

Final Report  
for the  
Alder Creek Watershed Project  
(DWR Grant Agreement No. 4600004717)



*Submitted to:*



**State of California Department of Water Resources**

Division of Planning and Local Assistance

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*By:*



CITY OF  
**FOLSOM**  
DISTINCTIVE BY NATURE

**City of Folsom**

Department of Public Works

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Folsom, CA 95630

**February 2010**

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# TABLE OF CONTENTS

Section	Page
1 Introduction.....	1
1.1 Introduction and Background .....	1
1.2 Purpose of the Final Report .....	1
2 Goal of the Alder Creek Watershed Project.....	2
2.1 Goal of the Project.....	2
2.2 Problems this Project was Intended to Address.....	2
3 Summary of Work Completed .....	5
4 Success Toward Meeting Desired Outcomes.....	12
5 CALFED Goals and Objectives Met By This Project .....	16

## Tables

1 Summary of Work Completed – Alder Creek Watershed Project .....	5
2 Summary of Recommended Projects for the Alder Creek Watershed.....	13
3 Activities, Performance Criteria, and Assessment of Results for the Alder Creek Watershed Project .....	13

## Attachments

### Alder Creek Watershed Management Action Plan and Appendices:

- A. Alder Creek Watershed Project Assessment and Evaluation Plan
- B. Alder Creek Watershed Assessment and Monitoring Plan (includes QAPP in Appendix)
- C. Alder Creek Watershed Assessment Technical Report - Hydrologic and Geomorphic Component
- D. Alder Creek Watershed Assessment Technical Report – Biological and Ecological Component
- E. Technical Memorandum – Recommendations for Future Hydromodification Analysis Methods and Tools, and Potential Mitigation Actions

### Presentations Made at Watershed Stakeholder Meetings:

- November 2007 Stakeholder Meeting Re: Preliminary Watershed Assessment Results
- December 2008 Stakeholder Meeting Re: Hydrology/Hydrogeomorphology Assessment Results
- November - December 2009 Stakeholder Meetings Re: Final Assessment Results

*All of these work products can also be found online at: <http://creeks.folsom.ca.us>*



# **1 INTRODUCTION**

## **1.1 INTRODUCTION AND BACKGROUND**

The Alder Creek Watershed Project was funded by a CALFED grant (CALFED Watershed Program, Proposition 50, 2005 Grant Solicitation Program, project #994818BRO) administered by the California Department of Water Resources (DWR) and managed by the City of Folsom's Public Works Department (DWR/City of Folsom Grant Agreement No. 4600004717). The project was implemented in accordance with the CALFED Watershed Program Plan, with its myriad goals and principles, which was incorporated by reference into the grant agreement. Since the grant was awarded in 2006, the original CALFED Watershed Program organization has transitioned into the Statewide California Watershed Program to promote and conduct effective stewardship of natural resources in a watershed context. The Program retains many of the important elements that made the CALFED Watershed Program successful, including public involvement and transparency. The goals of the previous CALFED Watershed Program Plan are reflected in this project.

The City secured the watershed grant funds in order to engage stakeholders in preparing a Watershed Management Action Plan (Plan) that would characterize existing conditions and recommend policies and projects to protect the health and integrity of the watershed in light of planned future development. Prior to this project, development planning in the watershed was conducted individually by landowners and land management agencies in a somewhat piecemeal fashion. The grant funding provided the means for a new collaborative process involving all stakeholders (including the environmental community) in an interest-based planning process which considered the watershed as a whole and encouraged landowners to think about upstream and downstream conditions and needs. The result of the 3+ year process is a comprehensive multi-objective action plan, increased public awareness of the watershed and its conditions, and a new capacity within the community for watershed stewardship.

## **1.2 PURPOSE OF THE FINAL REPORT**

This final report summarizes work conducted by the City's project team and the watershed stakeholders for the Alder Creek Watershed Project and includes copies of the major work products. This report does not attempt to repeat all of the information contained in the 35 monthly progress reports that were submitted to DWR over the course of the project (2007-2010). Those reports should be consulted for details about work completed and copies of other work products such as stakeholder meeting minutes and outreach materials.

Major work products such as the Watershed Management Action Plan are also available on the City of Folsom's web site: <<http://creeks.folsom.ca.us>>.



## 2 GOAL OF THE ALDER CREEK WATERSHED PROJECT

### 2.1 GOAL OF THE PROJECT

The goal of the Alder Creek Watershed Project was to gather stakeholders together to inform and guide the process of conducting a watershed assessment to characterize existing conditions and preparing a watershed management action plan to recommend policies and projects to protect the health of the watershed and the creek in light of planned future development. Early in the process, the following watershed protection and management goals were developed by the stakeholders:

- ▶ protect, preserve, enhance, and restore:
  - water quality,
  - fish and wildlife habitat and movement corridors,
  - sensitive natural communities (e.g., aquatic, riparian, woodland), and
  - hydrologic and geomorphic processes and functions (e.g., maintain drainage, infiltration, flood protection, sediment transport and deposition functions).
- ▶ provide passive recreational opportunities including a trail system that allows movement within the watershed and provides connectivity to trails outside of the watershed.
- ▶ provide watershed stewardship and educational opportunities.
- ▶ improve and/or maintain visual and aesthetic qualities.

The watershed-scale approach to the project allowed the project team and the stakeholders to develop integrated solutions that address the physical, chemical, and biological problems contributing to water quality and habitat degradation affecting the watershed.

### 2.2 PROBLEMS THIS PROJECT WAS INTENDED TO ADDRESS

During the first few months of the project in 2007, the project team prepared the Alder Creek Watershed Project Assessment and Evaluation Plan (PAEP) which identified several problems that the project was intended to address. This section briefly describes each of the problems and progress made in addressing these issues over the course of the project.

***Problem 1 - Need for Additional Data and Analyses for Cumulative Assessment of Watershed Health.*** Over the last ten years or so, landowners and developers conducted environmental studies and mapped/characterized many natural resources in the undeveloped portion of the watershed; much of this data was provided to the project team and provided an excellent foundation for the watershed assessment. However, this information was largely collected on a site-specific basis primarily to determine potential regulatory impacts resulting from proposed development and to inform the design of infrastructure such as roads and drainage systems. An overall cumulative assessment of watershed health, resources, and services had not occurred and data gaps existed. This project provided the opportunity to collect additional watershed information, including water quality, hydrologic, geomorphic, and ecological data. The project provided resources to begin knitting the existing disparate data pieces together with the newly acquired data, in order to produce a holistic watershed assessment to establish baseline conditions for the creek and watershed. This was a necessary first step in development of the Watershed Management Action Plan.

Progress made: A large amount of data (hydrologic, geomorphic, water quality, bioassessment, vegetation, wildlife species, etc.) was compiled and synthesized during the project's watershed assessment phase, as summarized in Table 1. Data was provided by the City of Folsom, Sacramento County, and private landowners and their consultants. Additional data was then collected by the project team to fill in data gaps. All the data was then analyzed and the results of the analyses (including recommendations for future action) were documented in two reports: Biological Assessment and Hydrologic/Geomorphic Assessment (Appendices C and D of the Plan).

Recognizing that data collection needs to continue into the future in order to fully characterize certain conditions, identify short- and long-term trends, and inform future adaptive management of resources in the watershed, a recommended monitoring program was also prepared for implementation in the future (see Chapter 7 of the Action Plan).

***Problem 2 - Re-establishment of a Stakeholder Group.*** In 2002 – 2003 a group of stakeholders (Alder Creek Coalition) came together to discuss strategies for restoration of the downstream portion of Alder Creek, known as Alder Pond. The Folsom Auto Mall Dealers Association and the City of Folsom were key players at the time. The coalition prepared an early characterization of the watershed and developed a USACE grant proposal which described various restoration options. However, the group lost momentum after the federal agency's grant program was put on hold, and eventually the coalition stopped meeting. The new grant project provided the opportunity to form a larger, more diverse watershed stakeholder group to inform and guide a more comprehensive review of watershed issues and solutions, including integration of the original Alder Pond restoration concepts.

Progress made: The project team identified and engaged watershed stakeholders in the development of the Plan through an interest-based planning process. As a first step, a stakeholder group was established consisting of representatives of local agencies (planning, parks, drainage, and transportation staff), landowners/developers and their consultants, and environmental groups. Early in the Plan's development, the stakeholder group met with the technical team and City staff to articulate a vision for the watershed, identify key issues and concerns, and determine desired outcomes for the planning process. Along with facilitated discussion and technical presentations, stakeholders toured the watershed and visited sites on both publicly and privately owned lands in the upper, middle and lower watersheds. Stakeholders were accompanied by resource specialists, technical experts and property owners who described the history of the sites and key issues in that section of the watershed. At each site, participants were asked to complete a survey that included questions about the key issues, opportunities and challenges, restoration potential, and community involvement opportunities.

The project benefited from the re-establishment of the stakeholder group in several ways. For example, based on input from participating agencies and landowners, the project team decided to release preliminary development planning recommendations to the group a year early - in spring 2008 - to provide more timely information to the land use planning process for the land in the City's sphere of influence. Additional details about the stakeholders and their participation in the planning process are provided in Chapter 3 of the Plan.

***Problem 3 - An Opportunity to Engage the Community in Meaningful Watershed Projects.*** Prior to this project, there was no concerted effort to educate or engage the watershed community residing in the developed portion of the watershed north of Highway 50. Some residents participated in the City's annual creek week event, and some neighborhood groups had expressed concern about trash or aquatic vegetation in the detention basins, but most residents had no idea that the waterways in their neighborhoods were tributaries to Alder Creek. This project provided the opportunity to outreach to community groups (e.g., Boy Scouts), local schools (e.g., Gold Ridge Elementary) and businesses (e.g., REI) in the watershed, increase the level of understanding and awareness, and engage these stakeholders in watershed stewardship and restoration activities.

Progress made: Just as the project was kicking off in fall 2006, the City arranged for a watershed assembly/presentation by the South Yuba River Citizens' League program to a large group of 5<sup>th</sup> and 6<sup>th</sup> graders and their teachers and parents at Gold Ridge Elementary School. The students learned that the creek running alongside their school fields was an important tributary to Alder Creek, and they learned about actions they can take at home and in school to keep pollution out of the creek and protect it. Also in late 2006, a presentation was made to REI – a local business in the watershed – to identify potential partnership opportunities. During that meeting, the City learned that REI awards grants each year to deserving community groups promoting recreation and environmental conservation. Several applications were submitted over the course of the project, and grants were awarded to Friends of the Folsom Parkway in 2008 and 2009.

In April 2007, a group of approximately 50 Boy Scouts, led by local scout leader and environmental steward Neil Kelly, volunteered to remove litter in and around Alder Pond, in the lower reach of Alder Creek. This activity inspired the group to pursue additional creek cleanup and stewardship opportunities throughout Folsom. In 2009, the then-called Folsom Creek Watchers became the first active members of Folsom Adopt a Creek/Trail (Folsom ACT), a community-based stewardship coalition of roughly 200 volunteers, dedicated to improving the health of Folsom's creeks and the quality of its creek trails. Folsom ACT is now sponsored as an official project by the Friends of the Folsom Parkways, a local nonprofit organization dedicated to promoting the use, preservation, and development of parkways and recreational trails in Folsom.

Folsom ACT works in watersheds throughout the city, but has a growing presence in the Alder Creek watershed, and many of the Alder Cree tributaries in the portion of the watershed north of Highway 50 have now been adopted by volunteers. In addition to its cleanup and restoration work, the group organizes recreational and educational activities, including bird watching and opportunities for experts to share knowledge on local watershed resources with the community. In 2009, Friends of the Folsom Parkways received a grant from REI to support specific events and activities which serve to promote the recreational use of creekside trails; some of the money was used to support Folsom ACT activities related to removal of invasive weeds along the creeks. Also in 2009, and again for 2010, with help from the Calif. Native Plant Society's Weed Warriors program, funds were secured from the County Agricultural Commissioner to conduct additional eradication work for the invasive star thistle. In addition, Folsom ACT has mapped invasive species along Folsom creeks and is working in collaboration with the University of California, Davis, and others on pilot studies to eradicate invasive plant species and revegetate with native species in riparian areas.

Folsom ACT, Friends of the Folsom Parkways and the City of Folsom have partnered with Trout Unlimited, Folsom Lake College, the Audubon Society, and REI to conduct a series of workshops to educate local Folsom residents on a variety of stream and riparian topics. Workshop topics included tree planting, bird and bat box building, water quality measurement, invasive plant removal, trail building, and creek and trail restoration. Additional information about Folsom ACT and all the watershed stakeholders can be found in Chapter 3 of the Plan.

Several watershed-wide project recommendations identified in Chapter 5 of the Plan were developed to provide additional opportunities to further engage the community in stewardship activities into the future.

***Problem 4 - A Unique Chance to Guide the Future of the Watershed and Minimize Impacts from Future Development.*** Despite a history of mining, agricultural practices, and urban development, Alder Creek with its surrounding blue oak woodlands remains an important resource in the region, providing habitat for several threatened and special-status species of plants and wildlife. Only about one-quarter of the watershed is developed today, but plans are underway to convert a large portion of the watershed to urban land uses in the future. By taking a comprehensive look at the watershed, this project provided the unique opportunity to help develop a more sustainable vision which would serve to protect and improve water quality, protect other natural resources,



and provide open space amenities to the surrounding areas, as well as identifying restoration and recreation projects.

Progress made: The stakeholder group convened for this project brought together landowners from all parts of the watershed for the first time to discuss potential environmental impacts of future development in a holistic fashion. The landowners and their consultants contributed data from past environmental studies, hosted watershed tours, provided access for new data collection, and contributed many hours to participate in stakeholder meetings and review and comment on work products. These contributions resulted in a successful outcome with an Action Plan that recommends policies and projects to protect and manage the watershed resources as urban development proceeds in the future, as outlined in the next section of this final report.

## 3 SUMMARY OF WORK COMPLETED

### 3.1 SUMMARY OF ACCOMPLISHMENTS

Table 1 describes the work completed for this project in conformance with the grant requirements. Copies of many work products were provided as attachments to the 35 monthly progress reports submitted to DWR, but the major work products (large) are attached to this Final Report (see list of attachments at the end). In addition, major work products are being loaded on the City of Folsom's web site for access by interested parties:

<<http://creeks.folsom.ca.us>>.

<b>Table 1</b>				
<b>Summary of Work Completed – Alder Creek Watershed Project</b>				
Task	Item No.	Description*	Product or Deliverable	% Work Complete
<b>Task 1: Project Administration</b>	1-1. City of Folsom Grant Administration	Execute agreement with DWR; prepare RFP and select consultant; supervise consultant work; process/pay consultant invoices; prepare/submit monthly invoices to DWR.	DWR-City Grant Agreement	100%
			Consultants Selected; consultant agreements executed	100%
			Monthly Progress Reports (35) through 2/28/2010	100%
	1-2. Consultant Team Management	Consultant Project Manager coordinates staff/team, supervises tasks, ensures quality work products, etc.	Periodic Progress Meetings with City Project Manager	NA
			Information for Monthly Progress Reports	NA
<b>Task 2: Environmental Permits</b>		Apply for/Obtain Categorical Exemption; Obtain/annually renew CDFG Environmental Data Collection Permit	Categorical Exemption	100%
			CDFG Permit	100%
<b>Task 3: Monitoring Plan/QAPP</b>	3-1. Monitoring Plan	Prepare draft and final Monitoring Plan	Monitoring Plan	100%
	3-2. QAPP	Prepare draft/final Quality Assurance Project Plan	QAPP	100%

<b>Table 1</b> <b>Summary of Work Completed – Alder Creek Watershed Project</b>				
Task	Item No.	Description*	Product or Deliverable	% Work Complete
<b>Task 4: Evaluation Plan</b>		Prepare plan for assessing/evaluating the project.	Project Assessment and Evaluation Plan	100%
<b>Task 5: Stakeholder Process</b>	5-1. General Outreach	Outreach to watershed stakeholders (residents, businesses, schools). Publish project update fact sheets on the City/County web sites over course of project. Coordinate with Urban Creeks Council to organize Creek Week clean-up and work with local schools to engage teachers/students in assessment work.	Publish Project Fact Sheets (for Web site posting)	100%
			Other Activities, Events, Products	100%
	5-2. Facilitate Interest-Based Planning Process	Assist with development of mission/vision, goal-setting, etc. Facilitate Stakeholder Advisory Team meetings (incl. agendas/minutes).	Establish Stakeholder Advisory Group	100%
			Mission/vision, goals, and meeting agendas & minutes	100%
<b>Task 6: Watershed Assessment</b>	6-1 California Watershed Assessment Manual	Coordination with CWAM team related to best use of the Calif. WS Assessment Manual (CWAM) on this project	CWAM team to assist with Conceptual Model (Task 6-4)	100%
	6-2. Stakeholder Coordination (Meetings, Field Trips)	Field trips to different watershed reaches for stakeholders to understand watershed characteristics and start "visioning" of preferred future for watershed post-development. Presentations by technical consultant team re: assessment findings and recommendations.	Field Trips/Watershed Tours	100%
			Presentations to Stakeholder Group by Technical Consultant Team	100%
	6-3 Establish goals/objectives for WS Assessment	Refine goals/objectives based on field trips, stakeholder interests, and other information	Goals/objectives <i>(presented in WS Assessment Plan, Task 6-6)</i>	100%
	6-4 ID Problems/ Opportunities	Collect data from interviews, etc. Use conceptual model to identify and relate problems, constraints and opportunities	Conceptual model	100%
	6-5 Gather/Review Existing Data	Collect, compile and analyze existing field data, reports by GenCorp, aerials, maps, etc. ID data gaps	Results to be included in Task 6-10 tech memo	100%
	6-6 WS Assessment Plan	Document what assessment parameters will be used to characterize conditions in the watershed. Integrate Stakeholder interests, etc.	Tech Memo containing WS Assessment Plan <i>(combined with Monitoring Plan; see Task 3-1)</i>	100%

**Table 1**  
**Summary of Work Completed – Alder Creek Watershed Project**

Task	Item No.	Description*	Product or Deliverable	% Work Complete
<b>Task 6: Watershed Assessment (cont'd)</b>	6-7 Collect New Data	Collect, compile and analyze new field data: hydrologic, water quality, BMI, habitat assessments (Spring/Fall); geomorphic (spring)	Lab reports, field reports/notes (Results to be included in Task 6-10 tech reports)	100%
	6-8 Hydrologic Modeling	Use modeling to assess existing conditions and to evaluate hydrologic changes due to projected changes in land use	Results to be included in Task 6-10 tech reports	100%
	6-9 Evaluate potential new development impacts	Evaluate potential impacts from new development, including impacts to hydrologic regime, hydrogeomorphic, vegetation, water quality, etc.	Results to be included in Task 6-10 tech reports	100%
	6-10 WS Assessment Findings	Summarize findings from all WS assessment work	Tech Report describing WS Assessment findings	100%
<b>Task 7: Watershed Mgmt Plan</b>	7-1. ID Actions	Identify full range of potential actions/projects/ strategies, based on assessment findings.	"Long" list of options (to be included in Task 7-5 Tech Memo)	100%
	7-2. Alternatives Analyses	Develop and describe methodology and criteria for conducting alternative analyses of recommended actions (for use in the future, following grant completion).	Methodology, screening criteria (included in Chapter 6 of Plan)	100%
	7-3 Ranked list of actions	Task deleted during rescoping following grant freeze. See Progress Report 30.	Task deleted during rescoping following grant freeze. See Progress Report 30.	NA
	7-4 Opportunities and constraints for actions	Develop annotated opportunities/constraints information for each recommended action (e.g., relative costs, potential source(s) of funding, readiness, potential stakeholder involvement, etc)	Relative costs, potential sources of funding and stakeholder roles, and schedule information (included in Chapter 5 of Plan)	100%
	7-5 Recommended Actions Tech Memo	Describe recommended actions, along with opportunities/constraints information in a tech memo for review by City	Draft Tech Memo	100%
	7-6 Outside Technical Review	Review by outside technical experts	Comments by tech advisors	100%
	7-7 Final Recommended Actions	Revise Tech memo to address stakeholder comments	Final tech memo	100%

<b>Table 1</b> <b>Summary of Work Completed – Alder Creek Watershed Project</b>				
Task	Item No.	Description*	Product or Deliverable	% Work Complete
<b>Task 7: Watershed Mgmt Plan (cont'd)</b>	7-8 WS Mgmt Plan	Prepare draft and final WS Management Plan. Include tech memos developed in previous tasks and summarize stakeholder process/outcomes.	Draft WS Mgmt Plan (Stakeholder Review)	100%
			Final WS Mgmt Plan	100%
	7-9. Public Agency Presentations	Make presentations at Folsom City Council, County Board of Supervisor and other stakeholder Board/executive meetings to help ensure adoption and implementation of recommended actions	Presentation materials, meeting agendas	to be completed spring 2010
<b>Task 8: Reporting</b>	Monthly Reports	See Task 1-1.	See Task 1-1.	NA
	Annual:	Annual reports and associated informal presentations to the State DWR if requested.	Annual reports 10/09 Note: no further annual reports expected	100%
	Final Report	Final report summarizing all accomplishments and work products for the entire project. Follow format specified by DWR, if any. Participate in informal presentation to State DWR (if requested).	Final report	100%

*\* Some task descriptions were modified during re-scoping of the project following the 10-month grant freeze in 2008-09. See Progress Report 30 for details.*

## 3.2 WATERSHED MANAGEMENT ACTION PLAN RECOMMENDATIONS

In addition to a successful stakeholder process and watershed assessment, the main outcome of this project is the Watershed Management Action Plan. This section of the final report briefly outlines the key recommendations made for future watershed protection.

Two types of policies are described in Chapter 5 of the Plan:

- policies for development planning, and
- policies for development design and implementation.

Policies identified for development planning generally cover the following categories:

- land use design for watershed protection,
- water quality protection,
- protection of hydrologic and geomorphic processes and functions,
- protection of wildlife, plant communities, and habitat;
- recreation opportunities and trails, and
- long-term management of preserved natural lands.

Policies identified for development design and implementation were developed to accompany the recommendations for development planning presented above by providing a higher level of detail to address site-level design considerations for projects elements being designed in the Alder Creek watershed. The recommendations generally cover the following categories:

- water-sensitive urban design,
- tributary drainage design,
- stormwater detention basin design,
- stormwater outfall design and location,
- creek crossing design,
- trail designs that maintain water quality, and
- natural (biotechnical) methods for streambank stabilization and protection.

Various watershed-wide and site-specific projects are also described in Chapter 5 (Table 5-1b) of the Plan as shown on Table 2 (see next page).

**Table 2. Summary of Recommended Projects for the Alder Creek Watershed**

Project Number	Project Name	Relative Cost <sup>1</sup>	Project Readiness <sup>2</sup>	Potential Partners
<b>Watershed-wide Projects (WWP)</b>				
WWP-1	Recommended Watershed-wide Project No. 1 – Convene an Advisory Committee to Recommend Preferred Governance Structure for Watershed Stewardship Group	Low	Immediate	All interested stakeholders (note: ideally the organizing committee should be subset of the stakeholder group that assisted to prepare this Plan)
WWP-2	Recommended Watershed-wide Project No. 2 – Establish Watershed Stewardship Group	Low	Near-term; implement after WWP-1	All interested stakeholders, City of Folsom, Sacramento Area Creeks Council, Folsom ACT, Friends of the Folsom Parkway
WWP-3	Recommended Watershed-wide Project No. 3 – Establish the Alder Creek Watershed Coordinator Position	Low to Medium	Near-term; ideally implement in conjunction with WWP-2	All interested stakeholders, City of Folsom, Sacramento Area Creeks Council, Folsom ACT, Friends of the Folsom Parkway
WWP-4	Recommended Watershed-wide Project No. 4 – Invasive Weed Removal Strategy	Low to medium	Near-term (City/landowner approvals, encroachment permits)	All interested stakeholders, City of Folsom, California State Parks, Folsom ACT, Friends of the Folsom Parkways, California Native Plant Society (Sacramento Weed Warriors Program), USDA/UC Davis, Sacramento Area Creeks Council, neighborhood associations and community facility districts
WWP-5	Recommended Watershed-wide Project No. 5 – Tree Planting Program	Low to medium	Near-term	All interested stakeholders, City of Folsom Parks Dept, Sacramento County Regional Parks, Friends of the Folsom Parkways, Sacramento Tree Foundation, Sacramento Municipal Utility District (shade tree program), Sacramento Valley Conservancy
WWP-6	Recommended Watershed-wide Project No. 6 – Water Use Efficiency Outreach and Education	Low to medium	Near-term	City of Folsom Dept. of Utilities and Sacramento County Water Agency (local water agency), private landowners, Regional Water Authority
WWP-7	Recommended Watershed-wide Project No. 7 – Promote River Friendly Landscaping in the Alder Creek Watershed	Low to medium	Immediate	City of Folsom, Sacramento County, River Friendly Landscape Coalition (including Regional Water Authority)
WWP-8	Recommended Watershed-wide Project No. 8 – Watershed Open Space/Conservation Easement Catalog	Low to medium	Immediate	City of Folsom, Sacramento County, Sacramento Valley Conservancy, private landowners
WWP-9	Recommended Watershed-wide Project No. 9 – Connected Creek Trails, Open Space, and Interpretive Signage	Medium to high	Near- to long-term: Permits, environmental compliance and other approvals would be required	City of Folsom Parks Dept, Sacramento County Regional Parks, California State Parks, USBR, Sacramento Valley Conservancy, Caltrans, Friends of Folsom Parkways, Folsom ACT, private landowners
WWP-10	Recommended Watershed-wide Project No. 10 – Alder Creek Watershed Stewardship Program	Low to medium	Immediate	City of Folsom, GenCorp, Sphere of Influence Landowner Group, Folsom Adopt and Creek/Trail, Friends of the Folsom Parkways, Trout Unlimited, Folsom Lake College, Sacramento Audubon Society, REI, neighborhood associations, local Boy Scout and Girl Scout troops, Folsom-Cordova Unified School District, Sacramento Area Creeks Council, Sacramento Valley Conservancy
WWP-11	Recommended Watershed-wide Project No. 11 – Alder Creek Watershed Monitoring Program	Low to medium	Near-term: requires some planning and funding; collection permits may be required for certain activities	Work should be guided by stakeholder group, with projects and tasks conducted by, or in collaboration with, local municipalities and agency stormwater programs, private landowners, environmental organizations, and community volunteer groups.



**Table 2. Summary of Recommended Projects for the Alder Creek Watershed (continued)**

Project Number	Project Name	Relative Cost	Project Readiness	Potential Partners
<b>Site-Specific Projects (SSP)</b>				
SSP-1	Recommended Site-Specific Project No. 1 – Alder Pond Restoration and Management	Medium to high	Long-term	California State Parks, U.S. Bureau of Reclamation, U.S. Army Corps of Engineers, California Department of Transportation, Folsom Automall Dealer Association, City of Folsom, and private landowners
SSP-2	Recommended Site-Specific Project No. 2 – Alder Creek Channel and Floodplain Restoration	Medium to high	Long-term	City of Folsom, Sacramento County, California Department of Water Resources (DWR), Division of Safety of Dams (DSOD), and private landowners
SSP-3	Recommended Site-Specific Project No. 3 – Natomas Company Dam / Alder Reservoir Management	Medium to high	Near-term: structural and other analyses. Long-term: implementation of any necessary retrofits	City of Folsom, Sacramento County, DSOD, private landowners
SSP-4	Recommended Site-Specific Project No. 4 – Stormwater Detention Pond Management	Medium to high	Near to long-term	City of Folsom, private landowners, California Native Plant Society (Weed Warriors), USDA/UC Davis
<sup>1</sup> Relative cost: Low = < \$5,000 and/or can be conducted using volunteers and in-kind services/funding; Medium = \$5,000 to \$100,000; High = > \$100,000 <sup>2</sup> Project readiness refers to the project's requirements regarding the need for detailed planning and design, environmental compliance (e.g., CEQA/NEPA), permitting (e.g., Clean Water Act Section 404), and/or other approvals. A project would be considered to have immediate readiness if it would not require any of the above (see Section 5.2 in the Plan for additional information on readiness categories).				

## 4 SUCCESS TOWARD MEETING DESIRED OUTCOMES

The eight desired ecological and community outcomes of the proposed project, as outlined in the project grant proposal and the 2007 Project Assessment and Evaluation Plan (PAEP; Appendix A of the Watershed Management Action Plan), were as follows:

1. Improved communication and collaboration between stakeholders.
2. A common vision and achievable goals for long-term protection of the Alder Creek Watershed.
3. A Plan that becomes a “blueprint” for creek protection that is supported, endorsed, and “owned” by all stakeholders.
4. Data that characterizes existing conditions of the creek system that is compiled and presented in a user-friendly format for reference by all stakeholders and other interested parties.
5. A Plan that balances diverse interests and objectives (e.g., water quality, habitat, flood control/drainage, recreation, education, and interpretation) and that can serve as a model by other watershed programs.
6. Recommended policies, programs, and projects that will contribute to improved water quality delivered to the American River, an important drinking water, fisheries, and recreational resource for the region.
7. Recommended policies, programs and projects that will offer protection for sensitive species and habitat types.
8. A protected, healthy creek and riparian corridor with recreational, educational, and interpretive opportunities for existing and future community residents and local schools.

Table 3 reports on how each of the desired outcomes were achieved. The table includes the performance criteria that were used to measure progress towards meeting the desired outcomes of this project.

In addition, because the project received funding through the CALFED Consolidated Grant Program (Prop 50); every effort was made to satisfy the CALFED goals (see next section of this final report). Table 3 demonstrates how the CALFED outcomes align with this project’s outcomes.

**Table 3**  
**Activities, Performance Criteria, and Assessment of Results for the Alder Creek Watershed Project**

Desired Project Outcome	Baseline Measurements and Information	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets	Assessment Results
<b>1. Improve communication and collaboration between watershed stakeholders.</b>	In the past, lack of meaningful dialogue, goals, and objectives for watershed.	Creation of a diverse and motivated stakeholders group.  Formal meetings, site visits, and workshops.	Establishment of a watershed group with regular meetings and consistent attendance.	Review of attendance at stakeholder meetings and stakeholder input on project deliverables.	Development of a Plan with stakeholders' support. Implementable goals and objectives.	The watershed Plan was developed with input from a diverse stakeholder group and the recommendations reflect these varied interests and values.
<b>2. A common vision and goals for the long-term protection of the Alder Creek Watershed.</b>	Disparate or unknown visions for future of watershed.	Formal meetings and discussions including all stakeholders.	See above.	See above.	See above.	A common vision for the watershed was developed during stakeholder meetings and is described in Chapter 3 of the Plan.
<b>3. A Plan that is supported and endorsed by all stakeholders and balances diverse interests and objectives</b>	No existing Plan.  A lack of collaboration among stakeholders.  No common vision for creek protection.	Workshops specifically to collaborate on the Plan.	Develop recommendations that guide actions in the watershed.	See above.	Creation of a Plan that guides the future of the watershed	The watershed Plan was developed with input from a diverse stakeholder group and the recommendations reflect these varied interests and values.
<b>4. Compilation of data that characterizes existing conditions in the creek and watershed.</b>	Piecemeal and unknown data	Synthesis of existing information.  Collection of new data.	Creation of a baseline conditions report for the creek.	Review of reference list compilation for completeness; review of all data in comparison with similar documents created for other watersheds.	Existing conditions report for Alder Creek Watershed.	The watershed assessment reports compiled and described a vast amount of information on the watershed that pervious was spread among many different reports and data sources.

**Table 3**  
**Activities, Performance Criteria, and Assessment of Results for the Alder Creek Watershed Project**

Desired Project Outcome	Baseline Measurements and Information	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets	Assessment Results
<b>5. A Plan that balances diverse interests and objectives (e.g., water quality, habitat, flood control/drainage, recreation, education, and interpretation) and that can serve as a model by other watershed programs.</b>	No existing Plan.	Develop and utilize watershed objective criteria to inform the identification of recommendations.	Develop balanced recommendations that achieve multiple objectives.	Review of recommendations and their ability to meet multiple objectives.	Development of a formal Plan with recommendations that could be implemented to achieve multiple objectives.	The recommendations in the watershed Plan include policies and projects that target multiple objectives. Chapter 5, Table 5.1a of the Plan lists objectives that would be met by recommendation.
<b>6. Recommended policies, programs and projects that will contribute to improved water quality delivered to the Lake Natoma and American River.</b>	Unpublished USGS assessment of Hg pollution in watershed	Comprehensive watershed assessment including in-stream, riparian, and upland habitat areas.	Written documentation of assessments.	Team review of written assessment for important water quality constituents and geographic areas of the watershed; compare to existing reports prepared for other watersheds.	Formal Plan.	The recommendations in the watershed Plan include a multitude of policies and projects that target water quality protection.
<b>7. Recommended policies, programs and projects that will offer protection for sensitive species and habitat communities.</b>	No work has been done to assess the health of such resources as a whole (watershed scale) nor to protect them in this watershed.	Comprehensive watershed assessment including in-stream, riparian, and upland habitat areas.	Written documentation of assessments.	Team review of written assessment for important species and habitats in the watershed; compare to policies, programs and projects outlined and/or implemented for other watersheds.	Formal Plan.	The recommendations in the watershed Plan include several policies and projects that target the protection of sensitive species and habitat communities.

**Table 3**  
**Activities, Performance Criteria, and Assessment of Results for the Alder Creek Watershed Project**

Desired Project Outcome	Baseline Measurements and Information	Output Indicators	Outcome Indicators	Measurement Tools and Methods	Targets	Assessment Results
<b>8. A protected, healthy creek and riparian corridor with recreational, educational, and interpretive opportunities for existing and future community residents and local schools.</b>	A partially degraded creek and riparian corridor; no active educational/recreational programs or opportunities.	Continued stream health monitoring and involvement in the watershed by local stakeholders.	Improved stream health conditions.	Defined stream health standards (CDFG Aquatic Bioassessment Laboratory); analysis of amount/quality of educational/recreational opportunities	Improvement in water quality; educational and recreational opportunities.	The recommendations in the watershed Plan include several policies and projects that recommend the preservation and protection of creek buffers that are intended to protect various functions and values including bank protection, floodplain, riparian communities, ecological processes, and wildlife and human connectivity.

## 5 CALFED GOALS AND OBJECTIVES MET BY THIS PROJECT

### CALFED GOALS AND PRIORITIES

#### OVERALL CALFED BAY-DELTA PROGRAM

This project was primarily designed to meet two of the four overall CALFED goals: 1) improve ecological functions to support sustainable populations of plant and animal species, and 2) provide good water quality for all beneficial uses. This was accomplished by assessing water quality and habitat conditions, identifying sources of urban runoff pollution, and recommending projects to protect, restore and/or enhance water quality and habitat watershed-wide. In addition, the recommended stewardship projects are intended to continue to build capacity with an informed citizenry that can assist with assessments, identification of problems and implementation of solutions for many years to come.

#### CALFED WATERSHED PROGRAM

The CALFED Watershed Program was established in 1998 as an aid to achieving the overarching goal of the CALFED Bay-Delta Program to restore ecological health and improve water management by working with the community at a watershed level. The goals of the Watershed Program are to provide financial and technical assistance for watershed activities that help achieve the mission and objectives of CALFED, and to promote collaboration and integration among community based watershed efforts. The Alder Creek Watershed Project addressed all three of the CALFED Watershed Program implementation priorities:

- ▶ The interrelated set of tasks was built on the local community's capacity to assess and effectively manage a watershed that affects the Bay-Delta system.
- ▶ The Project included a task to assess watershed conditions and problems and develop a comprehensive, multi-objective watershed management plan. The assessment reports are included as Appendices C and D to the Watershed Management Action Plan.
- ▶ The collaborative watershed planning process recommended specific watershed conservation, maintenance and restoration policies and projects (Chapter 5 of the Plan).

In addition, the Alder Creek Watershed Project addressed four of the six CALFED Watershed Program goals and objectives:

- ▶ **Foster Collaboration.** Coordination, collaboration and assistance among a diverse group of government agencies, organizations and watershed groups was facilitated and improved throughout the process, as described in Chapter 3 of the Plan. Chapter 5 of the Plan includes recommended projects to keep momentum going and ensure continued collaboration in the future.
- ▶ **Develop Assessment Protocols.** Environmental professionals involved in this Project used proven and accepted watershed monitoring and assessment tools and methods based on sound science. The professionals reviewed assessment results and provided feedback to improve the quality of the data compiled. Recommendations for additional monitoring, assessment, and adaptive management are provided in Chapter 7 of the Plan.
- ▶ **Support Education and Outreach.** Almost every task in the Project required and supported education and outreach. Information was shared and exchanged throughout the Project through meetings and watershed tours. Continued outreach and education will be provided via the City's web site for the immediate future, as well as through Folsom ACT and Friends of Folsom Parkways. The hope for the future is a more widespread watershed stewardship and education program, as outlined in Chapter 5 of the Plan.



- ▶ **Ensure Sustainability.** The Project built/maintained relationships between local government agencies (City of Folsom and Sacramento County), landowners (e.g., GenCorp, SOI landowners, Folsom Auto Mall Dealers Assn, Bureau of Reclamation, Church of LDS), development community, and community/environmental groups. This effort was conducted to ensure support and long-term sustainability of local watershed activities. Chapters 6 and 7 of the Action Plan were developed to provide guidance to future leadership, stewardship and implementation efforts in the Plan. Chapter 6 in particular describes various organizational models and funding sources which could be used to support continued and increased watershed protection work.