

Proposal Reviews

#93: Watershed Mass Balance Model and Protocol Development

Montgomery Watson Harza

Research and Restoration Technical Panel Review

Delta Regional Review

San Joaquin Regional Review

Sacramento Regional Review

External Scientific Review

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Environmental Compliance

Budget

Research and Restoration Technical Panel Review:

CALFED Bay-Delta 2002 ERP PSP Research and Restoration Technical Panel Review Form

Proposal Number: 93

Applicant Organization: Montgomery Watson Harza

Proposal Title: Watershed Mass Balance Model and Protocol Development

Review:

Please provide an overall evaluation summary rating:

Superior: outstanding in all respects;

Above Average: Quality proposal, medium or high regional value, and no significant administrative concerns;

Adequate: No serious deficiencies, no significant regional impediments, and no significant administrative concerns;

Not Recommended: Serious deficiencies, significant regional impediments or significant administrative concerns.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Superior	
-Above average	Regional and external reviewers uniformly ranked this proposal low. It is not likely to result in significant advances in predictive watershed modeling. The data evaluation activities proposed are not central to the larger goals of the CALFED program.
-Adequate	
XNot recommended	

1. **Goals and Justification.** Does the proposal present a clear statement of goals, objectives and hypotheses? Does the proposal present a clear justification and conceptual model for the project?

The proposal fails to address key questions that justifies the need for this project, such as: what are the management needs for a model like this, how would this tool help citizen groups or water managers in the watershed, and what level of precision is needed for a model. Little novel information will be generated in the project, and it seems unlikely to meet the needs of decision-makers.

2. **Likelihood of Success (Approach, Feasibility, Capabilities and Performance Measures).** Is the project likely to succeed based on the approach, feasibility and project team capabilities? Are the proposed performance measures adequate for measuring the project's success?

Technical aspects of the proposed research are feasible. Project-specific performance measures are insufficient. It appears that more people are involved than is warranted by the nature of the project.

3. **Outcomes and Products.** Will the project advance the state of scientific knowledge in general and/or make an important contribution to the state of knowledge of the Bay-Delta Watershed? For restoration proposals, is the project likely to contribute to ecosystem restoration or species recoveries in a significant way? Will the project produce products useful to decision-makers and scientists?

It is not likely that the project will advance the science or produce a product needed by decision-makers.

4. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The project appears very costly given what the products will be.

5. **Regional Review.** How did the regional panel(s) rank the proposal (High, Medium, Low)? Did the regional panel(s) identify significant benefits (regional priorities, linkages with other activities, local involvement) or impediments (local constraints, conflicts with other activities, lack of local involvement) to this proposal? What were they?

Regional panels ranked this proposal uniformly low. The project is not linked with restoration projects underway in the watershed, usefulness in other watersheds is questioned, and there was concern about the ability to get groundwater data. The project does not seem to be relevant to CALFED priorities.

6. **Administrative Review.** Were there significant concerns about the proposal with regard to the prior performance, environmental compliance and budget administrative reviews? What were they?

No review of prior performance. No problems with environmental compliance. The only budgetary concern was that the total funds requested do not equal the combined total annual costs in the summary.

Miscellaneous comments:

None

Delta Regional Review:

Proposal Number: 93

Proposal Title: Watershed Mass Balance Model and Protocol Development

Overall Ranking: Low -Medium -High

Provide a brief summary explanation of the committee's ranking:

The regional panel feels that the UCRW model that will ultimately be developed (i.e., in a later phase) will not be very applicable for making management decisions in the Cosumnes River watershed.

1. Is the project feasible based on local constraints?

Yes -No

How?

This phase of the project concerns assessing hydrologic data from the Upper Cosumnes River Watershed, which means the data set should be relatively small and easy to handle. The applicant implies that at least some data exists; identifying "data gaps" is actually part of the project.

The applicant states that "existing DQO protocols, such as U.S. EPA's recently published Guidance on the Data Quality Objectives Process (August 2000) will be consulted and adapted to the data associated precipitation, ground water flow, surface water flow, evapotranspiration, and hydrogeology or water inventory."

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

Yes -No

How?

This project fits under the following (from the Restoration Priorities for the Delta and Eastside Tributaries Region), partly because in later phases of this project "subject protocols and the UCDHRL model can be applied to any or all watersheds in the CALFED Bay-Delta Program resulting in enhanced monitoring and management of watershed productivity:"

"8. Understand the implications for Delta water issues of climate and hydrologic variability

· Studies to better understanding climate variability. Studies of climate variability should include controlling factors and linkages to issues throughout the watershed that are especially critical for the Delta. Climate variability is a confounding factor in interpreting the success of CALFED Program actions, therefore, understanding interactions between climate change, hydrologic variability and the issues that will affect the CALFED Program success are important."

Also from the Restoration Priorities for Multi-Region Bay-Delta Areas:

"6. Ensure recovery of at-risk species by developing conceptual understanding and models that cross multiple regions

· Knowledge for conceptual models that illustrate linkages within the systems. A particular need exists to compare conceptual models and develop common restoration performance measures for tributary streams in the Sacramento and San Joaquin river basins. An important initial need is for studies that develop these integrated interdisciplinary knowledge that can be use for these conceptual modes, describing the existing and restored ecosystems in each of these streams."

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

XYes -No

How?

This phase of the project is intended to develop protocols for collecting watershed data. These protocols should be usable in watersheds other than the Cosumnes River; the applicant indicates that this is the intent.

4. Does the project adequately involve local people and institutions?

XYes -No

How?

The applicant is a local consultant.

A main focus of this project is public outreach; the budget includes specific funds for newsletters to landowners and public meetings.

Other Comments:

The regional panel was concerned that there may be proprietary issues related to use of the UCDHRL model.

San Joaquin Regional Review:

Proposal Number: 93

Applicant Organization: Montgomery Watson Harza

Proposal Title: Watershed Mass Balance Model and Protocol Development

Overall Ranking: Low -Medium -High

Provide a brief summary explanation of the committee's ranking:

Poorly described project. Proponents did inadequate job justifying the applicability to CalFed priorities

1. Is the project feasible based on local constraints?

Yes -No

How?

Qualified yes. Poorly described project focuses on data collection in the Upper Cosumnes Watershed. Groundwater data was identified as one data area probably lacking yet no real plan for collecting that data which often involves private landowners who are sensitive to that information getting out.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

-Yes XNo

How?

Indirect applicability. Could have made a better case for it. Project focuses on data protocols for a model that could be useful for restoration projects

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

-Yes XNo

How?

Did not make much of a case. Obviously could be linked with work in lower Cosumnes but that work barely mentioned

4. Does the project adequately involve local people and institutions?

-Yes XNo

How?

? States it will involve locals but does not make a convincing case it will.

Other Comments:

Not appropriate for CalFed. Proponents did cursory job justifying the applicability to CalFed priorities

Sacramento Regional Review:

Proposal Number: 93

Applicant Organization: Montgomery Watson Harza

Proposal Title: Watershed Mass Balance Model and Protocol Development

Overall Ranking: Low -Medium -High

Provide a brief summary explanation of the committee's ranking:

This proposal is first phase of a pilot study. It would be of limited use if future phases are not funded. On the other hand, we would not have to commit multi-year funding for a project that might not be feasible to bring to fussion. Not clear that the necessary data could be collected cost effectively. This proposal is not directly relevant to the Sacramento Region.

1. Is the project feasible based on local constraints?

Yes -No

How?

The UCDHRL model exists and they propose to collect existing data for this phase and determine if it is of adequate quality.

2. Does the project pursue the restoration priorities applicable to the region as outlined in the PSP?

Yes -No

How?

Sacramento region restoration priority 7 refers to development of river models.

3. Is the project adequately linked with other restoration activities in the region, such as ongoing implementation projects and regional planning efforts?

-Yes No

How?

The proposal does not tie into anything currently underway or proposed for the upper Consumnes River watershed.

4. Does the project adequately involve local people and institutions?

Yes -No

How?

They would coordinate their activities with the Consumnes River Task Force, the Mokelumne/Consumnes Alliance, and the local RCD's.

Other Comments:

We are curious as to why this is being proposed by a consultant rather than by UCD who developed the model in the first place. We also question the likely application of this model to the CALFED region in general.

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **93**

Applicant Organization: **Montgomery Watson Harza**

Proposal Title: **Watershed Mass Balance Model and Protocol Development**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None.

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	The proposal as written does not justify the effort. For future submissions of such a proposal, I suggest the authors start by explaining the need for a watershed model and detail some possible uses of the model in evaluating water resources management options. Without a description of how the model is to be used, it is not possible to evaluate the technical efforts proposed.
-Good	
XPoor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The proposal fails to address several key questions that must be answered to justify the proposed project. What water management questions need to be addressed using the watershed model UCDHRL? What agencies or citizen groups are asking these questions? Has any agency or citizen group sought the development of such a model for the Upper Cosumnes River? How will the development of this tool assist agencies or citizen groups in managing water resources in this watershed? What level of model accuracy and precision is necessary for a watershed modeling tool given the management information needs in the watershed? As written, the proposal does not address any of these questions and thus does not justify the effort proposed.

This reviewer has developed similar watershed modeling tools in the past and is very familiar with the general benefits that can be gained from watershed modeling, but this proposal assumes the utility of this model is obvious, and it is not. In summary, the overall goals for this project are not clearly stated or defended.

The proposal is written as if the reviewers would already know why this project is needed and as if an RFP were distributed asking for this effort. If this is the case, this information was not transmitted to this reviewer.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

The proposal basically seeks to 1) collect and analyze existing water resources data in the Upper Cosumnes River Basin and 2) to develop and calibrate a University of California Davis Hydrologic Research Laboratory model (UCDHRL) for the basin. Again, the reasons why this model is needed for this basin is not explained. The proposal makes no allusions to overall policy questions to be addressed once the model is developed. Without this overarching rationale, the specifics of the proposal cannot be evaluated.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

Due to the lack of information on ultimate purpose of the model, it is not possible to evaluate the design of the project.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The technical aspects of the project are certainly feasible. Methods for all the proposed tasks are well known.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

The proposal needs more detail on the type and amount of water resources data to be collated and analyzed before the adequacy of performance measures can be assessed. Also, the proposal needs to explain what will constitute a completed model.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

It is very likely that this project could produce a model that would be useful to water resource managers, but the current proposal does not explain how the model will be used to address natural resource questions.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The project team is qualified to conduct this project.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

The budget appears reasonable for the work proposed, although it is difficult to evaluate the budget without more knowledge about the quantity of data that is to be collated and evaluated..

Miscellaneous comments:

The proposal should have included a table summarizing the type and amount of water resources data known to exist in the basin. For instance, how many USGS flow gages are in the basin, how many USGS groundwater monitoring wells are in the basin, how many climatic stations, etc.,? The proposal should also have included a table summarizing existing studies of water resources issues in the basin.

The proposal does not make clear how the project team will work together. It does not make clear who will be doing what tasks.

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **93**

Applicant Organization: **Montgomery Watson Harza**

Proposal Title: **Watershed Mass Balance Model and Protocol Development**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	This is a confusing proposal, with fuzzy goals and a lack of integration into Calfed priorities.
-Good	
<input checked="" type="checkbox"/> Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goal of the project is to develop and validate a set of protocols, "which will guide the development and application of essential data used in making accurate mass balance estimations" These goals are written in a broad context, and it is difficult to understand specifically what would be done and why.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

The justification for the project is weakly linked to Calfed goals. The project purportedly should "greatly assist local decision makers in several ways" by identifying data and data gaps, and prioritizing data needs. The justification is too broad to be useful in showing the linkages to specific Calfed priorities.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach would be to develop data quality objectives. Existing DQO protocols would be used as a model. Next, data would be compiled and evaluated using the protocols. It is not clear how much data compilation has already been done, or how existing data have already been evaluated. The scope of the data collection is also unclear - all related data for the Upper Consumnes region?

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

It is feasible to develop data quality protocols (many have already been written) and to compile data and identify data needs.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

The measure of success are keeping to the time and expenditure schedule. No performance standards are available to assess the adequacy of the proposed protocols.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

The product would be a data quality protocol and an identification of data gaps which need to be filled to conduct a watershed mass balance. It is not shown how these products would specifically assist Calfed managers.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The consultant would be qualified to compile data.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

\$560,000 is a significant cost for a product of questionable use and need. If the authors could show support for their project through a needs assessment written by the agencies involved, it would help. As it is, I'm not clear how this investment of funds would help the Calfed process. As written, there is too little work identified to justify this cost.

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **93**

Applicant Organization: **Montgomery Watson Harza**

Proposal Title: **Watershed Mass Balance Model and Protocol Development**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

none

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	
-Good	It seems as though the proposed research is reinventing the wheel. There are so many flow models out there. It is not at all clear what this would add.
<input checked="" type="checkbox"/> Poor	

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The goal of this proposal is the develop a set of protocols for data collection to predict flows from the Upper Cosumnes River Watershed. Usually the term mass balance refers to inputs and outputs of elements, not the amount of water entering and leaving a watershed. This also has a unique definition of productivity, namely yield of water from a watershed. The proposal lays out a set of 7 goals, of which this proposal will attempt the first and seventh. I am not convinced of the need for this model.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

It is not clear how this model would improve upon existing models. It appears that a large amount of data is needed to adequately parameterize the model. It is not clear if there has been any analysis of the need for this level of detail. One wonders if the model will be so difficult to parameterize that it is limited in its usefulness. The proposal asserts that tools are not available to monitor the effects of watershed management changes on river flow. I question that assertion. The need for this model has not been demonstrated.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The proposal is for one year to evaluate existing data and to establish a protocol for determining if data quality objectives are being met. It is not clear that this information will be useful to decision-makers since the resulting model will require so much data that are unlikely to be available in other watersheds.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

It is feasible.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Performance measures are essentially that the tasks be completed on time. The details of the tasks have not been identified.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

I question the usefulness of model that will be developed, primarily because of the amount of data that is needed for the model. How will this be applicable in other watersheds?

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

Capabilities appear to be there.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

This seems fairly expensive for the amount of work proposed. Salaries are reasonable but overhead of 124% seems steep.

Miscellaneous comments:

This proposal was very sloppy in its preparation (more than any of the others I have read). There were numerous typos and inept phrasing. This does not give this reviewer confidence in this group's capabilities to complete the research.

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **93**

Applicant Organization: **Montgomery Watson Harza**

Proposal Title: **Watershed Mass Balance Model and Protocol Development**

Conflict of Interest Statements:

I have no financial interest in this proposal.

Correct

Incorrect

In the blank below please explain any connection to proposal, to applicant, co-applicant or subcontractor or to submitting institution (write "none" if no connection):

None.

Review:

Please provide an overall evaluation summary rating:

Excellent: outstanding in all respects;

Good: quality but some deficiencies;

Poor: serious deficiencies.

Overall Evaluation Summary Rating	Provide a brief explanation of your summary rating
-Excellent	Proposed project is not likely to result in significant advances in the area of predictive watershed modeling as it proposes. The data centralization and evaluation activities are of very limited value to the larger goals of CALFED Program.
-Good	
<input checked="" type="checkbox"/> Poor	Very poorly conceived, written, and justified proposal.

1. **Goals.** Are the goals, objectives and hypotheses clearly stated and internally consistent? Is the concept timely and important?

The proposal lays out seven components for an overall program to develop improved predictive tools for watershed management. The specific goal for this request however is only related to the first and a portion of the seventh components (evaluation of existing data and initiation of a public education program). The overall proposal is difficult to follow due to consistently mixing descriptions of larger efforts with the very narrowly focused objective of this particular proposal. This proposal is asking for significant funding to evaluate existing hydrologic data and initiating some "community outreach." The broad concept of improving predictive tools is timely and important. This particular proposal, and the very limited nature of its proposed contribution to the larger goal, is not viewed as being

particularly important.

2. **Justification.** Is the study justified relative to existing knowledge? Is a conceptual model clearly stated in the proposal and does it explain the underlying basis for the proposed work? Is the selection of research, pilot or demonstration project, or a full-scale implementation project justified?

The proposal attempts justification based upon the larger goal of improving watershed models. This proposal, however, seeks only to compile existing data for one watershed (Upper Consumnes River), evaluate the accuracy of the data (a VERY difficult task - particularly for past collection efforts), and identify critical gaps in the data. A central portion of this task is to develop Data Quality Objectives (DQO) specifying the data use, required collection accuracy, etc. of data collection activities. This is a good objective, but does little to enhance existing data sources. Any modern data collection effort should have already addressed such issues. The community outreach component appears to be tacked on to help meet proposal guidelines. It is often difficult to engage the community regarding significant issues such as model RESULTS showing effects of alternative management practices. There is little justification in engaging the community to help it understand DQO protocols, data accuracy, data gaps, etc. This is a very expensive project for its specific objectives and the objectives, as well as the budget, are not justified.

3. **Approach.** Is the approach well designed and appropriate for meeting the objectives of the project? Are results likely to add to the base of knowledge? Is the project likely to generate novel information, methodology or approaches? Will the information ultimately be useful to decision-makers?

The approach, as it relates to developing DQO protocols and collecting existing data is appropriate to meet the stated objectives. Will the project generate novel information, methodology, or approaches? Absolutely not. Will the information be useful to decision makers? Possibly, if existing data on this watershed is so scattered that watershed managers, etc. cannot access it, or do not realize how much/little data exists.

4. **Feasibility.** Is the approach fully documented and technically feasible? What is the likelihood of success? Is the scale of the project consistent with the objectives?

The approach is well documented and technically feasible. It is very likely that the investigators can successfully develop DQO protocols and gather existing data. The scale of the manpower efforts requested for funding is way out of line with what is required to achieve the specific objectives. The specific objectives are not that complex, the watershed is not that large or complex. Multiple scientists, and consultants are not justified.

5. **Project-Specific Performance Measures.** Does the project include appropriate performance measures to measure success relative to the project's goals and objectives? Is there enough detail as to how the performance measures will be quantified? For restoration projects, are monitoring plans explicit and detailed enough to determine if performance measures will be adequately assessed?

Project-specific performance measures are lacking. The only performance measure is to compare progress with timeline and budget. It is entirely unclear how much of the data is already identified and located. It is also unclear how much effort is required to develop project-specific DQO protocols as compared with adopting existing ones. Therefore, it is impossible to measure progress in terms of "new" products/knowledge/understanding/synthesis, etc.

6. **Products.** Are products of value likely from the project? Specifically for restoration projects, are products of value also likely from the monitoring component? Are interpretative outcomes likely from the project?

It is highly desirable that existing watershed data sources be compiled and made available from a central clearing house. Such a repository should have the data georeferenced as much as is possible. It should also include comments concerning the source of the data, purpose for which it was collected, and possible concerns/comments re accuracy. A proposal to develop such a clearing house for the state would be very useful. The "research" proposed here is of marginal value. It will not significantly add to overall watershed model development/testing/application capabilities.

7. **Capabilities.** What is the track record of applicants in terms of past projects? Is the project team qualified to efficiently and effectively implement the proposed project? Do they have available the infrastructure and other aspects of support necessary to accomplish the project?

The proposed team is quite capable of executing the project. In fact, there is too much team for the scope of work proposed.

8. **Cost/Benefit Comments.** Is the budget reasonable and adequate for the work proposed?

No. The budget is extremely high in terms of salaries for PIs and consultants for the scope of work proposed. The proposal promotes a very large view of improvement in watershed modeling and predictive tools. The budget is reasonable if the proposal was actually going to carry through to model development activities. Unfortunately, all they want to do (for a sum in excess of 0.5 million dollars) is gather existing data for one watershed and "evaluate" it. The product will be of minimal value towards the larger goal of improving watershed management decision-making tools.

Miscellaneous comments:

I was stunned by the expensive and rather narrow focus of this proposal relative to the title which implied that there would be model development activities. No model development activities are proposed. The proposers really stretched in order to attempt to state that the proposed project applies to CALFED, and others, priorities as specified in Item B1, page 7.

Environmental Compliance:

Proposal Number: 93

Applicant Organization: Montgomery Watson Harza

Proposal Title: Watershed Mass Balance Model and Protocol Development

1. Are the legal or regulatory issues that affect the proposal identified adequately in the proposal?

Yes -No

If no, please explain:

2. Does the project's timeline and budget reflect adequate planning to address legal and regulatory issues that affect the proposal?

Yes -No

If no, please explain:

3. Do the legal and regulatory issues that affect the proposal significantly impair the project's feasibility?

-Yes No

If yes, please explain:

Other Comments:

Budget:

Proposal Number: 93

Applicant Organization: Montgomery Watson Harza

Proposal Title: Watershed Mass Balance Model and Protocol Development

1. Does the proposal include a detailed budget for each year of requested support?

Yes -No

If no, please explain:

2. Does the proposal include a detailed budget for each task identified?

Yes -No

If no, please explain:

3. Does the proposal clearly state the type of expenses encompassed in indirect rates or overhead costs?

Yes -No

If no, please explain:

4. Are appropriate project management costs clearly identified?

Yes -No

If no, please explain:

5. Do the total funds requested (Form I, Question 17A) equal the combined total annual costs in the budget summary?

-Yes No

If no, please explain (for example, are costs to be reimbursed by cost share funds included in the budget summary).

Funding carried forward is short

6. Does the budget justification adequately explain major expenses?

Yes -No

If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes No

If yes, please explain:

Other Comments: