

**CALFED Bay-Delta Program Project Information Form  
Watershed Program - Full Proposal Cover Sheet**

1. Full Proposal Title: Stony Creek Watershed Program  
 Concept Proposal Title/Number: \_\_\_\_\_  
 Applicant: Glenn County Public Works  
 Applicant Name: Doug Holvic, Director  
 Applicant Mailing Address: 125 S. Murdock Ave., Willows, CA 95988  
 Applicant Telephone: (530) 934-6540 Applicant Fax: (530) 934-6542  
 Applicant Email: <mailto:gcpweng@glenncounty.net>  
 Fiscal Agent Name (if different from above): \_\_\_\_\_  
 Fiscal Agent Mailing Address: \_\_\_\_\_  
 Fiscal Agent Telephone: \_\_\_\_\_ Fiscal Agent Fax: \_\_\_\_\_ Fiscal Agent Email: \_\_\_\_\_

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

- |  |                                     |
|--|-------------------------------------|
| <input checked="" type="checkbox"/> Assessment | <input type="checkbox"/> Monitoring |
| <input type="checkbox"/> Capacity Building     | <input type="checkbox"/> Outreach   |
| <input type="checkbox"/> Education             | <input type="checkbox"/> Planning   |
| <input type="checkbox"/> Implementation        | <input type="checkbox"/> Research   |

3. Type of Applicant:

- |  |   |
|--|---|
| <input type="checkbox"/> Academic Institution/University | <input type="checkbox"/> Non-Profit                 |
| <input type="checkbox"/> Federal Agency                  | <input type="checkbox"/> Private party              |
| <input type="checkbox"/> Joint Venture                   | <input type="checkbox"/> State Agency               |
| <input checked="" type="checkbox"/> Local Government     | <input type="checkbox"/> Tribe or Tribal Government |

4. Location (including County): Glenn and Tehama 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)
- Bay-Delta (Coast and Sierra Ranges)
- Southern CA (Coast and Sierra Ranges)
- Tulare Basin (Coast, Sierra and Tehachapi Ranges)

5. Amount of funding requested: \$ \_\_\_\_\_

Cost share/in-kind partners?  Yes  No

Identify partners and amount contributed by each:

Glenn County	\$
CSU, Chico	\$3,000
Stony Creek Landowners	\$10,000
NRCS	\$
U.C. Davis Cooperative Extension	\$

6. Have you received funding from CALFED before?  Yes  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.

\_\_\_\_\_  
Printed name of applicant

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Signature of applicant

1. *Describe your project, its underlying assumptions, expected outcomes, timetable for completion, and general methodology or process.*

**PROJECT OBJECTIVE:** The objective of this project is to complete a management plan for lower Stony Creek (that reach of Stony Creek from Black Butte Dam to the confluence with the Sacramento River) and to begin restoration design work on a portion of Stony Creek within that reach. This management and restoration plan will be designed and implemented as a coordinated effort among landowners, the County of Glenn, resource agencies, and local conservation organizations with advisement and technical support from California State University, Chico and the University of California Cooperative Extension.

**BACKGROUND:** The Stony Creek watershed encompasses approximately 700 square miles and is the second largest Sacramento River tributary on the west side of the Sacramento Valley. There are three major impoundments, Black Butte, Stony Gorge and East Park reservoirs. Several problems and issues are unique to Stony Creek from Black Butte Dam downstream to the Sacramento River, and it is this reach that will be the focus of this project. The principal problems and issues of this reach are these:

- Accelerated channel erosion and resulting property damage
- Displacement of native riparian vegetation by invasive exotic weeds
- Degraded aquatic habitat, including that needed for anadromous and resident fish populations
- Accelerated erosion and channel modifications resulting in increased temperatures and sediment discharges
- A modified hydrology (resulting from Black Butte Dam operations) characterized by punctuated stream flows that impede the system from achieving equilibrium and has adverse impacts to aquatic life, habitat and channel stability.

Previous efforts to address these problems have been unsuccessful, largely due to the complexity of the issues, management limitations within this highly modified system, the large number of landowners involved, and of the failure to establish a stable organizational structure that would facilitate a unified, cooperative approach. While it will not be possible to address every problem to the satisfaction of all parties, addressing some of the problems provides substantial opportunity to improve conditions in lower Stony Creek. This will be accomplished through the completion of several interrelated tasks.

The primary underlying assumption addressed in this project is the need for a comprehensive assessment of the Stony Creek watershed that will proceed with a strategy to restore certain sections.

The Stony Creek watershed is a part of the Sacramento-Lower Thomes watershed. Because it is a hydromodified stream, it is unlike the other watersheds in this area that are known producers of high sediment discharge. However, like these streams, Stony Creek has a very unstable stream channel condition and has undergone a massive loss of riparian habitat.

The Central Valley Regional Water Quality Control Board's Watershed Management Initiative (January 2000) description of the Westside Sacramento River tributaries does not include Stony Creek. However, it is safe to state that their assessment of; "channel instability conditions adversely impacting water quality and aquatic habitat" should include Stony Creek as well.

There is also concern that mercury and other metals may be contributing to problems of bioaccumulation downstream in the Bay and the Delta (Jerry Boles DWR, Personal communication, February 2001). The Sacramento River Watershed Program currently has very little data from this geographic region. Mercury and other metals are of high concern to this and other water quality

programs. A comprehensive watershed monitoring program to establish baseline data is needed so that watershed restoration goals can be developed.

**PROJECT TASKS:**

- 1) Create a stable organization for Landowner/Agency Coordination –
  - a) Formally establish a lower Stony Creek watershed organization for landowners and other stakeholders.
  - b) Decide upon an organizational structure and design decision making processes for the watershed organization and tasks related to the planning and rehabilitation effort.
  - c) Hire a Watershed Coordinator to assume lead responsibility for activities of the watershed organization and coordinate the rehabilitation effort. Responsibilities to include sustaining the watershed organization, forming and maintaining the Technical Advisory Council (TAC), communication with stakeholders, watershed education programs and pursuit of funding for continued program support.
  - d) Form a Technical Advisory Committee (TAC). See question 2b for a listing of possible members.
  
- 2) Complete and approve a lower Stony Creek Management Plan –
  - a) Gather information from previous planning efforts (discussed later) and other existing lower Stony Creek studies and complete an agreed upon management plan for this reach of the stream.
  - b) Retain ‘Watershed experts’ (i.e. geomorphologist, hydrologists, riparian ecologists, fisheries biologists, etc) to examine past and current conditions, and discuss their findings and recommendations with landowners and the watershed program.
  - c) Educate resource agency staff and landowners on the causes of the problems discussed above and actions that could be taken to address these problems with a goal of developing a clear management/restoration strategy approved and supported by all parties.
  
- 3) Complete and approve an initial Restoration Plan –
  - a) Prepare a specific restoration plan for the first sub reach of lower Stony Creek. The sub reach selection and content of this plan will be determined by the watershed organization on the basis of TAC recommendations, however it is expected that emphasis will be placed on eliminating exotic weed species, minimizing stream bank erosion and re-establishing native riparian vegetation. Watershed experts and the Glenn County Planning Department will lead this effort.
  - b) Solicit voluntary agreements for property access from landowners for purposes of conducting a landowner specific restoration plan and monitoring.
  - c) Pursue funds for sub reach rehabilitation work.
  
- 4) Implement Watershed Monitoring –
  - a) Compile existing monitoring information and determine additional monitoring parameters required to attain restoration objectives.
  - b) Establish a monitoring program for Stony Creek from Black Butte to the Sacramento River in order to better understand the problems and their causes which need to be addressed in the management plan and provide a baseline for future evaluation of watershed condition following restoration projects and other actions to improve watershed condition.
  - c) Evaluate alternative methods of data collection.
  - d) Commence monitoring.

**EXPECTED OUTCOMES:** This project is designed to achieve four goals: Coordination of stakeholders including a TAC and landowners, the development of a management strategy, and a restoration design, both for lower Stony Creek and the development of a monitoring program. The

County will work with watershed professionals to gather existing and new data on current and historical conditions in the watershed. From this the TAC will make recommendations about future actions.

**TIMETABLE:** The project is spread over three years. The goal is to allow ample time for stakeholders to review and comment on draft documents.

**PROCESS:** The Project Directors will hold stakeholder meetings in Orland, most likely in the evenings, when landowners seem to be most available. Subcommittees will be developed to help draft a restoration plan, the monitoring plan and to review the watershed management strategy. Progress reports will be outlined at all of the larger stakeholder meetings. Final drafts will be made available for review and comment. The final drafts of all three documents will be presented at stakeholder meetings for adoption.

The stakeholder meetings will present information on watershed function and watershed health, with topics on non-native management and geomorphology. As a part of the three-year funding agreement between State Water Resources Control Board and the Glenn County Resource, Planning and Development Department, money was granted for the development and implementation of watershed education for teachers and students in the Stony Creek area. Teachers in Orland, Hamilton City and Capay were given the opportunity to participate in the program that included:

- Training in Adopt-A-Watershed Streamside Communities integrated curriculum
- Purchase of state standard aligned Adopt-A-Watershed curriculum
- Purchase of support materials including Streamside Kits with tree keys, field guides, sampling nets, viewing boxes, etc.
- Opportunities to interact with support people in the community
- Networking Listserv group system set up through UC Davis cooperative extension to increase the forum available for questions and communication
- Contact with landowners who are allowing access to Stony Creek via their property (Lower Stony Creek is all privately owned).
- Funds set aside for continued field trips and replacing materials in Streamside Kits.

Students in third grade and Jr. High are currently involved in the program.

The current condition of the Stony Creek watershed is still largely unknown to the surrounding community. Through further funding, we would like to offer more extensive education to the landowners and teachers currently participating including:

- Adopt-A-Watershed leadership training: this program provides extensive scientific and management training for teams of educators and community support people to ensure the continuation of watershed education in the school and community.
- Further education of the specific variables affecting the Stony Creek watershed, including Black Butte Dam. This would include a guided tour of Stony Creek from its headwaters to the Sacramento River with experts describing the different conditions.
- Further training and resources for the intermediate schoolteachers on the geomorphology of the watershed and creek.

We would also like to offer watershed education programs to the smaller schools in the Stony Creek Watershed. Six schools would benefit from this program that would include:

- Restoration Ecology Curriculum written to the state standards and designed specifically around the issues affecting Stony Creek Watershed. This would be an integrated curriculum implementing State Science Standards.
- Training teachers in this curriculum.
- Purchasing support materials to use in the classroom.
- Provide funding for field studies with students.
- Connect teachers with local experts and support people.

The Coordinator will assist teachers in adapting that curriculum to meet their individual needs. The teachers in these rural districts lack funds and supported time needed to help to implement watershed curricula. This grant application will provide funding in support of this effort.

This effort will also employ knowledge gained by digital GIS layers. Some of these layers have already been completed by Glenn County under the State Water 204 grant:

- a topographic base map;
- roads and related development features;
- surface hydrology;
- fire history;
- current land use;
- parcel ownership;
- riparian vegetation from air photos;
- soils; and
- general vegetation patterns from LANDSAT imagery.

Where the data is not already in GIS format, published maps will be digitized and incorporated into ArcView format. Once all available information has been compiled and analyzed, data gaps will be identified and future investigations will be designed. Chuck Nelson, Director of the CSU, Chico Geographic Information Center will show how, through the use of GIS, it will be possible to integrate broader understanding of environmental processes into planning and management decisions at the county level.

2. *Describe your qualifications and readiness to implement the proposed project.*

a. *Describe the level of institutional structure, ability and experience to administer funds and conduct the project. Identify the fiscal agent responsible for handling the funds*

Glenn County is fully prepared and capable of implementing the Stony Creek project. The County will prepare a separate budget for the CALFED grant when it is awarded. The funds for the work will be allocated out of the County's General Fund and the County will apply for reimbursement after the work is completed. The budget will be administered by the Glenn County Public Works and Development Services Agency. Glenn County has a separate finance division with qualified accountants to assist the Contract Manager with the bookkeeping, payments, and tracking of funds. All subcontracts will be reviewed by County Counsel and will follow establish County bid processes. Furthermore, all transactions will conform to the terms of the Contract with CALFED. The funds received would be deposited with the County Finance Department (includes Auditor, Controller, Treasurer and Tax Collector).

Glenn County Public Works Department and CSU, Chico will work as partners on the Stony Creek project. The County will hire a watershed coordinator to assist with the education and outreach; and will work with their Technical Advisory Group to provide input into the projects by reviewing drafts and drawing conclusions once the information is complete. Glenn County will subcontract the day-to-day administration of this project to Richard Holman and Kristin Carter.

Professor Rich Holman is a faculty member in the Construction Management Department at California State University, Chico. Mr. Holman has been actively involved with watershed restoration projects since 1994 when he was the project engineer on the \$64 million Shasta Dam Temperature Control Device. His vast construction experience is invaluable for “on the ground” implementation of watershed projects.

Kristin Cooper Carter is the Environmental Projects Coordinator for the College of Engineering, Computer Science and Technology at California State University, Chico. Kristin is currently working on several projects throughout the north state. Holman and Carter have been active participants in Team Arundo del Norte, the Colusa, Glenn and Tehama Weed Management Area, the Glenn County RCD, and several local area watershed organizations. Most importantly, both have been very active participants in the lower Stony Creek Watershed Stewardship Plan. They have attended most of the monthly landowner meetings and have gained a clear understanding of the concerns of the landowners and the issues affecting the creek.

To further support the project, the County has actively been working with a group of volunteer landowners and has excellent representation throughout the Stony Creek watershed. Please see attached letters of support (**ATTACHMENT C**).

In 1999, Glenn County helped to establish the Lower Stony Creek Landowners Group. This group has invested over a year and a half worth of effort in hashing out issues among landowners and has attained a measure of stability and function that would be difficult to rebuild if this effort were discontinued. The landowners who have continued participating in the project to this point have a great deal invested, too much to easily walk away. This group has the capacity to carry out the mission of the project but requires stable leadership and real hope of commencing with rehabilitation work within the next several years. This group has also attracted the support of local resource agencies, resource management professionals and academic institutions that have the capacity to make this project successful.

The County is also very active in supporting the Glenn County Resource Conservation District. Currently the GCRCDC does not have a watershed coordinator on staff, rather the Natural Resources Conservation Service primarily staffs the RCD. This application seeks to “buyout” some of their staff time to in order to assist in the drafting of these documents. See **ATTACHMENT C** for a copy of their letter of support.

This application will also rely heavily on the expertise provided by Marc Horney. Marc Horney is the Natural Resources Management Advisor for University of California Cooperative Extension in Glenn County. Marc is involved in resource management research and an education program supported through UC and is directing research evaluating remote sensing technologies for invasive weed mapping, including sites on Stony Creek. Marc is also a participant in Team Arundo del Norte as well as a member of the Glenn-Colusa-Tehama Weed Management Area steering committee and an advisor to numerous watershed groups in the area. This application seeks to “buyout” some of his time to participate in the development and review of these documents. See **ATTACHMENT C** for a copy of his letter of support.

Faculty and staff from U.C. Berkeley, CSU, Chico, U.C. Davis and others have directed and contributed to numerous watershed projects and management plans and will provide the technical expertise required to develop the watershed management strategy, the restoration design and monitoring plan.

*b. Describe technical support (including support needed for environmental compliance and permitting) to begin and complete the project in a timely manner.*

Aside from the technical support mentioned above, the primary support for this project will come from the members of the Technical Advisory Committee (TAC). The TAC will include representatives from the Department of Fish and Game, Regional Water Quality, United States Bureau of Reclamation, the Department of Water Resources, the Army Corps of Engineers, U.C. Cooperative Extension, Natural Resources Conservation Service, U.S. Fish & Wildlife Service, California State University, Chico, Glenn County Resource Conservation District, Cal Trans, The Nature Conservancy, the Orland Unit Water Users, Glenn County Irrigation District, Tehama-Colusa Canal Authority, local gravel extractors and others with expertise required for the program.

All of these agencies have a tremendous amount of experience with Stony Creek. However, to date there has not been a forum available that has allowed them the ability to all come together to address the problems on this creek. There will be funding in the budget in support of hiring those with expertise in certain areas of watershed science to assist the TAC in the development of their watershed management strategy.

*c. List any previous projects of this type you or your partners have implemented, funded either by CALFED or other programs.*

▪ **USDA Natural Resource Conservation Service**

Upper Stony Creek area has been the benefit of Public Law 566 (PL 566) from 1989 to present. The USDA Natural Resource Conservation Service is administering this program. The USDA Natural Resource Conservation Service has over thirty cooperating landowners in Glenn and Colusa counties representing 40,000 acres in Glenn County and 7,200 acres in Colusa County. These landowners have been willing to cooperate in watershed management projects on a cost-share basis. Watershed management projects under PL 566 have included projects such as brush management, fencing, and creation of wildlife and stock watering facilities.

NRCS has leadership for the EQIP program and it works with the FSA (Farm Services Agency) to set the program's policies, priorities and guidelines. EQIP works primarily in priority areas where there are serious and critical environmental needs and concerns. The Glenn County Local Work Group has identified the lower Stony Creek as a serious environmental concern and is pursuing funding from the EQIP program.

▪ **Glenn County Resource Conservation District**

Glenn County RCD has seven Board Members who are very active in providing leadership on locally led conservation issues. The Glenn County RCD and private land owners have been involved in various projects such as field assessments, habitat restoration, grazing management strategies, streambank stabilization, road improvements, prescribed burning and ecological monitoring. The local work group has identified lower Stony Creek as a Geographic Priority Area for conservation assistance.

▪ **Colusa Basin Drainage District**

The Colusa Basin Drainage District has completed a Basin Integrated Resource Management Plan and Watershed Priority Ranking Assessment. This document has been thoroughly reviewed and will be considered when drafting potential projects.

▪ **Glenn County Planning Department**

Glenn County has received two watershed related grants, a SWRCB 205 (j) grant to develop a landowner stewardship plan for lower Stony Creek below Black Butte Dam and a Proposition 204 grant to prepare a watershed stewardship plan for the Wilson, Walker and Willow Creeks and the lower watersheds in Glenn County. This funding provides for watershed restoration projects to be accomplished in the valley portion of the county.

Other associated watershed grants include:

- State Water Resource Control Board State Revolving Loan – Dairy Waste Management
- Colusa Basin Drain District Employee Agreement
- Bureau of Reclamation Rangeland Specialist Agreement
- NRCS GPA funding - \$120,000 Dairy Waste Management
- NRCS GPA funding - \$150,000 Colusa Basin Drain
- NRCS GPA funding - \$65,000 Integrated Orchard Management
- EQIP Environmental Stewardship short-course
- EQIP water quality education grant

3. *Provide a completed budget cost sheet and describe the basis for determining project costs, including comparisons with other similar projects, salary comparisons, and other listed costs. Include all costs of environmental compliance, such as CEQA and/or NEPA, and permits. Describe how the approach to achieving the stated goals of the project demonstrates an effective cost relative to its anticipated benefits.*

Completed budget cost sheets are included as **ATTACHMENT B**.

Task 1: Administrative costs:

Proper grant administration requires a leadership team that is experienced in planning, scheduling, and coordinating the required resources. It has been our experience from past projects that for every dollar spent planning, up to seven dollars of actual costs can be saved. For this project, we anticipate spending 3-9 manhours per week to administer team meetings, prepare weekly work plans, and evaluate project status. Hourly rates for this task are similar to all of our watershed projects. Material and supplies for this task include photocopying, mileage, office supplies, phones, and fax usage. The estimated costs for this task is based on our historical data.

Task 2: Watershed Management Strategy

Glenn County and California State University have prepared or participated in the preparation of Watershed Management Strategies for various watersheds including, Deer Creek, Big Chico Creek, and Butte Creek. We understand the effort required obtaining the correct data, verifying the accuracy, collecting any missing data, gaining landowner support, and publishing a high quality document. From our experience, we have recognized that this task requires the expertise of all disciplines of science. As a result, we have included time for the appropriate science experts to evaluate and monitor the stream. We also have an excellent working relationship with the local resource which will minimize any duplication of data collection.

Task 3: GIS

Chico State's Geographical Information Center has done previous mapping projects for Glenn County in the vicinity of Stony Creek. We are comfortable that with our current basemaps, we will be highly cost effective since we have already created parcel maps of the area. This will greatly assist in identification of landowners. Our rates and hours allocated for this project are based on similar work we have done on other watersheds.

Task 4: Restoration Plan/Education Coordination

The restoration plan for this project is a complex task. Due to the effects on the stream caused by the Black Butte Dam, restoration will take a significant effort. Our Riparian Ecologist, Tom Griggs Ph.D., has spent many hours working and studying the Stony Creek watershed. He is aware of the lack of

sediment load and has based his riparian restoration plan on his extensive knowledge of the area. The hourly wage rates for this task are highly competitive when compared with private consulting firms. Our costs for materials and travel expense is based on 3 trips to the stream each week to evaluate the restoration needs.

Outreach and Education costs: The Watershed Coordinator salary was based on current salary ranges for the Butte, Tehama and Colusa area and was also compared with salaries for other area Watershed Coordinators. The Coordinator's position at 75%-time was deemed appropriate based on the workload and experience of the project managers. Costs for supplies and other miscellaneous administrative expenses were determined by comparing with past and current projects.

#### Task 5: Monitoring

A project cannot be a success without an extensive monitoring plan. This task includes allowances for specialists from the fields of fisheries, riparian botany, water quality, and fluvial geomorphology. As we proceed through the project each of these specialists will be monitoring any change in conditions and reporting these changes back to the WAC. Our costs for this task are based on a certain number of hours per month and again were derived from our experience on other watersheds.

#### Task 6: Reporting and Presentation

Reporting for this project is well defined in the Proposal Solicitation Process. As described in task 1, the organization of the project will facilitate good record keeping, filing, cataloging, and access to data. As a result, preparation of quarterly and final reports will be an ongoing process. We have prepared many final reports for various agencies (including CALFED) and we are confident that the number of hours allocated and through the use of graduate students, we can perform all reporting in a very cost-effective manner.

\*There are no environmental costs incurred in this application.

Indirect Costs: Currently, the CSU, Chico Research Foundation has two rates approved by our lead Federal agency, Health and Human Services for projects funded by federal agencies: 45% of salaries and wages for on-campus projects and 20% of salaries and wages for off-campus projects. May Wong (415-556-1704) is our contact and can provide verification of our rate which her office approves after reviewing our financial statements. For all other funding sources, the Foundation Board of Directors has a policy of charging 20% of total direct costs.

#### COSTS RELATIVE TO BENEFITS:

Glenn County Public Works is providing much of the staff support to help administer the grant, identify landowners, attend meetings, provide written feedback, and help with agency coordination at its own cost. We have developed a partnership with the Natural Resources Conservation Service (NRCS) to provide technical assistance as available, some office space, some phone costs, office equipment such as; fax, copy machine and some office supplies to the project. NRCS also provides technical support to the project by participating on the Technical Advisory Council (TAC). There are many other local, state and federal agencies and organizations that will also become members of the TAC. Most of these people volunteer their time at stakeholder and subcommittee meetings.

The faculty and staff who participate on this project have very competitive cost rates. Academic salaries are typically much lower rates than private sector consultants. Faculty members also have the ability to use students for some tasks which result in even lower hourly rates not to mention provides applied learning opportunities for their students. Often faculty and student participation will lead to further research or thesis projects. The benefit for the students and faculty involved is tremendous. It allows

the faculty members to stay current while providing for “hands on” experience for their students. Often the work conducted exceeds the amount compensated.

4. *Describe the technical feasibility of the proposed project.*

a. *Describe any similarity to previously implemented successful projects in this community or elsewhere.*

In our answer to Question 6 a. we give a more detailed explanation of several previously implemented projects that are similar to this application. They are the Lower Stony Creek Watershed Strategy and Stewardship Plan, prepared by the Glenn County Public Works and Development Services Department, the Lower Stony Creek Fish Wildlife and Water Use Management Plan prepared by the United States Bureau of Reclamation in 1998, the Upper Stony Creek Watershed Plan and Environmental Assessment prepared in 1989 by the Soil Conservation Service and the U.S. Department of Agriculture, the Grindstone Creek Watershed Strategy prepared by the Department of Forestry and Department of Interior in 1995, and the Briscoe Creek Watershed Analysis Report prepared by the U. S. Forest Service, Pacific Southwest Region, Mendocino National Forest in 1997. This CALFED application proposes to include and update all of this information in the WMS.

b. *If the project proposes a new approach or new method with a high likelihood of adding new knowledge and or techniques, or with the potential to fill identified gaps in existing knowledge, describe how it will do so, and what monitoring components will provide substantiation of results.*

This project proposes to employ an automated *Arundo donax* detection and mapping using remote sensing. This is a new method for identifying the highly invasive and fast moving *Arundo donax*. If successful, this mapping technique will help all of the *Arundo* infested Westside tributaries from Redding down the valley.

University of California Cooperative Extension Natural Resource Management Advisor, Marc Horney, conducted a successful first evaluation of a new technique for mapping *Arundo donax* in 2000 using a section of Lower Stony Creek as a test site. This method discriminates *Arundo donax* canopies from surrounding vegetation by analyzing aerial or satellite imagery for specific ranges of chlorophyll reflectance, plant canopy density and leaf inclination angle using a computer algorithm under development by Dr. Lee Lauderback, a professor of chemical engineering at the University of Nebraska – Lincoln. The year 2000 test was conducted using IKONOS I 4 meter multi-spectral satellite imagery. Additional tests will be conducted in the spring of ‘01 that will evaluate the efficacy of using higher resolution digital aircraft imagery. This technique would allow the entirety of Stony Creek to be mapped for *Arundo donax* density and distribution very rapidly, and facilitate temporal comparisons of changes in *Arundo donax* density and distribution as the eradication project progresses. *Arundo donax* colony locations and densities produced by the technique will be compared to ground observations at sampling sites within the project area each time new imagery is acquired. This information will be used to estimate the accuracy of the automated procedure and refine the technique.

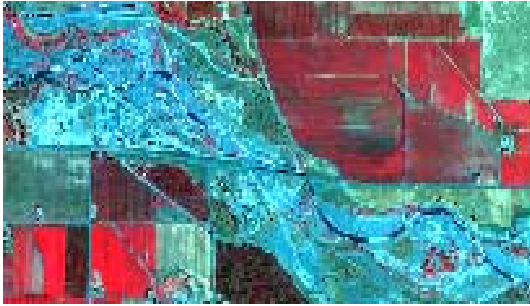


Figure 1. IKONOS satellite image of Stony Creek, 8/00

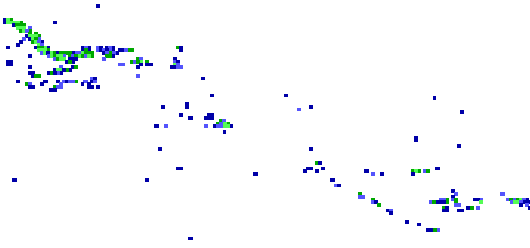


Figure 2. ERSAR arundo donax output

University of California Cooperative Extension is also evaluating water quality and watershed health/function assessment techniques for their accuracy, information content and suitability for use by volunteers and landowners. New recommendations arising from these projects will come available during the course of the Stony Creek project and will be shared with the watershed group through the local UC Cooperative Extension Natural Resources Advisor as the monitoring and rehabilitation plans are developed and revised.

Another tool that may have value for this project is the sharing and distribution of GIS map layers with resource inventory, monitoring and project plan information to landowners. UC Cooperative Extension in Glenn and Tehama counties as part of a USDA EQIP watershed education grant is testing this approach now through the fall of 2002. This approach is more feasible now with the availability of free GIS viewers, including ESRI's ArcExplorer. For the UC Cooperative Extension project, the GIS viewer and base map layers are distributed to participating landowners on CD-ROM, with updates and additions to be distributed by e-mail.

*c. Explain how the finished project will be maintained as necessary, and to what degree it may require continued funding from outside the community.*

In 1999, Glenn County contracted with California State University, Chico to develop a parcel based geographical information system (GIS) for the county. Glenn County's GIS was completed and installed in the Glenn County Planning Department in 2000. Glenn County has trained a number of county employees in various county departments and has made a commitment to GIS. CSU, Chico was also contracted to assist the county in maintaining the system by keeping parcels up to date and by helping county staff in the development of additional GIS theme layers.

Information from the GIS will be used to assist the Watershed Coordinator in developing a watershed strategy. For instance, once the watershed boundaries are determined, it will be possible to get an immediate list of potential stakeholders by overlaying the boundaries over the parcel boundaries. It will be possible to accumulate a whole range of spatial information about the makeup of the various parcels. As additional planning and natural resource layers developed from this effort are added, it will be possible to more thoroughly address existing conditions in the Stony Creek watershed.

One of the tasks included in this effort is mapping riparian vegetation in the watershed including exotics. Once this spatial information is collected, it is possible to calculate information on how much *Arundo donax* is found in the watershed compared with natural vegetation and then to compare this with information from the 1995 coverage. From the base year it will be possible to monitor any removal efforts by overlaying and calculating changes.

Additional information on existing conditions in the watershed will be valuable in assessing a watershed strategy. It will also be good for analysis purposes. Additional field data can be spatially added using GPS units that will be used to update information on the watershed.

The maintenance of this system will be of tremendous help to the Stony Creek landowners and TAC in the successful development of a management plan, restoration strategy and monitoring plan. Full development of these plans will help to move us closer to implementing the recommendations of the TAC.

5. *Describe how the monitoring component of the project will help determine the effectiveness of project implementation and assist the project proponent and CALFED with adaptive management processes.*

This project includes a monitoring component for the purpose of better understanding water quality and watershed conditions within the lower Stony Creek reach and to provide baseline information to allow for analysis of watershed condition trends as future anticipated enhancement projects are implemented.

In the CALFED inventory of existing monitoring activities, conducted by CMARP there was no information about Stony Creek found. The information that we develop will be linked on their web site. Furthermore, CALFED believes that “Adaptive management should begin with a concerted effort to integrate existing interdisciplinary experience and scientific information into dynamic models that attempt to make predictions about the impacts of alternative policies”. They go on to state that they see adaptive management as fulfilling three primary functions:

- problem clarification and enhanced communication among scientists, managers, and other stakeholders;
- policy screening to eliminate options that are most likely incapable of doing much good, because of inadequate scale or type of impact; and
- identification of key knowledge gaps that make model predictions suspect.

Our program proposes to enhance the level of knowledge that CALFED currently has using the adaptive management functions that they advocate. The WMS meets all three of the primary functions listed.

*a. Identify performance measures appropriate for the stated goals and objectives of the project.*

ATTACHMENT A identifies the goals, objectives, and success criteria and task products. Progress of all of the components of this project will be reported at the monthly watershed meetings and made available in the meeting minutes. The progress of the education project will be monitored through monthly reports to the contract manager and at the monthly watershed meetings.

*b. Other monitoring efforts.*

As was identified in Question 5, there are several other agencies and County departments involved in monitoring. It is the intent of this application to first identify all of the entities involved. They will be

invited to participate on the monitoring subcommittee. If they don't actively participate in the subcommittee, it will be part of the watershed coordinators duty to ensure that they are informed of the progress of our efforts and to make sure to include their information in the monitoring plan that is eventually developed.

*c. Provide a description of any citizen monitoring programs that will be part of this project.*

As a part of this grant application we are seeking funding in support of the development of a monitoring plan for Stony Creek. Citizen monitoring could be a component of that plan. CSU, Chico has a Department of Fish and Game macroinvertebrate lab on their campus. This lab is run under the direction of Jim Harrington. Harrington is well known for his citizen monitoring training courses. Given the involvement of the university in this project, we anticipate that the resulting monitoring plan that is developed will likely have a citizen-monitoring component under the expert guidance of Jim Harrington.

There is also the possibility of receiving funding from the Sacramento River Watershed program in support of a citizen monitoring program. The watershed coordinator will be the designated person to interface with this organization. It will be a part of his/her duty to further investigate this type of assistance and bring it to the attention of the WAC at the watershed meetings.

*d. What monitoring protocols will be used, and are they widely accepted as standard protocols?*

A major component of the evaluation of the biological integrity on Stony Creek is the use of Rapid Bioassessment Protocols (RBPs). Rapid Bioassessment Protocols (as defined by the U.S. Environmental Protection Agency) provide a useful, cost-effective method for identifying impacts and sensitive aquatic habitats, and for monitoring the effectiveness of watershed restoration programs. These are the protocols that will be used and they are widely accepted by all regulatory agencies.

*e. Describe how the type and manner of data collection and analysis will be useful for informing local decision-making?*

Substantial past and ongoing monitoring (DWR, USBR and others) exists for lower Stony Creek, however it will be necessary to augment these efforts in order to provide updated or new information relevant to the issues important to this project. The specifics of the monitoring program will be developed via a Monitoring subcommittee, however, it is anticipated that the following information will be a part of that program:

**Channel and Habitat**

- channel morphology (x-sections, width/depth, eroding banks, etc)
- riparian vegetation survey
- in-channel habitat substrate analysis (i.e. % fines in gravel)

**Water Quantity**

- flow

**Water Quality**

- temperature
- metals
- sediment transport

**Biological**

- macroinvertebrates
- fish survey (resident and anadromous)

DWR currently has a multi-year water quality monitoring and fish monitoring program in place on lower Stony Creek, in cooperation with USBR. It is anticipated that parameters (from the list above) that

are currently not part of that program will be added. There is funding set-aside in the budget to compensate DWR analyzing the data that they have collected. Additionally, there are several other potential monitoring data sources, including CSU, Chico, resource agencies, private businesses, and citizen volunteers. It is our intent to identify all current monitoring that is taking place and to provide a repository for this information. Quality Assurance Plans will be prepared and approved for any new data collection effort. Lower Stony Creek monitoring information (past, ongoing, and future) will be shared on a regular basis with Stony Creek landowners and the TAC. Decisions regarding issues to be addressed, project priorities, and project effectiveness will be based, in part, on information from the monitoring program.

6. *If this project is to develop specific watershed conservation, maintenance or restoration actions, describe the scientific basis for the action(s) described in the proposal. Include the following:*
- a. *Any assessment of watershed condition(s) that has already been developed by you or others.*

Several other adopted plans give support to the development of a WMS and comprehensive restoration plan, including:

- 1) **US Bureau of Reclamation (USBR)** has prepared the *Lower Stony Creek Fish Wildlife and Water Use Management Plan*. This Plan includes a summary of the literature, base line environmental data and research on Lower Stony Creek. The focus of the USBR study is to identify what actions can be taken by local initiative to protect, conserve, and enhance the resources of the creek, as well as determining what actions USBR can take to modify current water releases from Black Butte Dam for the benefit of associated fish and wildlife, during the irrigation season. Landowner actions that have been suggested are: Tamarix and Arundo eradication, bank stabilization, and reestablishment of riparian vegetation.
- 2) **Lower Stony Creek Watershed Strategy and Stewardship Plan**  
Prepared by the Glenn County Public Works and Development Services, the primary purpose of this project is to work with the landowners along Lower Stony Creek to identify landowner generated goals and objectives. This study could be accurately characterized as a landowner scoping study. Glenn County Planning Department sees the WMS for all of Stony Creek as a natural next step in the process of implementing restoration activities on Stony Creek.
- 3) **Upper Stony Creek Watershed Plan and Environmental Assessment**  
Prepared in 1989 by the Soil Conservation Service, U.S. Department of Agriculture, the purpose of this assessment is to appraise the economic feasibility and environmental acceptability of measures to reduce accelerated soil erosion and to sustain agricultural production in the Upper Stony Creek Watershed. This document outlines the development of a restoration strategy that the WMS will up date and seeking funding support for implementation of the selected plan.
- 4) **Grindstone Creek Watershed Strategy**  
Prepared by the Department of Forestry and Department of Interior in 1995, this study focuses on a watershed analysis, riparian reserves, watershed restoration and key watersheds. Grindstone Creek is a major tributary to the Stony Creek Watershed. Grindstone Creek is part of the Mendocino National Forest. The surveying that was done was limited to this area. The Stony Creek Watershed Program proposes to include and update this information in the monitoring plan and WMS that will be completed.
- 5) **Briscoe Creek Watershed Analysis Report**  
Prepared by the Forest Service in the Pacific Southwest Region, Mendocino National Forest in 1997, this study also focuses on watershed analysis, riparian reserves, watershed restoration and key watersheds. Briscoe Creek is also a tributary to Stony Creek Watershed. The surveying that was done was limited to the Mendocino National Forest area. The Stony Creek Watershed

Program proposes to include and update this information in the monitoring plan and WMS that will be completed.

- 6) **The Glenn County General Plan** adopted in 1993 calls for the preservation of riparian vegetation, the restoration of Stony Creek and the management of ground and surface water quality.
- 7) **The Colusa Basin Drainage District Plan** identifies projects within this area and identifies Stony Creek as a contributor to flooding in the southern part of the District.

All of the above studies will provide input to the development of the WMS. The water quality monitoring analysis will be the most necessary component to start implementing immediately in order for the Stony Creek Landowners group to show the positive impact that their projects will have on water quality. This plan will also be necessary to assist this same group in being able to identify problem areas, so that they can best determine where to place their efforts and to help determine the best course of action.

*b. Previous assessment(s) used to establish your project goals and objectives, or to inform the basic assumptions of your proposal.*

In the fall of 1999, Glenn County was awarded a State Water Resources Control Board 205j grant. This grant allowed the County to hold a series of landowner outreach scoping meetings to assist them in determining the issues of concern on Stony Creek. There were several issues that the participating landowners identified as critical.

1. Arundo eradication along Lower Stony Creek.
2. Increase in channel capacity of Lower Stony Creek in order to provide adequate capacity for releases from Black Butte Dam.
3. Reduction of erosion along Lower Stony Creek
4. Modification of the release schedule from Black Butte Dam to reduce erosion along Lower Stony Creek.

In addition there are several other studies that have been identified previously that helped to mold the goals and objectives of this application. Through the previous studies we have received valuable feedback from the participating local, state and federal agencies and from the Resource Conservation District on the development of this application.

*c. A description of the scientific assumptions used to develop the project goals, objectives and proposed actions, and the degree to which those assumptions are widely accepted (both in the science community as a whole, and in the watershed community).*

The watershed management plan and specific restoration activities will be based on a detailed knowledge of relevant physical and biological processes. Restoration success will be determined by optimizing both surface flow management (vegetation establishment) and shallow groundwater management (vegetation survival) activities. The scientific assumptions are that the presence and species composition of riparian vegetation are dependent upon physical river processes. The physical river processes (as a result of the current management of Black Butte dam) have created the loss of native riparian vegetation and promoted the proliferation of the non-native Arundo and Salt-cedar. In addition, the physical processes have greatly increased the loss of private property to severe bank erosion. Riparian vegetation has a local effect upon river physical processes. For example, where Arundo clumps have established in the center of the channel, they split the flow of the channel,

deflecting the flow into the banks resulting in bank erosion. Therefore, the property-specific restoration prescriptions will depend upon an analysis the magnitude of the river processes operating upon the specific property. In addition, reach-scale analyses of the physical processes will be essential before the property-specific restoration plans can be developed.

Land uses or resource management activities adversely affecting water quality are spatially isolated within the Stony Creek watershed. Adaptive monitoring efforts are needed to identify water quality problems where they may exist. Different land use activities can have a significant impact on local aquatic ecosystems. Knowledge of these impacts can create optimally effective bioassessment monitoring program and will help maintain health of the aquatic ecosystem.

*d. A discussion of how the proposed actions are (are not) consistent with the scientific assumptions and previous assessments completed in the watershed.*

At this pointing in the process we are not proposing any actions on the ground.

*e. A description of what baseline knowledge was used to support the management actions described in the proposal, or the likelihood that the management actions will generate more robust baseline knowledge*

Most of the management actions described in the proposal are derived from the past studies that are listed in Question 6 a and the past projects listed in Question 1c. It is from this past information and input from several resource managers and the landowners on Stony Creek that this proposal was developed.

There is very little known about the health of the Stony Creek watershed. The monitoring plan and gathering of baseline data will be of tremendous value to all resource managers. The use of the automated *Arundo donax* detection and mapping system that uses remote sensing will also add to our baseline knowledge, not just for Stony Creek but all creeks affected with *Arundo donax*.

*7 a. How will the proposal address multiple CALFED objectives (see Section I) in an integrated fashion, with emphasis on water supply reliability, water quality, ecosystem quality, and levee stability objectives CALFED has established for Stage 1 of the program?*

The watersheds of Glenn County are all within the designated CALFED management area. Specifically they generally fall into CALFED's Colusa Basin Ecological Management Unit. According to CALFED's Strategic Plan for Ecosystem Restoration, the Colusa Basin Ecological Management Zone contribution to the health of the Sacramento-San Joaquin Delta and Sacramento River Ecological Management Zones will increase after its ecological processes, habitats, and ability to support sustainable fish, wildlife, and plant communities are improved. The Colusa Basin Ecological Management Zone supports the Bay-Delta by contributing flow and sediment, and by providing riparian and riverine aquatic and wetland habitat that supports a wide variety of wildlife. The streams in this Ecological Management Zone provide seasonally important rearing habitat for many fish species found in the Sacramento River. The Colusa Basin Ecological Management Zone is an extensive hydrologic and geographic area west of the Sacramento River between Cottonwood Creek to the north and Cache Creek to the south. This zone is divided into the Stony Creek, Elder Creek, Thomes Creek, and Colusa Basin Ecological Management Units. The CALFED plan goes on to state that protecting and improving important ecological processes and functions on these creeks and within this unit will help to maintain

important attributes of the Colusa Basin Ecological Management Zone, and preserve its ability to serve as a source of sediment and nutrients to the Sacramento River Ecological Management Zone.

CALFED has identified seven endangered species that are found in this area, all of which will benefit from a coordinated management effort. They are the lamprey, giant garter snake, native anuran amphibians, native resident fishes, neo-tropical migratory birds, waterfowl and various endangered plants and plant communities. The National Wildlife Refuge located in this management area has some of the highest concentrations of giant garter snake in the Central Valley. Efforts to expand this area will be well received. This area is also one of the primary waterfowl and wetland migratory bird wintering areas of the Pacific Flyway. Wetland conservation and enhancement are also highly encouraged. All of the recommendations from CALFED are consistent with the goals of this application and will be used as guidance in determining project priority.

CALFED's ecological vision for the Colusa Basin Ecological Management Zone involves maintaining or rehabilitating important fishery, wildlife, and plant communities and ecological processes and functions that contribute to the health of the Delta. Attaining this vision involves restoring or reactivating important ecological processes and functions that create and maintain habitats for fish, wildlife, and plant communities throughout the Ecological Management Zone and its component, Ecological Management Units. This application initiates the restoration process that in turn will address the rehabilitation of fishery, wildlife and plant communities.

The CALFED ecological vision also includes a large cooperative program with landowners to improve the wildlife benefits related to agricultural practices in the Stony Creek area. In addition, it emphasizes maintenance or improvements to the ecological processes and improvements to fish habitats. This application will further develop a cooperative program with the landowners, which, without this funding the landowners in this area may never be able to make the needed improvements to the habitats of any of the species concerned.

Specifically, the vision for the Stony Creek Ecological Management Unit is as follows, "Many native fish species use the lowermost reach of Stony Creek, below Highway 45, at its confluence with the Sacramento River for rearing from fall through early summer when water is suitably cool. This valuable habitat type will be maintained and improved by restoring upstream areas to improve system integrity and increase habitat complexity at the confluence." The lowermost reach of Stony Creek will be part of the targeted area for the development of a restoration strategy. The area directly up stream of this section is also targeted for the development of individual landowner restoration designs. Once implemented, the strategy for this area will address the need for improved system integrity (one of the top goals of the landowners in this area is the need to address water flow releases from Black Butte Dam) and habitat complexity (the second major goal is to remove the non-native *Arundo donax* and to revegetate with native vegetation.) Addressing these top two goals directly supports CALFED's vision for the Stony Creek Ecological Unit.

The CALFED Water Quality Program has developed programmatic actions to address beneficial use impairments. Implementing these actions will further their program's goal of providing good quality water for environmental, agricultural, drinking water, industrial, and recreational beneficial uses of water. The program used existing information from the CWA Section 303(d) list of impaired water bodies for California to identify the locations of beneficial use impairments associated with parameters of concern. The Section 303(d) list identifies water bodies with impaired beneficial uses, the parameters of concern within each water body that are thought to be responsible for the impairment, and the likely

sources of the parameters of concern. There has been some discussion that Stony Creek will possibly be added to this listing in the near future. The implementation strategy for the CALFED Water Quality Program envisions ongoing assessments involving experts, regulatory agencies, and the public to ensure that the best possible understanding is applied to CALED investment decisions. This application, through its comprehensive monitoring plan is designed to involve water quality experts, agencies involved in the regulation of water quality standards, the WAC and landowners.

CALFED's levee program is primarily concerned with the Delta area and the water supply reliability program will not be affected by this grant application.

*b. Explain how the proposal will help define and illustrate relationships between watershed processes (including human elements), watershed management, and the primary goals and objectives of the CALFED (see Section I).*

Through the WMS-development process, the WAC and landowners will become better educated regarding current watershed conditions, physical (erosion) and biological (riparian) processes, and options for watershed stewardship and restoration. We anticipate that expanded education and involvement in watershed projects will lead to improved natural resource management practices. The WMS document will identify problem areas and will suggest implementation activities to address these areas. Overall program benefits will be measured by level of community participation and by on-going watershed monitoring that will track watershed condition trends.

The long-term result of the project will be to replace huge areas of exotic weeds or bare gravel with a diverse riparian community of native plants. Native riparian zones are well known for supporting diverse communities of wildlife, including game species such as deer, quail and turkeys as well as numerous amphibians, reptiles, small mammals, resident and migratory songbirds and raptors. All native fish species present in the stream will benefit from restoration of native vegetation through the riparian corridor. An established riparian zone will provide woody debris for cover as well as leaf and insect fall to enhance the food web. As lateral migration of the channel is reduced, deeper pools will be scoured, increasing the diversity of fish habitat. These improvements will increase aquatic and terrestrial habitats and improve ecological functions not only for Stony Creek but for the Bay-Delta as well. Without the development of a landowner driven implementation strategy it is assured that the current impaired state that Stony Creek is in, will remain and will possibly grow worse. Stony Creek has a history of severe watershed disturbance, degraded aquatic and riparian resources; adverse impacts to private property owners and a somewhat dysfunctional relationship between landowners and resource agencies. Successful completion of the activities proposed in this project will demonstrate that collaborative efforts on the part of diverse interests can lead to environmental enhancement and landowner satisfaction in an area where previous attempts have generally failed.

*c. Identify a lead agency for environmental compliance, such as CEQA or NEPA. Describe the program's strategy and timetable on environmental compliance.*

Does not apply

8 *a. Describe any other important aspects of your program that you could not address in the above items, and that you feel are critical to fully describing your project.*

Lower Stony Creek has experienced substantial degradation that has impacted landowners (loss of property and property value) and aquatic resources. These conditions are principally the result of highly

fluctuating flows, accelerated channel erosion, and invasive exotic plant species. There is significant opportunity for improvement. Past efforts to address these problems have been largely unsuccessful. It is believed that keys to 'success' in lower Stony Creek will depend, in a large part, on the following:

- A collaborative effort between landowners and resource agencies
- A better understanding of problem causes and potential for improvement
- Ability to modify water storage and release operations from the three on stream reservoirs
- Funding assistance to implement channel and habitat improvements and demonstration of the value of these improvements.
- Streamline the permitting process for all restoration activities on Stony Creek.

Submit all requested forms, including those not included in this Proposal Solicitation Package, and needed for the project.

# Attachment A

## CALFED Proposal Forms

- Environmental Information Form
- Environmental Permitting and Approvals
- Land Use Checklist
- Stony Creek Watershed Map
- Lower Stony Creek Watershed Map (shows restoration area and monitoring area)

## Attachment B

# CALFED Budget Forms

- CALFED Watershed Program Budget and Project Summary 1
- CALFED Watershed Program Budget Summary 2
- Subcontractor Budget by Task
- Three Year Budget Breakout

### CALFED Watershed Program Budget Summary I

<b>Task Description</b>	<b>Labor Rate*</b>	<b>Hours</b>	<b>Total Labor</b>	<b>Supplies</b>	<b>Materials</b>	<b>Subcontract**</b>	<b>Match</b>	<b>CALFED</b>	<b>Total</b>
Task 1: Administration	\$33.31	1680	\$55,952	\$16,368	\$0	\$20,160	\$30,000	\$92,480	\$122,481
Task 2: Watershed Mgmt Strategy	\$37.99	7295	\$277,111	\$10,680	\$0	\$6,600	\$13,600	\$294,391	\$307,992
Task 3: GIS	\$41.87	1885	\$78,931	\$1,800	\$0	\$0	\$8,000	\$80,731	\$88,731
Task 4: Restoration/Education	\$53.68	1330	\$71,398	\$2,856	\$0	\$12,000	\$0	\$86,254	\$86,254
Task 5: Monitoring	\$51.44	2387	\$122,797	\$7,800	\$0	\$36,000	\$0	\$166,597	\$166,598
Task 6: Reporting and presentations	\$33.31	420	\$13,988	\$4,092	\$0	\$5,040	\$0	\$23,120	\$23,120
<b>Totals:</b>			\$620,178	\$43,596	\$0	\$79,800	\$51,600	\$743,574	\$795,176

\*Labor rates incl fringes/indirects - vary from 12-32% depending on the employee classification

\* Labor rate shown is "average" rate for all personnel on each task

\*\*Provide a separate itemized budget using this format for subcontracts

**STONY CREEK WATERSHED PROGRAM**

**CALFED WATERSHED PROGRAM BUDGET AND PROJECT SUMMARY II**

<b>Task Description</b>		<b>Completion date</b>	<b>Match funds</b>	<b>CALFED funds</b>	<b>Total</b>
Task 1:	Administration:		\$ 30,000	\$ 92,481	\$ 122,481
Task 1a:	Develop Subcontracts/Bid packages	Mar-02		\$ 11,560	\$ 11,560
Task 1b:	Develop coord. job duties/Hire Coord.	Apr-02		\$ 11,560	\$ 11,560
Task 1c:	Conduct administrative duties	Dec-04		\$ 46,240	\$ 46,240
Task 1d:	Attend meetings and conferences	Dec-04		\$ 23,120	\$ 23,120
<p>Task Product(s): Produce subcontract documentation, request for proposals, and evaluation matrices. Hire qualified watershed coordinator, and attend all relevant conferences and meetings</p> <p>Success Criteria: <i>Effective filing and organizational review will occur quarterly to ensure that all state and federal procurement regulations are adhered to. This is a normal function for all CSU, Chico Research Foundation projects.</i></p>					
Task 2:	Develop Watershed Management Plan		\$ 13,600	\$ 294,392	\$ 307,992
Task 2a:	Hire Experts	Jan-03		\$ 8,186	\$ 8,186
Task 2b:	Watershed Coordination	Dec-04		\$ 130,680	\$ 130,680
Task 2c:	Produce Draft Plan	Dec-03		\$ 81,856	\$ 81,856
Task 2d:	Review Draft Plan with TAC	Jun-04		\$ 32,742	\$ 32,742
Task 2e:	Produce Final Plan	Oct-04		\$ 40,928	\$ 40,928
<p>Task Product(s): Identify with TAC, required watershed experts. Produce Watershed Management Plan</p> <p>Success Criteria: Landowner and Agency Agreement with respect to the overall objectives of the watershed management plan.</p>					
Task 3:	GIS Mapping		\$ 8,000	\$ 80,731	\$ 88,731
Task 3a:	Identify Landowners	May-02		\$ 8,073	\$ 8,073
Task 3b:	Develop Restoration Maps	Jan-03		\$ 36,329	\$ 36,329
Task 3c:	Develop Monitoring Maps	Jan-04		\$ 36,329	\$ 36,329
<p>Task Product(s): GIS Maps</p> <p>Success Criteria: Digitize and field verify map data</p>					
Task 4:	Restoration Strategy		\$ -	\$ 86,254	\$ 86,254
Task 4a:	Schedule site visits	Jun-03		\$ 7,625	\$ 7,625

<i>Task 4b:</i>	Develop individual restoration plans	Dec-03	\$	38,127	\$	38,127
<i>Task 4c:</i>	Present over-all restoration strategy	Feb-04	\$	7,625	\$	7,625
<i>Task 4d:</i>	Acquire funds for plan implementation	Dec-04	\$	11,438	\$	11,438
<i>Task 4e:</i>	Present possible funding options to WAC	Jun-04	\$	11,438	\$	11,438
<i>Task 4f:</i>	Assist Environmental Educator	Dec-04	\$	10,000	\$	10,000

the agencies as well as the local landowners. Environmental Education workshops with teachers and students. Identification of funding opportunities for implementation

Success Criteria: Agreement of landowners and agencies. Peer review by agencies and watershed experts.

Task 5:	Monitoring		\$	-	\$	166,598	\$	166,598
<i>Task 5a:</i>	Identify existing monitoring programs	Oct-02	\$	33,320	\$	33,320	\$	33,320
<i>Task 5b:</i>	Identify data gaps	Jun-03	\$	33,320	\$	33,320	\$	33,320
<i>Task 5c:</i>	Develop draft monitoring plan	Dec-03	\$	83,299	\$	83,299	\$	83,299
<i>Task 5d:</i>	Final Monitoring Plan	Dec-04	\$	16,660	\$	16,660	\$	16,660

Task Product(s): Collect and catalog all existing monitoring data. Detailed categorization of data gaps. Collect new data and catalog. Prepare written monitoring plan.

Success Criteria: Peer review by agencies, feedback from landowner meetings, quality assurance of all data collected

Task 6:	Reporting and Presentations		\$	-	\$	23,120	\$	23,120
<i>Task 6a:</i>	Quarterly progress reports: Progress reports on project implementation, including financial status, milestones reached, products completed, and general assessment of overall progress, including problems encountered or anticipated.	Ongoing	\$	4,624	\$	4,624	\$	4,624
<i>Task 6b:</i>	Draft final report: Draft report summarizing the project implementation, achievements, product deliveries, financial status. To be sent to the Contract Manager for review and comment.	Oct-04	\$	11,560	\$	11,560	\$	11,560
<i>Task 6c:</i>	Final report: Revised report incorporating comments from the Contract Manager and others.	Dec-04	\$	4,624	\$	4,624	\$	4,624
<i>Task 6d:</i>	Presentations: Delivering at least one final summary presentation to CALFED.	Dec-04	\$	2,312	\$	2,312	\$	2,312

Task Product(s): Quarterly progress reports, draft final report, presentations

Success Criteria: Feedback from CALFED

TOTALS			\$	51,600	\$	743,576	\$	795,176
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<b>Task Description</b>	<b>Subcontractor</b>	<b>Amount</b>
Task 1: Administration	Glenn County	\$ 15,000
	Marc Horney - UC Davis Extension	\$ 5,160
Task 2: Watershed Mgmt Strategy	Landowner Meeting Facilitator	\$ 6,600
Task 3: GIS		\$ -
Task 4: Restoration/Education	Environmental Education Specialist	\$ 12,000
Task 5: Monitoring	Department of Water Resources	\$ 30,000
	NRCS	\$ 3,000
	SHN Engineers and Geologists	\$ 3,000
Task 6: Reporting and presentations	SHN Engineers and Geologists	\$ 5,040

## Attachment C

### CALFED Letters of Support

- Glenn County Board of Supervisors Resolution
- Tehama County Letter of Support
- Orland Unit Water Users' Association
- University of California Cooperative Extension
- Glenn County Resource Conservation District
- Natural Resource Conservation District
- Notification Letter to Tehama County
- Notification letter to Stony Creek Landowners
- Landowner Support Letters