**Outline for Initial Report from SAB Committee on Valuing the Protection of
Ecological Systems and Services**

**Proposed Title: <u>Valuing the Protection of Ecological Systems and Services:
Overview of the Problem and Possible Solutions</u>**
(20-25 page document, with cover letter and executive summary)

1. Committee's charge: provide advice for EPA
    a. Details/history regarding establishment of committee
    b. Statement of charge/broad scope (what are we trying to do?)
    c. Audience (who are we trying to do it for?)
    d. What can committee realistically do, given time and resource constraints?
    **e. Value added, given what's been done already? (How different? How
        does this go beyond what's been done?)**

2. Why is it important for EPA to value the protection of ecological systems and
    services?
    a. What is an ecosystem and what services do ecosystems provide? (give
        definitions and examples   (*Shall we adopt the MA "provisioning,
        regulating, cultural, and supporting" framework?*)
    b. Concepts of Value – a short summary of the ideas Doug has been working
        on, emphasizing the means <u>vs.</u> ends, the need to be clear about "reasons"
        because different reasons lead to different methods, Differences of
        opinion about appropriate "reasons" (in MacLean's sense).   Also
        differences about the validity of some of the premises (e.g.,
        individualistic) and assumptions (people have stable, well-formed
        preferences) underlying the economic approach. Concluding that we
        focus on valuing ecosystems as means for something.
    c. Why do people value ecosystems and their services? (list different
        reasons, why are ecosystems and their services important? Put more
        detailed discussion in appendix?)
    d. Why is it important to have information about the value of ecosystems and
        their services? EPA's actions either lead to changes in the conditions of
        ecosystems, etc., or prevent changes that otherwise would have occurred.
        Thus the problem is assessing differences in conditions with <u>vs</u>. without
        the EPA action. (how might information be used? What can happen if we
        don't have any information about these values)
    e. Why is it difficult to value changes in ecological systems and services?
        [identify some of the major challenges: agreement on reasons, predicting
        outcomes (ecological models – strengths and limitations); finding
        measures that are commensurable with values of non-ecological changes
        caused by EPA actions, such as human health]

3. Specific EPA needs?
    a. Within different contexts (e.g., national rule making, regional needs,
        performance measures)

  b. Perceptions of EPA staff (from Jim Boyd's interviews; give overview of "lessons", with details in Appendix)

4. Current State-of-the-Art:
  a. Overview of Different valuation Methods.
   (i) economic – anthropocentric, utilitarian, individualistic
   (ii) all the others
  b. What has been done in past efforts (use summary of CAFO as example?) (Monetize things that are easily monetized even if they aren't the most important; either ignore benefits that can't be quantified or just list them qualitatively and then ignore or include in +B)
  c. Need for a more comprehensive framework for valuation. Need for a framework for valuing the protection of ecological systems and services that integrates ecological analysis with valuation (conceptual diagram)
  d. Need to expand the range of services that are included in benefits assessment and valuation
  e. Need to let important impacts drive analysis rather than having analysis driven by available tools and data
  f. Need to explore additional (non-economic and/or non-monetary) methods for describing value
  g. Need to formulate valuation problem within specific EPA context, since different contexts have different needs
  h. Need to appropriately address cross-cutting issues such as uncertainty, scale (temporal, geographic), and heterogeneity (spatial variability, heterogeneity across people)

5. Related Efforts
  a. Within EPA (related efforts – e.g., EBASP, Risk Assessment)
  b. Outside EPA (e.g., NRC, MA)

6. Plans for additional C-VPESS reports/report components (*Should this section be included? If so, how?*)