CALFED Bay-Delta Program Project Information Form

WATERSHED PROGRAM - FULL PROPOSAL COVER SHEET

Attach to the cover of full proposal. All applicants must fill out this Information Form for their proposal. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.

1. Full Proposal Title: Lower Mokelumne River Watershed Education Project
   Concept Proposal Title/Number: Lower Mokelumne Watershed Education Project
   Applicant: City of Lodi, Lodi Lake Nature Area Docent Council
   Applicant Name: Kathy C. Grant (H. Dixon Flynn, Lodi City Manager)
   Applicant Mailing Address: Kathy C. Grant, P.O. Box 3006, Lodi, CA 95241-1910
   Applicant Telephone: 209-339-8722 Applicant Fax: 209-333-6710 Email: grace4u@softcom.net_
   Fiscal Agent Name (if different from above): City of Lodi, California
   Fiscal Agent Mailing Address: Public Works Department, P.O. Box 3006, Lodi, CA 95241-1910
   Fiscal Agent Telephone: 209-333-6706 Fiscal Agent Fax: 209-3336710
   Fiscal Agent Email: rprima@lodi.gov

2. Type of Project: Indicate the primary topic for which you are applying (check only one)

_____Assessment	_____Monitoring
_____Capacity Building	_____Outreach
__X__Education	_____Planning
_____Implementation	_____Research

3. Type of Applicant:

_____Academic Institution/University	_____Non-Profit
_____Federal Agency	_____Private party
_____Joint Venture	_____State Agency
__X__Local Government	_____Tribe or Tribal Government

4. Location (including County): City of Lodi, San Joaquin County

   What major watershed is the project primarily located in:
   _____Klamath River (Coast and Cascade Ranges)
   _____Sacramento River (Coast, Cascade and Sierra Ranges)
   _____San Joaquin River (Coast and Sierra Ranges)
   __X__Bay-Delta (Coast and Sierra Ranges)
   _____Southern CA (Coast and Sierra Ranges)
   _____Tulare Basin (Coast, Sierra and Tehachapi Ranges)

5. Amount of funding requested: $ 70,140 (CALFED share)
   Cost share/in-kind partners? __X__Yes _____No
   Identify partners and amount contributed by each: City of Lodi: $23,800*
*Does not include monetary value of in-kind services and technical support by the City of Lodi

6. Have you received funding from CALFED before? _____Yes __X_No
   If yes, identify project title and source of funds:

By signing below, the applicant declares the following:

1. The truthfulness of all representations in their proposal
2. The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization)
3. The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

_H. Dickson Flynn_____
Printed name of applicant

_____
Signature of applicant

LOWER MOKELUMNE RIVER WATERSHED EDUCATION PROJECT

A CALFED Watershed Program Proposal

Submitted by:
Lodi Lake Nature Area Docents Council
City of Lodi

April 27, 2001

LOWER MOKELUMNE RIVER WATERSHED EDUCATION PROJECT

A CALFED Watershed Program Proposal

1.a. PROJECT OVERVIEW

This proposal seeks funding to establish a Lower Mokelumne River Watershed Education Project to expand and enhance monitoring and community outreach activities of the Lower Mokelumne River Citizen Monitoring Program.

A several mile stretch of the Lower Mokelumne River (LMR) forms the northern boundary of the City of Lodi and Lodi Lake Park. The Lodi Lake Nature Area, a 58-acre riparian preserve bound on the north and east by the Mokelumne, forms the northeast portion of Lodi Lake Park. The Nature Area is the focal point of a K-6 interpretive educational program conducted by Lodi Lake Docent Council volunteers since 1987.

In October, 2000 Supplemental Environmental Project fine monies were awarded to the Lodi Lake Nature Area Docent Council to fund start-up activities of the Lower Mokelumne River Citizen Monitoring Program and to refurbish a part of the Lodi Lake Discovery Center to provide space for the office, training, and educational activities of the docents aimed at incorporating water quality and watershed issues into its educational programs. The LMR Citizen Monitoring Program is a collaborative effort of the City of Lodi Public Works Department, California Regional Water Quality Resources Board, Central Valley Region, and Lodi Lake Nature Area Docent Council. It is directed by a part-time city staff person who also coordinates activities of the Nature Area docents. Over the past six months the Citizen Monitoring Program has trained local students and citizens to serve as monitoring team members and local high school science teachers, who are paid small stipends to encourage their commitment to the program, to serve as monitoring team leaders. The Citizen Monitoring Program also established protocols and begun regular sampling and testing of river, lake and storm drain waters for certain physical and chemical parameters. Students use their field experiences to augment their classroom education and to satisfy their senior project requirements. Water quality data gained from 9 current sites sampled is made available to other educators, agencies, and the public on a recently created website. The SEP monies used for these start-up activities will expire on June 30, 2001.

From our work this past year with high school students and teachers, we have learned that a greater educational effort is needed in the community at large. Our project's underlying assumption is that few people Lodi understand the nature and scope of the city's impact on the Lower Mokelumne River. Most are unaware of the direct flow of storm water to the river and potential harmful effects of oils, pesticides, and other household chemicals on river life and processes.

The proposed CALFED funding will be used to expand the capabilities and activities of the Citizen Monitoring Program into a Lower Mokelumne River Watershed Education Project that would:

> ***Continue and expand storm drain and river water monitoring activities, including recruitment, training and deployment of four additional monitoring teams and increasing scope of the monitoring effort***

Four monitoring teams – each consisting of a teacher and five middle and high school students – comprise the current monitoring program. Teams sample and test waters at seven storm drain outlets monthly for pH, turbidity, dissolved oxygen, temperature and electrical conductivity. Selected samples are subjected to nonspecific aquatic toxicity testing. Team members and leaders received approximately 12 hours of approved training and use accepted protocols for these tests. This training included elements on river ecology, non-point source pollution as related to water quality, and practical aspects of sampling and testing including equipment calibration, sample collection, testing procedures, data entry and site mapping.

We propose to recruit, train and equip four additional teams, enabling monthly sampling at all 16 storm drains that drain into the Lower Mokelumne River within Lodi city limits.

Additional assessments such as ~~of~~ nutrient concentration, biochemical oxygen demand (BOD), fecal coliform content, toxic metals and chemicals will be added as monitoring parameters. These tests will be conducted at city or private analytical laboratories on samples collected at all sites.

Diversify and expand Lodi Lake Nature Area Docent Council activities related to water quality and stewardship education

Lodi Lake Nature Area Docents undergo 20-25 hours of training each year on riparian ecology and wildlife biology. Information and insights acquired during this training is in turn disseminated to over 1,500 schoolchildren and the general public during interpretive tours and other events at the Nature area each year. Water quality and watershed stewardship emphases will be added to the Docent training curriculum. As a first step in this direction, an Enviroscape® watershed model, already purchased with SEP fine monies, is currently being used by Docents to demonstrate watershed principles to Nature Area visitors.

Two proposed watershed murals would serve as interpretive foci for the Docents' outdoor environmental programs and for the visiting general public that frequents Lodi Lake Park and the Nature Area. The first mural would be installed at an existing outdoor kiosk at the Lodi Lake Nature Area trailhead, where the Lodi Lake Nature Area Docent Council begins its tours. The second would be displayed indoors at the Lodi Lake Discovery Center, located adjacent next to Lodi Lake. The murals will depict major geographical, hydrological, and human features of the Lower Mokelumne watershed, and highlight selected activities and influences that benefit or harm it. Students at a local alternative high school will help research and execute the murals under supervision of a local non-profit team of artists who have successfully worked on similar student painted mural projects in Lodi. Input on design and content of the mural will be sought from the various stakeholder groups, including the City of Lodi, the Lower Mokelumne River Watershed Stewardship Steering Committee, local educators, and others.

Occasional field trips to different points within the Mokelumne River watershed will also be conducted for Citizen Monitoring teams, teachers, and Docents to enhance their capabilities as interpreters of watershed facts and issues to their respective colleagues and to the public.

A limited feasibility study for remodeling of the current Lodi Lake Discovery Center will be conducted. This building is center of activity for the Lodi Lake Docents and the Citizen Monitoring Program. Though recently modified using SEP funds, building's current floor space

and physical layout is ill suited to its envisioned role as a center of watershed stewardship education for Lodi and surrounding areas. The City of Lodi has expressed support for this role. A portion of the requested funds will be used to develop concepts and a design for a larger and more appropriately designed building to house this growing effort

1b. PROJECT TIMEFRAME

Continue and expand storm drain and river water monitoring activities

Recruitment and training of monitoring team leaders and members will occur in late summer and fall 2001, with deployment of an expanded monitoring effort to begin in November. Monitoring by teacher-student teams will continue November through June of the 2001/2 and 2002/3 school years. Docents and other community volunteers will carry on monitoring activities through the 2002 and 2003 summer months.

Diversify and expand Lodi Lake Nature Area Docent Council activities related to water quality and stewardship education

Recruiting of students to execute the first of two educational murals will begin in fall 2001, with completion scheduled by May 2002. The second mural will be completed over the 2002/2003 school year. Meetings to solicit public input for Discovery Center expansion and remodeling will be held during winter and spring 2001/2002. Artist's concept and architectural specifications for the Center will be completed by summer 2002.

2. PROPONENTS' QUALIFICATIONS & READINESS

Continue and expand storm drain and river water monitoring activities

The Citizen Monitoring Program began in October 2000 and functions well in its current limited capacity. SEP monies used to establish this program are administered by City of Lodi's Finance Department. The city will serve continue to serve as fiscal agent for the expanded program.

Technical support provided by the City of Lodi Public Works Department, Regional Water Quality Control Board (RWQCB) and others has laid a sound technical foundation for monitoring work to continue. Representatives of these entities have indicated a willingness and ability to supply additional training as needed to increase the number of teams and their monitoring capacity. The needed monitoring equipment is readily available for purchase from commercial sources. The current program coordinator has worked with the Regional Water Quality Control Board to develop a draft Quality Assurance Procedures Program guidelines to ensure quality and utility of data developed during program activities. Data compilation and internet posting is overseen by the Water/Wastewater Division of the City of Lodi's Public Works Department.

Diversify and expand Lodi Lake Nature Area Docent Council activities related to water quality and stewardship education

Throughout its fourteen years of activity, the Lodi Lake Nature Area Docent Council has established itself as an educational resource for environmental education in San Joaquin County. The Council works closely with the Lodi Unified School District in extending benefits of its programs to area teachers and students through workshops and Nature Area tours. The twenty Docents are ready and eager to embrace watershed stewardship as an outreach objective, particularly as related specifically to the Mokelumne River and to Lodi. Docents, for example, recently received elementary watershed training from the San Joaquin County Office of Education (as part of SJCOE's effort to implement a new Bay-Delta water education curriculum) and have begun incorporating watershed concepts and issues into their activities. Teachers see the Nature Area as a classroom resource and utilize the educational opportunities it affords to enhance their classroom efforts.

Docents have other opportunities to enhance watershed stewardship through their activities, including monthly community "Special Speaker Program" meetings. Recent meetings – held at the city library – have featured watershed topics and issues.

The Citizen Monitoring Program itself will bringing heightened environmental awareness directly into local high schools by engaging students and teachers as monitoring volunteers. A current volunteer used her involvement on the project as the subject of her senior high school project, creating a "Storm Drain Detectives" web site, where project information and data are posted.

4. TECHNICAL FEASIBILITY OF THE PROPOSED PROJECT

There are many Citizen Monitoring efforts in communities throughout the US. Ours is the first in Lodi. The water sampling and testing protocols being used in the program are well established. Rigorous and ongoing oversight of testing procedures and data reporting using accepted Quality Assurance Procedures will ensure reliability and utility of monitoring results.

The City of Lodi will evaluate the technical and educational accomplishments of project at its completion and seek continued funding if warranted. Project equipment and educational materials will be kept, used and maintained at city expense after project completion.

5. PROJECT MONITORING COMPONENT

The project coordinator will maintain and summarize records of student and public participation in project outreach activities, including monitoring teams, docent-led tours, and special activities. Written or oral surveys or other evaluation tools will be used to measure the scope and nature of the project's impact on participants and – if deemed appropriate - the public at large.

The quality of monitoring data compiled by the project will be assured by compliance with the QAPP protocols recently developed in conjunction with local RWQCB personnel. The quality and availability of these data are of potential value to future development and/or implementation of total maximum daily load criteria for various pollutants in the Lower Mokelumne River. They may also serve to inform decision making by local policy and regulatory bodies, though their future use in this regard is difficult to foresee. Their widespread availability via the Internet – in a standard format conforming to Basin Plan water quality objectives – will facilitate such uses.

The project coordinator is a member of the Lower Mokelumne River Watershed Stewardship Plan's Steering Committee. In this capacity, the coordinator communicates with LMRWSP and San Joaquin County Resource Conservation District (RCD) personnel on watershed issues. The RCD is in the process of hiring Watershed Stewardship Coordinator to implement educational and other elements of the Stewardship Plan. We anticipate working in close cooperation with RCD and the Watershed Coordinator in realizing mutual watershed objectives.

Monthly monitoring collections will be made of storm drain effluent and river water upstream and downstream of sixteen storm drain outlets that discharge into the Lower Mokelumne River from Lodi streets. These samples will be subjected to analyses including temperature, turbidity, dissolved oxygen, pH, and electrical conductivity by volunteer monitors using accepted methods (California State Water Resources Control Board, 2000. *Watershed monitoring guidance: A compendium of information papers and standard operating procedures*. Division of Water Quality, SWRCB, Sacramento, CA.) Additional analyses to be performed on the samples may include nutrients (nitrates and phosphates), BOD and metals. Measurement of coliform bacteria levels in samples will be conducted by City of Lodi using accepted methods.

6. CONSERVATION, MAINTENANCE AND RESTORATION ACTIONS

Not applicable to project objectives and actions.

7. RELEVANCE TO WATERSHED PROGRAM GOALS & OBJECTIVES

The proposed meets specific CALFED objectives as follows:

Objective: Facilitate and improve coordination and assistance among government agencies, other organizations, and local watershed groups

This proposal builds on the successful collaboration among agencies, organizations and groups established by the Lower Mokelumne Citizen Monitoring Program in its first year of organized activity. It integrates relevant activities of City of Lodi, the Lodi Lake Docents, the Regional Water Quality Board, the Resource Conservation District, Lodi Unified School District and local private schools to develop a better understanding of Lower Mokelumne River processes and Lodi's impact on them

Objective: Develop watershed monitoring and assessment protocols to be integrated into the overall CALFED science and monitoring program.

The proposed expansion storm drain and river water monitoring activities, validated and strengthened by compliance with QAPP protocols, will result in the compilation of credible data which will

- Aid Lodi city officials in making informed decisions on the disposition and regulation of storm drain run-off

- Aid regional and State bodies in making informed regulatory and policy decisions affecting various uses of the Mokelumne River

- Help scientists and other interested parties more accurately characterize the impact of storm drain runoff on ecology of the Lower Mokelumne

- Provide a sound underpinning for proposed watershed stewardship education activities of the Lodi Lake Nature Area Docents and others

- May help identify new problems and/or justify new outreach efforts targeting specific storm-drain impacts on water quality in the Lower Mokelumne

Objective: Support education and outreach.

A strength of our proposal is the unique positioning of the Lodi Lake Nature Area Docents to deliver a "matriculated approach" to watershed stewardship education: to K-6 schoolchildren and teachers through the Docents' Nature Area tours and special programs, high school students and teachers through the monitoring program, and to adults through its training programs and community activism.

The use of teachers and students in the monitoring program will help build a more knowledgeable community of educators and future citizens and build capacity for broader water quality understanding and educational efforts in our area.

Tours, workshops and other educational efforts of the Lodi Lake Docents will build informed awareness and sensitivity to watershed issues among local K-6 teachers, their students and, through them among members of the community at large.

The watershed murals will be an enduring, informative, and visually pleasing legacy of the project. Their placement in the heavily visited Discovery Center and at the Nature Area Trailhead will ensure they are of lasting educational value to thousands of Lodi Lake visitors for years to come.

Objective: Define the relationship between watershed processes and the CALFED program goals and objectives.

Storm drain runoff is a significant component of non-point source pollution. Monitoring results will help accurately characterize and quantify impacts of Lodi storm drain runoff on Lower Mokelumne water quality and processes.

BUDGET (Page 1 of 2)

	YEAR 1		YEAR 2		
	Matching	CALFED	Matching	CALFED	TOTAL
Task 1. Administration					
Project coordinator					
Salary (0.25 FTE @ $14/hr)	6,720.	0.	6,720.	0.	13,440.
Travel	280.	0.	280.	0.	560.
Office supplies	500.	0.	500.	0.	1,000.
In-service training	500.	0.	500.	0.	1,000.
Task Product(s) & Success Criteria	Not applicable				
Task 2. Citizen Monitoring Activities					
Teacher stipends (8 @ 25 hr @ $25/hr)	2,000.	2,000.	2,000.	2,000.	8,000.
Monitoring equipment (4 teams)	2,200.	7,000.	0.	0.	9,200.
Equipment maintenance & repair	300.	700.	300.	700.	2,000.
Misc. monitoring supplies	500.	500.	500.	500.	2,000.
Laboratory services	0.	1,000.	0.	1,000.	2,000.
Task Product(s)	Comprehensive, scientific, and accessible monitoring database				
Success Criteria	Number of sites monitored, tests conducted, internet access “hits”, teacher & student volunteers trained				
Task 3. Lodi Lake Nature Area Docent Outreach					
Special watershed training	0.	1,000.	0.	1,000.	2,000.
Miscellaneous office supplies	0.	500.	0.	500.	1,000.
Develop watershed educational flyer for Nature Area tours	0.	1,500.	0.	0.	1,500.
Task Product(s)	Printed educational flyer(s) for Nature Area tours and other events				
Success Criteria	Number of docents trained, tours provided, number & demographics of student & teacher participants, number of participants in speakers program, follow-up participant evaluation survey of program effectiveness and impacts				
Task 4. Educational murals					
Mural design and production (1050 hrs @ $20/hr)	0.	12,000.	0.	9,000.	21,000.
Mural supplies	0.	2,000.	0.	1,000.	3,000.
Teacher stipends (student recruitment, mural design collaboration, 2 stipends @ $500)	0.	1,000.	0.	1,000.	2,000.
Teacher student travel (field trips re: mural content)	0.	1,500.	0.	1,500.	3,000.
Task Product(s)	2 murals at Lodi Lake Park				
Success Criteria	Number of teacher & student participants in design & execution, follow-up survey of tour participants for program effectiveness & impacts				

BUDGET (Page 2 of 2)

	YEAR 1		YEAR 2		
	Matching	**CALFED**	**Matching**	**CALFED**	**TOTAL**
Task 5. Discovery Center feasibility study					
Conduct public comment meetings	0.	3,000.	0.	0.	3,000.
Architectural concept and design (200 hrs @ $80/hr)	0.	16,000.	0.	0.	16,000.
Task Product(s)	Completed feasibility study and architectural specifications for Center expansion				
Success Criteria	N/A				
Task 6. Reporting & presentations					
Report preparation	0.	1,120.	0.	1,120.	2,240.
TOTAL	***13,000**	**50,820.**	***10,800.**	**19,320.**	**93,940.**

*Does not include monetary value of in-kind services and technical support by the City of Lodi

BUDGET SUMMARY

Task Description

	Labor rate	Hours	Total labor	Supplies	Travel	Training	Sub-contract	Match	CALFED	Total
Task 1. Administration	14.	960	13,440.	1,000.	560.	1,000.	0.	16,000.	0.	16,000.
Task 2. Citizen Monitoring	20.	400	8,000.	15,200.	0.	0.	0.	7,800.	15,400.	23,200.
Task 3. Docent Outreach		0	0.	2,500.	0.	2,000.	0.	0	4,500.	4,500.
Task 4. Educational murals	20.	1,150	23,000.	3,000.	3,000.	0	0.	0	29,000.	29,000.
Task 5. Discovery Center feasibility	80.	200	16,000.	3,000.	0.	0.	0.	0.	19,000.	19,000.
Task 6. Reporting & presentations	14.	80	2,240.	0.	0.	0.	0.	0.	2,240.	2,240.
TOTALS			62,680.	24,700.	3,560.	3,000.	0.	23,800.	70,140.	93,940.

Benefits/salary %: Not applicable to part-time city appointments