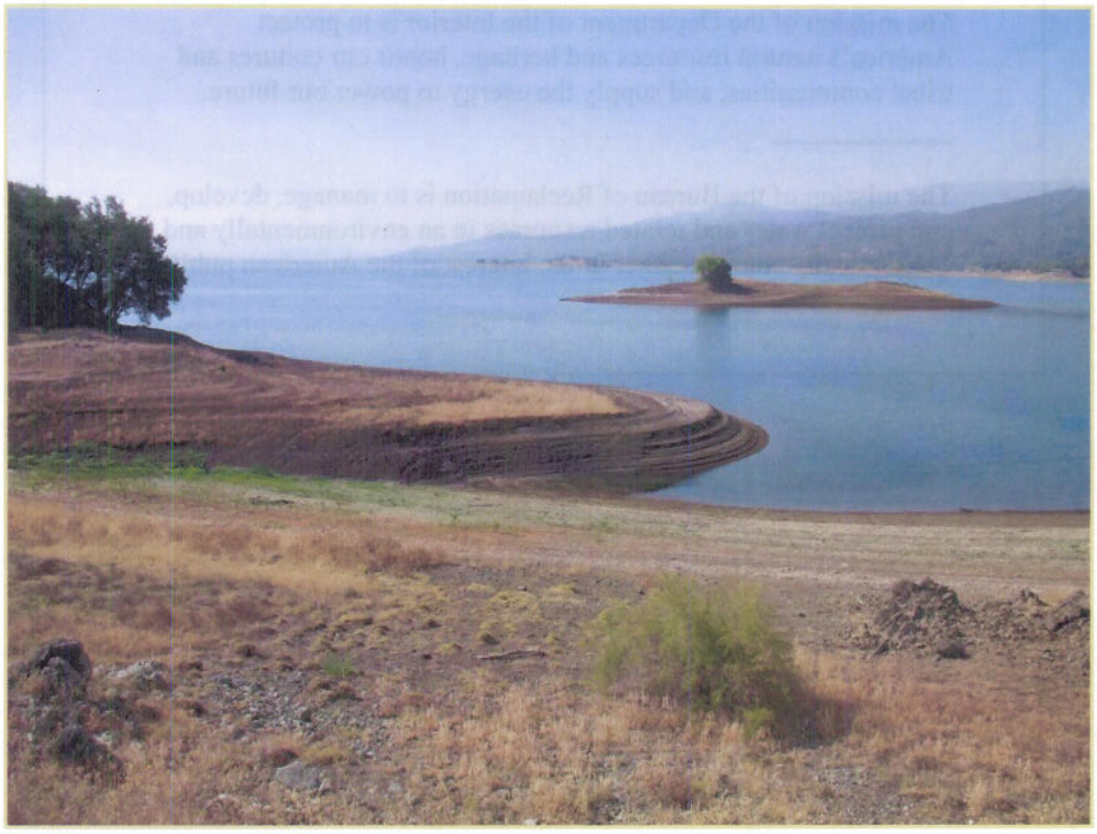
RECLAMATION

Managing Water in the West

Environmental Assessment

Rehabilitation of North End Trail at Lake Berryessa

Napa County, California



U.S. Department of the Interior
Bureau of Reclamation

March 2011

Mission Statements

The mission of the Department of the Interior is to protect America's natural resources and heritage, honor our cultures and tribal communities, and supply the energy to power our future.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

Rehabilitation of North End Trail at Lake Berryessa

Draft Environmental Assessment
Napa County, California

Prepared by:

United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region
Central California Area Office, Lake Berryessa

Executive Summary

The U.S. Bureau of Reclamation, Central California Office, Lake Berryessa Recreation Resource Branch (Reclamation) has prepared this Environmental Assessment (EA) to evaluate the potential environmental consequences of rehabilitating and realigning the existing North End Trail in the Lake Berryessa Federal Recreation Area in eastern Napa County.

Berryessa Trails and Conservation, a local non-profit organization, is proposing to rehabilitate the North End Trail in partnership with Reclamation. Rehabilitation of a trail on federal land requires review under the National Environmental Policy Act (NEPA). This EA documents Reclamation's NEPA review and will be used to inform Reclamation's decisions concerning the proposed action, specifically whether an Environmental Impact Statement is required or a Finding of No Significant Impact is appropriate.

The proposed action would involve construction of a 7-mile-long trail along the northwest shore of Lake Berryessa. The new North End Trail would generally be constructed in the same area as the existing trail, incorporating segments of the existing trail into the new trail alignment. The proposed action is needed to alleviate safety concerns for trail users due to the deteriorating condition of the existing trail; reduce environmental impacts, particularly on wetlands; and reduce maintenance needs by creating a sustainable trail. The rehabilitated trail would help Reclamation achieve one of the goals of the Lake Berryessa Visitor Services Plan, which is to provide a regional trail system at the lake.

This EA provides an analysis of the impacts of the proposed action and no-action alternative. Implementation of the proposed action would result in minimal impacts on the environment. Measures have been incorporated into the trail design to protect seasonal wetlands and cultural resources that may be encountered during ground disturbance. Adverse impacts on nesting migratory birds and water quality will be minimized through implementation of recommended mitigation measures and compliance with applicable permits. No adverse impacts on the threatened valley elderberry longhorn beetle are anticipated with implementation of conservation measures. Cumulative impacts of the proposed action and other recreation projects at Lake Berryessa would also be minimal through implementation of Best Management Practices and project-specific mitigation measures. The proposed action would comply with federal environmental statutes and other authorities.

For further information regarding this EA, contact the Park Manager, Central California Area Office, Lake Berryessa Recreation Resources Branch, 5520 Knoxville Road, Napa, California, Telephone (707) 966-2111.

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Abbreviations and Acronyms

ABA	Architectural Barriers Act
ADA	Americans with Disabilities Act
af	acre-feet
BAAQMD	Bay Area Air Quality Management District
BMPs	Best Management Practices
BT&C	Berryessa Trails and Conservation
CDFG	California Department of Fish and Game
CEQ	Council on Environmental Quality
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FONSI	Finding of No Significant Impact
NEPA	National Environmental Policy Act
NPS	National Park Service
PM_{10}	respirable particulate matter
PUP	Public Use Plan
RAMP	Lake Berryessa Reservoir Area Management Plan
Reclamation	United States Department of the Interior, Bureau of Reclamation
Reclamation-Berryessa	U.S. Bureau of Reclamation, Central California Office, Lake Berryessa Recreation Resource Branch
RWQCB	Regional Water Quality Control Board
SFBAB	San Francisco Bay Air Basin
SR	State Route
USACE	U.S. Army Corps of Engineer
USFWS	U.S. Fish and Wildlife Service
VSP FEIS	Visitor Services Plan / Future Recreation Use and Operation of Lake Berryessa Final Environmental Impact Statement
ROD	Record of Decision
SWPPP	Stormwater Pollution Prevention Plan

Chapter 1
Purpose and Need

Introduction

In compliance with the National Environmental Policy Act (NEPA), the U.S. Bureau of Reclamation, Central California Area Office, Lake Berryessa Recreation Resource Branch (Reclamation-Berryessa) has prepared this Environmental Assessment (EA) to evaluate the potential environmental consequences of rehabilitating and realigning the existing North End Trail along the northwest shore of Lake Berryessa. Lake Berryessa, Reclamation's reservoir for the Solano Project, is located behind Monticello Dam on Putah Creek in eastern Napa County between Blue Ridge and Cedar Roughs (Figure 1; Chapter 1 figures are provided at the end of the chapter). The primary study area for the proposed action is a 30-foot corridor along the existing trail between the Putah Creek trailhead and the K-6 trailhead (Figure 2).

Federal agencies are required under NEPA (42 United States Code 4321 et seq.) to evaluate the environmental consequences of their actions. Although the North End Trail Rehabilitation Project (proposed action) is proposed by Berryessa Trails and Conservation (BT&C), a local non-profit organization, the trail rehabilitation would occur on land owned and managed by Reclamation. Reclamation, the lead agency under NEPA, is therefore responsible for ensuring appropriate compliance with applicable laws and regulations required toimplement the proposed action. This EA has been prepared in compliance with NEPA, the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500–1508) and related CEQ guidance, Department of the Interior Department Manual 516 DM 1-15, and Reclamation's NEPA Handbook.

This EA evaluates the potential environmental consequences of constructing and implementing the proposed action. It provides documentation to assist Reclamation in determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). The EA serves NEPA's fundamental purposes: to provide environmental information that informs federal decision-making and to identify feasible ways to avoid and minimize adverse effects on the environment.

In addition to evaluating the environmental consequences of the proposed action, Reclamation has also evaluated the consistency of the proposed action with the Visitor Services Plan/Future Recreation Use and Operation of Lake Berryessa Final Environmental Impact Statement (VSP FEIS) and Visitor Services Plan/Future Recreation Use and Operation of Lake Berryessa Record

of Decision (VSP ROD). These documents provide direction for the management and operation of recreational facilities at Lake Berryessa.

Background

Lake Berryessa is a man-made reservoir created in the 1950s as part of the Solano Project. Solano County Water Agency operates the Solano Project under an agreement with Reclamation, although the reservoir and surrounding land are federal lands managed by Reclamation. At capacity, Lake Berryessa stores 1.6 million acre-feet (af) of water and is one of the largest bodies of fresh water in California. The lake is 23 miles long by 3 miles wide and has 165 miles of shoreline. The California Department of Fish and Game (CDFG) manages a 2,000-acre wildlife area along the east side of the lake under an agreement with Reclamation.

A Public Use Plan (PUP) was prepared for Lake Berryessa by the National Park Service (NPS) in 1959 to guide recreation development based on the capabilities of the land and water to accommodate public use and the recreation needs and desires of the people who would use the area (National Park Service 1959). Napa County was originally the administering agency responsible for developing and managing recreation facilities at Lake Berryessa. Reclamation regained management of the recreation uses on and around the lake in 1974 and developed three day-use areas to accommodate the increasing use of the area by the public.

In 1992, Reclamation-Berryessa completed the Lake Berryessa Reservoir Area Management Plan (RAMP) to update the PUP, respond to the need for adequate public use facilities, and address resource degradation concerns as a result of land use activities at the reservoir (U.S. Bureau of Reclamation 1992). The majority of the recommendations in the RAMP have been implemented; however, several issues continue to be of concern to Reclamation-Berryessa and require additional management action. Reclamation-Berryessa responded to the ongoing issues by preparing the VSP EIS (also referred to as the Future Recreation Use and Operations of Lake Berryessa EIS), which identifies and assesses various management alternatives for the redevelopment and management of visitor services (commercial and non-commercial) to better serve traditional, short-term, non-exclusive, and diverse outdoor recreation opportunities at Lake Berryessa.

The VSP ROD directed Reclamation, in coordination with other landowners and organizations as appropriate, to create a regional trail system for non-motorized recreation, including constructing new trails and improving existing trails. Specifically, the ROD states "Reclamation will work in partnership with other Government agencies, private landowners, and private organizations to design and construct a regional trail system for non-motorized recreation. This

may include a multipurpose shoreline trail on Reclamation-owned and managed lands at Lake Berryessa with trail segments to other public lands."

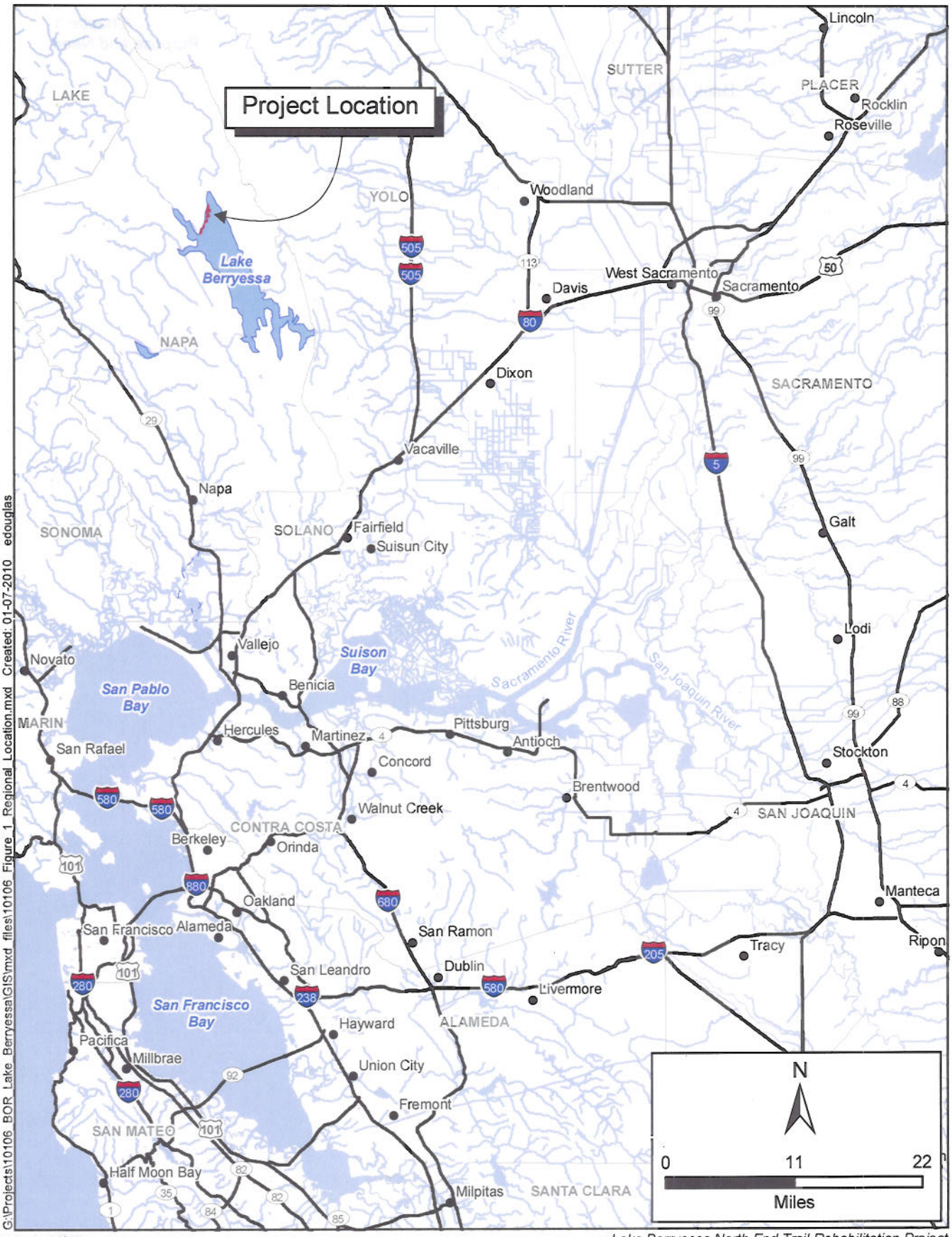
One such project is the rehabilitation and realignment of the North End Trail, which is a joint effort by Reclamation and BT&C. BT&C is currently applying for grants for the trail alignment and construction of the North End Trail.

The existing North End Trail was established in the late 1970s and has a number of safety and environmental issues as a result of its current condition, alignment, and ongoing erosion along the banks of the reservoir. Segments of the trail are in close proximity to, and in some cases on the edge of, eroding cliffs or landslides. The trail rehabilitation is part of the overall regional trail system development; however, it is an independent action that does not rely on completion of other trail segments.

Purpose and Need

The purpose of the proposed action is to: (1) be consistent with the VSP ROD; (2) provide public access to public lands that will allow recreation opportunities for hikers, bikers, and visitors accessing the lakeshore for fishing, kayaking, swimming, picnicking, and enjoying the scenic vistas; (3) protect and rehabilitate sensitive areas to provide habitat for migratory birds and other animal and plant species; and (4) improve public safety and environmental issues due in part to the deteriorating condition of the existing trail.

The need for the proposed action is to improve trail conditions, reduce the environmental impacts of the existing trail, and ensure public safety for trail users. Because of the trail's current deteriorating condition, segments of the trail are unusable or unsafe and pose a safety hazard for users. In addition, trail users may be forced to hike off the trail to avoid the unsafe segments, which disturbs vegetation adjacent to the trail and creates secondary paths. Portions of the existing trail cross through wetlands and other sensitive areas, which could be avoided by realigning the trail or by constructing structures to reduce the impact recreation is having in these sensitive areas. Rehabilitation of the existing trail is needed to provide a safe hiking experience for trail users and to designate a defined alignment to avoid unnecessary disturbance off the trail.



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Lake Berryessa North End Trail Rehabilitation Project

North State Resources, Inc.

Figure 1
Regional Location Map

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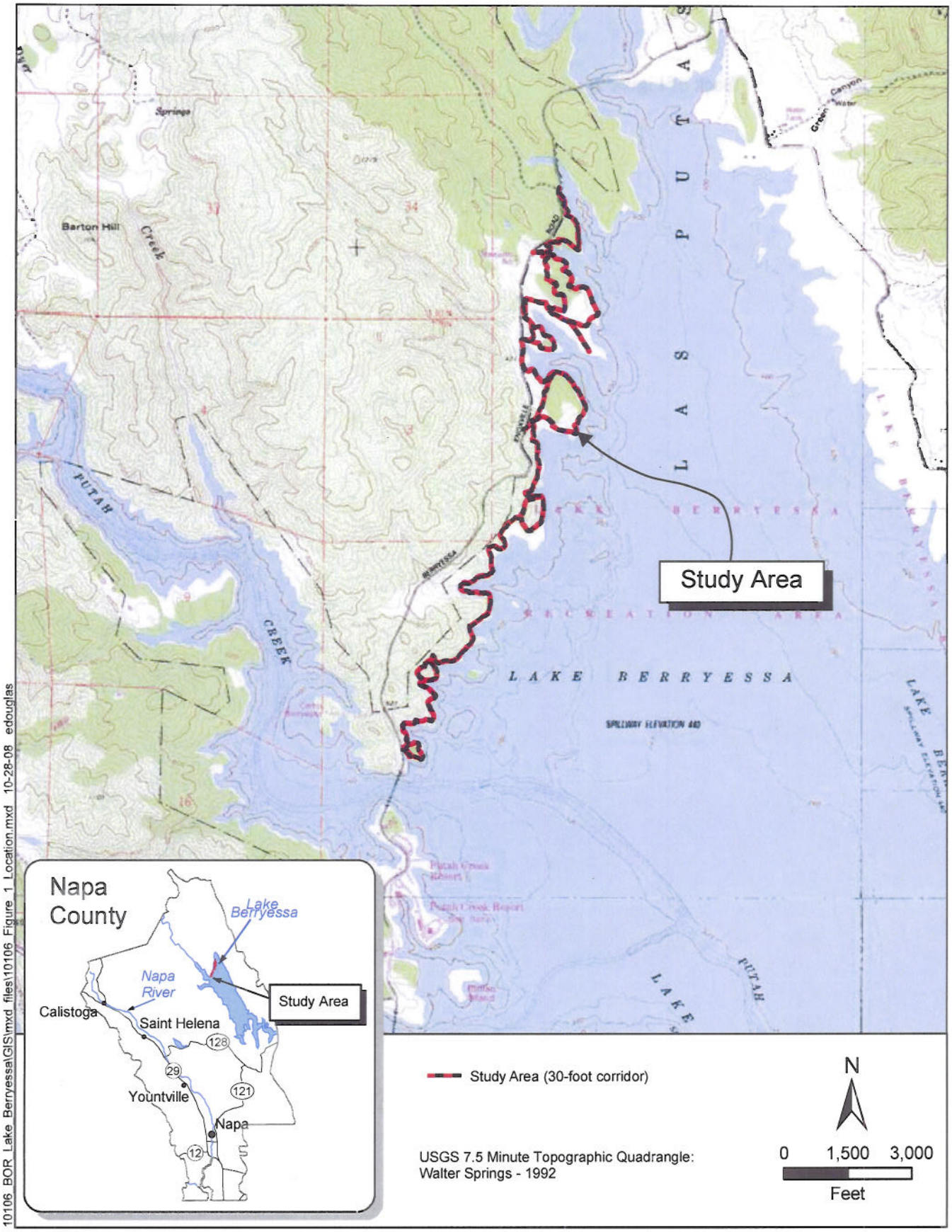

Lake Berryessa North End Trail Rehabilitation Project

North State Resources, Inc.

Figure 2
Project Location Map

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Chapter 2
Proposed Action and Alternatives

Introduction

This chapter provides a description of the no-action alternative and the proposed action. Another alternative to the proposed action (Closure/Abandonment Alternative) was considered but eliminated from further evaluation, as discussed at the end of this chapter, because it would not meet the purpose and need. Alternative trail alignments were not considered as separate alternatives because they would essentially be design options; under the proposed action, the preferred 8-foot-wide alignment would be selected within a 30-foot-wide corridor (study area) based on environmental conditions. The environmental effects of the no-action alternative and the proposed action are discussed in Chapter 3.

No-Action Alternative

Under the no-action alternative, the existing North End Trail would be maintained in its current condition and would not be improved or realigned. Occasional vegetation removal to maintain the trail would continue. The trail would continue to be open for public use, but portions of the trail would be subject to closure or would be inaccessible due to overgrown vegetation, landslides, and erosion. The trail would continue to pose a safety concern for recreational users; it would also contribute to water quality impacts in the reservoir and creeks that cross under the trail due to ongoing erosion. The existing wooden entrance gates would not be replaced despite their deteriorating condition. The no-action alternative is a continuation of current management of the North End Trail and serves as the baseline for comparison of the impacts of the proposed action.

Proposed Action

BT&C is proposing to rehabilitate and realign the existing North End Trail from the Putah Creek trailhead to the K-6 trailhead. The existing North End Trail was built in the late 1970s by the California Conservation Youth Corps. The trail system originally ran from Putah Creek to Eticuera Creek, but it was not properly maintained and portions of it were eventually abandoned; some segments used by the public remained in use. Much of the trail has deteriorated over the years, creating safety and environmental issues. In an effort to restore the trail, Reclamation and BT&C volunteers have removed overgrown

vegetation and marked missing segments with flagging, although these efforts have not produced long-term results.

The proposed action consists of rehabilitating the existing trail by realigning portions away from hazardous areas, resurfacing the trail through the use of possible trail stabilizers, and removing and controlling overgrown vegetation. Associated structures, such as trailheads, gates, bridges, and wet crossings, would also be constructed or repaired, as needed. The new trail would conform to Reclamation's Recreation Facility Design Guidelines and would provide improved opportunities for public use of the Lake Berryessa area in accordance with the VSP ROD.

Trail Components

Trail Improvements

The new North End Trail would be approximately the same length as the existing trail (7.3 miles long), but would include new loop and access trails and would adhere to sustainable design techniques. The trail would follow the same alignment in most areas, but would be shifted further inland in areas where erosion or landslides have created hazardous conditions along the shore of the reservoir (Figure 3; figure provided at the end of this chapter). The new trail would be located within the 30-foot-wide study area evaluated in this EA and would be primarily on Reclamation-owned land. It would consist of a 4-foot-wide mineral soil surface trail with 2 feet of clearance on both sides (8-foot-wide by 8-foot-high corridor free of vegetation). Overall, the new trail would not be able to meet Americans with Disabilities Act/Architectural Barriers' Act (ADA/ABA) standards due to the steep slopes and uneven terrain; however, other portions of the regional trail system at Lake Berryessa would be accessible to provide representative experiences.

The modified trail would consist of 5.4 miles of main trail, 1.1 miles of loop trails, 0.5 mile of access trails, and less than 0.5 mile of existing trail that requires regrading. Six loop trails would be created, with access to the main trail at eight points along the trail. Approximately 7 acres of land along the northwest shore of the lake would be disturbed to create the new trail. Existing trail segments that are not used for the new trail would be returned to a natural state.

The grade of the trail would not exceed 10 percent, with an approximate average grade of between 6 and 7 percent. Outslopes would be between 2 and 4 percent to allow runoff so that water would not accumulate on the trail; rolling grade dips may be used in some areas if necessary. The new trail would require ground disturbance between 6 inches and 4 feet deep, depending on the slope requirements.

The trail's sustainable design would allow it to last a long time with minimal maintenance needs, which would reduce long-term maintenance costs and

minimize environmental impacts on water quality and natural and cultural resources. Reclamation will comply with 36 Code of Federal Regulations Part 800.13 if previously unidentified cultural resources are located in the study area during construction or operation of the North End Trail. Best Management Practices (BMPs) would be implemented during construction to minimize environmental effects. Project-specific BMPs include:

- using straw bales, silt fencing, waddles, coir rolls, or similar barriers to avoid erosion during and immediately after construction, especially in areas close enough to affect the lake, drainages, streams, or wetlands;
- minimizing the number of trees removed by avoiding the removal of old growth trees and trees greater than 10 inches in diameter at breast height; and
- designing the trail to have a meandering design with lines of sight to accommodate hikers and bikers and provide easy access to the reservoir.

Stream Crossings

The trail would cross several surface water features, including intermittent streams, ephemeral drainages, and wetlands. Six new bridges would be installed along the trail, and 22 wet crossings would be constructed and armored with riprap where needed. The bridges would be clear span (no support pilings in the waterway) using fan walls (sutter wall design) constructed of wood, concrete, and rebar for footings, with retaining walls where needed. Bridge lengths would vary by creek width, ranging from 12 to 24 feet. The bridges would be 5 feet wide with 54-inch-high railings. Wet crossings would consist of rock strategically placed within the ephemeral drainages to allow the water to flow between the rock crevices. Other steep or wet areas along the trail would be armored with retaining walls and rip rap as needed. Wet crossings, retaining walls, and riprap would be constructed of rocks gathered nearby, as feasible.

The two existing culverts would be incorporated into the new trail design and would not be modified.

Trail Access

Six existing trailhead gates (K-6, Raccoon Lagoon, Blue Monday, Schoolhouse Cove, Barton Hill, and Putah Creek) would be repaired or replaced to provide access to the trail. Some of the gates would be improved to include a low, lift-over barrier for bikers and kayak users. Four existing trailheads (Buckhorn, Gibson Flat, La Pointe, and an un-named trailhead close to Putah Creek) would be closed due to the proximity of other trailheads and lack of adequate parking. However, two of the closed trailheads (Buckhorn and Gibson Flat) would continue to provide emergency vehicle access.

A 150-foot-long retaining wall would be installed at the K-6 trailhead to protect the trail and connect the trailhead to a nearby pull-out area. A new trail guide

would be developed to update the locations of trailheads and parking areas, and signage would be installed to inform the public of the new trail alignment and access areas. Existing parking areas may also be improved once the trail is complete, if necessary.

Maintenance vehicle access would be provided to the southern portion of the trail via a new gate at Putah Creek. The existing maintenance vehicle access gates at K-6, Buckhorn, and Gibson Flat would be replaced or repaired. These vehicle gates would be locked and only used for emergency vehicles, maintenance activities, or trail improvements. Signs would be placed at the gates to notify the public of the restricted access and to prevent parked cars from blocking access to vehicle gates.

Construction Methods and Equipment

The design and construction of the trail would adhere to sustainable trail development techniques to minimize erosion and other environmental impacts during construction and use and to reduce annual maintenance needs. These techniques would include using BMPs to avoid erosion, fugitive dust, and water pollution during construction.

The trail would be built using a trail building machine, such as a SWECO trail dozer, with work to prepare the trail tread, such as clearing and brush removal, undertaken with hand tools, likely by volunteers. No additional materials or tools would be required during construction, except those associated with BMP materials, such as weed-free straw, straw waddles, fencing, and other materials. BMPs would be implemented during construction to minimize the spread of invasive plants, including, but not limited to, washing construction equipment prior to entering the project area and spreading weed-free straw and native seed along sides of the trail.

Construction would begin once applicable permits and approvals have been received and funding is available. Construction would not occur during the rainy season (October through April), unless absolutely necessary, in order to minimize sediment being washed into the lake or drainages. If construction needs to occur during the rainy season, a National Pollutant Discharge Elimination System permit would be obtained and a Stormwater Pollution Prevention Plan (SWPPP) would be developed that identifies any additional necessary BMPs. Conditions of the Clean Water Act permit and water quality certification would also be complied with to minimize impacts on wetlands and water features.

Segments of the trail under construction would be closed to the public until the trail is rehabilitated to reduce the risk of public safety hazards. Construction of the trail would take approximately 2 months.

Closure/Abandonment Alternative (Eliminated)

Reclamation considered a closure and abandonment alternative, under which the North End Trail would be closed to public use and the trail corridor would be allowed to revert to natural conditions. Under this alternative, no active restoration would occur. Because no public access would be permitted, Reclamation would likely need to modify the access gates to restrict access, as well as post signs informing the public of the trail closure. The public would be directed to other trails and recreation areas at the reservoir. This alternative was considered because of the health and safety concerns associated with the existing trail.

This alternative would be associated with a variety of potential effects on the environment. If the existing trail were closed, vegetation could naturally reestablish, possibly including invasive plants. In time, the closed trail would likely become overgrown by vegetation. Parts of the trail could erode along the reservoir. Despite trail closure notices, unofficial paths to the lake could develop in other locations, affecting soils, vegetation, and wildlife.

To the extent that human presence was reduced because of restricted access, the ecology of the trail area would be less disturbed, with potential benefits to vegetation density and structure, surface drainage features, nesting birds, and wildlife habitat. Views of the trail area from the lake and other vantage points would not include a new trail as a linear feature.

The shoreline lands around Lake Berryessa, however, are part of a federal recreation area associated with a reservoir, and access to the lake for active and passive recreational uses is a well-established public use. Without a trail in this location, outdoor recreation opportunities for visitors would be diminished. Visitors would not be able to experience long vistas down the lake, and views of the east shore of the lake and the Blue Ridge (Rocky Ridge) would no longer be available from this location. In addition, visitors seeking access to the lakeshore for picnicking, swimming, and fishing at the north end of the reservoir would have to find alternative means. This alternative would not be consistent with public use of a federal recreation area, nor would it meet the objectives of the VSP ROD to establish a regional trail system at Lake Berryessa. For these reasons, it was dismissed from further consideration in this EA.

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Berryessa Trails and Conservation

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Figure 3.
Proposed Action

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