

APPENDIX C

Aquatic Conservation Strategy—Consistency Evaluation

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Introduction

The Bureau of Reclamation (Reclamation), under the auspices of the Trinity River Restoration Program (TRRP), is the proponent for implementing a series of channel rehabilitation and sediment management activities throughout the 40-mile reach of the Trinity River below Lewiston Dam. This evaluation is for the Bucktail site, as described in Chapter 2 of the EA/IS for the Trinity River Channel Rehabilitation Site: Bucktail (River Mile 105.45–107.0).

This document evaluates and determines the consistency of the TRRP activities with the Aquatic Conservation Strategy (ACS) in the Record of Decision (ROD) for the Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Related Species within the Range of the Northern Spotted Owl. The ACS was developed to restore and maintain the ecological health of watersheds and aquatic ecosystems contained within them on public lands. The ROD amended the Redding Resource Management Plan (RRMP) prepared by the Bureau of Land Management (BLM) in 1994.

The intent of this evaluation is to ensure that decision makers have the information necessary to determine whether the proposed TRRP activities at the Bucktail site are consistent with the ACS objectives. This evaluation incorporates information provided in the Mainstem Trinity River Watershed Analysis (U.S. Bureau of Land Management 1993), incorporates by reference the 2009 Master Environmental Impact Report prepared by Reclamation in cooperation with BLM, and other information in the administrative record to assist the decision maker. In order to make the finding that a project or management activity “meets” or “does not prevent attainment” of the ACS objectives, the decision maker must ensure that management actions that do not maintain the existing condition or lead to improved conditions in the long term would not be implemented.

The ACS states that species-specific strategies aimed at defining explicit standards for habitat elements would be insufficient for protecting even the targeted species. The intent of the ACS is to maintain and restore ecosystem health at watershed and landscape scales to protect habitat for fish and other riparian-dependent species and resources and to restore currently degraded habitats. This approach seeks to prevent further habitat degradation and restore habitat over broad landscapes as opposed to implementing individual projects or focusing on small watersheds. Because the ACS is based on natural disturbance processes, the ROD recognized that it is a long-term strategy that may take decades, and possibly more than a century, to accomplish all of its objectives.

The ACS contains four components: riparian reserves, key watersheds, watershed analysis, and watershed restoration. Each component is integral to improving the health of the aquatic ecosystems encompassed by the ROD. A detailed discussion of these components is provided in the ROD.

Since the BLM's RRMP predated the ROD, it was subsequently amended to include Attachment A of the ROD.

Attachment A of the ROD includes Standards and Guidelines (S&Gs) that were incorporated as management direction into the BLM RRMP to ensure compliance with the ROD. This hierarchy of land allocations is described below.

1. Congressional Reserved Areas – Includes wilderness, federal wild and scenic Rivers, national monuments, and other federal lands not administered by the Forest Service or Bureau of Land Management.
2. Late Successional Reserves – Lands identified with an objective of protecting and enhancing conditions for late-successional and old-growth forest ecosystems.
3. Adaptive Management Areas – Areas with objectives of developing and testing new management approaches to integrate ecological and economic health and other social objectives.
4. Managed Late-Successional Areas – Specific late-successional areas in the drier provinces where regular and frequent fire is a natural part of the ecosystem.
5. Administratively Withdrawn Areas – Areas identified in current Forest and District Plans or draft plan preferred alternatives. These areas include recreation and visual areas, backcountry areas, and other areas where management emphasis precludes scheduled timber harvest.
6. Riparian Reserves – As a key component of the ACS, riparian reserves provide an area along all streams, wetlands, ponds, lakes, and unstable/potentially unstable areas where riparian-dependent resources receive primary emphasis. These reserves are important to the terrestrial ecosystem as well, providing connectivity corridors and dispersal habitat for certain terrestrial species.
7. Matrix – The matrix consists of those federal lands outside the six previous allocations.

The activities proposed by Reclamation are confined to a narrow corridor that parallels the Trinity River from Lewiston Dam downstream to Helena, California. This section of the Trinity River is both federally and state designated as a wild and scenic river; it therefore meets the definition of a Congressionally reserved area. Riparian reserve and matrix designations are also used to classify lands within this corridor. This evaluation focuses on riparian reserves as defined in the RRMP.

The following sections of this evaluation address the consistency of the TRRP's proposed activities at the Bucktail site (River Mile 105.45-107.0) with the four components of the ACS and the nine ACS objectives described in Attachment B to the ROD.

Components of the Aquatic Conservation Strategy

Riparian Reserves

The project area contains riparian reserves, as defined in the BLM's RRMP. Watershed analyses have been completed by BLM for federal lands within the Trinity River corridor; these analyses did not modify the designated widths of the riparian reserves established by the S&Gs described in the

Northwest Forest Plan and subsequently adopted by the BLM. The width of the riparian reserves essentially correlates with the floodplain of the Trinity River, as well as a buffer around riparian features identified during the wetland delineation process for the Bucktail project. Table A-1 at the end of this document shows the S&Gs that were integrated into the project.

Key Watersheds

There are no key watersheds within or downstream of the 40-mile reach of the Trinity River downstream of Lewiston Dam, although the Forest Service does manage key watersheds in the upper Trinity River watershed, primarily associated with the Salmon-Trinity Alps Wilderness Area. This component of the ACS is therefore not applicable to the activities proposed by the TRRP in the Bucktail EA.

Watershed Analysis

The BLM conducted watershed analyses for the lands within the Trinity River corridor. These analyses did not identify specific recommendations regarding the riparian reserve widths; therefore, the S&Gs established under the ACS are applicable to this project. Any activities proposed within these riparian reserves will conform to the site-specific conditions established in the S&Gs to ensure consistency with the ACS.

Watershed Restoration

By its nature, the project is a comprehensive ecosystem restoration project intended to restore the physical processes and biological resources of the mainstem Trinity River. While some short-term impacts may occur to riparian-dependent species, the scale of the activities proposed by the TRRP, including this project, ensures that restoration of ecological processes and functions will be consistent with the ACS.

Aquatic Conservation Strategy Objectives

The following section evaluates the consistency of the proposed action with the nine ACS objectives listed in Attachment B of the ROD.

The lands managed by the STNF and BLM within the range of the northern spotted owl will be managed to:

8. *Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations, and communities are uniquely adapted.*

The project by its nature is intended to restore the landscape processes, specifically the alluvial and riparian functions, that have been impaired by construction of the Trinity River Division of the Central Valley Project. The activities that are proposed on federal lands subject to the ACS are an integral part of the larger project and are intended to assist BLM in attaining this ACS objective.

9. *Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must*

provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.

The project boundaries illustrated in the EA/IS for the Bucktail Rehabilitation Site ensure that project activities are implemented in a manner that complements the functional values offered by the Trinity River between the Lewiston and Helena. The TRRP, in cooperation with BLM, has been involved in the identification and prioritization of channel rehabilitation sites for a number of years. This project has been designed to acknowledge the inter-relationship between aquatic and riparian habitats that occur throughout this reach. Specifically, this project includes a number of activities to enhance the connectivity of aquatic and riparian habitat in the general vicinity of the Bucktail site consistent with the overall objectives of the TRRP for the 40-mile reach of the Trinity River downstream of Lewiston Dam. Modifications of floodplains, removal of grade control structures, construction of functional side-channel habitat, and augmentation of spawning gravel are examples of restoring connectivity for a variety of aquatic and riparian-dependent species. The intent of this project is to assist the BLM in attaining this ACS objective.

10. *Maintain and restore the physical integrity of the aquatic system, including shorelines, banks and bottom configurations.*

A fundamental component of the project are the activities intended to restore the bed, banks, and floodplain of the Trinity River. The modification of grade control, expansion of functional floodplain habitat, efforts to enhance the coarse sediment supply, and placement of large wood and boulders that provide refugia habitat are examples of the activities intended to restore the physical integrity of the aquatic system. Collectively, these efforts are designed to restore the alluvial character of the Trinity River, which was impaired by reductions in flow and sediment upstream. The intent of this project is to assist the BLM in attaining this ACS objective.

11. *Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.*

By its nature, the project will require removal of vegetation and extensive grading activities, including construction within the active channel of the Trinity River. In 2015, the North Coast Regional Water Quality Control Board (Regional Water Board) reissued three General Permits to the TRRP that provide authorization for channel rehabilitation, fine sediment management, and coarse sediment management activities under Section 401 of the Clean Water Act (CWA). As a cooperating agency, BLM has also worked closely with the TRRP to ensure that Best Management Practices are incorporated to minimize effects on water quality. Additionally, mitigation measures developed as part of the 2009 Master EIR to further reduce potentially significant effects on water quality from construction activities have been incorporated into the Bucktail project. Compliance with conditions established by the USACE consistent with the requirements of Nationwide Permit 27 will ensure compliance with Section 404 of the CWA. As proposed, this project would be consistent with the requirements of the Regional Water Board and the BLM's RRMP; it would therefore not prevent attainment of this ACS objective.

12. *Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.*

A fundamental element of the TRRP is restoration of the sediment regime in a manner that enhances the alluvial character of the 40-mile reach of the Trinity River downstream of Lewiston Dam. The Bucktail project would ensure that the coarse sediment fraction of the sediment regime will be replenished on an ongoing basis, consistent with the timing, volume, and rates appropriate for the scaled-down channel. The inclusion of large wood and boulder clusters also increases the functional benefits of gravel augmentation. While there may be a change in the timing or volume of sediment input, overall the project is intended to assist BLM in attainment of this ACS objective.

13. *Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.*

The preferred alternative will not influence any in-stream flows. No modifications to the flow regime of the Trinity River or its tributaries are proposed; therefore, this ACS objective would be met.

14. *Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.*

The activities to modify the bed, banks, and floodplains of the Trinity River within the project boundary are designed to maintain and/or restore the hydrologic connection between the river and adjacent wetland/riparian habitat. By reducing the floodplain elevations, the current flow regime could provide additional opportunities to establish functional, connected wetland habitat adjacent to the Trinity River. This project would be consistent with this ACS objective.

15. *Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.*

A fundamental objective of the TRRP is to restore the species composition and structural diversity of native plant communities that occur along the mainstem Trinity River. The modifications proposed to the active channel, floodplain, and upland activity areas within the boundary of the Bucktail site will provide conditions that are receptive to the reintroduction of a diverse assemblage of native riparian vegetation and reduce the potential for non-native, invasive, and noxious plant species. Woody material of various size classes removed as part of the rehabilitation activities will be incorporated into the project as appropriate. Placement of large wood within and/or adjacent to constructed alluvial features will enhance channel complexity and edge habitat. On-site mulching of vegetative debris will provide effective ground cover and increase successful revegetation efforts. Overall, this natural recruitment of riparian communities, supplemented by riparian planting efforts, will ensure that this project meets this ACS objective.

16. *Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.*

A fundamental objective of the TRRP is to restore the aquatic, riparian, and upland habitat along the 40-mile reach of the mainstem Trinity River. The project activities emphasize creation and/or rehabilitation of aquatic and riparian habitat within the boundary of the Bucktail project. Collectively, these activities are intended to generate geomorphic responses downstream that will further the overall habitat enhancement objectives by reestablishing the alluvial processes that were impaired by the construction and operation of the Trinity River Division. The activities that are proposed on federal lands subject to the ACS are an integral part of the overall objective of the TRRP and are intended to assist BLM in attaining this ACS objective.

Conclusion

Based on this evaluation, BLM finds that the project described in the NEPA decision document has been designed and would be constructed in a manner that does not prevent future attainment of the ACS objectives. The management actions incorporated into the preferred alternative will maintain the existing condition or lead to improved conditions in the long term, consistent with the intent of the ACS.

Table C-1. ACS Applicable Standards and Guidelines

All Land Allocations		
Survey and Manage	2	Survey prior to ground disturbing activities.
Riparian Reserves		
Timber Management	TM 1-c	Apply silvicultural practices for Riparian Reserves to control stocking, reestablish and manage stands, and acquired desired vegetation characteristics needed to attain ACS objectives.
Roads Management	RF-1	Federal, state, and county agencies should cooperate to achieve consistency in road design, operation, and maintenance necessary to attain Aquatic Conservation Strategy objectives.
	RF-2	For each existing or planned road, meet Aquatic Conservation Strategy objectives by:
	RF-2a	Minimizing road and landing locations in Riparian Reserves.
	RF-2b	Completing watershed analyses (including appropriate geotechnical analyses) prior to construction of new roads or landings in Riparian Reserves.
	RF-2c	Preparing road design criteria, elements, and standards that govern construction and reconstruction.
	RF-2d	Preparing operation and maintenance criteria that govern road operation, maintenance, and management.
	RF-2e	Minimizing disruption of natural hydrologic flow paths, including diversion of streamflow and interception of surface and subsurface flow.

	RF-2f	Restricting sidecasting as necessary to prevent the introduction of sediment to streams.
	RF-3	Determine the influence of each road on the Aquatic Conservation Strategy objectives through watershed analysis. Meet Aquatic Conservation Strategy objectives by:
	RF-3a	Reconstructing roads and associated drainage features that pose a substantial risk.
	RF-3b	Prioritizing reconstruction based on current and potential impact to riparian resources and the ecological value of the riparian resources affected.
	RF-3c	Closing and stabilizing, or obliterating and stabilizing roads based on the ongoing and potential effects to Aquatic Conservation Strategy objectives and considering short-term and long-term transportation needs.
	RF-4	New culverts, bridges and other stream crossings shall be constructed, and existing culverts, bridges and other stream crossings determined to pose a substantial risk to riparian conditions will be improved, to accommodate at least the 100-year flood, including associated bedload and debris. Priority for upgrading will be based on the potential impact and the ecological value of the riparian resources affected. Crossings will be constructed and maintained to prevent diversion of streamflow out of the channel and down the road in the event of crossing failure.
	RF-5	Minimize sediment delivery to streams from roads. Outsloping of the roadway surface is preferred, except in cases where outsloping would increase sediment delivery to streams or where outsloping is unfeasible or unsafe. Route road drainage away from potentially unstable channels, fills, and hillslopes.
	RF-7	Develop and implement a Road Management Plan or a Transportation Management Plan that will meet the Aquatic Conservation Strategy objectives. As a minimum, this plan shall include provisions for the following activities:
	RF-7a	Inspections and maintenance during storm events.
	RF-7b	Inspections and maintenance after storm events.
	RF-7c	Road operation and maintenance, giving high priority to identifying and correcting road drainage problems that contribute to degrading riparian resources.
	RF-7d	Traffic regulation during wet periods to prevent damage to riparian resources.
	RF-7e	Establish the purpose of each road by developing the Road Management Objective.
Recreation Management	RM-1	New recreational facilities within Riparian Reserves, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves, evaluate and mitigate impact to ensure that these do not prevent, and to the extent practicable contribute to, attainment of Aquatic Conservation Strategy objectives.

	LH-3	Locate new support facilities outside Riparian Reserves. For existing support facilities inside Riparian Reserves that are essential to proper management, provide recommendations to FERC that ensure Aquatic Conservation Strategy objectives are met. Where these objectives cannot be met, provide recommendations to FERC that such support facilities should be relocated. Existing support facilities that must be located in the Riparian Reserves will be located, operated, and maintained with an emphasis to eliminate adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives.
	LH-4	For activities other than surface water developments, issue leases, permits, rights-of-way, and easements to avoid adverse effects that retard or prevent attainment of Aquatic Conservation Strategy objectives. Adjust existing leases, permits, rights-of-way, and easements to eliminate adverse effects that retard or prevent the attainment of Aquatic Conservation Strategy objectives. If adjustments are not effective, eliminate the activity. Priority for modifying existing leases, permits, rights-of-way and easements will be based on the actual or potential impact and the ecological value of the riparian resources affected.
General Riparian Area Management	RA-2	Fell trees in Riparian Reserves when they pose a safety risk. Keep felled trees on-site when needed to meet coarse woody debris objectives.
	RA-3	Herbicides, insecticides, and other toxicants, and other chemicals shall be applied only in a manner that avoids impacts that retard or prevent attainment of Aquatic Conservation Strategy objectives.

References

- Shasta-Trinity National Forest. 2005. Upper Trinity River watershed analysis. USDA Forest Service, Shasta-Trinity National Forest.
- U.S. Bureau of Land Management. 1995. Mainstem Trinity River Watershed Analysis.
- U.S. Bureau of Land Management. 1993. Redding Resource Management Plan and Record of Decision.