

# Proposal Reviews

## #181: Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction

Turlock Irrigation District

**Final Selection Panel Review**

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# Final Selection Panel Review:

## CALFED Bay-Delta 2002 ERP PSP Final Selection Panel Review

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

Please provide an overall evaluation rating.

<b>Fund</b>	
<b>As Is</b>	-
<b>In Part</b>	-
<b>With Conditions</b>	-
<b>Consider as Directed Action</b>	X
<b>Not Recommended</b>	-

Amount: **\$10,839,000**

Conditions, if any, of approval (if there are no conditions, please put "None"):

**none**

Provide a brief explanation of your rating:

**The Selection Panel appreciates the extensive comments submitted by the applicant. Most of these comments are best described as new information and should be incorporated in a revised proposal. The Panel recommends that this recommendation remain as a directed action.**

## Initial Selection Panel Review:

### CALFED Bay-Delta 2002 ERP PSP Initial Selection Panel Review

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

Please provide an overall evaluation rating.

#### Explanation of Recommendation Categories: Fund

- **As Is** (a proposal recommended for funding as proposed)
- **In Part** (a proposal for which partial funding is recommended for selected project phases or components)
- **With Conditions** (a proposal for which funds are recommended if the applicant contractually agrees to meet the specified conditions)

**Consider as Directed Action in Annual Workplan** (a proposal addressing a high priority action that requires some revision followed by additional review prior to being recommended for funding)

**Not Recommended** (a proposal not currently recommended for funding-after revision may be considered in the future)

#### Note on "Amount":

For proposals recommended as Fund As Is, Fund In Part or Fund With Conditions, the dollar amount is the amount recommended by the Selection Panel.

For proposals recommended as Consider as Directed Action in Annual Workplan, the dollar amount is the amount requested by the applicant(s).

<b>Fund</b>	
<b>As Is</b>	-
<b>In Part</b>	-
<b>With Conditions</b>	-
<b>Consider as Directed Action</b>	<b>X</b>
<b>Not Recommended</b>	-

Amount: **\$10,839,000.00**

Conditions, if any, of approval (if there are no conditions, please put "None"):

None

Provide a brief explanation of your rating:

**The Selection Panel does not agree with the recommendation of the Technical Panel. The Tuolumne River is an important Central Valley River for the ERP, and this proposal is Phase 3 of a four-phase project. Phases 1 and 2 have been supported and funded by the ERP and CVPIA. The Technical Panel comments raise concerns with costs, the need for continuous gravel augmentation, and alternative designs (e.g., grade control structures). The cost of this proposal is in alignment with previous phases, and the Selection Panel acknowledges the high costs. However, the Tuolumne River is a high priority for the ERP, and restoration of this reach of the river is also a high priority. In addition, the Selection Panel does not agree with the comments regarding the benefit of grade control structures. This approach has been tested in the past on San Joaquin Rivers, including the Tuolumne, and results indicate that this approach is not appropriate in the context of restoring (and sustaining) physical processes as a component of the river ecosystem.**

**Although the Selection Panel does not recommend funding at this time, the Panel requests that the applicant revise the proposal to address the experimental design of the project and resubmit for a directed action. The Panel also requests that the applicant consult with the Tuolumne Adaptive Management Forum participants who are working on design and monitoring aspects of large-scale channel restoration projects.**

# Research and Restoration Technical Panel Review:

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

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

**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.

<b>Overall Evaluation Summary Rating</b>	<b>Provide a brief explanation of your summary rating</b>
-Superior	<b>The need for stream restoration and the associated habitat is clearly important as noted in the regional review. The subject stream reach is highly disturbed but, if properly restored, it could strategically contribute to the improvement of fish spawning and other wildlife needs. The proposal addresses these problems and articulates a good scientific model for their solution. However, less expensive restoration techniques need to be found. The extent, schedule and cost of restoration (i.e. construction) need to be revisited.</b>
-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 goals and objectives are clearly stated. The hypotheses are a restatement of the objectives. Relative to the documented needs of the river system, the goals and objectives are important and timely. The project is well justified. A considerable of knowledge exist for the project site. Implementation can be justified only after the design is completed. Accordingly, the project should be broken into two phases: design and implementation. Other than monitoring, the restoration, rather creation, approach is ill defined. The specifics cannot be presented until the design work is completed. Depending on the design, innovative techniques could be advanced. However, some troubling statement in the proposal (e.g., removal of bottlenecks) could indicate that the hydrology and hydraulics of the restored landscapes may not perform as the dependent habitats might need. On the other hand, some thought has been given allowing the stream to meander across the restored floodplain. This**

**concept is good. Grade controls need to be carefully considered.**

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?

**The design work and the re-landscaping effort are feasible although expensive. If a reasonable hydrologic regime is established between the new landscape and the riparian stream, achieving the goals is reasonably likely. If the subject reach is made more hydraulically efficient, the goals probably will not be reached and problems will develop downstream. The performance measures are well documented. The monitoring program should be extended to at least five years. Even this time period is too short to make a definitive statement about the hydrologic conditions and response but it will afford a good look at habitat development.**

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?

**The products consist of a design and construction specifications, reports, articles and a newly created landscape, which should support a range of wildlife habitat. The latter products will afford many opportunities for interpretative activities.**

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

**The unit cost of creating the desired habitat is quite expensive, more than \$150,000/acre. Alternative construction techniques need to be explored and the extent of restoration needs to be evaluated. Areas near the stream might be more efficiently restored leaving areas further away as upland habitat. Grade controls and fluvial forces might be enlisted to accomplish the needed restoration.**

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 San Joaquin Regional Review is high. The project is perceived as needed within the river. Landowner conflicts need to be resolved.**

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?

**Previous contracts have required excessive time to negotiate and administer. The construction costs need further justification.**

**Miscellaneous comments:**

**None**

## **Land Acquisition:**

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction

1. Is the site's ecological importance documented in the proposal?

Yes -No

If yes, please import relevant text and citations here:

**The project starts at the upstream end with the 7-11 Segment No. 1 (RM. 37.6-40.3), then the M. J. Ruddy Segment No. 2 (RM. 36.5-37.6), followed by the Warner-Deardorff Segment No. 3 (RM. 35.1-36.5), and finishing with the Reed Segment No. 4 (RM. 34.2-35.1). The Mining Reach Project will return this 6.1 mile reach of river to a more natural, dynamic channel morphology that will improve, restore, and protect instream aquatic habitat and shaded riverine aquatic habitat required for San Joaquin fall-run chinook salmon productivity and will help restore natural hydrological and geomorphic processes within the reach. Portions of the 6.1-mile long reach will be widened and reformed into a 500-foot wide riparian floodplain recreating a riffle and run pattern that would follow the restored meander channel of the river. Native vegetation will be planted on restored river terraces in a species composition determined by channel morphology and hydrologic regime, similar to that found on undisturbed segments of the river. The riparian reforestation is intended to provide food and shade for juvenile salmon. Terrestrial species will also benefit from a more continuous corridor of riparian habitat in the restored areas. The wider river channel will allow channel meander to provide a sustainable and dynamic river morphology, i.e., flood flow-related channel-bed movement with periodic scour, that partially or fully restores the processes associated with natural salmon production and survival. The current configuration of dikes in the Mining Reach form the principle bottleneck restricting the controlled release of higher flows in the river. As a result of the Mining Reach Project, the channel capacity in the project area will increase from 7,000 cfs to 15,000 cfs, the maximum regulated flow that can be released from Don Pedro Reservoir. This higher flow capacity will enable fluvial processes to occur that are beneficial to the floodplain sustainability yet can occur without damage to adjacent aggregate mining operations.**

**...There are remnants of a heron rookery on a portion of the Deardorff parcel that will need consideration in the final riparian floodway revegetation design....**

**... The goal of the restoration projects is to have higher numbers of returning salmon combined with more stable levels of natural fall-run salmon production. This is to be achieved through improvements in spawning conditions in the upper reach of the river combined with increased and improved spawning areas and habitat in the Mining Reach area plus reduced predation in the SRP areas. The Warner-Deardorff Segment No. 3 is the third of four segments in the 6.1 mile long Mining Reach Project. The projects in this reach are characterized by creating wider functioning floodplains and improved riffle pool channel forms that benefit fry and smolt survival and provide improved spawning areas. The floodplains also provide improved connectivity of riparian forest species. Downstream, at**

river mile 25.1 to 26.0, the TRTAC is sponsoring two predator isolation projects, SRP 9 & SRP 10. The principle focus of these projects is on improving survival of out-migrating salmon fry and smolts. Construction of SRP 9 began in June 2001 and will be completed by the end of the year, including the revegetation. The SRP projects involve refilling inchannel-mining pits to reduce the lakelike bass habitat and returning the channel to a pre mining riffle pool sequence with riparian planting on the recreated floodplain.

Upstream of the Mining Reach near La Grange, the restoration projects focus on improving spawning conditions, including improvements in the quantity and quality of the spawnable gravels. The DFG has a multiphase gravel introduction project that started in 1999. The AFRP and CALFED have funded development of long-term course and fine sediment management plans for this area. A TRTAC sponsored project for long term aggregate acquisition to supplement restoration material needs is being submitted as a separate 2002 PSP. In the Tailings Reach between the Mining Reach and the Spawning Reach, the Friends of the Tuolumne (FOTT) have acquired lands known as Bob Cat Flat and two riffle improvement projects at river mile 43 and 44 are under development for separate PSP submittals. The project at RM 43 has 4- Pumps funding and will be administered by TID for the FOTT.

Downstream of the SRP projects there are riparian habitat projects like the Grayson River Ranch sponsored by the Friends of the Tuolumne and funded by AFRP and NRCS. The Stanislaus County Parks Department in conjunction with the cities of Modesto, Ceres, and Waterford are using the concepts and criteria developed in the Habitat Restoration Plan in the preparation of a comprehensive river parkway planning effort.

2. Is the owner's willingness to sell the site documented in the proposal?

Yes -No

If no, please explain:

**There are four parcels that will be affected by this project. All four landowners signed project concurrence forms when the original PSP 2001 was submitted and these are on file with CALFED. These landowners were involved with the rest of the landowners in the Mining Reach that we have been working with since 1997.**

3. Is evidence of local government support for the purchase included in the proposal?

Yes -No

If yes, please explain:

**... "The Stanislaus County planning department is also actively involved with the Project induced modifications to the use permits for the mining operations in the project areas. Each set of affected mining use permits is modified so there no overlap between the County administered mining reclamation plan under SMARA regulations and the restoration project actions....**

4. Is the use proposed for the site after its purchase clearly consistent with the site's general plan designation and zoning?

-Yes No



If no, please explain:

**The project site is designated for agriculture + mineral resources in the county generalplan, and is zoned A-40 (presumably agriculture/1 unit per 40 acres). It is not clear whether the proposed habitat protection project conforms to these land use policies + standards.**

5. Is the land mapped as prime farmland, farmland of statewide significance, unique farmland, or farmland of local importance?

-Yes No

If yes, please explain the classification:

Is the site under a Williamson Act contract?

Yes -No

Will use of the site change from agriculture after its purchase?

-Yes -No Not Currently in Agriculture

6. Is this a time-sensitive acquisition opportunity, according to the proposal?

-Yes No

If yes, please import relevant text here:

**Delay will postpone these project activites, + continue gravel mining on the prpoerty, but threats from other users/puchasers seem minimal.**

Other Comments:

## San Joaquin Regional Review:

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

Overall Ranking:    -Low    -Medium    **XHigh**

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

**Much needed project within the river. Matches up well with other projects. Applicant needs to overcome landowner agreement problems and get other projects on the ground**

1. Is the project feasible based on local constraints?

**X**Yes -No

How?

**But there are difficult issues with landowners that have delayed the previous two segments of this reach reconstruction. Also it is a little unclear what the expected flood frequencies are. This would have a big impact on the life of the project.**

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

**X**Yes -No

How?

**They meet the first 4 CalFed priorities for the San Joaquin River.**

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

**X**Yes -No

How?

**This project is a component of the rivers habitat restoration plan.**

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

**X**Yes -No

How?

**Has been repeatedly discussed at local watershed group. Requires the support of all adjacent landowners.**

Other Comments:

**The construction has not yet started on segments 1 and 2 of the mining reach.**

# External Scientific: #1

## Research and Restoration External Scientific Review Form

Proposal Number: **181**

Applicant Organization: **Turlock Irrigation District**

Proposal Title: **Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction**

### Conflict of Interest Statements:

I have no financial interest in this proposal.

**X**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):

**I worked at Stillwater Sciences from Feb. 1997 to July 1999. I have known Jennifer Vick, Scott McBain and Curtis Alling for many years, though I have not talked to any of them in the last two years. I currently have a contract with EDAW for an unrelated project, working with staff who are not involved with this project.**

### Review:

**Please provide an overall evaluation summary rating:**

**Excellent: outstanding in all respects;**

**Good: quality but some deficiencies;**

**Poor: serious deficiencies.**

<b>Overall Evaluation Summary Rating</b>	<b>Provide a brief explanation of your summary rating</b>
<b>X</b> Excellent	<b>The project is well designed, and based on good science. It also incorporates input from local stakeholders (an important criteria that seems to have been overlooked in the review format). It is an expensive project, but it is also a large river and valuable resource. It has the potential to not only restore the natural geomorphic and ecological functions in a significant reach of the Tuolumne, but also to provide important information with wide application.</b>
-Good	
-Poor	

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

**Yes, the goals, objectives and hypotheses are clearly stated, in ways that will allow evaluation of success and testing of hypotheses.**

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?

**Yes, the project is well-justified. It is one phase of a larger on-going project to restore the lower Tuolumne River. A set of conceptual models is laid out in the proposal, and the proposed project is tied to these models.**

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?

**Yes, the approach is well-designed for meeting the objectives. This is an ambitious project to restore the natural geomorphic and ecological functions of a large river. The experience gained here will have application on other rivers, such as the Merced, the Russian and San Joaquin below Friant Dam**

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, the feasibility is well-documented from experience on previous projects along the river. The likelihood of success seems high.**

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 monitoring plans seem well-thought out, and should provide a test of the success of the hypotheses and project goals.**

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?

**Increased production of chinook salmon is a likely outcome. Monitoring results will most likely be presented in "gray literature" such as reports, conference proceedings, etc. I note that the Literature Cited section of the Proposal does not include peer-reviewed publications by the consultants. Their feet should be held to the fire at the end of the project until they produce some journal articles.**

**I am not sure what is meant by "interpretative outcomes".**

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 track record and capabilities of the project team are excellent.**

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

**The budget is probably adequate, given that it is based on local experience with local contractors.**

**Miscellaneous comments:**

## External Scientific: #2

### Research and Restoration External Scientific Review Form

Proposal Number: **181**

Applicant Organization: **Turlock Irrigation District**

Proposal Title: **Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction**

#### 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.**

<b>Overall Evaluation Summary Rating</b>	<b>Provide a brief explanation of your summary rating</b>
-Excellent	<b>While attempting to restore a substantial reach of river, this proposal doesnt capture the opportunity to learn more about natural processes of revegetation and biotic responses. The sequence of natural flooding processes could greatly improve natural revegetation of the sites and restoration could be aimed at modifying unintended responses or invasives. The measurement system needs to consider reference systems and the basis for comparison of outcomes. These responses could not be attributed to the treatments in the current design.</b>
<input checked="" type="checkbox"/> Good	
-Poor	

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

**The proposal clearly states the goal of restoring floodplains, riparian vegetation, and channel morphology in a 6-mi reach of the Tuolumne River. Most of the project addresses the operational logistics and overall objectives.**

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 conceptual framework is presented but largely addresses project components and tasks.**

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?

**This is a large and extremely expensive restoration project. It is difficult to determine the likelihood of success from the proposal information.**

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?

**no comment**

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 measures of performance are based largely on the operation and not on measurements.**

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?

**A project of this size and degree of alteration has the potential to contribute significant to our understanding of restoration. Unfortunately, the measurement of geomorphic change, riparian vegetation response, and salmonid distribution and abundance are not thoroughly described. It is not clear that the experimental design will allow anything more than a description of the response at the site. Reference reaches or systems are not identified. The experimental design is not clearly presented.**

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 comment**

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

**The budget is more than \$10 million. This is a very costly project. While the operations have been thoroughly researched and presented, the ecological assessment is only briefly described.**

**Miscellaneous comments:**



# External Scientific: #3

## Research and Restoration External Scientific Review Form

Proposal Number: **181**

Applicant Organization: **Turlock Irrigation District**

Proposal Title: **Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction**

### Conflict of Interest Statements:

I have no financial interest in this proposal.

**X**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	<b>Considerable thought was given to the proposal but more analysis of the construction techniques need to be done.</b>
<b>X</b> Good	
-Poor	

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

**The goals and objectives are clearly stated. The hypotheses are a restatement of the objectives. Relative to the documented needs of the river system, the goals and objectives are important and timely.**

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 project is well justified. A considerable of knowledge exist for them project site. Implementation only can be justified after the design is completed. Accordingly, the project should be broken into two phases: design and implementation.**

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?

**Other than monitoring, the restoration, rather creation, approach is ill defined. The specifics cannot be presented until the design work is completed. Depending on the design, innovative techniques could be advanced. However, some troubling statement in the proposal (e.g., removal of bottlenecks) could indicate that the hydrology and hydraulics of the restored landscapes may not perform as the dependent habitats might need. On the other hand, some thought has been given allowing the stream to meander across the restored floodplain. This concept is good. Grade controls need to be carefully 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?

**The design work and the re-landscaping effort are feasible although expensive. If a reasonable hydrologic regime is established, achieving the goals is reasonably likely. If the subject reach is made more hydraulically efficient, the goals will not be reached and problems will develop downstream.**

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 performance measures are well documented. The monitoring program should be extended to at least five years. This time period is probably too short to make a definitive statement about the hydrologic conditions but it will afford a good look at the habitat that develops.**

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 products consist of a design and construction specifications, reports, articles and a newly created landscape, which should support a range of wildlife habitat. The latter products will afford many opportunities for interpretative 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?

**Although the credentials were brief, the project staff and participating organizations seem well qualified. They seem to have the necessary equipment and facilities to do the work.**

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

**The unit cost of creating the desired habitat is quite expensive, more than \$150,000/acre. Alternative construction techniques need to be explored and the extent of restoration needs to be evaluated. Areas near the stream might be more efficiently restored leaving areas further away as upland habitat.**

**Miscellaneous comments:**

## External Scientific: #4

### Research and Restoration External Scientific Review Form

Proposal Number: **181**

Applicant Organization: **Turlock Irrigation District**

Proposal Title: **Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction**

#### 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	<b>A category between excellent and good would be better than either good or excellent for this proposal. It is extremely well planned, coordinated, founded, and is planned within the context of other similar work. I would recommend that (1) the basis for the revegetation costs be further explained; (2) more bedload sediment data be collected; and (3) availability of all consultants be assessed in light of other potential funded projects.</b>
<input checked="" type="checkbox"/> Good	
-Poor	

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

**Goals, objectives, and hypotheses are all very clearly stated, cross-referenced, and described in detail. Since increased sediment mobility is featured in this project, replenishing coarse gravel to the reach is required to be consistent with that goal. Replenishment is included in the project.**

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?

**This full-scale implementation project is justified based upon (1) previous conceptual plans developed over several years by interdisciplinary teams of experts; (2) experience gained during the 4-Pumps project; and (3) limited field data collection. Of these three foundations for project justification, field data collection appears to be the weakest. It is recommended that several more bedload sediment samples be collected during the pre-construction period to guide final design for the size of gravels identified for the main conveyance channel. The concept of configuring the stream channel to match the hydrologic regime imposed by Don Pedro Dam is sound and welcomed in the hydraulic community. Although several references were made to many prior studies, the regulated flow frequency is not clear from the proposal as written. A hypothesized sequence of annual peaks is included in Table 1, but no basis for the sequence is shown it must certainly be explained in greater detail outside of the proposal.**

**The concept of moving the levees back to allow lateral channel migration is also sound and welcome. Streambank instability accompanies such movement, and includes the inevitable recruitment of riparian vegetation to the channel. Monitoring bank stability is included in the project. Maintaining bank stability is appropriately NOT included in the monitoring.**

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 in this proposal is among the most coordinated and detailed I have seen, an apparent culmination of several prior projects, reports, and public meetings. If funded, the results will add to our base of knowledge about sediment mobility, regulated river planform migration, and impacts of both on salmon spawning, migration, and survival. The processes used to restore the channel and floodplain are well understood and therefore not novel, but the implementation is novel and will provide useful information to decision-makers. Please see comments under products for additional suggestions.**

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 feasible pending success in (1) experiencing a diverse set of outflows from Don Pedro Dam, and (2) replenishing the coarse gravel supply to the river. Unfortunately, neither of these two contingencies is explained in detail in the proposal. Most dams have very limited ranges of releases to downstream channels. While broadening the range of discharge may be addressed elsewhere or even required, little mention was made in the proposal. Gravel replenishment is mentioned in several places in the proposal, but no details are proffered in the main proposal body. Potential gravel sources are identified but no costs for future replenishment are included.**

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 monitoring plan is extremely well described in Tables 1 and 2 and should be adequate to document changes in planform geometry, riparian vegetation, and salmon response. Success or failure cannot be assessed within the three-year funding period and was recognized by the**

**writers. Potential funding for future monitoring was identified and will increase the chances of documenting future changes**

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 products are treated only briefly in the proposal. Considering the proposed expenditures, I would expect products such as video documentaries, time-lapse photography and videography, and real-time web updates to be part of the product output. These suggestions might be addressed by CALFED administrators as they look at similar ideas for all of the funded projects.**

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 experience, expertise, and track record of the applicants match the ambitious scale of the proposal. They recognize the need for qualified experts in hydraulics, geomorphology, fisheries, biology, and riparian vegetation. They provide experts in each.**

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

**Restoration work is apparently very expensive. All costs are explained except the \$600,000 for revegetation. At 74 acres, this is approximately \$8,000/acre. More justification or detail should be provided. Easements, mineral rights, project management, and contingencies all seem reasonable.**

**Miscellaneous comments:**

## **Prior Performance/Next Phase Funding: #1**

**New Proposal Number:** 181

**New Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

**01-N03, Tuolumne River Restoration: Special Run Pool 10, ERP; 01-N09, Tuolumne River Fine Sediment Management, ERP**

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

Yes -No -N/A

If no, please explain any difficulties:

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

Yes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

Yes -No -N/A

If no, please explain:

Other Comments:



## **Prior Performance/Next Phase Funding: #2**

**New Proposal Number:** 181

**New Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3 -Construction

1. Prior CALFED project numbers, titles, and programs: *(list only projects for which you are the contract manager)*

**97-MO8 Tuolumne River Channel Restoration, Special Run Pool 9.**

**97-MO9 Tuolumne River Setback Levees and Channel Restoration, 7/11 Segment of the Mining Reach.**

2. Prior CVPIA project numbers, titles, and programs: *(list only projects for which you are the contract manager)*
3. Have negotiations about contracts or contract amendments with this applicant proceeded smoothly, without persistent difficulties related to standard contract terms and conditions?

-Yes No -N/A

If no, please explain any difficulties:

**The proponent is competent and the projects are on their way to successful completion.**

**It has taken lots of contract administrator's time to negotiate these two contracts and to administer these two contracts.**

4. Are the status, progress, and accomplishments of the applicant's current CALFED or CVPIA project(s) accurately stated?

Yes -No -N/A

If no, please explain any inaccuracies:

5. Is the applicant's progress towards these project(s)' milestones and outcomes to date satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

6. Is the applicant's reporting, records keeping, and financial management of these projects satisfactory?

Yes -No -N/A

If no, please explain deficiencies:

7. Will the project(s) be ready for next phase funding in 2002, based on its current progress and expenditure rates?

Yes -No -N/A

If no, please explain:

Other Comments:

## **Environmental Compliance:**

**Proposal Number:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

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

Yes -No

If no, please explain:

**If any fish collection will take place, will need a Scientific Collecting Permit.**

**All other permits and environmental documents will be obtained and filed.**

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:

**Budget and timeline for permits is adequate.**

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:** 181

**Applicant Organization:** Turlock Irrigation District

**Proposal Title:** Tuolumne River Mining Reach Restoration Project: Warner-Deardorff Segment No. 3  
-Construction

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:

**no mention of indirect costs in the budget justification**

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).

6. Does the budget justification adequately explain major expenses?

Yes No

If no, please explain:

**budget justification does not explain the construction costs, it is stated in the proposal. Other than construction costs, other costs are indicated as none.**

7. Are there other budget issues that warrant consideration?

-Yes XNo

If yes, please explain:

Other Comments:

**All costs related to construction is well stated in the proposal**