Panel A

# EXECUTIVE SUMMARY

**PROJECT TITLE:** **MERCED RIVER CORRIDOR RESTORATION PLAN PROJECT PHASE III: PLAN DEVELOPMENT AND CONCEPTUAL DESIGNS**

**APPLICANTS:** **Stillwater Sciences and Merced County Planning and Community Development Department**

**PROJECT DESCRIPTION, SIZE, AND LOCATION:** The goal of this project is to develop a publicly supported, technically sound, and implementable restoration plan for the Merced River corridor from Crocker-Huffman Dam (RM 52) downstream to the San Joaquin River (RM 0). The plan will focus on reestablishing geomorphic and ecological functions, processes, and characteristics given current regulated flow and sediment conditions in the Merced River to reverse long-term trends of degradation and improve habitats from existing conditions. The entire project area is contained within Merced County.

The project is being implemented in three phases. In Phase I, the County is establishing a Merced River Stakeholder Group and Merced River Technical Advisory Committee (TAC). This phase is being funded by the U.S. Fish and Wildlife Service Anadromous Fish Restoration Program and was begun in November 1998. In Phase II, the Project Team will conduct baseline geomorphic and ecological analyses and identify social, infrastructural, and institutional issues and concerns that will define opportunities and constraints for restoration in the Merced River corridor. This phase is being funded by CALFED and will begin in April 1999. In Phase III, the Project Team will (1) complete field and modeling efforts to develop design criteria for geomorphically functional channel and floodplain dimensions and for riparian habitat restoration, (2) in collaboration with the Stakeholder Group and TAC, develop an overall Merced River Corridor Restoration Plan, and (3) develop conceptual designs for five top priority projects identified in the restoration plan. During this phase, the Project Team will work closely with the Stakeholder Group and TAC to develop a restoration vision for the Merced River corridor, identify and prioritize restoration actions, and develop conceptual designs and funding proposals for five of the highest priority restoration projects. Peer review of study designs and analyses and restoration and monitoring recommendations will be provided by a Scientific Advisory Team, consisting of internationally recognized experts in the fields of geomorphology, hydrology, aquatic and riparian ecology, and statistics. **This proposal seeks funding for Phase III of the project.**

**PRIMARY BIOLOGICAL/ECOLOGICAL OBJECTIVES:** The Merced River sediment supply, flow regime, and floodplain and channel morphology have been significantly altered, resulting in loss and degradation of habitat for native species, particularly chinook salmon. Despite general recognition of the degraded condition of the Merced River, no long-term restoration strategy has been developed for the Merced River corridor. This project will develop a long-term, large-scale program to restore critical geomorphic and ecological processes that create and maintain a healthy riverine ecosystem.

In addition to developing the fundamental scientific information and plan needed to implemented large-scale and effective restoration in the Merced River corridor, the project's baseline evaluations (Phase II) and the restoration plan (Phase III) will provide necessary information and guidance to assist the County in future planning and permitting in the Merced River corridor.

**COSTS:** The estimated total cost of Phase III of the project is $229,000.

**ADVERSE AND THIRD PARTY IMPACTS:** The Project Team is actively coordinating with the Merced River Stakeholder Group, Merced River TAC, and the public to help ensure that all potential third party impacts are identified and avoided.

**APPLICANT QUALIFICATIONS:** The Project Team is composed of Stillwater Sciences (the technical lead), Merced County Planning and Community Development Department (the local and public coordination lead), McBain and Trush (a technical subconsultant to the Stillwater Sciences), and a Scientific Advisory Team. This team has extensive experience in public coordination and facilitation and ecological, geomorphic, and environmental management issues in the San Joaquin Basin and are currently working together on Phases I and II to develop the Merced River Corridor Restoration Plan. Projects completed or underway by team members include long-term evaluations of chinook salmon population dynamics and factors limiting production in the Tuolumne River, geomorphic assessments of the Tuolumne and Merced rivers, development of a restoration plan and site-specific restoration projects in the Tuolumne River, and design and implementation of river-wide and site-specific monitoring in the Tuolumne River. The scientific advisory team consists of internationally recognized experts in the fields of geomorphology, hydrology, aquatic and riparian ecology, and statistics.

**MONITORING AND DATA EVALUATION:** The completed restoration plan will include an adaptive management framework and a detailed hypothesis-driven monitoring plan as a component of this framework. Much of the baseline monitoring data needed to implement this plan will be collected in the Phase II evaluations, which are currently funded and will be implemented in summer 1999.

**LOCAL SUPPORT/COORDINATION WITH OTHER PROGRAMS:** Public and stakeholder support and participation are a key component of this project and are crucial for developing an implementable restoration plan. In Phase I, the Merced County Planning and Community Development Department, with technical support from Stillwater Sciences, conducted two public outreach meetings (in December 1998 and March 1999), convened the Merced River Stakeholder Group, and is in the process of convening the Merced River TAC. Both public meetings were well attended, with more than fifty people attending each. The Merced River Stakeholder Group currently includes 21 participants from the local community who represent individual landowners and landowner coalitions, environmental groups, angling groups, aggregate mine operators, resource agencies, and others. To date, coordination with this group has been constructive and many members have expressed interest in actively contributing to the restoration plan and its supporting studies.

In addition, the Project Team is working closely with the CDFG, Merced Irrigation District and their fisheries consultant, CDWR, and the East Merced Resource Conservation District to ensure that the restoration plan and its supporting studies complement other ongoing resource management efforts. The major efforts with which we are currently coordinating include: (1) a ten-year study program currently being developed by MID and CDFG to assess chinook salmon population dynamics in the river; (2) a large-scale channel reconstruction project currently being developed and implemented by CDFG and CDWR (with funding from the Four Pumps Agreement and CALFED), (3) and the East Merced Resource Conservation District's vernal pool conservation planning effort.

**COMPATIBILITY WITH CALFED OBJECTIVES:** This project will develop a scientifically based and publicly supported plan for large-scale restoration of ecological processes that create and maintain habitats for natives species in the Merced River and will therefore benefit CALFED's Ecosystem Restoration Water Quality Objectives. The project will not conflict with CALFED's Water Supply Reliability or Levee System Integrity Objectives. In addition, this project is based on an ecosystem approach to river restoration which is fundamental to the objectives of the CALFED's Ecosystem Restoration Program Plan (ERPP), and the restoration plan developed by this project will address a necessary step to achieving the ERPP visions for the Merced River Ecological Management Unit (streamflows, coarse sediment supply, stream meander, natural floodplain and flood processes stream temperatures, and river and riverine aquatic habitats) (ERPP vol. II, pp. 422–425).