

Chapter 1

Introduction

1.1 Introduction

This Environmental Assessment/Draft Environmental Impact Report (EA/Draft EIR) for the Lewiston–Dark Gulch Rehabilitation Project: Trinity River Mile (RM) 105.4 to 111.7 addresses the environmental issues, alternatives, and impacts associated with proposed Trinity River channel rehabilitation activities at two sites—the Lewiston and Dark Gulch sites—in the general vicinity of Lewiston, California, downstream of the Lewiston Dam (Proposed Action). These activities, including adding gravel and modifying the river channel, are required for the restoration of Trinity River mainstem fisheries. The Proposed Action is specifically designed to benefit anadromous fish and their habitat by developing a properly functioning and diverse floodplain and main river channel habitat. The Lewiston and Dark Gulch sites are associated with alluvial features along a 6.3-mile reach of the Trinity River beginning at the downstream end of the Trinity River Salmon and Steelhead Hatchery (TRSSH) (RM 111.7) and extending to the Bucktail Bridge (RM 105.4).

The U.S. Bureau of Reclamation (Reclamation) and the Trinity County Resource Conservation District (TCRCD) have prepared this EA/Draft EIR in cooperation with the Shasta-Trinity National Forest (STNF) and the U.S. Bureau of Land Management (BLM). This document meets the legal requirements of the National Environmental Policy Act (NEPA) (42 United States Code [USC], Section 4321 et seq.) and the California Environmental Quality Act (CEQA) (California Public Resources Code, Section 21000 et seq.).

Reclamation will be responsible for most of the funding and construction of the Proposed Action and will function as the federal lead agency for NEPA and federal Endangered Species Act (ESA) requirements. The TCRCD will function as the state lead agency under CEQA. As manager of parts of the Whiskeytown-Shasta-Trinity National Recreation Area (NRA), the STNF will serve as a NEPA co-lead agency for activities proposed on lands at the Lewiston site that are within the NRA boundary (see Figure 3.2-2a in Section 3.2, Land Use). As the manager of extensive public lands along the Trinity River corridor, including portions of the Dark Gulch site, the BLM will serve as a NEPA cooperating agency. In their respective roles, the STNF and BLM assisted in the preparation of this EA/Draft EIR. In addition, as co-managers of the reach of the Trinity River that is designated as Wild and Scenic under the federal Wild and Scenic Rivers Act (WSRA), the BLM and STNF analyzed potential impacts to the Outstandingly Remarkable Values (ORVs) for which the river was designated.

This document discloses relevant information concerning the Proposed Action and invites all interested parties to play a role in both the decision-making process and the implementation of the decision. This EA/Draft EIR also provides federal, state, and local decision makers with detailed information concerning

the potentially significant environmental, social, economic, cultural, and other impacts associated with the Proposed Action and the alternatives to the Proposed Action.

The Record of Decision (ROD) for the Trinity River Mainstem Fishery Restoration Final Environmental Impact Statement/Environmental Impact Report (FEIS/EIR), dated December 19, 2000, directed Department of the Interior (DOI) agencies to implement the Flow Evaluation Alternative, which was identified as the Preferred Alternative in the FEIS/EIR. In addition to the Flow Evaluation Alternative, elements of the Mechanical Restoration Alternative were included in the decision (U.S. Department of Interior 2000). The ROD set forth prescribed Trinity River flows for five water-year types: extremely wet (815,200 acre-feet annually [afa]); wet (701,000 afa); normal (646,900 afa); dry (452,600 afa); and critically dry (368,600 afa). After the ROD was issued, a series of legal challenges was made in federal court; ultimately, the ROD was upheld by the United States Court of Appeals for the Ninth Circuit.

Although Trinity County was the lead agency under CEQA for the FEIS/EIR, the Trinity County Board of Supervisors chose not to “certify” the EIR portion of the joint NEPA/CEQA document because of the litigation in federal court. Therefore, the EIR portion of this document cannot be “tiered” from the FEIS/EIR. The EIR portion functions as a stand-alone document and is in no way dependent for its legal adequacy—for CEQA purposes only—on the FEIS/EIR. Additional information on the legal challenges and ultimate outcome are incorporated by reference from the Hocker Flat Rehabilitation Site: Trinity River Mile 78 to 79.1 EA/EIR (U.S. Bureau of Reclamation 2004).

Based on the outcome of the litigation in federal court, the flows authorized by the 2000 ROD are deemed to constitute the “existing [hydrological] environment” for CEQA purposes, and are considered the basis for the environmental analysis of the Proposed Action under both NEPA and CEQA.

Copies of all of the above-referenced documents, as well as the December 19, 2000 ROD, and the documents that, taken together, constitute the FEIS/EIR, are available for public review at:

Trinity River Restoration Program Office
United States Department of the Interior – Bureau of Reclamation
P.O. Box 1300
1313 South Main Street
Weaverville, California 96093

The decision to prepare a stand-alone EIR in the absence of a certified EIR for the Trinity River Mainstem Fishery Restoration Program is consistent with the CEQA Guidelines. Consistent with the ROD, Reclamation, in cooperation with other federal agencies, is required to proceed with all of the measures outlined in the FEIS. TCRCD considers that there is a need for the Proposed Action based on this federal policy and the TCRCD’s role in satisfying state and local requirements under CEQA. The TCRCD’s role extends beyond the CEQA responsibility to ensure that state and local permitting requirements are satisfied and that the EIR portion of this NEPA/CEQA document is legally adequate for use by the TCRCD and the other state and local agencies responsible for CEQA compliance. Notably, the TCRCD lacks the power or authority to alter the overall Flow Decision and the subsequent decision to

facilitate mechanical channel rehabilitation projects to accommodate federal agencies acting pursuant to the December 2000 ROD.

TCRCD's role as the CEQA lead agency stems from its responsibility for carrying out and partially funding the Proposed Action. The TCRCD has received grant funding from the California Department of Fish and Game's (CDFG) Fishery Restoration Grant Program to contribute to the Proposed Action.

1.2 Project History and Background

Completion of the Trinity and Lewiston Dams in 1964 blocked migratory fish access to habitat upstream of Lewiston Dam, eliminated sediment transport from over 700 square miles of the upper watershed, and restricted anadromous fish populations to the remaining habitat below Lewiston Dam. Trans-basin diversions from Lewiston Lake to the Sacramento River basin altered the hydrologic regime of the Trinity River, resulting in riparian encroachment and fossilization of point bars and riparian berms from Lewiston to near the North Fork Trinity River. Encroachment of riparian vegetation into the former active channel promoted the deposition of fine-textured sediments, resulting in the formation of linear berms that further confined and simplified the channel, reduced the diversity of riparian age classes and riparian vegetation species, impaired floodplain access, and adversely affected fish habitat.

In 1981, in response to these adverse impacts on fish habitat and subsequent declines in salmon runs, the Secretary of the Interior directed the U.S. Fish and Wildlife Service (USFWS) to initiate a 12-year flow study to determine the effectiveness of flow restoration and other mitigation measures for impacts of the Trinity River Diversion (TRD). Then, in 1984, Congress enacted the Trinity River Fish and Wildlife Program to further promote and support management and fishery restoration actions in the Trinity River basin. Under this program, nine pilot bank rehabilitation projects between Lewiston Dam and the North Fork Trinity River were implemented between 1991 and 1993, among other actions.

In 1992, Congress enacted the Central Valley Project Improvement Act (CVPIA). One purpose of the CVPIA (Section 3406) was to protect, restore, and enhance fish, wildlife, and associated habitats in the Trinity River basin. The act also directed the Secretary to finish the 12-year Trinity River Flow Evaluation Study (TRFES) and to develop recommendations "regarding permanent instream fishery flow requirements, Trinity River Division operating criteria, and procedures for the restoration and maintenance of the Trinity River fishery." The Trinity River Flow Evaluation Final Report was ultimately published in 1999 by the USFWS and the Hoopa Valley Tribe (HVT), providing a framework for restoration activities below Lewiston Dam.

In 1994, the USFWS as the NEPA lead agency and Trinity County as the CEQA lead agency began the public process for developing the Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Trinity River Mainstem Fishery Restoration Program. The FEIS, published in October 2000, functions as a project-level NEPA document for policy decisions associated with managing Trinity River flows and as a programmatic NEPA document providing first-tier review of other potential actions, including the Proposed Action. As noted previously, the fact that the EIR portion of the FEIS/EIR for the Trinity River Mainstem Fishery Restoration Program was never certified precludes the

ability to use it as a “first tier” CEQA document. For this reason, this EIR is intended to function as a complete, stand-alone CEQA document not dependent on any prior CEQA document for addressing impacts that must be analyzed under CEQA.

Prior to planning and implementation of the Lewiston–Dark Gulch project, the TRRP completed the Hocker Flat and Canyon Creek projects, and is currently implementing the Indian Creek project upstream of Douglas City (RM 93.7 to 96.5). Similar to these other rehabilitation projects, the Lewiston–Dark Gulch project is intended to provide juvenile fish habitat in the Trinity River reach between the Sven Olbertson side channel and Bucktail Bridge. Concurrently, design and implementation of other proposed Trinity River restoration components, including coarse sediment/spawning gravel supplementation, infrastructure improvement projects to protect private and public property from damage by ROD flows, and watershed improvement projects, are proceeding. Since these projects may occur simultaneously, the TRRP is making a concerted effort to ensure that the models, data, assumptions, and analyses for these projects are consistent with direction provided by the TRRP’s multi-agency directing board, the Trinity Management Council (TMC), and that cumulative impacts from ROD implementation are predicted, monitored and, if necessary, mitigated.

Numerous other watershed restoration projects are being planned and implemented throughout the Trinity River basin. The Yurok Tribe and the TCRCO are implementing projects along the Lower Klamath River and South Fork Trinity River, respectively, with funding provided by CDFG’s Coastal Salmon Recovery Program. BLM; STNF; the State Water Resources Control Board (State Water Board); the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS); BLM’s Jobs in the Woods Program; and the National Fish and Wildlife Foundation are also funding and/or implementing numerous upslope watershed restoration projects throughout the basin, including the South Fork Trinity River watershed.

Trinity County, working through the Five Counties Salmonid Conservation Program (5C Program), has inventoried all county road crossings of fish-bearing streams in the Trinity River basin with grant funding provided by CDFG and the State Water Board, and is currently implementing the highest ranked migration barrier removal projects. The 5C Program has also completed a sediment source inventory on county roads and is prioritizing and implementing projects to reduce road-related sediment sources. A sediment reduction project in the Indian Creek watershed involving 9.5 miles of Indian Creek Road will be implemented by the 5C Program with funding provided by CDFG concurrent with the Proposed Action. Another project, located on Browns Mountain Road north of the Indian Creek site within the Weaver Creek and Trinity House Gulch watersheds, will also be implemented by the 5C Program with funding provided by the TRRP, Federal Emergency Management Agency (FEMA), and the Trinity County Transportation Department concurrent with the Proposed Action.

BLM has completed a similar inventory of its roads in the Trinity River watershed. As needed, road rehabilitation projects will occur based on these inventories. Currently, the STNF is planning and/or implementing timber management, fuels reduction, and watershed improvement projects in the Weaver Creek and Rush Creek watersheds. NEPA and CEQA reviews are being provided on a project-by-project basis by the appropriate agencies. State, regional, or local entities could be the CEQA lead agency for

those projects. In general, the STNF acts as the NEPA lead agency for projects on National Forest-managed lands, and BLM acts as the NEPA lead agency for projects on BLM-managed lands.

1.3 Trinity River Restoration Program

The purpose of the TRRP is to restore the anadromous fish populations of the Trinity River. The ROD (U.S. Department of Interior 2000) outlined six specific and integral components of the TRRP:

- implementation of a variable annual flow regime according to recommendations provided in the Trinity River Flow Evaluation Study (TRFES);
- mechanical channel rehabilitation;
- fine and coarse sediment management;
- watershed restoration;
- infrastructure improvement; and
- adaptive environmental assessment and management.

The Proposed Action will be the fourth project developed under the mechanical channel rehabilitation component of the TRRP; the Hocker Flat Rehabilitation Site, Canyon Creek Suite of Rehabilitation Sites, and the Indian Creek Rehabilitation Site projects have preceded the Proposed Action. The objective of the TRRP is to create a smaller, dynamic alluvial channel that exhibits the characteristics of the pre-dam river but at a smaller scale. This approach is intended to implement Trinity River restoration goals while ensuring that the power and flood control objectives of the TRD are maintained.

The TRRP acts under guidance of the TMC, which provides overall program direction in order to restore, enhance, and conserve the natural production of anadromous fisheries, native plant communities, and associated wildlife resources of the Trinity River basin in sufficient quantity and quality to ensure long-term sustainability. TMC member agencies include Reclamation, the USFWS, the National Marine Fisheries Service (NMFS), the U.S. Forest Service (USFS), the HVT, the Yurok Tribe, the Resources Agency of California (represented by the CDFG and the Department of Water Resources (DWR)), and Trinity County. Technical experts from each of these membership agencies and their consultants participated in the design and review of concepts recommended for implementation under the Proposed Action.

An integral part of the TRRP is the implementation of an Adaptive Environmental Assessment and Management (AEAM) Program. As described in the FEIS, an AEAM process is important for management of complex physical and biological systems, such as the Trinity River. The TRRP office is located in Weaverville, California, to ensure that these components are efficiently implemented and coordinated with the numerous agencies, Tribes, and stakeholders involved. Specific activities of the TRRP include project development, implementation, and monitoring activities throughout the Trinity River basin.

The AEAM Program is a formal, systematic, and rigorous program of learning from the outcomes of management actions, accommodating changes, and rapidly improving management actions. The

Proposed Action has been developed in a manner compatible with the AEAM Program elements. These elements include the following:

- define measurable goals and objectives;
- develop testable hypotheses of how to achieve the goals and objectives through management actions;
- predict river response to management actions before implementing these actions;
- re-evaluate objectives, refine hypotheses, improve models, and improve management; and
- continually self-examine AEAM science and management via external peer review.

1.3.1 Channel Rehabilitation Activities

Under the ROD, mechanical rehabilitation activities are proposed for the mainstem Trinity River from Lewiston Dam to the North Fork Trinity River confluence. The overall intent of these activities is to selectively remove fossilized berms (berms that have been anchored by extensive woody vegetation root systems and consolidated sand deposits); revegetate and provide conditions for regrowth/sustenance of native riparian vegetation; and recreate alternate point bars and complex fish habitat similar in form to those that existed prior to the construction of the TRD.

The FEIS identified 44 potential channel rehabilitation sites and three potential side-channel sites for consideration by the TRRP. Site selection was based on identifying locations where maximum juvenile habitat could be initiated and subsequently enhanced or maintained by the river. Consequently, the original sites were chosen based largely on the existence of riparian berms, and where channel morphology, sediment supply, and high-flow hydraulics would encourage a dynamic alluvial channel. To date, the TRRP has prioritized several groups of rehabilitation projects from Lewiston to Poker Bar and from upstream of Junction City to Sky Ranch Road identified in the original FEIS for implementation in the next several years in order to meet ROD mechanical channel rehabilitation requirements. Planning efforts have been initiated to complete eight additional channel rehabilitation sites by the end of 2008 and to identify broad concepts for implementation at 23 additional sites. The TRRP staff is involved in the planning and development of these Trinity River mainstem projects, with support from members of the TMC.

The Lewiston–Dark Gulch project boundary encompasses portions of eight of the channel rehabilitation sites (Nos. 1-4 and 7-9) and one side channel (No. 1 at Dark Gulch) originally identified in the FEIS. A systematic detailed evaluation of the river later identified 104 specific restoration sites (alpha descriptor) that offered rehabilitation opportunities. Eight of these sites are included within the site boundaries used to define the Proposed Action. These sites are ZZ, A, B, C, D (left and right bank), E, N, O, P, Q (with side channel), and R.

1.4 Type of Environmental Document

This document is designed to comply with both NEPA and CEQA. NEPA and CEQA require that governmental agencies evaluate the environmental impacts of their proposed actions before making

formal commitments to carry them out and that the public be involved in the evaluations. NEPA is a federal law that applies to federal agencies, whereas CEQA is a California law that applies to state and local agencies. For this project, NEPA requires preparation of an EA and CEQA requires preparation of an EIR. By preparing a single document that complies with both statutes, the involved agencies have been able to avoid unnecessary duplication of effort.

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared to function as a project EIR, pursuant to Public Resources Code Section 21156. A project EIR evaluates the environmental impacts of a specific project (CEQA Guidelines, Section 15161). This type of EIR focuses primarily on the changes in the environment that would occur because of project implementation and evaluates all phases of a particular project (i.e., planning, construction, and operation). For the reasons set forth previously, the “tiering” process is unavailable for the Proposed Action for purposes of CEQA, although it is available for purposes of NEPA.

1.5 Similarities and Differences between NEPA and CEQA

Although there are similarities between CEQA and NEPA, the two acts are not identical. For example, NEPA is a procedural law requiring agencies to evaluate a range of reasonable alternatives, disclose potential impacts, and identify feasible mitigation. CEQA, in contrast, is partly “substantive” in that it requires an agency to adopt “feasible” mitigation measures for any “significant effect on the environment.” In an EIS (a NEPA document), as opposed to an EIR (a CEQA document), reasonable alternatives must be rigorously and objectively evaluated at a greater level of detail. The threshold for preparing an EIR is lower than the threshold for preparing an EIS under NEPA. It is therefore not uncommon to have a joint NEPA/CEQA document that is not an EIS/EIR but rather an EA/EIR. This document is an example of an EA/EIR. It has been prepared because the TCRCD, as the CEQA lead agency, determined that the level of controversy surrounding the Proposed Action is sufficient to trigger the need to prepare an EIR under the low-threshold CEQA standard. The federal lead agency, however, does not believe that an EIS is required under the higher NEPA threshold. This EA tiers off the October 2000 programmatic FEIS. Even so, the EA shares many attributes of an EIS, particularly the detailed analysis of alternatives.

Because of the obligation under CEQA to mitigate “significant effects on the environment” when feasible, the characterization of impacts as being either “significant” or “less than significant” is very important under CEQA. For this reason, this EA/EIR has been written in a manner that identifies, for CEQA purposes, “significance thresholds” for anticipated impacts. Some of these thresholds even have the force of law under CEQA. For example, CEQA Guidelines Section 15065 requires a “mandatory finding of significance” when a project “has the potential to substantially reduce the number or restrict the range of an endangered, rare or threatened species” listed under either the federal (ESA) (16 USC Section 1531 et seq.) or the California Endangered Species Act (CESA) (California Fish & Game Code, Section 2050 et seq.). No such obligation exists under NEPA. CEQA thresholds of significance for other issue

areas and resources were developed using applicable regulations when they exist, or best professional judgment.

CEQA requires that this EA/Draft EIR propose mitigation measures for each significant impact of the Proposed Action subject to the approval of an agency governed by California law, even when the mitigation measure cannot be adopted by the “lead agency” (i.e., TCRCD), but can only be imposed by another responsible agency.

CEQA and NEPA sometimes use different terms for similar concepts. For example, CEQA uses the term “proposed project” while NEPA uses the term “proposed action.” For readability, this document uses “proposed action,” except when the context requires CEQA terminology.

1.5.1 NEPA/CEQA Process

This EA/Draft EIR has been prepared so that Reclamation and the STNF, as NEPA lead agencies, and the TCRCD, as the CEQA lead agency, may meet the requirements of each act. This document is intended to function as a joint environmental document in accordance with Part 1506.2 of the federal Council on Environmental Quality NEPA Regulations and Section 15170 of the CEQA Guidelines. The EA/Draft EIR provides a description of the conceptual design alternatives for the Proposed Action, as well as a comprehensive environmental analysis of the site-specific impacts associated with project implementation.

The EA/Draft EIR is being circulated to responsible public resource agencies, permitting agencies, trustee agencies, the State Clearinghouse, and interested stakeholders. Written and oral comments received in response to the EA/Draft EIR will be addressed in a final document that is anticipated to be a Finding of No Significant Impacts/Final Environmental Impact Report (FONSI/Final EIR).

CEQA requires preparation of an EIR when the lead agency makes a determination that there is substantial evidence that the Proposed Action may have a significant effect on the environment. The TCRCD determined that an EIR should be prepared for this project because preliminary analysis by TCRCD staff identified the possibility of potentially significant environmental impacts as well as the potential for significant controversy, as defined in the CEQA Guidelines (California Code of Regulations [CCR] Title 14, Section 15000 et seq.).

TCRCD staff will review the oral and written comments on the EA/Draft EIR and respond to them in the final document. The staff will then make a recommendation to the TCRCD Board of Directors on whether to certify the final EIR portion of the EA/EIR under CEQA. If the Board of Directors chooses to certify the EIR, it must first adopt “CEQA Findings” addressing whether each potentially significant impact of the Proposed Action has been mitigated either through mitigation measures or through provisions in the alternatives (CEQA Guidelines, Section 15091, subdivision (a)). If, after adopting such findings, the TCRCD is still faced with unmitigated significant impacts or does not have control over the mitigation measures necessary to mitigate certain impacts, it must also adopt a “statement of overriding considerations” before it can approve the proposed project. That statement must set forth the economic,

social, or other benefits of the project that it believes outweigh its unmitigable significant environmental impacts (CEQA Guidelines, Section 15093).

CEQA requires that, in order to commence the 30-day statute of limitations for any legal challenge to an EIR, the lead agency file a Notice of Determination (NOD) with the County Clerk in the county where the project will occur and with the State Office of Planning and Research (when State agency approvals are required) which informs the public which alternative from the EIR has been adopted. Filing of the NOD will complete the environmental review process for the CEQA lead agency. The TCRCD will then forward this documentation to the NEPA lead agency, along with its recommendation regarding the preferred alternative.

The EA portion of this document has been prepared under NEPA in order to determine whether the Proposed Action will constitute a major federal action that would significantly affect the human environment. The term “significant” as used under NEPA requires consideration of both context and intensity (40 CFR 1508.27). To aid in this significance determination, Reclamation has determined that the affected region is the Trinity River basin, and the locale for the channel rehabilitation component of the ROD is the 40-mile reach of the mainstem Trinity River below Lewiston Dam. Chapter 3 of this document discusses the intensity (i.e., severity of impact) for each resource element.

If the analysis provided in the EA supports the finding that the Proposed Action would have no significant adverse effect on the environment, a FONSI will be prepared. However, if the EA finds that the Proposed Action would result in a significant effect on the environment, an EIS will be required. Based on the analysis set forth in this document, Reclamation, the STNF, and the cooperating federal agencies presently believe that a FONSI will be appropriate and that an EIS will not be required. That determination is subject to change, however, after receipt and consideration of comments provided during the public comment period. In other words, the appropriateness of a FONSI cannot be definitively determined absent a review of information generated through public review. The NEPA process will be complete with the federal lead agency’s adoption of a FONSI, unless, through public review or the receipt of other information not presently available, the NEPA lead agency decides that preparation of an EIS is required.

A draft FONSI is included at the front of this EA/Draft EIR. The Draft FONSI highlights the federal agencies’ belief that an EIS is not required consistent with the present intention to implement the Proposed Action. The Draft FONSI does not indicate that the lead agencies have made a final decision on the Proposed Action or its environmental impacts. Instead, the Draft FONSI is used to focus the reader on the foundational thinking behind the Lewiston–Dark Gulch Project and its environmental impacts. If new information becomes available during circulation of the EA/Draft EIR, the FONSI and any associated decisions will change accordingly.

1.5.2 Mitigation and Monitoring Program

There are no NEPA statutes or regulations that explicitly require that all significant project impacts be avoided or mitigated to a less-than-significant level, or that any adopted mitigation measures developed as

part of an EA be “monitored” to ensure that they are carried out. California Public Resources Code section 21081.6(a), subdivision (a), however, requires lead agencies under CEQA to “adopt a reporting and mitigation monitoring program ... in order to mitigate or avoid significant effects on the environment.”

Throughout this EA/Draft EIR, mitigation measures are clearly identified and presented in language that will facilitate establishment of a monitoring and reporting program. Any mitigation measures adopted by the TCRCD as conditions of project approval will be included in a Mitigation Monitoring and Reporting Program (MMRP) to verify compliance. The Draft MMRP is included as Appendix A, and the Final MMRP will be included as an appendix to the EA/Final EIR (FEIR). The approval of such a program will be part of any action taken by the TCRCD with respect to the Proposed Action. When other state, regional, or local agencies subject to CEQA approve portions of the Proposed Action under their jurisdiction or regulatory power, these “responsible agencies” will be required to adopt their own MMRPs (*CEQA Guidelines*, Section 15097, subd. (d)).

1.6 Scoping and Public Involvement

TCRCD initiated the formal public scoping process by forwarding a Notice of Preparation (NOP) of an EIR to the State Clearinghouse on May 1, 2007. The NOP was circulated to the public; to local, state, and federal agencies; and to other interested parties to solicit comments on the Proposed Action. The public scoping period was May 1, 2007 through May 31, 2007, and scoping comments were received through August 14, 2007.

Reclamation and the TCRCD held a joint NEPA/CEQA scoping meeting on May 15, 2007, at the Lewiston Community Center in Lewiston, California. During this meeting, members of the public were asked what issues they thought should be addressed in this EA/Draft EIR. No substantive comments were brought forward during this public meeting, although the lead agencies’ representatives responded to a number of questions. During the public comment period, the lead agencies received three scoping comments. These comments are summarized below.

- Western Area Power Administration – Stated that the proposed Trinity Connector Transmission Line would span activity areas in the general vicinity of the Sven Oberson recreation site and requested to be included in the public review process.
- California Department of Fish and Game – Expressed support for using state property as an activity area for gravel injection and long-term stockpiling. Also requested that the lead agencies consider an opportunity to incorporate on-site gravel processing and stockpiling to ensure that the TRRP has an adequate supply of coarse sediment to enhance spawning gravels.
- Native American Heritage Commission – Recommended that the lead agencies follow the standard protocol of consulting with Native American contacts in Trinity County. Also reinforced the need to comply with the CEQA Guidelines provisions pertaining to archaeological resources and Native American interests.

The scoping process determined that the Proposed Action could lead to significant impacts on specific natural resources and on the human environment. Based on the comments received during the scoping process, the issues addressed in this EA/Draft EIR include the following:

- land use;
- geology, fluvial geomorphology, and soils;
- water resources;
- water quality;
- fishery resources;
- vegetation, wildlife, and wetlands;
- recreation;
- socioeconomics, population, and housing;
- tribal trust;
- cultural resources;
- air quality;
- environmental justice;
- aesthetics;
- hazardous materials;
- noise;
- public services and utilities/energy;
- transportation and traffic circulation;
- construction-related impacts; and
- cumulative impacts.

These issues were used to develop the descriptions of the resource areas and the associated impact analysis presented in Chapters 3 and 4.

The comment provided by CDFG also provided the basis for developing an additional action alternative (Alternative 1) to consider opportunities to expand the project to include gravel processing and long-term stockpiling of spawning gravel required to implement other elements of the TRRP rehabilitation program.

1.6.1 Areas of Potential Controversy

The following issues associated with the Proposed Action are anticipated to be controversial, based on comments received during the scoping process:

- impacts to special-status species, including anadromous salmonids;
- type, extent, and location of in-channel rehabilitation activities;
- opportunity to use on-site sources of coarse sediment for long-term gravel enhancement program;
- impacts to public and private water supplies;
- potential trespassing on private lands;
- potential spread of non-native invasive vegetation and techniques for non-native vegetation control;
- long-term ability of project sites to be maintained by flows;
- temporary access during construction;
- short-term construction impacts; and
- potential effects to Wild and Scenic River ORVs.

1.6.2 Public Review

This document is being circulated to local, state, and federal agencies and to interested organizations and individuals who may wish to review and comment on the analysis provided in this EA/Draft EIR. Publication of this EA/Draft EIR initiates the beginning of a 45-day public review period. The TCRCD will hold a public hearing during the review period at which public comment on the EA/Draft EIR will be accepted orally. However, to ensure proper interpretation of remarks, written comments are highly encouraged. The hearing is tentatively scheduled for 6:30 p.m. on December 19, 2007, at the Trinity Public Utility District office, 26 Ponderosa Lane (off Highway 299), Weaverville, California.

A notice of the public hearing time and location will be published in the Weaverville *Trinity Journal* newspaper prior to the hearing date. All written comments and questions regarding the EA/Draft EIR that raise issues under NEPA, CEQA, or both, should be addressed to:

Brandt Gutermuth, Environmental Specialist
Trinity River Restoration Program
United States Department of the Interior – Bureau of Reclamation
P.O. Box 1300
1313 South Main Street
Weaverville, California 96093
Phone: (530) 623-1800, bgutermuth@mp.usbr.gov
Fax: (530) 623-5944

Mr. Gutermuth will ensure that the TCRCD, as the CEQA lead agency, receives copies of comments submitted so that it can review and respond to them, as required by CEQA. The EA/Draft EIR will be sent to the State Clearinghouse and will be available online at the TRRP website:

<http://www.trrp.net/implementation/DarkGulch.htm> and

http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=2697.

Copies of the EA/Draft EIR will be available for review at the following locations:

Trinity River Restoration Program
United States Department of the Interior
Bureau of Reclamation
1313 South Main Street
Weaverville, California 96093

U.S. Department of Interior
Bureau of Land Management
Redding Field Office
355 Hemsted Drive
Redding, CA 96002

Trinity County Resource Conservation District
1 Horseshoe Lane
Weaverville, California 96093

Trinity County Library, Weaverville Branch
211 Main Street
Weaverville, California 96093

U.S. Forest Service (Shasta Unit National Recreation Area)
Shasta Lake Ranger Station
14225 Holiday Road
Redding, California 96003

U.S. Forest Service (Trinity River
Management Unit)
Weaverville Ranger Station
360 Main Street
Weaverville, California 96093

1.7 Purpose and Need for the Action

NEPA regulations require that an EA briefly specify the need that the agency is responding to in proposing the various alternatives, including the Proposed Action (40 C.F.R. Section 1508.9, subd. (a)). Similarly, CEQA requires that an EIR include a statement of the objectives to be achieved by a proposed project (CEQA Guidelines, Section 15124, subd. (b)). The objectives are intended to help the implementing agency develop a reasonable range of alternatives and aid decision makers in preparing findings, or, if necessary, a statement of overriding considerations.

1.7.1 Purpose and Need Statement

The purpose of the Proposed Action is to provide increased rearing habitat for juvenile salmonids in the mainstem Trinity River. The strategy is to initially create more habitat, and, over time, ensure that habitat complexity and abundance increase as the alluvial processes of the Trinity River are enhanced or restored in a manner that will perpetually maintain fish and wildlife resources (including threatened and endangered species) and the river ecosystem. The Proposed Action will continue to advance the implementation efforts of the TRRP and provides the opportunity to:

- increase the diversity and amount of habitat for salmonids, particularly habitat suitable for rearing;
- increase rearing habitat for juvenile salmonids, including coho and Chinook salmon and steelhead;
- ensure that the flows prescribed in the ROD will not increase the likelihood of flood-related impacts to public resources and private property within the project boundary;
- increase the structural and biological complexity of habitat for various species of wildlife associated with riparian habitats;
- increase hydraulic and fluvial geomorphic diversity and complexity; and
- measure/demonstrate the ecological response to changes in flow regimes, morphological features, and aquatic, riparian, and upland habitats.

The need for the Proposed Action results from:

- requirements in the ROD (U.S. Department of the Interior 2000) to restore the Trinity River fishery through a combination of higher releases from Lewiston Dam (up to 11,000 cubic feet per second [cfs]), floodplain infrastructure improvements, channel rehabilitation projects, fine and coarse sediment management, watershed restoration, and an AEAM Program; and
- the expectation that the AEAM Program will continue to incorporate the experience provided through the planning, design, and implementation of the Proposed Action into future restoration and rehabilitation efforts proposed by the TRRP.

The approach and methods incorporated into the Proposed Action used information gained by constructing the previous channel rehabilitation projects (e.g., Hocker Flat, Canyon Creek Suite, and Indian Creek). On-going monitoring of project performance at these sites and future sites will continue to be incorporated into the AEAM Program for future restoration and rehabilitation efforts.

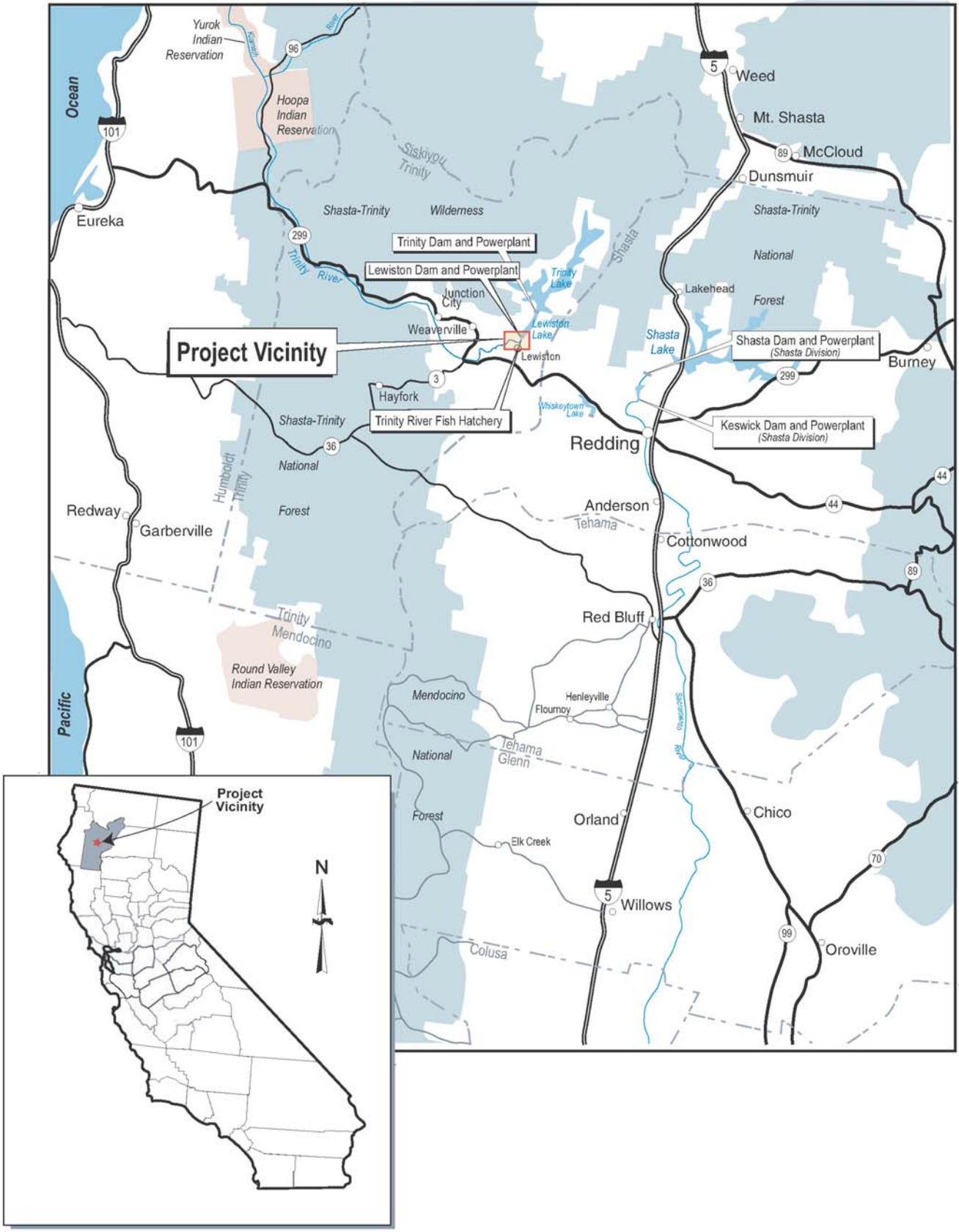
1.7.2 Goals and Objectives of the Proposed Action

The overall goals of the TRRP provide the framework for the specific goals and objectives used to develop the action alternatives for this EA/Draft EIR. The following goals and objectives support the Proposed Action and provided the structure for development of the alternatives:

- protect and/or enhance the ORVs associated with the designation of a Wild and Scenic River (federal and California);
- induce changes in channel geometry in response to constructing channel and floodplain features designed for the river's current and future hydrologic regime;
- evaluate the evolution of channel planform features in response to designing and implementing the Proposed Action at a river segment (1 mile) scale;
- evaluate the biological response (aquatic, riparian, upland) to changes in the physical environment and incorporate this information into the AEAM Program;
- provide safe and reasonable access to the sites for project planning, implementation, and monitoring;
- develop partnerships with willing participants and encourage positive landowner interest and involvement;
- design the project to function with the river's current hydrology (post-ROD) estimated at the sites;
- integrate known fluvial and ecological theories and relationships with the sites' measured physical and biological attributes and evaluate the response over a definitive time frame;
- conduct in-channel activities in a manner that reduces construction-related impacts, maximizes the river's ability to rehabilitate itself during high flows, and reduces the cost and complexity of implementation;
- attempt to preserve unique and valuable geomorphic and biological features wherever practicable (e.g., hydraulic controls, high-quality spawning or adult holding habitat, cottonwood galleries); and
- facilitate recovery of native fish and wildlife resources that are in decline or listed as threatened and endangered.

The following objectives apply to the responsible and trustee agencies for the Proposed Action, including the California Regional Water Quality Control Board – North Coast Region (Regional Water Board), the State Lands Commission (SLC), CDFG, and the HVT:

- compliance with the California Water Code and Basin Plan to ensure the highest reasonable quality of waters of the state and allocation of those waters to achieve the optimum balance of beneficial uses;
- protection of the public trust assets of the Trinity River watershed;
- conservation, restoration, and management of fish, wildlife, native plant, and jurisdictional wetland resources; and



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Figure 1.1
Project Vicinity

compliance with the Water Quality Control Plan for the Hoopa Valley Indian Reservation to preserve and enhance water quality on the Reservation, and to protect the beneficial uses of water.

1.8 General Setting and Location

The Trinity River originates in the rugged Salmon-Trinity Mountains of northern California in the northeast corner of Trinity County, California. The river flows generally southward until Trinity and Lewiston dams impound it. From Lewiston Dam, the river flows westward for 112 miles until it enters the Klamath River near the town of Weitchpec on the Yurok Reservation. The Trinity River passes through Trinity and Humboldt counties and the Hoopa Valley and Yurok Indian Reservations, draining approximately 2,965 square miles. The Klamath River flows northwesterly for approximately 40 miles from its confluence with the Trinity River before entering the Pacific Ocean (Figure 1-1).

The Lewiston–Dark Gulch sites are located along a 6.3-mile reach of the Trinity River in the general vicinity of Lewiston, Trinity County, California. To facilitate the engineering and environmental compliance efforts, the site boundaries encompass lands on both sides of the Trinity River. Within the Lewiston site, the project boundary includes several distinguishing geographical features, namely a weir below the TRSSH, and two public bridges across the Trinity River. The Dark Gulch site includes portions of the rural communities of Salt Flat and Bucktail. Immediately downstream of the Dark Gulch site is a popular fishing area, locally known as Bucktail Hole. Figure 1-2 depicts the general location of the sites.

The TRRP staff, with interdisciplinary review from the TMC technical staff, developed the site boundaries to incorporate a wide range of rehabilitation activities that were considered. These activities include removal of the riparian berms, rehabilitation of floodplain and in-channel alluvial features, construction of off-channel habitat for aquatic- and riparian-dependent species, and rehabilitation of upland habitat.

1.9 Description of the Proposed Action

Initially, 44 potential channel rehabilitation sites and three potential side channel sites between Lewiston Dam and the North Fork Trinity River were identified (FEIS/EIR [U.S. Fish and Wildlife Service et al. 2000]). Subsequently, in a detailed review of potential river rehabilitation areas, a total of 104 potential rehabilitation sites were identified. Ultimately, sites at which rehabilitation activities would be implemented were selected using criteria that identified physical features and processes such as channel morphology, sediment supply, and high-flow hydraulics that would encourage a dynamic alluvial channel. Factors such as property ownership, access to the sites, and engineering and economic feasibility were also considered in the site selection process.

In general, the TRRP's approach to the channel rehabilitation effort is to selectively remove fossilized riparian berms that developed after the TRD was completed as a result of the loss of scouring associated with peak flows. At the Lewiston–Dark Gulch sites, berm removal is not among the project activities because the sites are upstream of Grass Valley Creek, the main source of the sediment that creates the

berms. In addition to berm removal, most of the Lewiston–Dark Gulch project activities are focused on physical alteration of other alluvial features (e.g., floodplains, mid-channel bars and side channels) and removal of riparian vegetation at strategic locations to create fish habitat and promote the alluvial processes necessary for the restoration and maintenance of alternate bar riverine habitats.

As described in the FEIS, the rehabilitation sites exhibit a variety of conditions that require site-specific designs. The FEIS also recognized that, in many instances, the entire site would not require treatment to facilitate rehabilitation. This is because strategically treating certain areas is expected to result in a dynamic alluvial channel that will promote the formation and maintenance of an alternate bar channel in both treated and untreated areas.

The TRRP identified 21 discrete activity areas within the boundary of the Lewiston site and 19 activity areas within the Dark Gulch site. Access to these areas requires existing and new roads and, in addition, constructed crossings at the Dark Gulch site. The type, extent, and level of activity in each area may be different, depending on the alternative. These areas were defined by the interdisciplinary design team to include riverine areas, upland areas, and construction support areas. For each site, riverine areas are labeled with an R preceding the site number (e.g., R-1, R-2); upland areas are labeled with a U preceding the site number (e.g., U-1, U-2); in-channel work areas (e.g., gravel placement or grade control removal) are identified with an IC; and staging/use areas are characterized with a C. Channel crossings are labeled with an X, and roads are identified as existing or new. The locations of, and additional information on, these activity areas are provided in Chapter 2.

The activities included in the Proposed Action emphasize modifying existing grade control features; reconnecting the river's floodplain with the river at intermediate flows (between 450 and 6,000 cfs); and enhancing the bed and banks of the Trinity River to promote well-distributed aquatic habitat over a range of intermediate flows. Removal of material at the IC areas will provide opportunities to enhance the development of alternate point bars and supplement coarse sediment at a number of locations. Collectively, these activities are intended to provide functional aquatic habitat under a range of flow conditions.

The TRRP has developed a number of programmatic objectives for channel rehabilitation projects. These objectives are described in Chapter 2. The programmatic objectives were used to identify a number of specific activities that could be applied at either site. Each activity area was established to meet a suite of specific objectives in conformance with the overall goals and objectives outlined for the TRRP. Ultimately, the goal of these channel rehabilitation efforts is to provide suitable rearing habitat for anadromous salmonids and to reestablish geomorphic processes associated with an alluvial river (alternate point bars).

The Proposed Action includes 15 rehabilitation activities. Each rehabilitation activity is identified with an alpha code for reference throughout the EA/Draft EIR. The rehabilitation activities are shown in Table 1-1.

Table 1-1. Lewiston–Dark Gulch Rehabilitation Activities

Label	Activity Type
A	Recontouring and vegetation removal
B	Constructed floodplain (450 cfs)
C	Constructed floodplain (1,000 – 4,500 cfs)
D	Constructed floodplain (6,000 cfs)
E	Low-flow side channel (300 cfs)
F	Medium-flow side channel (1000 cfs)
G	Alcove (450 cfs, 6,000 cfs)
H	Grade control removal
I	Coarse sediment addition
J	Placement of excavated materials
K	Staging/use areas (includes gravel processing)
L	Roads, existing
M	Roads, new
N	Crossings (Trinity River)
O	Revegetation

1.9.1 Proposed Rehabilitation Activities

The Proposed Action would include rehabilitation activities at the Lewiston and Dark Gulch sites on both sides of the Trinity River. Over time, the rehabilitation activities are expected to result in the development of alternate point bars and floodplain habitat that do not presently exist. The response time will be dynamic and subject to external forces once the activities have been completed.

Restoring alluvial processes would be accomplished through the rescaling of the river channel and floodplain within the riverine activity areas. There is an expectation that natural alluvial processes may immediately affect a larger area. Specific in-channel and riverine activities, including modification of the weir below the TRSSH, will assist in reestablishing alluvial processes and interactions at these locations. This rehabilitation of river function could result in the rapid development of a larger and more complex expanse of river and floodplain habitats. This habitat expansion would provide opportunities for increased habitat suitability and availability for salmonids and other native fish and wildlife species.

1.10 Preparers of the EA/Draft EIR

Since 2002, the TRRP has been involved in implementation of the 2000 ROD. Reclamation, as the NEPA co-lead agency, in conjunction with other federal, state and local organizations (e.g. BLM, STNF, DWR and TCRCD) continues to move forward to implement the ROD. Representatives of the TMC and their technical representatives provided support to the lead and cooperating agencies throughout this process.

1.11 Permits, Approvals, and Other Requirements

Various lead, cooperating, and responsible agencies will use the EA/Draft EIR for their permitting and approval processes. Additional discussion of these requirements is provided in Chapter 5. Implementation of either of the action alternatives, as described in Chapter 2, would require the following federal, state, and local permits and approvals.

1.11.1 Federal

U.S. Department of Agriculture, Shasta-Trinity National Forest

The STNF is guided by various laws, regulations, and policies that provide the framework for all levels of planning. These include Regional Guides, Land and Resource Management Plans (LRMPs), and site-specific planning documents, such as this EA/Draft EIR. The development of a Forest LRMP occurs within the framework of regional and national Forest Service planning. The LRMP includes Forest goals; Forest objectives, including Forest-wide prescription assignment by acres, outputs, and activities; and Forest Standards and Guidelines. Forest goals state the management philosophy of the LRMP, and the Forest objectives describe the purpose of the management prescriptions.

The Forest-wide management prescriptions apply a management theme to specific types of land (e.g., wilderness, roaded high-density recreation.) Finally, Forest Standards and Guidelines provide basic direction for implementation of management activities Forest-wide. LRMP direction specific to the Proposed Action is described in Chapter 3 of this document.

The STNF LRMP provides guidance for managing National Forest System lands within the STNF. The STNF is required to consider the project against the backdrop of the Aquatic Conservation Strategy (ACS) in the Record of Decision for the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species within the Range of the North Spotted Owl. In essence, the LRMP requires that projects authorized by the STNF be designed and implemented in a manner that maintains the existing conditions or implements actions to restore biological and physical processes within their natural range of variability. Appendix B provides the documentation necessary for the STNF to make a finding that the Proposed Action is consistent with the ACS objectives.

The STNF LRMP provides the fundamental management direction for the NRA. The NRA Management Guide was prepared to assist the STNF in implementing the LRMP; it is not a decision document for managing the NRA. The NRA Management Guide synthesizes direction from the LRMP and provides a summary of existing conditions, management recommendations, and opportunities that will be used to implement the direction of the STNF (USDA Forest Service 1996).

The STNF will issue a special-use permit for rehabilitation activities that occur on SNTF lands.

U.S. Army Corps of Engineers

Section 404 of the Clean Water Act

Section 404 of the Clean Water Act (CWA) authorizes the U.S. Army Corps of Engineers (USACE) to issue permits for the discharge of dredged or fill materials into waters of the United States, including wetlands (33 USC 1344). The USACE is authorized to issue either individual or general permits under Section 404. Under its general permit authorization, the USACE has issued a number of permits on a nationwide basis. As long as the activity has complied with the conditions set forth in the applicable nationwide permit, there is no need for a project proponent to apply for an individual permit from the USACE. For several of these nationwide permits, the USACE requires the project proponent to submit a pre-discharge notification requesting confirmation of project compliance with conditions of the nationwide permit. Based on previous permits issued for other channel rehabilitation projects—Hocker Flat, Canyon Creek Suite, and Indian Creek—it appears that the Proposed Action may be permitted under Nationwide Permit Number 27 (Wetland and Riparian Restoration and Creation Activities).

Reclamation submitted a wetland delineation report pursuant to Section 404 of the CWA for the project. The wetland delineation report and map submitted for USACE's verification after a field visit are contained in Appendix C.

National Marine Fisheries Service and U.S. Fish and Wildlife Service

Federally listed species are protected under the mandates of the Endangered Species Act (ESA) of 1973. "Take" of listed species, defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or [the] attempt to engage in any such conduct," is prohibited. Either the National Marine Fisheries Service (NMFS) or USFWS, depending on the species, may authorize "take" that is incidental to an otherwise lawful activity. Sections 7 and 10(a) of the ESA provide a method for permitting an action that may result in an "incidental take" of a federally listed species. "Incidental take" refers to "take" of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action, while Section 10(a) provides a method for permitting an incidental take resulting from a state or private action. Based on discussion with NMFS, certain non-flow measures, including the mechanical rehabilitation projects, were considered in the October 2000 NMFS Biological Opinion issued in response to the FEIS. NMFS identified the mechanical rehabilitation projects described in the ROD as reasonable and prudent measures. As required by the NMFS Biological Opinion, the following conditions have been incorporated into the Proposed Action:

- 4a** Reclamation shall meet with NMFS annually in March to coordinate during the advanced development and scheduling of habitat rehabilitation projects, including mainstem channel rehabilitation projects, sediment augmentation program, and dredging of sediment collection pools.
- 4b** The USFWS and/or Reclamation shall provide for review of individual mainstem channel rehabilitation projects via the technical team ("designated team of scientists" [USFWS et al. 2000b], "technical modeling and analysis team" [Trinity River Mainstem Fishery Restoration DEIS]) or equivalent group, and provide a written recommendation to NMFS concerning whether the projects are similar to those described in the Trinity River Mainstem Fishery Restoration DEIS and should be

covered by this incidental take statement. If the review process results in a determination that these projects and their impacts to aquatic habitat are substantially different than described in the Trinity River Mainstem Fishery Restoration DEIS (U.S. Fish and Wildlife Service et al. 2000b), the technical team will recommend to NMFS that additional ESA Section 7 consultation is appropriate.

In addition to the protection they receive under the ESA, salmon species are protected under the mandates of the Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended in 1996. The MSA established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan. EFH refers to those waters and substrates necessary for spawning, breeding, feeding, or growth to maturity (67 FR 2343).

Reinitiating Section 7 consultation under the ESA between Reclamation and NMFS and/or between Reclamation and USFWS may be necessary if the conditions under which the Biological Opinions prepared by NMFS and USFWS change significantly. An EFH consultation between Reclamation and NMFS may be necessary if adverse effects to salmon or their habitat are identified.

Bureau of Land Management

Wild and Scenic Rivers

Federal protection of the Trinity River, which is part of the Wild and Scenic Rivers System, is required under Section 7 of the federal WSRA to preserve its free-flowing condition; anadromous and resident fisheries; and outstanding geologic, wildlife, flora and fauna, historic and cultural, visual, recreational, and water quality values. Though the Trinity River is designated specifically for its outstandingly remarkable anadromous fishery value, all recreational and free flowing characteristics are to be protected under Section 7 of the federal WSRA. A determination that follows the Evaluation Procedure presented in Appendix C of the Technical Report of the Interagency Wild and Scenic Rivers Coordinating Council, Wild and Scenic Rivers Act: Section 7 is included as Appendix D. Under an interagency agreement between the National Park Service, the BLM, and the USFS, the BLM typically has the responsibility for conducting Section 7 determinations for the Trinity River segment associated with the Proposed Action. However, on USFS lands within the Wild and Scenic corridor, the USFS typically completes its own Section 7 determination. The USFS has worked cooperatively with the BLM on this project's Section 7 determination.

The BLM will issue a special-use permit for rehabilitation activities that occur on BLM lands.

Northwest Forest Plan

In response to the 1994 Record of Decision for the Northwest Forest Plan (Final Supplemental Environmental Impact Statement for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl), the BLM prepared the Mainstem Trinity River Watershed Analysis. As a party to the Northwest Forest Plan, the BLM is also required to ensure that projects are consistent with the ACS. As described previously, Appendix B provides the information necessary to document consistency with ACS objectives.

1.11.2 State of California

California Department of Fish and Game

Streambed Alteration Agreement

The TCRCD as the CEQA lead agency will be required to obtain a Streambed Alteration Agreement from the CDFG pursuant to California Fish and Game Code Section 1602. This requirement is prefaced on the fact that the TCRCD is the recipient of CDFG grant funds to assist with project implementation.

California Endangered Species Act Take Permit

State-listed species are fully protected under the mandates of the California Endangered Species Act (CESA). On August 30, 2002, the California State Fish and Game Commission (Commission) determined that coho salmon in California warranted protection as a threatened species north of Punta Gorda (including the Trinity River) and as an endangered species south of Punta Gorda under the CESA. The Commission directed CDFG to develop a coho salmon recovery strategy plan within one year. The CDFG completed a plan on January 26, 2004, and the Southern Oregon/Northern California Coasts (SONCC) Evolutionarily Significant Unit (ESU) coho salmon was officially state listed as threatened on August 5, 2004.

The TCRCD, as the CEQA lead agency, may be required to obtain a CESA incidental take authorization under Fish and Game Code Section 2081(b). As with the Streambed Alteration Agreement, the CDFG has determined that it has the authority to issue a CESA incidental take authorization on this project due to the funding provided by CDFG to the TCRCD and legislative action that gives CDFG jurisdiction over wildlife management and actions within the state. Under CESA, and upon concurrence from NMFS that its Biological Opinion and an incidental take statement for “take” of listed SONCC ESU coho salmon are adequate (pursuant to the federal ESA), the TCRCD may request a CESA Consistency Determination from the Director of the CDFG, pursuant to Section 2080.1 of the California Fish and Game Code. Within 30 days after receipt of the notification, the Director of the CDFG shall determine whether the federal incidental take statement is consistent with CESA. If it is determined to be consistent with CESA, no further authorization or approval is necessary under CESA. If the Director of the CDFG determines that the federal Incidental Take Statement is not consistent, then the TCRCD will be required to obtain a take permit pursuant to California Fish and Game Code Section 2081(b).

California Wild and Scenic Rivers Act

No permits are required under the California WSRA. However, compliance with laws related to the federal WSRA may require related permitting and consultation actions. These include the CWA Section 404 permit and CWA Section 401 Water Quality Certification.

Regional Water Quality Control Board

Water Quality Certification/NPDES Permit

The Regional Water Board is responsible for enforcing and protecting water resources in association with the Proposed Action. The Regional Water Board controls the discharge of wastes to surface waters

through the National Pollutant Discharge Elimination System (NPDES) permit process. Waste Discharge Requirements are established in NPDES permits to protect beneficial uses. Therefore, the Regional Water Board will act as a CEQA responsible agency, relying on the EIR certified by the TCRCD.

The Regional Water Board requires that a project proponent apply for and obtain a CWA Section 401 Water Quality Certification for any project that requires a CWA Section 404 permit from the USACE. Since the Proposed Action and alternatives to the Proposed Action would have the potential to affect water quality in the Trinity River, Reclamation will prepare and submit to the Regional Water Board an application for Section 401 Water Quality Certification and/or Waste Discharge Requirements (Dredge/Fill). The application will be submitted to the Regional Water Board when the pre-construction notification is sent to the USACE. The Regional Water Board is likely to impose water quality limitations and project conditions through issuance of Waste Discharge Requirements or Section 401 Certification.

An NPDES General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) will also be required. The General Permit requires preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges and to describe and ensure the implementation of Best Management Practices (BMPs) to reduce or eliminate sediment and other pollutants in storm water as well as non-storm water discharges.

1.11.3 Local

The Trinity County Floodplain Management Ordinance (Section 29.4 of the County Zoning Ordinance) requires a Floodplain Development Permit for projects that would alter the Trinity River floodplain on private lands within the jurisdiction of Trinity County. This permit requires certification by a registered professional engineer or architect that construction or replacement of bridges, roadways, and bank slope protection devices will not adversely affect the flood-carrying capacity of any altered portion of the watercourse, and will not cumulatively raise the 100-year floodplain elevations by more than 1 foot in the project area. The ordinance also requires notification of adjacent communities, CDFG, the USACE, the Regional Water Board, and the California Department of Water Resources (DWR) prior to any alteration or relocation of a watercourse, and the submission of evidence of such notification to the Federal Insurance Administration and FEMA.

The hauling of loads that exceed weight, height, or width limits on Trinity County roads (such as hauling heavy equipment or oversized bridge components) requires an encroachment permit from the Trinity County Department of Transportation. Work that will modify or encroach on County roads, such as the proposed Lewiston–Dark Gulch project, may require a Trinity County encroachment permit.

1.12 Legislative and Management History

The following is a brief chronology of the most pertinent legislation, authorities, and management actions that have occurred relevant to the Trinity River basin.

- 1855 – Klamath River Reservation established
- 1864 – Hoopa Valley Reservation established
- 1891 – Hoopa Valley Reservation boundary amendment
- 1938 – Rivers and Harbors Act authorized construction of the Central Valley Project (CVP)
- 1955 – Congress authorized the construction and operation of the TRD
- 1964 – The TRD was completed and fully operational
- 1971 – The Task Force, composed of federal, state, and local agencies and tribes, was established
- 1976 – Pacific Fishery Management Council (PFMC) established
- 1980 – USFWS prepared EIS relating impacts of TRD to Chinook salmon and steelhead declines
- 1980 – Public Law 96-335 – Trinity River Stream Rectification Act
- 1980 – Trinity River designated a California Wild and Scenic River
- 1981 – Trinity River designated a Federal Wild and Scenic River
- 1981 – Interior Secretary’s Decision to temporarily increase Trinity River instream flows; USFWS is ordered to initiate 12-year Trinity River Flow Evaluation Study.
- 1983 – USFWS prepared EIS for Trinity River Restoration
- 1984 – Trinity River Basin Fish and Wildlife Management Act (PL 98-541)
- 1984 – Trinity River Flow Evaluation study (TRFE) started
- 1988 – Yurok Reservation recognized and established
- 1988 – Reclamation and USFWS establish an office in Weaverville
- 1991 – Interior Secretary’s decision to temporarily increase Trinity River flows to 340,000 af until TRFE completed (Lujan Decision)
- 1992 – Central Valley Project Improvement Act (PL 102-575) (Section 3406(b)(23))
- 1992 – Trinity River Water Quality Objectives and Interim Action Plan approved as Clean Water Act standards by the EPA
- 1994 – EIS initiated for Trinity River Mainstem Fishery Restoration program
- 1995 – Reclamation/USFWS Weaverville office is closed.
- 1996 – Trinity River Basin Fish and Wildlife Management Act (PL 104-43) reauthorized and amended
- 2000 – Record of Decision for Trinity River Mainstem Fishery Restoration issued by Department of the Interior
- 2001 – Litigation on Record of Decision, filed in United States District Court for the Eastern District of California, results in issuance of preliminary injunction urging Department of

the Interior to undertake preparation of Supplemental EIS, although non-flow aspects of the ROD are allowed to proceed.

- 2002 – Reclamation’s TRRP office is established in Weaverville.
- 2003 – United States District Court enters final judgment requiring Department of the Interior to prepare Supplemental EIS and invalidating certain aspects of Biological Opinions issued by NOAA Fisheries and USFWS.
- 2004 – U.S. Court of Appeals for the Ninth Circuit enters opinion reversing District Court with regard to preparation of an SEIS. Immediate implementation of all aspects of the 2000 ROD is mandated. Subsequently, all parties to the litigation acknowledged the court’s opinion.

Additional details on the legislative and management history can be found in the Trinity River Mainstem Fishery Restoration FEIS/EIR (U.S. Fish and Wildlife Service et al. 2000) and Appendix A of the Hocker Flat Rehabilitation Site: Trinity River Mile 78 to 79.1 EA/Draft EIR (U.S. Bureau of Reclamation 2004). Both of these documents are on file at the TRRP office in Weaverville, California.

1.13 Indian Tribes

Secretarial Order No. 3175 states that the DOI, “when engaged in the planning of any proposed action or action, will ensure that any anticipated effects on Indian Trust resources are explicitly addressed in the planning, decision, and operational documents that are prepared for the project.” This mandate was reaffirmed in a Presidential directive declaring the sovereign rights of Indian tribes and the government-to-government status of relations between the United States and recognized tribes. Accordingly, this EA/Draft EIR provides a detailed assessment of potential effects on Indian Trust resources and, consequently, on Indian tribes. Consistent with DOI policy, the analysis addresses only those tribes of the Klamath/Trinity Region that are officially recognized by the United States (Pevar 1992): the Hoopa Valley, Karuk, Klamath, and Yurok. Local unrecognized tribes include the Nor-Rel-Muk Nation and the Tsnungwe Tribe.

The Tribal Trust discussion (Section 3.10) focuses principally on the Hoopa Valley and Yurok tribes, since, of the recognized Indian tribes of the Klamath/Trinity Region, they would be most directly affected by the Proposed Action. It is acknowledged, however, that the impacts are pertinent to the Karuk and Klamath people, since they share a common regional heritage with the Hoopa Valley and Yurok tribes.

1.14 Integration of Related Environmental Review Requirements

In addition to integrating the NEPA and CEQA processes, this document integrates these processes with the environmental review and consultation requirements of other relevant federal and state programs. The following section provides an overview of the principal environmental statutes that are integrated into the EA/Draft EIR.

1.14.1 Compliance with Section 404 of the Clean Water Act

Section 404 of the CWA authorizes the USACE to issue permits for the discharge of dredged or fill materials into waters of the United States, including wetlands (33 USC 1344). The USACE is authorized to issue either individual or general permits under Section 404. Under its general permit authorization, the USACE has issued a number of permits on a nationwide basis. As long as the activity has complied with the conditions set forth in the applicable nationwide permit, there is no need for a project proponent to apply for an individual permit from the USACE. For several of these nationwide permits, the USACE requires the project proponent to submit a pre-discharge notification to the USACE requesting confirmation that the project has complied with the nationwide permit conditions.

1.14.2 Compliance with Section 401 of the Clean Water Act

Section 401 Certification is required for any projects authorized pursuant to CWA Section 404. Section 401 of the federal CWA requires that state water quality standards not be violated through the discharge of pollutants into waters of the United States, including wetlands (33 USC 1344). Under this section, applicants for a federal permit to conduct activities that may result in a discharge of pollutants into waters of the United States must request and obtain a certification from the state in which the discharge would originate. The Regional Water Board will use the information available in this EA/Draft EIR, the Section 404 application submitted to the USACE, and the Section 401 Certification application to prepare the Section 401 Certification.

1.14.3 Compliance with the Federal Endangered Species Act

Section 7 of the ESA requires federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat for these species. For compliance with Section 7 of the ESA, Reclamation requested and received from the USFWS a list of species that are federally listed as endangered or threatened that may be present in the project area (Appendix E). Reclamation conferred with NMFS concerning project effects to the SONCC ESU coho salmon pursuant to Section 7 of the ESA; this ESU of coho salmon is both federally and state listed as threatened. This EA/Draft EIR, in conjunction with the Biological Opinion that it prepared for the FEIS, will be used by NMFS to authorize incidental take, as described in Section 1.11.1.

1.14.4 Compliance with the National Historic Preservation Act

Reclamation has formally consulted with the Office of Historic Preservation (OHP) and the Advisory Council on Historic Preservation (ACHP). This consultation is documented in the Programmatic Agreement (PA) between the USFWS, Reclamation, BLM, HVT, the Californian State Historic Preservation Officer (SHPO), and the ACHP regarding implementation of the Trinity River Fishery Restoration Program (Appendix F). In addition, letters requesting information regarding possible Native American concerns along the project reach were sent to tribal contacts recommended by the Native

American Heritage Commission and field investigations were conducted by Reclamation staff in accordance with the PA.

1.14.5 Compliance with Federal Wild and Scenic Rivers Act

Section 7(a) of the federal WSRA prohibits departments and agencies of the United States from assisting by loan, grant, license, or otherwise in the construction of any water resources project that would have a direct and adverse effect on the ORVs for which the Wild and Scenic River designation was established.

While the federal WSRA does not prohibit development along a river corridor, it does specify guidelines for the determination of appropriate actions within the banks of a Wild and Scenic River that protect or enhance ORVs. As the designated river manager for the Trinity River between Lewiston and Helena, California, BLM must prepare a Section 7 determination for all proposed water resources projects that would affect the free-flowing characteristics of designated river reaches. This determination will ensure that the Proposed Action does not adversely affect the values for which the river was designated. This EA/Draft EIR provides the information necessary to support a WSRA Section 7 determination.

1.14.6 Compliance with Federal Noxious Weed Act

Although the Plant Protection Act superseded and repealed most of the Federal Noxious Weed Act of 1974, Section 15 of the Act remained intact. Section 15 of this act requires federal land management agencies to develop and establish a management program for control of undesirable plants that are classified under state or federal law as undesirable, noxious, harmful, or poisonous on federal lands under the agency's jurisdiction (7 U.S.C. 2814 (a)). The act also requires federal agencies to coordinate with state and local agencies in the management of undesirable plants. The TRRP has included measures to control the spread of noxious weeds within the project areas.

1.14.7 Compliance with Executive Order 11990 (Wetlands)

Executive Order 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. The order requires federal agencies to follow "avoidance-mitigation-preservation" procedures and provide the opportunity for public input before proposing new construction in wetlands and requires federal agencies to avoid impacts on wetlands where practicable. The TRRP has incorporated procedures to mitigate for wetlands impacts.

1.14.8 Compliance with Federal Executive Order 11988 (Floodplain Management)

Executive Order 11988 requires federal agencies to prepare floodplain assessments for proposals located within or affecting floodplains. If an agency proposes to conduct an action in a floodplain, it must consider alternatives to avoid adverse effects to, and incompatible development of, the floodplain.

If the only practicable alternative involves siting of structures in a floodplain, the agency must minimize potential harm to or within the floodplain and explain why the action is proposed in the floodplain. As

discussed in Section 3.4, Water Resources, the impact analyses conclude that the Proposed Action would not constitute a significant encroachment on the base floodplain.

1.14.9 Compliance with Federal Executive Order 12898 (Environmental Justice)

Executive Order 12898 requires federal agencies to identify and address disproportionately high and adverse human health and environmental effects of federal programs, policies, and activities on minority and low-income populations. Federal agencies are required to provide opportunities for input in the NEPA process by affected communities and to evaluate significant and adverse effects of proposed federal actions on minority and low-income communities during the preparation of NEPA documents. The NEPA scoping process can be used to solicit information on the concerns of minority and low-income populations. If a proposed federal action will not result in significant adverse impacts on minority and low-income populations, the environmental document must describe how Executive Order 12898 was addressed during the NEPA process. Upon issuance of this draft, the public review process will include a statement from Reclamation that it is soliciting input from the public regarding potential adverse impacts of the Proposed Action on minority and low-income populations.

1.14.10 Compliance with Federal Executive Order 13112 (Invasive Species)

Executive Order 13112 requires federal agencies to use relevant programs and authorities to:

- prevent the introduction of invasive species;
- detect and control populations in a cost-effective and environmentally sound manner;
- provide for restoration of native species;
- promote public education on invasive species; and
- not authorize, fund or carry out actions to cause or promote the spread or introduction of invasive species.

Preventive measures incorporating these requirements will be considered during the environmental and restoration phases of the project.

1.14.11 Compliance with Federal Executive Order 13443 (Hunting Heritage and Wildlife Conservation)

Executive Order 13443 requires federal agencies with relevant programs and authorities related to public land management, outdoor recreation, and wildlife management to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitats.

Specifically, federal agencies shall, consistent with agency missions:

- evaluate and/or implement agency actions that expand and enhance hunting opportunities for the public;
- consider the economic and recreational values of hunting in agency actions, as appropriate;

- manage wildlife and habitat on public lands in a manner that expands and enhances hunting opportunities;
- work collaboratively with state governments to manage and conserve game species consistent with State authorities;
- establish short and long term goals, in cooperation with State and tribal governments to foster healthy and productive populations of game species;
- ensure agency plans and actions consider programs and recommendations of comprehensive planning efforts for big game and upland game birds; and
- seek the advice of State and tribal fish and wildlife agencies with respect to foregoing Federal activities.

Chapter 2

Description of Proposed Action and Alternatives

This chapter describes the Proposed Action and the alternatives considered for the proposed rehabilitation sites. The term Proposed Action rather than Proposed Project is used in this document for consistency; for the purposes of this document, the two terms are synonymous. This chapter includes a description of the process used by the lead agencies to identify the Proposed Action and alternatives to be fully analyzed in this EA/Draft EIR. Detailed descriptions of the No-Action Alternative, Proposed Action, and Alternative 1 are provided, along with a detailed account of design criteria, construction criteria and methodologies, and tentative construction schedules.

The lead agencies for this EA/Draft EIR considered three alternatives for the purpose of analysis. The No-Action Alternative is considered to be the environmental baseline for purposes of the NEPA analysis, while the “existing environment” is considered to be the baseline for CEQA purposes. As a practical matter, this distinction has no real consequence as applied herein, although it sometimes does in situations where a future No-Action scenario differs significantly from actual existing conditions at the time of document preparation.

This EA/Draft EIR evaluates the alternatives, including the No-Action Alternative, the Proposed Action, and Alternative 1 at an equal level of detail. Alternatives considered but not selected for evaluation are briefly discussed at the end of this chapter.

2.1 Project Overview

The Proposed Action and Alternative 1 were developed using input from the various stakeholders, particularly local residents and resource agency personnel; reviewing engineering data; and considering various social, physical, and biological factors. Pursuant to CEQA, Alternative 1 is intended to meet most of the basic project objectives (the NEPA purpose and need) while substantially lessening or avoiding one or more impacts of the Proposed Action that, absent mitigation measures or project features operating as de facto mitigation, might be significant. Alternative 1 responds to comments provided by CDFG and other TMC members during public scoping. The comments requested consideration of an alternative that would rapidly maximize the amount of juvenile fish rearing habitat by expanding in-channel activities (e.g., longer side channels, modification of a larger part of the weir) and that would use on-site sources of coarse sediment in a manner that would reduce the need to import gravel.

This EA/Draft EIR addresses rehabilitation activities at the Lewiston–Dark Gulch Rehabilitation Project sites. It does not address other rehabilitation sites identified in the ROD, other than those described in Chapter 4 of this document. The flow regime used to evaluate the Proposed Action and alternatives considered in this EA/Draft EIR are the flows authorized by the ROD, as upheld by the U.S. Court of

Appeals for the Ninth District on November 5, 2004. Based on this ruling, the ROD flows are deemed to constitute the “existing [hydrological] environment” for CEQA purposes, and are considered part of both the No-Project Alternative for CEQA and the No-Action Alternative for NEPA. The hydrological environment for purposes of alternatives development and impact analysis is based on delivery of ROD flows with the addition of accretion flows to the Trinity River from tributaries between Lewiston Dam and the North Fork Trinity River, as described in Section 3.4, Water Resources.

2.2 Project Location

The Trinity River originates in the rugged Salmon-Trinity Mountains of northwest California, approximately 10 miles southwest of the town of Weed, California. The river flows generally southward until it is impounded by Trinity and Lewiston dams. From Lewiston Dam, the river flows westward for 112 miles, terminating at the Klamath River near the town of Weitchpec, California, on the Yurok Reservation. The Trinity River drains approximately 2,965 square miles and encompasses portions of Trinity and Humboldt counties and the Hoopa Valley and Yurok reservations. The Klamath River flows northwesterly for approximately 40 miles from its confluence with the Trinity River before entering the Pacific Ocean.

The Proposed Action encompasses portions of a 6.3-mile reach of the Trinity River beginning at the downstream end of the TRSSH (RM 111.7) and extending to the Bucktail Bridge (RM 105.4) near Lewiston, Trinity County, California. The project vicinity is shown in Figure 1.1 in Chapter 1. The direct, indirect, and cumulative impacts assessed in this EA/Draft EIR would all occur within the Trinity River basin.

The following discussion provides additional information on the locations of the channel rehabilitation sites. For the purposes of this report, the two channel rehabilitation sites are each referred to by their name—Lewiston or Dark Gulch—while collectively the two sites are referred to as the project area or the rehabilitation sites. The Lewiston and Dark Gulch sites incorporate nine of the 44 sites originally identified in the ROD. The site boundaries are illustrated in Figure 1.2 in Chapter 1.

2.2.1 Lewiston

The Lewiston site begins at RM 111.70 downstream of the TRSSH and extends downstream to RM 108.70. This site is located in the *Lewiston, California* 7.5-minute U.S. Geological Survey (USGS) quadrangle, Township 33 North, Range 8 West, Sections 8, 17, 18, and 19.

2.2.2 Dark Gulch

The Dark Gulch site begins at RM 107.10 and extends downstream to RM 105.40. It is located in the *Lewiston, California* 7.5-minute USGS quadrangle, Township 33 North, Range 9 West, Sections 13, 23, and 24.

2.3 Development of Alternatives

This section describes the alternatives that were developed to address the purpose and need as well as the goals and objectives outlined in Chapter 1. This section also describes the No-Action conditions, which represent the baseline conditions for NEPA purposes. As noted earlier, No-Action conditions and “existing conditions” (a CEQA concept) are essentially the same. To ensure that a reasonable range of alternatives is considered under NEPA and CEQA, the lead agencies developed one alternative to the Proposed Action that is responsive to the purpose and need, the goals and objectives of the Proposed Action, and public comments submitted during scoping.

The selection of potentially feasible alternatives, which will ultimately lead to a preferred alternative, was driven by a number of factors. For an alternative to be considered potentially feasible (and therefore subject to full NEPA and CEQA analysis), it must have the ability to meet most of the purposes and objectives identified for the Proposed Action. Section 2.9 provides a brief description of alternatives considered but eliminated from further evaluation.

The following criteria were applied to evaluate the ability of the Proposed Action to meet the purpose and need established in Chapter 1:

- Effectiveness – The methods, materials, and performance of previous Trinity River restoration projects (including the original pilot projects constructed in the 1990s and the recent TRRP channel rehabilitation projects) in similar environments that have documented long-term successful performance under similar circumstances were considered (e.g., Hocker Flat, Canyon Creek, and Indian Creek rehabilitation projects).
- Implementation – Practical execution, including potential public acceptance issues, permitting issues, and land use issues, was considered. Constructability and the complexity of maintaining the rehabilitation sites over time were also considered.
- Environmental – Benefits and impacts to environmental resources with emphasis on special-status species, including native anadromous salmonids, were considered. The impacts considered included both short-term construction-related impacts and long-term maintenance impacts associated with TRD flow releases. Aquatic habitat, jurisdictional wetlands, accessibility, and consistency with land use planning were considered in the type and location of proposed activities.
- Cost – The relative cost of each alternative, including construction and revegetation costs, was considered. Cost was used to identify alternatives that were significantly out of proportion with other alternatives.

An interdisciplinary team initially evaluated a number of alternatives for the two sites in accordance with the criteria outlined above. This evaluation resulted in identifying one alternative to the Proposed Action in addition to the No-Action Alternative. This alternative was formulated from public input, engineering feasibility, scientific information, and professional judgment, in a manner consistent with NEPA and CEQA. A summary of the fully analyzed alternatives is presented in the following sections. The anticipated impacts associated with each alternative are analyzed in Chapter 3.

The initial screening process considered alternatives that met the requirements discussed in Section 1.7. These considerations included flow regimes (seasonal and inter-annual), the potential for resource impacts, and engineering limitations. The preliminary list of alternatives incorporated input provided during meetings with various land owners and interested agencies and culminated with input received during the NEPA/CEQA scoping process.

The No-Action Alternative represents ongoing activities and operations and is intended to meet the state CEQA Guidelines, Section 15126.6, subdivision (e)(2) for existing conditions, which are defined as conditions that “would be reasonably expected to occur in the foreseeable future if the project were not approved” (CELSOC 2005). As previously discussed, the No-Action Alternative (No-Project Alternative under CEQA) is based on implementation of the ROD. In particular, the hydrologic elements authorized in the ROD will be used as the existing condition (environmental baseline). The No-Action Alternative is described in Section 2.6.

2.4 Project Setting

The Lewiston–Dark Gulch Rehabilitation Project site boundaries encompass a total of about 283.5 acres. The project would include activities within two discrete reaches of the mainstem Trinity River between the TRSSH and Bucktail Bridge in the general vicinity of Lewiston, Trinity County, California. Figures 2-1a and 2-1b show the Lewiston site, and Figure 2-1c shows the Dark Gulch site. The Lewiston site encompasses approximately 3 miles of the Trinity River (River Mile 108.7 to 111.7), and the Dark Gulch site encompasses 1.7 miles of the Trinity River (River Mile 105.4 to 107.1). Collectively, the project encompasses these two sites. The project location encompasses eight sites (Nos. 1–4 and 7–9) originally identified in the ROD; however, both the Lewiston and Dark Gulch site boundaries were substantially expanded from the original sites.

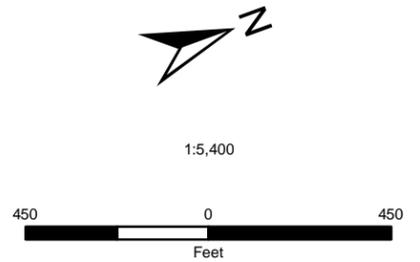
The Trinity River essentially divides the rehabilitation sites into two discrete sections, river left and river right. References to river left and river right assume an observer is looking downstream. For readability, the EA/Draft EIR uses these references to river left and river right throughout this document.

The entire project area is encompassed by the unincorporated community of Lewiston. Lewiston is located on both sides of the Trinity River and is the third largest community in Trinity County. Generally speaking, Lewiston extends from the TRSSH downstream to the confluence of Grass Valley Creek. It was here that B.F. Lewis constructed a trading post and a ferry to serve travelers on the Shasta-Weaverville Trail. Lewiston developed into a sizeable mining community following the discovery of gold in the Trinity River. The large dredge operations resulted in substantial mining activity between 1890 and 1940. The evidence of these dredge operations occurs throughout the area along the Trinity River and, to a lesser extent, Rush Creek.

From about 1956 to 1962, Lewiston was the headquarters for constructing the TRD. Reclamation constructed a housing project, and a shopping center and school quickly followed. After the TRD was completed, the population rapidly declined. Over time, the community of Lewiston has rebounded, in part due to tourism and an influx of retirees and more recently as a bedroom community of Weaverville.



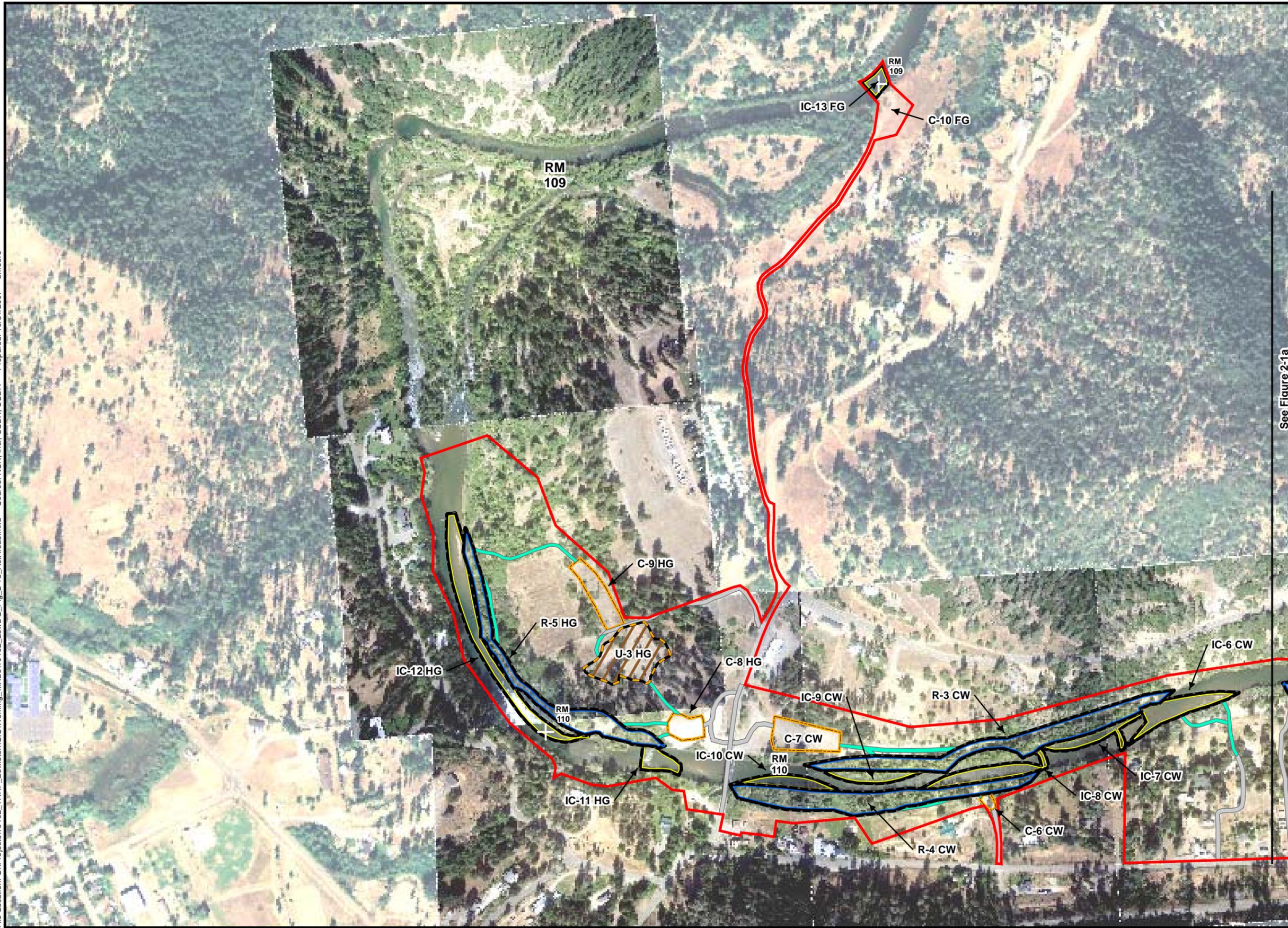
- Site Boundary (131.5 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)
- CW - Cableway
 DC - Deadwood Creek
 FG - Dept. of Fish & Game
 HG - Hoadley Gulch
 SO - Sven Olbertson



Aerial photography:
 July 2005
 July 2006

Figure 2-1a
Lewiston - Activity Areas

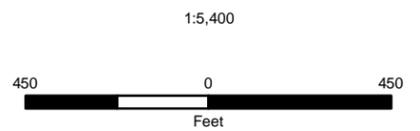
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- Site Boundary (131.5 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)

CW - Cableway
 DC - Deadwood Creek
 FG - Dept. of Fish & Game
 HG - Hoadley Gulch
 SO - Sven Olbertson

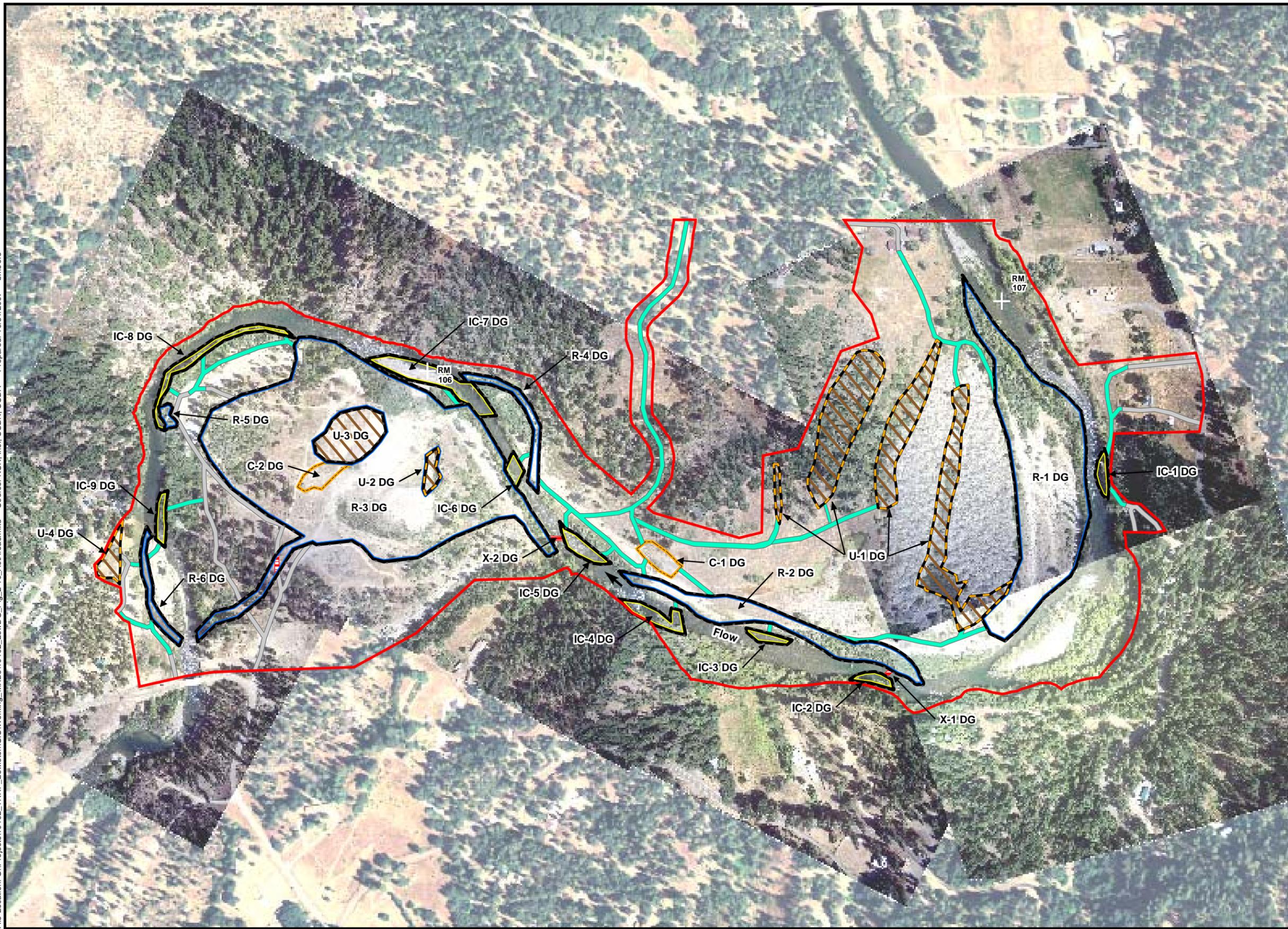
See Figure 2-1a



Aerial photography:
2005
2006

Figure 2-1b
Lewiston - Activity Areas

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- Site Boundary (152 acres)
 - + River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
 - Crossing (X)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)

CW - Cableway
 DC - Deadwood Creek
 DG - Dark Gulch
 FG - Dept. of Fish & Game
 HG - Hoadley Gulch
 SO - Sven Olbertson



1:5,400



Aerial photography:
July 2005
July 2006

Figure 2-1c
Dark Gulch - Activity Areas

The extensive tailing deposits in the lower section of the Lewiston site and the upper end of the Dark Gulch site provide evidence of the bucket-line dredges that operated along the Trinity River in the early to mid-1900s prior to the construction of the TRD. These dredges severely altered the bed and banks of the Trinity River and converted the fertile floodplains to large piles of tailings on both sides of the river. Although the dredge activity substantially modified the morphology of the channel between the valley walls, unregulated flows continued to provide the geomorphic elements necessary to maintain a meandering channel typical of a normally functioning alluvial river (USDA Forest Service 1995).

The construction and operation of the TRD resulted in a dramatic change in the flow regime of the Trinity River downstream of Lewiston Dam. One of the fundamental changes in the river between Lewiston (particularly downstream of Grass Valley Creek) and Helena was the formation of riparian berms along the river, which became “fossilized” over time. These berms are large deposits of fine sediment anchored by well-established riparian vegetation communities. These berms have essentially “handcuffed” the river, affecting its ability to maintain the alternate bar sequence in the affected reach, as well as influencing the deltaic deposits at the confluence of tributaries such as Rush Creek, a substantial tributary to the Trinity River that flows between the two sites. These changes are discussed in detail in the FEIS/EIR and the ROD.

2.5 Description of Project Site

This EA/Draft EIR identifies 21 discrete activity areas at the Lewiston site and 19 discrete activity areas at the Dark Gulch site. Figures 2-1a, 2-1b, and 2-1c illustrate these activity areas and their relationship to the Trinity River. Throughout the document, the figures labeled a and b represent the Lewiston site and c represents the Dark Gulch site. Acreage values shown on these figures correspond to values for each site. Initially, the design efforts were focused on six discrete locations. For the purposes of this document, these locations were incorporated into the Lewiston and Dark Gulch sites. The two letter alpha identifier at the end of each activity area shown below corresponds to the original site names.

- SO Sven Olbertson Figure 2-1a
- DC Deadwood Figure 2-1a
- CW Cableway Figure 2-1b
- HG Hoadley Gulch Figure 2-1b
- FG CDFG Figure 2-1b
- DG Dark Gulch Figure 2-1c

The type, extent, and level of activity at these activity areas may be different, depending on the alternative. These areas were defined by the interdisciplinary design team to include in-channel areas, riverine areas, upland areas, access areas (roads and river crossings), and construction support areas. These activity areas are labeled as “in channel – IC”; “riverine – R”; “upland – U”; “construction use/staging – C”; and “crossings – X.” Existing and new roads are also shown on these figures.

Table 2-1 identifies the activity areas, shows their size (acres), indicates their location relative to the Trinity River (river right or river left) and provides a general characterization of the restoration objectives

for each area. The activity areas described in the following section provide the basis for calculating the acreage of the impacts described in Chapter 3.

Table 2-1. Lewiston–Dark Gulch Activity Areas (As shown in Figures 2-1a-c)

Activity Area	Size (acres) ^a	River Right/Left	Geomorphic Features
<i>Lewiston Site (131.52 Acres within the Site Boundary)</i>			
IC-1 SO	1.51	Right/left	Point bar
IC-2 SO	0.23	Right/left	Point bar, side channel
IC-3 SO	0.48	Right/left	Point bar
IC-4 DC	0.21	Right/left	Point bar
IC-5 DC	0.26	Right/left	Point bar
IC-6 CW	0.80	Right/left	Point bar
IC-7 CW	0.49	Right/left	Point bar
IC-8 CW	0.74	Right/left	Point bar
IC-9 CW	0.44	Right/left	Point bar
IC-10 CW	0.46	Right/left	Point bar
IC-11 HG	0.37	Right/left	Transverse bar
IC-12 HG	1.65	Right/left	Point bar/split channel
IC-13 FG	0.15	Right/left	Point bar
R-1 SO	10.20	Left	Side channel, floodplain
R-2 DC	3.37	Left	Side channel, floodplain
R-3 CW	2.62	Right	Side channel, floodplain, berm
R-4 CW	2.43	Left	Floodplain, berm
R-5 HG	1.88	Right	Side channel, floodplain, berm
U-1 SO	1.37	Left	Floodplain, terrace
U-2 DC	0.28	Left	Terrace
U-3 HG	1.55	Right	Terrace
C-1 SO	1.38	Left	Terrace
C-2 SO	0.05	Left	Terrace
C-3 SO	0.37	Right	Terrace
C-4 DC	0.99	Left	Terrace
C-5 DC	0.25	Left	Terrace
C-6 CW	0.89	Left	Terrace
C-7 CW	0.89	Right	Terrace
C-8 HG	0.39	Right	Floodplain, terrace
C-9 HG	0.65	Right	Terrace
C-10 FG	.54	Right	Terrace

Table 2-1. Lewiston–Dark Gulch Activity Areas (As shown in Figures 2-1a-c)

Activity Area	Size (acres) ^a	River Right/Left	Geomorphic Features
<i>Dark Gulch Site (152.02 Acres within the Site Boundary)</i>			
IC-1 DG	0.20	Right/left	Point bar
IC-2 DG	0.18	Right/left	Point bar
IC-3 DG	0.16	Right/left	Point bar
IC-4 DG	0.44	Right/left	Transverse bar
IC-5 DG	0.33	Right/left	Point bar
IC-6 DG	0.17	Right/left	Transverse bar
IC-7 DG	1.05	Right/left	Transverse bar, point bar
IC-8 DG	0.62	Right/left	Transverse bar, point bar, berm
IC-9 DG	0.23	Right/left	Point bar
R-1 DG	9.18	Right	Floodplain, berm, terrace
R-2 DG	2.63	Right	Floodplain, side channel, berm
R-3 DG	21.22	Left	Berm, floodplain, terrace
R-4 DG	0.59	Right	Side channel
R-5 DG	0.13	Left	Berm, floodplain
R-6 DG	0.43	Right	Side channel
U-1 DG	6.83	Right	Floodplain, terrace
U-2 DG	0.24	Left	Floodplain, terrace
U-3 DG	1.41	Left	Terrace
U-4 DG	0.37	Right	Terrace
C-1 DG	0.38	Right	Terrace
C-2 DG	0.38	Left	Terrace
X-1 DG	0.02	Right/left	Point bar
X-2 DG	0.03	Right/left	Point bar

^a Area calculated from project GIS

2.6 Project Objectives and Activities

The TRRP has developed a number of programmatic objectives for channel rehabilitation projects. The following objectives have been developed for in-channel and riverine activity areas:

- Increase the area, quality, and availability of rearing habitat for anadromous salmonids (specifically fry and juvenile life stages) over a range of flows.
- Increase the structural complexity of the types of riverine habitat available and thereby increase the range of anadromous salmonid life history stages that can be supported.
- Reactivate the floodplain to facilitate river-induced sinuosity that results in complex riparian floodplain habitat.
- Establish conditions such that the ROD flow regime will frequently scour alluvial surfaces, deter continuous riparian encroachment, and promote heterogeneous patchy riparian growth on exposed floodplains.

- Recruit a diverse assemblage of riparian vegetation into areas that may provide fish habitat as well as onto the 1.5-year recurrence interval floodplain and the upper floodplain surface that are not subject to high-flow scouring.
- Develop a sequence of point bars and encourage lateral migration into the bank at flows >6,000 cfs (1.5-year recurrence interval/bankfull discharge).
- Develop low-water alcoves at the base of side channels that provide low-velocity habitat at flows of approximately 300 cfs to 6,000 cfs. Low water alcoves will contain water all year and be maintained by high-flow channels.
- Develop side-channels that will flow at 300 to 1,000 cfs.
- Develop high-flow scour channels that will run at flows \geq 6,000 cfs.
- Increase the area, quality, and availability of habitats for native wildlife species that may benefit from enhancement of the form and function of the riparian corridor (e.g., migratory birds, western pond turtles, and yellow-legged frogs).
- Increase recreation opportunities (e.g., fishing access, watchable wildlife facilities) along the Trinity River corridor consistent with federal, state and local requirements and guidelines (e.g., the STNF LRMP, BLM Resource Management Plan (RMP)).
- Reduce the occurrence of noxious and invasive plant species (e.g., Himalayan blackberry and yellow star thistle (*Rubis discolor* and *Centaurea solstitialis*)).

2.6.1 In-Channel Activity Areas – IC

The in-channel activity areas for the sites were delineated through an interdisciplinary process by technical representatives from TMC member organizations and their consultants. This process included consideration of the mechanical rehabilitation objectives outlined in the FEIS, the existing site conditions (biology, land ownership, engineering feasibility, and environmental constraints), and the ability to integrate the project into the overall AEAM process established by the TRRP. The functionality of the aquatic system was considered, as well as the information available on jurisdictional waters (i.e., wetlands) that occur within the boundaries of the sites.

These activity areas are intended to reestablish the alternate bar sequences described in the FEIS using a variety of techniques to modify gradient; diversify the type and location of alluvial features (e.g., point bars); provide functional side channels under a range of flows; and establish select locations for the addition of coarse sediment. There are two in-channel activities unique to the Lewiston site: 1) the modification of the weir that was originally constructed as a fish monitoring facility for the TRD, but was later abandoned, and 2) the planned addition of gravel to the river during high flows (either by conveyor to mid-river locations or placement at the river's edge). Four locations within the Lewiston site are considered for long-term gravel additions during high flow releases. These sites are IC-3 SO, IC-4 DC, IC-13 FG, and IC-8 CW. The TRRP expects to place an average of 10,000–15,000 tons of gravel in the Trinity River annually.

2.6.2 Riverine Activity Areas – R

The riverine activity areas discussed in this section are described in terms of existing geomorphic features and functional objectives. Figures 2-1a, 2-1b, and 2-1c illustrate these activity areas. The riverine activities would require removal of vegetation and excavation of alluvial material from the bed and banks of the Trinity River.

The activities included in the Proposed Action and Alternative 1 emphasize modifying the bed, banks and floodplains of the Trinity River, allowing reestablishment of the alluvial processes impaired by the construction and operation of the TRD. These modifications at strategic locations would promote the river processes necessary for the restoration and maintenance of Trinity River alternate bars, thereby enhancing salmonid rearing habitat. Additionally, the action alternatives include construction of alcoves and side channel habitat that would be available to juvenile salmonids and other aquatic organisms over a range of flows.

2.6.3 Upland Activity Areas – U

The objectives for all upland activity areas are to establish a suitable location for the disposal of excavated material (i.e., sand, gravel, cobble, and cleared vegetation, primarily from the Riverine (R) areas), provide a long-term location for stockpiling coarse sediment that would be available for gravel supplementation and, to a reasonable extent, encourage reestablishment of native upland vegetation. Additionally, the activities occurring at these areas would include measures to inhibit the introduction and spread of noxious and invasive vegetation, notably Himalayan blackberry and yellow star-thistle.

Specific design criteria were established for disposal of excavated material in upland areas. The criteria include placing material above the 100-year floodplain elevation to minimize impacts to Federal Emergency Management Agency (FEMA) base flood elevations (BFE) and identifying locations that would not inhibit future land use activities, such as recreation access and parking. The criteria also included using existing topographic features to reduce observable changes in the line and form of tailing piles.

Figures 2-1a, 2-1b, and 2-1c illustrate the upland areas that would be available for placement of excavated materials. Table 2-1 provides additional information on the location and setting of these areas. These areas are associated with alluvial terraces, constructed tailing deposits, or upland landforms that were exposed during historic mining activities. Currently, the lack of soil development in these depositional environments inhibits the recruitment and survival of native vegetation to varying degrees. The placement of excavated material at these areas is expected to result in more favorable vegetation recruitment and survival. At the discretion of Reclamation, however, the use of some upland activity areas could change to facilitate the removal and transport of some or all of the excavated alluvial materials to locations authorized for processing with an approved use permit pursuant to Trinity County's Zoning Ordinance (Ordinance No. 315).

2.6.4 Staging Areas – C

The Proposed Action includes construction of staging areas, as shown in Figures 2-1a, 2-1b, and 2-1c. The staging areas are required for construction activities, including gravel processing, storage of equipment and materials, temporary placement of topsoil, and placement of necessary sanitation facilities. The Proposed Action also includes construction of temporary access routes to and between staging areas and activity areas. Figures 2-1a, 2-1b, and 2-1c show the access routes. At the completion of the project, remediation measures will be performed at the staging areas and access routes in accordance with realty agreements with individual landowners.

2.6.5 Roads

Existing roads in the project vicinity would be evaluated and upgraded as necessary to provide the necessary access. Any new roads required would be constructed to the standard necessary to limit impacts from erosion and runoff. New roads would be decommissioned at project completion when requested by landowners.

2.6.6 Crossings – X

Some activities proposed at the Dark Gulch site would require access across the Trinity River upstream of the Bucktail Hole River Access operated by the BLM. Although there are roads that provide access to both sides of the river at this site, some activities and treatments may require construction of river crossings to provide access to vehicles and construction equipment during low-flow conditions (approximately 300 to 600 cfs). In addition to low-flow crossings across the Trinity River, a bridge may be built to span a proposed constructed side channel. All crossings would incorporate design specifications appropriate to address resource impacts identified in Chapter 3 of this EA/Draft EIR.

The low-flow crossings would consist of ramps constructed from coarse sediment available within authorized activity areas; the running surface of the ramps would be approximately 20 feet wide. Coarse sediment and alluvial materials would be sized appropriately to ensure the stability of the crossing and to provide a usable surface for vehicular traffic; in addition, the sediment and alluvial materials would be sized so that they would be transported downstream during high flow events. Minor amounts of excavation on both sides of the low-flow channel may be required to provide safe ingress and egress to the crossings.

A small bridge on the main, unimproved access road to the Bucktail Hole River Access would be required over the side channel proposed under Alternative 1. The bridge would be designed to allow pedestrian and vehicle traffic to access BLM and private lands on the north side of the side channel. The bridge would accommodate flows up to at least those that would occur in the 100-year flood event and would be designed in accordance with applicable local, state, and federal requirements.

2.7 Description of Alternatives

This section describes the No-Action Alternative, the Proposed Action, and Alternative 1. The Proposed Action most efficiently meets the purpose and need and the project objectives outlined in Chapter 1. Alternative 1 is considered feasible and represents an approach that would reduce the short-term need to import gravel to the site, thereby reducing the requirement for periodic truck traffic at the Bucktail site. The alternatives selected for evaluation and assessed in this document represent a reasonable range of alternatives that will provide for meaningful public participation and informed decision-making.

The Proposed Action and Alternative 1 consist of 15 specific activities within the activity areas described in Table 2-1. The types of activities are shown in Table 2-2. Each type of activity is assigned a label using the alpha system shown in Table 2-2. For each action alternative, a table has been prepared that provides an overview of the types of activities proposed (see Sections 2.7.2 and 2.7.3).

In addition to the activities included in Table 2-2, several others are common to all activity areas to varying degrees. These common activities—vegetation removal, watering, and monitoring—are briefly discussed at the end of this section.

Table 2-2. Lewiston–Dark Gulch Rehabilitation Activities

Label	Activity Type
A	Recontouring and vegetation removal
B	Constructed floodplain (450 cfs)
C	Constructed floodplain (1,000–4,500 cfs)
D	Constructed floodplain (6,000 cfs)
E	Low-flow side channel (300 cfs)
F	Medium-flow side channel (1,000 cfs)
G	Alcove (450 cfs, 6,000 cfs)
H	Grade control removal
I	Coarse sediment addition
J	Placement of excavated materials
K	Staging areas (includes gravel processing/storage)
L	Roads, existing
M	Roads, new
N	Crossings (Trinity River)
O	Revegetation

The following discussion describes the activities included in the Proposed Action and Alternative 1 and provides a general overview of the specific elements of each activity.

Activity A (Recontouring)

The ground surface would be modified to enhance existing topographical features and minimize the risk of stranding of juvenile salmonids. Recontouring includes intensive vegetation removal at select locations but precludes the need to move material from the activity area (in other words, there would be

no net excavation or fill). This activity also includes grading to construct or enhance topographic features that could develop into functional riparian habitat. Recontouring would be accomplished using a variety of methods, including hand tools and heavy equipment, such as excavators, bulldozers, and scraper dump trucks.

Activities B, C, and D (Floodplain Construction – 300 cfs, 1,000–4,500 cfs, and 6,000 cfs)

Floodplain construction activities would lower the floodplain or the river's edge to be in communication with the river at prescribed flows. These activities include the lowering of historic floodplains that are now terraces above the river so that they are again frequently inundated. Vegetation would be cleared as necessary and earth would be excavated to meet design elevations for periodic inundation (1,000–4,500 cfs benches, and 1.5-year flow [approximately 6,000 cfs]). Floodplains would be constructed to ensure submergence by 6 to 12 inches of water at designated river flows.

The constructed benches would be excavated to provide 6 to 12 inches of inundation during design flows. These treatment areas would provide important rearing and slow-water habitat during outmigration of salmonids. They would also provide low points that may allow the river to meander and thereby provide the habitat variability that was historically present and is required to support rapid growth of native fishes.

The 1.5-year recurrence flow below Rush Creek is approximately 6,000 cfs. The 1.5-year constructed floodplain would provide a water depth of 6 to 12 inches at 6,000 cfs. Initially, these treatment areas would rely on natural recruitment of native riparian vegetation. It is anticipated that these areas would naturally revegetate with a diverse assemblage of native vegetation. If natural revegetation is less successful than anticipated, the areas would be planted in a pattern that provides vegetative diversity.

Activities E and F (Side Channels – 300 cfs, 1,000 cfs)

Modifications to historic side channels would reconnect the Trinity River with its floodplain at targeted flows. Side channels constructed for 300 cfs flows would provide off-channel, low-velocity habitat for a variety of aquatic organisms, including juvenile salmonids. Side channels constructed for 1,000 cfs flows would provide functional habitat for salmonid rearing when water is flowing through the channels. As flows recede, these side channels would drain naturally, reducing the likelihood of stranding of aquatic organisms.

Side channels would be constructed to leave a small berm at the upstream and downstream ends to minimize impacts to water quality during construction. These small berms would be removed at the end of construction or left in place for removal by subsequent high flows.

Activity G (Alcove – 300 cfs)

Alcoves would be excavated to design elevations at the downstream end of side channels (300 cfs). These areas would be continuously inundated (approximately 1–2 feet deep during low flows). Constructed alcoves would provide year-round juvenile fish habitat and would be maintained as

associated high-flow channels route water through them. Alcoves may function under various flow regimes, depending on local hydraulic conditions.

Activity H (Grade Control Removal)

Grade control structures would be removed to increase channel complexity via promotion of channel migration, increased sinuosity, reduced fine sediment storage, increased coarse sediment transport, and restoration of bars.

Activity I (Coarse Sediment Addition)

Long-term, large-scale coarse sediment augmentation sites would be created in order to encourage the development of alternate bars and channel migration, provide a coarse sediment supply, and improve access to the sites. Selected vegetation would be removed to facilitate the introduction of this coarse sediment along the channel margin. Coarse sediment would be pushed into the main river channel during low flows, narrowing the channel and facilitating the river's ability to route the sediment downstream during winter and spring flow events. As appropriate, salvaged large woody debris (LWD) would be retained to provide additional habitat complexity.

Activity J (Placement of Excavated Materials)

Excavated materials would be moved (often out of the 100-year floodplain) so that there would be no increase in the elevation of the 100-year flood (BFE). Spoiled materials would be carefully spread in uniform layers. Earthen materials would be spread to reasonably even and uniform surfaces that blend with the natural terrain. Depending on landowner requests, replanting may occur. In general, revegetation, beyond the seeding of open spoils areas, would rely on natural recruitment. However, revegetation would be enhanced at specific locations to address impacts described in Chapter 3.

Activity K (Staging Areas)

Excavated materials would be transported over these areas to cap stockpile areas. Water would be applied for construction purposes, including dust abatement, as directed by the Contracting Officer.

Activity L and M (Roads, Existing and New)

Existing roads would be used to access most activity areas. Existing roads within the project boundaries include Trinity Dam Boulevard, Trinity Hatchery Road, Rush Creek Road, Lewiston Road, Goose Ranch Road, Brown's Mountain Road, and Salt Flat Road. Individual road segments may be used for one or more activities (e.g., access for equipment and personnel, removal of material, revegetation efforts, and monitoring activities). In the event that Salt Flat Road is used, access may be constrained by load limits or other stipulations of the Salt Flat Homeowners Association.

The location of some activity areas would require construction of new roads for specific project purposes. These roads would be located to connect activity areas in a manner that minimizes impacts to the resources described in Chapter 3.

Activity N (Crossings, Trinity River)

The Trinity River crossings would provide access to activity areas within the Dark Gulch site for heavy equipment such as trucks, excavators, and scrapers. The crossings would be constructed using alluvial materials excavated from riverine activity areas. Due to requirements to retain navigation capability and minimize impacts to aquatic organisms, these crossings would be submerged under approximately 1 foot of water in the thalweg under low-flow conditions. The construction of these crossings would likely require some vegetation removal in order to ensure a safe entrance and exit to the channel. If Alternative 1 is implemented, the side channel at the Dark Gulch site would be larger and a small bridge would be constructed to provide access to Bucktail Hole River Access.

Activity O (Revegetation)

Impacts to vegetation would occur in all activity areas. Revegetation would rely primarily on natural recruitment of native species; however, if necessary, vegetation planting would occur to address landowner requests and fish and wildlife requirements. In general, the TRRP objective is to ensure that riparian vegetation is replaced on a 1:1 ratio within the Trinity River corridor. Additional planting may also be used to control or inhibit the reestablishment of noxious and invasive species.

Common Activities

Three activities are common to all activity areas: vegetation removal, water use, and monitoring. The locations and magnitude of these activities would depend on the activity area.

Vegetation Removal

- Clear rights-of-way required to access work areas and the work areas themselves using a combination of manual labor and heavy equipment (i.e., chainsaw, excavator, and bulldozer).
- Remove the majority of stumps, roots, and vegetative matter to allow river scour on lowered floodplain surfaces. Some LWD is planned for use in the floodplain to serve as habitat for juvenile salmonids.
- Cleared and grubbed vegetation may be disposed of by burying within spoils areas, chipping, hauling offsite, burning, or other appropriate methods. Large wood from the site may be reserved for use as structure within the project areas. On lands managed by the STNF at the Lewiston site, vegetative material (excluding large wood) would be chipped or buried within authorized activity areas.
- Preserve and protect vegetation designated for preservation within clearing limits and vegetation outside clearing limits.
- Mechanically remove submerged roots from river fringe areas by using ripping bars set to about 16 inches deep or with excavator bucket. Equipment bodies (tires, tracks) would remain outside of the river when removing submerged roots.

Water Use

- Apply water for dust abatement, as directed by the Contracting Officer. Dust abatement water would be obtained from on-site seep wells or the Trinity River. When drafting from the Trinity River, pump intakes would be in conformance with criteria established by NMFS and CDFG to

prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 feet per second (fps).

- In the event irrigation is necessary for revegetation efforts, the primary water source would be the Trinity River. Pump intakes would be in conformance with criteria established by NMFS and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 fps.

Monitoring

- Physical habitat would be surveyed to quantify physical changes over time.
- Floodplain water velocities would be measured to determine habitat suitability for juvenile fishes.
- Riparian growth and use by avian speiceis would be monitored to determine post-project habitat quality and quantity.
- Newly created floodplains and low water riverine and riparian habitat would be monitored to determine the extent of their use by fish and amphibians [e.g., yellow-legged frogs (*Rana boylii*)] during inundation.

2.7.1 No-Action Alternative

Under the No-Action (No-Project) Alternative, the lead agencies would not proceed with the Proposed Action, although other activities authorized in the ROD for the FEIS would be implemented. The No-Action Alternative reflects the existing condition of the Lewiston–Dark Gulch sites within the boundaries established for the Proposed Action.

2.7.2 Proposed Action

The Proposed Action would include activities throughout the Lewiston and Dark Gulch sites on both sides of the Trinity River. These activities are expected to eventually result in the development of point bars and floodplain habitat that do not presently exist. The response time would be dynamic and subject to external forces once the activities have been completed. Creation of these features would be accomplished through the rescaling of the river channel and floodplain within the riverine rehabilitation areas, although there is an expectation that natural alluvial processes may immediately affect a larger area. Modifications to specific river reaches, including removal of a portion of the weir below the TRSSH, would assist in reestablishing the alluvial processes and interactions at these locations. This rehabilitation of river function could result in the rapid development of a larger and more complex expanse of river and floodplain habitats. The result of habitat expansion would be increased habitat suitability and availability for salmonids and other native fish and wildlife species.

The premise of the Proposed Action is that it would use the suite of rehabilitation activities to modify the type and/or character of aquatic, riparian, and upland habitat in a manner that incorporates an understanding of the functional relationships and natural processes of an alluvial river. The modifications proposed are designed to allow the river to function and change over time as the historical alluvial river

did in response to conditions such as flows, scour, developing vegetation, and geology. The lead agencies acknowledge that projects of this nature have a degree of uncertainty in terms of the type and degree of change that may occur. The inherent variability in the flow regime would largely control the rate and magnitude of change.

Figures 2-2a, 2-2b, and 2-2c illustrate activities included in the Proposed Action. The Proposed Action includes a number of in-channel activities at both the Lewiston and Dark Gulch sites as well as several river crossings within the boundary of the Dark Gulch site. The in-channel activities would include the placement of approximately 51,630 cubic yards of coarse sediment into the Trinity River: 36,330 cubic yards at the Lewiston site and 15,300 cubic yards at the Dark Gulch site. The riverine activities would result in the excavation of approximately 87,000 cubic yards of alluvial material: 38,100 cubic yards at the Lewiston site and 48,900 yards at the Dark Gulch site. About 84,600 cubic yards would be placed at various upland locations within the project sites. Riverine activities on both sides of the Trinity River would use adjacent upland and staging areas to dispose of and/or stockpile excavated or processed materials within the boundaries of the two sites. These sites include public and private lands within a narrow corridor parallel to the river.

Activities A through I are intended to increase the potential for the river to meander (migrate) out of the channel in which it has been confined by historic dredging activities and, more recently, by riparian berms. In addition to the immediate changes to the channel (e.g., grade control removal, berm removal, floodplain excavation), the Proposed Action would increase the likelihood that the Trinity River would reflect more of the “healthy river” attributes of an alluvial river. A full discussion of the healthy river attributes is provided in Section 3.3 of this document.

Activities E, F, and G are intended to create off-channel habitat that would provide refuge for salmonids and other aquatic wildlife during inundation. The side channels, alcoves, and modified floodplains would also provide additional complexity to the riverine environment. All of these activities are consistent with the healthy river attributes.

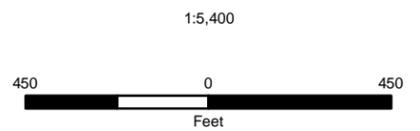
Activities J through M are associated with the transfer, placement, and stabilization of material excavated from the riverine areas. Activity K at U-4DG also includes conversion of a pond to a seasonal wetland, thereby eliminating habitat dominated by non-native amphibians. Activity N at crossings X-1DG and X-2DG would provide construction access to activity areas on the right side of the river at Dark Gulch. These crossings may be required in lieu of, or in addition to, access via Salt Flat Bridge.

Monitoring is a required element of the Proposed Action and responds to the TRRP program management objectives, as well as the elements of the Mitigation Monitoring and Reporting Plan required pursuant to CEQA.

File Location: G:\Projects\10102_TRRP_Lewisston\GIS\Working_MXD\10102_DG-Low4_Fig 2-2a_TreatAreas_PA.mxd Source: NSR, Inc.; USBR; USDA Prepared: 10/31/2007 bmoore



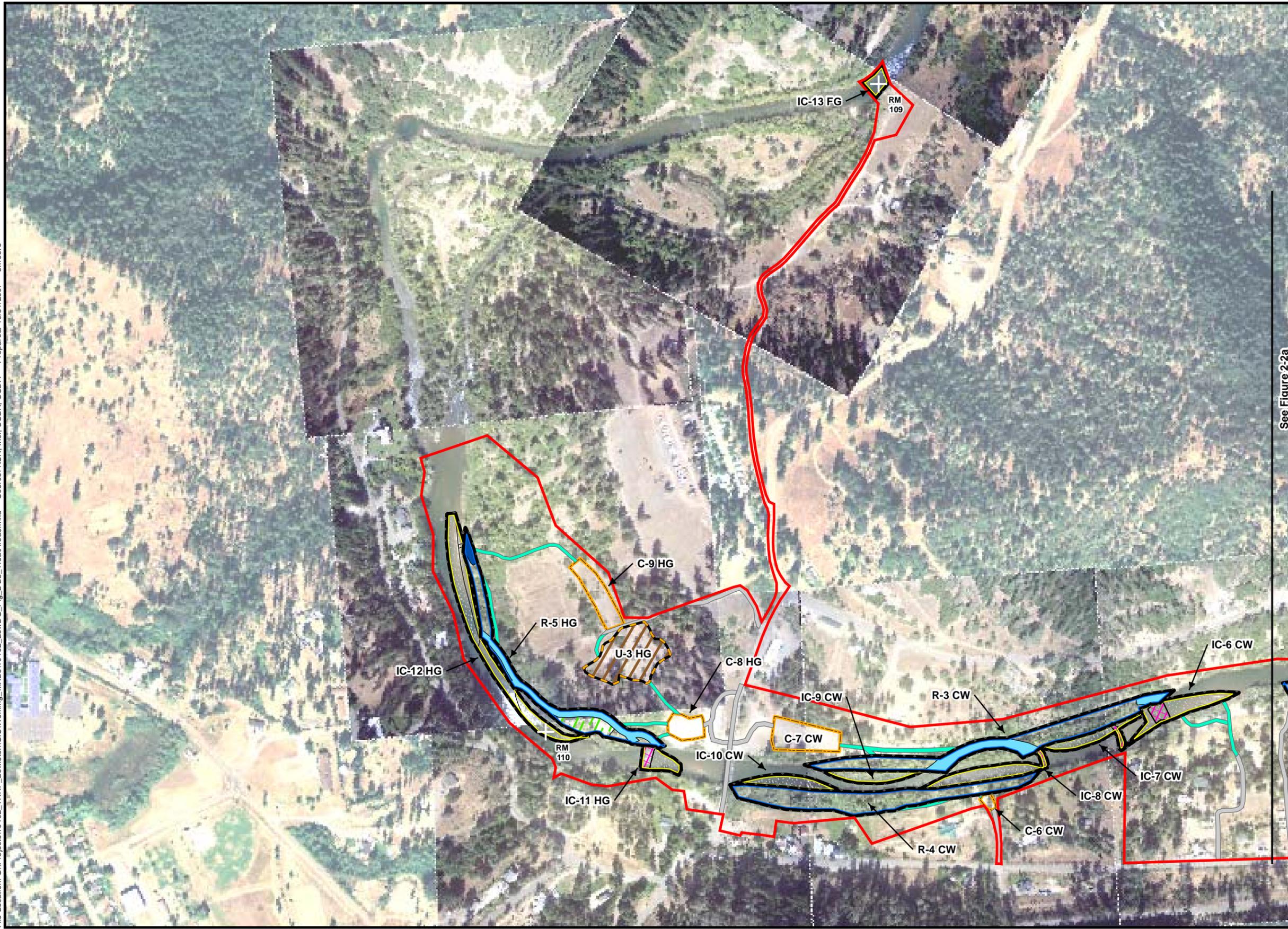
- Site Boundary (131.5 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)
- Treatment Area**
- Recontouring
 - Constructed Floodplain (1000-4500 cfs)
 - Alcove
 - Coarse Sediment Addition
 - Grade Control Removal
 - Constructed Floodplain (6000 cfs)
 - Low-Flow Sidechannel (300 cfs)
- CW - Cableway**
DC - Deadwood Creek
FG - Dept. of Fish & Game
HG - Hoadley Gulch
SO - Sven Olbertson



Aerial photography:
2005
2006

Figure 2-2a
Proposed Action Activity Areas

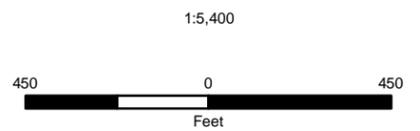
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- Site Boundary (131.5 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)
- Treatment Area**
- Recontouring
 - Constructed Floodplain (1000-4500 cfs)
 - Alcove
 - Coarse Sediment Addition
 - Grade Control Removal
 - Constructed Floodplain (6000 cfs)
 - Low-Flow Sidechannel (300 cfs)

CW - Cableway
DC - Deadwood Creek
FG - Dept. of Fish & Game
HG - Hoadley Gulch
SO - Sven Olbertson

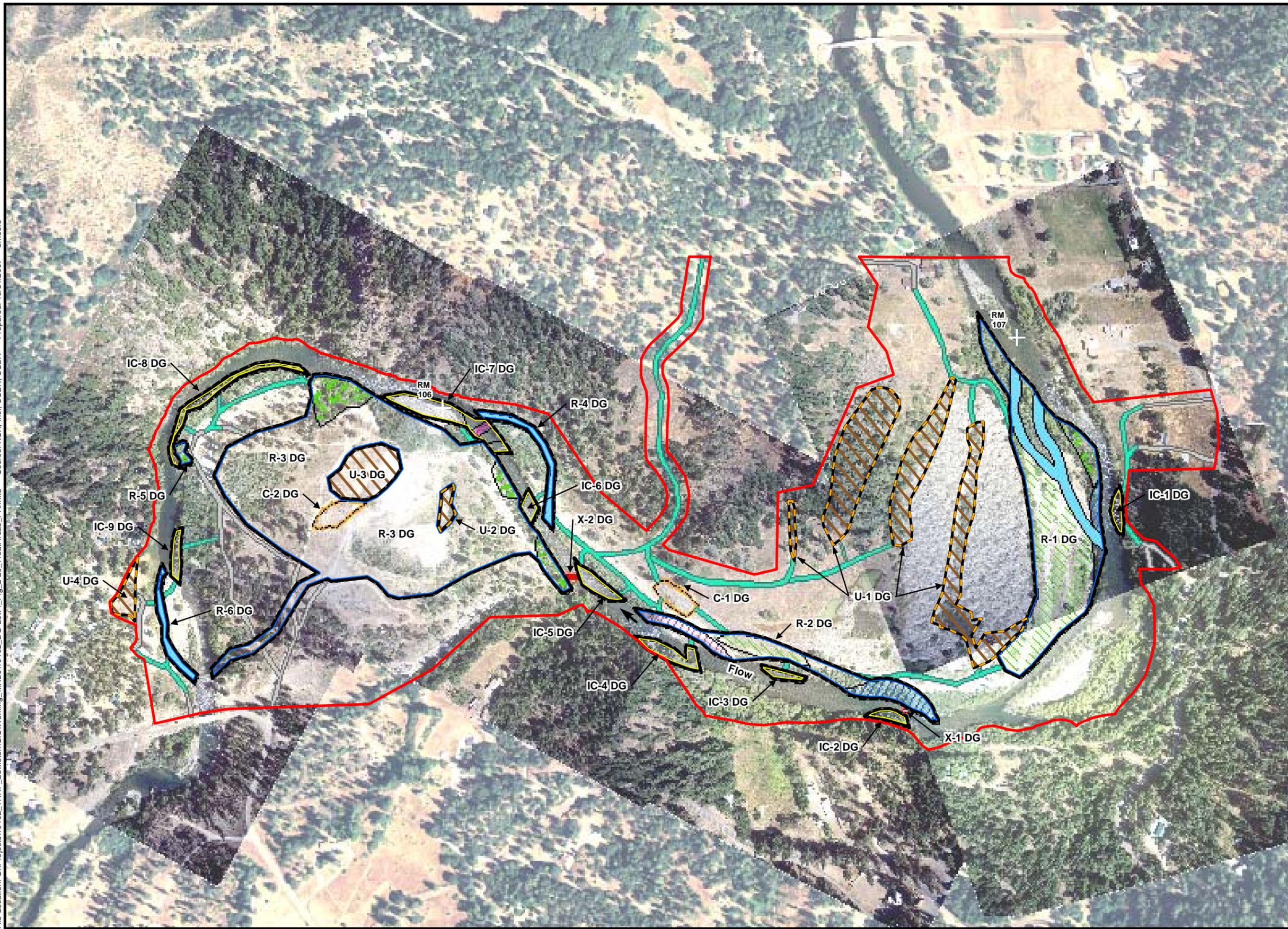
See Figure 2-2a



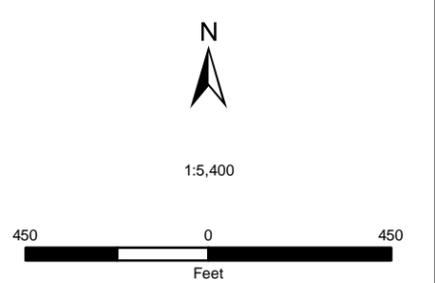
Aerial photography:
2005
2006

Figure 2-2b
Proposed Action Treatment Areas

File Location: G:\Projects\10102_TRRP_Lewisston\GIS\Working_MXD\10102_DG-Law4_Fig.2-2c_TreatAreas_PA.mxd Source: NSR, Inc.; USBR, USDA Prepared: 10/31/2007 bmoore



- Site Boundary (152 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
 - Crossing (X)
- Activity Area**
- In Channel
 - Riverine
 - Upland
- Treatment Area**
- Coarse Sediment Addition
 - Grade Control Removal
 - Constructed Floodplain (450 cfs)
 - Constructed Floodplain (6000 cfs)
 - Medium-Flow Sidechannel (1000 cfs)
 - Low-Flow Sidechannel (300 cfs)
 - Vegetation Removal
- CW - Cableway**
DC - Deadwood Creek
FG - Dept. of Fish & Game
HG - Hoadley Gulch
SO - Sven Olbertson



Aerial photography:
2005
2006

Lewiston-Dark Gulch Rehabilitation Project: Trinity River Mile 105.4-111.7

Figure 2-2c
Proposed Action Treatment Areas

Table 2-3 summarizes the types of activities that would occur as part of the Proposed Action.

Table 2-3. Summary of Proposed Action – Activity Areas

Activity Area (acres)	Treatment Area (acres) ^a	Volume (cubic yards) ^b	Activity
<i>Lewiston Sites</i>			
IC-1 SO (1.51)	1.05	5,100	I
IC-2 SO (0.23)	0.04	50	H
IC-3 SO* (0.48)	0.31	1,300	I
IC-4 DC* (0.21)	0.21	1,000	I
IC-5 DC (0.26)	0.26	1,700	I
IC-6 CW (0.80)	0.80	3,220	H, I
IC-7 CW (0.49)	0.48	1,720	H, I
IC-8 CW* (0.74)	0.74	7,020	H, I
IC-9 CW (0.44)	0.44	3,600	I
IC-10 CW (0.46)	0.46	3,700	I
IC-11 HG (0.37)	0.37	1,220	H, I
IC-12 HG (1.65)	1.05	6,700	I
IC-13 FG* (1.65)	1.05	1,000	I
<i>IC Subtotal (9.29)</i>	<i>7.26</i>	<i>36,330</i>	
R-1 SO (10.20)	8.23	25,200	A, C, D, E
R-2 DC (3.37)	0.48	1,900	A, E
R-3 CW (2.62)	0.77	2,700	E
R-4 CW (2.43)	No treatment		
R-5 HG (1.88)	1.32	8,300	D, E, G

Table 2-3. Summary of Proposed Action – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Activity
<i>R Subtotal (20.50)</i>	<i>10.80</i>	<i>38,100</i>	
U-1 SO (1.37)	1.37	23,400	A, J
U-2 DC (0.28)	0.28	1,300	A, J
U-3 HG (1.55)	1.55	11,000	A, J
<i>U Subtotal (3.20)</i>	<i>3.20</i>	<i>35,700</i>	
C-1 SO (1.38)	1.38		K
C-2 SO (0.05)	0.05		K
C-3 SO (0.37)	0.37		K
C-4 DC* (0.99)	0.79		K
C-5 DC (0.25)	0.25		K
C-6 CW* (0.89)	0.89		K
C-7 CW (0.89)	0.89		K
C-8 HG (0.39)	0.39		K
C-9 HG (0.65)	0.65		K
C-10 FG* (0.65)	0.50		K
<i>C Subtotal (5.86)</i>	<i>5.86</i>		
<i>Existing Roads (2.21)</i>	<i>2.21</i>		<i>M</i>
<i>New Roads (1.30)</i>	<i>1.30</i>		<i>N</i>
<i>Total (42.36)</i>	<i>30.63</i>		<i>Lewiston</i>

Table 2-3. Summary of Proposed Action – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Activity
<i>Dark Gulch Site</i>			
IC-1 DG (0.20)	0.20	1,000	I
IC-2 DG (0.18)	0.18	900	I
IC-3 DG (0.16)	0.16	800	I
IC-4 DG (0.44)	0.44	2,100	I
IC-5 DG (0.33)	0.33	1,600	I
IC-6 DG (0.17)	0.17	800	I
IC-7 DG (1.05)	0.83	4,000	H, I
IC-8 DG (0.62)	0.62	3,000	I
IC-9 DG (0.23)	0.23	1,100	I
<i>IC Subtotal (3.38)</i>	<i>3.16</i>	<i>15,300</i>	
R-1 DG (9.18)	7.22	31,600	A, B, D, E
R-2 DG (2.63)	1.95	10,700	B, D, F
R-3 DG (21.22)	1.55	1,300	A
R-4 DG (0.59)	0.59	3,800	E
R-5 DG (0.13)	0.13	100	A
R-6 DG (0.43)	0.43	1,400	E
<i>R Subtotal (34.18)</i>	<i>11.87</i>	<i>48,900</i>	
U-1 DG (5.19)	5.19	46,100	A, J
U-2 DG (0.24)	0.24	300	A, J

Table 2-3. Summary of Proposed Action – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Activity
U-3 DG (1.41)	1.41	1,100	A, J
U-4 DG (0.37)	0.37	1,400	A, J
<i>U Subtotal (7.21)</i>	<i>7.21</i>	<i>48,900</i>	
C-1 DG (0.38)	0.38		K
C-2 DG (0.38)	0.38		K
<i>C Subtotal (.76)</i>	<i>0.76</i>		
X-1 DG (0.02)	0.02	70	N
X-2 DG (0.03)	0.03	100	N
<i>X Subtotal (.05)</i>	<i>0.05</i>	<i>170</i>	
<i>Existing Roads (2.13)</i>	<i>2.13</i>		<i>M</i>
<i>New Roads (4.02)</i>	<i>4.02</i>		<i>N</i>
<i>Total (51.73)</i>	<i>29.20</i>		<i>Dark Gulch</i>
<i>Project Total</i>	<i>56.54</i>		

^aArea calculated from project GIS

^bProvided by TRRP

*in channel activity areas planned for long-term high flow gravel augmentation and their associated staging/gravel storage areas. Future gravel volumes would vary dependent on water year. Paired IC and C areas are: 1) IC-3 SO and C-3 SO, 2) IC-4 DC and C-4 DC, 3) IC-8CW and C-6 CW, and 4) IC-13 FG and C-10 FG.

In addition to the common activities previously discussed, the following elements are included in the Proposed Action. Functions and values would be developed that would encourage revegetation where habitat may be improved and above the 1.5-year recurrence flow elevation. Natural recruitment of native vegetation species, in combination with planting, would minimize any short-term losses of riparian vegetation and its associated habitat. The actual amount of revegetation included in the Proposed Action would be determined upon completion of final grading activities. As proposed, most revegetation activities would be restricted to those floodplain and side-channel features that would become minimally inundated at flows $\leq 6,000$ cfs (1.5-year return interval flood).

As appropriate, all activities would include specific measures intended to limit or prohibit reintroduction of noxious and invasive plant species. The spread of noxious, invasive, and exotic plant species within the project boundary would be controlled by implementing excavation and disposal activities in a manner that maximizes control of seed and root-sprout sources and reduces the potential for non-native plant infestation (e.g., burial).

Design Elements

The following elements are common to the Proposed Action and Alternative 1. These design elements are not described again in the specific description of Alternative 1.

Hydraulics

The Proposed Action would occur in areas that FEMA has designated as Special Hazard Zones AE and X, as described in Section 3.4. In the Zone AE areas, Reclamation has established a design criterion stating that not only would the County's floodplain ordinance be followed, but implementation of any action alternative would not increase the flood risk for the community. This criterion resulted in a stipulation that coarse sediment and excavated material would be strategically placed to ensure that 100-year flood elevations would not increase over current conditions. As previously described, the site boundaries generally conform to the river corridor, bounded by prominent geographic features such as roads and fences.

The Proposed Action and Alternative 1 include two crossings on the Trinity River within the Dark Gulch site. The flood risk design criterion was applied to these crossings to ensure that private property and public infrastructure would not be adversely affected.

The design of the activity areas was based on an understanding of the relationships between the flow regime and the hydrologic/hydraulic characteristics of the action alternatives. A fundamental constraint was to *do nothing to increase the flood risk in the general vicinity, and to not raise the water surface elevation above the current FEMA estimated 100-yearbase flood elevation*. Evaluation of the action alternatives will require comparing estimated seasonal base flows and estimated return-period flows. USACE's Hydraulic Engineering Center River Analysis System (HEC-RAS) hydraulic model will be used by the design team during final design activities to predict changes in flood elevations at various points along the project reach. Table 2-4 lists the components of the flow regime, the seasonal or other periodic return intervals, and the flow rates that would be used during final design to ensure that the action alternatives meet the flood constraints described above.

A HEC-RAS model for the Trinity River from Lewiston Dam to the North Fork Trinity River was developed by DWR and provided to the TRRP as part of the administrative record. This model was calibrated to match measured water-surface elevations (WSEs) in the Trinity River within and adjacent to the site boundaries for the design flow. Since no WSEs are known for the 100-year flow, the predicted WSEs are based on the output of the model using carefully selected Manning's "n" values that reflect the overbank conditions at each activity area. The model incorporates empirical data from surveyed cross-sections, including bathymetric and overbank/floodplain topography in the general vicinity of the project

site. To obtain WSEs for design flows, the model was calibrated using surveyed WSEs and known flows (from gage data). The model was determined to be adequate/very accurate for the level of evaluation and design required.

Table 2-4. Estimated Mainstem Trinity River Flow Conditions Used for Alternative Designs

Flow Description	Flow Event	Flow Rate (cfs)
Summer base flow ^a (July 22 to October 15 of each year)	Q _s	450
1.5-year return interval design flow	Q _{1.5}	6,000
Estimated FEMA 100-year flow below Rush Creek	Q ₁₀₀	19,300
Estimated FEMA 100-year flow below Grass Valley Creek	Q ₁₀₀	23,600

^aBase flow defined as cfs from TRD release and accretion flow
Q=return interval

There are two significant flow conditions that are important to the design of the action alternatives: the summertime low-flow condition of about 450 cfs, which is the release from Lewiston Dam, and the 1.5-year-event (bankfull) flow of 6,000 cfs. The design team regards the design flows portrayed in Table 2-4 as the “best available information” per FEMA requirements. The FEMA Q100 “near Douglas City” (38,500 cfs) was established in the 1976 USACE report (U.S. Army Corps of Engineers 1976) used by FEMA to develop the current flood insurance rate maps (FIRMs) for the Trinity River. The 6,000 cfs 1.5-year event is based on the ROD flow release. This flow information provides the basis for the designs incorporated into the action alternatives.

A fundamental design criterion is to inundate the designed floodplain surface with water approximately 0.5 feet deep at the proper design flow. For example, the 6,000 cfs floodplain in R-2 DG would be inundated with 6 inches to 1 foot of water during Trinity River flows of 6,000 cfs. In addition, the floodplain surfaces would be designed to ensure adequate sloping of the bank toward the river to ensure drainage and minimize the opportunity for stranding juvenile salmonids.

The HEC-RAS hydraulic model was developed to calculate the required floodplain elevation and was calibrated for the existing conditions. The calibration was based on water-surface profiles surveyed at low flow, and water profiles and points surveyed at different flows, ranging from 4,500 cfs to 10,000 cfs releases from Lewiston Dam. After the model was properly calibrated, floodplain elevations were determined for the activity areas and used to develop the design topography. The illustrations at the end of this chapter portray the design topography concepts. Additional HEC-RAS runs would be used to determine if the floodplain designs provide for inundation (6 inches of water on average). If not, the floodplain slope would be changed to match the slope of the water surface in the channel, and the elevation moved up or down so that the floodplains would be properly inundated.

Roadway Approaches

The Lewiston site is in close proximity to Trinity Dam Boulevard, Old Lewiston Road, and Rush Creek Road. Trinity Hatchery Road provides access to the upper end of the Lewiston site. The Dark Gulch site is bounded by Lewiston Road, Brown's Mountain Road, and Salt Flat Road. Lewiston and Brown's Mountain roads are under the jurisdiction of the Trinity County Road Department, and Salt Flat Road is owned and managed by the Salt Flat Homeowners Association. In addition to Trinity County, the STNF, BLM, and CDFG maintain river access points within the project boundaries of the two sites.

As an alternative to disposing of excavated materials onsite, materials may be hauled to commercially approved off-site locations if this option is found to be economical (in other words, if onsite disposal costs exceed hauling costs). Hauling excavated materials generated under the Proposed Action would require more than 1,800 truck trips to off-site locations. The traffic would be staged over the project duration, with up to 36 trucks per day hauling materials offsite, generally between August 1 and October 15. Traffic control measures would be applied in accordance with Trinity County and Caltrans requirements.

Recreation Facilities

As appropriate, recreation facilities (e.g., parking areas, access trails, picnic areas) affected by project activities would be returned to the same level of service as those offered prior to project implementation. Reclamation, in consultation with the STNF and BLM, could enhance one or more of these facilities consistent with project objectives. Examples of enhancement could be updated signage, surfacing of trails or parking areas, or improvements to fishing access locations.

Drainage

As appropriate, temporary bridges or culverts would be constructed at crossings or cross-drainage channels to allow for unimpeded surface drainage.

Rights-of-Way/Easements

Prior to construction, formal realty agreements would be made between Reclamation, land managers for BLM, STNF and CDFG, and private landowners whose property would be affected. These agreements would clarify the terms and conditions under which contractor(s) would work on private property. In addition, these agreements would compensate landowners, based on fair market value of identified construction easements, and would hold property owners harmless during construction activities.

Utilities

There are a number of utility features located within and/or adjacent to the project boundaries. Water intakes, power and telephone poles, and water supply lines parallel or cross the Trinity River in a number of locations. These utilities were taken into consideration in the project design, particularly in the area between the TRSSH and the Lewiston Bridge, to ensure that service would not be disrupted. Additional information on utilities is provided in Section 3.17.

Construction Criteria and Methods

Construction Process Overview

The following provides a general overview of the construction process for the action alternatives. A list of equipment that may be used is provided in Section 3.16, Noise.

- Vegetation removal would occur as necessary and in compliance with all regulatory requirements. An expected August 1 start date for clearing and grubbing of vegetation would allow completion of nesting by avian species. Alternatively, vegetation may be removed prior to the nesting season, which is early March for this area.
- Where available, existing roads would be used to access the activity areas. New access roads and haul routes would be constructed when necessary, and restored to a stable condition in accordance with landowner requirements at the completion of the project.
- Excavation would begin on the floodplain to bring it down to grade.
- When specified, finer grained materials excavated from activity areas may be stockpiled for use at upland rehabilitation areas.
- Any riverine treatment areas (e.g., floodplains and feathered edges) that have been compacted from construction activities would be ripped to a depth of approximately 18 inches. The furrows developed by this ripping will ensure that storm water runoff is maintained on site so that there is little or no construction-related turbidity. This action would effectively control release of storm water from the site and eliminate the need for use of post-construction sediment-control measures (e.g., silt fences, berms).
- The timing for work adjacent to the river may be affected by river flows. If for some reason the flow is low when construction starts, but it is anticipated that flows will increase before the floodplain can be excavated, excavation would occur at the lower elevations (adjacent to river) first and at the higher floodplain elevations last.
- In-channel activities, including removal of grade control features and introduction of coarse sediment, would generally take place during low flows to create immediate point bars and allow mobilization of in-channel materials at high flows. However, gravel would be introduced during high flows in 2008 at IC-3 SO and IC-13 FG. Gravel would be introduced at these high flow sites using a conveyor system to carry the gravel to mid-channel locations or the gravel would be placed along the river shoreline using heavy equipment. Long-term annual coarse sediment introduction at IC-3 SO, IC-4 DC, IC-8 CW, and IC-13 FG is also anticipated using conveyor or shoreline placement of gravel.
- Alcoves and side channels would be constructed from the existing grade down slope. A limited amount of material may be left in place (unexcavated) to isolate the work area from flowing water. Reconnecting these features to the river might rely on flow events or they may be reconnected by removing unexcavated material towards the end of the construction period.
- Final grading would occur as necessary for all activity areas.
- Demobilization of construction equipment and site clean-up would be accomplished prior to acceptance by the Contracting Officer.
- Revegetation would take place during wet conditions (fall/winter) and would generally occur at or above the 1.5-year recurrence flow elevation.

In-River Construction

- Where necessary, heavy equipment would be used to grub tree and shrub roots from the edge of the river. Vegetation would often be maintained along the river's active channel to maintain the currently available low-water fish habitat. During root removal, equipment would generally not enter the low-water river channel.
- In-river excavation would generally begin at the far edge of the activity area and work back toward the river bank so that heavy equipment is on dry land or in shallow water.
- In-river materials or coffer dams may be used to temporarily redirect flow around the work area and to create platforms from which to work. At least one navigable (by boat) passage through the activity area would remain open at all times.
- The 240-foot-long steel reinforced concrete weir at IC-2-SO would be partially removed with heavy equipment and concrete cutting tools to allow the downstream end of the newly constructed side channel at R-2 SO to connect to the mainstem Trinity River. The weir is several feet thick at the top and tapers to more than 12 feet thick at the bottom. Construction access to the weir would be from upstream on the left bank of the river, through the southern end of R-1 SO. Under the Proposed Action, a notch approximately 10 feet wide and 12 feet tall would be cut in the weir to freely allow fish passage in both directions through the notch. The bottom of the notch would be approximately 1 to 2 feet below the downstream water surface at low flows.

Traffic Control/Detour

Short-term traffic control is expected and would be in conformance with the requirements established by the appropriate jurisdictional authority for mobilization and demobilization of heavy equipment or wide-load vehicles. These requirements include:

- Meeting requirements established by the jurisdictional authority for use of existing roadways and haul routes, including seasonal or other limitations or restrictions, payment of excess size and weight fees, and posting of bonds conditioned upon repair of damage.
- Providing temporary recreation access to STNF and BLM recreation sites within the project boundaries. Once construction activities are complete, Reclamation, in consultation with the STNF and BLM, would ensure that these temporary access facilities are rehabilitated consistent with the needs of the land management agencies. Temporary access facilities may be closed to the public after the project is completed to prevent damage to private property and public resources.
- Constructing temporary roadways for access from public thoroughfares to serve the construction area. The roadways shall be of a width and load-bearing capacity to provide unimpeded traffic for construction purposes.

Staging Areas

Staging areas and storage facilities for the Proposed Action and Alternative 1 are shown on Figures 2-1a, 2-1b, and 2-1c and listed in Table 2-3. These areas would be used throughout the duration of the project activities. Some short-term staging and equipment storage and parking are anticipated in the activity areas as the project is implemented.

Air Pollution and Dust Control

Efforts will be made to minimize air pollution. Reclamation specifications require that the contractor comply with all applicable air pollution control rules, regulations, ordinances, and statutes. Contract documents will specify that the contractor will be responsible for limiting dust by watering construction site areas used by trucks, and vehicles. If water is taken from the river, pump intakes will be in conformance with criteria established by NMFS and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 fps.

Water Pollution Prevention

The contractor shall implement water pollution control measures that conform to applicable and appropriate permits. The contractor will be required to use extreme care to prevent construction dirt, debris, storm water run-off, and miscellaneous byproducts from entering the stream. Some key water pollution control measures that shall be implemented are listed below:

- The contractor shall exercise every reasonable precaution and best management practices (BMPs) to protect the Trinity River from being polluted by fuels, oils, bitumen, calcium chloride, and other harmful materials and shall conduct and schedule operations to avoid or minimize muddying and silting of the river. Care shall be exercised to preserve roadside vegetation beyond the limits of construction.
- Construction equipment will be inspected daily and maintained to ensure that fuel or lubricants do not contaminate the Trinity River. Spill containment kits will be onsite at all times and, where feasible, berms or other containment methods will be kept in place around the work areas when performing in-channel work.
- Water pollution control work is intended to provide prevention, control, and abatement of water pollution in the Trinity River, and shall consist of constructing those facilities that may be shown on the plans, specified herein or in the special provisions, or directed by the Contracting Officer.
- Furrowing of riparian areas that have been compacted during construction activity is expected to stop delivery of storm water to the river. As necessary, the contractor shall provide temporary water pollution control measures, including, but not limited to, dikes, basins, ditches, and applying straw and seed, that may become necessary as a result of the contractor's operations.
- Before starting any work on the project, the contractor shall develop an agency-approved Storm Water Pollution Prevention Plan (SWPPP) to effectively control water pollution during construction of the project. The SWPPP shall show the schedule for the erosion control work included in the contract and for all water pollution control measures that the contractor proposes to take in connection with construction of the project to minimize the effects of the operations on adjacent streams and other bodies of water. The contractor shall not perform any clearing and grubbing or earthwork on the project until the SWPPP has been accepted by responsible agencies.
- Oily or greasy substances originating from the contractor's operations shall not be allowed to enter, or be placed where they will later enter, a live stream.

Tentative Schedule

Construction associated with either of the action alternatives cannot begin until the environmental documentation has been adopted by Reclamation, the TCRC, STNF, and BLM. In addition, the following must have been completed: the final design, plans, contract specifications, and cost estimates; award of contract(s) for work; acquisition of rights-of-way; acquisition of permits; and design approvals from local, state, and federal agencies.

The total construction time for the project is anticipated to be approximately 140 days between March 1, 2008, and December 31, 2008. However, the schedule depends on funding and the availability of coarse sediment for in-river placement. If the availability of coarse sediment or funding were to inhibit complete project implementation in 2008, in-channel gravel additions would be completed during summer (July 15–September 15) 2009 or 2010. Work in the spring would include placement of gravel at the IC-3 SO and IC-13 FG activity areas and removal of vegetation so that high spring flows might assist in scouring and creating the habitat. Consequently, there may be a break in construction during high spring (May–June) flows. Revegetation would take place in the wet season (fall/winter) following construction. It is expected that annual spring additions of coarse sediment at sites IC-3 SO and IC-13 FG will continue indefinitely during peak annual releases from Lewiston dam. Addition of gravel during high spring flows in subsequent years may also be conducted at sites IC-4 DC and IC-8 CW.

2.7.3 Alternative 1

Alternative 1 is similar in many respects to the Proposed Action, although the type and degree of activities are different for the two sites. Figures 2-3a-c show the activity areas for Alternative 1. The highlighted cells in Table 2-5 indicate where this alternative is different from the Proposed Action. In essence, Alternative 1 is intended to increase the level of mechanical rehabilitation at select locations. The modification of a larger part of the weir at IC-2 SO and the large-scale floodplain/side channel excavation at R-3 DG, with its associated gravel processing, are examples where impacts would be substantially different.

Under Alternative 1, in-channel activities would include the placement of approximately 53,200 cubic yards of coarse sediment into the Trinity River: 37,900 cubic yards at the Lewiston site and 15,300 cubic yards at the Dark Gulch site. The riverine activities would result in the excavation of approximately 190,600 cubic yards of alluvial material: 45,000 cubic yards at the Lewiston site and 145,600 yards at the Dark Gulch site. About 110,600 cubic yards would be placed at various upland locations within the project sites. Riverine activities on both sides of the Trinity River will use adjacent upland and staging areas to dispose of and/or stockpile excavated or processed materials within the boundaries of the two sites. These sites include public and private lands within a narrow corridor parallel to the river.

Overall, Alternative 1 would result in activities over a larger area, and there would be a proportional increase in the volume of excavated material. This increase is expected to enhance site-specific riverine processes and eventually result in the development of point bars and floodplain habitat that do not presently exist. The increase in volume of excavated material would also preclude the need to develop off-site sources of coarse sediment but could result in additional disturbance to areas adjacent to the

Trinity River. Similar to the Proposed Action, the temporal and spatial changes to the form and function of the Trinity River are subject to variability in the flow regime over several years.

Table 2-5. Summary of Alternative 1 – Activity Areas

Activity Area (acres)	Treatment Area (acres) ^a	Volume (cubic yards) ^b	Potential Activity
<i>Lewiston Sites</i>			
IC-1 SO (1.51)	1.36	6,620	I
IC-2 SO (0.23)	0.23	100	H
IC-3 SO (0.48)	0.17	1,000	I
IC-4 DC (0.21)	0.21	1,000	I
IC-5 DC (0.26)	0.26	1,700	I
IC-6 CW (0.80)	0.80	3,220	H, I
IC-7 CW (0.49)	0.48	1,720	H, I
IC-8 CW (0.74)	0.74	7,020	H, I
IC-9 CW (0.44)	0.44	3,600	I
IC-10 CW (0.46)	0.46	3,700	I
IC-11 HG (0.37)	0.37	1,220	H, I
IC-12 HG (1.65)	1.10	7,000	I
IC-13 HG (1.65)	1.05	1,000	I
<i>IC Subtotal (7.81)</i>	<i>6.62</i>	<i>37,900</i>	
R-1 SO (10.20)	8.65	23,800	A, C, D, E
R-2 DC (3.37)	2.96	12,500	A, D, E
R-3 CW (2.62)	1.56	1,400	A, E
R-4 CW (2.43)	2.40	0	A

Table 2-5. Summary of Alternative 1 – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Potential Activity
R-5 HG (1.88)	1.47	7,300	A, D E, G
<i>R Subtotal (20.50)</i>	17.04	45,000	
U-1 SO (1.37)	1.37	22,000	A, J
U-2 DC (0.28)	0.28	11,200	A, J
U-3 HG (1.55)	1.55	8,700	A, J
<i>U Subtotal (3.20)</i>	3.20	41,900	
C-1 SO (1.38)	1.38		K
C-2 SO (0.05)	0.05		K
C-3 SO (0.37)	0.37		K
C-4 DC (0.99)	0.99		K
C-5 DC (0.25)	0.25		K
C-6 CW (0.89)	0.89		K
C-7 CW (0.89)	0.89		K
C-8 HG (0.39)	0.39		K
C-9 HG (0.65)	0.65		K
C-10 FG (0.65)	0.50		K
<i>C Subtotal (5.86)</i>	5.86		
<i>Existing Roads (2.21)</i>	2.21		L
<i>New Roads (2.13)</i>	1.30		M
<i>Total</i>	36.00		

Table 2-5. Summary of Alternative 1 – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Potential Activity
<i>Dark Gulch Site</i>			
IC-1 DG (0.20)	0.20	1,000	I
IC-2 DG (0.18)	0.18	900	I
IC-3 DG (0.16)	0.16	800	I
IC-4 DG (0.44)	0.44	2,100	I
IC-5 DG (0.33)	0.33	1,600	I
IC-6 DG (0.17)	0.17	800	I
IC-7 DG (1.05)	0.83	4,000	H, I
IC-8 DG (0.62)	0.62	3,000	I
IC-9 DG (0.23)	0.23	1,100	I
<i>IC Subtotal (3.38)</i>	<i>3.16</i>	<i>15,300</i>	
R-1 DG (9.18)	3.59	18,000	D, E
R-2 DG (2.63)	1.95	10,700	B, D, F
R-3 DG (21.22)	21.22	111,600	A, D, E, G, K
R-4 DG (0.59)	0.59	3,800	E
R-5 DG (0.13)	0.13	100	A
R-6 DG (0.43)	0.43	1,400	E
<i>R Subtotal (34.18)</i>	<i>27.91</i>	<i>145,600</i>	
U-1 DG (2.42)	2.42	32,500	A, J
U-2 DG (0.24)	0.24	300	A, J

Table 2-5. Summary of Alternative 1 – Activity Areas

Activity Area (acres)	Treatment Area (acres)^a	Volume (cubic yards)^b	Potential Activity
U-3 DG (1.41)	1.41	34,500	A, J
U-4 DG (0.37)	0.37	1,400	A, J
<i>U Subtotal (4.44)</i>	<i>4.44</i>	<i>68,700</i>	
C-1 DG (0.38)	0.38		K
C-2 DG (0.38)	0.38		K
<i>C Subtotal (.76)</i>	<i>0.76</i>		
X-1 DG (0.02)	0.02	70	N
X-2 DG (0.03)	0.03	100	N
X-3 DG (0.03)	0.03	100	N
<i>X Subtotal (.08)</i>	<i>0.08</i>	<i>270</i>	
<i>Existing Roads (2.13)</i>	<i>2.13</i>		L
<i>New Roads (2.13)</i>	<i>3.28</i>		M
<i>Dark Gulch Total</i>	<i>37.44</i>		
<i>Project Total</i>	<i>73.44</i>		

^aArea calculated from project GIS^bProvided by TRRP

Construction Criteria and Methods

Construction Process Overview

The following provides additional details for Alternative 1. This information supplements the construction information provided in the discussion of the Proposed Action. Whereas only a portion of the 240-foot-long concrete weir at IC-SO would be removed under the Proposed Action, Alternative 1 involves almost complete removal of the weir. The remaining portions of the weir would be left in a relatively smooth state with reinforcing steel cut or burned off. Access to the weir to accomplish this work would be from upstream on the left bank of the river, through the southern end of R-1 SO. Under this alternative, the entire length of the concrete weir would be removed down to approximately 1 to 2 feet below the downstream water surface at low flows to ensure that the side channel is connected to the

mainstem Trinity River. This expanded weir removal activity would increase the potential for the Trinity River to meander within the bedrock canyon at this area and increase flows through the existing pond at the downstream end of R-1 SO.

Under Alternative 1, alluvial materials may be processed onsite. Processing will consist of sorting these materials using a portable screening plant capable of sorting silt/sand, gravel/cobble, and oversize (boulder) size fractions. It is expected that the majority of on-site processing would take place in the first year of the project. In addition to the screening plant, mechanized equipment would be required for processing operations (e.g., front-end loaders/excavators, scrapers, and dump trucks). Grading would be required to ensure adequate space for the screening plant, collection piles, and staging areas.

Depending on the quality of the alluvial material, a wash process may be necessary. If a wash process is used, one or more settling basins may be constructed concurrently with the excavation of the floodplains/side channels within discrete activity areas. Wash water would be obtained from on-site seep wells or the Trinity River. When drafting from the Trinity River, pump intakes would be in conformance with criteria established by NMFS and CDFG to prevent impacts to aquatic organisms. Make-up water pumped from the river would pass through a screen at the inlet with maximum ¼-inch openings and a maximum intake velocity of 0.8 fps. As described for the Proposed Action, Alternative 1 would include some level of revegetation in certain activity areas. The actual amount of revegetation included in this alternative would be determined upon completion of final grading activities. As proposed, revegetation activities would primarily target floodplain and side-channel features that would be inundated only at flows in excess of 6,000 cfs. As appropriate, all activities would include specific measures intended to limit or prohibit the reintroduction of noxious and invasive plant species.

Design Elements

The design elements described for Alternative 1 are consistent with the description provided for the Proposed Action with regard to the riverine, upland, and staging activities. The preceding section describes the specific differences between Alternative 1 and the Proposed Action.

2.8 Representative Construction Activities

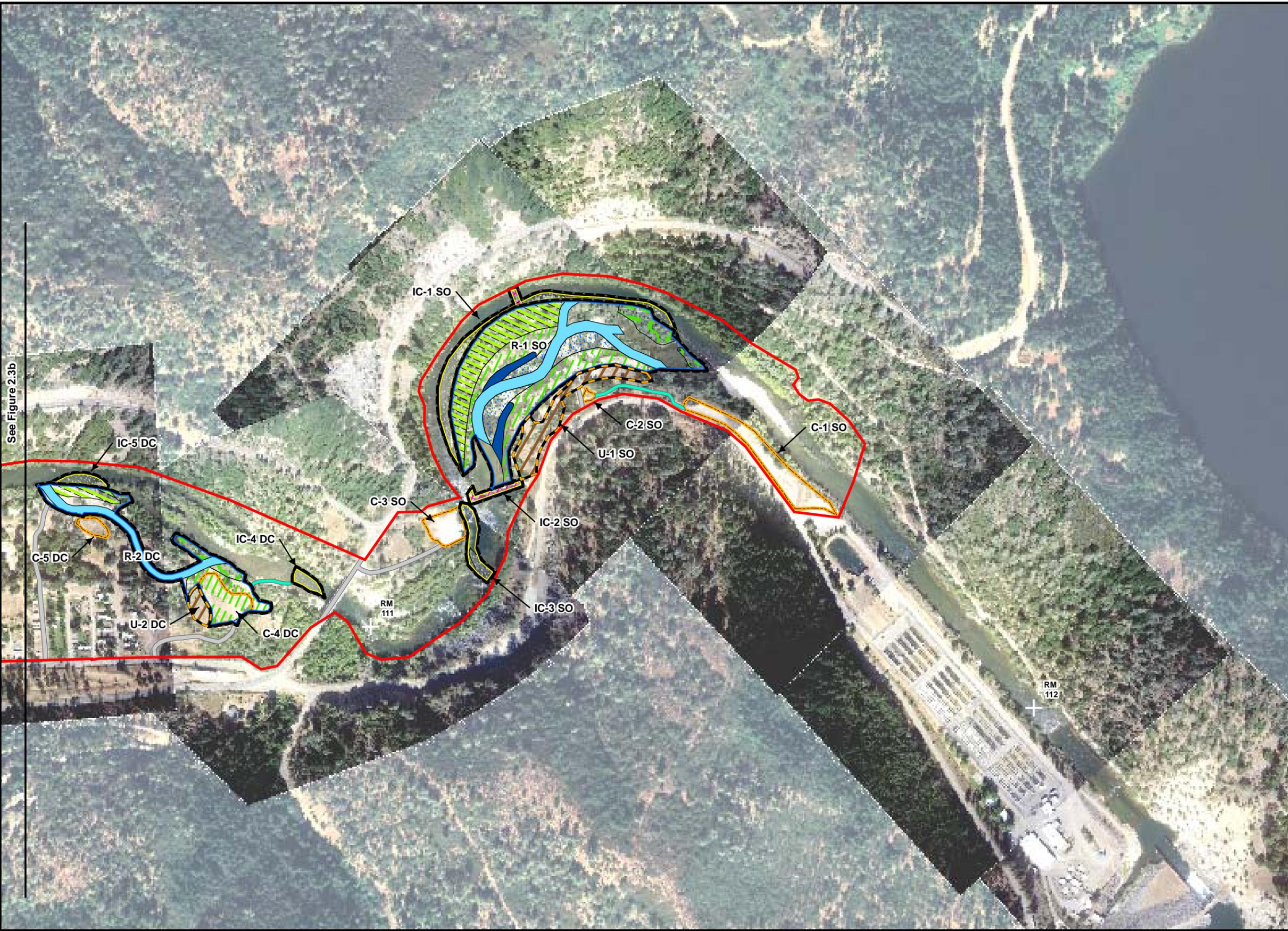
To illustrate the type and extent of rehabilitation activities described in the previous section, a series of illustrations were prepared to represent the activities included in the action alternatives (Figures 2.4a-i). For continuity and readability, these figures are included at the end of this chapter.

2.9 Alternatives Considered but Eliminated from Further Evaluation

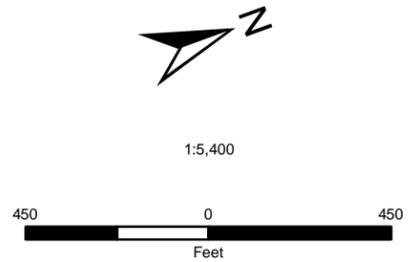
2.9.1 Dispose Material Below 100-Year Base Flood Elevation

To minimize material haul distance and cost, placing excavated material below the 100-year base flood elevation was considered. This option would involve moving excavated material a short distance and depositing it in an adjacent flat area within the floodplain. After investigation, it was determined that

File Location: G:\Projects\10102_TRRP_Lewisston\GIS\Working_MXD\10102_DG-Lew4_Fig_2.3a_TreatAreas_Alt-1.mxd Source: NSR, Inc.; USBR; USDA Prepared: 10/31/2007 bmoore



- Site Boundary (131.5 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
- Activity Area**
- In Channel (IC)
 - Riverine (R)
 - Upland (U)
- Treatment Area**
- Recontouring
 - Constructed Floodplain (1000-4500 cfs)
 - Alcove
 - Coarse Sediment Addition
 - Grade Control Removal
 - Constructed Floodplain (6000 cfs)
 - Low-Flow Sidechannel (300 cfs)
 - Vegetation Removal
- CW - Cableway**
DC - Deadwood Creek
FG - Dept. of Fish & Game
HG - Hoadley Gulch
SO - Sven Olbertson



Aerial photography:
2005
2006

Figure 2.3a
Alternative 1 Treatment Areas

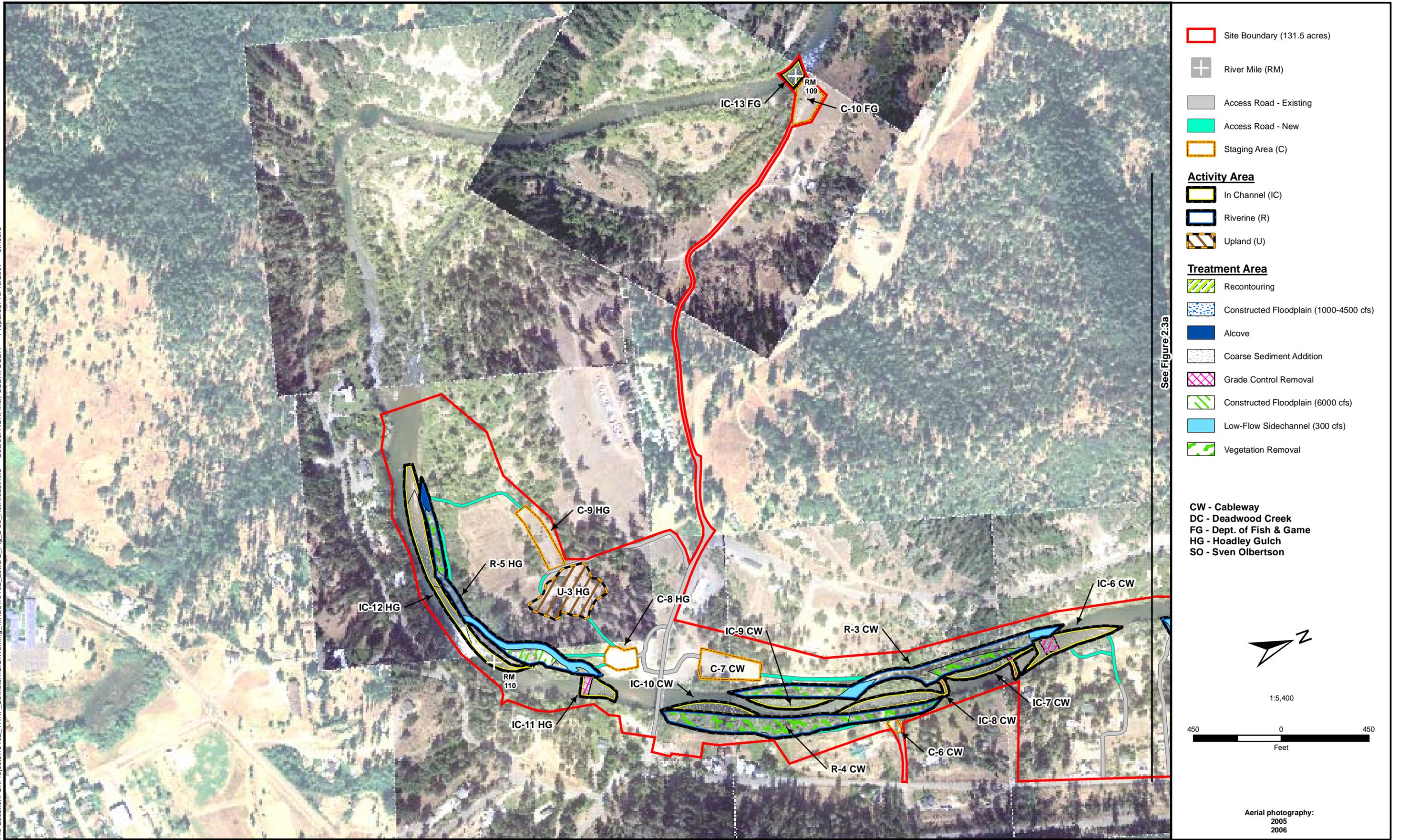
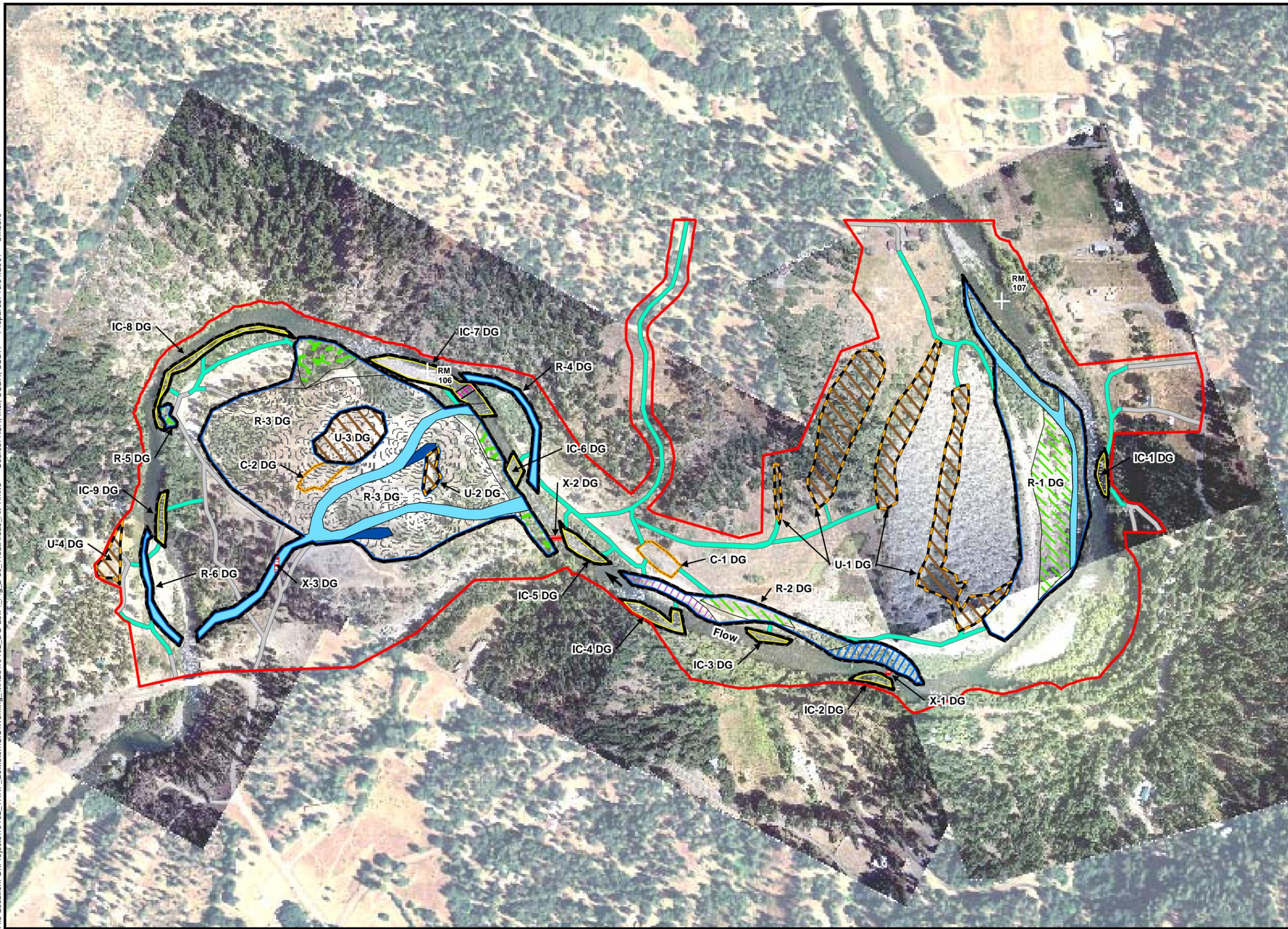
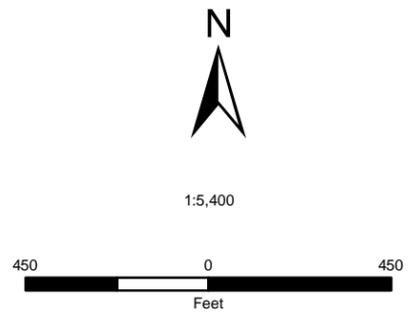


Figure 2.3b
Alternative 1 Treatment Areas

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- Site Boundary (152 acres)
 - River Mile (RM)
 - Access Road - Existing
 - Access Road - New
 - Staging Area (C)
 - Crossing (X)
 - Activity Area**
 - In Channel (IC)
 - Riverine (R)
 - Upland (U)
 - Treatment Area**
 - Alcove
 - Gravel Source and Floodplain Restoration
 - Coarse Sediment Addition
 - Grade Control Removal
 - Constructed Floodplain (450 cfs)
 - Constructed Floodplain (6000 cfs)
 - Medium-Flow Sidechannel (1000 cfs)
 - Low-Flow Sidechannel (300 cfs)
 - Vegetation Removal
- CW - Cableway
 DC - Deadwood Creek
 FG - Dept. of Fish & Game
 HG - Hoadley Gulch
 SO - Sven Olbertson



Aerial photography:
2005
2006

Figure 2.3c
Alternative 1 Activity Areas

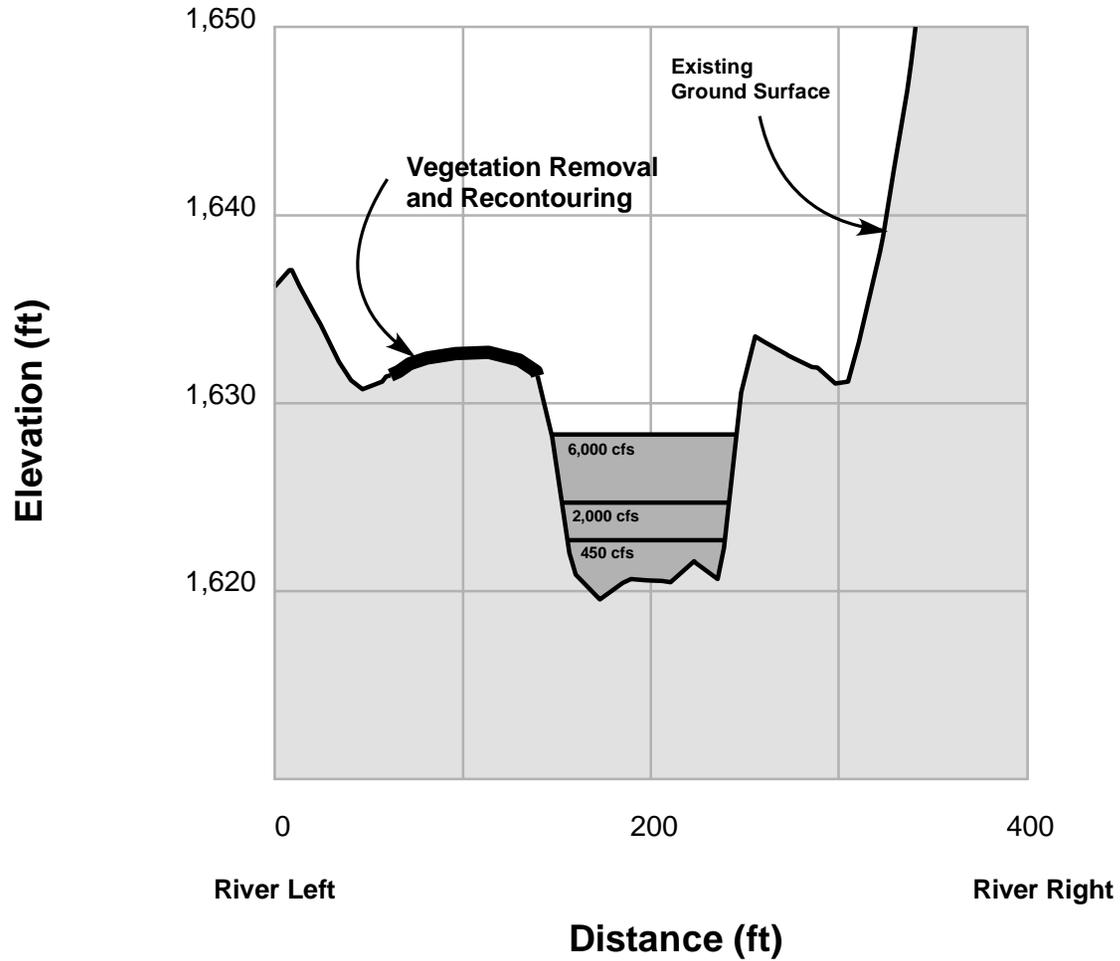
placing large amounts of material in the floodplain could result in undesirable changes to FEMA flood elevations both within and outside of the project boundaries.

2.9.2 Expanded Vegetation Removal

The distribution and density of riparian vegetation adjacent to the Trinity River in the general Lewiston area inhibit views of the river from a number of locations, including residences, businesses, and recreational river access points. As the Proposed Action was developed, the lead agencies considered a request to remove more vegetation, but determined that the level of vegetation removal required to enhance aesthetic values was beyond that required to meet the fundamental objectives of the TRRP as previously described in this chapter.

Cross Section

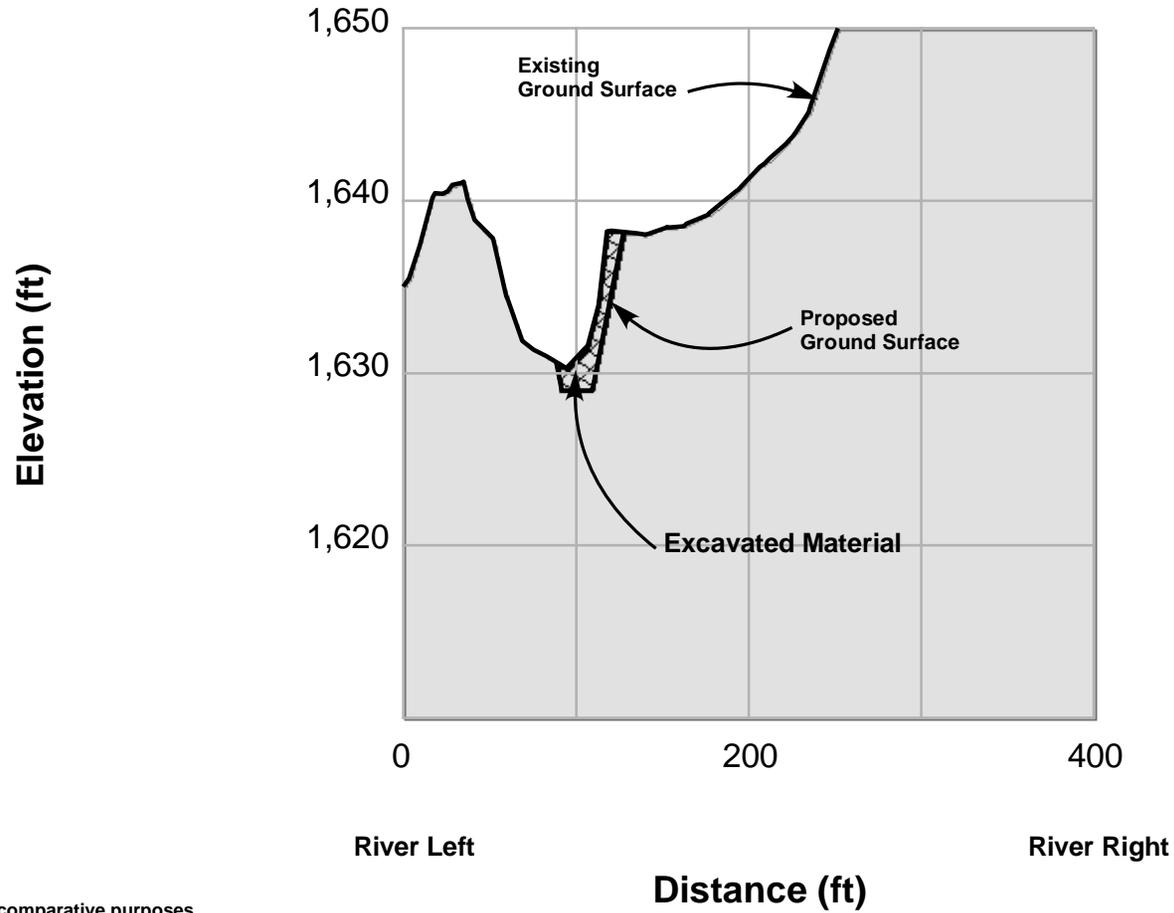
Example: R-1 SO



Note: Not to scale
Shown for comparative purposes

Figure 2.4a
Typical - Vegetation Removal and Recontouring

Cross Section

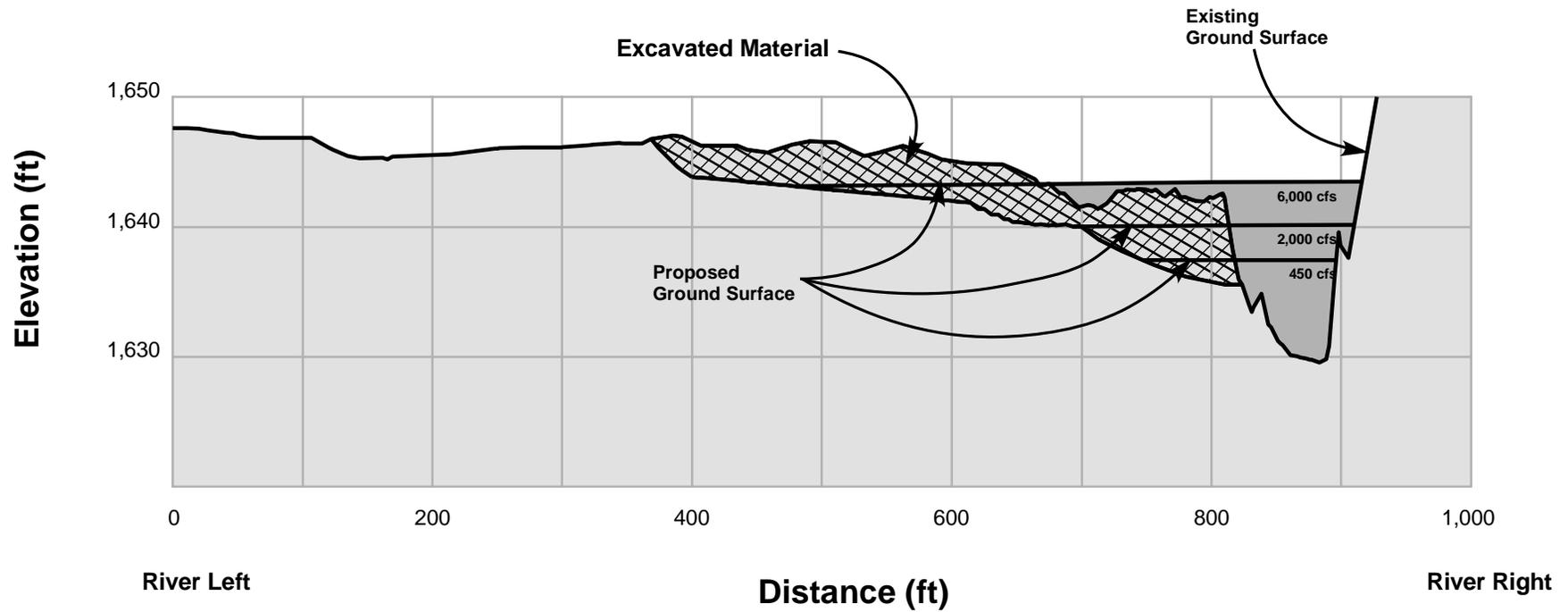


Note:
1) Not to scale. Shown for comparative purposes.
2) As planned at various locations to mitigate impacted riparian areas which are not adjacent to the river.

Figure 2.4b
Typical - Riparian Enhancement

Cross Section

Example: R-2 DG

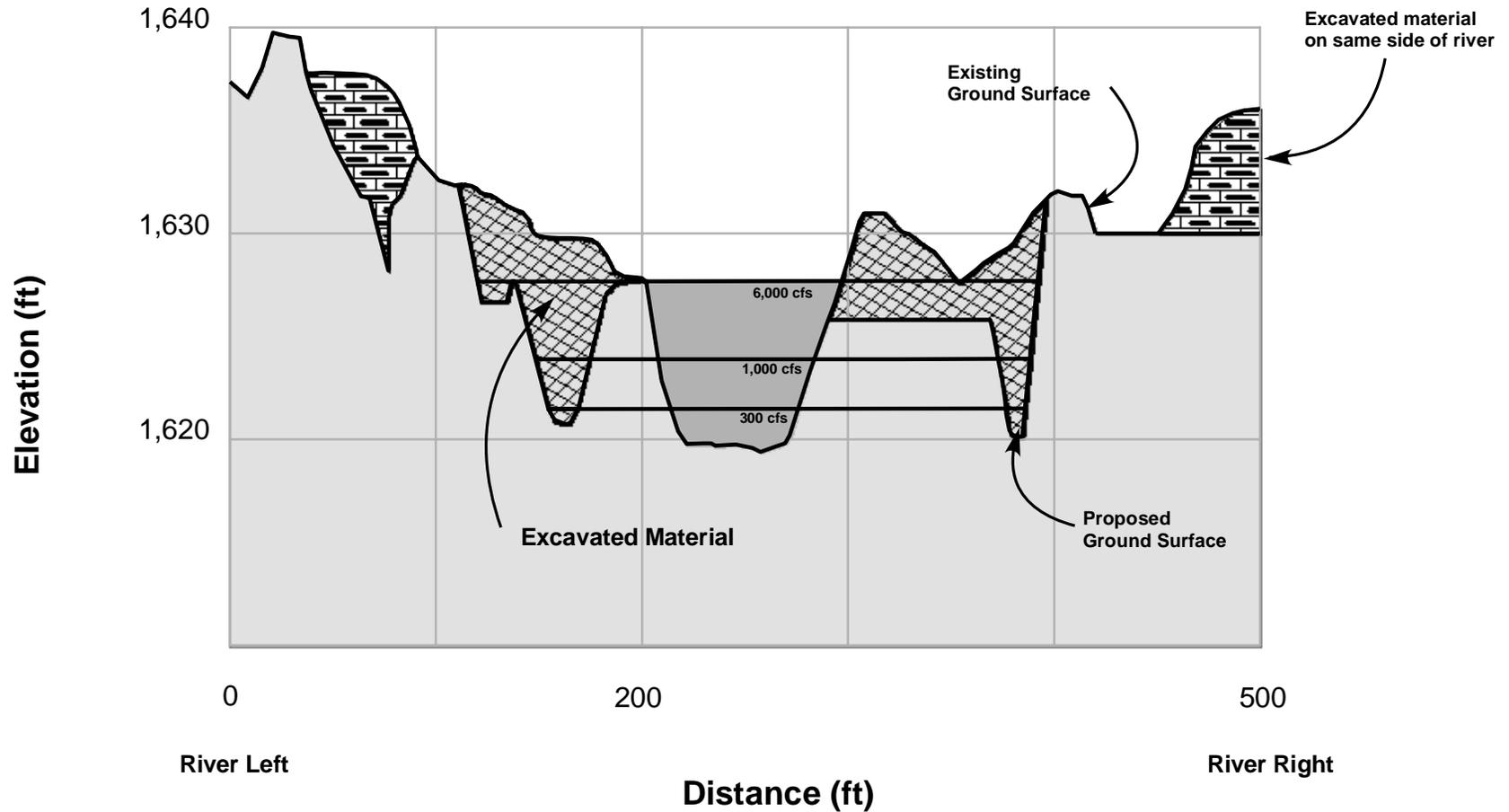


Note:
1) Not to scale. Shown for comparative purposes.
2) Floodplain will be constructed approximately 1 foot below water surface elevation at selected flow (6000, 2000, or 450 cfs), sloped downriver.

Figure 2.4c
Typical - Constructed Floodplain

Cross Section

Example: R-4 DG



Notes:
1) Not to scale. Shown for comparative purposes.

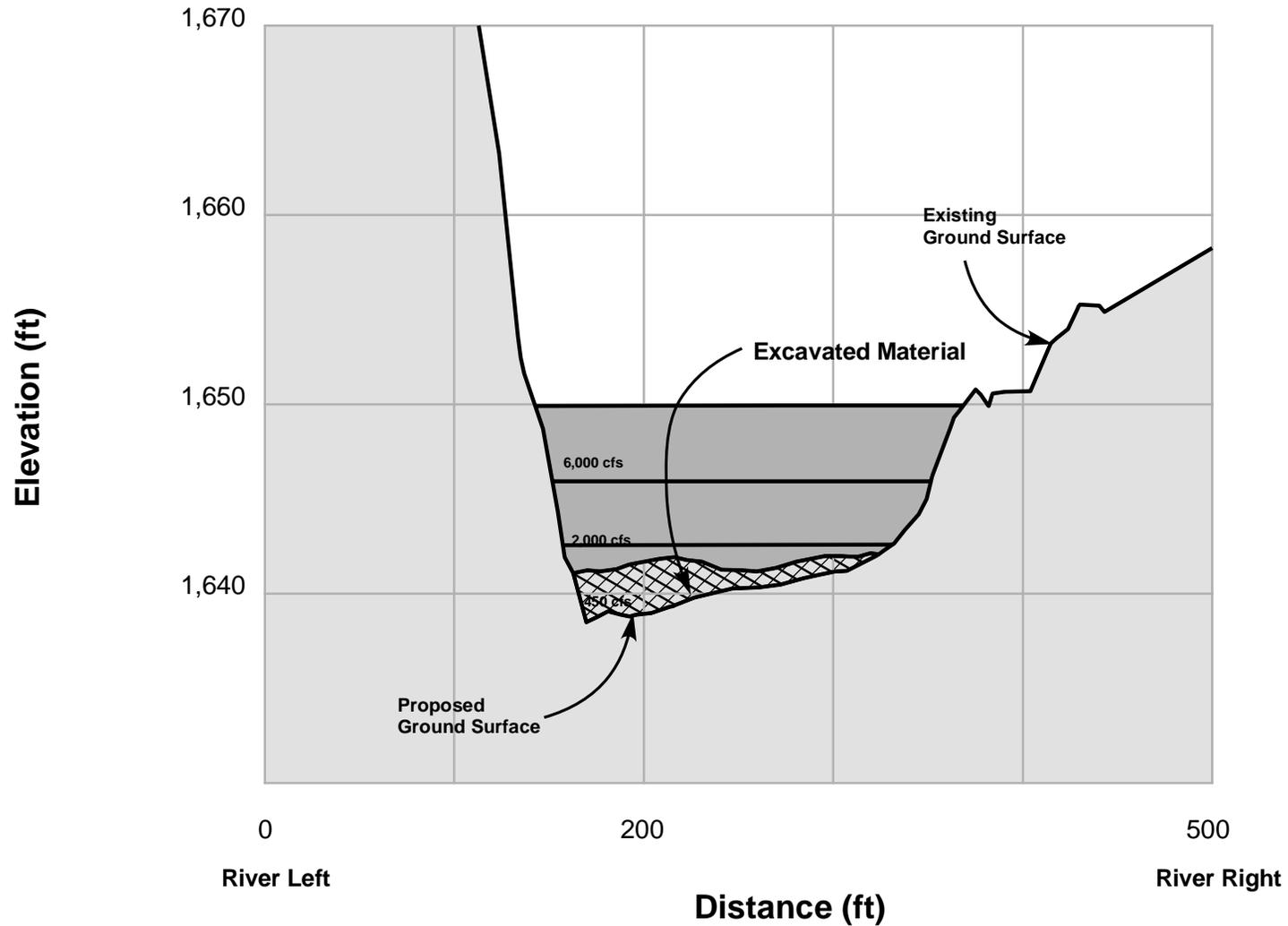
2) Medium flow side channel designed to flow approximately 1 foot deep at 1,000 cfs.

3) Low flow side channel designed to flow approximately 1 foot deep at 300 cfs.

Figure 2.4d
Typical - Medium and Low Flow Side Channels

Cross Section

Example: IC-6 CW

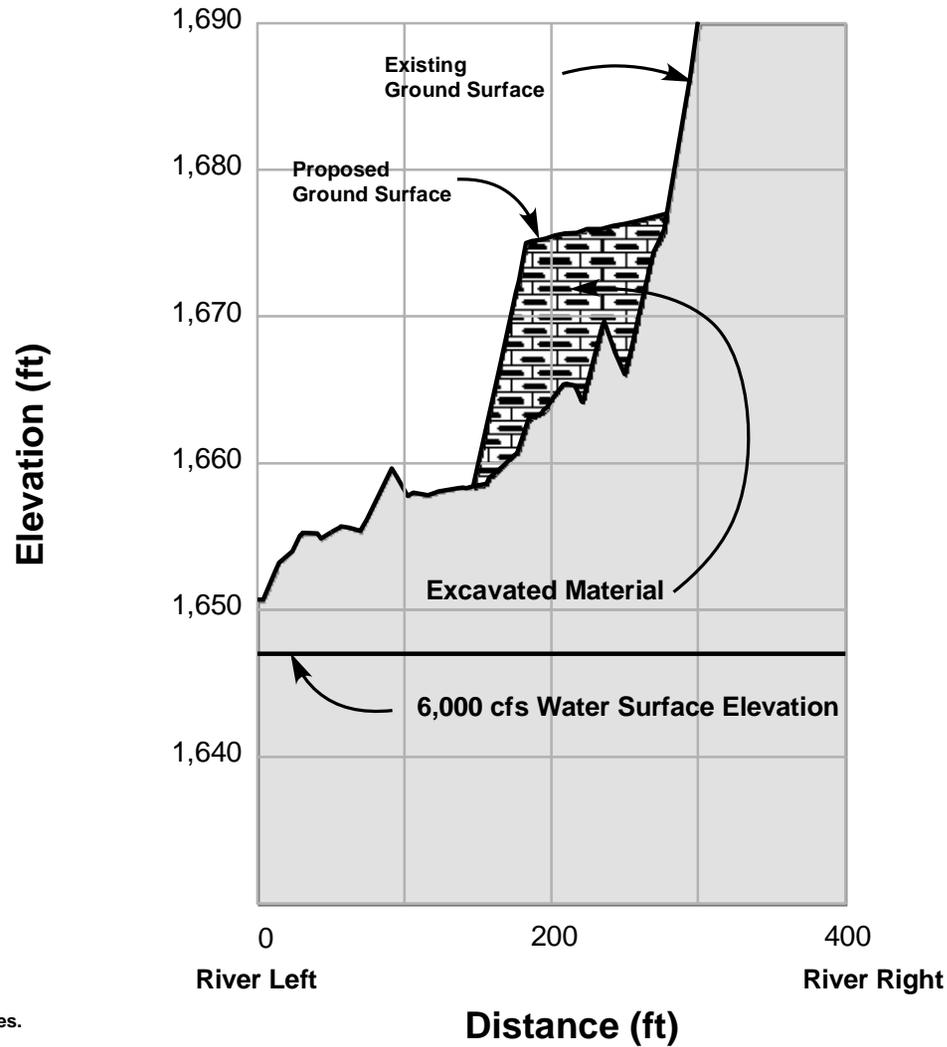


Notes:

- 1) Not to scale. Shown for comparative purposes.
- 2) Remove boulder clusters and/or gabions.

Cross Section

Example: U-1 SO

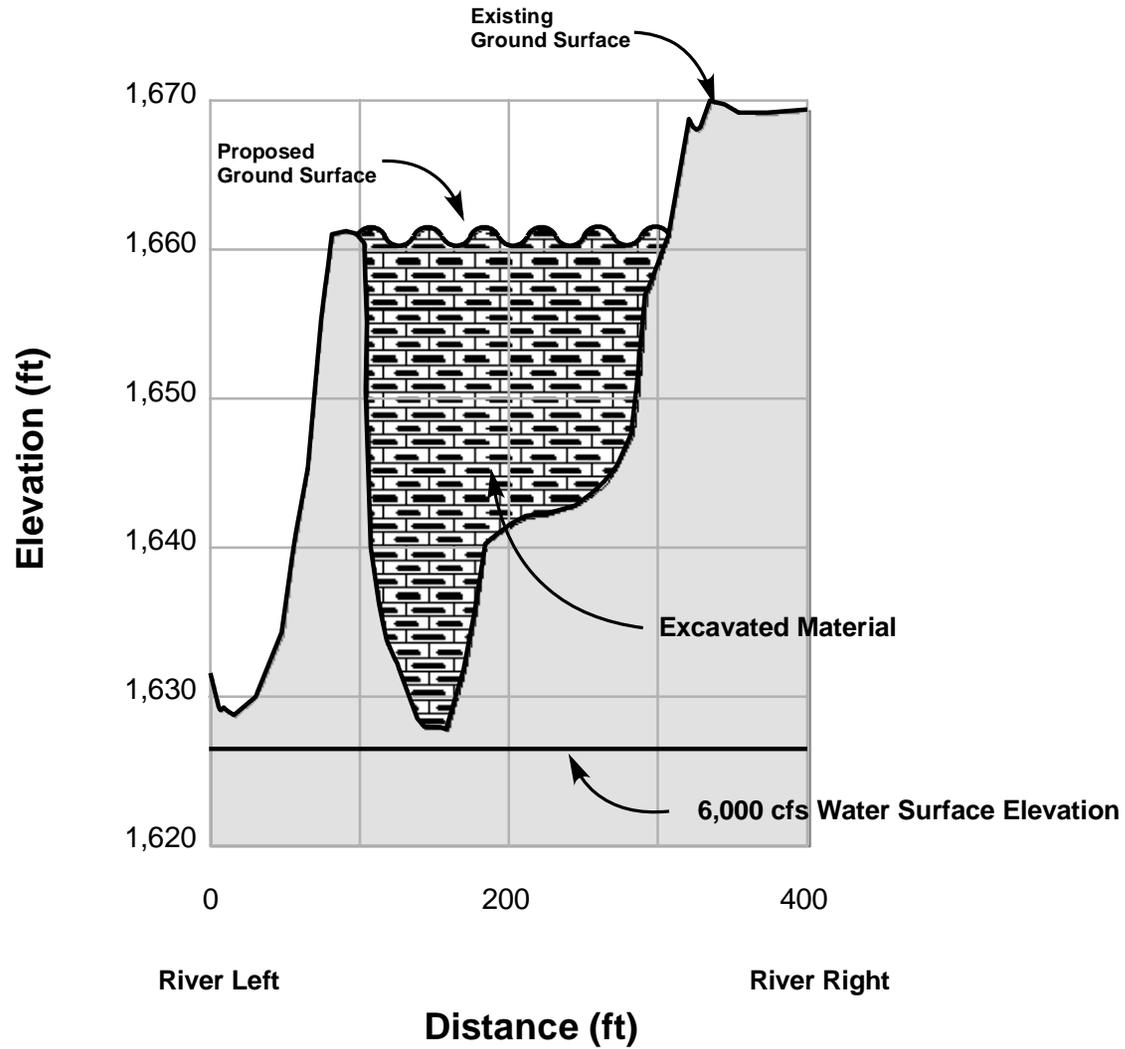


- Notes:
1) Not to scale. Shown for comparative purposes.
2) Slope constructed to drain toward river.

Figure 2.4f
Typical - Backslope Disposal

Cross Section

Example: U-1 DG

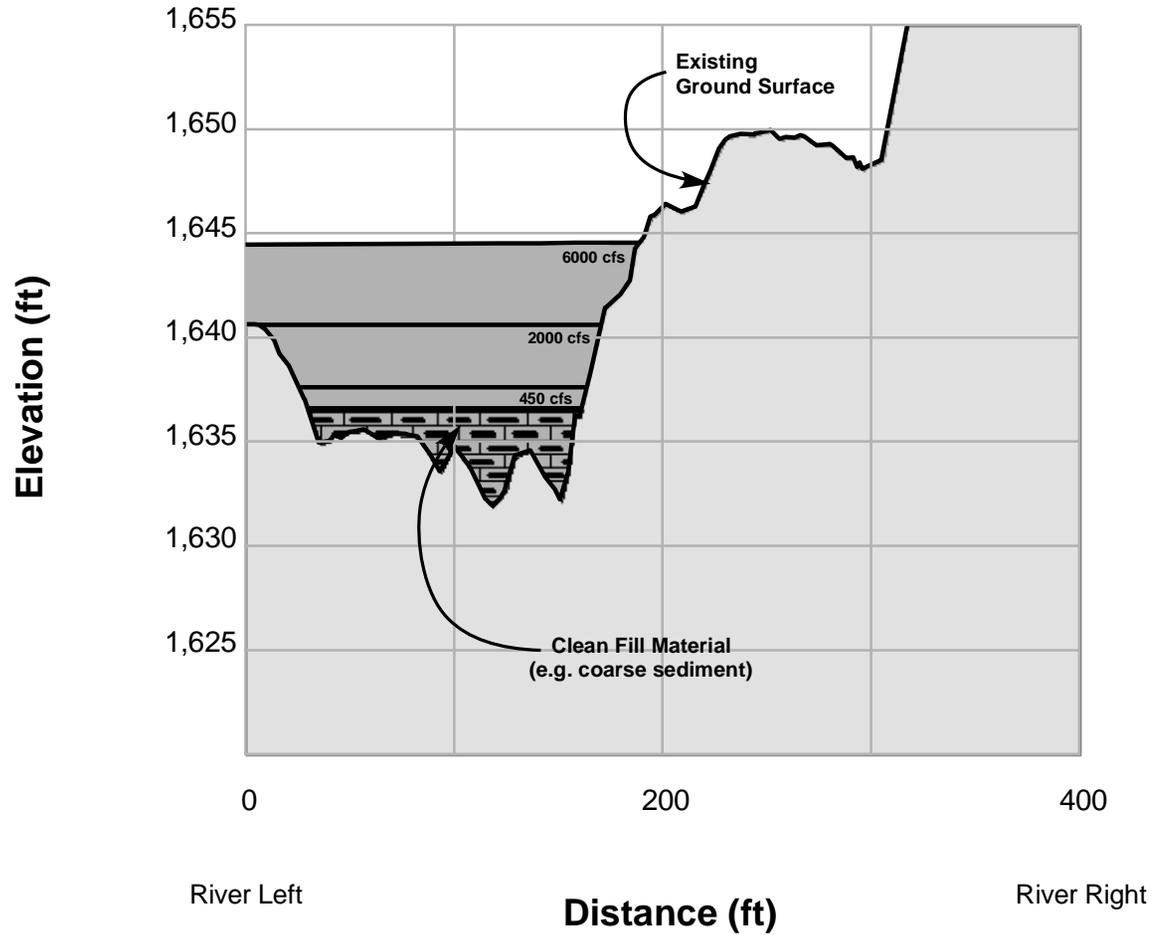


Note: Not to scale
Shown for comparative purposes

Figure 2.4g
Typical - Infill Disposal

Cross Section

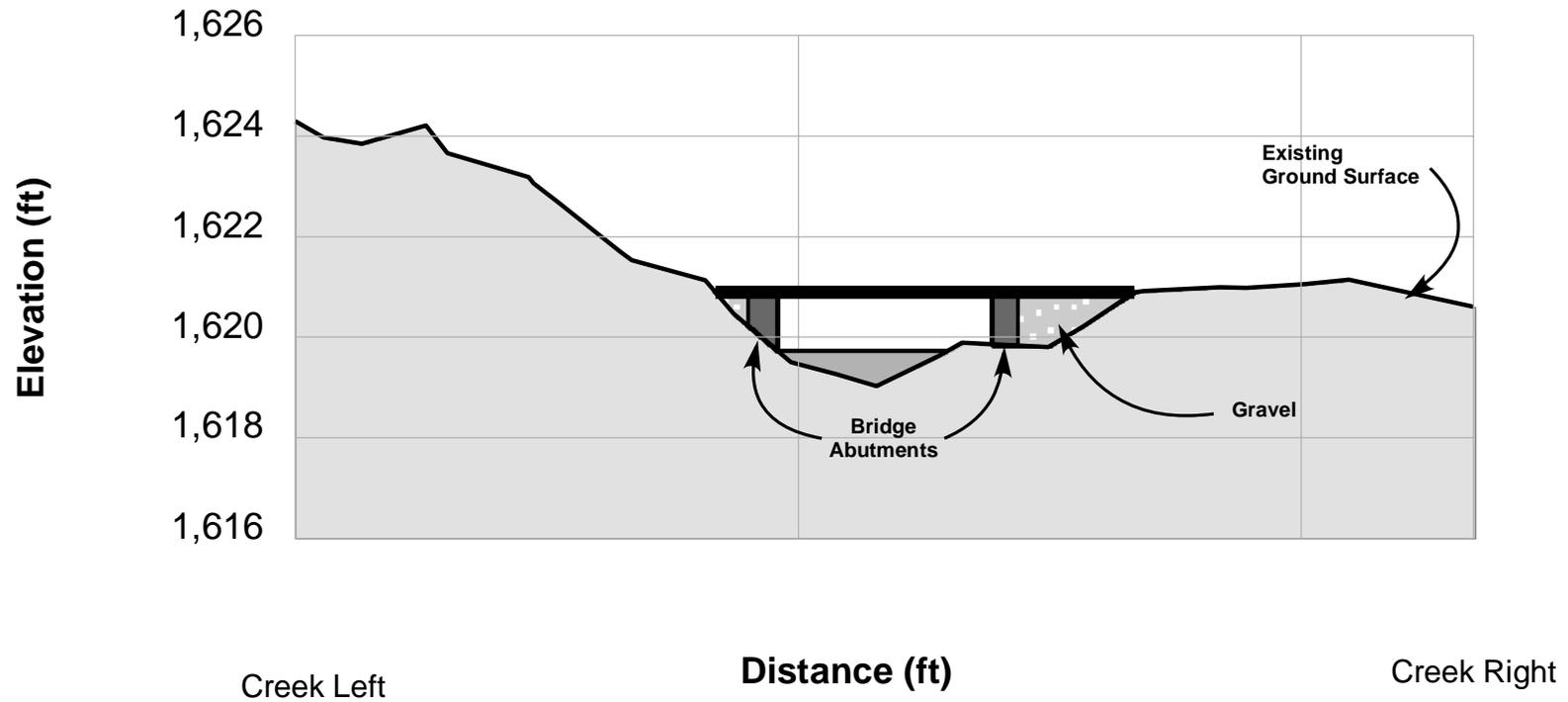
Example: X-1 DG



Note: Not to scale
Shown for comparative purposes

Figure 2.4h
Typical - Crossing

Cross Section



Note: Not to scale
Shown for comparative purposes

Ramps and abutment material will be native alluvium (estimated 500 cu yds)

Figure 2.4i
Typical - Permanent Bridge

Chapter 3

Affected Environment and Environmental Consequences

3.1 Introduction

Chapter 3 describes the affected environment and the environmental consequences of implementing the alternatives described in Chapter 2. Issues discussed include land use; geology, fluvial geomorphology, and soils; water resources; water quality; fishery resources; vegetation, wildlife, and wetlands; recreation; socioeconomics, population, and housing; tribal trust; cultural resources; air quality; environmental justice; aesthetics; hazards and hazardous materials; noise; public services and utilities/energy; and transportation/traffic circulation.

Each section includes a discussion of the affected environment (California Environmental Quality Act [CEQA] existing conditions), environmental consequences (CEQA environmental impacts), methodology, significance criteria (if applicable), and mitigation measures. Some sections address issues that are required to satisfy federal law (e.g., National Environmental Policy Act [NEPA]), but are not required to comply with CEQA. Because CEQA generally does not require lead agencies to consider the purely economic or social effects of proposed projects, Sections 3.9 (Socioeconomics), 3.10 (Tribal Trust), and 3.13 (Environmental Justice) were not prepared to comply with CEQA. Individual sections in Chapter 3 are organized in the following manner.

3.1.1 Affected Environment (CEQA Existing Conditions)

The Affected Environment sections for each of the issues discussed describe the existing regional and local conditions using the most current information available. The affected environment establishes the context for each section of this chapter pursuant to 40 CFR Section 1508.27 (a). The information in these sections is used as the environmental baseline for analyzing the significance of potential effects of the Proposed Action and the significance of the effects of project alternatives with respect to each specific resource area (See CEQA Guidelines, Section 15125, subd. (a)).

3.1.2 Environmental Consequences (CEQA Environmental Impacts)

As required by the CEQA Guidelines, the impacts of a proposed project (action) are defined as “a change in the existing physical conditions in the affected area as they exist at the time the notice of preparation is prepared” (Section 15126.2). For purposes of NEPA, the term “environmental consequences” is synonymous with the term “impacts.” The environmental consequences discussion addresses the intensity of the project as required by 40 CFR Section 1508.27 (b). The impacts of the project are identified and the level of significance of the impacts is determined in the following sections of this chapter.

The following subsections are also presented in the Environmental Consequences section for each issue area:

Methodology. This subsection identifies the methods used to analyze impacts, as well as the key assumptions used in the analysis process. Sections that incorporate quantitative assessments reference complementary technical appendices, as appropriate. Key assumptions used in qualitative analyses are described for those sections that do not rely on quantitative tools.

Significance Criteria. This subsection presents the criteria and thresholds used to identify potentially significant effects on the environment, in accordance with California Public Resources Code (PRC) Section 21082.2 and CEQA Guidelines Sections 15064 and 15065. “Thresholds” include guidance provided by the CEQA Guidelines, agency standards, legislative or regulatory requirements as applicable, and professional judgment. All impacts that do not exceed the stated significance criteria described for each section are assumed to be less than significant and are therefore not discussed in detail in the document (PRC Section 21100 and CEQA Guidelines Section 15128).

Summary of Impacts Table. At the beginning of the Impacts and Mitigation Measures subsection is a table that identifies all the impacts evaluated for that particular environmental issue area (i.e., Land Use, Fishery Resources, etc.). Included in this summary table are the various levels of significance (i.e., No Impact, Less than Significant, Significant) for the alternatives associated with the proposed project, including the No-Action Alternative. To enhance readability, the tables provide additional columns that describe what the level of significance would be after mitigation is implemented.

Impacts. At the end of each impact statement heading, the impact significance determination (i.e., No Impact, Less than Significant, Significant) is provided for each alternative evaluated. Following the impact statement, a detailed impact analysis is provided for each alternative that is fully evaluated in the EA/Draft EIR. In instances where the effects of one alternative are similar to another alternative, redundant impact analysis is not presented; rather a simple statement to the effect that the impacts of the two alternatives is provided. An example of the impact analysis structure is provided below:

Impact 3.2-1: Construction of the proposed project could temporarily disrupt existing land uses adjacent to the project site. *No Impact for the No-Action Alternative; Significant Impact for the Proposed Action and Alternative 1*

No-Action Alternative

Under the No-Action Alternative...

Proposed Action

Construction and maintenance of the Proposed Action...

Alternative 1

Land use impacts associated with Alternative 1 are similar to those of the Proposed Action...

Mitigation. Potentially feasible mitigation measures that would reduce significant impacts associated with each of the alternatives to less-than-significant levels are provided after each impact discussion. In those instances where no feasible mitigation can be identified, such impacts are identified as significant and unavoidable. An alphanumeric coding system is used to present each mitigation measure. For example, Mitigation Measure 1 would correspond to the first impact statement listed in the impact discussion. Following the mitigation measure(s) is a subheading entitled “Significance After Mitigation” that identifies the level of significance following implementation of the prescribed mitigation measure(s). In those instances where no mitigation measures were proposed because the impact was not significant, a “Not Applicable” statement follows this subheading. An example of the mitigation measures structure is provided below.

Mitigation Measures

No-Action Alternative

Since no significant impact was identified, no mitigation is required.

Significance after Mitigation

N/A

Proposed Action

1a: Reclamation shall clearly identify all ...

Alternative 1

1a: Reclamation shall clearly identify all ...

Significance after Mitigation

Less than significant

3.2 Land Use

This section addresses land use issues related to construction and operation of the Proposed Action and alternatives, including an assessment of project conformance with local and regional land use plans and policies. The following evaluation is based on a review of local land use plans and policies, and field reconnaissance that was used to confirm existing land uses.

3.2.1 Affected Environment/Environmental Setting

Regional Setting

Existing Land Uses

The Trinity River basin comprises the majority of Trinity County and the easternmost portion of Humboldt County. The terrain is predominantly mountainous and is forested with numerous lakes and rivers. It has little available farming area. Two scenic byways cross Trinity County, SR 299 and SR 3. The largest town in the region is Weaverville; the next largest towns are Hoopa, Hayfork, and Lewiston. In addition, most of the Hoopa Valley Indian Reservation is located within the basin. Sizable amounts of public, tribal, and private forest lands, much of which is used for timber production or other natural resource-related uses, influences land use within the Trinity River basin. Private land use adjacent to the Trinity River is generally limited to scattered residential and commercial development along SR 299, which is the primary travel corridor through Trinity County, connecting the Central Valley to the east with the coastal communities of Humboldt County.

Approximately three-fourths of the land in Trinity County, or about 1,543,066 acres of the county's total 2,052,980 acres, is under federal jurisdiction (Center for Economic Development 2001). The majority of federal lands are governed by the U.S. Forest Service (USFS), which owned 1,463,870 acres in 1998. Other major federal land holdings are managed by BLM (78,928 acres) and Reclamation (268 acres).

With a population totaling approximately 15,000, the Trinity River basin is very lightly populated. Residential, commercial, and industrial development tend to be concentrated on relatively flat areas near the Trinity River or its tributaries, as typified by the population centers of Weaverville, Hayfork, Junction City, Willow Creek, and Hoopa. Collectively, these communities house two-thirds of the basin's population, with the majority residing in Trinity County, which had a population of 14,024 in 2006 (Center for Economic Development 2007).

Topography, private land ownership, and Timber Production Zone zoning (which disallows residential uses and applies to most private land) restricts the development potential of most of the land in the basin. Both Trinity County's General Plan and the Hoopa Valley Indian Tribe's planning policies steer development toward previously developed areas and discourage development on resource lands. Small communities such as Lewiston are situated on level to sloping terrain adjacent to the Trinity River. Development associated with these communities has been primarily residential, typified by scattered single-family residences and mobile homes, with a diverse array of some commercial enterprises.

Regional Planning

BLM’s Redding Field Office, the USFS, CDFG, and Reclamation manage public lands in and adjacent to the project boundary. Public lands are managed for multiple uses in conformance with the BLM’s Redding Resource Management Plan (RMP) and the Shasta-Trinity National Forest Land and Resource Management Plan (LRMP). These plans consist of resource condition objectives, land-use allocations, and management actions, as described later in this section (see *Relevant Plans and Policies*).

The project is located in the Lewiston Community planning area (Trinity County 1987) (Figure 3.2-1). Trinity County has outlined land use categories and land use designations in the Land Use Element of the Trinity County General Plan (2001). Land use categories and designations are intended to be flexible and are not zoning districts; however, zoning districts must be consistent with land use designations. Land use categories relevant to lands in and adjacent to the site boundary consist of Community Development and Natural Resource. These broad general categories were developed to distinguish developed areas from resource lands. Table 3.2-1 describes these categories and their associated land-use designations.

Table 3.2-1. Land Use Categories and Definitions

Category	Definition
Community Development (CD)	Those areas in Trinity County that can be described as viable communities. Special efforts are made to positively encourage new development to locate in CD areas, as services are readily available and can be provided more cheaply and conveniently. Typically, CD areas incorporate a number of varied land uses, all of which are critical to the economic well-being and general quality of life for its residents. Land-Use Designations applicable to CD areas include Community Residential, Commercial, Industrial, and Community Expansion.
Natural Resource (NR)	Recreational developments such as campgrounds, recreational vehicle parks, marinas and boat launching ramps, picnic area, resorts, and small businesses serving recreationists are permitted in NR areas to the extent that they do not damage sensitive environmental resources or commercial values. Land-Use Designations applicable to this category include Open Space, Resource Land, Agriculture, and Rural Residential. Resorts that are otherwise consistent with Open Space, Resource, Agriculture, or Rural Residential will be allowed in this designation. However, the theme of any new development in NR areas must emphasize and enhance the natural resource area in which they are located.

Source: Trinity County General Plan (2001)

R:\Projects\10102 Mech Ch Rehab Trinity River-2012\Lewis\GIS\Graphics\Finished Graphics*.ai sgc

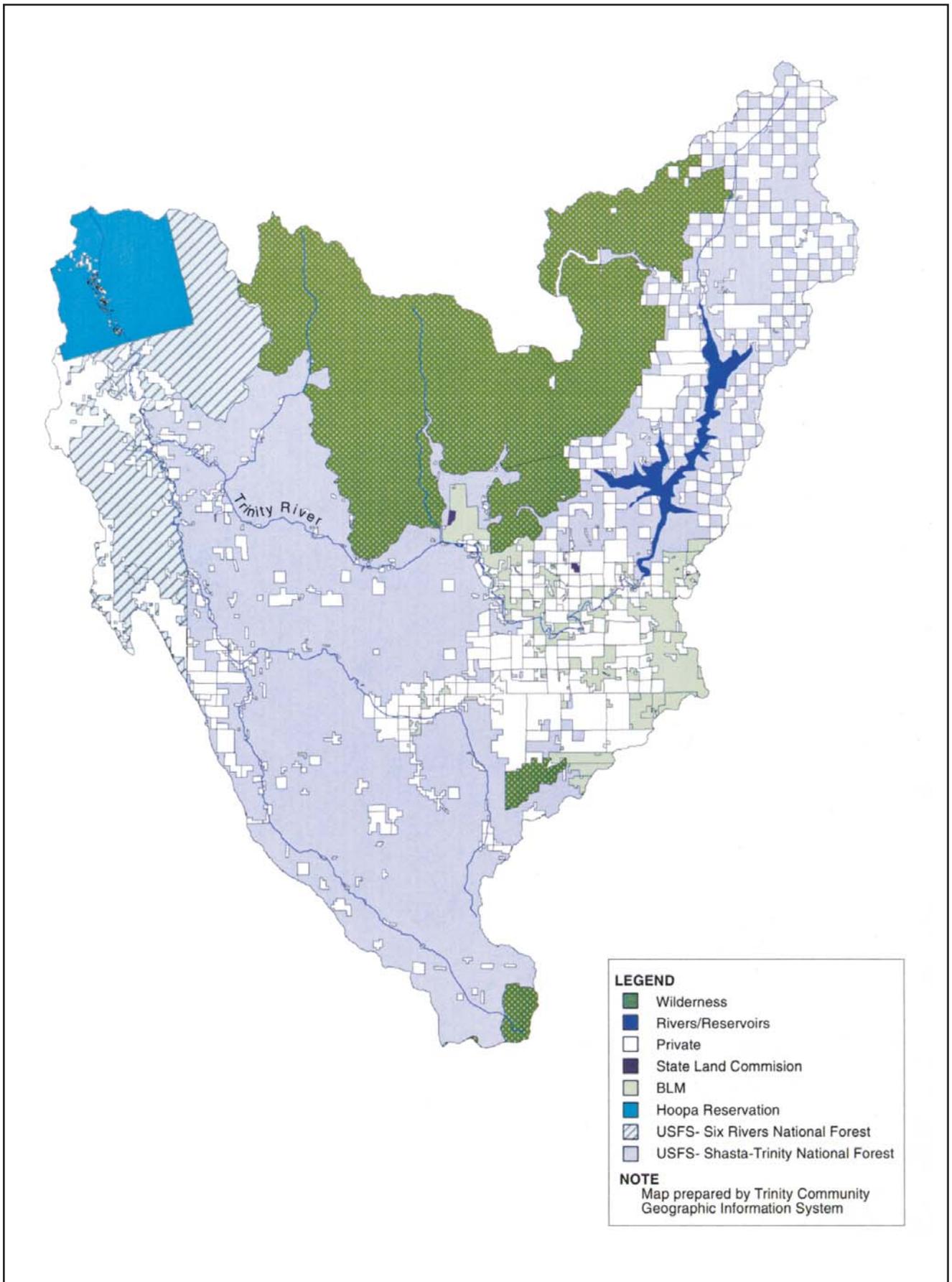


Figure 3.2-1
Trinity River Basin Land Ownership

Local Setting

The Proposed Action would include activities at two discrete sites; Lewiston and Dark Gulch within, and adjacent to the mainstem Trinity River between the TRSSH and Bucktail Bridge in the general vicinity of Lewiston, Trinity County, California. Lewiston is 35 miles west of Redding, California, and 15 miles east of Weaverville, the largest community in Trinity County. Lewiston has a population of approximately 1,300 people (U.S. Census Bureau 2000).

In addition to private holdings, several state and federal agencies or departments manage many of the lands, facilities, and recreational areas within the project area. Reclamation, the STNF, BLM and CDFG, all have land management authority within the area. Reclamation owns two small parcels within the Lewiston site boundary (15.03 acres). The STNF manages that portion of the NRA encompassed by the Lewiston site boundary (45.52 acres). The BLM manages public land within the Dark Gulch site boundary (28.87 acres). CDFG also owns and manages lands within the Lewiston site boundary (37.14 acres). Private lands and easements account for remainder of lands within the two sites. Figures 3.2-2a-c illustrate land ownership patterns within the project area.

Existing Land Uses

Historically, gold mining provided the impetus for exploration and development of the various natural resources in the project's general vicinity. During the construction of the TRD, the population of Lewiston expanded and the infrastructure was established to support the construction effort. While mineral production continues along the Trinity River and its tributaries, the local economy has shifted away from the mining and forest products industries to recreation and tourism. Although many of the lands that are adjacent to and in the general vicinity of the project boundary are privately owned, the river is a public waterway and is commonly used for rafting, kayaking, tubing, and fishing.

Local Planning

Trinity County General Plan

Lands within the site boundaries fall under the County's land use category of Community Development and Natural Resource. As defined in Table 3.2-1, land use categories, including Community Development and Natural Resource lands, are further divided into sub-categories. Table 3.2-2 describes Community Development and Natural Resource land use sub-category designations.

Table 3.2-2. Land Use Designations and Sub-Category Relevant to Lands within the Project Site

Designation	Definition
<p>Community Development</p> <ul style="list-style-type: none"> ▪ Commercial 	<p>Community Development identifies those areas in Trinity County that can best be described as viable communities. Special efforts are to be made to positively encourage new development to locate in Community Development areas.</p> <p>Commercial areas are designated within general communities and are intended to indicate the desirable location of various commercial developments. Commercial developments may include community business district, highway commercial and recreation commercial.</p>
<p>Natural Resource</p> <ul style="list-style-type: none"> ▪ Resource Lands ▪ Open Space ▪ Rural Residential ▪ Historic 	<p>The theme of any new development in these areas must emphasize and enhance the Natural Resource area in which they are located. Resorts, sparse residential development, and recreational development are permitted to the extent that they do not damage sensitive environmental resources or significantly interfere with the utilization of natural resource of commercial value.</p> <p>Resource Lands are those areas designated for the productions of the variety of natural resources that occur within Trinity County. Natural resources include timber production, mineral production, and important grazing areas.</p> <p>The Open Spaces designation indicates “natural areas” to be protected for scenic, wildlife habitat, and watershed values. These are generally areas of important natural processes and may include unstable areas, floodplains, and other natural hazard areas.</p> <p>The Rural Residential designation describes areas of rural residential development. Minimal county services are provided and, in general, are undesirable. This designation also provides for small home businesses and small-scale agriculture, subject to controls to prevent nuisances.</p> <p>A Historic designation is used to indicate a valuable community asset that should be preserved. Although heritage is important to the people of Trinity County, it must be integrated with the needs of the present population. Under a Historic designation, seven classifications are used to determine applicable management actions.</p>

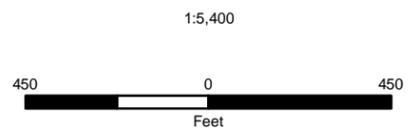
Source: Trinity County General Plan (2001)

File Location: G:\Projects\10102_TRRP_Lewiston\GIS\Working_MXD\10102_LewDG_Fig_3_2-2a_Ownership.mxd Source: NSR, Inc.; USBR, USDA Prepared: 08/09/2007 bmoore

See Figure 3.2-2b



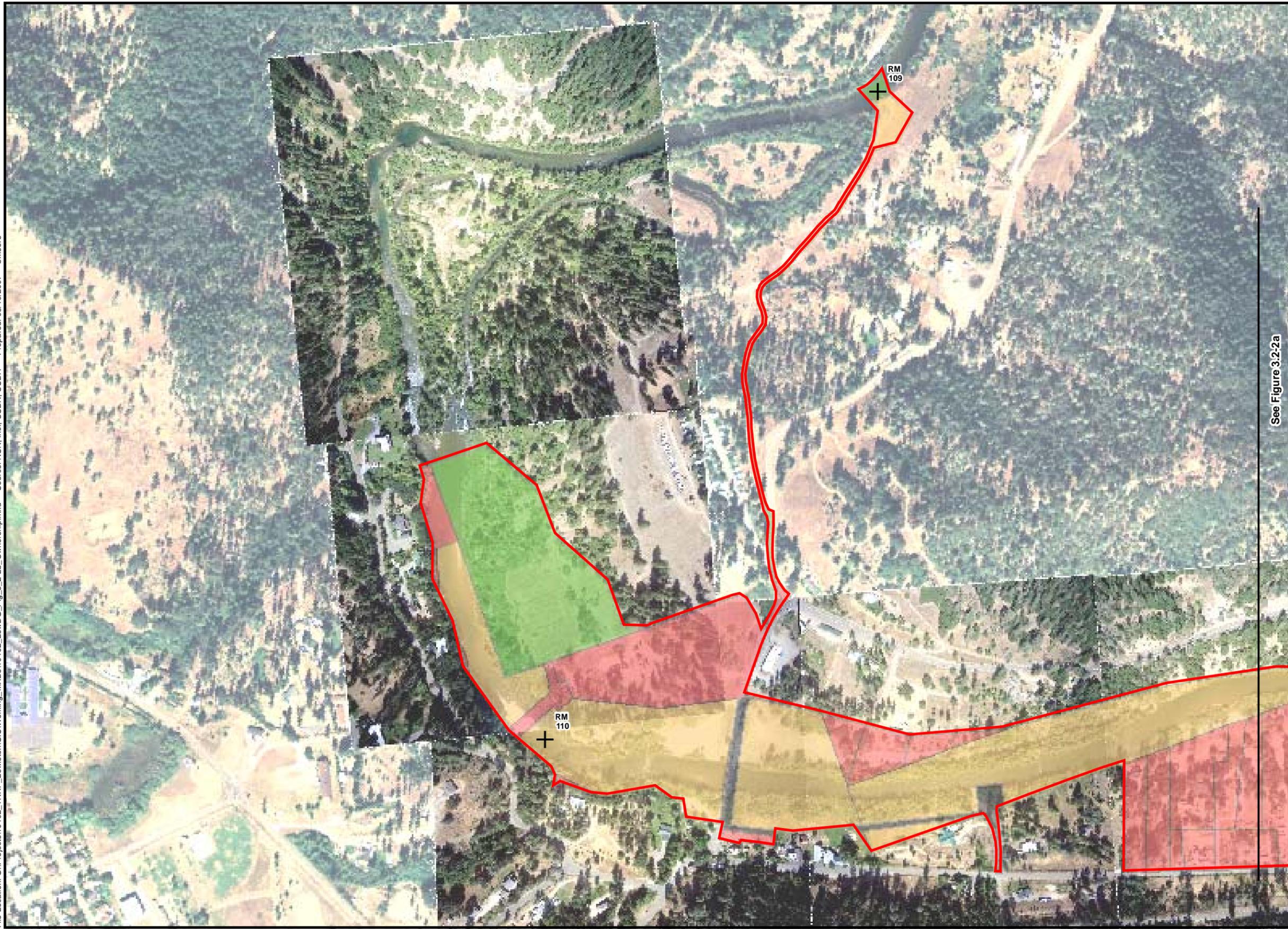
-  Site Boundary (131.5 acres)
-  River Mile (RM)
-  No Parcel Owner verified (1.71 acres)
-  Private (32.11 acres)
-  Bureau of Reclamation (15.03 acres)
-  Ca. Dept. of Fish & Game (37.14 acres)
-  U.S. Forest Service (45.52 acres)



Aerial photography:
July 2005
July 2006

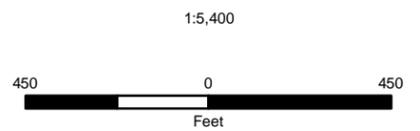
Figure 3.2-2a
Lewiston Ownership Map

File Location: G:\Projects\10102_TRRP_Lewiston\GIS\Working_MXD\10102_LewDG_Fig_3_2-2b_Ownership.mxd Source: NSR, Inc.; USBR; USDA Prepared: 08/10/2007 bmoore



- Site Boundary (131.5 acres)
- River Mile (RM)
- No Parcel Owner verified (1.71 acres)
- Private (32.11 acres)
- Bureau of Reclamation (15.03 acres)
- Ca. Dept. of Fish & Game (37.14 acres)
- U.S. Forest Service (45.52 acres)

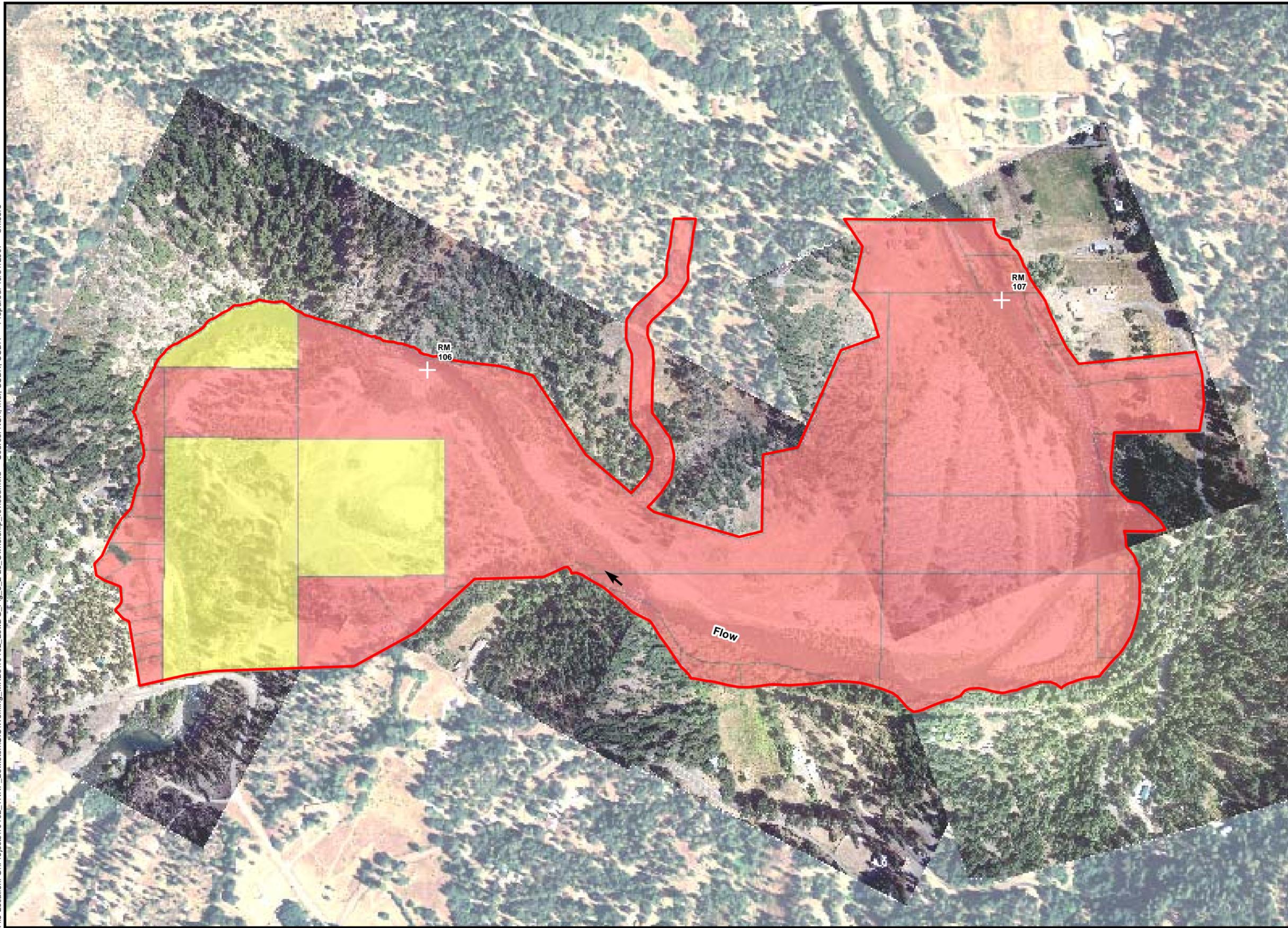
See Figure 3.2-2a



Aerial photography:
July 2005
July 2006

Figure 3.2-2b
Lewiston Ownership Map

File Location: G:\Projects\10102_TRRP_Lewiston\GIS\Working_MXD\10102_LewDG_Fig_3_2-2c_Ownership_revised.mxd Source: NSR, Inc.; USBR; USDA Prepared: 10/31/2007 bmoore



- Site Boundary (152 acres)
- River Mile (RM)
- No Parcel Owner verified (0.12 acre)
- Private (123.05 acres)
- Bureau of Land Mng. (28.87 acres)

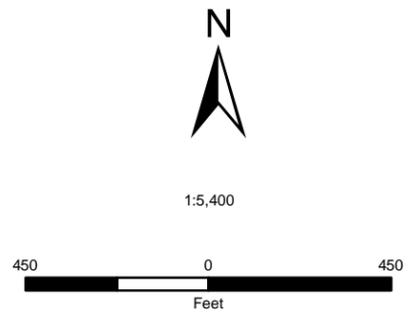


Figure 3.2-2c
Dark Gulch Ownership Map

Trinity County Zoning

Trinity County's land use designation sub-categories are further defined by specific land use zones or districts. Zoning districts are used in part by the County to provide a definite plan of development by guiding, controlling, and regulating future growth. Table 3.2-3 describes land use zoning district designations applicable to the project.

Table 3.2-4 provides a cross-reference of allowable land uses within each zoning district described in Table 3.2-3. Table 3.2-4 also lists the minimum parcel size required for inclusion of a parcel in a particular zoning district.

Table 3.2-3. Land Use Zoning Districts in the Project Site

Zones	Description
Agricultural Forest (AF)	Agricultural lands included prime soils or other lands that can be demonstrated to be good producing lands and are of sufficient size to be economically viable.
Open Space (OS)	The Open Space Zoning District is intended to protect significant or critical wildlife habitat areas or areas, which should not be developed due to public health and safety reasons.
Flood Hazard (FH)	Established by the County Floodplain Ordinance (315-698) as an overlay to identify flood hazard areas within Trinity County. The Flood Hazard Zoning District includes areas designated as (1) Regulatory Floodway or Zone AE on the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRM); (2) areas identified as Zone X along the Trinity River banks; (3) along streams in accordance with the Trinity County Subdivision Ordinance; or (4) areas identified as 100-year floodplain in a use permit condition or approved flood study.
Scenic Conservation (SC)	Scenic Conservation is an overlay zone used to identify those areas of unusual scenic qualities that are unique to Trinity County and to provide the necessary degree of control on the placement of structures, development of roads, and vegetative management within those areas. Within the project boundary, areas lying within the 100-year floodplain of the Trinity River are designated as SC.
Public Facilities (PF)	Public Facilities zoning indicates those areas that contain publicly owned facilities.
Commercial – Retail (C-1) and –General (C-2)	Commercial areas are designated within general communities and are intended to indicate the desirable location of various commercial developments. Commercial development may include community business district, highway commercial and recreation commercial.
Highway Commercial (HC)	This designation is intended for highway-frontage, tourist-oriented business development and for more general commercial uses, such as wholesale storage, lumber yard, bulk plants, etc., which require more space than is available in Central Business District.
Rural Residential - 1 acre (RR-1) and Rural Residential – 1 acre Mobile Home (RR-1 (MH))	This zoning allows for limited residential development in outlying areas of the County where minimal impacts are desirable and the overall character of the landscape, as well as potential for open space, recreation, or resource production is to be preserved. This designation has a minimum parcel size of 1 acre.

Table 3.2-3. Land Use Zoning Districts in the Project Site

Zones	Description
Rural Residential - 5 acres (RR-5)	This zoning allows for limited residential development in outlying areas of the County where minimal impacts are desirable and the overall character of the landscape, as well as potential for open space, recreation, or resource production is to be preserved. This designation has a minimum parcel size of 5 acres.

Source: Trinity County General Plan (2001)

Table 3.2-4. Land Use Zoning Districts and Land Use Designations within the Project Boundary

Land Use Zoning Districts	Land Use Designations					Land Use Zoning District Minimum Parcel Size (acres)
	Community Development	Commercial	Resource	Open Space	Rural Residential	
Agricultural Forest	x		x	x		10
Open space	x			x		Not specified
Flood hazard				x		Not applicable
Scenic conservation				x		10
Public Facilities	x	x	x			0.2
C-1 Retail Commercial		x				0.2
C-2 General Commercial	x	x				0.2
Highway Commercial	x	x				0.2
Rural Residential – 1 (1 home/acre)	x				x	1
Rural Residential – 5 (1 home/5 acres)	x				x	5
Land Use Designation Minimum Parcel Size (acres)	0.001	0.002	20	N/A	1	

Source: Trinity County General Plan (2001)

Lewiston Community Plan

The Lewiston Community Plan (Trinity County 1986) covers approximately 10,227 acres centered around the Trinity River from Lewiston Lake to slightly downstream of Grass Valley Creek.

Land Uses Associated with the Project Site

The lands within the site boundaries for the Lewiston–Dark Gulch project are a mixture of rural residential parcels and open space with some interspersions of commercial development such as RV parks and fishing resorts. Several public and private fishing and river access areas occur throughout the extent of the project area, notably the Old Lewiston Bridge (C-8 HG) and Bucktail (R-3 DG). The Trinity River is accessible at several other public and private locations throughout the project area. This makes the area popular with anglers, rafters, wildlife watchers, and tourists.

Public lands at either end of the project area (and interspersed throughout) include improved, partially improved, and undeveloped sites ranging from picnic areas, complete with tables and interpretive signage (i.e., the Sven Olbertson Picnic Area) and restrooms (i.e., the Bucktail River Access), to unimproved sites such as the Old Lewiston Bridge and the Cableway Fishing Access.

Relatively large private parcels (greater than 5 acres) occur between Lewiston and Dark Gulch. Rural residential development has occurred on some of these parcels.

The proximity of the Proposed Action within and adjacent to the Trinity River results in a significant amount of the project area occurring within the 100-year floodplain (Zone X) as designated by the Federal Emergency Management Agency (FEMA) (see Figure 3.4-3 in Section 3.4, Water Resources). In addition, all areas within the 100-year floodplain of the Trinity River have been designated by Trinity County as Scenic Conservation Zones.

Proposed Land Uses

Because existing land uses reflect existing zoning designations, it is assumed that future land uses would be compatible with current uses. A majority of the lands within the project alignment are not suited to development since they are within the designated Flood Hazard Zone and/or designated Open Space. Further, many of the lands adjacent to the project area are public lands owned by the USFS, CDFG, BLM, and Reclamation. Rural residential and commercial properties, particularly in the community of Lewiston have been subdivided fully under existing zoning designations; therefore, additional development of these parcels in uplands adjacent to the river's floodplain is unlikely.

3.2.2 Regulatory Framework

Relevant Plans and Policies

Bureau of Land Management Redding Resource Management Plan and Record of Decision (1993)

The BLMs RMP for the Trinity River area includes Resource Condition Objectives, Land-Use Allocations, and Management Actions. Resource Condition Objectives are the goals established for the decision area and are listed in descending order of priority. Land-Use Allocations prescribe general

3.2 Land Use

management categories (e.g., visual resources and recreation opportunity classes), specific limitations to full resource use (e.g., leasable mineral restrictions), or formal designations (e.g., Area of Critical Environmental Concern, wild and scenic river corridor) that are needed to meet the Resource Condition Objectives and/or to comply with federal law. Management Actions are implementation measures that ensure that the Resource Condition Objectives are met and would alert the public and BLM to specific follow-up actions associated with specific land-use management alternatives.

Resource Condition Objectives

1. Enhance recreation opportunities related to use of the Trinity River, including mineral collection.
2. Maintain scenic quality along the river corridor.
3. Protect and enhance the anadromous fisheries of the Trinity River.
4. Interpret and protect key cultural and natural resources for the public.
5. Maintain the riparian habitat in Class I or Class II condition.
6. Consolidate and increase, as feasible, public ownership within areas of low intensity or undeveloped land uses which constitute the designated river corridor.
7. Maintain opportunities for the exploration and the production of locatable mineral values outside the protected areas.
8. Provide enhanced access for semi-primitive motorized recreation opportunities and to Native American Indian heritage resources.
9. Maintain the existing scenic quality of BLM-administered lands.

Land Use Allocations

1. Designate [public lands in the management area] as the corridor for this “Recreational” component of the National Wild and Scenic Rivers System.
2. Manage all public lands as Visual Resource Management (VRM) Class II.
3. Manage all public lands within the corridor as Roaded Natural or Semi-Primitive Motorized.
4. Offer mineral material disposals only to enhance riparian vegetation or anadromous fisheries habitat, or when not in conflict with the long-term protection of natural values.
5. Area is closed to livestock grazing.
6. Maintain existing Recreation Opportunity Spectrum classes.
7. Mineral material disposals are not allowed within the 100-year floodplain of anadromous fishery streams unless such actions enhance anadromous fisheries habitat.
8. Consolidate and increase public land ownership within the area by acquiring available unimproved lands which: adjoin the Trinity River Corridor; protect anadromous fish; provide public access to public lands; protect sensitive species habitat; conserve regionally important cultural resources; provide access to identified Native American heritage resources; or enhance overall efficiency of public land administration.

Management Actions

- A. Modify the existing Trinity River Recreation Area Management Plan (U.S. Bureau of Land Management 1983) to reflect the designated corridor of the Trinity River (i.e., a “Recreational”

component of the National Wild and Scenic Rivers System). Continue implementation of recreational developments and monitoring prescribed in the existing management plan.

Project Consistency with the BLM Resource Management Plan

Table 3.2-5 shows the consistency of the project action(s) with the BLM Redding RMP and ROD (1993).

Table 3.2-5. Consistency of Project Action(s) with the Bureau of Land Management's Redding Resource Management Plan and the 1993 Record of Decision

Objectives	Assessment of Consistency
1. Enhance recreation opportunities related to use of the Trinity River including mineral collection.	Project action(s) would protect existing recreation opportunities along the Trinity River.
2. Maintain scenic quality along the river corridor.	Project action(s) would not add any new, visually detracting features to the river corridor.
3. Protect and enhance the anadromous fisheries of the Trinity River.	Project action(s) would protect and enhance the anadromous fisheries of the Trinity River (see Section 3.6, Fishery Resources).
4. Interpret and protect key cultural and natural resources for the public.	Project action(s) would protect existing cultural and natural resources (see Section 3.7, Vegetation, Wildlife, and Wetlands; and Section 3.11, Cultural Resources).
5. Maintain the riparian habitat in Class I or Class II condition.	The overall goal of the project is to restore the quality and quantity of the Trinity River's fish habitat. Riparian habitat removed by the project action(s) would be replaced with a more diverse and historic assemblage of native plants (see Section 3.7 and Appendix D, Wild & Scenic River Act Section 7 Determination).
6. Consolidate and increase, as feasible, public ownership within areas of low intensity or undeveloped land uses that constitute the designated river corridor.	Project action(s) would not require any changes in land ownership. A majority of the affected lands are under public ownership.
7. Maintain opportunities for the exploration and the production of locatable mineral values outside the protected areas.	Project action(s) would not interfere with mineral exploration or extraction.
8. Provide enhanced access for semi-primitive motorized recreation opportunities and to Native American Indian heritage resources.	Project action(s) would be confined primarily to the river channel and riverbanks. Although access roads would be created into the activity areas, most of these roads would be on private lands. Project action(s) would protect existing cultural and natural resources (see Section 3.7, Vegetation, Wildlife, and Wetlands; and Section 3.11, Cultural Resources).
9. Maintain the existing scenic quality of BLM-administered lands.	Project action(s) would not add any new, visually detracting features to the river corridor.

Shasta-Trinity National Forest Land and Resource Management Plan

The USFS, Shasta-Trinity National Forest (STNF) is managed through designated land allocations that apply Forest-wide standards and guidelines to specific types of lands. For some land allocations, there are multiple management prescriptions that further refine the standards and guidelines but that are never less restrictive. There are six land allocations and 11 management prescriptions that are tiered to the land allocations. Management prescriptions outlined in the STNF's Land and Resource Management Plan (LRMP) (USDA Forest Service 1995) apply a management theme to specific types of land within the STNF. Specific activities that are emphasized or permitted on a land type are identified in the management prescriptions and their respective standards and guidelines.

Within the Weaverville/Lewiston Management Area of the STNF, there are five land allocations: Late Successional Reserves, Administratively Withdrawn Areas, Riparian Reserves, Matrix, and Adaptive Management Areas. The following describes these five land allocations and their management prescriptions:

- **Late-Successional Reserves:** Late-Successional Reserves have been established to protect and enhance conditions of late-successional and old-growth forest ecosystems and to ensure the support of related species, including the northern spotted owl. The applicable management prescription is:
- **Late-Successional Reserves and Threatened, Endangered, and Selected Sensitive Species:** The purpose of this prescription is to provide special management for Late-Successional Reserves and threatened and endangered species. It also includes special, selected sensitive wildlife species that are primarily dependent on late seral stage conditions.
- **Administratively Withdrawn Areas:** Administratively Withdrawn Areas are identified in the LRMP and include recreation and visual areas, backcountry, and other areas where management emphasis precludes scheduled timber harvesting. The applicable management prescriptions are:
- **Unroaded Non-Motorized Recreation:** The purpose of this prescription is to provide for semi-primitive non-motorized recreation opportunities in unroaded areas outside existing wildernesses while maintaining predominantly natural-appearing areas with only subtle modifications.
- **Limited Roaded Motorized Recreation:** The purpose of this prescription is to provide for semi-primitive motorized recreation opportunities while maintaining predominantly natural-appearing areas with some modifications.
- **Roaded, High Density Recreation:** The purpose of this prescription is to provide for areas which are characterized by a substantially modified natural environment.
- **Special Area Management:** This prescription provides for protection and management of special interest areas (SIAs) and research natural areas (RNAs).
- **Heritage Resource Management:** The primary theme of this prescription is to protect designated cultural resource values, interpret significant archaeological and historical values for the public and encourage scientific research of these selected properties.
- **Riparian Reserves:** Riparian Reserves provide an area along streams, wetlands, ponds, lakes, and unstable and potentially unstable areas where riparian-dependent resources receive primary emphasis. The applicable management prescription is:

- **Riparian Management:** The purpose of this prescription is to maintain or enhance riparian areas, wildlife and fisheries habitat, and water quality by emphasizing streamside and wetland management.
- **Matrix:** The Matrix consists of those federal lands outside the categories of designated areas listed above. The Matrix is land on which most timber harvest will occur and where standards and guidelines are in place to ensure appropriate conservation of ecosystems as well as provide habitat for rare and lesser known species. The applicable management prescriptions are:
- **Roaded Recreation:** The purpose of this prescription is to provide for an area where there are moderate evidences of the sights and sounds of humans.
- **Wildlife Habitat Management:** The primary purpose of this prescription is to maintain and enhance big game, small game, upland game bird, and non-game habitat, thereby providing adequate hunting and viewing opportunities.
- **Commercial Wood Products Emphasis:** The purpose of this prescription is to obtain an optimum timber yield of wood fiber products from productive forest lands within the context of ecosystem management.
- **Adaptive Management Areas:** The overall objective for Adaptive Management Areas is to learn how to manage on an ecosystem basis in terms of both technical and social challenges, and in a manner consistent with applicable laws. There are no management prescriptions associated with Adaptive Management Areas.

Standards and Guidelines (LRMP, p. 4-19):

The LRMP does not specifically identify land use goals. However, the following standards and guidelines that pertain to special uses, such as fisheries, are relevant to land use issues. The standards and guidelines were excerpted from the LRMP (USDA Forest Service 1995).

- Coordinate instream flow needs with the CDFG, Counties, and other local agencies to benefit fish habitat.
- Improve the anadromous fishery within the Trinity River and its tributaries. This can be done by evaluating the implementing opportunities for stream habitat improvement, watershed, restoration, and biological (stock) enhancement. This will be done in the context of a watershed/ecosystem analysis. These projects will be done in conjunction with the Trinity River Basin Fish and Wildlife Management Program¹
- Coordinate rehabilitation and enhancement projects with cooperating agencies involved in the Model Steelhead Stream Demonstration Project Plan and the Trinity River Basin Fish and Wildlife Management Program.
- Identify and treat riparian areas that are in a degraded condition.
- Manage activities and projects to meet adopted Visual Quality Objectives (VQO's) of: (1) preservation; (2) retention; (3) partial retention; (4) modification; or (5) maximum modification. On rare occasions, the adopted VQO may not meet the management's objectives (i.e., catastrophic events). Any proposed modification to adopted VQO's must go through the NEPA process and be approved by the Forest Supervisor.

¹ The Trinity River Basin Fish and Wildlife Management Program was superseded by the 2000 Trinity River ROD and the advent of the Trinity River Restoration Program.

- In the following sensitive travel corridors [along the Trinity Heritage National Scenic Byway within the Weaverville/Lewiston Management Unit] the foreground portions (areas located from 1/4 to 1/2 mile from the road viewer) will be managed primarily to meet the adopted VQO of Partial Retention:
 - Rush Creek Road (County Road 204)
 - Trinity Dam Boulevard (County Road 105)
- Implement habitat management activities for the winter deer range and the anadromous fishery where opportunities exist.

The 1994 Record of Decision signed by the Secretaries of Interior and Agriculture amended Forest Service and BLM Planning Documents within the range of the Northern Spotted Owl (U.S. Department of Agriculture and U.S. Department of the Interior 1994). A key component of this decision was the implementation of Standards and Guidelines for management of habitat for late-successional species within the range of the Northern Spotted Owl. In addition to the land allocations described in the preceding paragraphs, the STNF LRMP requires compliance with the Aquatic Conservation Strategy (ACS). This strategy contains four components: riparian reserves; key watersheds; watershed analysis and watershed restoration. The authorization of a project on lands managed under the STNF LRMP requires a consistency determination with the ACS. The supporting documentation for this determination is provided as Appendix B to this EA/DEIR.

U.S. Bureau of Reclamation

The Central Valley Project Improvement Act (CVPIA 1992) provides the legal authority for projects that restore the fishery resources of the Trinity River. This act includes language intended to require the federal government to preserve, propagate, protect, restore, and enhance fish, wildlife, and associated habitats within the Trinity River basin. Reclamation, with oversight over implementation of the 2000 Trinity River ROD, including rehabilitation site design and construction, has assumed the role of the NEPA lead agency for the project.

California Department of Fish and Game

The CDFG manages several parcels of land along the Trinity River between the Lewiston Bridge and the Dark Gulch activity area. Because fish and wildlife protection and habitat enhancement are the primary management purposes for the CDFG, and so many of the recreational opportunities along the Trinity River center on fish and wildlife resources, recreation management of CDFG lands includes fish and wildlife management, habitat improvement, and enforcement of the Fish and Game Code and wildlife area restrictions and regulations.

Trinity County General Plan Goals and Objectives

The Trinity County General Plan (2001) contains goals and policies designed to guide the future physical development of the county based on current conditions. The General Plan contains all the state-required elements including community development and design, transportation, natural resources, health and safety, noise, housing, recreation, economic development, public facilities and services, and air quality. The following goals and policies relative to land use issues associated with the Proposed Action were

taken from the applicable elements of the County's General Plan and the Lewiston Community Plan (Trinity County 1986).

County-Wide Goals and Objectives

Cultural

County-wide goals and objectives would retain the rural character of Trinity County

- by encouraging uses that fit with the land;
- by considering the “rights” of the individual when making decisions as well as the “rights” of the community; and
- by seeking information and cooperation from state and federal agencies within Trinity County when considering projects.

Environmental

County-wide goals and objectives would strive to conserve those resources of the Trinity County that are important to its character and economic well-being

- by assuring that developments occurring on these lands are compatible with the resources;
- by strongly supporting the County as “lead agency” or as an integral participant in any state or federal project within the county so that all agencies are made aware of local desires and all plans are coordinated;
- by utilizing a sound resource-related planning process in decision-making; and
- by protecting not only rare and endangered species, but also required habitat for more plentiful species.

Land Use Designation

Land Use Designations are broad general descriptions of the types of land use that may occur in a specific area. Two general designations pertinent to the project area have been identified by the County: Community Development and Natural Resource. Although these designations can be further specified as follows:

- In areas designated as Community Development, a specific development plan should be formulated that provides a comprehensive breakdown of factors such as allowable housing densities and housing types (e.g., single-family residential; multi-family residential; mobile home).
- Natural Resource lands can allow for some degree of development, such as campgrounds, resorts, and rural residential, but any new development in these areas must emphasize and enhance the Natural Resource areas in which they are located.

Lewiston Community Plan Goals and Objectives

The Lewiston Community Plan (Trinity County 1986) includes the area centered on the Trinity River from Lewiston Lake to downstream of the confluence of Grass Valley Creek and the Trinity River.

3.2 Land Use

Parks and Recreation

Goal: To provide for access to the Trinity River in a manner that recognizes and respects the rights of existing development.

- Develop a River Access Plan that relies predominantly upon public lands for access to and along the Trinity River.
- Ensure that the proper level of services is provided at river access points.

Land Use

Goal: To encourage the retention and utilization of resource land for timber production, agricultural uses and mineral extraction.

- Encourage mineral extraction activities, especially gravel extraction uses within the Trinity River.

3.2.3 Environmental Consequences/Impacts and Mitigation Measures

Methodology

The methodology used for the land use impact analysis involved a comparison and assessment of the Proposed Action and Alternative 1 to relevant plans and policies, review of the General Plan, the Lewiston Community Plan, zoning in relation to surrounding land uses and site features, and communication with County staff. The analysis was conducted using literature review and site visits.

Significance Criteria

The following significance criteria were developed based on guidance provided in the CEQA Guidelines (CELSOC 2005). Impacts to land uses would be significant if they would:

- Result in land uses that are incompatible with existing and planned land uses adjacent to actions described as part of the project;
- Conflict with any applicable land use plan, policy, ordinance, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;
- Disrupt or divide the physical arrangement of an established community;
- Result in substantial nuisance effects on sensitive land uses that would disrupt use over an extended time period; or
- Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Impacts and Mitigation Measures

Table 3.2-6 summarizes land use impacts that could result from implementation of the Proposed Action or Alternative 1.

Table 3.2-6. Summary of Potential Land Use Impacts for the No-Action Alternative, Proposed Action, and Alternative 1

No-Action Alternative	Proposed Action	Alternative 1	Proposed Action with Mitigation	Alternative 1 with Mitigation
Impact 3.2-1.	Implementation of the project could disrupt existing land uses adjacent to the project site.			
NI	LS	LS	N/A ¹	N/A ¹
Impact 3.2-2.	Implementation of the project may be inconsistent with the goals, policies, and objectives of the STNF LRMP, BLM's RMP, and the Trinity County General Plan, as well as local community plans, policies, and ordinances.			
NI	LS	LS	N/A ¹	N/A ¹
Impact 3.2-3.	Implementation of the project may affect the availability of a locally important mineral resource recovery site.			
NI	LS	LS	N/A ¹	N/A ¹

Notes:

LS = Less than Significant S = Significant SU = Significant Unavoidable
 NI = No Impact B = Beneficial N/A = Not Applicable

¹Because this potential impact is less than significant, no mitigation is required.

Impact 3.2-1: Implementation of the project could disrupt existing land uses adjacent to the project site. *No Impact for the No-Action Alternative; Less than Significant Impact for the Proposed Action and Alternative 1*

No-Action Alternative

Under the No-Action Alternative, no restoration activities will occur. There would be no temporary disruption to existing land uses within or adjacent to the site.

Proposed Action

The Lewiston–Dark Gulch project sites encompass rural residential parcels and open space interspersed with a few commercial parcels (particularly within the Lewiston site). The USFS manages the portion of the Lewiston site within the boundary of the Trinity Unit of the NRA, while BLM manages a substantial portion of the lands within the Dark Gulch site. Reclamation owns two small parcels within the Lewiston site. CDFG also owns and manages lands within the Lewiston site boundary. Private lands occur throughout the entire project area.

All areas within the 100-year floodplain of the Trinity River have been designated by Trinity County as Scenic Conservation Zones, and any development within the project boundaries has occurred on uplands, outside of the areas of direct impact associated with the project. Currently, there are no active mining operations or Timber Harvest Zones in or adjacent to the boundaries of the sites. Agricultural uses do not exist within the project boundary, nor are there any lands designated as Prime Farmland, Unique Farmland, or Farmlands of Statewide Importance. Access to adjacent residences will be maintained at all

times during the project construction, and any temporary disruption of public overland river access would be localized and less than significant.

Project activities, described in Chapter 2 could result in some minor, temporary nuisance effects (i.e., noise, air quality, and aesthetics effects) at some nearby residences; such impacts would not significantly affect existing land uses. Discussions of project impacts associated with noise, air quality, and aesthetics are provided in Section 3.16, Section 3.12 and Section 3.14, respectively.

The Proposed Action is a river rehabilitation project that would not introduce a new land use within the project boundary; therefore, project implementation would have a less than significant impact on land use.

Alternative 1

In general, long-term and temporary land use impacts that may be produced by the project under Alternative 1 would be similar to those under the Proposed Action. Similar to the Proposed Action, this alternative would have a less than significant impact.

Mitigation Measures

No-Action Alternative and Proposed Action

Since no significant impact has been identified, mitigation is not required.

Significance after Mitigation

N/A

Impact 3.2-2: Implementation of the project may be inconsistent with the goals, policies, and objectives of the STNF LRMP, BLM's RMP and the Trinity County General Plan, as well as local community plans, policies, and ordinances. *No Impact for the No-Action Alternative; Less-than-Significant Impact for the Proposed Action and Alternative 1*

No-Action Alternative

Under the No-Action Alternative, the proposed rehabilitation activities would not occur. Therefore, there would be no inconsistency with the goals, policies, and objectives of the STNF LRMP, BLM's RMP and the Trinity County General Plan or other local community plans, policies, or ordinances.

Proposed Action and Alternative 1

Implementation of activities proposed under the Proposed Action and Alternative 1 would not introduce land uses that are incompatible with existing or proposed land uses, nor would any action conflict with any land use plan, policy, or ordinance.

Appendix C documents the determination that the activities included in either the Proposed Action or Alternative 1 are consistent with the STNF LRMP and BLM RMP, including the ACS.

In an amendment to the Trinity County Code (Ordinance No. 315-698), the County has adopted a Floodplain Management Ordinance that promotes public health, safety, and general welfare, protection of fish and wildlife resources, and minimization of public and private losses due to flood conditions through a series of specific provisions. A summary of land development standards for development permitted by the County within designated flood hazard zoning districts appears in Table 3.2-7. This table also provides an assessment of the consistency of the Proposed Action and Alternative 1 with these development standards.

Table 3.2-7. Consistency of the Proposed Action and Alternative 1 with Applicable Flood Hazard Overlay Zoning District Land Development Standards

Objectives	Assessment of Consistency	
	Proposed Action	Alternative 1
<i>Construction Materials and Methods</i>		
All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.	The Proposed Action does not involve the placement of any permanent new construction or improvement to any existing structures within the floodplain (see Section 3.4, Water Resources). To improve river functions, natural substrates (i.e., cobbles, gravels, and sands) will be redistributed within the project boundary.	Same as Proposed Action
<i>Fill and Other Floodplain Encroachments</i>		
All fill and other encroachments shall be certified by a registered professional engineer or architect not to increase the Base Flood Elevation more than 12 inches. Such a certification shall be provided to the Floodplain Administrator.	Implementation of the Proposed Action involves removal of alluvial (fill) materials from the floodplain and/or placement of coarse sediment into the channel. Collectively, these activities will not result in a rise in the base flood elevation.	Same as Proposed Action

The Proposed Action and Alternative 1 would be consistent with the County's development standards for lands lying within the Flood Hazard Overlay zoning district. Specific to human health and safety, a Safety Element (January 2002) has been prepared to accompany the County's General Plan. Although it may overlap with other elements of the County's General Plan (e.g., Land Use, Conservation, Open Space), the Safety Element is designed to identify acceptable risk and determine the level of mitigation that is necessary. Because the project boundary falls within the Lewiston Community planning area, directives set forth in the Lewiston Community Plan (1987) are also applicable to the project. Table 3.2-8 summarizes the consistency of the safety elements of both the County's General Plan and the Lewiston Community Plan with the activities included within either the Proposed Action or Alternative 1.

Table 3.2-8. Consistency of the Proposed Action and Alternative 1 with the Safety Elements of the Trinity County General Plan and The Lewiston Community Plan in Flood Hazard Overlay Zoning Districts

Objectives	Assessment of Consistency
<i>Trinity County General Plan—Safety Element</i>	
1. Reduce the loss of life and property by establishing development standards for areas subject to flooding: <ol style="list-style-type: none"> a. Require all development to meet federal, state, and local regulations for floodplain management protection; including the encouragement of upgrading existing structures to meet adopted standards. b. Require all development to meet the development standards of the National Flood Insurance Act regulations in Title 44 CFR Section 60.3, as implemented through the County Zoning Ordinance section 29.4 c. Prohibit the creation of new parcels that have no building sites outside of the 100-year floodplain, except for the creation of open space parcels. d. The County’s Disaster Response Plan should include procedures to protect the public from flooding hazards. e. Maintain or return to Open Space lands subject to flooding. 	The Proposed Action and Alternative 1 meet those objectives and policies that are applicable.
2. Reduce the potential for the loss of life and property from dam failure inundation	The Proposed Project and Alternative 1 are designed to ensure continued protection of human life and property.
<i>Lewiston Community Plan—Hazards</i>	
1. Insure that future developments do not create flood hazards either to themselves or to downstream developments.	The Proposed Project and Alternative 1 are designed to ensure continued protection of downstream property.
2. Incorporate Flood Hazard Zoning on those areas of the Plan subject to flooding.	Not applicable to the Proposed Project and Alternative 1.

As noted in Table 3.2-8, the Proposed Action and Alternative 1 would be consistent with Trinity County’s General Plan and the Lewiston Community Plan.

Rehabilitation activities associated with either the Proposed Action or Alternative 1 would be consistent with the goals, policies, and objectives of the STNF LRMP, BLM’s RMP and the Trinity County General Plan or other local community plans, policies, or ordinances. Therefore, any impacts would be less than significant..

Mitigation Measures

No-Action Alternative, Proposed Action, and Alternative 1

Since no significant impact has been identified, mitigation is not required.

Significance after Mitigation

N/A

Impact 3.2-3: Implementation of the project may affect the availability of a locally important mineral resource recovery site. *No Impact for the No-Action Alternative; Less-than-Significant Impact for the Proposed Action and Alternative 1*

No-Action Alternative

Under the No-Action Alternative, no rehabilitation activities would be implemented. Therefore, there would be no impact on locally important mineral resource recovery sites.

Proposed Action and Alternative 1

There are no locally important mineral recovery sites located within the boundaries of the project sites, or within five river miles of the project boundaries; therefore, the Proposed Action or Alternative 1 would have a less than significant effect on mineral extraction activities.

Mitigation Measures

No-Action Alternative, Proposed Action, and Alternative 1

Since no significant impact has been identified, mitigation is not required.

Significance after Mitigation

N/A

