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TO: Russ Henley, CA Dept. of Forestry and Fire Protection
Fire and Resource Assessment Program

I have completed the peer review of the KRIS Gualala products produced by the Institute for Fisheries Research. I utilized the services of four anonymous peer reviewers, as is customary for many scientific journals. Each of the peer reviewers has a Ph.D. in some important natural resource discipline important in watershed assessment and analysis (watershed management, geology, fisheries).

The reviewers were asked to focus on the content of the material more than the functionality of the KRIS system itself. They were asked to look at the "Area and Topic" section and at the "Analysis" section in particular. We asked the reviewers to evaluate the quality and utility of the data and information presented in the KRIS Gualala Topics and Hypotheses. Some of the questions posed to the reviewers included:

- Are useful presentations and reasonable interpretations of the data made?
- Do the conclusions drawn, in the Topics (e.g., in the interpretive captions provided for graphs, pictures, etc.) and in the Hypotheses, reasonably follow from the data and scientific information provided?
- Are the scientific bases used to support interpretations and conclusions appropriate?
- Are there critical scientific underpinnings that are missing?
- Does the structure lend itself to consideration of multiple factors and influences?

I will summarize some of the overall findings of the peer review. In addition, I have attached the comments of the four reviewers which has much more detailed information. I have also attached a copy of some hand marked notes on the various hypotheses that have some important comments on wording.

There did seem to be a general positive assessment of the general KRIS Gualala system. The reviewers as a whole seemed to find the general presentation of the material, the maps, photos, and text, to be helpful in assessing the Gualala. In general, the reviewers felt that there was a good compilation of the information, and that the overall website is to be commended for pulling this together in one place.

There was a mixed response to the six hypotheses posed. Although they were generally viewed positively, both reviewers 2 and 4 raised some serious points about their wording. Both pointed out that several of the hypotheses actually were structured as a chain of causation. For example, in hypothesis 1, there was a statement that fish are declining, and the cause was due to historic and recent land use. This really is two different hypotheses – 1) fish are declining; 2) fish decline is due to land use change. I would suggest that the team look carefully at the points raised by the reviewers on this point in the attached material, and consider if rewording might help clarify these points. Reviewer 4 has some important thoughts about the role of ocean fishing, and suggests an alternative hypothesis in his/her comments. In general, there was a lack of rigor in the analysis section. Many statements are not well-supported. Several examples are provided in the specific comments of the reviewers. More effort is needed on the technical accuracy of statements presented.

Shown below are some points raised by the reviewers that should be considered:

- Reviewer 4 made some significant comments about the temperature section. He/she points out that the references on temperature used in the write-up may not be accurately portrayed. The team should look closely at these points in the attached comments. The reviewer suggests modifying the language about the role of convection and direct solar radiation and provides some suggestions.
- Some gaps in the data that are not included are the role of migration barriers and cold pools.

- There is some concern by reviewer 1 about changing fish composition, such as the increasing numbers of sculpins.
- There was limited use of geology and soils information throughout report. Slope stability was based entirely upon SHALSTAB, which reviewer 2 feels is not complete. More is needed on the geologic framework of landsliding patterns.
- Although the reviewers point out the inherent difficulties in evaluating interrelated processes and cumulative effects, reviewer 2 feels that these are not as effective in this analysis as the EMDS framework used by NCWAP.

The final write-up needs to be careful in the various background material provided to point out where there are hypotheses. Several of the reviewers point out examples where hypotheses posed are presented as fact. There are other suggestions by reviewers on wording in background and captions that will help to clarify the points.

The KRIS Gualala team is to be commended for developing a fine set of products that will be of value to North Coast Resource Managers. These comments should be considered by the team to help clarify points made by the products, and to attach appropriate sideboards to the statements made.

Please let me know if you have any questions about this review, and if you desire any additional material from the review team.

Sincerely yours,

Richard B. Standiford
Associate Dean of Forestry