



1.0: INTRODUCTION

The Kings River Conservation District (hereafter, KRCD or District) is the water resources and energy management agency on the Kings River performing flood control, hydroelectric power production, wildlife and fisheries management, and groundwater and surface water management. A 7-member Board of Directors governs the District, while District staff performs engineering, water management, environmental, hydro, and flood control maintenance supported by District management, administrative, finance, and public affairs staffs¹.

The District seeks to protect, create, and enhance flood protection corridors within its boundaries by procuring grant funds through the Department of Water Resources [DWR] under the Flood Protection Corridor Program [FPCP]. The proposed project will provide for agricultural land preservation, and wildlife habitat protection and enhancement, in addition to reducing flood risk and potential flood damage.

This Section provides information related to the project background, general information, minimum qualifications, flood protection benefits, wildlife and agricultural land conservation benefits, miscellaneous benefits and quality of proposal, and finally a conclusion and summary.

¹ For more information about the District see <http://www.krcd.org/>. KRCDs website was prepared by Mrs. Cristel Tufenkian who also assisted in preparing this FPCP grant application.



1.1 Background

The District is the water resource and energy management agency for the Kings River located in California's Central San Joaquin Valley, one of the most productive agricultural regions in the world. The State Legislature established the District in the fall of 1951. By then, Kings River water development had been occurring for more than 85 years. All of the river's key elements - its public Districts, private water companies, weirs and canal headgates - were in place. Pine Flat Dam was under construction. The District was an important finishing touch. It represented a means of unifying the common interests of the Kings River's diverse users and areas by the establishment of a public agency with an elected board to represent the service area's more than 1.2 million acres in Fresno, Kings and Tulare counties.

It is a fundamental understanding that floodplains are a resource of immense value, socially, environmentally and economically. Floodplains are the sites of most of our towns and cities and they provide the natural resources to support many of our most productive rural industries; especially the agricultural industry in the San Joaquin Valley. Further, they are areas of primary environmental significance and their well-being is essential to the survival of many ecosystems. Therefore, one can clearly see the importance of flood plain management to agricultural land preservation and wildlife habitat protection. Another objective of floodplain management is to reduce the impact of flooding on property owners and to reduce private and public losses resulting from floods. One of District most important services is maintenance of flood control levees on the lower reaches of the Kings River.

The District seeks to protect, create, and enhance the flood protection corridors within its boundaries by procuring grant funds through DWR under the FPCP. As Grant funds are to be available in phases, the District proposes monitoring and reporting mechanisms to be built into the administrative plan to track progress, initiation, and completion of successive phases. The Project Teams management, fiscal, and technical experience indicates it is capable of carrying out the proposal and accomplish project objectives. It should also be noted that District staff have previous and ongoing Federal Grant management experience.

1.2 General Information

The DWR have grant funds under the FPCP of the Costa Machado Water Act of 2000 (Proposition 13) available to local public agencies and nonprofit organizations to pursue FPCP goals [i.e., for the protection, creation, and enhancement of flood protection corridors]. The District is one such agency with interest in flood management issues that seeks to enhance and protect real property for the purposes of flood control protection.

This proposal outlines a FPCP Project that provides a significant reduction of flood risk and potential flood damage, while also providing for agricultural land preservation and wildlife habitat protection and enhancement. The Districts FPCP project objectives include, but are not limited to strengthening/modifying existing levees, preserving and enhancing flood-compatible agricultural use of the real property, preserving and enhancing wildlife values of the real property through restoration of habitat compatible with seasonal flooding, repairing potential breaches in the flood control systems, Arundo (Giant Reed) eradication, and constructing a flood control maintenance staging area. This information is substantiated in Section 2.0, as well as other sections.



1.3 Minimum Qualifications

The minimum qualifications for grant application funding under the FPCP includes, but is not limited to, the following information:

- Description of Proposed Project
- Maps and Drawings necessary to Describe the Project
- Financial Summary
- Tentative Work Plan for the Project
- Analysis of the Project Benefits to Wildlife Habitat
- A Description of Project Actions to Preserve Agricultural Land
- A Statement of Qualifications for the Project Team
- A Written Statement by an Attorney Certifying Authorization to enter into a Grant Agreement with the State of California

This information is further substantiated in Section 3.0, as well as other sections.

1.4 Flood Protection Benefits

The Flood Protection Benefits covered in this section include the existing and potential urban development in the floodplain, flood damage reduction benefits of the project, restoration of natural processes, project effects on the local community, and value of improvements protected. This information is presented in Section 4.0.

1.5 Wildlife and Agricultural Land Conservation Benefits

Wildlife Conservation Benefits will be discussed as they relate to the importance of the site to regional ecology, diversity of species and habitat types, ecological importance of species and habitat types, public benefits accrued from expected habitat improvements, and viability/sustainability of habitat improvements. This information is further presented in Section 5.A.

Agricultural Land Conservation Benefits will be discussed as they relate to the importance of potential productivity of the site as farmland, farming practices and commercial viability, need and urgency for farmland preservation measures, compatibility of project with local government planning, and quality of agricultural conservation measures in the project. This information is further presented in Section 5.B.

1.6 Miscellaneous Benefits and Quality of Proposal

The miscellaneous benefits and quality of proposal summarized in this section include the size of request, other contributions, number of persons benefiting, cost of grant per benefited person, quality of effects on water supply and/or water quality, quality of impact on underrepresented populations or historic or cultural resources, technical and fiscal capability of the project team, and finally the coordination and cooperation with other projects, partner agencies, and affected organizations and individuals. This information is further provided in Section 6.0.



1.7 Summary/Conclusion

This proposal outlines a FPCP project that demonstrates a significant reduction of potential flood risk and flood damage, while also providing for agricultural land preservation and wildlife habitat protection and enhancement. The project's general scope of work will encompass strengthening existing flood control levees, preserving and enhancing flood-compatible agricultural use of the real property, preserving and enhancing wildlife values of the real property through restoration of habitat compatible with seasonal flooding, by strengthening and modifying existing levees. As described herein, the technical capability of the Project Support Team is capable of accomplishing the project objectives. Clearly, this proposal is consistent with FPCP objectives and goals. The benefits to be obtained from this project appear reasonable to the amount of funding requested as well as the amount budgeted toward the project by District.



2.0 GENERAL INFORMATION

This Section covers general information related to project objectives and scope of work. This proposal is consistent with FPCP goals, which are to provide “for the protection, creation, and enhancement of flood protection corridors.” In addition to demonstrating a significant reduction of potential flood risk and flood damage, this project will also provide for agricultural land preservation, as well as wildlife habitat protection and enhancement.



2.1 General Information

Project Name: Levee Strengthening and Flood Staging Area

Project Location: Excelsior Avenue

County: Kings County

Name and address of sponsoring agency or non-profit organization:

Kings River Conservation District
4886 E. Jensen Avenue
Fresno, CA 93725-1899

Name of Project Manager (contact):

Mr. James T. Richards, Director,
Hydro and Flood Maintenance
Phone Number: (559) 237-5567
E-mail Address: jrichards@krcd.org

Grant Request Amount:

Description	Amount
Estimated Total Project Cost (\$)	\$3,531,148
Amount of FPCP Grant Funds Requested	\$3,091,148
Amount of Local Funds Contributed	\$0
Amount of In-kind Contributions	\$440,000
Additional Funding Sources	\$0

Project Manager: Mr. James T. Richards,
Title: Director, Hydro and Flood Maintenance
Date: 17 June 2008



2.2 Project Objectives

Grant funds under the FPCP of the Costa Machado Water Act of 2000 (Proposition 13) are potentially available to District from DWR to pursue FPCP goals, which are to provide “for the protection, creation, and enhancement of flood protection corridors pursuant to Chapter 5, Article 2.5, Section 79037(b)1-4 of the Water Code. In addition to demonstrating a significant reduction of flood risk and potential flood damage, this project will also provide for agricultural land preservation, as well as wildlife habitat protection and enhancement. This section briefly describes the project and explains how it will advance FPCP goals.

A detailed map of the immediate project site and another that shows its location within the Districts geographical area is provided below in Figures 2.2a and 2.2b, respectively.

Photographs showing problem areas proposed for enhancement by the project [i.e., most recent levee breach and aerial photographs of flooding] are also included below in Figure 2.2c. The photograph shows approximately 1,300 acres of agricultural land inundated with Sierra run-off. Future flooding will have potential global impacts that cannot be quantified.



Figure 2.2b: Project location within the Districts geographical area.

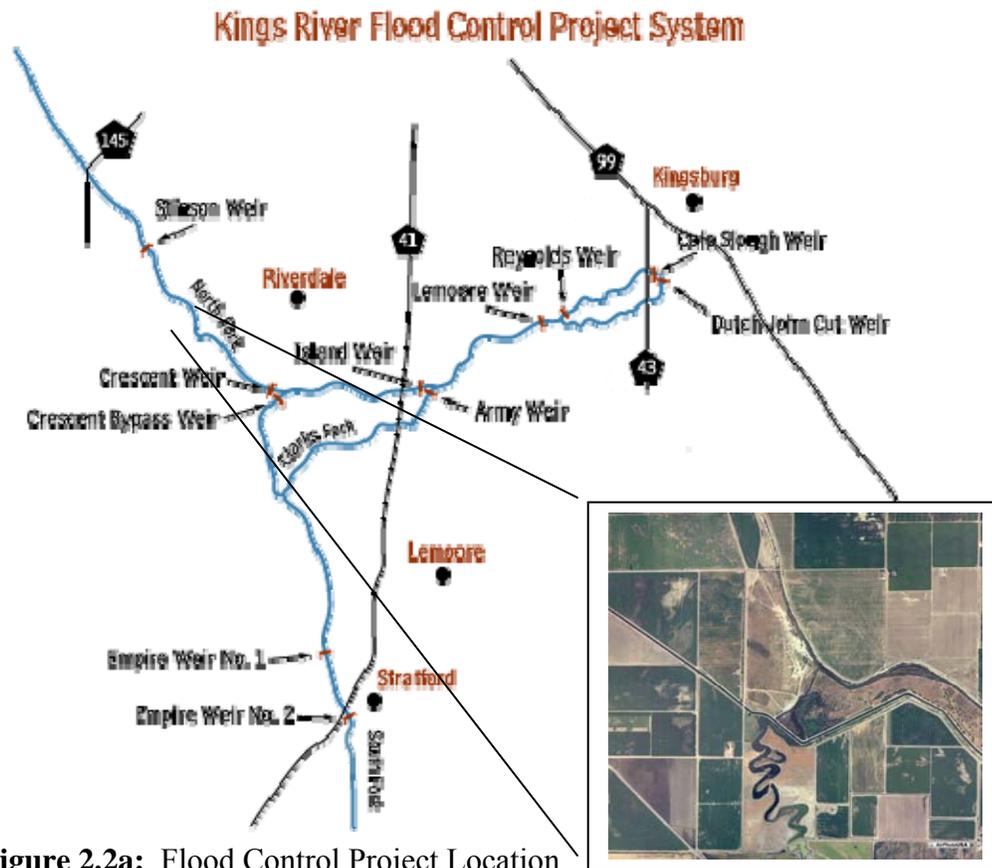


Figure 2.2a: Flood Control Project Location

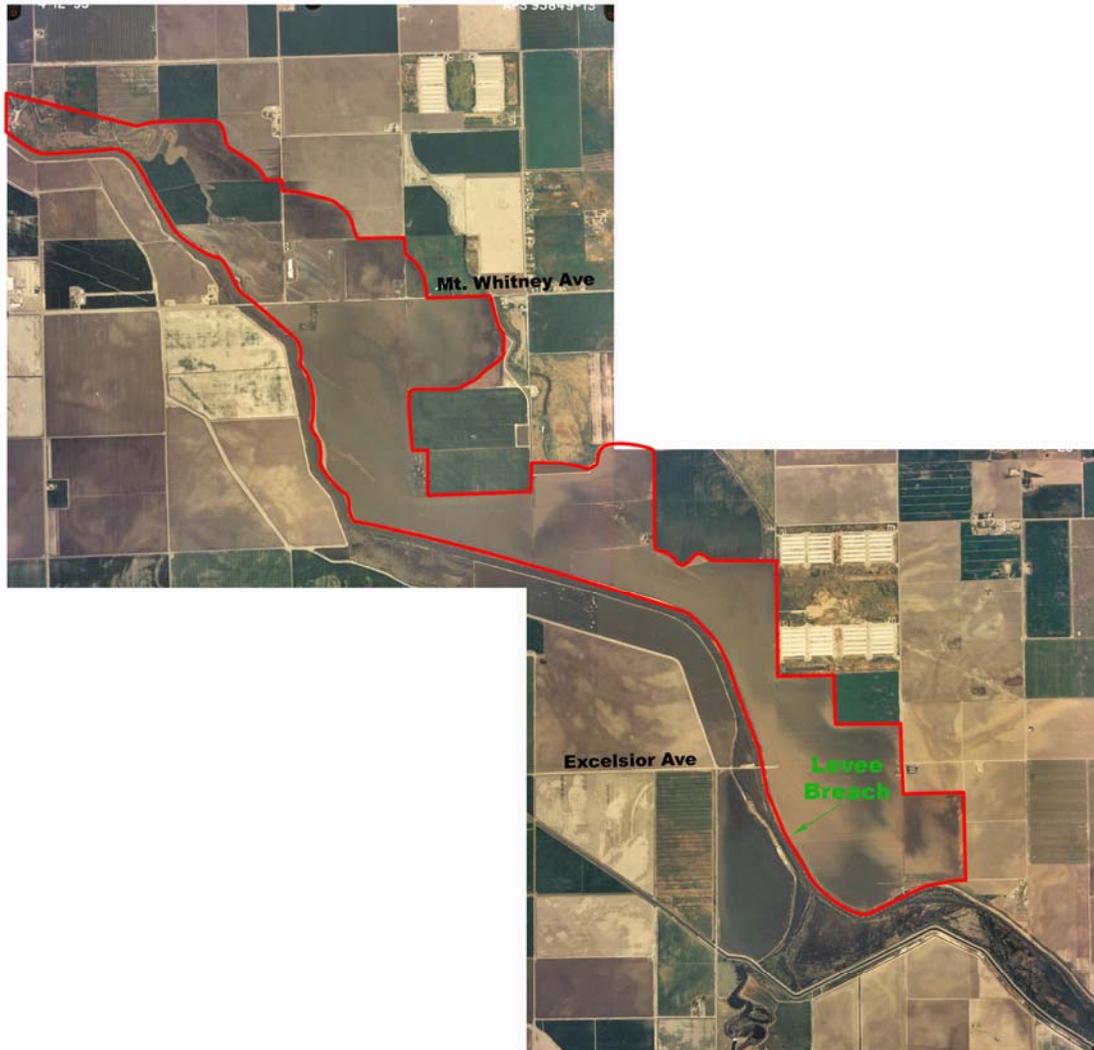


Figure 2.2c: 1995 Levee breach and subsequent flooding.



2.3 Scope of Work

The Projects purpose is for the protection, creation, and enhancement of flood protection corridors within District Boundaries. Project objectives include, but are not limited to the following:

- Strengthening and modifying existing levees,
- Preserving and enhancing flood-compatible agricultural use of the real property,
- Preserving and enhancing wildlife values of the real property through restoration of habitat compatible with seasonal flooding,
- Repairing potential breaches in the flood control systems, and
- Constructing a Flood Control Maintenance staging area

Effective implementation of the project will require routine coordination with the Project Director, which District staff shall maintain an interactive relationship with. At intervals appropriate to the nature of each task, informal discussions shall be held with the Project Director during which data and concepts will be presented, reviewed and evaluated. The District proposes monitoring and reporting mechanisms to be built into the proposal to track progress, initiation, and completion of successive tasks. Specific tasks germane to accomplishing project objectives include, but are not limited to, the following:

- **Task 1 - Evaluate Flood Protection Benefits**
- **Task 2 – Evaluate Wildlife Conservation Benefits**
- **Task 3 – Evaluate Agricultural Land Conservation Benefits**
- **Task 4 – Evaluate Miscellaneous Benefits**
- **Task 5 – Slurry Injection of Existing Project Levee**
- **Task 6 – New Project Levee**
- **Task 7 – Flood Control Maintenance Staging Area**
- **Task 7 – Arundo Eradication**
- **Task 8 – Flood Patrol Staff Training**

2.4 Summary

This proposal is consistent with FPCP goals, which are to provide “for the protection, creation, and enhancement of flood protection corridors.” In addition to demonstrating a significant reduction of potential flood risk and flood damage, this project will also provide for agricultural land preservation, as well as wildlife habitat protection and enhancement. The fiscal, management, and technical capability of the Project Team is suitable to accomplishing project objectives. Finally, the District will propose monitoring and reporting mechanisms to be built into the project plan to track progress, initiation, and completion of successive phases.



3.0 MINIMUM QUALIFICATIONS

This Section covers the minimum qualifications for grant application funding under the FPCP including a description of proposed project, maps and drawings necessary to describe the project, financial summary, tentative work plan for the project, analysis of the project benefits to wildlife habitat, a description of project actions to preserve agricultural land, a statement of qualifications for the project team, and a written statement by an attorney certifying authorization to enter into a grant agreement with the State of California.



3.1 Minimum Qualifications for Grant Application Funding: Section 497.7

This Section contains the necessary information for determining whether the proposed project meets the legal criteria for funding under the FPCP. The proposal serves a flood protection need that is a high priority with the DWR and it also rates a high priority with the Department of Conservation for purposes of preserving agricultural land under the California Farmland Conservancy Program and with the Department of Fish and Game for purposes of wildlife habitat restoration.

The District has met the following criteria pursuant to Section 497.7 of Title 23, California Code of Regulations, Division 2:

- A. ✓ The project proposes to use any granted funds for protection, creation, and enhancement of flood protection corridors [Water Code Section 79037(b)].
- B. ✓ A local public agency, a non-profit organization, or a joint venture of local public agencies, non-profit organizations, or both proposes the project [Water Code Section 79037(a)].
- C. ✓ The project will use the California Conservation Corps or a community conservation corps whenever feasible [Water Code Section 79038(b)].
- D. NA If it is proposed to acquire property in fee to protect or enhance flood protection corridors and floodplains while preserving or enhancing agricultural use, the proponent has considered and documented all practical alternatives to acquisition of fee interest [Water Code Section 79039(a)].
- E. NA Holders of property interests proposed to be acquired are willing to sell them [Water Code Section 79040].
- F. NA If it is proposed to acquire property interests, the proposal describes how a plan will be developed that evaluates and minimizes the impact on adjacent landowners prior to such acquisition and evaluates the impact on the following [Water Code Section 79041]:
 - ▶ Floodwaters including water surface elevations and flow velocities
 - ▶ The structural integrity of affected levees
 - ▶ Diversion facilities
 - ▶ Customary agricultural husbandry practices
 - ▶ Timber extraction operations

The proposal must also describe maintenance required for a) the acquired property, b) any facilities that are to be constructed or altered.

- G. ✓ The project site is located at least partially in the following:

A floodplain designated by The Reclamation Board under Water Code Section 8402(f) [Title 23, California Code of Regulations, Division 2, Section 497.5(a)].



3.2 Description of Proposed Project

This section provides a general description of the proposed project including a statement of the problem being addressed, a discussion of the ways that the project addresses the problem and satisfies the purposes described in Section 497.5(a)(2), a description of the project approach, a discussion of the expected outcome and benefits of the project, and a description of the geographic boundaries of the project.

The project consists of strengthening an existing project levee, constructing a new interior project levee, constructing a flood control maintenance staging area, as well reclaiming agricultural land and enhancing wildlife habitat. Eradication of *Arundo* along the channel is also included in the project scope. The project is located at least partially in a floodplain designated by The Reclamation Board under Water Code Section 8402(f) [Title 23, California Code of Regulations, Division 2, Section 497.5(a)]. This information is documented in Attachment A.

3.3 Maps and Drawings necessary to Describe the Project

Maps and drawings necessary to describe the project are already incorporated into this proposal as referenced.

- A vicinity map [Section 2.3]
- A map indicating location of project features and boundaries of affected property [Section 2.3]
- Drawings or sketches of project features as necessary to describe them [Appendix A]

3.4 Financial Summary

This section contains a financial summary including, the estimated cost of the project broken down by task, the estimated flood control benefits of the project, the amount of the grant requested, the estimated amount to be funded by the applicant, identification of any other parties contributing to the cost, and the amounts and activities to be funded by them.



The estimated cost of the project broken down by task is presented below in Table 3.4a.

Table 3.4a: Estimated cost of the project broken down by task.

Phase I: Planning, Investigation, and Design				
Task	Description	Grant Funds Requested	Match Amount	Total Budget
Task 1	Evaluate Flood Protection Benefits	0	\$2,866	\$2,866
Task 2	Evaluate Wildlife Conservation Benefits	0	\$2,866	\$2,866
Task 3	Evaluate Agricultural Land Conservation Benefits	0	\$2,866	\$2,866
Task 4	Evaluate Miscellaneous Benefits and Quality of Proposal	0	\$2,866	\$2,866
	SubTotal	\$0.00	\$11,465.50	\$11,466
Phase II				
Task 5	Strengthening Existing Project Levee	\$2,500,000	\$300,000	\$2,800,000
Task 6	Arundo Erradication (1)	\$140,000	\$0	\$140,000
Task 7	Arundo Erradication (2)	\$140,000	\$0	\$140,000
	SubTotal	\$2,780,000	\$300,000	\$3,080,000
Phase III				
Task 8	Arundo Erradication (3)	\$140,000	\$0	\$140,000
Task 9	Flood Control Maintenance Staging Area/ New Project Levee	\$169,648	\$0	\$169,648
Task 10	Staff Training	\$1,500	\$0	\$1,500
Task 11	Arundo Erradication (4)	\$0	\$140,000	\$140,000
	SubTotal	\$311,148	\$140,000	\$451,148
In-Kind	Grant Administration	\$107,594	\$0	
	TOTALS	\$3,091,148	\$440,000	\$3,531,148



3.5 Tentative work plan for the project

This section provides a tentative work plan for the project including, a timetable for execution of the project, and a task breakdown for the project. Table 3.5a, below, presents a tentative work plan and timetable for execution.

Table 3.5a: Tentative work plan and timetable for execution.

Phase I: Planning, Investigation, and Design					
Task	Description	Nov 02	Dec 02	Jan 03	Feb 03
Task 1	Flood Protection Benefits				
Task 2	Wildlife Conservation Benefits				
Task 3	Agricultural Land Conservation Benefits				
Task 4	Miscellaneous Benefits and Quality of Proposal				
	Grant Evaluation and Submittal				
Phase II Task Breakdown		Spring 03	Summer 03	Fall 03	Winter 03
Task 5	Levee Strengthening				
Task 6	Arundo Erradication (1)				
Task 7	Arundo Erradication (2)				
Phase III Task Breakdown		Spring 04	Summer 04	Fall 04	Winter 04
Task 8	Arundo Erradication (3)				
Task 9	New Project Levee				
Task 10	Flood Control Maintenance Staging Area				
Task 11	Staff Training				
Task 12	Arundo Erradication (4)				

Again, monitoring and reporting mechanisms will be incorporated into the project plan to track progress of project objectives.

3.6 Analysis of the Project Benefits to Wildlife Habitat

Section 5.A discusses Wildlife Conservation Benefits as they relate to the importance of the site to regional ecology, diversity of species and habitat types, ecological importance of species and habitat types, public benefits accrued from expected habitat improvements, and viability/sustainability of habitat improvements. Essentially, this section provides a benefit analysis for wildlife habitat to contribute establishing the project’s priority category. Again, this information is presented in Section 5A



3.7 A Description of Project Actions to Preserve Agricultural Land

Section 5.B discusses Agricultural Land Conservation Benefits as they relate to the importance of potential productivity of the site as farmland, farming practices and commercial viability, need and urgency for farmland preservation measures, compatibility of project with local government planning, and quality of agricultural conservation measures in the project. Please refer to section 5B for this information.

3.8 A Statement of Qualifications for the Project Team

The FPCP Team consists of the District's engineering, environmental, and flood control maintenance staff. The Project Director shall be Mr. Jim Richards, Director of Hydro and Flood Control Operations. Mr. Richards, a Registered Civil Engineer, has over 35 years experience in water resource facilities in the United States, Asia and Central America and currently manages the operations and maintenance of Pine Flat Power Plant as well as maintenance of the levee system on the Lower Kings River.

Mrs. Cheryl Sershon, Districts Director of Finance, will serve as the Project Financial Director. Mr. Scott Redelfs shall serve as Project Coordinator for the Engineering; Mr. Rick Hoelzel shall serve as Project Coordinator for the Flood Control and Maintenance; and Mr. Jeff Hallstead shall serve as Project Coordinator for the Environmental aspects. Assistant Project Engineers are Patrick Campbell and Jon D. Risinger. A more detailed analysis of the Project Team is provided in Section 6.4.

The Project Team is experienced and capable of meeting the project objectives.

3.9 Other/Items not Applicable to FPCP Proposal:

The FPCP requires a description of how services of the California Conservation Corps, or local community conservation corps will be used in the project. The District has a long history of incorporating the Tulare County Conservation Corps into its projects. As cited in the Financial Summary, the District proposes to use eight PYs with funding requested in the amount of \$5,000.

Items under this section are included in attachment A and satisfy the following items:

- A written statement by an attorney certifying that the applicant is authorized to enter into a grant agreement with the State of California.
- A demonstration that the project is technically feasible
- A hydrologic and hydraulic analysis prepared by a civil engineer registered pursuant to California law.
- A complete initial study environmental checklist as required by Section 15063(f), Title 1, California Code of Regulations, and if available a completed Environmental Impact Report or other environmental documentation as required by CEQA. A list of required permits for the project and an implementation plan for their procurement.
- An evaluation of the impact on floodwaters
- The structural integrity of affected levees



The following items were found not applicable to the project, as proposed:

- A description and justification of any proposed use of program funds for flood control system or water system repairs performed as part of an easement program or a project developed or financed under the program (Water Code Section 79043).
- A summary of proposed property acquisition rights including:
 - Identification of each property
 - Names, addresses and telephone numbers of the property owners and lessees or tenants.
 - The type of property rights to be acquired (such as easement or fee title).
- Evidence that affected landowners are willing participants in any proposed real property transactions.
- A justification of any proposed acquisition of fee interest in property to protect or enhance a flood protection corridor or floodplain while preserving or enhancing agricultural use (Water Code Section 79037(b)(1)) which includes:
 - Reason for the fee title acquisition
 - Alternatives considered to fee title acquisition for each property
 - Proposed final disposition of the property
 - Effect on county property tax revenue
- A list of names and addresses of owners of all property interests in parcels adjacent to those for which acquisition of property rights is proposed.
- A plan to minimize the impact of the project on adjacent property owners, including but not limited to the following (Water Code Section 79041):
 - Diversion facilities
 - Customary agricultural husbandry practices
 - Timber extraction operations
- A description of the input and participation that local groups and affected parties provided in the preparation of the work plan and application.
- A statement relative to the use of a trust fund for maintenance, or any proposed alternative, as specified in Water Code Section 79044.



3.10 Summary:

This Section provided a benefit analysis for wildlife habitat, a description of project actions toward agricultural land preservation to contribute establishing the project's priority category. A financial summary to establish the economic scope of the project, the stakes of its backers, and the State support requested is also included for review. This Section also has provided a project description to define the project, to confirm that it meets the minimum qualifications, and to establish a basis for competition with other projects; as well as maps and drawings to provide visual confirmation of the description. Finally, a tentative work plan was provided to demonstrate project feasibility and to serve as a foundation for the final work plan.

The project team's qualifications were also presented to help evaluate the likelihood of project success. Clearly, this project meets the statutory requirements, accomplishes an objective of the FPCP, and is located at least partially in a floodplain designated by The Reclamation Board under Water Code Section 8402(f).



4.0 FLOOD PROTECTION BENEFITS (340)

The Flood Protection Benefits covered in this Section include the existing and potential urban development in the floodplain, flood damage reduction benefits of the project, restoration of natural processes, project effects on the local community, and value of improvements protected.



4.A Existing and potential urban development in the floodplain (50)

This section describes the existing and potential urban development at the site and the nature of the flood risk and describes how often flooding has occurred historically. Finally, it discusses the importance of improving the flood protection at this location; including the number of people and structures that are affected by the flood hazard, and the flood impacts to highways and roads, railroads, airports and other infrastructure, and agriculture.

Table 4A, below, describes historical flooding data at the project location as compiled by the Kings River Water Association [KRWA].

Table 4A: KRWA Summary of Flood Releases from Pine Flat Reservoir 1954-2000

Flood Release #	Water Year (19)	Inclusive Dates	Duration (Days)	% Water Year	Water Lost to Service Area (AF)		
					North	South	Total
1	55-56		36	151.5	91205		91205
2	57-58		80	147.7	212797	21239	234036
3	66-67		99	194.3	484870	66941	551811
4	67-68		19	49.2			0
	a		12				0
	b		7				0
5	68-69		190	255.8	1551340	196221	1747561
6	69-70		53	77.6	62170		62170
	a		11				0
	b		18				0
	c		24				0
7	72-73		4	124.5	139		139
8	73-74		62	122.2	86353		86353
	a		28				0
	b		34				0
9	77-78		115	201.4	551186		551186
10	78-79		30	100.9	11752		11752
	a		14				0
	b		16				0
11	79-80		159	177.7	579580	22978	602558
	a		24				0
	b		135				0
12	81-82		91	181.4	450071		450071
	a		56				0
	b		35				0
13	82-83		310	261	2309280	223758	2533038
	a		259				0
	b		51				0
14	83-84		125	114.9	568610		568610
15	85-86		112	190.2	667750		667750



16	94-95		120	201.2	584352		584352
17	95-96		37	122.2	74542		74542
	a		15				0
	b		22				0
18	96-97		71	154.6	432033	97353	529386
19	97-98		149	181	983678	2780	986458
20	98-99		24	73.5	20042		20042

The potential for flooding along the proposed levee is at great risk to agricultural land, structures, and homes. As stated below, during April of 1995 over 1,300 acres of farmland, homes, buildings and bridges were greatly impacted by floodwaters.

4.B Flood damage reduction benefits of the project (100)

This section addresses whether the proposed project provides for transitory storage of floodwaters, the total community need for transitory storage related to this water course and what percentage of the total need the project satisfies, and the volume of water and how long it is detained. It also describes any structural and non-structural flood damage reduction elements of the project, by what methods and by how much the dollar value of the project will decrease based on expected average annual flood damages, and how these conditions affect the hydrologic and hydraulic conditions at the project site and adjacent properties. Finally, this section covers if the project reduces the magnitude of a flood flow that could cause property damage and/or loss of life, the effects of the project on water surface elevations during a flood event which could cause property damage and/or loss of life, and how flow velocities are impacted by the project during a flood flow which could cause property damage and/or loss of life.

There are two structural and one nonstructural elements involved in the proposed flood damage reduction projects. The elements are listed as follows:

- Levee Slurry Trench

The floods flows of 1969, 1983, 1995 and 1997 have substantially weakened the levees and as a result have exposed deeply embedded voids, seepage and unstable soil. Agricultural lands within the overflow area of the flood channel were inundated, and lands outside the project levees of the North Fork channel were adversely affected by seepage from the levee. The proposed project would involve the strengthening of levees by placing a 15- foot to 30-foot deep trench down the center of the levees and filling it with plastic cement slurry, a mixture of cement, clay and soil that is impervious to water. The goal is to reach impervious soils to create a barrier. If in some areas were deeper trenching is necessary, a procedure called jet grouting would be employed. This method would allow slurry to go as deep as 80 feet.

- Bank Projection/Sediment Removal Staging Area

For the past 20 years the North Fork Reach of the Kings River has been the most vulnerable to flooding, seepage, and sloughing. The closest stockpiled rubble is approximately 15 miles to the nearest section of reach and approximately 35 miles to the end of the North Fork. In addition to strengthening the project levee, it is proposed to build a 30-acre staging area to stockpile rubble and removed sediment.



4.C Restoration of natural processes (60)

This section describes how natural channel processes will be restored, how these natural processes will affect flood management and adjacent properties, any upstream or downstream hydraulic or other effects. However, the project does not include channel modification or bank protection work; therefore, an analysis of potential benefits and impacts obtained from channel modification or bank protection work is irrelevant.

4.D Project effects on the local community (60)

This section discusses how the project impacts future flooding on and off this site, how the project affects emergency evacuation routes or emergency services and demands for emergency services, and also explains how the project will comply with the local community floodplain management ordinance and the floodplain management criteria specified in the Federal Emergency Management Agency's National Flood Insurance Program (FEMA's NFIP).

The project impacts future flooding on and off this site as described in Section 4.E; however, the project does not appear to affect emergency evacuation routes or emergency services and demands for emergency services.

Regarding FEMA's NFIP, in 1968 Congress created the NFIP in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes Federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The project appears to comply with the local community floodplain management ordinance and the floodplain management criteria specified in FEMA's NFIP.

4.E Value of improvements protected (70)

This section discusses the assessed value of structural improvements that will be protected by the project and the estimated replacement value of any flood control facilities or structures protected by the project.

Repairs and Cost Analysis along the proposed levee section since 1995 include the following:

- 1. April 1995** During flood releases, a 15-foot section along the right bank project levee of the North Fork located approximately 0.2 mile(s) upstream of Excelsior Ave. breached (see Figure 2.2c). Floodwaters spread over approximately 1,300 acres of farmland and caused damage to some homes and buildings. At the time the levee failed, flows in the river below Crescent Weir were approximately 4,000 cfs. The design flood flow through this section is 4,750 cfs. In addition, a ring dam was constructed along the landside levee near Hayes Avenue, as a protective measure to stabilize a 150-foot section of the levee that was experiencing excessive amounts of landside sloughing and seepage.

Total Cost: \$391,359.00



2. August 1997 Up until 1997, an open ditch called the Zalda Drain ran along this section of the landside levee toe. The ditch was used to capture excess agricultural tail water and then pump it back in the Kings River. During periods of flood releases the levees were substantially weekend because of the tremendous amount of seepage along the landside toe. There also were concerns that the project levee could become a floating island due to the saturation factor of long periods of flood releases. In 1997 an interceptor drain was constructed along (22nd Avenue to 0.5 mile(s) downstream of Excelsior Avenue – Right Bank) this levee section. Seepage was reduced after the construction of the drain but sloughing continued along the landside project levee.

Total Cost: \$765,517

3. April 1998 During flood releases of 2,500 to 4,250 cfs, seepage increased along the landside project levee immediately downstream of Bryant Ave, causing landside sloughing, and the presence of sand boils. Approximately 5,000 cubic yards of imported material was used to construct a containment impoundment adjacent to the landside toe of the levee. Also, seepage increased along a 0.25 mile section immediately downstream of Crescent Weir. Approximately 6,000 cy of material were placed along the landside toe to strengthen and widen the project levee

Total Cost \$72,000

4. May 1998 During flood releases of 4,250 cfs to 4,750 cfs, waterside sloughing increased immediately downstream of Bryan Avenue. Approximately 900 cy of concrete rubble were placed on the waterside project levee. In addition, four (4) hundred (100) foot sections of ten (10) inch diameter drainpipe was placed at the toe of the project levee located 0.25 mile upstream of Excelsior Avenue. The pipe was then covered with a gravel blanket and the steep landside slope was flattened, to prevent major landside erosion.

Total Cost \$ 90,000

As summarized below in Table 4E, historic flooding has cost the District nearly 1.5 million dollars. Present Net Values of historic financial expenditures are estimated to exceed 2.0 million dollars.

Table 4E: Flood Control Benefits.

Year	Total Cost
Apr-95	\$391,359
Aug-97	\$765,517
Apr-98	\$72,000
May-98	\$90,000
Total	\$1,318,876

4.F Summary

As described herein, the Flood Protection Benefits include the existing and potential urban development in the floodplain, flood damage reduction benefits of the project, restoration of natural processes, project effects on the local community, and value of improvements protected.



5.0 WILDLIFE and AGRICULTURAL LAND CONSERVATION BENEFITS

Section(s) 5.A and 5.B provide a benefit analysis for wildlife habitat and a description of project actions toward agricultural land preservation. Specifically, wildlife conservation benefits will be discussed as they relate to the importance of the site to regional ecology, diversity of species and habitat types, ecological importance of species and habitat types, public benefits accrued from expected habitat improvements, and viability/sustainability of habitat improvements.

Agricultural land conservation benefits will be discussed as they relate to the importance of potential productivity of the site as farmland, farming practices and commercial viability, need and urgency for farmland preservation measures, compatibility of project with local government planning, and quality of agricultural conservation measures in the project.



5.A WILDLIFE CONSERVATION BENEFITS (340x F_w points)

As previously stated, this Section discusses Wildlife Conservation Benefits as they relate to the importance of the site to regional ecology, diversity of species and habitat types, ecological importance of species and habitat types, public benefits accrued from expected habitat improvements, and viability/sustainability of habitat improvements.



A.1 Importance of the site to regional ecology (70)

This section describes any habitat linkages, ecotones, corridors, or other buffer zones within or adjacent to the site and how these may be affected by the project. It also describes how the site is adjacent to existing conservation areas and describes future plans for aquatic restoration resulting in in-stream benefits. Finally, this Section discusses any natural landscapes within the site that support representative examples of important, landscape-scale ecological functions (flooding, fire, sand transport, sediment trapping, etc.).

- Habitat Linkages, Ecotones, Corridors, Within or Adjacent to the Site

The Kings River is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings Counties. It is the best and most prominent riparian and wetland habitat in these counties. The Kings River, its tributaries, and sloughs are the life line of riverine-riparian habitat that links the Sierra Nevada mountains to the foothills to the valley floor. Historically, the Kings River linked to the Tulare Lake, the expansive wetlands in the Kerman-Mendota area, and to the San Joaquin River and then northward to the Sacramento Delta. The river and flood corridor is the main corridor for fish and wildlife movements. The river is a major stop-over habitat for birds migrating south from the Sierra Nevada mountains, western United States, and even Canada. Such birds range from small warblers to the Bald Eagle. The flood corridor also provides a buffer between the river and the adjacent farmland and towns.

The removal of Arundo from the flood corridor will improve both the quantity and quality of riparian and wetland habitat along the river. The flood corridor will no longer be clogged by Arundo, which will increase the flood carrying capacity of the channel. The flood corridor would then be able to carry the engineered flood flows to protect adjacent farmland and towns. The removal of Arundo will also improve fish and wildlife habitat by restoring natural processes.

- Adjacent Conservation Areas

The flood corridor is geographically located among several important conservation areas. Downstream from the corridor is a 6,000-acre Wetland Reserve Program parcel near Helm. Further downstream is the 12,000-acre Mendota Wildlife Area, which is managed by the CDFG. To the south is another 1,000-acre Wetland Reserve Program parcel near Lemoore. A few county parks occur along the river, which provide open space, wildlife habitat, and recreation. The corridor occurs within the Kings River Fisheries Management Program's project area. This is a 10-year, joint effort by the District, KRWA, and CDFG to enhance, protect, and preserve the fisheries and habitat of the Kings River. The project area covers approximately 60 miles of river downstream of Pine Flat Dam.

- Aquatic Restoration Plans Resulting in In-Stream Benefits

The District flood control maintenance activities currently involve the treatment and removal of Arundo from the flood corridor. However with our limited manpower, equipment, and budget, the elimination of Arundo cannot be accomplished. Thus, the flood corridor continues to become clogged, flood carrying capacity is lost, and fish and wildlife habitat and resources are degraded. The District has undertaken moderate-sized removal projects in the past and has been successful.



The removal of *Arundo*, in itself, is an in-stream benefit and will result in in-stream benefits in the flood corridor and assist the Kings River Fisheries Management Program in restoring habitat and fisheries. Ultimately fish and wildlife habitat resources will be improved and the flood carrying capacity of the corridor will be enhanced.

- Natural Landscapes that Support Ecological Functions

The river and flood corridor support a variety of riverine and wetland functions. The natural landscapes are riverine, wetland, Valley Oak Woodland, and riparian habitats. They convey and slow flood flows, recharge groundwater, improve water quality, trap sediments, and provide fish and wildlife habitat. The *Arundo* degrades these natural landscapes and impacts natural functions.

A.2 Diversity of Species and Habitat Types (70)

This Section describes any areas of unique ecological and/or biological diversity and vegetative complexity (either horizontally or vertically) within project boundaries. It also describes habitat components including year-round availability of water, adequate nesting/denning areas, and food sources. Any superior representative examples of specific species or habitats are also addressed; along with a discussion on whether the site contain(s) a high number of species and habitat types. Finally, this section substantiates that the site contains populations of native species that exhibit important subspecies or genetic varieties historically present prior to European immigration.

- Unique Ecological, Biological, or Vegetative Diversity

The flood corridor, the river, and its riparian and Valley Oak Woodland habitat are all unique, rare, habitats that have great biological diversity. As commonly known, riparian-wetland habitats have the greatest diversity and abundance of wildlife and fish. The Kings River is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings Counties. It is the best and most prominent riparian and wetland habitat in these counties.

The Kings River has a great vegetative complexity whether considered horizontally or vertically. The diversity ranges from open, flowing water in the riverbed to riparian vegetation on the riverbanks to Valley Oak Woodlands in the uplands. A great diversity of habitat also occurs along the length of the river, depending upon the width and slope of the channel and past flood control practices. The *Arundo* reduces and degrades the vegetative diversity. It currently has crowded out many areas for riparian and wetland vegetation.

- Habitat Components

As previously stated, the Kings River is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings Counties. It is the best and most prominent riparian and wetland habitat in these counties. The Kings River, its tributaries, and sloughs are the life line of riverine-riparian habitat that links the Sierra Nevada mountains to the foothills to the valley floor. The habitat components range from open, flowing water in the riverbed to riparian vegetation on the riverbanks to Valley Oak Woodlands in the uplands. Most of the land adjacent to the flood corridor is farmland or towns. Thus, the flood corridor is the main source of wildlife and fish habitat in the region. The flood corridor provides all of the food, water, cover, nesting,



spawning, rearing, resting, movement, migration, etc. requirements for fish and wildlife in the watershed. The habitat components are available year-round to wildlife. Water is available during the irrigation season and during flood events, which may last several months.

The removal of Arundo would create sites where native vegetation could recolonize and this would increase and enhance wildlife and fish habitat along the flood corridor. The removal would also reduce the large quantity of water lost to the Arundo through consumption and evapotranspiration. Thus, this water would be available for other uses.

- Examples of Specific Species or Habitats

As mentioned previously, the flood corridor, the river, and its riparian and Valley Oak Woodland habitat are all unique, rare, habitats. Sensitive species such as the Valley Elderberry Longhorn Beetle, San Joaquin Kit Fox, American Badger, Giant Garter Snake, Western Pond Turtle, Swainsons Hawk, Tricolored Blackbird, and Burrowing Owl use such habitats and occur in the region.

- Number of Species and Habitat Types

The habitat components range from open, flowing water in the riverbed to riparian vegetation on the riverbanks to Valley Oak Woodlands in the uplands. Riparian and wetland habitats are known to have the highest abundance and diversity of wildlife versus other habitat types. The flood corridor supports both residential and migratory populations of wildlife and fish.

- Native Species of Importance

The flood corridor is known to contain four sensitive subspecies of wildlife, which occupied the area prior to European immigration. These include the San Joaquin Kit Fox, American Badger, Valley Elderberry Longhorn Beetle, and the Tricolor Blackbird.

A.3 Ecological importance of species and habitat types (100)

This section discusses the significance of habitat types at the location including any local, regional, or statewide benefits received by preserving or improving the area. This section also discusses whether the site contains any significant wintering, breeding, or nesting areas; as well as whether it falls within any established migratory corridors, the level of significance, and how are these are affected by the project. Finally, this section describes any existing habitats that support any sensitive, rare, “keystone” or declining species with known highly restricted distributions in the region or state and whether the site contains any designated critical habitat and how these may be affected by the project. This Section also discusses the amount of shaded riverine aquatic (SRA) and riparian habitat to be developed, restored, or preserved.

- Significance of Habitat Types

The flood corridor, the river, and its riparian and Valley Oak Woodland habitat are all unique, rare, habitats. The preservation and improvement of riverine, riparian, and wetland habitats is of local, statewide, and national importance and is a top priority of resource and regulatory agencies. The benefits of this preservation and improvement are significant and include the conveying and slowing of flood flows, recharging groundwater, improving water quality, trapping sediments,



and providing fish and wildlife habitat. Also, the public uses the flood corridor recreational activities such as boating, picnicking, nature walks, fishing, hunting, and wildlife viewing. The Arundo degrades these natural landscapes and impacts natural functions.

The removal of Arundo from the flood corridor will improve both the quantity and quality of riparian and wetland habitat along the river. The flood corridor will no longer be clogged by Arundo, which will increase the flood carrying capacity of the channel. The flood corridor would then be able to carry the engineered flood flows to protect adjacent farmland and towns. The removal of Arundo will also improve fish and wildlife habitat and resources.

- Wintering, Breeding, Nesting Areas and Migratory Corridors

The Kings River is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings Counties. It is the best and most prominent riparian and wetland habitat in these counties. The Kings River, its tributaries, and sloughs are the life line of riverine-riparian habitat that links the Sierra Nevada mountains to the foothills to the valley floor. The flood corridor is the main habitat and movement corridor for fish and wildlife. The river is a major stop-over habitat for birds migrating south from the Sierra Nevada mountains and foothills, western United States, and even Canada. Such birds range from small warblers to the Bald Eagle. Thus, the flood corridor is a significant breeding, living, nesting, and wintering area for both residential and migratory species of wildlife and fish.

The flood corridor falls within the known migration route of hundreds of small birds (i.e., neotropical migrants) leaving the Sierra Nevada mountains and foothills on their southward journey. The flood corridor also occurs within the Pacific Flyway and is used by wintering and migrating waterfowl. Local species and sensitive species such as the San Joaquin Kit Fox use the flood corridor for movements and dispersal. The flood corridor is a significant migration or movement corridor for local, regional, and statewide populations of wildlife.

The removal of Arundo from the flood corridor will improve both the quantity and quality of riparian and wetland habitat along the river. This will improve the quality and quantity of fish and wildlife resources in the region.

- Sensitive Species and Critical Habitat

The flood corridor possess sensitive species such as the Valley Elderberry Longhorn Beetle, San Joaquin Kit Fox, American Badger, Giant Garter Snake, Western Pond Turtle, Swainsons Hawk, Tricolored Blackbird, and Burrowing Owl. Other sensitive species such as the Willow Flycatcher, Yellow Warbler, Peregrine Falcon, Coopers Hawk, Osprey, and Bald Eagle use the corridor during their migrations or for wintering. No designated critical habitat occurs in the flood corridor or project vicinity. The Arundo removal project would improve habitat for these species and thus the project would have positive impacts to the species.

- Shaded Riverine Aquatic Habitat

The project would preserve and improve about a 60-mile reach of shaded riverine aquatic habitat within the flood corridor of the Kings River. The flood corridor is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings



Counties. It is the best and most prominent riparian and wetland habitat in these counties.

A.4 Public benefits accrued from expected habitat improvements (60)

This section describes present public use/access [e.g., public access for the purpose of wildlife viewing, hunting, fishing, photography, picnics, etc.] This section also discusses areas on the site that are critical for successfully implementing landscape or regional conservation plans and how the project will help to successfully implement the plans. A description of the surrounding vicinity is given, including the presence or absence of large urban areas, rapidly developing areas, and adjacent disturbed areas with non-native vegetation and other anthropogenic features, and if any surrounding areas detract from habitat values on the site. A description of compatibility with adjacent land uses is also provided.

- Public Use / Access

Within the 60-mile project reach, a few county parks occur along the river which provide open space, wildlife habitat, and recreation opportunities for the public. These areas are used for picnicking, playing, boating, fishing, swimming, nature walks, and wildlife viewing. Public use of the parks is high, especially during the summer months. These recreational opportunities would not change. Landowners along the river also use the flood corridor for such activities. The Arundo removal would improve recreational opportunities due to the improved quality and quantity of wildlife and fish habitat and resources.

- Landscape or Regional Conservation Plans

The preservation and improvement of riverine, riparian, and wetland habitats is of local, statewide, and national importance and is a top priority of resource and regulatory agencies. The entire 60-mile project reach is critical to the successful removal of Arundo from the Kings River flood corridor. The landscape plan is to remove Arundo to reclaim the flood capacity, protect landowners and the public, and to improve wildlife and fish habitat and resources.

Within the Districts mission statement is the flood control and maintenance of the flood corridor. The Districts activities currently involve the treatment and elimination of Arundo from the flood corridor. However with our limited manpower, equipment, and budget, the removal of Arundo can not be accomplished. Thus, the flood corridor continues to become clogged, flood carrying capacity is lost, and fish and wildlife habitat and resources are degraded.

Description of Surrounding Vicinity

Most of the land adjacent to the flood corridor and in the project vicinity is farmland. Historically, lands were leveled and converted to irrigated agriculture. Crops include row crops such as alfalfa, cotton, wheat, and corn and almond and walnut orchards. The small rural town of Laton, with a population of about 1,000, is the main town near the flood corridor. A few small rural communities of less than 50 people also occur near the river. Since the lands adjacent to the flood corridor have been previously impacted by agriculture, the habitat values of the flood corridor are even more important - especially since the flood corridor is the main source of wildlife and fish habitat in the region.



Compatibility with Adjacent Land Uses

The removal of Arundo from the flood corridor is compatible with adjacent land uses. The flood corridor will no longer be clogged by Arundo, which will increase the flood carrying capacity of the channel. The flood corridor would then be able to carry the engineered flood flows to protect adjacent farmland and towns. The removal of Arundo will also improve fish and wildlife habitat and resources.

A.5 Viability/sustainability of habitat improvements (40)

This section describes any future operations, maintenance and monitoring activities planned for the site and how these activities would affect habitat values. This section also discusses whether the site contains large areas of native vegetation or is adjacent to large protected natural areas or other natural landscapes [e.g., a large stand of blue-oak woodland adjacent to public land]. A description of the watershed upstream of the site is also given. Finally, a description is provided of any populations of native species or stands of native habitats that show representative environmental settings, such as soil, elevations, geographic extremes, or climatic conditions [e.g., the wettest or most northerly location of a species within the state].

Future Operation, Maintenance, and Monitoring of the Site

Within the Districts mission statement is the flood control and maintenance of the flood corridor. The District is the lead agency and has an entire division whose goal is flood control and river maintenance. The flood corridor is covered by a District 5-Year Plan for monitoring and maintenance. Monitoring and maintenance are normal and every-day tasks, which are conducted by District year-in and year-out. These activities would ensure that the habitat values gained by the treatment and removal of Arundo are maintained over time. The monitoring would ensure that the removal is complete and successful. Also, the flood corridor monitoring would locate any reinfestations, which would then be treated.

Large Areas of Native Vegetation

The natural landscapes of the flood corridor are riverine, wetland, Valley Oak Woodland, and riparian habitats. The project would treat about 60-mile reach of corridor. The flood corridor ranges from a couple hundred yards to about one-fourth mile in width. Habitat diversity within the corridor ranges from open, flowing water in the riverbed to riparian vegetation on the riverbanks to Valley Oak Woodlands in the uplands. The county parks along the river also provide large areas of Valley Oak Woodland habitat.

Watershed Condition Upstream of the Site

The watershed immediately upstream of the project site is agricultural land and small rural towns on the valley floor. Further upstream is Pine Flat Reservoir, the Pine Flat Power Plant, and the Sierra Nevada foothills. The foothills are used mainly for livestock grazing and recreation. Even further upstream is the Sierra Nevada mountains, which are managed by the U. S. Forest Service for multiple uses. The mountains are relatively pristine. Overall, the valley floor is highly developed, the foothill area is lightly developed, and the mountain area is undeveloped. Several water storage and hydropower developments occur in the upper watershed.



In the future, lands within the watershed will become developed at a steady pace as the human population increases. Agricultural lands on the valley floor will be converted to rural housing developments. The foothill area near Pine Flat Reservoir will be developed into rural houses. The U. S. Forest Service lands will remain undeveloped. In the foreseeable future, all lands in the foothills and most on the valley floor will be urbanized.

Noteworthy Geographic Extremes for Species / Habitats

As previously stated, the flood corridor of the Kings River is the main river feature in the lower San Joaquin Valley and runs through Fresno, Tulare, and Kings Counties. The flood corridor and its habitat are unique in being one of the main rivers to occur within the lower San Joaquin Valley, which is the agricultural capital of the world. It is the best and most prominent riparian and wetland habitat in those counties. The Kings River, its tributaries, and sloughs are the life line of riverine-riparian / shaded riverine aquatic habitat. This habitat is a remnant and representative of past riverine / SRA habitats. The flood corridor is the northernmost river, which historically fed the great Tulare Lake and the expansive wetlands in the Kerman-Mendota area. The Kings River flood corridor is the southernmost river in the San Joaquin Valley to link with the San Joaquin River and then northward to the Sacramento Delta.

A.6 Summary

This Section discussed wildlife conservation benefits as they relate to the importance of the site to regional ecology, diversity of species and habitat types, ecological importance of species and habitat types, public benefits accrued from expected habitat improvements, and viability/sustainability of habitat improvements.



5.B AGRICULTURAL LAND CONSERVATION BENEFITS (340x F_a points)

This Section discusses Agricultural Land Conservation Benefits as they relate to the importance of potential productivity of the site as farmland, farming practices and commercial viability, need and urgency for farmland preservation measures, compatibility of project with local government planning, and quality of agricultural conservation measures in the project.

The District has staff to address agricultural land conservation benefits, including potential productivity of the site as farmland, need and urgency for farmland preservation measures, and quality of agricultural conservation measures in the project. However, it was determined that these issues are potentially global in nature and cannot be quantified. Although there appear to be many Agricultural Land Conservation Benefits, the District believes the relative importance of the project's wildlife conservation benefits should be assigned a full fraction of the total benefits [i.e., Wildlife (F_w) = 1.0]. Accordingly, Section 5.B has been omitted.



6.0 MISCELLANEOUS BENEFITS and QUALITY OF PROPOSAL (320)

This Section discusses miscellaneous benefits and quality of the proposal as they related to the size of request, other contributions, number of persons benefiting, cost of grant per benefited person, quality of effects on water supply and/or water quality, quality of impact on underrepresented populations or historic or cultural resources, technical and fiscal capability of the project team, coordination and cooperation with other projects, partner agencies, and affected organizations and individuals.



6.1 Size of request, other contributions, number of persons benefiting, cost of grant per benefited person (40)

Table 6.1, below, presents the District's FPCP Project Financial Summary.

Table 6.1: Financial Summary

Description	Amount
Estimated Total Project Cost (\$)	\$3,531,148
Amount of FPCP Grant Funds Requested	\$3,091,148
Amount of Local Funds Contributed	\$0
Amount of In-kind Contributions	\$440,000
Additional Funding Sources	\$0

6.2 Quality of effects on water supply and/or water quality (90)

This section discusses whether water will be stored by the project to provide for any conjunctive use, groundwater recharge, or water supply benefit; if the project fences cattle out; if the project passes water over newly developed fresh water marsh; and if the project traps sediment. Generally speaking, the river and flood corridor support a variety of riverine and wetland functions. The natural landscapes are riverine, wetland, Valley Oak Woodland, and riparian habitats. They convey and slow flood flows, recharge groundwater, improve water quality, trap sediments, and provide fish and wildlife habitat. The Arundo degrades these natural landscapes and impacts natural functions.

6.3 Quality of impact on underrepresented populations or historic or cultural resources (60)

At this time, it does not appear the project benefits underrepresented populations or impacts historical or cultural resources

6.4 Technical and fiscal capability of the project team

The project requires scientific and technical expertise. This section outlines the FPCP team's management, fiscal and technical capability to effectively carry out the proposal. The technical capability of the Project Team appears well fit to accomplish project objectives. Further, as Grant funds will be available in phases, the District proposes monitoring and reporting mechanisms to be built into the administrative plan to track progress, initiation, and completion of successive phases. Previous and/or ongoing grant management experience is also discussed.

The FPCPP Team is divided into three operating divisions: engineering, environmental, and flood control maintenance. The Project Director shall be Mr. Jim Richards, District Director of Hydro and Flood Control Operations. Richards, a Registered Civil Engineer, has over 35 years experience in water resource facilities in the United States, Asia and Central America and currently manages the operations and maintenance of Pine Flat Power Plant as well as the levee system on the Lower Kings River. The Project Financial Director shall be Mrs. Cheryl Serhshon. Mrs. Serhshon joined the District as Director of Finance in May 2002. She earned her Bachelor of Science degree in business administration in St. Joseph, Missouri. She was then employed by Canandaigua Wine Company and transferred to the Fresno area. During her tenure at



Canandaigua she earned a Master of Business Administration degree from California State University, Fresno.

Mr. Scott Redelfs shall serve as Project Coordinator for the Engineering Division; Mr. Rick Hoelzel shall serve as Project Coordinator for the Flood Control and Maintenance Division; and Mr. Jeff Hallstead shall serve as Project Coordinator for the Environmental Division. Assistant Project Engineers are Patrick Campbell and Jon D. Risinger.

District environmental division staff work to enhance fish and wildlife populations and their habitat within the service area as well as maintaining riparian vegetation. They also evaluate proposed water project developments for impacts on habitats. Research and biological surveys have developed large amounts of significant information, which has put the District in the forefront of environmental enhancement on the Kings River. The District environmental division will address wildlife conservation benefits.

The engineering division is involved in water resource investigations and planning, as well as offers technical support to the other Divisions at the District. The Engineering Division scope of work as summarized in this report includes, but is not limited to the following:

- Describe the existing levee conditions and improvements to the levee being considered along the project stretch.
- Prepare results of investigations and preliminary designs
- Address elements required in the design of levee improvement(s) and staging area
- Provide necessary design criteria, engineering data, and guidelines to facilitate the design of such improvement(s)
- Evaluate results of HEC/RES water surface profile(s) to determine the design flood flow water surface elevations along the entire reach of the stretch.
- Develop and describe the supporting design data, drawings, and computer programs acquired and developed by District to facilitate the design of levee improvement(s)

6.5 Coordination and cooperation with other projects, partner agencies, and affected organizations and individuals (80)

This section lists cost sharing, in-kind partners, and any other stakeholders involved with the project and indicates the nature of the contribution, if any. This section also addresses the team's ability to leverage outside funds, and if the project overlaps with and/or complements ongoing activities being carried out by others, and if approved, will the project begin the next phase of a previously approved project or advance an ongoing project substantially toward completion.

This project does not entail coordination and cooperation with other projects, partner agencies, or affected organizations and individuals; therefore, this section has been omitted.

6.6 Summary

Section 6.0 discussed miscellaneous benefits and quality of the proposal as they related to the size of request, other contributions, number of persons benefiting, cost of grant per benefited person, quality of effects on water supply and/or water quality, quality of impact on underrepresented populations or historic or cultural resources, and technical and fiscal capability of the project team.



7.0 CONCLUSION, SUMMARY, and RECOMMENDATIONS

The District seeks to protect, create, and enhance flood protection corridors within its boundaries by procuring grant funds through the DWR under the FPCP of the Costa Machado Water Act of 2000 (Proposition 13). As described herein, the District has outlined a FPCP project that demonstrates a significant reduction of flood risk and potential flood damage, while also providing for agricultural land preservation and wildlife habitat protection and enhancement. The project's general scope of work will encompass strengthening existing levees, preserving and enhancing flood-compatible agricultural use of the real property, preserving and enhancing wildlife values of the real property through restoration of habitat compatible with seasonal flooding, by developing, strengthening, and modifying existing levees. The Project Support Team's capabilities will ensure accomplishing project objectives. Clearly, this proposal is consistent with FPCP objectives and goals. The benefits to be obtained from this project appear reasonable to the amount of funding requested as well as the amount being budgeted toward the project by District.