Tuolumne River - La Grange Floodplain Restoration

Project Information

1. **Proposal Title:**

   Tuolumne River - La Grange Floodplain Restoration

2. **Proposal applicants:**

   Patrick Koepele, Tuolumne River Preservation Trust

3. **Corresponding Contact Person:**

   Patrick Koepele
   Tuolumne River Preservation Trust
   914 Thirteenth Street Modesto, CA 95370
   209 236-0330
   patrick@tuolumne.org

4. **Project Keywords:**

   Anadromous salmonids
   Habitat Restoration, Riparian
   Revegetation

5. **Type of project:**

   Implementation_Pilot

6. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   No

7. **Topic Area**:

   Riparian Habitat

8. **Type of applicant:**

   Private non-profit

9. **Location - GIS coordinates:**

   Latitude: 37.4728012

   Longitude: -120.4728012

   Datum:

   Describe project location using information such as water bodies, river miles, road intersections, landmarks, and size in acres.

The project is located on the north and southe banks of the Tuolumne River between river miles 49.2 - 50.6, near the town of La Grange. The total acreage is 200 acres.

10. **Location - Ecozone:**

    13.2 Tuolumne River

11. **Location - County:**

    Stanislaus

12. **Location - City:**

    Does your project fall within a city jurisdiction?

    No

13. **Location - Tribal Lands:**

    Does your project fall on or adjacent to tribal lands?

    No

14. **Location - Congressional District:**

    18th Congressional District - Gary Condit

15. **Location:**

    California State Senate District Number: 12

    California Assembly District Number: 25

16. **How many years of funding are you requesting?**

    3

17. **Requested Funds:**
    a) Are your overhead rates different depending on whether funds are state or federal?

       No

       If no, list single overhead rate and total requested funds:

       Single Overhead Rate: 20

       Total Requested Funds: $1,262,112

    b) Do you have cost share partners already identified?

       No

c) Do you have potential cost share partners?

No

d) Are you specifically seeking non-federal cost share funds through this solicitation?

No

If the total non-federal cost share funds requested above does not match the total state funds requested in 17a, please explain the difference:

18. **Is this proposal for next-phase funding of an ongoing project funded by CALFED?**

No

Have you previously received funding from CALFED for other projects not listed above?

Yes

If yes, identify project number(s), title(s) and CALFED program.

2001=H-202	**Tuolumne River Watershed Outreach and Stewardship**	**ERP/CVPIA-AFRP**
151	**The Tuolumne River Initiative: Developing an Integrated Plan**	**Watershed Program 2000-2001**

19. **Is this proposal for next-phase funding of an ongoing project funded by CVPIA?**

No

Have you previously received funding from CVPIA for other projects not listed above?

Yes

If yes, identify project number(s), title(s) and CVPIA program.

2001=H-202	**Tuolumne River Watershed Outreach and Stewardship**	**ERP/CVPIA-AFRP**

20. **Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA?**

    No

    Please list suggested reviewers for your proposal. (optional)

21. **Comments:**

Environmental Compliance Checklist

Tuolumne River - La Grange Floodplain Restoration

1. **CEQA or NEPA Compliance**
   a) Will this project require compliance with CEQA?

      Yes
   b) Will this project require compliance with NEPA?

      No
   c) If neither CEQA or NEPA compliance is required, please explain why compliance is not required for the actions in this proposal.

2. **If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies).** *If not applicable, put "None".*

   CEQA Lead Agency: Stanislaus County
   NEPA Lead Agency (or co-lead:)
   NEPA Co-Lead Agency (if applicable):

3. **Please check which type of CEQA/NEPA documentation is anticipated.**

   CEQA
   -Categorical Exemption
   XNegative Declaration or Mitigated Negative Declaration
   -EIR
   -none

   NEPA
   -Categorical Exclusion
   -Environmental Assessment/FONSI
   -EIS
   Xnone

   If you anticipate relying on either the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that you believe covers this project.

4. **CEQA/NEPA Process**
   a) Is the CEQA/NEPA process complete?

      No

      If the CEQA/NEPA process is not complete, please describe the dates for completing draft and/or final CEQA/NEPA documents.

      draft CEQA - February 1, 2003 final CEQA - April 1, 2003

   b) If the CEQA/NEPA document has been completed, please list document name(s):

5. **Environmental Permitting and Approvals** (*If a permit is not required, leave both Required? and Obtained? check boxes blank.*)

LOCAL PERMITS AND APPROVALS

Conditional use permit	
Variance	
Subdivision Map Act	
Grading Permit	
General Plan Amendment	
Specific Plan Approval	Required
Rezone	
Williamson Act Contract Cancellation	
Other	

STATE PERMITS AND APPROVALS

Scientific Collecting Permit	
CESA Compliance: 2081	
CESA Compliance: NCCP	
1601/03	Required
CWA 401 certification	Required
Coastal Development Permit	
Reclamation Board Approval	Required
Notification of DPC or BCDC	
Other	

FEDERAL PERMITS AND APPROVALS

ESA Compliance Section 7 Consultation	
ESA Compliance Section 10 Permit	
Rivers and Harbors Act	
CWA 404	Required
Other	

PERMISSION TO ACCESS PROPERTY

Permission to access city, county or other local agency land. Agency Name: Stanislaus County Department of Parks and Recreation	Required, Obtained
Permission to access state land. Agency Name:	
Permission to access federal land. Agency Name:	
Permission to access private land. Landowner Name:	

6. **Comments.**

Land Use Checklist

Tuolumne River - La Grange Floodplain Restoration

1. **Does the project involve land acquisition, either in fee or through a conservation easement?**

   No

2. **Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?**

   Yes

3. **Do the actions in the proposal involve physical changes in the land use?**

   No

   If you answered no to #3, explain what type of actions are involved in the proposal (i.e., research only, planning only).

   Habitat enhancement (grading floodplains and planting riparian vegetation). The land is undeveloped county park land upon which cattle are known to trespass.

4. **Comments.**

Conflict of Interest Checklist

Tuolumne River - La Grange Floodplain Restoration

Please list below the full names and organizations of all individuals in the following categories:

- Applicants listed in the proposal who wrote the proposal, will be performing the tasks listed in the proposal or who will benefit financially if the proposal is funded.
- Subcontractors listed in the proposal who will perform some tasks listed in the proposal and will benefit financially if the proposal is funded.
- Individuals not listed in the proposal who helped with proposal development, for example by reviewing drafts, or by providing critical suggestions or ideas contained within the proposal.

The information provided on this form will be used to select appropriate and unbiased reviewers for your proposal.

Applicant(s):

Patrick Koepele, Tuolumne River Preservation Trust

Subcontractor(s):

Are specific subcontractors identified in this proposal? Yes

If yes, please list the name(s) and organization(s):

Scott McBain McBain and Trush

Helped with proposal development:

Are there persons who helped with proposal development?

Yes

If yes, please list the name(s) and organization(s):

Scott McBain McBain and Trush

Comments:

Budget Summary

Tuolumne River - La Grange Floodplain Restoration

Please provide a detailed budget for each year of requested funds, indicating on the form whether the indirect costs are based on the Federal overhead rate, State overhead rate, or are independent of fund source.

Independent of Fund Source

Year 1												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
1	Environmental Documentation and Permitting	312	7217	1082	1020	934	45550		5580	61383.0	12277	73660.00
2	Baseline Conditions	312	7217	1082	1020	934	30550	5000	4580	50383.0	10077	60460.00
3	Construction Designs	156	3608	541	1020	934	50550		5665	62318.0	12464	74782.00
4	Earthwork	312	7217	1082	1020	934	210534	72567	29335	322689.0	64538	387227.00
5	Planting Design	156	3608	541	1020	934	28050	32239	6639	73031.0	14606	87637.00
		1248	28867.00	4328.00	5100.00	4670.00	365234.00	109806.00	51799.00	569804.00	113962.00	683766.00

Year 2												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
1	Planting	728	17690	2654	2550	2335	228826		25405	279460.0	55892	335352.00
2	Monitoring	520	12636	1895	2550	2335	35750		5517	60683.0	12137	72820.00
		1248	30326.00	4549.00	5100.00	4670.00	264576.00	0.00	30922.00	340143.00	68029.00	408172.00

Year 3												
Task No.	**Task Description**	**Direct Labor Hours**	**Salary *(per year)***	**Benefits *(per year)***	**Travel**	**Supplies & Expendables**	**Services or Consultants**	**Equipment**	**Other Direct Costs**	**Total Direct Costs**	**Indirect Costs**	**Total Cost**
1	Planting	104	3980	597	425	583	10750		1633	17968.0	3594	21562.00
2	Monitoring	104	3980	597	425	583	107000		11258	123843.0	24769	148612.00
		208	7960.00	1194.00	850.00	1166.00	117750.00	0.00	12891.00	141811.00	28363.00	170174.00

Grand Total=1262112.00

Comments.

Budget Justification

Tuolumne River - La Grange Floodplain Restoration

Direct Labor Hours. Provide estimated hours proposed for each individual.

Patrick Koepele - Central Valley Program Director, total hours 2,253 (50% time for 2 yrs, 3 months)
Jenna Olsen, Executive Director, total hours - 450 (10% time for 2 yrs, 3 months)

Salary. Provide estimated rate of compensation proposed for each individual.

Rates of compensation account for annual salary increases of 5%. Also, the salaries of the Central Valley Program Director and the Executive Director are averaged for each task to simplify the budget sheet. Year 1: Central Valley Program Director - $23,625, Executive Director - $5,250. Year 2: Central Valley Program Director - $24,806, Executive Director - $5513. Year 3 (3 months): Central Valley Program Director - $6,512, Executive Director - $1,447

Benefits. Provide the overall benefit rate applicable to each category of employee proposed in the project.

The benefits rate is 15% for all employees.

Travel. Provide purpose and estimate costs for all non-local travel.

All travel is local (to/fr meeetings, local conferences).

Supplies & Expendables. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.

All supplies are office supplies.

Services or Consultants. Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.

Environmental Documentation and Permitting: 7 months, $217/day Baseline Conditions, Construction & Planting Designs: 9 months, $404/day Earthwork: 2 months, $3,509/day Planting: 7 months, $1,090/day Monitoring: 253 days, $564/day

Equipment. Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than $5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items.

Equipment includes: top soil, silt fence, fencing, tree cuttings, container stock, fertilizer, rebar, woodchips.

Project Management. Describe the specific costs associated with insuring accomplishment of a specific project, such as inspection of work in progress, validation of costs, report preparation, giving presentatons, reponse to project specific questions and necessary costs directly associated with specific project oversight.

Costs are those associated with the Central Valley Program Director and the Executive Director, as explained above.

Other Direct Costs. Provide any other direct costs not already covered.

Other direct costs include a contingency fund, amount to 10% of other direct costs.

Indirect Costs. Explain what is encompassed in the overhead rate (indirect costs). Overhead should include costs associated with general office requirements such as rent, phones, furniture, general office staff, etc., generally distributed by a predetermined percentage (or surcharge) of specific costs.

Includes rent, utilities, phone, postage, insurance, office and computer maintenance.

Executive Summary

Tuolumne River - La Grange Floodplain Restoration

Stanislaus County presently owns approximately 200 acres of Tuolumne River floodplain near the town of La Grange. The land extends from approximately RM 49.2 - 50.6 on the south bank and from RM 49.9 - RM 50.6 on the north bank. This is a proposal to undertake a pilot demonstration project on about 77 acres out of the 200 acres of county land. The project is floodplain and riparian restoration to recreate a more natural environment for the benefit of riparian species, San Joaquin fall-run chinook salmon, and steelhead. The project will improve riparian habitat along the lower Tuolumne River, and improve chinook salmon and steelhead spawning and rearing habitat. The following CALFED ERP goals will be met by implementing this project: recovery of at-risk native species, rehabilitation of natural processes, maintenance and enhancement of populations of selected species for sustainable commercial and recreational harvest, protection and/or restoration of functional habitat types in the Bay-Delta watershed, reduction of the negative biological and economic impacts of established non-native species in the Bay-Delta estuary and its watershed, improvement and/or maintenance of water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta watershed. The goal of this project is to improve the functionality of the Tuolumne River floodplain to provide riparian habitat to support riparian species and San Joaquin fall-run chinook salmon and steelhead trout. The primary objectives for the restoration project are: a. Restore functional floodplains that allow inundation at a greater frequency and reduce risks of juvenile salmonid stranding. b. Remove invasive exotic hardwood vegetation. c. Restore native riparian vegetation, preserving existing native vegetation and planting the appropriate species on restored surfaces inundated by the contemporary hydrologic regime. d. Exclude trespassing cattle from the county property by building fences. e. Build a loop trail consistent with the restoration project. The hypothesis of this project is that a reconstructed floodplain, along with vegetation management and the exclusion of cattle grazing, will improve floodplain connectivity, improve outmigrant survival through reduced juvenile stranding, and rehabilitate riparian regeneration and succession processes.

Proposal

Tuolumne River Preservation Trust

Tuolumne River - La Grange Floodplain Restoration

Patrick Koepele, Tuolumne River Preservation Trust

A. Project Description: Project Goals and Scope of Work

1. Problem

This is a proposal to restore approximately 77 acres of floodplain along the lower Tuolumne River near the town of La Grange. The project area lies on approximately 200 acres of Stanislaus County land within the prime-spawning reach of the Tuolumne fro chinook salmon. The problem this proposal would address is a dysfunctional floodplain and lack of riparian habitat sufficient for riparian species, San Joaquin fall-run chinook (*Oncorhynchus tschawytscha*), and steelhead (*O. mykiss*). The prime spawning reach of the Tuolumne River (which has the largest naturally reproducing population of Chinook in the San Joaquin Valley) suffers from lack of native riparian vegetation, fine sediment overloading, high stranding, and a floodplain disconnected from its channel.

Project Location. This project will be constructed on approximately 77 out of 200 acres of Stanislaus County land along the Tuolumne River near the town of La Grange (Fig. 1). The land extends from approximately RM 49.2 – 50.6 on the south bank and from RM 49.9 – RM 50.6 on the north bank.

Review of Existing Studies and Plans. The definitive study of the problem of a dysfunctional floodplain and insufficient riparian habitat is the *Habitat Restoration Plan for the Lower Tuolumne River Corridor* (McBain and Trush, 2000), which provides the conceptual plan for this project. The *Restoration Plan* provides a comprehensive study of the Tuolumne River's salmon population, fluvial geomorphology, and riparian habitat, as well as a review of previous studies of these items. The *Restoration Plan* details the history, present condition, and prescribed actions for the entire lower Tuolumne, including these parcels.

As presented in the *Restoration Plan*, the problems of a dysfunctional floodplain and lack of riparian habitat sufficient for riparian species and San Joaquin fall-run chinook is the result of a complex suite of inter-related past and present actions and issues. A 60-year legacy of gold and gravel mining, grazing, and dam construction has resulted in fragmented riparian stands, poor or non-existent valley oak and cottonwood regeneration, fossilized alluvial deposits, remnant pits that periodically strand juvenile chinook salmon during receding high flows, and reduced spawning gravel storage within the bankfull channel. Extensive gold dredging (from valley wall to valley wall) occurred through the 1940's, leaving no defined channel and voluminous dredger tailings piled on floodplain surfaces. Flood events after 1937 began reinitiating a defined channel through the tailings, but by 1963 the channel still lacked defined floodplains and meander sequences. These dredger tailings were removed for the construction of New Don Pedro Dam from 1965 to 1970, which left shallow pits and non-draining surfaces. After New Don Pedro Dam was completed in 1971, the channel between river mile 50.5 and 46.6 was reconstructed to improve chinook salmon spawning habitat. However, riparian vegetation and floodplains were not restored, and cattle grazing and flow regulation has discouraged riparian regeneration at the site.

Additional studies of the Tuolumne River beyond the *Restoration Plan* include multiple past and ongoing monitoring programs. The Tuolumne River has a comparatively long history of monitoring and data collection going back to 1897 when Turlock Irrigation District and Modesto Irrigation District (TID/MID) began collecting annual water yield from the Tuolumne Watershed. Since 1971, TID/MID in cooperation with the California Department of Fish and Game (DFG) and the U.S. Fish and Wildlife Service (USFWS) have conducted

extensive studies of chinook salmon population dynamics and habitat in the lower Tuolumne River as part of the Don Pedro Project Federal Energy Regulatory Commission (FERC) Study Program and other investigations. In 1995, through a FERC-required re-evaluation of the effects of the NDPP on the anadromous fish population, TID/MID, and the City and County of San Francisco (CCSF) entered into a FERC Settlement Agreement (FSA) with the USFWS, DFG, the Tuolumne River Preservation Trust, Friends of the Tuolumne, Tuolumne River Expeditions, the California Sports Fishing Protection Alliance, and the San Francisco Bay Area Water Users Association. The FSA includes a river-wide program to monitor the chinook salmon population and salmon habitat, including monitoring of adult escapement, spawning/incubation habitat quality (with regard to substrate composition), fry and juvenile stranding and entrapment, fry and juvenile distribution, outmigrant survival, and water temperature. Additionally, the DFG monitors outmigrant abundance and timing under the CVPIA Comprehensive Assessment and Monitoring Program. The U.S. Geological Survey monitors flow. These monitoring programs inform the La Grange Restoration Project and will contribute to the monitoring program for the project

In addition to being the definitive study of the lower Tuolumne River, the *Restoration Plan* also provides the conceptual plan for the La Grange project. Below is a summary of the main symptoms of the aforementioned problem and the suggested solutions (or actions to address the problem) outlined in the *Restoration Plan*.

Riparian habitat loss has been great, with less than 15% of the historical riparian forests remaining along the river (McBain and Trush, 2000). Riparian habitat loss continues because mining activities and urban/agricultural encroachment have continued to directly remove large tracts of riparian vegetation. For example, livestock selectively graze younger riparian plants, which severely limits riparian initiation (McBain and Trush, 2000). Changes to riparian vegetation directly affect microclimate, nutrient availability, habitat quality, and diversity (Gregory et al., 1991). Loss of vegetative cover, including clearing of valley oaks and cottonwoods, due to agricultural encroachment has additionally reduced woody plant cover along the river corridor, encouraged exotic plants to infiltrate into the riparian zone, and increased ambient temperatures within the river corridor (McBain and Trush, 2000). The *Restoration Plan* recommends direct removal of non-native vegetation and planting of native riparian vegetation in key reaches. In addition, the *Restoration Plan* indicates that the interaction between floodplain elevation, riparian vegetation and contemporary bankfull discharge must be restored to rehabilitate natural fluvial and vegetative growth processes.

The Tuolumne River is disconnected from its floodplain. On the lower Tuolumne River, flows inundate the floodplain much less frequently than historically occurred due to flow regulation and flood control (McBain and Trush, 2000). Annual streamflow patterns and riparian plant life cycles interact to produce a dynamic relationship between (1) mortality caused by surface or groundwater inundation or desiccation and (2) survival when adequate soil moisture conditions correspond to seed availability. High flows that exceed the bankfull stage inundate floodplains and recharge groundwater tables in floodplains, oxbow lakes, and sloughs (McBain and Trush, 2000). Additionally, substantial loss of the high flow regime has further discouraged riparian regeneration. Some plant species have evolved rapidly growing roots to follow the dwindling sub-surface soil moisture (Segelquist et al., 1993). The proposed solution is to lower the elevation of the floodplain to allow more frequent

inundation, which would contribute to improved fluvial geomorphic and vegetative growth processes.

Stranding of juvenile Chinook salmon is another symptom of the historical use of the river and its floodplain. Significant stranding periodically occurs in this reach of the river during high flows because many of the floodplain undulations and pits created during the dredging do not drain back to the river; as high flows recede, fry and juvenile chinook salmon are stranded and die in these areas (TID/MID, 1997; TID/MID, 1998; McBain and Trush, 2000). This problem is especially grave because the channel of the Tuolumne adjacent to this land contains the most heavily used chinook salmon spawning beds in the entire lower Tuolumne River. Reconstruction of the floodplain is recommended to eliminate the pits that increase the risk of salmon stranding.

Finally, this reach of the Tuolumne River suffers from fine sediment overloading. A large volume of sand deposited on the floodplain by the 1997 flood has greatly increased sand storage in the floodplain of this reach, possibly leading to short-term and long-term negative impacts to chinook salmon habitat. The increased amount of exposed sand in the floodplain provides a constant and steady supply of fine sediment to the adjacent spawning riffles, especially during storm events. Cattle grazing exacerbates this problem by causing loss of riparian vegetation while further disturbing sand deposits. Accumulation of fine sediment in spawning gravel can reduce salmonid survival-to-emergence through two mechanisms: (1) reduction of intragravel flow, and (2) entombment of emerging fry. The intrusion of fine sediment into gravel interstices reduces intragravel flow by reducing gravel permeability (Cooper, 1965; Lotspeich and Everest, 1981; McNeil, 1964; Platts et al.; 1979) and results in reduced rates of oxygen delivery to and removal of metabolic wastes (carbon dioxide and ammonia) from the eggs and alevins (Coble, 1961; Silver et al., 1963; McNeil, 1964; Wickett, 1954). Fine sediment in the gravel interstices can also physically impair the ability of alevins to emerge through the gravel layer, trapping them within the gravel (Phillips et al., 1975; Hausle and Coble, 1976). We propose to reduce the amount of fine sediment in spawning gravel by improving the ability of the floodplain to store fine sediment, by stabilizing soils through revegetation, and by eliminating unpermitted cattle grazing on the county property.

Goals and Objectives. The goal of this project is to improve the functionality of the Tuolumne River floodplain to provide riparian habitat to support riparian species and San Joaquin fall-run Chinook. The primary objectives for the restoration project are:

a. Restore functional floodplains that allow inundation at a greater frequency and reduce risks of juvenile salmonid stranding.
b. Remove invasive exotic hardwood vegetation.
c. Restore native riparian vegetation, preserving existing native vegetation and planting the appropriate species on restored surfaces inundated by the contemporary hydrologic regime.
d. Exclude trespassing cattle from the county property by building fences.
e. Build a loop trail consistent with the restoration project.

Secondary objectives, which will not be monitored, include the following:

f. Reduce fine sediment (sand) stored in the floodway.

g. Improve natural regeneration of Fremont cottonwood, valley oak, tree willows and alder for avian and terrestrial species.
h. Include the general public in restoration and monitoring and improve public access through construction of a loop trail system. Public access is an important part of the Stanislaus County Parks Master Plan and a requirement of the overall project. Further, we feel that the project will afford an excellent opportunity to include the public in restoration.

Hypothesis. The hypothesis of this project is that a reconstructed floodplain, along with vegetation management and the exclusion of cattle grazing, will improve floodplain connectivity, improve outmigrant survival through reduced juvenile stranding, and rehabilitate riparian regeneration and succession processes.

2. Justification

Conceptual Model. A conceptual model for the proposed actions, the anticipated results, and measured parameters is included (Fig. 2). The La Grange Restoration conceptual model is an adaptation of a conceptual model prepared by Stillwater Sciences for the Tuolumne River Technical Advisory Committee for the AFRP/CALFED Adaptive Management Forum and presented on June 19, 2001. This model is focused on floodplain and riparian processes, whereas the original model contained attributes of channel function and coarse sediment supply.

The conceptual model describes how reconstructing the floodplain leads to a series of effects that restore natural riparian regeneration and succession progression and improve outmigrant survival. Vegetation management and exclusion of cattle also contribute to the restoration of riparian processes and reduction of fine sediment influx to the river.

The model reflects the physical and biotic responses of the system to past and present stressors and limiting factors. For example, loss of floodplain soils during dredger mining, unnatural swale creation during dredger mining, and a perched floodplain disconnected from frequent inundation during winter and spring flows have contributed to the loss of riparian habitat and stranding of salmonids. Excessive sand deposition on the floodplain during the January 1997 flood has reduced the fine sediment storage capability of the floodplain. Cattle grazing limits vegetation survival and stresses spawning habitat. Removal or reduction of the stressors and limiting factors improves the biotic and physical processes.

Hypothesis Test. The La Grange Restoration project is designed to test the hypothesis by comparing baseline data (pre-test) with post-project monitoring data (post-test) to determine whether the proposed solutions contributed to the anticipated outcomes. The actions to be implemented are:

1. Reconstruct the floodplain
2. Remove nonnative invasive vegetation
3. Preserve existing vegetation and plant riparian vegetation
4. Exclude cattle from trespassing in the project area
5. Construct a loop trail

The anticipated outcomes are restored natural riparian regeneration and succession progression and improved outmigrant survival.

The elements to be monitored, either by McBain and Trush or another appropriate consultant, are:

1. Change in floodplain inundation frequency
2. Change in salmonid stranding risk
3. Change in nonnative invasive species and native riparian vegetation
4. Change in cattle trespass frequency

The next sections describe this process in greater detail.

Key Uncertainties. The key uncertainties of this project include the impact of improved channel-floodplain connectivity on riparian vegetative growth and the effects of reduced grazing on riparian vegetative growth. We assume that vegetation is unable to develop in this reach because of these factors, but this has not been demonstrated conclusively on the Tuolumne. The monitoring program should reveal whether the improvements in these attributes improve riparian development.

Adaptive Management and Project Type. The La Grange Floodplain Restoration Project is a pilot project. Although the extensive history of monitoring and the development of the *Restoration Plan* have established a very good basis for ecosystem rehabilitation, the efficacy of large-scale restoration projects on the Tuolumne is largely unknown. Additionally, although similar floodplain reconstruction and vegetation projects have been conducted in the lower sand-bedded reach of the lower Tuolumne River and other rivers in the Central Valley, no such projects have yet been completed in the gravel-bedded reach of the Tuolumne River. This project will provide critical information about the effectiveness of these types of projects in rehabilitating the riparian habitats along the lower Tuolumne River.

The Tuolumne Trust intends to incorporate adaptive management into the restoration project itself. For example, we expect that elimination of cattle will improve riparian regeneration process. However, we may find cattle are not the only animals preventing growth of new seedlings. We may need to replant a certain amount of trees using different techniques, such as planting with metal cages to protect the rootstock, if we determine that other animals (such as gophers) are feeding on seedlings. If floodplain terraces are not inundating at predicted frequencies, we could potentially modify the planting design and replant vegetation on appropriate elevations to match flood inundation levels.

The information and learning obtained from implementation of the LaGrange Floodplain Restoration Project will contribute to the adaptive management of the CALFED Ecosystem Restoration Project as a whole as well.

The project may yield information that could revise future restoration projects or lead to larger scale restoration at similar sites. For example, we will refine our knowledge of reconstruction design and rating curves based on whether the reconstructed floodplains inundate at predicted frequencies. Changes in the rates of juvenile salmon stranding will also provide information useful to future floodplain terrace reconstruction projects, especially in spawning reaches. Likewise, the success of our methods of removing invasive hardwoods and planting native vegetation can improve future projects.

3. Approach

The study design is a pre- and post-project comparison of key indicators, with data collected in a time series. We will use the most rigorous statistical analysis the data allow. The approach, as modified from that described in McBain and Trush (2000) follows:

1) Clearly define baseline conditions and finalize conceptual designs.

The *Restoration Plan* has documented much of the historical and baseline conditions of the site, and subsequent reports to the Federal Energy Regulatory Commission (FERC), as required by the license to TID/MID for the New Don Pedro Project, contain additional baseline information. The information pertinent to this project will be compiled into a single report to be used for comparison to post-project conditions. A conceptual design of the project is shown in Figure 3. This would include such features as designing tree planting on a variety of elevations to better understand the effects of flooding. McBain and Trush will play a lead role in finalizing conceptual designs.

2) Develop environmental documentation, obtain permits, and develop final designs.

This will be a necessary step for project implementation. We anticipate working closely with Stanislaus County, and we would likely hire a contractor with experience in completing environmental reports to complete any environmental documentation and permitting. McBain and Trush would create final designs.

3) (Corresponds to Objective a.) Regrade floodway surfaces outside the low flow channel to inundate at 4,000 to 5,000 cfs, thereby improving channel-floodplain connectivity, reducing threats of juvenile stranding, reducing fine-sediment storage, and improving natural vegetative growth requirements.

Remnant dredger tailing surfaces will be regraded to fill in many of the stranding pits. Other stranding pits and undulations will be regraded so that if flows access them, water will drain back to the river and reduce chinook salmon stranding. Sand deposited on floodway surfaces during the 1997 flood will be preferentially targeted for removal and spoils will be placed in pits further away from the channel so the sand will not be re-introduced into the river. Local areas of high ground and old tailings will also be used as on-site fill material to fill pits. We anticipate that nearly 24,000 yd^3 of earthwork will be required, with all materials derived on-site.

4) (Corresponds to Objective b.) Remove invasive exotic vegetation.

All woody exotic plant species within the reach should be removed during floodplain regrading. Three plant species should be targeted for removal: giant reed, tree of heaven, and all Eucalyptus species. The San Joaquin River Management Program Advisory Council has identified giant reed as a plant to eliminate throughout the San Joaquin River and its tributaries (SJRMP, 1995). Eucalyptus sp. has been planted and naturalized throughout the lower project reach. To ensure that resprouting does not occur, the above ground portion and the stump/root wads of exotic plants must be removed.

5) (Corresponds to Objective c.) Preserve existing riparian vegetation and plant native riparian hardwoods on floodway surfaces appropriate for each species' life history requirements.

Preserving as much existing native woody riparian vegetation as feasible is a primary goal of the project. Cottonwood, tree willow, and valley oak stands should not be removed during construction. The valley oaks that are present in this reach will be utilized for seed collection, and are important contributors to future recruitment. Nearly all cottonwoods should be preserved to increase age class diversity and riparian canopy structure. Mature cottonwoods (>25 years), regardless of stand size, should not be removed because they provide the seed source for future recruitment.

After earthwork is completed, valley oak, Fremont cottonwood, and willows will be planted on floodplain surfaces appropriate for their life history requirements. Floodplain species will be willows, alders and cottonwoods. Willows will be planted nearer the active channel-bankfull channel transition, while valley oaks will be planted on higher floodplains and terraces near the valley walls. Revegetation patterns will reflect plant species patterns identified during the riparian inventory conducted in 1996.

Because of cost, material supply, and species characteristics, some hardwood species have priority over others. Cottonwood and willow plantings on floodplain surfaces are prioritized because of their fast growth, structural contribution to the riparian corridor, and aesthetics. Valley oaks are the next priority because of their large-scale removal over the past 100 years. Increasing the valley oak stand size is desirable; not only for their long-term wildlife habitat contribution, but also for the valuable structural components they add to the riparian corridor.

Much of the revegetation materials will come from onsite sources (valley oak seeds, willow cuttings, cottonwood cuttings), and species not found onsite (sedges, alder, and Oregon ash) should be purchased from local nurseries that obtain it from within the Tuolumne River corridor. Cluster planting (vegetation patches) rather than row planting should be encouraged to recreate a more natural site appearance, ease watering and maintenance, and increase habitat diversity. McBain and Trust will be retained to complete the planting designs and implement the planting.

To the extent possible, we would like to include volunteers in the planting of trees as a means of involving the local community in the restoration effort.

6) (Corresponds to Objective d.) Construct fencing to prevent cattle from unpermitted grazing on the property.

Cattle from neighboring rangeland are known to graze on the county-owned land without a permit. The cattle seriously diminish the possibility of natural riparian regeneration, both through disturbing seedbeds and eating any seedlings that might take hold. The trespassing cattle contribute to fine sediment influx to the adjacent gravel beds because of the exposed sand that is loosened by the cattle hooves. An important part of the project is to construct fencing around the perimeter of the county property to exclude cattle from wondering onto the private land.

7) (Corresponds to Objective e.) Construct a walking trail system through the property with canoeing and fishing access to the river.

The trail system and access will provide an excellent opportunity to educate visitors about floodplain functions, salmon, and the benefits of riparian habitat. The trail will be well signed to educate visitors of the ongoing restoration efforts. The County Parks Master Plan recommends a low impact trail system and loop nature trail. The Master Plan also proposes a new trail staging area adjacent to the intersection of Yosemite and J29 to provide access to these proposed trails. The Master Plan is in agreement with the overall proposal for riparian restoration. It recommends a program of native plant and wildlife habitat enhancements including managing cattle grazing to reduce damage to the riparian zone.

8) Undertake monitoring of the site and evaluation of hypotheses.

Monitoring will commence, as described in Section 5 - Performance Measures, below. The monitoring phase of any project must focus on whether the project objectives have been satisfied. Is the regraded floodplain accessible to the 5000 cfs flow? How successful is the riparian revegetation, and has reduced cattle grazing improved regeneration success? Was exotic species removal successful?

Monitoring reports will be produced for the first two years and at the end of the fifth year a final monitoring report will be produced that summarizes monitoring data. The final report will also interpret the data and make recommendations that will improve future designs.

9) Adjust management of the site based upon the results of monitoring.

Management of the site can be adjusted based on the results of project monitoring. Some of the possible outcomes of monitoring, and resulting actions, are described in Section 2 - Justification, above.

This approach maximizes the information richness and value to decision-makers. The approach will provide detailed information regarding reconstruction of floodplains, and methods of removing nonnative vegetation and planting native riparian species. This project has great potential for improving our understanding of the interrelation among floodplain processes and riparian vegetation and habitat. Additionally, the approach will provide greater detail than currently exists about fine sediment control techniques, especially in a gravel-bedded spawning reach.

4. Feasibility

The La Grange Restoration Project is both feasible and appropriate. As described above, the project is similar to, and in fact incorporates, several successful projects in the community (including the *Restoration Plan* and the Stanislaus County Parks Master Plan).

Property access agreements will not be an impediment to this project. Stanislaus County owns the land. The Stanislaus County Parks Master Plan is in agreement with the project as described in this proposal and the Stanislaus County Parks and Recreation Department wishes to partner with the TRPT to restore these lands (Attachment 1).

The methods proposed in this work plan are known to be effective. The TRPT, through its relationship with the Tuolumne River Technical Advisory Committee (TRTAC) has a strong network of consultants familiar with the Tuolumne River including McBain and Trush. We anticipate working closely with Stanislaus County, and we would likely hire a contractor with experience in completing environmental reports to complete any environmental documentation consistent with the Environmental Compliance Checklist. The timeline incorporates and allows for the completion of such compliance.

Regrading floodplains and planting riparian vegetation as proposed for this project are techniques that have been undertaken through other projects along the Tuolumne (Grayson River Ranch, SRP 9) and California (Cosumnes River, Clear Creek, Merced River). They are techniques commonly used, can be completed within the timeline given, and will not pose a problem on this project.

5. Performance Measures

We will evaluate a series of measures by comparing pre- and post-project data. Our objectives will be evaluated through the following monitoring plan and performance measures:

Change in floodplain inundation frequency. Re-establishment of the river's access to the floodplain by regrading within the project reach should increase floodplain inundation frequency within the contemporary (post NDPP) flow regime. We will test this by comparing measurements of post-project flood-inundation extent and duration with known flood frequency relationships for the lower Tuolumne River. Inundation during one or more high flow events from 4,000 – 5,000 cfs will be measured by placing stakes to demarcate the extent of flooding, which will be delineated by a follow-up survey. In the event that flood peaks are not captured, passive flood stage recorders (*i.e.,* primitive stilling well arrangement or recording pressure transducer) will also be used.

Change in salmonid stranding risk. TID/MID have conducted stranding surveys at four separate sites along the river within the project area. Post-implementation stranding surveys will be undertaken at a variety of flows and compared with the pre-project surveys to measure the change in stranding on the project site.

Nonnative invasive species, restoration of native riparian vegetation, and improved cattle management. The ecological disturbance associated with increased flood frequency and inundation duration should be accompanied by increases in riparian vegetation diversity and

recruitment of native plant species. In addition to documenting hydroperiod and groundwater changes at the site, we will monitor changes in vegetation composition, distribution and seedling recruitment. Coarse-scale riparian vegetation mapping at the site was completed as part of the *Restoration Plan*. These maps will be used as baseline information for post-project comparison. Prior to project construction, we will survey base-line photo points. After the project has been implemented, we will follow up with further riparian mapping and surveys to determine the success of the project in terms of riparian regeneration.

In addition to site vegetation mapping, monitoring will include experimental plots at different locations within the floodplain (e.g., heads of bars, near the summer low water surface, floodplains, outsides of meander bends, isolated ponds, and terraces), which will also correspond to a gradient of floodplain and groundwater elevations. The success of non-native species removal will be monitored over at least two seasons by quadrat counts of seedling germination and recruitment. Similarly, the success of native species germination and survival will be followed through two seasons (*i.e.,* after germination, at summer low flow, following winter scour events, etc.).

Several physical factors will be monitored to provide ecological context and control for factors in the experimental design, including soil texture (by sieving bulk samples at several locations), groundwater depth (using piezometers) and river stage (using a pressure transducer and/or staff gauge). Morphologic observations will associate periods of inundation with periods of developmental milestones such as, bud swelling, bud break, leaf growth, floral development, flowering, fertilization, fruit development, fruit dehiscence and seed dispersal following methods similar to those identified in Beck et al. (1991). Plant morphologic development will be monitored weekly until seed dispersal has ended to define the periods that each developmental stage was observed. To the extent possible, these observations will also take advantage of local volunteer groups.

During the vegetation monitoring, evidence of continued cattle grazing and detrimental impacts of cattle on trees and plants will be documented. This is a less rigorous facet of the monitoring plan and will answer the following questions: Are cattle observed on the project site? Have cattle been observed by staff at the nearby California Department of Fish and Game Tuolumne River Restoration Field Office or TID/MID biologists? Is there evidence of cattle, such as dung or hoof prints?

6. Data Handling and Storage

All documents, posters, publications, and web sites that result from this proposal will be made available to the public, either electronically or in printed form. Progress and final project reports will be made to the Tuolumne River Technical Advisory Committee and the Tuolumne River Coalition. Data will be stored on the applicant's hard drive, as well as on CD-ROM, and will be available to the CALFED and CVPIA programs in draft form prior to dissemination. A final report with all data collected will be made available to CALFED or the CVPIA.

7. Expected Products/Outcomes

Reports generated through this project will include appropriate environmental documentation, a summary report of baseline conditions, a final project report, and a monitoring report after 1, 2, and 5 years. Progress reports will be presented to the Tuolumne

River Technical Advisory Committee for its quarterly meetings, and the Tuolumne River Coalition for its monthly meetings. We anticipate presenting the results of the project to other forums, such as the San Joaquin Riparian Management Program, and the CALFED Science Conference via a talk or poster presentation. Additionally, we will publicize this widely to the general public to generate media tours, newspaper or television stories.

8. Work Schedule

Phase	Task	Month	Estimated Date[1]
Phase I - Restoration Planning and Permitting	Initiate surveys and aerial photographic work to establish baseline conditions, including topography.	0	September 1, 2002
	Notify public, adjoining property owners, and local watershed groups, and local governments	0	
	Begin Environmental Documentation/Permitting	1	October 1, 2002
	Complete Conceptual Designs	2	November 1, 2002
	Public scoping meeting	3	December 1, 2003
	Complete Draft Environmental Document	5	February 1, 2003
	Complete Final Environmental Document	7	April 1, 2003
	Complete Permitting	8	May 1, 2003
	Complete Final Designs	9	June 1, 2003
Phase II – Implementation	Begin construction (grading, fencing, trail)	10	July 1, 2003
	Complete construction (grading, fencing, trail)	12	September 1, 2003
	Complete removal of NIS and planting	19	May 1, 2004
Phase III - Monitoring Schedule	See below		

1) The date assumes a start date of September 1, which we assume will allow time for a CALFED contract to be developed if this is a successful grant. If a contract is completed earlier or later, the project tasks will shift accordingly

Phase III - Monitoring Schedule

Monitoring Objective	Time after construction
Document pre-construction topography and vegetative conditions, including presence of exotic species and condition of native species.	Occurs before construction
Document post-construction vegetative conditions, including presence of exotic species and condition of native species.	0 (post-construction)
Document over-summer plant survival and recruitment, presence of exotic species	4 months
Document over-winter/pre-summer plant survival, and deposition on floodplain	12 months
Document scour/inundation mortality in plots and through photo surveys. Conduct stranding surveys. Conduct field surveys to measure flood extent.	first flood > 4,000 cfs
Document scour/inundation mortality in plots and through photo surveys. Conduct stranding surveys. Conduct field surveys to measure flood extent.	first flood > 8,000 cfs
Document drought related mortality and presence of exotic plant species.	2 consecutive drought years
Document overall survival and recruitment, exotic species, and conclude monitoring program	5 years

B. Applicability to CALFED ERP and Science Program Goals and Implementation Plan and CVPIA Priorities

1. ERP, Science Program and CVPIA Priorities

This project would address all 6 strategic goals described in the ERP Draft Stage 1 Implementation Plan and CVPIA goals (as described in pp. 22 –39 of the ERP Draft Stage 1 Implementation Plan) as follows:

- Strategic Goal 1: Achieve recovery of at-risk native species dependent on the Bay-Delta watershed and minimize the need for future endangered species listings by reversing downward population trends of native species that are not listed. This project would contribute to the recovery of San Joaquin fall-run chinook salmon, and steelhead.
- Strategic Goal 2: Rehabilitate natural processes in the Bay-Delta system to support, with minimal ongoing human intervention, natural aquatic and associated terrestrial biotic communities and habitats, in ways that favor native members of those communities. This project would contribute to the rehabilitation of natural fluvial geomorphic and riparian processes.
- Strategic Goal 3: Maintain and/or enhance populations of selected species for sustainable commercial and recreational harvest, consistent with the other ERP Strategic Goals. This project would contribute to the recovery of San Joaquin fall-run chinook salmon and steelhead.
- Strategic Goal 4: Protect and/or restore functional habitat types in the Bay-Delta watershed for ecological and public values such as supporting species and biotic communities, ecological processes, recreation, scientific research, and aesthetics. This project would contribute to the recovery of floodplain and riparian habitats.
- Strategic Goal 5: Reduce the negative biological and economic impacts of established non-native species in the Bay-Delta estuary and its watershed. This project would contribute to the removal and management of nonnative invasive species.
- Strategic Goal 6: Improve and/or maintain water and sediment quality conditions that fully support healthy and diverse aquatic ecosystems in the Bay-Delta watershed. This project would contribute to maintaining or improving water quality conditions.

This project would address the following ERP priorities as described in pp. 40 – 47 and 69 – 74 of the ERP Draft Stage 1 Implementation Plan:

- MR-1) Nonnative invasive species control. Nonnative invasive species will be removed through this project.
- MR-3) Implement environmental education actions throughout the geographic scope. One of our secondary objectives is to include volunteers in the planting and monitoring of the project, which will contribute to this ERP priority.
- SJ-1) Continue habitat restoration actions including channel-floodplain reconstruction projects and habitat restoration studies in collaboration with local groups.
- SJ-2) Restore geomorphic processes in stream and riparian corridors.
- SJ-3) Improve rearing and spawning habitat and downstream fish passage on tributary streams and the main stem San Joaquin River, particularly for chinook salmon and steelhead trout.
- SJ-4) Implement actions to improve understanding of at-risk species in the region. This will be accomplished through including the general public in planting and monitoring.

The project will help improve stream meander and natural floodplain and flood processes by creating a floodplain that is more frequently inundated and that is less confined by nonnative invasive species. The project would target riparian, freshwater fish, and essential fish habitats. The project would help reduce nonnative invasive species, stranding of juvenile salmonids, and fine-sediment influx to spawning beds. The project would improve habitat of chinook salmon and steelhead by reducing fine sediment influx to spawning riffles and reducing stranding sites. Other species that may benefit include the western pond turtle and Swainson's hawk.

2. Relationship to Other Ecosystem Restoration Projects

The La Grange Floodplain Restoration Project is one of 14 restoration projects recommended by the *Restoration Plan*.[1] It contributes to the overall goals of the *Restoration Plan* by restoring the riparian corridor, reconnecting the floodplain to the channel, and enhancing the supply of self-sustaining, dynamic, native woody riparian vegetation.

Other projects completed, under construction, and planned for the Tuolumne include channel and floodplain restoration of the gravel mining reach; SRP 9; SRP 10; River Mile 43 Channel Restoration; gravel additions; gravel cleaning; fine sediment management; Bobcat Flat floodplain restoration; Grayson River Ranch floodplain restoration; Big Bend Floodplain Restoration; and the Tuolumne River Regional Park riparian restoration. Each of these projects is designed for the specific needs of the location of the project, and each is designed to be complementary to the other projects. Funding for these other projects has come from CALFED, AFRP, the Natural Resources Conservation Service, Delta Pumps Fish Protection Agreement Lump Sum (Four Pumps), and other sources.

3. Requests for Next-Phase Funding

Not applicable

4. Previous Recipients of CALFED Program or CVPIA funding

The Tuolumne River Preservation Trust has previously been awarded two CALFED grants. Tuolumne River Watershed Outreach and Stewardship, Proposal # 2001 H-202 is a CVPIA funded project, and we just received a contract for this project. The Tuolumne River Initiative: Developing an Integrated Plan (Proposal # 151) was approved through the CALFED Watershed Program 2000 – 2001 PSP, but we have not yet received a contract for this project. Consequently, work has not begun on either of the grants.

5. System-Wide Ecosystem Benefits

This project will increase the total area and improve the quality of riparian forest, thereby improving the riparian corridor along the Tuolumne River. Riparian corridors of San Joaquin tributaries provide important linkages between the mainstem river, its riparian forest, and nearby wetlands, with foothill communities. This linkage provides an important migratory route for terrestrial and avian species.

[1]In the *Restoration Plan*, this project is known as the Basso Spawning Reach Floodplain Restoration. The name has been changed for this proposal because the project described in the *Restoration Plan* extends through a larger geographic area, including private lands. We have modified that plan by restricting the project to county lands.

Additionally, habitat will be improved for chinook salmon and steelhead trout, both of which are species that have received attention throughout the Central Valley. Improvements to habitat for these species at any one location will provide system-wide benefits by reducing the risk of endangering these species.

Finally, community involvement in these projects will improve the knowledge-base of the general public, thereby increasing support for ecosystem projects. System-wide support from a wide spectrum of people is necessary for the overall success of CALFED.

6. Additional Information for Proposals Containing Land Acquisition

Not applicable

C. Qualifications

The Tuolumne River Preservation Trust will be the fiscal agent and has the ability to administer the funds. The Trust is a small non-profit organization, so institutional structure is minimal. However, we have a consultant with extensive experience in non-profit financial management who handles our bookkeeping. The Tuolumne Trust has experience with grants from government sources (via grants from the National Fish and Wildlife Foundation). In addition, the Trust will be working very closely with the Tuolumne River Technical Advisory Committee in implementing this project.

Patrick Koepele will manage this project for the Tuolumne River Preservation Trust. Patrick has an MS in Geology from UC Davis and a BA in Geology from Colgate University in Hamilton New York. He has worked as the Central Valley Program Director for the Trust since July 2000 and has served as the Trust's representative on the Tuolumne River Technical Advisory Committee and the San Joaquin River Management Plan. Before joining the Trust, Patrick worked for the U.S. Army Corps of Engineers as a Planner for the Sacramento and San Joaquin River Basins Comprehensive Study.

McBain and Trush is a professional consulting firm applying fluvial geomorphic and ecological research to river preservation, management, and restoration. McBain and Trush has considerable experience in river corridor restoration, including: Mono Basin Stream Restoration Work Plan, Maintenance Flow Study on the Trinity River, and the *Habitat Restoration Plan for the Lower Tuolumne River Corridor*.

Scott McBain is a hydraulic engineer/fluvial geomorphologist whose interests include bed mobility, bedload transport, effects of high flows on channel morphology, watershed sediment yields, and stream restoration. He completed his Master of Science degree in Civil Engineering at the University of California at Berkeley, studying hydraulic engineering under Dr. H.W. Shen and geomorphology under Dr. William E. Dietrich.

D. Cost

1. Budget

Input directly into website.

2. Cost-Sharing

Not applicable.

E. Local Involvement

The project has been coordinated with and received the support of the Tuolumne River Coalition (Attachment 2) and the Tuolumne River Technical Advisory Committee (TRTAC). The TRTAC letter of support is available upon request. The Tuolumne River Coalition includes Stanislaus County Department of Parks and Recreation, the City of Modesto, City of Waterford, City of Ceres, Friends of the Tuolumne, Turlock and Modesto Irrigation Districts, Tuolumne River Preservation Trust, the California Department of Fish and Game, and others. The San Joaquin River Management Plan has also reviewed the project and support for the project is under consideration.

F. Compliance with Standard Terms and Conditions

The applicant agrees to comply with the standard State and Federal contract terms described in Attachments D and E of the ERP 2002 Proposal Solicitation Package.

G. Literature Cited

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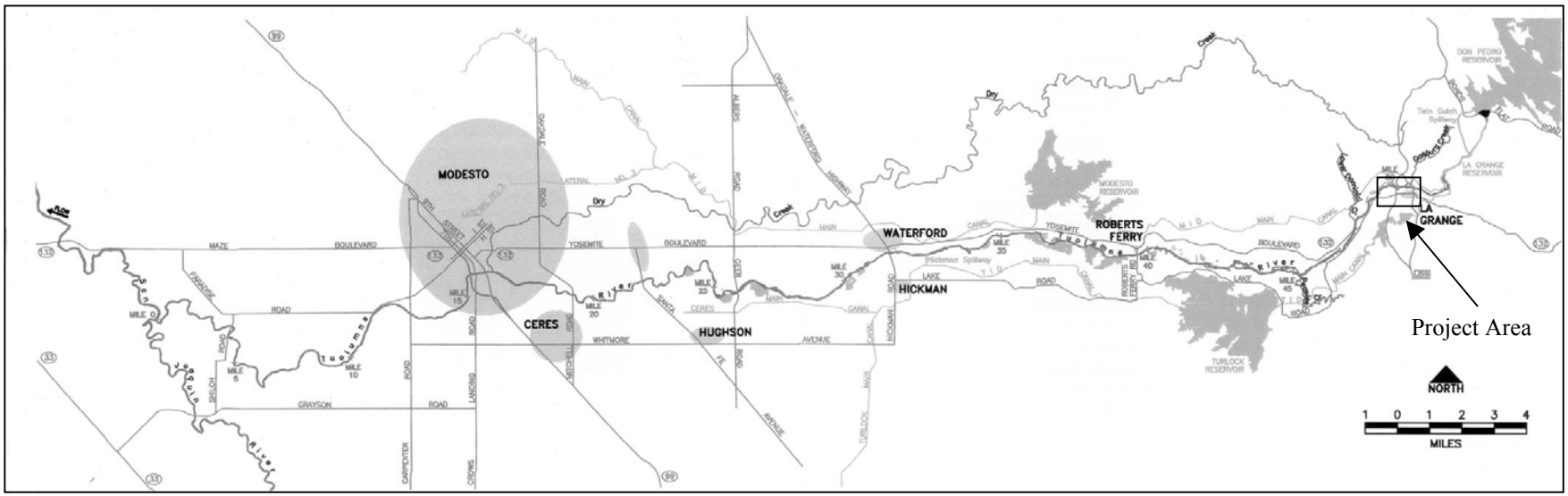

Figure 1 – Project Location

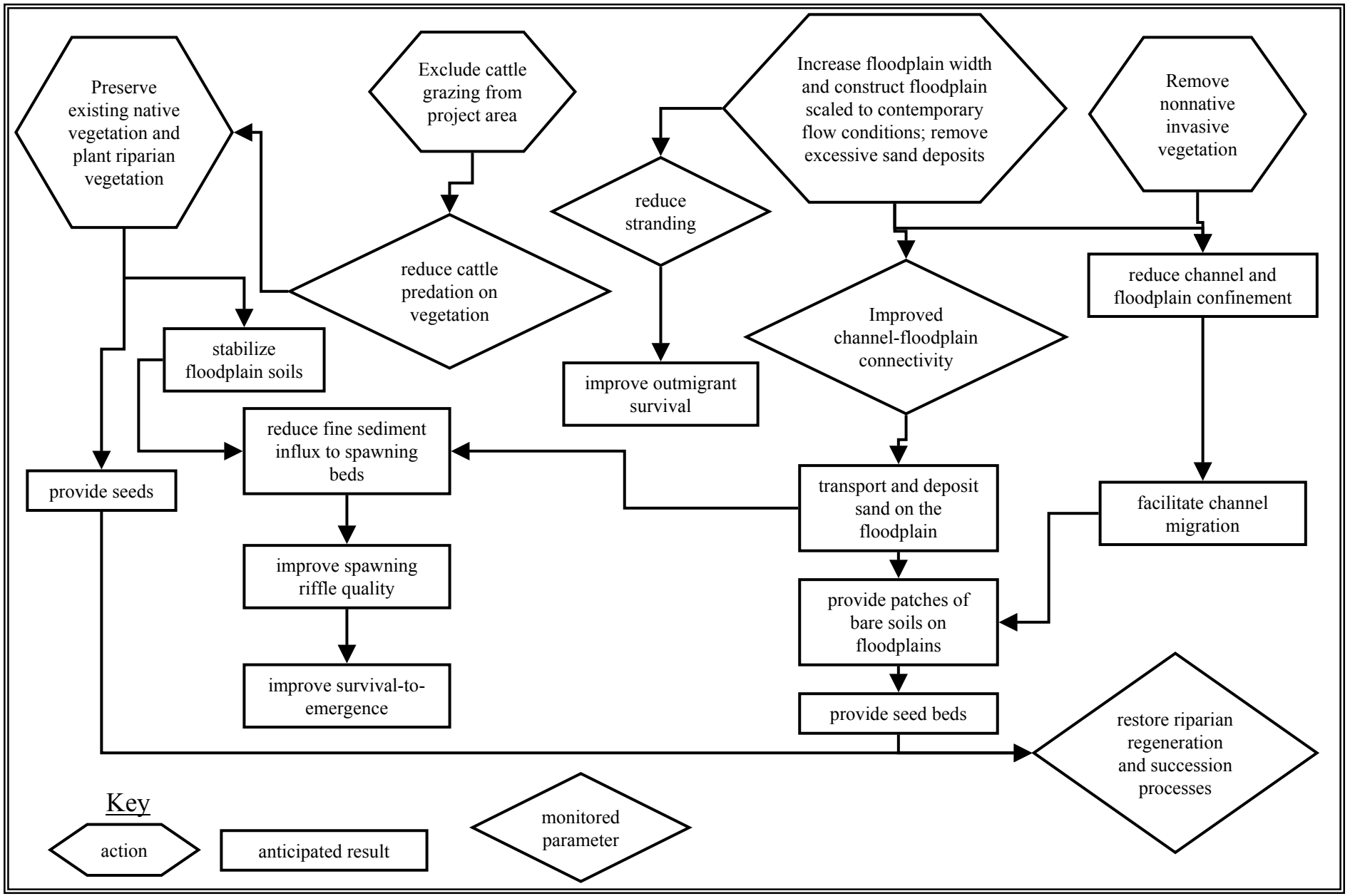

Figure 2. Conceptual Model - La Grange Restoration. Effects of regrading the floodplain, removing NIS, and revegetating the floodplain on riparian habitat and salmon spawning riffle quality. Tuolumne River Preservation Trust application to CALFED, 2002. Modified from Stillwater Sciences, 2001.

FIGURE 3 TUOLUMNE RIVER– BASSO REACH
RESTORATION SITE
PROPOSED RESTORATION ACTIVITIES

9/15/01

Stanislaus County
Striving to be the Best

PARKS AND RECREATION
Administration

3800 Cornucopia Way, Suite C, Modesto, CA 95358-9492
Phone: 209.525.6750 Fax: 209.525.6773

September 11, 2001

Patrick Koepele
Central Valley Program Director
Tuolumne River Preservation Trust
914 Thirteenth Street
Modesto, CA 95354

Dear Patrick,

The Stanislaus County Department of Parks and Recreation is very interested in partnering with you on a grant application for restoration work on our lands adjacent to the Tuolumne River near and around La Grange, California.

The proposal to undertake a floodplain and riparian restoration project on our property to recreate a more natural environment for the benefit of riparian species and San Joaquin fall-run chinook salmon is something that we support.

We will schedule this matter to be heard by our Stanislaus County Board of Supervisors in October, 2001 and request that you continue your efforts in the grant application process.

The Stanislaus County Department of Parks and Recreation looks forward to working with your organization on this project and hopefully the application will be viewed favorably for the benefits that it will provide. Feel free to contact me at 525-6771 if you need further information.

Rosendo Verduzco
Deputy Director
Stanislaus County Department of Parks and Recreation.

TUOLUMNE RIVER COALITION

914 13th Street, Modesto, CA 95354, 209/236-0330

Patrick Wright
CALFED Bay/Delta Program
1416 9th Street, Room 1155
Sacramento, CA 95814

Dear Mr. Wright:

I am writing on behalf of the Tuolumne River Coalition in support of the project entitled "Tuolumne River Floodplain Restoration at La Grange" submitted by the Tuolumne River Preservation Trust for support under the 2002 Proposal Solicitation Package for the Ecosystem Restoration Program.

This project is consistent with the Lower Tuolumne River Vision Statement. The TRC Steering Committee recommended support for this project, which was approved by the supporters listed at the end of the Vision Statement.

The Tuolumne River Coalition urges CALFED to support this project. Please contact me should you require further information.

Sincerely,

Patrick Koepele
Coordinator, Tuolumne River Coalition

TRC Steering Committee
California Department of Fish and Game * City of Ceres * City of Waterford * East Stanislaus Resource Conservation District * Friends of the Tuolumne * Stanislaus County Parks and Recreation * Tuolumne River Regional Park * Tuolumne River Preservation Trust * Turlock and Modesto Irrigation Districts