



**U.S. Army Corps
of Engineers**
San Francisco District
South Pacific Division

DRAFT

**RUSSIAN RIVER
WATERSHED
MANAGEMENT
STUDY**

PROJECT STUDY PLAN

October 1998

RUSSIAN RIVER WATERSHED STUDY

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CHAPTER 1 - INTRODUCTION

1.1 SUMMARY

The Russian River Ecosystem Restoration Reconnaissance Report (September 1997) was authorized by Congress (September 28, 1994) *to review the effects of Coyote and Warm Springs Dam on the Russian River and its tributaries to determine whether modifications of the recommendations contained therein are advisable at the present time, in the interest of environmental protection and restoration, erosion control and streambank protection, ground water supplies, and other purposes.* To fulfill this mission the Reconnaissance Report identified three project proposals that are in the Federal interest to develop further.

One of the proposals was the development of a watershed management ecosystem restoration study. Ecosystem management considers social, economic, and ecological watershed resource use and protection. This study would support a Council that would adopt and implement a Russian River Watershed Study exploring a range of watershed restoration issues.

Two other proposals were suggested in the Reconnaissance Report. The first, which is currently being developed, would restore a portion of Santa Rosa Creek to provide a significant long-term increase in habitat for several threatened and endangered species. The second proposal suggested revisions to the wet/dry regimes of Warm Springs and Coyote Dams. This proposal would have the potential to positively benefit the salmonid fisheries by changing the river's hydrology. Currently, a Section 7 formal consultation pursuant to the Endangered Species Act is being implemented. The Section 7 process will define the effects of Warm Springs and Coyote dams on the fisheries. The Corps, the National Marine Fisheries, and the Sonoma County Water Agency have signed a joint MOU to complete the Section 7 consultation. To prevent overlap with the Section 7 process, the Section 7 process is moving forward independently of the watershed study. As the watershed study develops, the outcome from the Section 7 process will be integrated into the watershed study. Where there is no overlap, the Watershed Council would have the opportunity to implement a restoration project. One potential project is the investigation and modification of the dam outlet structures to allow more precise flow releases.

The watershed study would be completed in two phases. This Project Study Plan (PSP) outlines the Russian River Watershed Study with emphasis on Phase I. This PSP reflects the interest and the importance the community places in the restoration and protection of the Russian River watershed by their involvement in the creation of the Russian River Watershed Council. As the study progresses, this PSP would be revised to reflect the changes of scope. By the end of Phase I, this PSP would be revised to detail the scope of the remainder of the study.

1.2 BACKGROUND

The Russian River originates in central Mendocino County, California, approximately 15 miles north of the city of Ukiah. The watershed encompasses 1,485 square miles (approx. 950,000 acres) within Sonoma and Mendocino Counties. It empties into the Pacific Ocean at Jenner, about 20 miles west of the city of Santa Rosa. The main channel of the river is about 110 miles long and flows generally southward from its headwaters near Redwood and Potter Valleys to Mirabel Park, where the direction of flow changes generally westward as the river crosses a part of the Coast Range.

The Russian River is the primary source of water for 500,000 people and extensive agricultural development within Mendocino, Sonoma, and Marin Counties. The principal communities in the watershed are the Potter Valley, Ukiah, Hopland, Cloverdale, Healdsburg, Windsor, Forestville, Sebastopol, Santa Rosa, Rohnert Park, Cotati, and the Russian River Resort area, which stretches from Mirabel Park to the mouth of the Russian River, and contains the communities of Rio Nido, Guerneville, Monte Rio, Duncans Mill, and Jenner.

Over the past several decades, environmental resource concerns in the watershed have been identified and the need for restoration of these resources has been established as another of the region's major goals. Because many physical and social changes have occurred over time, including hydrologic conditions, recognition of environmental issues, the federal listing of Coho salmon and steelhead trout, land use changes, and river uses, a contemporary multiple purpose, community-based guiding vision for watershed management is needed.

Historically, the Russian River basin has experienced frequent flood events that have deposited nutrient rich soil in the flood plain. However, these same flood events have resulted in the loss of life and property. Over time, society's needs have changed and lessons have been learned regarding the most effective approach to long-term flood protection and watershed management. One lesson learned is that the most effective management of the flood relief may not be a primarily "structural approach" of building levees and dams, but rather a combination of structural and nonstructural approaches that consider the many interrelated benefits to society offered by the river system. Other factors that are effecting the ecological health of the river are the impact of the dams to fish migration into the upper tributaries, water supply demands change the flow regime in the river system, and upland and instream activities affect water quality and stream channel stability. It is in the public interest to look at opportunities to prevent or reduce flood damages, to restore riverine ecosystem values and the wise use of floodplains, to restore watershed functions through restorative land-use practices, and to conserve remaining hydrologic and ecological resources.

The Federal Government, the State of California, Counties of Sonoma and Mendocino, and the cities and residents in the Russian River watershed have recognized the need for a new comprehensive approach to watershed management. The watershed study would provide the opportunity to improve the ecological health of the Russian River watershed. The watershed study would contribute to the formulation of a watershed management plan of potential structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures that would be undertaken in the watershed with State and Federal funding through the State of California Resources Agency and the Corps of Engineers. In addition, Russian River Watershed Council would seek participation from other federal, state, and local agencies through existing programs or proposals for new State and/or Federal legislation.

1.3 SCOPE AND OBJECTIVES

The watershed study would be structured in two phases. The objective of the Phase I effort is to support the Watershed Council in identifying watershed problems and opportunities, establish long and short-term planning objectives and constraints, identify potential protective and restorative project(s), compile relevant data and information and identify critical needs. The Watershed Council would have the opportunity to implement specific projects as the Watershed Council clarifies the issues during Phase I. At the end of Phase I, a Phase II Plan of Action would be developed.

During the second phase of the study, the Russian River Watershed Council would complete the analyses needed to identify potential implementation studies and complete the watershed management and protection plan.

Specific objectives of Phase I would be developed as the Watershed Council identifies issues of highest concern and priority. The preliminary objectives of the Watershed Council that have been identified in the Russian River watershed are to ensure and improve the viability of the threatened Coho salmon and steelhead trout, improve the viability of other fish and wildlife species and their habitat, restore and enhance riparian habitat in the Russian River watershed, modify operation and maintenance of Federal and local projects to reverse adverse impacts to listed species, protect and enhance water quality, educate the public on watershed issues, and build trust between stakeholder groups.

1.4 PHASE I EXPECTED PRODUCTS AND OUTPUTS

The watershed study would rely on active public involvement through the Russian River Watershed Council to bring to light various issues critical to watershed management and protection of Russian River which would include: economic, agricultural, recreational, industrial, environmental restoration and flood damage reduction issues. The Watershed Council is comprised of residents in the Russian River watershed and other stakeholders to ensure that there is community representation and participation in the development of the plan.

Potential concurrent activities that would be initiated during Phase I would feed into the final watershed plan. These activities would be implemented by the Watershed Council and would include:

- Development and Support of the Russian River Watershed Council Operations
- Development of a Strategic Plan with Implementation Scope
- Development of a Watershed Restoration Framework
- Development of Potential Restoration Project(s)
- Phase II Plan of Action

1.4.1 Russian River Watershed Council

The Russian River Watershed Council is comprised of stakeholders representing the diversity of economic and environmental interests throughout the watershed. The Watershed Council has accepted the responsibility for developing collaboratively with the Sponsors a restoration framework that the local community would use to guide future efforts to protect and restore the Russian River watershed. The Watershed Council would serve as a public forum and provide public outreach activities, such as: public meetings, organizational framework, and facilitation. As part of Phase I efforts, the Russian River Watershed Council would review critical issue information, evaluate existing research data and recommend additional studies. Also, as part of this effort, the Russian River Watershed Council would develop a strategic plan with implementation scope, a watershed restoration framework, specific restoration project(s), and a Phase II Plan of Action.

1.4.2 Strategic Plan with Implementation Scope

The strategic plan with implementation scope would identify ecosystem restoration and protection measures that may be undertaken in the watershed. Development of the strategic plan would include a detailed list of restoration tasks identified by the Watershed Council including the following::

- 1) Identification by the Russian River Watershed Council of problems, opportunities, constraints, and planning objectives.
- 2) Preliminary evaluation and screening of Watershed Council activities identified the diverse outputs that would be realized:
 - ecosystem restoration (habitat type by acre)

- Federally listed species improvement
- address incidental benefits to watershed education, recreation, water supply, water quality, and other related water resources

3) If, in the process of preparing the strategic plan and the watershed restoration framework, it becomes clear that some elements can and should be implemented, the identification of authorities (i.e. Corps programs, FEMA programs, NRCS programs, the State's Designated Floodway Program, EPA grants, public and private grants) to immediately implement such elements should occur.

1.4.3 Watershed Restoration Framework

The development of a watershed restoration framework would provide a method for reviewing and evaluating the adequacy and currency of information critical to watershed planning. This information can then be used to develop a watershed plan that includes structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures that may be undertaken in the watershed. Development of the watershed restoration framework would include:

- 1.) Develop a user friendly information system. The Watershed Council has identified Klamath Resource Information System (KRIS) as a potential information system to develop baseline information (topographic base maps, habitat data, etc.).
- 2.) Develop a data gap analysis to identify the existing information and to determine where additional data is critical for the development of a watershed strategy.

1.4.4 Development of Restoration Project(s)

See Attachment 1 for one or more specific project(s), which the Watershed Council and the Corps may develop concurrently with the implementation of watershed study.

1.4.5 Phase II Plan of Action

The Watershed Council would develop a Phase II Plan of Action with the assistance of the Study Manager. It would identify watershed problems and opportunities, establish planning objectives and constraints, document baseline data, identify potential restoration and protection project(s) and identify the initial screening of alternatives. The Plan of Action and a revision to the PSP, as requested and approved by the Watershed Council and the local sponsor, would be reviewed by the Corps of Engineers Headquarters for continued support of the Watershed Council and the products being developed in Phase II.

1.5 CONCURRENT ACTIONS

The Federal authority for the development of this study and the State of California Resources Agency's watershed focus allows the flexibility to investigate a wide array of potential solutions. The Russian River watershed problems and potential restorative measures are extremely complex and intertwined. The Russian River Watershed Council and other stakeholders, which include agencies with various jurisdictions, different authorities, and numerous resources for implementation, recognize that full implementation of a watershed solution could take many years to achieve. There must be a continuous process of reassessing the objectives and goals of the overall solution. The goals and objectives would be developed and continuously refined as the critical issues, interests, and stakeholders are identified. The adaptive process must be able to evaluate immediate, near-term, and long-term goals.

As the Watershed Council clarifies issues, specific projects within the watershed may be implemented by the Corps and by others through existing authorities (such as the Civil Works Program of the Corps, the Watershed Protection and Flood Prevention Program of the Natural Resources Conservation Service, the Hazard Mitigation Grant Program of the Federal Emergency Management Agency, the Environmental Protection Agency and Water Quality Control Board Clean Water Act grant programs, Coastal Conservancy, National Marine Fisheries Service, Department of Fish and Game, local and private grants and others) where possible, and through new authorities where necessary.

1.6 RELATED PROGRAMS

The development of the watershed plan by the Watershed Council in Phase II would provide an information and coordination base for on-going Russian River watershed programs. Many local agencies and organization including the California Department Fish and Game, the Resource Conservation Districts, the Natural Resource Conservation Service, Circuit Riders and others are implementing these programs. A partial list of currently known programs and descriptions and implementation of these programs are listed in Appendix A. These programs are important to the restoration and protection of the Russian River watershed and would be essential to the Watershed Council for the development of the watershed management plan. The Watershed Council would work with local agencies and other parties to identify programs and project implementation taking place in the watershed. This information would be used in an information system to increase the effectiveness and public education of Russian River watershed restoration.

CHAPTER 2 - MANAGEMENT AND EXECUTION OF STUDY

2.1 GENERAL

The draft mission of the Russian River Watershed Council is to: Protect, restore, and enhance the environmental and economic values of the Russian River watershed through an open community-based process, which facilitates collaboration and communication among all interested parties.

The watershed study would be developed with the Russian River Watershed Council. The Watershed Council would be responsible for identifying issues of concern in the watershed and finding solutions through collaborative process. It is proposed that the Watershed Council form work groups to clarify and define alternatives for discrete issues. It is the responsibility of the Russian River Watershed Council to partner with the Corps of Engineers, the State of California and other appropriate funding sources in the development and technical execution of the study. As the opportunities are made available, the Watershed Council would implement restoration programs and projects with other agencies to further the restoration in the watershed.

2.2 EXECUTIVE COMMITTEE

The Russian River Watershed Study would focus on multi-objective and comprehensive solutions. The Russian River Watershed Council, the Corps of Engineers, the State of California Resources Agency, and other Federal, State, and local agencies, would develop the study. An Executive committee would be established to sign and implement the Feasibility Cost Share Agreement (FCSA). The Executive Committee would maintain a working knowledge of the progress of the study, provide oversight to changes in study scope, costs, and schedule; provide direction on resolution of policy issues; and provide guidance to ensure study results and policies are consistent and coordinated with the overall desired outputs and programs. A representative of the Sonoma County Board of Supervisors, and a representative of the Mendocino County Board of Supervisors would be members of the Executive Committee and sign the FCSA to show their support for the process.

The Executive Committee would participate in Issue Resolution Conferences (IRC's). At least one IRC would be held prior to completion of the Phase II Plan of Action to ensure that all issues are resolved before the Plan of Action is submitted to higher authority. Additional IRC's would be held, as required, throughout the study to resolve any problems that may arise.

2.3 STUDY MANAGEMENT

Study Management would consist of the Russian River Watershed Council working with the Project Manager, the Study Manager, a designated coordinator for State of California (the Sponsor), and various technical staff to assist in project development. The Study Manager with the input of the State's coordinator and the Project Manager would work with the Russian River Watershed Council on the day-to-day activities of the watershed study. The Project Manager and Study Manager would report and provide information briefs to HQUSACE. The Study Manager, working with the Watershed Council would provide for a continuous flow of information and coordination between the Watershed Council, the Division Office, and other interested parties. The Project Manager would also coordinate with HQUSACE the review of interim products; the Study Manager would coordinate directly with HQUSACE Policy, Planning, and Programs Divisions representatives.

The Project Manager with the assistance of the Study Manager and the Russian River Watershed Council would ensure and facilitate the transfer of funds between organizations for the purposes of funding interagency and Watershed Council participation in the study.

2.4 STUDY EXECUTION

The Russian River Watershed Council would be responsible for identifying study direction and eventual solutions. This on going process would have the technical and logistical support of agencies participating in the process. The Study Manager would work with the Watershed Council in the day-to-day execution of the study tasks. Members of the Watershed Council and the Corps' Project Manager with input from the Study Manager would participate in the transfer of funds between organizations to determine funding priorities and plan formulation tasks. The Watershed Council would ensure appropriate scope of the studies; assist in gathering required data, formulating restorative measures and criteria, make sure that the study schedule and budget are maintained, that sound technical judgement is followed, and that multi-disciplinary studies and decisions are made in accordance with applicable guidelines and policies.

2.5 SCHEDULE AND COST CHANGES

The Council, the Sponsor, and the San Francisco District can request changes to the PSP's scope, cost, and/or milestones by submitting a Schedule and Cost Change Request (SACCR) for PSP revisions. The Watershed Council and the Sponsor representatives would review and agree to changes proposed by the SACCR before subsequent action by the appropriate level of approval.

2.6 TECHNICAL REQUIREMENTS AND QUALITY CONTROL

The work to be performed would develop management plans for implementing solutions for problems in the watershed. The plans that best address the planning objectives of the Russian River Watershed Council would be carried into a final array of alternatives, and from these alternatives, a recommended watershed management plan would be selected. Work on the watershed management plan would include plan formulation; technical analysis; preliminary design calculations, if appropriate; preliminary cost estimates; real estate investigations, if appropriate; study management; and coordination with local, state, and Federal agencies as well as environmental and other interest groups and the public. The scope of studies in terms of content and level of detail are as defined and required by the documents in Appendix B.

To assure the production of high quality and technically complete products and reports, the Russian River Watershed Council, the Corps and the State would be responsible for various quality control activities during the study. A quality control process would be used to ensure that the technical products are in compliance with applicable laws and regulations, and with sound technical practices. The Watershed Council's quality control process would be established as the study develops. The Corps is required to accomplish a series of technical reviews. The technical review would be conducted in accordance with procedures that have been established in the San Francisco District's Quality Management Plan, CESPOM 1110-1-120.

Milestone conferences are conducted to ensure that the study is completed on schedule and within budget. The Corps would establish a technical review team to review the draft and final report. The members of the Corps' technical review team is listed below. Materials would be submitted to the review team at least two weeks before each milestone date and the technical review would be completed at least one week before the milestone dates.

An in-progress-review (IPR) conference would be convened with the Russian River Watershed Council, the Sponsor and the Corps' Headquarters. The purpose of the IPR conference would be to review the study progress to date and to evaluate the study scope. Based on the in-progress-review and the support of the Russian River Watershed Council, this PSP may need to be revised to better define the depth of analysis required, refine study constraints, and/or to refocus study efforts.

Technical Review Team

Rod Chisholm	CESPOM-PE-P	Chief of Planning
Scott Miner	CESPOM-PE-PF	Plan Formulation
Peter LaCivita	CESPOM-PE-PS	Environmental Planning
Richard Stradford	CESPOM-PE-PP	Environmental Studies
Ken Kuhn	CESPOM-PE-E	Economics
Carlos Hernandez	CESPOM-PE-EH	Hydrolic/Coastal Engineering

Russian River Watershed Management Plan Draft Project Study Plan (PSP)

George Dennis	CESPN-PE-ED	Civil Design
Kevin Knight	CESPN-PE-C	Economics
Susan	CESPK-RE	Real Estate

CHAPTER 3 - STUDY TASKS AND COST ESTIMATE

3.1 STUDY TASKS

The following section describes the tasks and subtasks to be performed with the concurrence of the Watershed Council as part of the study to identify potential structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures that would be undertaken in the watershed. The actions would include:

- coordinating and supporting the Russian River Watershed Council;
- completing technical studies (e.g.: dam outlet structure), as necessary;
- developing a framework for watershed assessment and planning; and
- producing implementation plans for elements of the watershed plan.

Although the four major actions identified in this summary are presented as independent discussions, all four actions would be integrated to support a community-based decision-making process, assess current conditions in the watershed, develop potential ideas and solutions, formulate and evaluate alternatives to develop a recommended plan. Phase II would be developed further as Phase I issues are clarified through the Russian River Watershed Council process.

The planning process is scheduled to be completed in 6 years, with a major milestone occurring at 2 years that separates the study into two phases. Phase I of the study consist of developing the Council's strategic plan with implementation scope, the restoration framework for identifying structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures in the watershed, and the identification of specific project(s) (e.g.: modifications to the Corps' dam outlet structure) for implementation concurrently with the completion of Phase II. The result of this investigation would be a Phase II Plan of Action. Phase II would entail integrating the detailed tasks developed in the Watershed Council's Strategic Plan to provide restoration measures and alternatives. Phase II would also develop the formulation of alternative plans and the detailed evaluation of the engineering, economic, environmental, and other effects of the watershed plan.

This section provides the scope of work for the study. The major products developed in Phase I of the study would determine the scope and direction of the second phase. The following are the potential products that would be developed by the Watershed Council in Phase I of the study and documented in the Phase II Plan of Action:

■ **PARTICIPATING IN RUSSIAN RIVER WATERSHED COUNCIL** – The complexity of the issues and problems inherent in a watershed study requires that there be widespread community involvement in the planning process. Information exchange between stakeholders and resource agencies would be managed by ensuring ongoing public input. The Russian River Watershed Council would convene (possibly bi-weekly) to address the issues relevant to the environmental and economic health of the watershed.

■ **DEVELOPING A STRATEGIC PLAN WITH IMPLEMENTATION SCOPE** – The strategic plan would finalize the mission, vision, and values of the Watershed Council. The strategic plan would include implementation scope for individual tasks identified by the Council to be developed further in Phase II.

■ **DEVELOPING WATERSHED RESTORATION FRAMEWORK** - The restoration framework would develop a user friendly information system and complete a data gap analysis. The restoration framework is intended to provide a context for evaluating combinations of conditions to identify measures that most effectively achieve multiple objectives. The Watershed Council would develop the watershed restoration framework with the necessary technical support.

■ **DEVELOPING POTENTIAL RESTORATION PROJECT(S)** - *See Attachment 1 for one or more specific projects which the Watershed Council may develop concurrently with the implementation of watershed study.*

The watershed planning process would be dynamic. Several of the tasks would be conducted concurrently, and as the process progresses, various tasks or phases of the process would be revisited, revised, and possibly rescope. Moreover, specific subtasks may change or be refined as a part of adaptive study management.

PHASE I TASKS - The tasks conducted during Phase I of the study.

3.1.1 Russian River Watershed Council Operations

This section presents options for the Russian River Watershed Council operations. Potential activities of the Russian River Watershed Council would include serving as the forum for identifying problems and potential solutions for ecosystem issues in the watershed; identifying and contacting stakeholders in the watershed; determining potential event locations; designing and holding public involvement activities; and developing public notices.

3.1.1.1 Russian River Watershed Council Activities

Public involvement is critical in the planning process and public involvement is required in Phase II by the NEPA/CEQA process. The Watershed Council would include stakeholders from throughout the watershed to identify issues, work together to resolve differences, work with

resource agencies to identify study direction, and identify possible solutions from the information provided by the technical advisors. The following sections describe the potential different types of activities and review groups.

Public Meetings. Public meetings would be held in designated locations throughout the watershed. These meetings would be designed to elicit stakeholder and general public input on the issues, problems, and opportunities that should be considered as regional options and watershed study plan alternatives are developed for structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures that would be undertaken in the watershed.

Watershed Council Workshops. Watershed Council workshops would be more focused in scope, smaller in scale, and more frequently held than scoping and public meetings. The format would be round-table discussions to develop a working relationship to reach solutions and conclusions on specific issues.

Work Groups. As part of the process, focused work groups would be formed to focus on key technical issues. These work groups, made up of stakeholder representatives and interested members of the public, as well as, technical professionals and scientists from the academic and research community, would be involved with many of the Watershed Council meetings.

The Phase I total cost for sub account 3.1.1.1 is \$480,000.00

3.1.2 Strategic Plan with Implementation Scope

The strategic plan would finalize the Watershed Council's mission statement and vision statement. The goals and values of the Watershed Council would be identified to ensure that the overall watershed restoration objectives are being met. To ensure that this process meets the needs of all the stakeholders in the watershed, the strategic plan would include a complete list of tasks to be accomplished in Phase II of the watershed study including a detail evaluation of scope of work, cost and schedule for each task.

This section would also identify possible public involvement activities and what the potential goals for each activity would be. These activities would include information tools such designing a newsletter, a web page and other methods of communication with the public; and facilitating interaction between the Russian River Watershed Council and other stakeholders throughout all phases of the study. The program would include a discussion of how the Watershed Council's recommendations would be developed into a watershed management plan.

3.1.2.1 Specify Tasks Associated with Watershed Restoration

The Russian River Watershed Council with the support of the Study Manager would develop potential watershed restoration tasks in order to identify problems with and opportunities for implementing structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures in the Russian River Watershed. The task selection process would involve applying an orderly and systematic approach to addressing all key steps in the planning process, from identifying problems and opportunities to developing overall goals, objectives, alternatives, and a recommended plan for the watershed.

The Phase I total cost for sub account 3.1.2.1 is \$180,000.00

3.1.2.2 Develop Public Involvement Tools

The Russian River Watershed Study would be geographically and demographically extensive in scope. It would require several years of planning to accomplish the expressed goals of the study. Decisions made during this process regarding structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures would potentially affect a wide range of stakeholders. Therefore, it is important to have in place from the outset of the study, a programmatic approach to public involvement. The following section presents the numerous tools that would be used to effectively involve stakeholders.

Public Outreach Program Outline. An outline would be developed at the outset of the study to identify elements the Watershed Council's public outreach strategy. This hardcopy and/or digital outline would be designed to be a ready-reference guide to public involvement over the life of the study. The outline would be designed to be user-friendly and may include sections on the following topics:

- watershed background,
- key issues,
- public involvement methods and rationale,
- public involvement products and activities, and
- activities schedule,

Potential issues to be discussed would include: frequency of public outreach efforts and publications; definitions and applicability of public involvement event types; communication procedures; roles and responsibilities of agencies and other stakeholders; media involvement; responses to comments, event transcripts, and other documents; and facilitation and mediation methods.

Using this product as a guideline, the following additional public involvement tools would be developed and implemented.

Mailing List/Database. A master mailing list would be developed beginning with the key stakeholders and then adding to it members of the public who express an interest in being on such a list. Opportunities to be included on the list would be offered through sign-up sheets at all study-related gatherings as well as through the development of a study-specific web page and newsletter.

Web Page. A watershed-specific web page would be developed that can include a wide range of information, including but not limited to updates of the administrative record, newsletters, stakeholder contact information, watershed maps, real-time updates on the watershed activities and many other topics. The web page can be set up at an existing address, such as the Corps or DWR, or developed as a stand-alone address.

Newsletter. A newsletter would be authored and distributed on a predetermined schedule to everyone on the master mailing list. The newsletter would carry similar but smaller amounts of information than the study web page.

Media Packets. Watershed-specific packets would be prepared as needed for local and regional media. These packets may include technical fact sheets, maps, updates on public involvement activities, and other topics. Periodic news conferences may also be conducted to allow question and answer periods on key topics and with key staff. Public notices and public service announcements would be released as needed.

Multimedia Presentations. Informational presentations using materials such as video, slides, computers, and hardcopy would be produced for use at watershed-specific public gatherings. These presentations can be used to present technical, economic, and demographic data and can also present geographic data. As part of this process, three-panel boards would be used regularly as display units that can be viewed at a participant's leisure. Information presented on these panels can be changed efficiently and economically to match the subject matter of a meeting.

The Phase I total cost for sub account 3.1.1.2 is \$180,000.00

3.1.3 Develop Russian River Watershed Restoration Framework

The watershed planning process would result in an integrated environmentally and economically sustainable ecosystem restoration watershed management plan. The Watershed Council planning process would provide a framework for the development of an information system and a data gap analysis. Implementation plans for specific projects as identified by the Watershed Council during development of this planning effort may tier off of this watershed study and move forward on an independent track.

- The Watershed Council and the public outreach strategy would enable interested parties to be fully aware of and provide input to the development of information system and a data gap analysis.

3.1.3.1 Information System

The Russian River Watershed Council would develop a user-friendly information system that is relevant to the watershed or a specific location within the watershed. The Watershed Council has identified an information system developed in the Klamath River basin, hence Klamath Resource Information System (KRIS) as the preferred information system. The KRIS data base program would be used in the Russian River Watershed to support the potential structural and nonstructural environmentally and economically sustainable ecosystem restoration and protection measures to be developed by the Watershed Council. Users may obtain current and accurate information about the Russian River watershed from the Information System. This information tool has the potential to give the user insight on the land topography, vegetative cover, ground water and surface water capacity, water quality conditions, fisheries data, restoration project information and photopoints. KRIS has the potential to integrate almost any form of watershed information including: data, charts, photographs, maps, bibliographic resources.

KRIS can be distributed on compact disc and is compatible with the World Wide Web. It can be hot-linked for easy access to reference material or other information databases. Information can be pulled off to add to reports, and KRIS can easily be updated to hold down the cost of information system maintenance.

The Phase I total cost for sub account 3.1.3.1 is \$180,000.00

3.1.3.2 Data Gap Analysis

A data gap analysis would identify the existing information and to determine were additional data is critical for the development of a watershed strategy. This would include review of existing information, research, and databases to identify important data needs as they relate to assessment and planning objectives of the Council. The results may be used to recommend priorities for data development or monitoring activities, to develop protocols for monitoring, etc.

The Phase I total cost for sub account 3.1.3.2 is \$50,000.00

3.1.4 Develop Restoration Project(s) *See Attachment 1 for one or more specific projects which the Watershed Council may develop concurrently with the implementation of watershed study.*

3.1.4.1 Corps Project Identified by Council

The Phase I total cost for sub account 3.1.4.1 is \$170,000.00

3.1.5 Prepare Phase II Plan of Action

The Phase II Plan of Action would give specific information documenting the watershed framework plan, strategic plan task analysis, and specific project development. The Plan of Action would present the scientific and engineering basis for proceeding with the implementation of tasks identified in Phase I, the formulation of alternatives for the watershed management plan, and the justification for developing specific project(s). This involves summarizing planning work performed to date, including a refined description of planning goals and objectives, problems and opportunities, existing and available data, resources conditions and trends, and a preliminary list of measures. The Plan of Action would not contain descriptions of watershed alternatives; however, it would describe and evaluate individual measures intended to address specific watershed needs. Measures would serve as the building blocks for later development of composite, integrated measures that make up alternative plans

The Phase I total cost for sub account 3.1.5 is \$110,000.00

3.1.6 Prepare Revised PSP

After completion of the Phase II Plan of Action, this PSP would be revised and updated to reflect the tasks required to complete Phase II of the watershed study. The revised PSP would then be submitted to HQUSACE for approval.

The Phase I total cost for sub account 3.1.6 is \$100,000.00

PHASE II TASKS - The remaining tasks would be conducted during Phase II of the study.

3.2 Plan of Action

Information presented in the Plan of Action would be developed to establish descriptions of watershed alternatives to describe and evaluate integrated measures intended to address specific watershed restoration needs in the alternative plans.

3.2.1 Formulate Alternative Restoration Plans

During this phase of the process, the tasks listed in the Strategic Plan would be refined to formulate preliminary study alternatives. Alternatives are defined by combining several restoration measures to address a range of project goals and objectives. The information system and data gap analysis would be used extensively in the process to test alternatives for consistency with the watershed plan goals. This is an iterative part of the planning process. Preliminary and conceptual alternatives would be developed, refined, reviewed, and rejected during this phase to evaluate the most cost-effective and productive combination of restoration measures. These watershed alternative plans would be compared, focusing on the differences identified in the appraisals as determined during the evaluation process as well as each alternative's ability to best address the problems and opportunities, and achieve planning goals and objectives.

3.2.2 Select Recommended Plan

Based on the evaluation and comparison of each of the alternatives and the input received from other public stakeholders, a preferred watershed management plan alternative would be selected. The watershed management plan would present an overall integrated vision for the management of an environmentally and economically sustainable ecosystem restoration program.

3.2.3 Conduct Implementation Studies for Elements of the Russian River Watershed Plan

Because of the geographic and demographic scope of the Russian River Watershed Management Plan, it is fully anticipated that several potentially feasible projects would be identified on a subarea basis during the planning process phase. Many of these potential projects would fulfill the goals of the Watershed Council, match the specific objectives of the study, would meet the programmatic definition of water resource problems, and would have existing or easily acquired support for implementation by federal and nonfederal sponsors. Therefore, as part of the watershed study, procedures would be developed to identify potential projects. Once identified by the Watershed Council, they would be expedited as appropriate under Federal, State, and local authorities. The intent of this approach is to build flexibility into the watershed planning process that allows for timely implementation of workable solutions, rather than waiting for the absolute completion of the Russian River Watershed Management Plan, which would take several years to complete. A caveat to this approach would be the requirement that regardless of the acceptability of particular potential projects on a subarea basis, the project should not conflict or contradict the overall goals and objectives of the entire watershed plan.

3.2.4 Initiate Environmental Process

Potential projects identified during the watershed management planning process would be developed in accordance with the requirements of NEPA and CEQA, and an EIS and EIR process must be conducted to assess the effects of the proposed projects on the environment.

CHAPTER 4 WORK TASKS AND RESPONSIBILITIES

Watershed Council operations and the development of the strategic plan, the restoration framework and potential restoration project(s) undertaken in the watershed would be cost-shared between the Corps of Engineers and the non-Federal sponsor on a 50-50 basis. The non-Federal sponsor would provide a maximum of half of its total share as in-kind services toward the study. Tables 1 and 2 present the study program by fiscal year, including responsibility, description, and cost for accomplishing tasks.

Table 1. Phase I Task-Specific Cost Estimate Summary (\$X1000)

Task No.	Task Description	State FY99	Corps FY99	State FY00	Corps FY00	Total
3.1.1	Russian River Watershed Council Operations					
3.1.1.1	Russian River Watershed Council Activities	60	20	250	150	480
3.1.2	Strategic Plan with Implementation Scope					
3.1.2.1	Specify Tasks Associated with Watershed Restoration	20	20	60	80	180
3.1.2.2	Develop Public Involvement Tools	40	20	60	60	180
3.1.3	Develop Russian River Watershed Restoration Framework					
3.1.3.1	Information System	20	20	80	60	180
3.1.3.2	Data Gap Analysis	10	5	25	10	50
3.1.4	Develop Restoration Project(s)					
3.1.4.1	Project identified by Council	5	60	5	100	170
3.1.5	Prepare Phase II Plan of Action	10	20	40	40	110
3.1.6	Prepare Revised PSP			40	60	100
	SUBTOTAL	165	165	560	560	
	PHASE I TOTAL	330		1120		1450

¹All costs in thousands of dollars

Table 2. Resource Responsibility Matrix - Phase I Tasks

Task No.	Task Description	COUNCIL	STATE	CORPS
3.1.1	Russian River Watershed Council Operations			
3.1.1.1	Russian River Watershed Council Activities	30%	50%	20%
3.1.2	Strategic Plan with Implementation Scope			
3.1.2.1	Specify Tasks Associated with Watershed Restoration	60%	20%	20%
3.1.2.2	Develop Public Involvement Tools	40%	40%	20%
3.1.2	Develop Russian River Watershed Restoration Framework			
3.1.3.1	Information System	40%	40%	20%
3.1.3.2	Data Gap Analysis	50%	40%	10%
3.1.4	Develop Restoration Project(s)			
3.1.4.1	Project identified by Council	30%	20%	50%
3.1.5	Prepare Phase II Plan of Action	30%	30%	40%
3.1.6	Prepare Revised PSP	10%	10%	80%

APPENDIX A

Related Programs

A.1 Habitat Inventory 1
A.2 Watershed Restoration 2
A.3 Northwest Emergency Assistance Program..... 3
A.4 North Coast Basin Planning Project..... 3
A.5 Fish Friendly Farming and Volunteer Monitoring Program..... 3
A.6 Environmental Quality Incentive Program 4

A.1 Habitat Inventory

California Department of Fish and Game Inland Fisheries Division is in the process of completing a Habitat Inventory using the protocols identified in California Salmonid Stream Habitat Restoration Manual, (Flosi and Reynolds), State of California Resources Agency, Department of Fish and Game, January 1998. This inventory utilizes protocols and database structures for anadromous salmonid resource assessment on the tributaries in the Russian River watershed. The following creeks have had some level of work completed:

<u>Stream Surveyed</u>	<u>Distance in Feet</u>	<u>Year</u>
Ackerman Creek	42,240	1994
Green Valley Creek	58,080	1994
Purrington Creek	19,008	1994
Willow Creek	36,432	1994
Big Austin (upper portion)	2,959	1994
Bear Pen Creek	16,361	1994
Atascadero Creek	50,160	1995
Jonive Creek	23,760	1995
Griffin Creek	15,840	1995
Mill Creek	81,523	1995
Felta Creek	26,400	1995
Salt Creek	3,000	1995
Wallace	19,120	1995
Palmer	21,120	1995
Angel	5,413	1995
Freezeout Creek	6,834	1995
Alder Creek	14,054	1995
Robinson Creek	28,612	1995
Mohr Creek	10,580	1995
Sheephouse Creek	34,320	1996

<u>Stream Surveyed</u>	<u>Distance in Feet</u>	<u>Year</u>
Little Briggs	16,368	1996
Coon	21,648	1996
Mill Stream	21,120	1996
McDonnel	22,176	1996
Blue Gum	10,560	1996
Ingalls	16,368	1996
Bear	16,368	1996
Mark West Creek	79,280	1996
Porter Creek	42,768	1996
Mill Creek	11,616	1996
Humbug Creek	11,616	1996
Windsor Creek	44,352	1996
Pool Creek	42,240	1996
Unnamed streams	211,200	1996
Maacama Creek (lower portion)	24,185	1997
Foote	25,872	1997
Franz	56,496	1997
Bidwell	22,176	1997
Porter Creek	33,264	1997
DutchBill	34,848	1997

Russian River Watershed Management Plan
Draft Project Study Plan (PSP)

Austin Creek	90,816	1996
Kidd Creek	37,488	1996
Ward Creek	53,328	1996
Big Oat	7,920	1996
Blue Jay	16,368	1996
Pole Mt.	20,592	1996
East Austin Creek	87,120	1996
Black Rock Creek	13,728	1996
Gilliam Creek	58,080	1996
Thompson Creek	10,560	1996
Gray Creek	33,264	1996
Devils Creek	23,760	1996
Conshea Creek	7,920	1996
Sulphur Creek	12,672	1996
Maacama Creek(Upper portion)	14,887	1996
Briggs	31,680	1996

Duvoul	6,865	1997
Grab	32,736	1997
Hulbert	3,696	1997
Mission	9,504	1997
Fife	27,894	1997
Redwood	7,392	1997
McNab	30,624	1997
Parsons	26,400	1997
Horse Hill	11,088	1997
Van Buren	10,032	1997
Weeks	9,504	1997
Pool	21,120	1997
Dead Horse	4,000	1997
Matanzas	59,136	1997
South Fork Matanzas	25,344	1997

TOTAL COMPLETED TO DATE

<u>Stream Surveyed</u>	<u>Distance in Feet</u>	<u>Year</u>
Ackerman Creek	42,240	1994
Green Valley Creek	58,080	1994
Purrington Creek	19,008	1994
Willow Creek	36,432	1994
Big Austin (upper portion)	2,959	1994
Bear Pen Creek	16,361	1994
Atascadero Creek	50,160	1995
Jonive Creek	23,760	1995
Griffin Creek	15,840	1995
Mill Creek	81,523	1995
Felta Creek	26,400	1995
Salt Creek	3,000	1995
Wallace	19,120	1995
Palmer	21,120	1995
Angel	5,413	1995
Freezeout Creek	6,834	1995
Alder Creek	14,054	1995
Robinson Creek	28,612	1995
Mohr Creek	10,580	1995

351 MILES

<u>Stream Surveyed</u>	<u>Distance in Feet</u>	<u>Year</u>
Little Briggs	16,368	1996
Coon	21,648	1996
Mill Stream	21,120	1996
McDonnel	22,176	1996
Blue Gum	10,560	1996
Ingalls	16,368	1996
Bear	16,368	1996
Mark West Creek	79,280	1996
Porter Creek	42,768	1996
Mill Creek	11,616	1996
Humbug Creek	11,616	1996
Windsor Creek	44,352	1996
Pool Creek	42,240	1996
Unnamed streams	211,200	1996
Maacama Creek (lower portion)	24,185	1997
Foote	25,872	1997
Franz	56,496	1997
Bidwell	22,176	1997
Porter Creek	33,264	1997

Russian River Watershed Management Plan
Draft Project Study Plan (PSP)

Sheephouse Creek	34,320	1996	DutchBill	34,848	1997
Austin Creek	90,816	1996	Duvoul	6,865	1997
Kidd Creek	37,488	1996	Grab	32,736	1997
Ward Creek	53,328	1996	Hulbert	3,696	1997
Big Oat	7,920	1996	Mission	9,504	1997
Blue Jay	16,368	1996	Fife	27,894	1997
Pole Mt.	20,592	1996	Redwood	7,392	1997
East Austin Creek	87,120	1996	McNab	30,624	1997
Black Rock Creek	13,728	1996	Parsons	26,400	1997
Gilliam Creek	58,080	1996	Horse Hill	11,088	1997
Thompson Creek	10,560	1996	Van Buren	10,032	1997
Gray Creek	33,264	1996	Weeks	9,504	1997
Devils Creek	23,760	1996	Pool	21,120	1997
Conshea Creek	7,920	1996	Dead Horse	4,000	1997
Sulphur Creek	12,672	1996	Matanzas	59,136	1997
Maacama Creek(Upper portion)	14,887	1996	South Fork Matanzas	25,344	1997
Briggs	31,680	1996			

TOTAL COMPLETED TO DATE

351 MILES

A.2 Watershed Restoration

California Senate Bill 271 provides money for watershed restoration. Several projects have been completed including; Gill Creek Revegetation and Restoration, Santa Rosa Creek Road Assessment, Pale Mountain Creek Landslide Stabilization, Parsons Creek Barrier Improvement, Austin Creek Road Assessment Evaluation and Austin Creek Revegetation and Restoration.

A.3 Northwest Emergency Assistance Program

Northwest Emergency Assistance Program (NEAP) provides funding to employ fisherman and woman, who were displaced from their livelihoods and professions by a combination of factors affecting salmon, populations. Some of the work administered by the Resource Conservation District through NEAP includes; Green Valley Creek Riparian Restoration, Bishop's Ranch Creek Restoration, Salmon Creek Restoration Work, Russian River Tributary Inventory, Russian River Creel and Spawning Census, Freezeout Creek Riparian Fencing, Fuller Creek Road Assessment and Habitat Inventory, Walker Creek Restoration, and Salmon Creek Instream Restoration.

A.4 North Coast Basin Planning Project

The North Coast Basin Planning Project, developed by the California Department of Fish and Game, strives to enhance the status of anadromous salmonid populations through the implementation of the California's Salmon and Steelhead Restoration and Enhancement Program.

California's Salmon and Steelhead Restoration and Enhancement Program of 1988 (Chapter 1545/88) was created to enhance the status of anadromous salmonid populations and improve the fishing experience for Californians. The Russian River Salmon and Steelhead Trout Restoration Plan (CDFG 1991) stated that "protection of existing habitat and restoration of damaged habitat has to occur while the Russian River basin is developed for human populations if the intent of Chapter 1545/88 is to become a reality".

The focus of California Department of Fish and Game's program on the Russian is to develop and implement a salmon and steelhead restoration program. To achieve this goal, program staff are: 1) inventorying fish habitat in the Russian River basin and subbasins following standard methodologies discussed in the *California Salmonid Stream Habitat Restoration Manual* (Flosi and Reynolds, 1994); 2) identifying specific problem issues and sites stratified by sub-basin watershed; 3) prioritizing inventoried streams for restoration work; 3) building partnerships with local people and agencies to promote stewardship and assist with implementation.

A.5 Fish Friendly Farming and Volunteer Monitoring Program

The Resource Conservation Districts in the Russian River watershed are implementing a Fish Friendly Farming project to address the recovery of the federally-listed Coho Salmon and Steelhead trout by developing a certification program for grapegrowers who implement land management practices that restore and sustain fish habitat on their property. In addition, the Resource Conservation Districts are helping to maintain a sustainable river ecosystem by involving the public in watershed monitoring activities. This effort is being administered through a Volunteer Monitoring Program, with the program goals of; (1.) further citizen education and awareness of watershed systems, (2.) collect data that can enable watershed stakeholders to develop sustainable management practices, and (3.) foster an understanding of how each individual is significant in maintaining a healthy watershed. The Sotoyome Resource Conservation District is in the process of forming ten watershed groups by mid 1999. The Sotoyome Resource Conservation District will provide the watershed groups with the organization and workshop support, as well as a watershed newsletter and restoration implementation moneys as it becomes available.

A.6 Environmental Quality Incentive Program

Natural Resources Conservation Service has been funded to conduct an Environmental Quality Incentive Program (EQIP) for bank stabilization in the Russian River watershed. The

program provides cost-sharing assistance to install conservation practices to help solve: erosion problems, especially from roads, fish habitat and stream re-vegetation improvements, water and range conservation practice.

A.7 Small Community Flood Assessment

Small Community Flood Assessment, Russian River, CA Communities of Cloverdale, Healdsburg, Rio Dell, Hacienda, and Guerneville. The purpose of this study is to identify the local flood risk existing in each community and identify potential floodplain management solutions.

APPENDIX B

Reference Documents

ER 5-7-1 dtd 1 March 1991	<i>Project Management</i> Department of the Army regulation for the overall management of civil works projects.
ER 220-2-2 dtd 4 March 1988 33 CFR 230	<i>Procedures for Implementing NEPA</i> Department of Army regulation on environmental quality.
ER 405-1-12 (Ch. 12) dtd 28 May 1991	<i>Real Estate Handbook - Local Cooperation</i> Department of the Army regulation establishing guidelines for real estate activities for local cooperation agreements.
ER 1105-2-100 dtd 28 December 1990	<i>Planning Guidance</i> Department of the Army regulation on policy and guidance for the conduct of civil works planning studies.
ER 1110-2-1150	<i>Engineering and Design for Civil Works Projects as amended by CECW-EP, Subject: Engineering, Design and Dam Safety.</i>
EC 1105-2-210	<i>Ecosystem Restoration in the Civil Works Program</i>
EC 1110-2-263	<i>Civil Works Construction Cost Engineering</i> Department of the Army circular establishing accounting standards for preparing cost estimates for civil projects.
EC 1110-2-538	<i>Civil Works Project Cost Estimating - Code of Accounts</i> Department of the Army circular establishing accounting standards for preparing cost estimates for civil projects.
EM 1110-2-1301 dtd 10 March 1983	<i>Cost Estimates - Planning and Design Stages</i> U.S. Water Resources <i>Economic and Environmental Principles and Guidelines Council Publication for Water and Related Land Resources Implementation Studies</i>
EM 1110-1-2909	??
ER 1110-1-8156	??
EM 110-2-1913	<i>Design and Construction of Levees</i>

EM 1110-2-301

*Guidelines for landscape planting at floodwalls, levees, and
embankment dams*

ATTACHMENT 1

A sub-committee of the Russian River Watershed Council met on October 23 to review the PSP and to assist in the Corps' revision of the PSP. On October 27, the Council liaisons, the Corps and the State met again to incorporate the changes into the PSP. The suggested changes from the meetings and those changes received by mail were integrated into the PSP, when feasible.

On October 23, the group discussed revising the PSP to include one or more projects, which the Corps of Engineers with the assistance of the Russian River Council would investigate and potentially develop as the watershed study progresses. Implementation plans for one or more of these specific projects identified by the Watershed Council would tier off of the watershed study and move forward on an independent track after justification was determined. The following five potential projects were selected as important to the improvement of the ecological health of the watershed.

1. Investigate Modification to Dam Outlet Structures - allow more precise flows during dam outflow releases.
2. Conduct Baseline Water Temperature Study - investigate impacts to water quality and fisheries.
3. Fish Hatchery Study - determine impacts on biodiversity to the fisheries.
4. Tributary Health and Restoration Study - select representative streams reaches along tributaries to estimate fish population and health accurately. This information would be used to assist in the determination of the ecological health and restoration potential of the tributaries throughout the watershed.
5. Riparian Vegetation Study - define the value of the riparian environment for fish and wildlife and to determine the appropriate restoration measures.