

Comments from Members and Consultants of the SAB Committee on Valuing the Protection of Ecological Systems and Services (C-VPESS) on the 6/05/07 draft report for discussion at the June 12, 2007 C-VPESS public teleconference call.

Comments received as of 8:30 a.m. Tuesday, June 12, 2007.

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### A. Overview of Key Concepts, (Part 1, Section 2, pp. 10-20)

#### Comments from Doug MacLean

#### Some Comments on Part I, section 2

#### Douglas MacLean

I think this version is much improved. I like the overall organization, and I am happy to see “value,” “valuation,” and “benefits” more clearly defined. Although the entire section can still benefit from some heavy editing for style, I have a few comments – including some mainly stylistic suggestions – to offer.

p. 10, line 20: Although it will read less elegantly, “well-being” should be substituted for “welfare.” I prefer a consistent use of terms, and “well-being” is the term that is used in other places in this section.

p. 11, line 18: where the phrase reads “...can ensure appropriate...” substitute “...can help to ensure appropriate...” If this change introduces too many uses of the word “help” in the space of three lines, then I’d recommend deleting the word “help” from line 19.

p. 12, lines 4-6: I find this sentence both awkward and misleading. I don’t think it’s correct to regard the distinction between what we value as an end and what we value as means to be “two notions of value.” I suggest replacing the whole sentence that reads “A basic distinction ... (means to an end).” with: “We can distinguish those things we value as ends or goals from those things we value only as means.” (I think this change makes a better transition to the sentences that follow, too.)

p. 12, line 27: Replace “generate” with “contribute to”

p. 12, line 29: Replace “related” with “relate.”

p. 13, lines 10-11: I recommend deleting the sentence that states, “In contrast, if something is an end in itself this implies that tradeoffs are not acceptable.” Or replace it with a different sentence. In the previous sentences, we have characterized instrumental value as value that permits substitutability. The contrast would be that something that is valued in a different way (e.g., as an end) does not permit of substitutability. I think I can live with that. This is not to say whether we can make tradeoffs. I think that it does make sense to speak of rational tradeoffs among things we value as ends. This is different from substitutability. I will illustrate with two examples: (1) Suppose I value gardening as an end, and I value reading fiction as an end. (I know that some people will think that I value both activities as means to my well-being, but I think many people would agree with me that this gets things backward and that it makes sense to think of valuing such activities as ends.) I could decide to spend my entire weekend gardening; or I could decide to spend my entire weekend reading I’d gladly do either, but it would mean foregoing one of the activities I value as an end. Neither activity substitutes for the other – the pleasures each give are very different. I decide to garden on Saturday and to spend Sunday reading. I have made a tradeoff. (2) Suppose I value undeveloped tracts of land in my community because of their natural beauty. Suppose I also value economic growth in my community, and land for development is scarce. I might decide to support a measure that protects some of the undeveloped land while allowing building to take place on other tracts. I have made a tradeoff, but I don’t think I’ve made any substitutions.

p. 14, lines 7-8: The sentence “It does not make sense to attempt to quantify the ‘intrinsic value’ of something.” is not obviously true. In fact, I think it is false. Physical pleasure has intrinsic value, i.e., it is something that it makes sense to value as an end or for its own sake. But surely I can quantify some pleasures (especially when they are of the same kind). Some are more intense than others, some longer lasting, etc.

p. 15, lines 2-5: This sentence claims that revealed preference methods examine choices that people make “in real-world settings where they are maximizing their well-being (utility).” This claim is controversial; I think it is false. Suppose I receive a solicitation from an environmental group asking me to make a donation to support a campaign aimed at stopping the clubbing of seals in the Arctic. I write a check and make a donation. It seems to me that revealed preference theory might say something about how the amount of money I was willing to pay indicates the strength of my preference for stopping the practice of clubbing seals, and it might relate that preference to other preferences I express, including those aimed at my own well-being. But this particular preference has nothing to do with my well-being. I don’t believe that I will benefit in any way from the cessation of this practice. When I decide how much to contribute, I am not thinking in any way of how my well-being will be enhanced. Some of my preferences are for things I value altruistically.

p. 19, line 11: Replace “tenant” with “tenet.”

p. 20, line 3: insert “of concern” between “source” and “relates.” Thus: “The second source of concern relates to...”

Comments from Terry Daniel

P 14, line 6-10

Valuation actually measures relative value in terms of the trade-offs between items that  
7 provide contributions to a goal or end (instrumental value). It does not make sense to  
8 attempt to quantify the “intrinsic value” of something. Only after one has defined the goal  
9 or end does it make sense to quantify the value of items as their contribution toward  
10 achieving that goal (Costanza 2000). [But does it not make sense to quantify/measure the  
relative importance of one end-goal versus another in a given circumstance? Or, does such a  
comparison presume some over-arching “ultimate desideratum” such as the economists’ utility  
or satisfaction or the psychologists’ happiness or self-actualization?]

P 14, line 20-28

Valuation can be expressed in different ways. ~~including monetary units, physical  
21 units, or indices.~~ Economists have developed a number of valuation methods that typically  
22 use metrics expressed in monetary units (“monetary valuation”) while social scientists,  
ecologists and others  
23 have developed measures or indices expressed in a variety of ~~non-monetary~~ units, such as  
24 relative preference or importance ratings or biophysical indices which can be ~~trade-offs.~~  
~~When these measures or indices are~~ used to make judgments about  
25 which outcomes are preferred. ~~these measures are considered a form of “non-monetary  
26 valuation.”~~ For example, landscape management alternatives might be measured in terms of  
27 how well they do in conserving biodiversity, where ~~landscape management~~ alternatives that  
28 conserve more biodiversity are preferred (i.e., more valuable).

P 15, line 2-5

Revealed preference methods  
3 involve the analysis of choices that people make in real-world settings where they are **assumed  
to be attempting to**  
4 maximize **ing** their well-being (utility) subject to a variety of constraints, including limited  
5 income, prices for market goods, and so forth.

P 15, line 23-30

~~Similarly,~~ Social-psychological  
24 methods for valuation rely on **the more limited assumption that** individuals ~~being~~ are well-  
informed about **and can express relative preferences for** the alternatives they  
25 are being asked to value. These assumptions are problematic in two respects when it  
26 comes to applying valuation methods to ecosystems or services. First, individuals might  
27 act as if they place no value on an ecosystem service if they are ignorant of the role of that  
28 service in contributing to their well-being. In that case, the monetary values that are inferred  
from ~~choices that are analyzed in~~  
29 revealed or stated preference methods, or the relative preferences obtained by ~~those of~~ social-  
psychological methods, **will not accurately**  
30 reflect the contribution that the ~~true value of the~~ ecosystem service **makes to their well-being  
or other goals.**

P 15, line 30 P 6, line 5

30 reflect the true value of the ecosystem service. In ~~these cases of methods other than revealed~~  
~~1 preference methods~~, it might be possible to provide the individual with information about  
2 the ecosystem service before ~~or at the time of asking~~ the valuation questions. Second, when  
people have  
3 limited information about ecosystem services and ill-formed preferences their preferences  
4 may need to be “constructed” through various forms of discourse.

[The need for relevant information applies equally to revealed preference methods—consider the effects of product labeling, especially viz. impacts on threatened species (e.g., on tuna), “green” certifications, carbon units, etc.]

P 16, line 28-30, P 17 line 1-4

28 benefit. For example, counting the value of pollinators ~~that increase agricultural output and~~  
29 as ~~a pollination an ecosystem~~ service to agriculture, as well as counting the value of the  
agricultural output, would ~~be~~ double  
30 counting ~~a portion of~~ the value of the pollination services. ~~agricultural production.~~  
Of course, pollinators do provide ecosystem services other than increasing agricultural  
production, such as maintaining specific wild species for aesthetic and existence values and  
increasing biodiversity more generally.

... If the question of interest is to

1 know the benefit of pollinators ~~to agriculture specifically~~, then the answer is to find the  
increase in production value

2 with pollinators versus without. On the other hand, if the question is to know the benefits

3 created by an agro-ecosystem, then the answer to is find the total value of production ~~for that~~  
~~system.~~

4 Either approach is valid but combining them is not valid.

P 18, Table 1

~~Non-monetary Valuation: Valuation in which the measure is a non-monetary unit.~~

[The point is that we do not need a special term for all valuation metrics other than money.  
There are currently 19 instances of the term in the report, and all could be avoided easily by  
substituting “and other” (as in “monetary and other valuation methods ...” or simply by referring  
to “valuation methods” (rather than “monetary and non-monetary methods”).]

P 19, line 18-23

18 For complex problems such as ecosystem protection, ~~majority values or~~ values

19 held by the general population, given ~~that~~ their current ~~understanding of ecological systems~~  
~~information which~~ may be far from

20 perfect, are ~~therefore not always an~~ ~~not appropriate as a sole basis~~ for public policy decisions.

21 Concerns about basing policy decisions on values expressed by individuals from the

22 general population stem from at least two sources: (1) ill-formed or missing preferences;  
23 and (2) poor or incomplete information.

P 20, line 19-28

19 Policy-makers should look for which of these methods, or what combination,  
20 might give the best assessment of the values of ecosystems and services in particular  
21 circumstances. In circumstances where ~~the~~ lay individuals ~~can be expected to be~~ ~~are~~ well  
informed and ~~to~~ have well  
22 formed preferences for the values in question, ~~they~~ decision makers should put more weight  
on ~~valuation~~ the publics'/stakeholders'  
23 ~~methods such as~~ revealed or stated preferences ~~methods or~~ as measured by economic or  
social-psychological methods.  
24 In circumstances where individuals are ill-informed or have ill-formed preferences,  
25 policy-makers should ~~give greater weight to expert scientific opinion as expressed through~~  
~~bio-ecological valuation methods,~~ ~~and~~ while also investigating methods for more ~~to~~ effectively  
linking public and expert judgment-based methods, ~~consistent with a public agency's obligation~~  
~~to aggressively pursue public education and involvement. —that measure values~~  
26 ~~of outcomes with expertise of the scientific community to directly model the connections~~  
27 ~~between alternatives and outcomes.~~ Given the uncertainties involved, a judicious use and  
28 comparison of methods is justified.

## B. Predicting Effects on Ecological Systems and Services (Part 2, Section 2, pp. 50-82)

### Comment from Terry Daniel

P 51, the figure

[We should create our own figure here, as an adaptation of the Covich et al. figure. In so doing, we could label the upper endpoints as ecosystem services, to be more consistent with our approach in the report. We might also clear up a few other items in the figure, such as the additional arrows suggested by Bob C. There is also some ambiguity about the large input arrows at the bottom from “Nutrient Loading” (could this be from “natural background conditions”) and the large input arrows on the right side from “Waste disposal” and “Terrestrial Input ...” (are these human inputs or “stressors”?). Perhaps there is an opportunity here to incorporate some of the issues raised in the figure Greg B. suggested, such as distinguishing human introduced or managed stressors on the system, and more clearly emphasizing our focus on changes in ecosystems and services.]

P 63 line 15-19

15 health outcomes are necessary. These outcomes are now understood by disciplines as  
16 different as pulmonary medicine and urban economics (EPA SAB, 2002). The search for  
17 common outcomes that can be valued will be ~~even more~~ especially important in the  
ecological

18 realm, where biophysical processes and outcomes ~~are even more~~ can be highly varied and  
complex. ~~than~~  
19 ~~in the human body.~~

[The original text seems to make rather strong (and unnecessary) claims about relative importance of valuation and about relative complexity in ecosystems versus human physiology/psychology that may not be accepted by everyone—and that certainly does not apply in every instance.]

P 64, line 8-10

8 public communication about what in nature is being gained and lost. While achieving  
9 agreement on a common list might be an important ultimate goal, it is likely to be ~~even~~  
10 ~~more~~ difficult for complex ecological systems, and there is a danger that converging  
prematurely on a limited list of services could misdirect valuation efforts and miss important  
intermediate and end services. ~~impacts than in the context of human health impacts.~~

P 72 Figure

[Again the figure does not sufficiently emphasize changes in ecosystems and services and it does not show any input of either human stressors or management actions that might protect or enhance the systems and its services. Again, features of the figure suggested by Greg B. might be useful here.]

P 75, line 10-24

A couple of specific examples of indicators would really help to clarify this presentation.

Comment from Hal Mooney

I did glance through the draft though and noticed that the first version of the functional grouping figure I sent you was included rather than the second which I sent soon after. In any event, it is attached ...

