CHAPTER 2: METHODOLOGY

The following discussion summarizes the methodology used to prepare the remaining two sections of this ERP, which include the Watershed Assessment Report (Chapters 3-9) and the Restoration Program (Chapters 10-12).

Watershed Assessment Report Methodology

The Watershed Assessment Report (Assessment) is intended to provide a baseline evaluation of selected watershed physical and biological resources (see "Identification of Key Resources" below). The Assessment focuses on streams and riparian areas that have been identified as high priority habitat areas in the Placer Legacy Open Space and Agricultural Conservation Program and Placer County's Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) planning effort as well as on those physical and biological resources that have potential to influence the stream channels and adjacent riparian areas.

The information provided in this document is based on best available data. Further study may be required prior to the implementation of individual restoration projects.

Identification of Key Resources

In order to facilitate the development of the Assessment, two initial approaches were used to identify the "key resources" to be addressed. These approaches included meetings of upper and lower watershed focus groups, comprised of interested local citizens, and discussion among Placer County staff and the consultant team preparing the ERP. The key resources identified by the general public and the Placer County staff/consultant team have been divided into two general categories, specific species or species group and resource management issues. In the context of this document, the term key resources includes both species of specific concern or interest and resource management issues that are not necessarily species specific. Specific species were chosen because of their regulatory status (e.g., state or federally listed as threatened or endangered, species of special concern, etc.) or concerns about their impact on natural resources (e.g., American beaver). Resource management issues include events that have major influences on the riparian zone and stream channels (e.g., loss of riparian vegetation, flood management, land use conversion and encroachment on riparian areas, etc.). A summary of the key resources identified for analysis in this ERP is presented in Tables 2-1 and 2-2.

Table 2-1. Species/Species Group Specific Key Resources

Species or Species Group	Regulatory Status	Detailed Discussion
American Beaver	Designated a detrimental species by CDFG. Considered by some as a nuisance species; negative impact on riparian vegetation.	Chapter 9 Appendices E
Anadromous Fish Species • Chinook salmon (fall-run) • Steelhead	Steelhead listed federally threatened; chinook salmon (fall-run) federal candidate species.	Chapter 8 Appendix D
Himalayan Blackberry	No designated regulatory status. Invasive non-native species; displaces native riparian vegetation.	Chapter 7 Appendix C
Riparian and/or Stream Channel Dependent Species • Foothill yellow-legged frog • California red-legged frog • Swainson's hawk • Cooper's hawk • Valley elderberry longhorn beetle • Giant garter snake • River otter • Northwestern pond turtle	Combination of state and federally listed species, federal species of concern, CDFG Species of Special Concern (CSC), special status species, and CDFG fully protected species. For individual regulatory status refer to Chapter 9.	Chapter 9 Appendix E
Freshwater Marsh Habitat Dependent Species • Giant garter snake • River otter • Northwestern pond turtle	Combination of federally listed species, CDFG CSC, and special status species. For individual regulatory status refer to Chapter 9.	Chapter 9 Appendix E

Table 2-2. Resource Management Issues

Resource Management Issue	Detailed Discussion
Bank erosion and riparian vegetation loss (trees and understory)	Chapters 7, 8 Appendix C
Flood management (agency restrictions on downed tree removal, increases in flood flow frequency and magnitude)	Chapter 4
Heavy sediment loads in the stream channels with loss of instream habitat diversity	Chapters 5, 7
Loss of riparian vegetation (elimination or reduction by land owners, encroachment by adjacent land uses)	Chapter 7 Appendix C
Erratic water management and stream flow	Chapter 4
Restoration of riparian forests that are functional and provide the desirable characteristics for a variety of wildlife and fish species.	Chapters 7, 8, 9; Appendix C

The key resources presented in Table 2-1 and 2-2 formed the basis for preparing the Assessment. Other issues and species of concern were later identified by the consultant team and are incorporated in the specific chapters of the Assessment. All of the additional species or resource issues identified fit within the framework of those outlined above.

Restoration Program Methodology

Project Identification

In order to ensure that the watershed issues and concerns identified in the watershed Assessment were addressed in this ERP, the management concerns identified in the seven watershed Assessment chapters were compiled and analyzed by the Placer County staff/consultant team. Goals, objectives, strategies, and tasks have been identified by watershed to address each of these management concerns (see Tables 10-1 through 10-5). The tasks identified in Chapter 10 comprise the restoration projects identified in this ERP and additional tasks may be identified over time. These projects have been and will be evaluated with criteria established by the AR/CC CRMP group in 2000. These criteria are presented in Table 2-3 below. It is important to note that the projects identified in Chapter 10 represent a general list of tasks to be completed in order to achieve the established watershed goals. The completion of each strategy, in most cases, requires the preparation and establishment of a management plan that will specify the restoration details necessary to implement the strategy. In addition, individual projects may only be implemented given they are assigned a “yes” ranking as identified in the Critical Acceptance Criteria outlined in Table 2-3 and a source for funding has been obtained.

Table 2-3. Project Evaluation Criteria

First Tier
Critical Acceptance Criteria – Unlike the balance of this evaluation matrix, the following criteria will be evaluated by a yes/no ranking. If a project receives a "no" ranking, the project will not be deemed acceptable and will not be recommended for future implementation.

1. Public acceptance – the project is acceptable to a range of stakeholders (Y/N)
2. Landowner acceptance – the project is acceptable to affected landowners (Y/N)
3. Permitting - The project has the ability to receive the necessary permits from local, state and federal agencies (Y/N)
4. ERP Objectives - The project meets CALFED ERP objectives (each individually ranked)

    - Protect and restore riparian and aquatic habitats including habitat for anadromous and native resident species (Y/N)
    - Protect watershed integrity (Y/N)
    - Improve water quality by removing harmful pollutants (Y/N)
    - Improve the ecological functioning of the watersheds including ecological factors such as connectivity with the mainstream Sacramento River (Y/N)
    - Remove or reduce the total number of primary stressors identified by CALFED in its Ecosystem Restoration Program Plan. These stressors include: 1) alteration of flows and other effects of water management, 2) floodplain and marshplain changes, 3) channel form changes, 4) water quality, 5) water temperature, and 6) land use. (Y/N)

Second Tier
Costs and Benefits – The following criteria will be evaluated using a high, medium, and low ranking system.

1. Habitat benefits - The project provides a significant improvement to the resource(s) benefiting from the project (each individually ranked)

    a. Habitat (H, M, L)
    b. Species (H, M, L)
    c. Property value (H, M, L)
    d. Usability of land/acreage after implementation (H, M, L)

2. Cost – the cost of the project is an impediment to successful implementation (H, M, L)
3. Sensitive Species - The project provides direct or indirect benefit(s) to listed (CESA/FESA) or other sensitive species (H, M, L)

Table 2-3. Project Evaluation Criteria

Third Tier
Feasibility – These criteria will be evaluated using a high, medium, and low ranking system.

1. Deliver of Utilities – the degree to which a utility can deliver and maintain services as a consequence of a project (each individually ranked)
    a. Ability to use reclaimed water (H, M, L)
    b. Ability to deliver treated and untreated surface waters (H, M, L)
    c. Flood management (H, M, L)
2. Funding – ability of a project to obtain funding for implementation
3. Management – ability of a project to have a management entity for implementation, monitoring and fiscal responsibilities
4. Sustainability – the project can be successfully sustained over time given fiscal, management and environmental conditions (e.g., long term trends)
5. Access to sites – the site for a project is likely to be accessible
6. Data - to support a project (each individually ranked)
    a. Baseline condition (H, M, L)
    b. Availability of necessary support data (H, M, L)
    c. Appropriateness of the data (science-based vs. anecdotal) (H, M, L)
    d. Cost and the time necessary to collect data to support a project as an impediment to implementation (H, M, L)

Fourth Tier
Project interdependence – These criteria will be evaluated using a high, medium, and low ranking system.

1. Other conservation objectives - The project has the ability to meet multiple institutional conservation objectives – local, state, federal and private (H, M, L)
2. Multiple ERP objectives - The project has the ability to meet multiple ERP objectives (H, M, L)
3. Conflicting objectives – The project, if implemented, will conflict with other institutional conservation objectives (H, M, L)
4. Sequencing – The project is interdependent upon other projects being implemented (H, M, L)

Because landowner participation and public acceptance of the proposed projects identified in Chapter 10 of the Restoration Program are not known at this time, the first tier of selection criteria, the Critical Acceptance Criteria, was not used to identify the project list. As mentioned in Chapter 1 of this document, a fundamental principle of the ERP is that projects will only be implemented with the full cooperation of the affected landowner. The Restoration Program (Chapters 10-12) identifies restoration project opportunities that adjacent landowner(s) may be interested in pursuing if grant funding or technical assistance were available. Projects may only be implemented given they are assigned a "yes" ranking as identified in the Critical Acceptance Criteria outlined in Table 2-3 and a source for funding is available. Many sources of grant funding for ecosystem restoration projects and programs are currently available; however, the identification of specific projects is often lacking. Pending available funding, projects having a high priority for implementation will be further evaluated based on the Critical Acceptance Criteria.

Project Implementation

The tasks identified in Chapter 10 vary in their levels of implementation. Each task, or project, may be implemented on one of three levels: a class-specific level, landscape level, or programmatic level. Class-specific level projects include those that pertain to the restoration of a particular parcel or group of parcels within an individual watershed. These projects are associated with the restoration of individual streams or stream segments. Landscape level projects are those activities that focus on the restoration of an entire watershed. Finally, programmatic level projects are those activities that occur on a social planning level and require modifications to current planning methodology in order to implement. Potential funding sources and responsible parties have been identified for each implementation level (see Chapter 11: Project Implementation). Projects are given an implementation priority based on the results of their assigned ranks in tiers two, three, and four of the criteria listed in Table 2-3.

In addition, all restoration projects implemented as a result of this ERP will comply with the guidelines established in the Western Placer County Agricultural Land Assessment and Agricultural Land Conservation Evaluation Criteria (Placer County Planning Department, 2002).

Monitoring Guidelines

All of the tasks identified in Chapter 10 will result in one or more of the following restoration actions: water quality enhancement, vegetation community enhancement and establishment, and/or wildlife/fisheries population enhancement and establishment. In order to ensure that the overall watershed objectives identified in Chapter 10 are achieved on a project-by-project basis, general monitoring guidelines have been established. For each area of restoration activity monitoring guidelines, on a watershed level, and minimum monitoring timeframes for each guideline have been identified (see Chapter 12: Monitoring Guidelines).