bottom of the diagram and linkages between them (production function linkages) (Part 2) d. Use ecological valuation information to be proactive in environmental protection	All included except for d	2(a) included but not much on d	Doesn't address a,b,c,d	All Included except for)	

6/8/2007Draft - SAB Staff-generated document developed at the Request of the C-VPESS Chair for discussion at the June 12, 2007 public teleconference of the SAB Committee on Valuing the Protection of Ecosystems and Services 6/8/2007Draft - SAB Staff-generated document developed at the Request of the C-VPESS Chair for discussion at the June 12, 2007 public teleconference of the SAB Committee on Valuing the Protection of Ecosystems and Services

Recommendation	Part 1	Part 2	Part 3	Part 4	Part 5
3. Expand the range of ecological changes that are valued, focusing on valuing the ecological changes in systems and services that are most important to people and recognizing the many sources of value, including both instrumental and intrinsic values a. Requires input from interdisciplinary group of scientists and stakeholders (pro-active education)	included	3 included but (a) not covered – re need for pro-active education	Doesn't come through	Included	Could address 3(a)
4. Utilize an expanded set of methods for identifying, characterizing, and measuring the values and services associated with these changes. a. Recognize that value is multi-dimensional; make conscious choice about methods appropriately based on values and context of decision b. Utilize local and regional opportunities to further develop an expanded set of methods that can be transferred to the national level c. Communicate clearly what methods measure and do not measure d. Don't limit valuation to what is able to be monetized —implement	Included	No generally except for (c) (in Uncertainty and communication section)	Included for 4, (a),(c),(e); doesn't cover (b) or (d)	Included for 4, (b),(d),(e); doesn't cover (a) or (c)	

Circular A-4 in reverse order—analysis resources should be distributed to reflect range of services and communication reflect full range of services e. Information sharing within EPA and with other Agencies					
5. Involve an interdisciplinary collaboration among physical/biological and social scientists and solicit input	Included	Included	Not included	Included	

Recommendation	Part 1	Part 2	Part 3	Part 4	Part 5
from the public or representatives of individuals affected by the ecological changes from the outset of valuation effort					
6. Possibly group recommendations regarding learning within Agency Use broadened set of methods; accumulate experience and information that can be used in rulemaking by using them in other contexts	Included	Included (Benefit transfer section)	No	Included	
Other points from the Meeting					
-The importance of partnership between publics and experts	Included- but could be stronger	Included (ecosystem services)	No	Included	

-Communications	Included	Included	Only some methods (sociopsych, mediated modeling)	Included	
-Importance of context	Included	No	Included	Included	