

RECLAMATION

Managing Water in the West

Environmental Assessment (EA)

Oak Shores Trail Construction, 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.

Chapter 1

Purpose and Need

Introduction

In compliance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ), and U.S. Department of the Interior (DOI) regulations, the Bureau of Reclamation (Reclamation) has prepared this Environmental Assessment (EA). This EA will analyze the potential environmental impacts of the proposed action. It will provide documentation to assist Reclamation in determining whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI). As required per NEPA, if potentially significant impacts to the human environment are identified from the proposed action, an EIS will be prepared. If no significant environmental impacts are identified, a FONSI will be prepared.

In addition to analyzing the potential environmental impacts of the proposed action, Reclamation has also evaluated the consistency of the proposed action with the Visitor Services Plan/Future Recreation Use and Operations of Lake Berryessa Final Environmental Impact Statement (VSP FEIS), and the Visitor Services Plan/Future Recreation Use and Operations of Lake Berryessa Record of Decision (VSP ROD). These two documents provide direction for the management and operation of recreational facilities at Lake Berryessa.

Project Background

The water body and surrounding shoreline lands offer a variety of public recreation activities. 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. Lake Berryessa is 23 miles long by three miles wide and has 165 miles of shoreline. By agreement, the California Department of Fish and Game (CDFG) manages 2,000-acres of project lands along the east side of the Lake for wildlife purposes.

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. One such project is the construction of the Oak Shores Trail.

The Proposed Action is to build a 3.6 mile hiking/biking trail along the shore of Lake Berryessa. The Oak Shores Trail would start at Lake Berryessa's Visitor Center (VC) and end at Coyote Knolls, which is part of the Oak Shores Day-Use Area (Oak Shores). This proposed trail would intersect with the southern end of the Smittle Creek Trail at Coyote Knolls. 2.6 miles of the trail would be built to comply with the Accessibility Guidelines for Outdoor Developed Areas (AGODA). Regulations implementing the Americans with Disabilities Act and the Architectural Barriers Act have been incorporated into AGODA.

The entire trail will comply with the Reclamation's Recreation Facility Design Guidelines (2002). Equestrian use will not be permitted on the trail.

Purpose and Need

The purpose and need of the proposed action are: (1) to provide public access to public lands that will allow recreation opportunities for hikers, bikers, wildlife watching, etc.; (2) to implement the VSP FEIS and the VSP ROD.

Chapter 2 Proposed Action and Alternatives

No Action Alternative

Under the No Action Alternative, Oak Shores Trail would not be constructed. The public would not be able to access the VC from Oak Shores, or vice-versa, by hiking or biking along a trail.

Proposed Action

The Proposed Action is to construct a 3.6 mile hiking/biking trail, (Oak Shores Trail), from the VC through Oak Shores. Reclamation, in cooperation with Berryessa Trails and Conservation (BT&C), is proposing this project.

BT&C is a non-profit, tax-exempt corporation formed in part to protect and enhance appreciation for Lake Berryessa's natural and recreational resources, and whose mission is to "protect the environment through facilitating access to nature, environmental education, and conservation projects." Reclamation and BT&C have entered into a Memorandum of Understanding (MOU) in which both partners commit to jointly provide information, education, and services associated with the protection and enhancement of scenic, natural, cultural, and recreational resources of the Lake Berryessa area through public education, recreation development, and volunteer activities. This project is an example of how Reclamation and BT&C are working together to promote recreation development. The proposed trail will be constructed in segments as funding allows. One segment will be from the VC to Acorn Beach. Acorn Beach is the southern-most day use area in Oak Shores. The other segment will be from Acorn Beach to Coyote Knolls. The segment from the VC to Acorn Beach will not be constructed with AGODA compliance, while the segment from Acorn Beach to Coyote Knolls would be constructed in full compliance with AGODA standards.

The new trail would provide increased opportunities for public use of the Lake Berryessa area in accordance with the VSP FEIS and VSP ROD.

Specific details on the Oak Shores Trail are provided in this section.

Trail Footprint

The entire length of Oak Shores Trail is located on Reclamation land. The trail will begin at the VC, cross one of Reclamation's facility access roads, meet Oak Shores at Acorn Beach, travel along already existing day-use roads in Oak Shores, meander around peninsulas within Oak Shores, and end at Coyote Knolls, (where Smittle Creek Trail begins).

The trail tread will be 3.6 miles long and up to five feet in width, with a total width vegetation clearance and disturbance of eleven feet and height vegetation clearance of eight feet. Soil along the trail footprint will be compacted and aggregate placed on the trail to make the surface firm and stable. If funding allows, a soil stabilizer will be used with the aggregate to reinforce the aggregate. Approximately one acre of ground on the west shore of the Lake will be disturbed to create the trail. Access to the trail will be provided in three locations – at the VC, at Acorn Beach, and at Coyote Knolls. There is parking available at all three of these access points as well as emergency vehicle access.

The grade of the trail will not exceed 10 percent. Out slopes will be between two and four percent to allow water to runoff and not accumulate on the trail. Waterbars may be constructed to prevent erosion from water accumulation in sloping areas of the trail footprint.

Due to the steepness in slopes and uneven terrain in one segment of the trail, this portion will not be able to fully meet AGODA standards. The other segment would be AGODA compliant. The AGODA compliant portion of the trail would be located within Oak Shores. Further AGODA compliant facilities are currently being constructed in Oak Shores, including parking lots, shade shelters, drinking fountains, picnic tables, and grills.

Both the design and construction of the trail will adhere to sustainable trail development techniques to minimize erosion and other environmental impacts during construction and use. The sustainable trail techniques used during design and construction will reduce annual maintenance needs. Best Management Practices (BMPs) may be implemented during and after construction to further minimize environmental impacts.

Trail Construction

Before construction, BMP's that may be implemented include the placement of straw wattles and/or silt fencing along the trail where erosion and/or sedimentation into the Lake or drainages could occur. These BMP structures may be in place prior to construction and would be maintained during and immediately following construction. The structures would only be removed following construction and once the disturbed site has stabilized.

Ground equipment will be washed prior to construction, (the trail dozer, compactor, etc.). This BMP will be in place to minimize the potential of introducing invasive plant species.

The first segment of the proposed trail construction will include clearing the trails path through removal of vegetation, (ten-foot width and eight-foot height). Chainsaws and hand tools will be used for the clearing. It is estimated that no less than five trees could be cut flush with the ground in order to make way for the trail. Reclamation will impose a 2:1 ratio for each oak removed in the proposed action area to mitigate. All brush material will be dispersed around the trail, out of sight and left for wildlife habitat.

After clearing, a bucket loader, (or similar equipment), will cut into the slope to create the trail and remove excess soil if needed. The trail's path will then be disked and compacted. A stabilization blanket will be placed along the trail tread and four inches of aggregate placed down and the entire trail compacted again. The aggregate will be watered and once again compacted. If funding allows, a soil stabilizer will be mixed with the aggregate. Soil disturbance depth will be no more than five feet. Excess soil will be placed in designated spoils disposal areas. The spoils disposal areas will be seeded with native seed. There will be no berms created from trail construction.

Immediately following the construction of the trail, weed-free straw will be placed on all disturbed areas in order to minimize erosion and the growth of non-native plant species. Disturbed areas will also be seeded with native grasses to encourage growth of native plant species, reduce the growth of non-native plant species, and to minimize erosion.

Waterbars may be needed along the trail in order to divert water off of the path, minimizing erosion and washouts. These waterbars would be constructed with hand tools, dirt excavated and the trail dozer.

Construction would not occur during the rainy season, (October-April), unless absolutely necessary. If construction is to occur during the rainy season, a stormwater mitigation plan and map would need to be completed and reviewed by Reclamation prior to the start of construction. An NPDES (National Pollutant Discharge Elimination System) permit/SWPPP (Stormwater Pollution Prevention Plan) will not be required because the trail is to be constructed in segments and each segment would have ground disturbance of less than an acre.

Staging areas may be located at Reclamation's Lake Berryessa Recreation Resources Branch lower maintenance yard and/or areas within Oak Shores.

Maintenance of the trail will occur as needed. BT&C and Reclamation will work with volunteer groups to maintain the trail. When available, Reclamation may use the assistance of groups such as boy scouts, conservation crews, and volunteers, to maintain the trail.

Riparian Crossings

The trail will cross riparian areas in several locations. Two existing culverts will be used to cross ephemeral drainages, two wet crossings would be built to cross other ephemeral drainages, and a puncheon would be built to cross a seasonally wet area.

The puncheon will be constructed of wood and elevated off of the ground, not higher than 30 inches from the ground. This structure will allow water to freely move below and will minimize degradation from recreation users.

The wet crossings will be built from rock. Rock would be strategically placed within the ephemeral drainage to allow the water to flow between the crevices of the rock and minimize degradation from recreation users.

Figure 1

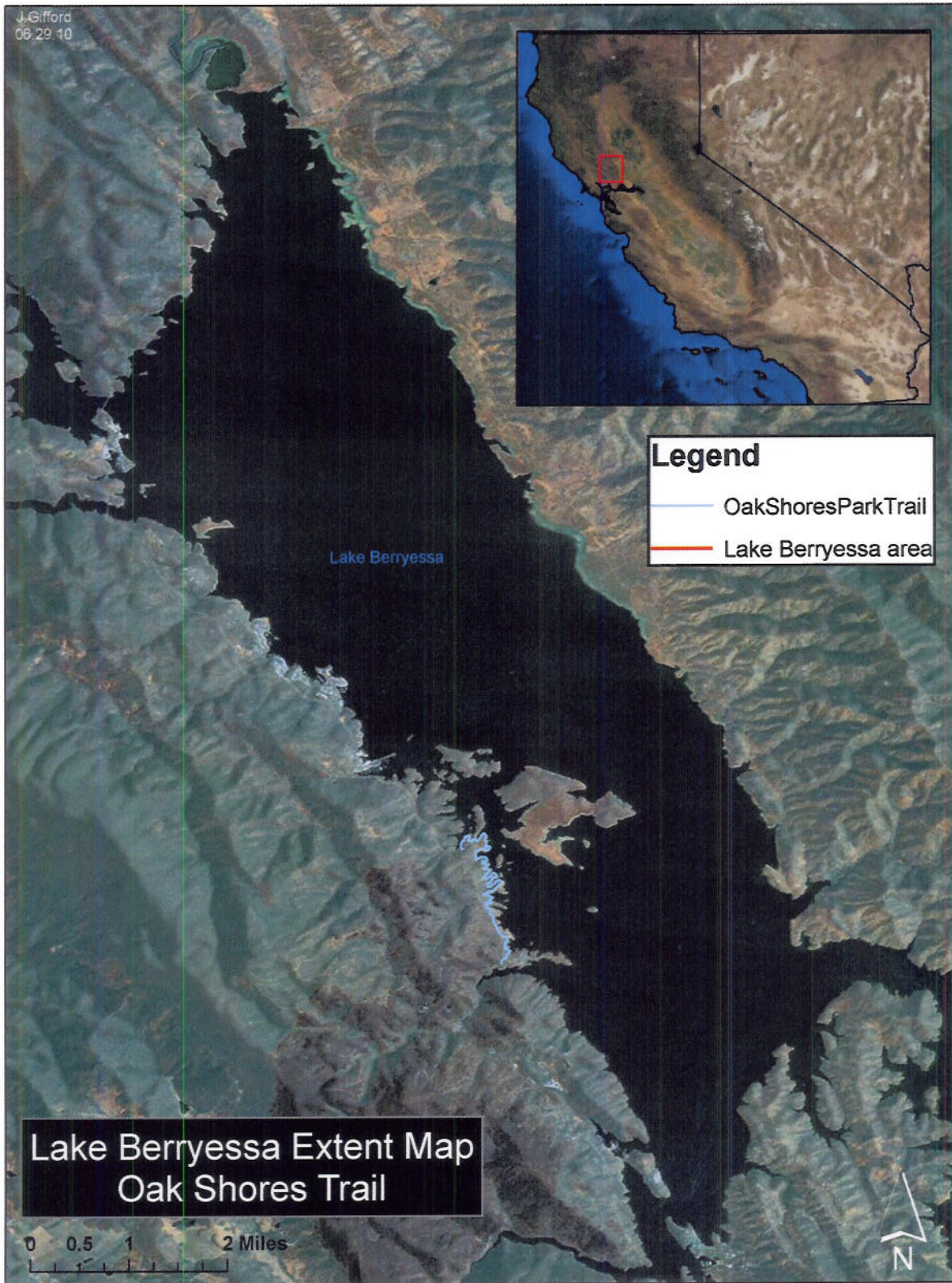


Figure 2

Oak Shores Trail

