Proposal Reviews

#91: Daguerre Point Fish Ladder Passage

Mathews Electric

Research and Restoration Technical Panel Review	
Sacramento Regional Review	
External Scientific Review	#1 #2 #3 #4
Environmental Compliance	
Budget	

Research and Restoration Technical Panel Review:

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

Proposal Number: 91

Applicant Organization: Mathews Electric

Proposal Title: Daguerre Point Fish Ladder Passage

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	**Existing video counting systems are available making new independent development a low priority.**
-Above average	
-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 goal is monitor fish passage at Daguerre Point dam fish ladder, to count fish, identify gender, age condition, etc. A second goal is to develop new techniques for video monitoring. The project is not internally consistent for both goals. Development of a system and a 365 day monitoring scheme are incompatible. The concept of developing a system is not particularly timely since fish monitoring system have been available for decades. The proposal is not related to existing knowledge on fish counting. However counting fish at dams is an important activity.

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?

A camera may be able to count fish under clear water and may, under good conditions, identify species. Fish age cannot be determined with video images and it is unlikely that useful information on disease or gender will be forthcoming from the study. It is not clear how the video images will add to the field of fish passage counting. The proposer has not demonstrated experience in fisheries.

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?

   Monitoring fish passage is valuable if coordinated basin wide. For example, an integrated fish passage program on the Columbia River tracks adult and juvenile passage at dams on a daily basis and provides the information on a website. This realtime information is used for managing hydrosystem operations basin wide. CALFED needs a similar system. A single study at one dam without coordination does not seem useful though. It is unlikely that this project will advance the knowledge on fish counting techniques.

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

   Cost is reasonable for the proposed work of recording fish. However, if the project is to develop a new technique for fish passage monitoring a year-long long monitoring is not the best use of the effort. For project development effort should be spent developing the technique and calibrating the system under various environmental conditions including flow, turbidity and passage numbers. Issues of maintenance are also significant but not included in the proposal.

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?

   The regional review notes that the local group supported the action but had concerns about the feasibility.

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 administrative concerns were noted

Miscellaneous comments:

Implementing a comprehensive fish passage monitoring program has high value. Systems are deployed in other regions. Any effort to monitor fish should review the existing literature and programs prior to proposing development work. The project as proposed seems to both development equipment and monitor the fish passage. If the project is to monitor fish passage it would seem reasonable to use an existing system. Additionally, video systems are limited. Finally, a more appropriate approach to fish monitoring is to establish a monitoring taskforce that will review the Deltas needs and capabilities and draw on regional and national expertise to develop a integrated system for the basin.

Sacramento Regional Review:

Proposal Number: 91

Applicant Organization: Mathews Electric

Proposal Title: Daguerre Point Fish Ladder Passage

Overall Ranking: **X**Low **-**Medium **-**High

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

The stated value of the project may never be realized, currently fish passage issues exist during high winter flows where turbidity will affect this technology from succeeding. This project has value as a pilot project.

1. Is the project feasible based on local constraints?

   XYes **-**No

   How?

   This is a pilot project and physically all things can take place and timelines can be met. But, there are some limits to what the technology will be able to accomplish during the critical winter and spring months.

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

   XYes **-**No

   How?

   This project could provide information that will benefit fish passage at Daguerre, PSP priority Sac Region-2.

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?

   The project came from SWRCB Decision -1644 requirements and not through the local restoration group. The local group did support this action although there was question about the feasibility.

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

   XYes **-**No

How?

X

Other Comments:

X

External Scientific: #1

Research and Restoration External Scientific Review Form

Proposal Number: **91**

Applicant Organization: **Mathews Electric**

Proposal Title: **Daguerre Point Fish Ladder Passage**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**The proposed work needs to be part of a regional taskforce of fish passage monitoring and needs to connect with existing programs.**
-Good	
XPoor	

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

   One goal is to monitor fish passage at Daguerre Point dam fish ladder, to count fish, identify gender, age condition, etc. A second goal is to develop new techniques for vide monitoring. The project is not internally consistent for both goals. Development of a system and a 365 day monitoring scheme are incompatible at the same time. The concept is not particularly timely since fish monitoring system have been available for decades.

2. **<u>Justification.</u>** 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 is not related to existing knowledge nor seems 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 is vague, no design specifics are mentioned. The information and approach appear not to be new.

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?

   A camera may be able to count fish under clear water and may under good conditions identify species. Fish age cannot be determined with video images and it is unlikely that useful information on disease or gender will be forthcoming from the study. It is not clear how the video images will add to the field of fish passage structures.

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?

   No appropriate performance measures are indicated.

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?

   Monitoring fish passage is valuable in the context of a basins wide integrated project. A single study at one dam without coordination does not seem useful though.

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 applicant has demonstrated no track record in fish passage monitoring, however the applicant does appear to have some expertise in the electric industry.

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

   Cost is reasonable for the proposed work of recording fish. However, if the project is to develop a new technique for fish passage monitoring a year-long long monitoring is not the best use of the effort. For project development effort should be spent developing the technique and calibrating the system under various environmental conditions including flow, turbidity and passage numbers. Issues of maintenance are also significant but not included

Miscellaneous comments:

Implementing a comprehensive fish passage monitoring program has high value. Systems are deployed in other regions and may be under development within the Delta. Any effort to monitor fish should review the existing literature and programs prior to proposing development work. This project as proposed seems to both development equipment and monitor the fish passage. If

the project is to monitor fish passage it would seem reasonable to use an existing system or at least present a review of what existing video systems are available. Additionally, video systems are limited. Newer technology uses acoustics and is able to measure fish length as well as count fish. Finally, a more appropriate approach to fish monitoring is to establish a monitoring taskforce that will review the Deltas needs and capabilities and draw on regional and national expertise.

External Scientific: #2

Research and Restoration External Scientific Review Form

Proposal Number: **91**

Applicant Organization: **Mathews Electric**

Proposal Title: **Daguerre Point Fish Ladder Passage**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**Too many deficiencies. Although the cost is not great, and there is a general need to determine effectiveness of fish ladders, it is impossible to tell whether any useful information would be developed by this project.**
-Good	
XPoor	

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

   No. The goals seem to be to test the video technique for monitoring fish, and also to monitor fish use of the ladder. But specific goals are lacking. No testable hypotheses are offered. Owing to the lack of goals, we wouldn't know whether the technique worked or whether fish use the ladder adequately.

2. **<u>Justification.</u>** 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?

No. There is no indication of whether the ladders have already been monitored. What do we already know about migratory fish in the Yuba River?

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?

   No. There is no indication of how turbidity would affect the accuracy of the video monitoring technique. Would lights be used to monitor at night, and if so, would that affect fish behavior? It is not clear whether this would be a good test of the video monitoring technique at these particular ladders, but in any case this is not a novel technique.

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?

   Not documented at all. Would monitoring be done all day, every day, for a year? Is that necessary if there is a seasonality to the fish use of the ladder? These kinds of details should be provided in order to judge whether the anticipated effort is excessive, insufficient, or needs to be redirected. I don't know if the camera that would be acquired would work under low visibility conditions (high turbidity or night), and I am doubtful that useful information could be gathered from videotape records about the gender, age, or disease status of fish in the ladder. What percentage of the migratory fish are stalled at the base of the dam and don't use the ladder? 10 percent? 90 percent? Simple ladder counts are not sufficient for determining use if 90 percent of the fish don't find their way into the ladder to be photographed.

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?

   No performance measures were identified, but they are needed to determine success.

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?

   No products were identified, except for a general comment about sharing information with agencies.

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?

   No information provided.

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

   Probably yes, but there is a discrepancy about whether costs would be shared or not (see memo attached to the proposal).

Miscellaneous comments:

External Scientific: #3

Research and Restoration External Scientific Review Form

Proposal Number: **91**

Applicant Organization: **Mathews Electric**

Proposal Title: **Daguerre Point Fish Ladder Passage**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**The proposal needs much better justification and explanation of how the video will be interpreted and data obtained.**
-Good	
XPoor	

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

   There is little given in the proposal beyond a statement of installing a video for recording fish at the ladder. The goal of understanding the need for information on the composition of the run or the functioning of the ladder is incompletely developed.

2. **<u>Justification.</u>** 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?

No connection has been given to other work or to the need for such information. Is there need for data on the composition of the fish at the ladder or on the performance of the ladder? Is this work connected to anything else going on in the stream above or below the dam? Are the data needed to resolve any specific problem at the dam?

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 has not developed anything specifically addressing this section. Although the investigator has apparently already tried some kind of video recording, no preliminary data are presented except to state that fish could be seen. Interpretation of resulting video recordings is listed as a cost element but no discussion of any approach to this interpretation has been developed in the proposal. It appears in places that the recordings will be delivered to others for their use.

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?

   Installation of the video is likely to work but difficulties with viewing conditions (turbidity, light, viewing field, etc.) are not discussed or considered.

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?

   These issues were not discussed in the proposal.

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 unknown whether any useful product will result from the project because the need for the video is not developed in the proposal. The investigator has relied on expressed interest by agency contacts and others without specific reference to how the video recordings will be used.

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?

   Capability of the applicant is unknown. He has apparently installed a recording video at the project and was able to record fish passage. His capacity to evaluate data appears weak and non-technical.

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

   Costs are primarily for installation and checking of function. HOwever, the use of any recordings and hence benefits are unknown.

Miscellaneous comments:

The proposal lacks sufficient development of the problem to be solved by this method and of how any data from video records will improve knowledge and understanding of limits on salmon migration or survival.

External Scientific: #4

Research and Restoration External Scientific Review Form

Proposal Number: **91**

Applicant Organization: **Mathews Electric**

Proposal Title: **Daguerre Point Fish Ladder Passage**

Conflict of Interest Statements:
I have no financial interest in this proposal.
XCorrect
-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:

<u>Excellent:</u> outstanding in all respects;
<u>Good:</u> quality but some deficiencies;
<u>Poor:</u> serious deficiencies.

Overall Evaluation Summary Rating	**Provide a brief explanation of your summary rating**
-Excellent	**The method (video imaging) is proven, but the proposal lacks almost any discussion of technical/hardare details, installation procedures, and quality control/accuracy studies.**
XGood	
-Poor	

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

   The goal of the proposed research is very appropriate: monitoring throughout the year of ladder passage to enable salmon managers to better estimate escapement and abundance through time.

2. **<u>Justification.</u>** 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?

Yes - Video imaging of adults is a fairly common method of enumeration.

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?

   Partially - My main concern with the proposal is that few details of the actual monitoring system and associated hardware are provided, making it difficult to judge whether the equipment and methods chosen are the most appropriate. For example, accuracy depends on lighting, cleanliness of any lenses or glass windows, and the ability of the human image reader to accurately identify the adult to the species level, at least.

   Installation of lights, windows, cameras, backboards, and light spectra and intensity all have the potential to influence and potentially impact the passage of adults through the ladder. Although the proposal states various methods have been tested, effects on adult delay or passage are not discussed, suggesting this hasn't been considered.

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?

   Yes, in general video imaging is feasible. However, without seeing the site where the imaging will be applied it is hard to judge whether the concerns noted above are warranted.

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?

   No, none are provided. There is no discussion of quality control, numbers of fish imaged compared to an actual human count, what level of accuracy is required, 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?

   Yes - These data will comprise a critical component of population status monitoring and responses of populations in the Yuba River to recovery activities.

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?

   I can't tell from the proposal.

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

   Yes, this is a low cost methodology the produces important estimates of escapement data for recovery monitoring.

Miscellaneous comments:

In the Columbia River the U.S. Army Corps of Engineers routinely use video imaging to assess passage at mainstem dams during the winter months and at ladders where passage rates are low and the cost of human monitoring isn't warranted. I recommend contacting Gary Johnson, Portland District, Operations Fishery Biologist, Portland Oregon (503) 808-4304 to discuss their ongoing programs. Battelle Pacific Northwest Laboratories has experimented with infrared lighting as a means of reducing passage delay. A point of contact for this work is Tom Carlson (503) 417-7567.

Environmental Compliance:

Proposal Number: 91

Applicant Organization: Mathews Electric

Proposal Title: Daguerre Point Fish Ladder Passage

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

   XYes **-**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?

   XYes **-**No

   If no, please explain:

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

   -Yes **X**No

   If yes, please explain:

Other Comments:

Budget:

Proposal Number: 91

Applicant Organization: Mathews Electric

Proposal Title: Daguerre Point Fish Ladder Passage

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

   XYes **-**No

   If no, please explain:

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

   XYes **-**No

   If no, please explain:

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

   XYes **-**No

   If no, please explain:

4. Are appropriate project management costs clearly identified?

   XYes **-**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?

   XYes **-**No

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

6. Does the budget justification adequately explain major expenses?

   XYes **-**No

   If no, please explain:

7. Are there other budget issues that warrant consideration?

-Yes **X**No

If yes, please explain:

Other Comments: