

Chapter 4. Cumulative Effects and Other CEQA and NEPA Considerations

The analysis in this chapter tiers from the “statutory considerations” discussion in Chapter 5 of the Master EIR; the EA incorporates that discussion by reference. That discussion addressed certain topics required under CEQA, such as cumulative impacts, the significant environmental effects of the Proposed Project, the significant effects that cannot be avoided if the Proposed Project is implemented, and the growth-inducing effects of the Proposed Project. Additional discussions are also required under NEPA, such as the significant irreversible and irretrievable commitments of resources and the relationship between local short-term uses of the environment and the maintenance of long-term productivity. These are incorporated by reference from the Master EIR and are summarized below; see the Master EIR for complete discussions of these topics. This section also provides updated information on cumulative impacts for additional projects that were not identified in the 2009 Master EIR.

4.1 Cumulative Impacts

The regulatory framework for the assessment of cumulative impacts under CEQA is discussed in Chapter 5, Section 5.2.1, of the Master EIR, and the regulatory framework for NEPA is discussed in Chapter 8, Section 8.2.1. Under the CEQA Guidelines (Section 15355), the term “cumulative impacts” refers to two or more individual impacts that, when considered together, are considerable or that otherwise compound or increase other environmental effects. Cumulative environmental impacts arise from the incremental impacts of the Proposed Project when added to other closely related past, present, and reasonably foreseeable future projects.

The CEQ NEPA implementing regulations (40 CFR 1508.7) state that cumulative impacts result from the incremental impact of a proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) undertakes the other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

4.1.1 Methodology and Analysis

The methodology for the cumulative impact analysis is described in section 5.2.2 of the Master EIR. As discussed in that section, the methodology involved the assessment of the potential cumulative effects of the Proposed Project when considered in combination with a list of related projects within a defined geographical area. This assessment of cumulative impacts is considered in the same cumulative context; however, the list of related projects and programs considered in this analysis has been updated to include those closely related past, present, and reasonably foreseeable future projects listed in Table 32.

The cumulative impacts section provided in Chapter 5 of the Master EIR identified related projects through the list approach, based on input from the lead and cooperating agencies. The geographic

scope of the area examined in that assessment for cumulative effects was the Trinity River corridor between Lewiston Dam and the confluence of the North Fork Trinity River (at Helena, California). The following projects were considered in that section and are still considered timely and relevant:

- Fish Habitat Management
- Trinity River Mainstem Fishery Restoration Project
- California Coastal Salmonid Restoration Program/Five-Counties Salmonid Conservation Program
- Clean Water Act Section 303(d) Total Maximum Daily Load Requirements Program

Since 2009, the TRRP has implemented projects at all eight of the remaining Phase 1 Channel Rehabilitation Sites and implemented projects at seven of the Phase 2 sites. Concurrently, the TRRP has continued to implement coarse-sediment (gravel) augmentation at a number of locations downstream of Lewiston Dam, and fine sediment has been removed from both the Hamilton Ponds and Grass Valley Creek Reservoir. In addition, the TRRP-managed flows have been implemented yearly for the past 7 years. Ongoing monitoring efforts by the TRRP and its partners continue to document improvements in habitat use and restoration of alluvial processes and riparian vegetation. (Reclamation 2015).

Since 2009, there have been a number of watershed restoration and road sediment reduction projects implemented by various agencies and organizations throughout the Trinity River basin. While some of these were listed and considered in the Master EIR, the Forest Service and the Trinity County Resource Conservation District have completed a wide array of additional projects intended to improve watershed conditions, restore aquatic habitat, improve aquatic connectivity, and reduce road-related sediment delivery to streams and rivers.

The Trinity Public Utility District Direct Interconnection Project was authorized in 2009. It has been constructed and went on line subsequent to the issuance of the Master EIR. This electrical transmission project is primarily upstream from Lewiston Dam, but the construction of towers and access roads occurred in the Deadwood Creek watershed, resulting in short-term impacts to the tributaries of Deadwood Creek as a result of clearing and grading actions.

Since 2009, there have been a number of large fires in watersheds throughout the Trinity River basin. In 2015 alone, there were more than 240 fires that started from one lightning storm; seven of these ended up burning more than 195,000 acres of the Shasta-Trinity and Six Rivers National Forests and about 17,000 acres of private lands in Trinity and Humboldt counties. More than half of the acres burned were in the Trinity River basin (Shasta-Trinity National Forest and Six Rivers National Forest 2015). As part of the overall 2015 fire suppression effort, more than 300 miles of containment line was constructed and ultimately rehabilitated. Although the Forest Service is still in the planning phase for fire salvage efforts, salvage is occurring on private lands throughout the basin. Cumulatively, these fires and related activities have resulted in substantial changes in watershed conditions throughout the Trinity River basin.

Construction and improvements to existing infrastructure were raised as a potential cumulative impact to consider in this section. The Bucktail Bridge was identified as a design constraint in the EA/IS due to its potential to capture coarse sediment from constructed alluvial features upstream. As a result, the TRRP is working closely with Trinity County to explore funding mechanisms to replace

this bridge with a structure that would not be affected by the changes in flow and sediment regimes. While replacement of this bridge is considered a foreseeable action with respect to need, there is no definitive plan to implement the project at this time.

The issue-specific analysis of cumulative impacts in Chapter 5 of the Master EIR identifies the potential cumulative impacts related to the Remaining Phase 1 and Phase 2 sites for a variety of resource areas. Table 32 provides an update to the summary prepared for the Master EIR.

The Dark Gulch project was completed on the upstream part of the Bucktail project area in 2008 and the Lowden Ranch project was completed on the downstream portion of the project area in 2010. Therefore, there is the potential for cumulative impacts from redistribution of this area. It is assumed, however, that the impacts from those earlier disturbances have diminished because of the amount of time that has lapsed since they were completed. There is also the potential for new disturbance in the area if the Bucktail Bridge is replaced. That project would increase the amount of time for soil and vegetation disturbance as well as other impacts, such as those to noise, air quality, and visual resources. Those impacts would be analyzed in the environmental document for the new bridge. The previous issue-specific analysis in Chapter 5 sufficiently addresses the cumulative impacts of the Proposed Project, and no substantial differences arise in consideration of the Proposed Project separately.

Table 32. Summary of Cumulative Impacts Considering Past, Present and Reasonable Foreseeable Actions in the Trinity River Basin.

Land Use	Implementation of the Proposed Project, in combination with other related projects, would not have a cumulative impact in terms of planning policies, nor would river rehabilitation activities result in cumulative effects in terms of local or federal land use planning policies.
Geology, Fluvial Geomorphology, and Soils	No significant cumulative impacts associated with geologic hazards, geomorphic processes, or erosional processes are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. While large fires and construction of electrical transmission projects have occurred throughout the basin, these impacts are not in close proximity to the Proposed Project. Appropriate implementation of environmental commitments, project design features, and CEQA-specific mitigation measures would reduce potential impacts to a less than significant level.
Water Resources	Implementation of the Proposed Project in combination with other river rehabilitation activities would not have cumulatively considerable impacts on beneficial uses of the river or result in changes in the quantities of water available for any of those uses.
Water Quality	No significant cumulative impacts to water quality are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. The TRRP implementation schedule acknowledges the need to stagger implementation of channel rehabilitation projects along the river to ensure that project sites have the opportunity to stabilize and revegetate. Individually, these activities would result in short-term, temporary effects on water quality. Appropriate implementation of environmental commitments, project design features, and CEQA-specific mitigation measures would reduce potential impacts to a less than significant level.

Table 32. Summary of Cumulative Impacts Considering Past, Present and Reasonable Foreseeable Actions in the Trinity River Basin.

Fishery Resources	No significant, adverse, cumulative impacts to fisheries resources are anticipated to occur as a result of implementation of the Proposed Project. The effect of the Proposed Project, in conjunction with other projects and programs such as the Five Counties Salmonid Restoration effort, is expected to be beneficial in terms of the rehabilitation of habitat and fisheries resources. Implementation of the Proposed Project as designed, in conjunction with CEQA-specific mitigation measures, would benefit, rather than adversely affect, the fishery resources of the Trinity River in the long term.
Vegetation, Wildlife, and Wetlands	No significant cumulative impacts to vegetation, wildlife, and wetlands are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. The Project as designed, in conjunction with CEQA-specific mitigation, would benefit rather than adversely affect vegetation, wildlife, and wetlands in the long term, as would most of the other related projects and programs (e.g., Five Counties Salmonid Restoration). Implementation of the Proposed Project would contribute to long-term ecological benefits in terms of vegetation, wildlife, and wetlands.
Recreation	No significant cumulative impacts to recreational resources are anticipated to occur as a result of implementation of the Proposed Project in combination with other related projects. Benefits to recreational values may be achieved through implementation of the TRRP over time.
Socioeconomics, Population, and Housing	No significant cumulative impacts to socioeconomics, population, and housing are anticipated to occur as a result of implementation of the Proposed Project. The related projects and programs described in the preceding discussion are expected to benefit the Trinity River fishery, with moderate projected economic and social benefits to the residents and communities along the Trinity River.
Cultural Resources	No significant cumulative impacts to cultural resources are anticipated to occur as a result of implementation of the Proposed Project. The environmental commitments, project design features, and implementation of prescribed CEQA-specific mitigation measures (e.g., surveys of potential impact areas by a professional archaeologist prior to construction, protection of potentially significant cultural sites, and coordination with local tribes), in coordination with the SHPO, would adequately address potential impacts, including cumulative impacts.
Air Quality	No significant cumulative impacts to air quality are anticipated to occur as a result of implementation of the Proposed Project. The NCUAQMD requirements would be addressed by implementation of environmental commitments, project design features, and prescribed CEQA-specific mitigation measures. The Proposed Project, in conjunction with the other projects and programs occurring within the Trinity River Basin, would contribute cumulatively to global climate change. Thus, the Proposed Project would contribute to an adverse cumulative contribution to global climate change. Implementation of the Proposed Project in conjunction with mitigation measures would reduce the cumulative contribution to global climate change to a less than significant level.
Visual Resources	No significant cumulative impacts to visual resources are anticipated to occur as a result of implementation of the Proposed Project. Implementation of the Proposed Project would benefit, rather than adversely affect, visual resources in the long term, as would most of the other related projects described in the cumulative effects analysis in the Master EIR.

Table 32. Summary of Cumulative Impacts Considering Past, Present and Reasonable Foreseeable Actions in the Trinity River Basin.

Hazardous Materials	No significant cumulative impacts related to hazardous materials are anticipated as a result of implementing the Proposed Project in combination with other related projects.
Noise	No significant cumulative impacts related to noise are anticipated through implementation of the Proposed Project in combination with other projects. Reclamation would coordinate the implementation of other restoration projects to ensure that construction noise is minimized through project scheduling.
Public Services and Utilities/Energy	No significant cumulative impacts related to public services and utilities/energy are anticipated as a result of implementation of the Proposed Project in combination with other related projects. The rehabilitation activities are designed in ways that ensure that emergency services would not be disrupted; that public services (e.g., school bus routes) would not be adversely affected; and that waste material generated from Project activities would be transported appropriately to authorized locations.
Transportation/Traffic Circulation	No significant cumulative impacts related to transportation/traffic circulation are anticipated through the implementation of the Proposed Project in combination with other related projects. While replacement of the Bucktail Bridge was identified as a need during the initial design stages of this project, the Proposed Project was revised prior to scoping to address this design constraint. Traffic increases would be localized and temporary.
Tribal Trust Assets	No significant cumulative impacts to tribal trust assets are anticipated to occur as a result of implementation of the Proposed Project. The related projects and programs described in Chapter 5 of the Master EIR, in combination with the Proposed Project, are expected to cumulatively result in beneficial effects to the tribal trust assets, including the overall health of the Trinity River and its fishery resources.
Environmental Justice	No disproportionate environmental effects on minority or low-income populations have been identified the Proposed Project, and no significant cumulative impacts to environmental justice are anticipated to occur as a result of the implementation of the Proposed Project. Implementation of the Proposed Project, in conjunction with the other related projects and programs discussed previously in this section, is anticipated to provide a net benefit to the local communities by helping to restore the Trinity River's fishery resources.

4.2 Irreversible and Irretrievable Commitments of Resources

NEPA (Section 102) and the CEQ NEPA implementing regulations (40 CFR 1502.16) require a discussion of “any irreversible and irretrievable commitments of resources which would be involved in a Proposed Action should it be implemented.”

Section 15126.2(c) of the CEQA Guidelines also requires a discussion of the significant irreversible environmental changes that would result from the Proposed Project should it be implemented. This section of the CEQA Guidelines states:

Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit future generations to similar uses. Also,

irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

The No Project alternative would not directly involve the use of resources or cause significant irreversible environmental effects other than those previously described in the Trinity River FEIS/EIR (USFWS et al. 2000a) and incorporated by reference in other sections of this document.

Implementation of the Proposed Project would not involve the substantial use of nonrenewable resources in such a way that would result in conditions that would be irreversible through removal or nonuse thereafter. Future generations would not be committed to irreversible consequences or uses; the effect on future generations would be beneficial as a result of the enhanced and maintained river system and related fishery resources. No irreversible damage from environmental accidents would be foreseeable in association with the Proposed Project.

Implementation of the Proposed Project would result in the use of fossil fuels, a nonrenewable form of energy. A relatively minor amount of nonrenewable resources would be used in the mechanical rehabilitation of the river channel, transport of gravel and other materials, and related construction and management activities in the project area. The material requirements for the Proposed Project would be relatively minor compared to the overall demand for such materials, and the use of these materials would not have a significant adverse effect on their continued availability.

4.3 Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

Section 102 of the CEQ NEPA Regulations and 40 CFR 1501.16 require that an environmental document include a discussion of “the relationship between local short-term uses of man’s environment and the maintenance and enhancement of long-term productivity.” This discussion was included in Section 8.4 of the Master EIR and incorporated by reference.

The Proposed Project does not involve a trade-off between a “local short-term use” of the environment and the maintenance and enhancement of the environment in the sense contemplated by NEPA. Implementation of the Proposed Project is intentionally aimed at maintaining and enhancing the long-term biological and environmental productivity of the river system. Implementation of the Proposed Project would not sacrifice the long-term productivity of the project area for short-term uses during construction.

The short-term impacts on the environment associated with implementation of the Proposed Project are considered minimal compared to the long-term benefits and productivity that would result from the Proposed Project in conjunction with other objectives of the TRRP. Construction-related impacts and land use conflicts would be short-term, occurring only during the construction phase of the Proposed Project. The Proposed Project, including the environmental commitments and project design features, would ensure that the maintenance and enhancement of the fisheries resources offset the short-term impacts.

4.4 Growth-Inducing Impacts

Section 5.3 of the Master EIR evaluated the potential for growth that could be induced by implementation of the Proposed Project and assessed the level of significance of any expected growth inducement. Under CEQA, growth itself is not assumed to be particularly beneficial, detrimental, or insignificant to the environment. If a project is determined to be growth inducing, an evaluation is made to determine whether significant impacts on the physical environment would result from that growth.

Implementation of channel rehabilitation activities in the project area would not remove any constraints to development, create new or improved infrastructure, or otherwise create conditions that would induce growth. The Proposed Project would improve habitat for anadromous fish and, thus, improve conditions for fishing and recreation; however, the improved fishery resources resulting from implementation of the Proposed Project are not likely to directly or indirectly result in substantial development or population growth. Therefore, implementation of the Proposed Project would not result in a significant growth-inducing impact.

4.5 Environmental Commitments and Mitigation Measures

Reclamation's NEPA implementation guidance recommends that a list of environmental commitments for the preferred alternative be included in an EA. Chapter 2 of this EA/IS includes a list of environmental commitments and project design features as part of the Proposed Project. Because this document is a joint NEPA/CEQA document, mitigation measures have been identified for potentially significant CEQA impacts in compliance with CEQA requirements. Under CEQA, lead agencies are required to adopt a program for monitoring or reporting on the revisions that they required be made part of the project and other measures required to mitigate or avoid significant environmental effects. The MMRP provides the comprehensive list of CEQA mitigation measures and identifies requirements for timing, responsible parties, and compliance verification. A site-specific MMRP for the Proposed Project is included as Appendix B of this document.

4.6 Significant Effects under CEQA

CEQA establishes a duty for public agencies to avoid or minimize environmental damage where feasible (CEQA Guidelines Section 15021), and determinations of significance play a critical role in the CEQA process (CEQA Guidelines 15064). Section 5.4 of the Master EIR addresses several types of potentially significant effects.

Potentially significant effects have been identified in the areas of geology, geomorphology, soils, and minerals; water quality; fishery resources; vegetation, wildlife, and wetlands; recreation; cultural resources; air quality; visual resources; noise; public services and utilities; and traffic and transportation. These potential effects are discussed in each resource. As part of the environmental impact assessment for each resource area, mitigation measures/design features have been identified that reduce these impacts to less than significant levels. The environmental analysis conducted for the Proposed Project did not identify any effects that, after mitigation/design features, remained significant and therefore unavoidable; no significant irreversible effects were identified associated with the Proposed Project.

4.7 Connected Actions

The CEQ regulations for implementing NEPA (40 CFR 1508.25) state that some actions (other than unconnected single actions) may be interdependent parts of a larger action and depend on the larger action for their justification. These connected actions are closely related and should be addressed when discussing the larger action.

Comments on this topic received during the public review process suggesting that replacement of Trinity County's Bucktail Bridge should be considered a connected action. While this project is considered as foreseeable in the discussion of cumulative effects, any decision on the Proposed Project would not depend on future decisions related to replacement of the Bucktail Bridge. Connected actions that would occur related to implementation of the Proposed Project include activities that are required for construction of the Proposed Project, such as transportation of logs, salvaged large woody debris, boulders, and alluvial materials from locations outside the project boundary, and the related vehicle trips, increases in traffic circulation, and wear and tear on local roadways. These activities were analyzed in the Master EIR, and supplemental analysis on these actions is provided in Chapter 3 of this EA/IS. The environmental analysis did not identify any effects that, after incorporation of environmental commitments, project design features, and CEQA mitigation measures, remained significant.