Work Plan for Fiscal Year 2004

I. Program Title. Trinity River Restoration Program: Implementation of Non-Flow Related Items Phase II

II. Responsible Entities.

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III. Program Objectives for FY 2004.

The Trinity River Restoration Program (TRRP) was established in 1984 under Public Law 98-541 to restore and maintain the fish and wildlife stocks of the Trinity River Basin to those levels that existed just prior to the construction of the Central Valley Project Trinity River Division (TRD). The Trinity River Basin Fish and Wildlife Management Reauthorization Act of 1996 (P.L. 104-143) reauthorized the program through September 30, 1998. The Central Valley Project Improvement Act of 1992 (P.L. 102-575) included the TRD and acknowledged the federal government's trust responsibility to the Hoopa Valley Tribe, increased instream flows to 340,000 acre feet per year, and directed the Secretary of the Interior to develop procedures for restoring and maintaining the Trinity River fishery.

The Trinity River Mainstem Fishery Restoration Draft Environmental Impact Statement/ Environmental Impact Report (EIS/EIR) was completed on January 20, 2000 and the Record of Decision (ROD), signed on December 19, 2000, authorized the preferred alternative to restore the Trinity River's fishery. The preferred alternative is based upon recommendations from the Trinity River Flow Evaluation Study (TRFES) and includes mechanical rehabilitation, flow restoration and watershed restoration activities. However, due to litigation actions the Trinity Restoration Program is currently limited to restoration activities that are not flow related.

The TRRP is preceding with non-flow restoration components of the preferred alternative, including floodplain infrastructure modifications and selected mechanical habitat restoration projects. The following restoration implementation activities are planned for FY2004:

- Construction of Salt Flat, Biggers Road, Bucktail and Poker Bar bridges.
- Construction of bank rehabilitation and floodplain restoration objectives at Hocker Flat and other locations.
- Revegetation of native riparian habitat adjacent to constructed bridges and at rehabilitation sites.
- Flood inundation mapping to inventory and analyze all floodplain structures potentially at risk from river flows.

These restoration activities support the goals of the TRRP which are to restore and maintain the fish and wildlife stocks of the Trinity River Basin to those levels that existed just prior to the construction of the TRD (P.L. 98-541, 1984). Also, these actions are in compliance with Secretary

of the Interior's December 19, 2000 Record of Decision to restore salmon and steelhead fisheries in the Trinity River by increasing quantity and quality of spawning and rearing habitat, and improving temperature conditions. These activities support previous rehabilitation projects implemented by the TRRP and the goals of the 2003-2008 Trinity River Restoration Strategic Plan.

IV. Status of the Program.

The TRRP has a fully staffed office dedicated to planning and implementing restoration activities, monitoring and program administration. Over the years, this Program has implemented many projects to improve anadromous fisheries habitat in the Trinity River Basin. The TRRP continues to develop valuable scientific knowledge and restoration techniques to improve the success of this and other river restoration projects.

While flow issues are being addressed in a Supplemental EIS/EIR required by the U.S. District Court, other activities identified in the December 2000 ROD have been allowed to proceed. This includes non-flow dependant projects, such as site-specific environmental studies, bridge modifications, mechanical habitat restoration and floodplain inundation mapping. The TRRP will implement habitat rehabilitation projects where future success/maintenance is not dependent on Dam released flows. The TRRP moved forward with the steps necessary to implement these non-flow dependant restoration projects During FY2003.

On June 26, 2003, the Trinity Management Council[1] approved in concept a FY2004 program of work budget of $12.9 million to do science, administration and rehabilitation planning and implementation. The following are expected commitments of funding sources: Reclamation, $7.4 million; Fish and Wildlife Service, $2.3 million; (Federal appropriated funds) and State of California Coastal Salmon Recovery Grant Funds. Other funding sources, including additional State of California Coastal Salmon Recovery/Fishery Restoration Grants Program funds and the CVPIA Restoration Fund are being pursued.

With this combination of funds the following selected goals of the 2003-2008 Strategic Work Plan of the TRRP would be implemented in FY 2004:

6.2.2 — Complete necessary infrastructure modification for wet (8,500 cfs) and extremely wet (11,000 cfs) water-year flows as soon as possible.

- Design and construct replacement bridges at Salt Flat and Biggers Road which are currently incapable of passing 8,500 cfs flows.
- Plan, design, and implement modification for structures susceptible to 8,500 cfs flows (e.g., "little yellow house," Poker bar roads, and other impacted structures).
- Plan, design, and construct a replacement bridge at Poker Bar and a raised approach at the Bucktail Bridge which are currently incapable of passing 11,000 cfs flows.
- Plan and design modifications for houses, roads, and other structures susceptible to 11,000 cfs flows for construction by April 2005.

1 The Trinity Management Council, which makes annual budget recommendations for the overall Trinity River Restoration Program, consists of Bureau of Reclamation, Fish and Wildlife Service, NOAA Fisheries, Forest Service, the State of California Resource Agency, Trinity County and the Hoopa Valley and Yurok Tribes.

6.2.3—Increase geomorphic and hydraulic complexity to provide greater diversity of fish habitats capable of supporting a wide range of life history stages.

- Plan, design, and implement all feasible mechanical channel restoration projects below Canyon Creek until final resolution of flow schedules are resolved.
- Construct projects that encourage channel meanders.
- Increase areas of shallow, low velocity fry and juvenile salmonid rearing habitat.
- Pursue side channel projects anywhere within the upper 40 miles that are sustainable under current and foreseeable flow conditions.

6.2.6—Modify distribution of riparian vegetation to benefit fish and wildlife species.

- Remove riparian vegetation from channel margins.
- Restore riparian vegetation in floodplain areas.

V. FY 2003 Accomplishments.

In fiscal year 2001, the CVPIA Restoration Fund allocated $1,500,000 to the TRRP. Those funds, plus additional Federal appropriated funds and State funds, were used to design the four bridges and complete environmental compliance. Construction contracts for the four bridges will be ready to be awarded in FY2004.

Accomplishments specifically related to the bridge replacement and channel rehabilitation projects on the Trinity River and achieved in FY 2003 include:

- Hydrologic analysis of the Trinity River watershed upstream of the four bridge sites
- Hydraulic modeling for all bridge locations.
- NEPA/CEQA compliance for all four bridges.
- Completed designs, permits, and realty actions for the Salt Flat and Biggers Road bridges.
- Preliminary design and environmental compliance for the Hocker Flat channel rehabilitation site.

Other past Program accomplishments include construction of the Buckhorn Debris Dam in 1991, sediment dredging in Grass Valley Creek and the Trinity River, placement of spawning gravel in the upper reaches of the Trinity River, development of a wildlife program, acquisition of 17,000 acres of extremely erodible land in the Grass Valley Creek drainage area, and modernization of the Trinity River Fish Hatchery.

VI. Tasks, Costs, Schedules and Deliverables.

A. Narrative Explanation of Restoration Program Tasks Scheduled in FY04.

The following projects are critical elements for implementation of non-flow related restoration projects and accomplishing the fisheries restoration goals and objectives as stated in the ROD. They are anticipated to be accomplished through a variety of Federal and State funding sources. The $2,000,000 being requested from the CVPIA Restoration Fund will go directly towards construction activities associated with the Trinity River Bridges Project.

1) Channel Restoration Sites

The TRRP plans to finish design and begin construction at the Hocker Flat Pilot Project Restoration site in FY04. Plans are now aimed at developing a self-sustaining river channel restoration project that will increase structural diversity and habitat complexity, with emphasis especially directed towards developing salmonid rearing habitat. Designs are being developed which will minimize instream construction work and will rely on long-term ability of the river to maintain itself. At the site, unique and valuable geomorphic and biological features will be enhanced and protected as other areas are re-connected to the floodplain and re-opened to the river channel. Monitoring of physical and biological parameters at the site will be increased to answer critical environmental response questions whose resolution is needed to efficiently design future successful restoration sites along other reaches of the Trinity River mainstem. The location of the restoration site downstream of Canyon Creek reduces the dependence of the project on Dam releases to maintain the site.

2) Trinity River Bridges Project

Final designs and construction specifications for the bridge projects at Salt Flat, Biggers Road, Bucktail and Poker Bar will be completed early in FY04. From these, Reclamation will develop bid packages, solicit contractors, and will enter into contracts for summer construction. Contract management and onsite evaluation will ensure that mitigation and monitoring requirements and time-frames, as required in the Trinity River Bridges Project Environmental Assessment/Environmental Impact Report, are met. Implementation and monitoring of Best Management Practices will be prioritized to ensure minimal impacts to the river corridor. Special efforts to revegetate impacted construction areas will be vital to maintain TRRP integrity and local support of the Bridges project and the Restoration Program.

3) Revegetation

The December 2000 Trinity River Mainstem Fishery Restoration Environmental Impact Statement Report (EIS) and ROD (Section VI. Rational for Decision - Impacts to Other Wildlife) require certain actions associated with construction of channel rehabilitation sites. Potential ground disturbance and loss of vegetation require that site specific environmental reviews for special status or federal and state listed species and wetland habitat, must be conducted at proposed ground disturbance sites prior to construction or restoration activities, and that appropriate mitigation take place. The purpose of this part of the request is to develop and expand planting and greenhouse capabilities for re-vegetation (mitigation) of bridge sites and restoration sites for the Restoration Program and to increase the TRRP's capability to respond quickly to any restoration or vegetation enhancement required by the ROD, as well as any other legal requirements.

There are currently some facilities in place that can contribute to this effort, including a Trinity County nursery and Trinity High School greenhouse, both of which are used by the Resource Conservation District for limited planting activities. These three entities are interested in and have the ability to participate in a cost-share relationship that will expand the TRRP's capability to do the following: (1) develop and sustain a diversified nursery stock of locally obtained native seedlings and plant cuttings for use in all current and future restoration activities; (2) implement specific or unique restoration designs, (3) maximize maintenance of plants to insure survival of all species, (4)

insure that plant species obtained will facilitate riparian habitat restoration, (5) allow for realistic evaluation of alternative management scenarios, (6) determine vegetation species diversity that will help achieve quality native wildlife habitats, (7) address specific stakeholder concerns for wildlife habitat restoration and management; and (8) provide efficient logistical support to restoration activities by locating critical greenhouse and nursery facilities within the central corridor of the 40 mile mainstem (i.e., at Weaverville and Indian Creek) so plants can be transported to sites quickly to insure maximum survival. Funding this request will result in a much more economical source of high quality plant materials within the primary work area for the Restoration Program than is presently available from either Redding (50+ miles) or Eureka (10+ miles).

4) Floodplain Infrastructure Planning and Construction

Floodplain mapping of the Trinity River between Lewiston Dam and the North Fork Trinity River (40 miles) is needed to identify inundation zones related to flow releases from Lewiston Dam provided under the December 2000 Record of Decision for the "Trinity River Mainstem Fishery Restoration Environmental Impact Statement / Report." Additionally, floodplain mapping would facilitate on-going restoration design and flood mitigation efforts. The floodplain mapping would be conducted using the one-dimensional HEC-RAS hydraulic model that is linked to existing high resolution topography via the ArcView Geographic Information System (GIS). Hazard identification would be possible by overlaying hydraulic modeling results with existing infrastructure in the Trinity River floodplain. The tasks involved to conduct this work include: 1) develop flood-frequency curves along the Trinity River mainstem and it's major tributaries, 2) develop and calibrate a high resolution hydraulic model using the HEC-RAS program, 3) link HEC-RAS model to GIS, 4) model the inundation limits of various flow magnitudes of interest, 5) map existing infrastructure in the mainstem Trinity River floodplain using existing high-resolution aerial photography, 6) use GIS as a visualization tool to overlay hydraulic modeling results and floodplain mapping to identify infrastructure at increased risk of flooding.

C. Schedule and Deliverables.

#	Task	Dates		Deliverable
		Start	Completed	
1	Four Bridges	10/01/03	09/30/04	1. Construction of replacement bridges located at Salt Flat, Biggers Road and Poker Bar. Construct raised approach at Bucktail Bridge.
2	Channel Restoration Project Construction	10/01/03	09/30/04	1. Rehabilitation of floodplain and channel connection with the enhancement of geomorphic and biological features.
3	Revegetation at Restoration and Bridge Locations	10/01/03	09/30/04	1. Plant bridge locations with native riparian vegetation following construction. 2. Greenhouse capacity for plant grow-out for future restoration sites.
4	Floodplain Structure Relocation	10/01/03	09/30/04	1. High resolution hydraulic model. 2. GIS floodplain mapping. 3. Identify infrastructures at risk. Initiate modifications.

D. Summary of Program Costs and Funding Sources

#	Task	Total Cost	Bureau of Reclamation	US Fish and Wildlife Service	CVPIA	State
1	Program Administration	$2,900,000	$2,900,000			
2	Implementation (Restoration/Rehabilitation)	$6,700,000	$3,500,000		$2,000,000	$900,000
3	Monitoring and Analysis	$3,300,000	$1,000,000	$2,300,000		
	Total Program Budget**	$12,900,000	$7,400,000*	$2,300,000	$2,000,000	$900,000

Explanatory Notes: Refer to last page for more detailed break-out of the total TMC-approved budget.
* Includes $400,000 in FY03 carryover funds.
** Total budget requirement exceeds available funding by $300,000. Other funding sources are being pursued.

E. CVPIA Program Budget

#	Task	FTE	Direct Salary and Benefits Costs	Contract costs	Misc-ellaneous Costs	Admini-strative Costs	Total Costs
1	Program Administration	3.0	$1,100,000		$600,000	$1,200,000	$2,900,000
2	Implementation (Restoration/Rehabilitation)	4.0	$700,000	$4,200,000	$200,000	$400,000	$5,500,000
3	Monitoring and Analysis	4.0		$1,000,000			$1,000,000
	Total by Category	11.0	$1,800,000	$5,200,000	$800,000	$1,600,000	$9,400,000

Explanatory Notes: This table only includes Water & Related and CVPIA Restoration Funds; it does not include the estimated $ 2.3 million in funding that will be available from the Fish and Wildlife Service or the $ 0.9 million from the State of California for the bridges.

F. Additional Funds Needed

#	Task	Total Cost	Funding Sources					
			CVPIA					
Explanatory Notes:								

Future Years Commitments/Actions.

The projected annual need for the TRRP at this time is in the range of $12 to $17 million. These appropriated funds are allotted to program administration, implementation of restoration and rehabilitation activities as well as monitoring and analysis. The projected annual need for CVPIA funds could range from $3 million to $10 million, depending on other agencies' contributions to the program. A more clearly defined statement of need will be described by August prior to each fiscal year.

Within the future years the TRRP is committed to furthering implementation of restoration activities in the Trinity River Basin. The Record of Decision (ROD) for Trinity River Mainstem Fishery Restoration is based on restoring the attributes of a healthy, functioning alluvial river system. The components include increased variable annual instream flows, physical channel rehabilitation, sediment management, watershed restoration and infrastructure improvements in the flood plain to support the increased flows. The following represents the anticipated work plan for FY05. The total estimated cost of implementing these activities is $3M.

RIVER REHABILITATION SITES - $1.6M

Four rehabilitation site designs will be implemented. The four locations are downstream of Canyon Creek (River Mile 79). These four sites were prioritized by the TRRP because natural tributary accretion to mainstem flows below Canyon Creek has a higher likelihood of maintaining the sites prior to implementation of the recommended ROD flow regime. Flows with an approximate 1.5 yr. return probability are estimated to be equal to or greater than 6000 cfs in these reaches, enough to mobilize the bed of the river. Tasks in FY05 will include: NEPA and CEQA documentation and processing, biological assessment, permit acquisition (401, 404, 1601), creation of mitigation and monitoring plans, engineering designs, contract award and project construction.

COARSE SEDIMENT INTRODUCTION - $0.3M

The recommended ROD high flow releases require large volumes of coarse sediment to be introduced into the river, a strategy originally recommended by the Trinity River Flow Evaluation Study (TRFES), (USFWS and HVT, 1999) and further defined in the Draft Coarse Sediment Management Plan (DCSMP), (McBain & Trush, 2003).

Coarse sediment introduction work planned for FY05 focuses on the reach beginning at Lewiston Dam (RM 112) and extending 8 miles downstream to the confluence of Grass Valley Creek (RM 104). Implementation designs will largely be completed in FY04. Designs will be produced in general accordance with the DCSMP. Tasks will include: NEPA and CEQA documentation and processing, biological assessment, permit acquisition (401, 404, 1601), creation of mitigation and monitoring plans, designs and contract awards for coarse sediment production and introduction to the river at selected locations.

REVEGETATION OF REHABILITATION SITES - $0.4M

Four rehabilitation site designs will be implemented during FY05 (see River Rehabilitation Sites above). In accordance with permit requirements and TRRP restoration plans and objectives, Reclamation staff will prepare revegetation designs for these restoration sites in FY04 and FY05. Implementation of the restoration designs will occur in FY05. Tasks in FY05 will include awarding (of) contract(s) for: (1) development of specified nursery stock native seedlings and plant cuttings; (2) restoration site revegetation planting and irrigation; (3) maintenance of plants to ensure survival, and (4) monitoring and reporting site conditions in accordance with permits.

FLOODPLAIN IMPROVEMENTS MODIFICATION, PROTECTION AND RELOCATION - $0.4M

The recommended ROD flow regime includes releases from Lewiston Dam (up to 11,000 cfs vs. current downstream infrastructure release tolerance of 6,000 cfs). These ROD releases plus 100-year spring tributary flows will impact existing structures and improvements in the river corridor from Douglas City to Lewiston Dam. The Department of Water Resources (DWR) is currently evaluating the inundation zone at Indian Creek, Poker Bar region and Bucktail subdivision in FY03. Priority sites which are identified in the DWR study will undergo surveying and the design process for modification, protection and/or relocation of structures or other improvements largely during FY 03 and FY04. Tasks in FY05 will include permit acquisition (Trinity County building permits) and contract awards for implementation of modification, protection and/or relocation designs.

RUSH CREEK DELTA - $0.3M

Rush Creek is the first major tributary downstream of Lewiston Dam. Reduced flows in the Trinity River have resulted in the formation of a large delta at the mouth of Rush Creek that blocks the movement of coarse sediment originating upstream. A watershed analysis of Rush Creek will be completed in FY04 by the Natural Resources Conservation Service. Reclamation's Technical Service Center in Denver is currently modeling various concepts for sediment transport in Rush Creek and through the delta. In FY04, Reclamation's Sacramento staff will prepare a design to modify the river channel and/or delta to a more natural, self-maintaining form. The design will incorporate the recommendations from the sediment transport and watershed analyses. Tasks in FY05 will include: NEPA and CEQA documentation and processing, biological assessment, permit acquisition (401, 404, 1601), creation of mitigation and monitoring plans, and contract award for implementation of the engineering design.

Trinity River Restoration Program
Draft FY 2004 Budget

PROGRAM ADMINISTRATION	
AEAM Team-Weaverville Office	$ 1,235,000
Trinity Management Council	$ 675,000
Trinity Adaptive Management Working Group	$ 60,000
Independent Review committees	$ 30,000
Information Management	$ 200,000
Supplemental EIS	$ 700,000
ADM Total	$ 2,900,000
REHABILITATION AND RESTORATION	
Bridges and Structures (7201)	$ 5,400,000
Channel Restoration (7100)	$ 900,000
Gravel Introductions (7100)	$ 0
Sediment Management (7100)	$ 150,000
Tributaries (7100)	$ 250,000
RIG Total	$ 6,700,000
MONITORING AND ANALYSIS	
Stream Gaging	$ 305,000
Sediment Management	$ 470,000
Smolt Health Studies	$ 125,000
Adult Health Studies	$ 185,000
Migration Studies	$ 435,000
Hatchery Practices	$ 435,000
Run Size/Angler Harvest	$ 560,000
Riparian Vegetation	$ 95,000
Wildlife Studies	$ 25,000
Program Development	$ 665,000
TMAG Total	$ 3,300,000
Grand Total	$ 12,900,000