

Peer Review Process for DRERIP Ecosystem Element Conceptual Models

Purpose

This review is designed to ensure the completeness and scientific integrity of the DRERIP conceptual models in a timely and efficient manner for both reviewers and model developers.

The Process

- A Review Panel of knowledgeable individuals in the fields covered by the models who have not been involved in model development will be selected by the AMPT. The Panel should be relatively small, e.g., 6-8 people, and will be supported by DRERIP staff and AMPT members (not the AT leaders) as necessary.
- The Review Panel will receive completed drafts of the conceptual models at least 2 weeks prior to the panel meeting. Up to two primary reviewers for each CM will be identified. However panel members are encouraged to review all models, or any closely related to those for which they are Primary reviewer. A list of review questions will be developed by the AMPT (see example below)
- The panel meeting will be conducted in four phases:
 - Panel meets in plenary session and discusses their preliminary observations, common weaknesses and strengths, and key issues to be discussed with the model developers (half day)
 - The model developers provide short presentations to the Panel and the panel discusses their initial observations and key issues with the developers. The Primary reviewer is responsible for tracking the content and out come of the discussion (half day)
 - The Panel meets without the developers to discuss the outcomes and identify key areas where models need to be improved/modified to ensure completeness and scientific integrity (1-2 hours – evening?)
 - Primary reviewers meet with the developers and discuss specific approaches/modifications that would be needed to address the Panels concerns (<half day in breakout or one-on-one sessions).
- The Primary reviewers are responsible for reporting the initial observations, the discussion with the modelers and the modifications and changes which should be expected.

Outcomes

- Commentary on the quality of the draft
- Discussion of weaknesses and strengths
- Specific recommendations for changes.

**Ecosystem Element Conceptual Model Review Form:
Delta Regional Ecosystem Restoration Implementation Plan (DRERIP)
Ecosystem Element Conceptual Models**

IMPORTANT: Prior to reviewing any models, please read through the following documents attached to this form: *Framework for the Development of Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) Ecosystem Element Models; The Vetting Process; and Guidelines for External Scientific Review of Proposals*. Complete this review form by entering information and your evaluation in the appropriate space after each question. Return the form as a word document to ambarnes@ucdavis.edu. Please call Allen Barnes at (530)757-8574 if you have any questions.

Conceptual Model Title:

Reviewer:

Affiliation:

Conflict of Interest Statements:

I have no financial interest in this proposal.

- Correct
- Incorrect

In the blank below please explain any connection to species life history conceptual model, to model developer or to submitting institution (write "none" if no connection):

Conceptual Model Review:

A. Presentation of narrative and graphical components

1. Is the conceptual model narrative accurate, complete, and easily understood? Does the conceptual model narrative refer to the graphical component (i.e. conceptual model figure)? Is the conceptual model figure well-designed and clearly presented? What changes would improve its clarity?
2. Is the source of the information used to support the linkages described in the model (e.g., published literature, workshop reports, and expert opinion) provided? Is the importance of each linkage identified? Is the certainty and predictability of the linkage described and supported by citations as appropriate?

3. Does the model adequately describe the important drivers, linkages and outcomes related to the dynamics of the ecosystem element within the Delta? Does the model include extraneous information concerning the dynamics of the ecosystem element beyond the Delta? Does the conceptual model describe the linkages that influence the ecosystem element, including pertinent geographic locations? Among the critical drivers and linkages identified that dictate function, does the model provide quantitative (or qualitative) information that can be used to evaluate the relative influence of each parameter on this outcome variable? Are any measures of certainty (confidence intervals, discussion of scientific consensus, etc.) that can be ascribed to each parameter provided within the model? Does the conceptual model indicate the effects, sensitivity, and direction of effects in relative to changes in individual drivers? Does the conceptual model identify the critical temporal and spatial junctures where the ecosystem elements are most important to species recovery and sustainability? Does the conceptual model also highlight the possible limiting factors?
4. Is the graphic useable by an individual knowledgeable in the field without the narrative? Is the format easy to understand? Does the narrative adequately support the dynamics of the ecosystem element shown in the graphic?

B. Scientific support, information gaps and scientific uncertainties

5. Does the conceptual model appropriately identify the assumptions, areas of disagreement, and gaps in the state of knowledge? Does the conceptual model accurately describe what is known about this ecosystem element, and how certain scientists are that the system performs or behaves in the manner described in the ecosystem?
6. Does the conceptual model identify monitoring or research needs that can help address uncertainties or data gaps? What would you recommend adding or changing to address uncertainties and how they would be addressed in the future?

C. Forcing functions and uncontrollable factors

6. Does the conceptual model allow for evaluation of the dynamic nature of the ecosystem element, including the role of uncontrolled drivers (e.g., local and global weather patterns)? Does the conceptual model allow for evaluation of the nature of long-term population trends and the extent and source of variability in those trends?