

Draft

Environmental Impact Statement
For the
Future Use and Operation of Lake Berryessa
Napa County, California

Lead Agency

U.S. Department of Interior
Bureau of Reclamation, Mid-Pacific Region
Sacramento, California

This Draft Environmental Impact Statement is prepared in compliance with National Environmental Policy Act (NEPA) and the U.S. Bureau of Reclamation procedures. The U.S. Bureau of Reclamation is proposing to amend the 1992 Reservoir Area Management Plan by preparing a Visitor Services Plan that includes the removal of all exclusive long-term trailers from the existing resorts, while providing a variety of new facilities for day-use and short-term visitors. The Preferred Alternative would also rehabilitate shorelines in the vicinity of the resorts and would adopt the draft criteria of a water recreation management program termed the “Water Recreation Opportunity Spectrum” (WROS), which would assist Reclamation in better protecting the Reservoir’s natural resources while more accurately forecasting future visitor needs.

This DEIS analyzes the impacts of the Preferred Alternative with three other alternatives, including a No Action Alternative. The impact categories evaluated include Land Use, Geology, Soils and Topography, Biological Resources, Cultural Resources, Traffic and Circulation, Noise, Recreation, Scenic Resources, Socio-Economic Environment, Public Safety, Hazardous Materials and Soil Contamination. This DEIS also fulfills the requirements of Executive Orders 11990 (protection of wetlands) and 12898 (environmental justice). Comments regarding this draft environment impact statement are due February 4, 2004 and should be sent to Janet Sierzputowski, MP-140, Bureau of Reclamation, 2800 Cottage Way, Sacramento, California 95825.

For further information regarding this DEIS, contact Steve Rodgers, Facility Manager, Lake Berryessa Administrative Center, 5520 Knoxville Road, Napa, California, Telephone (707) 966-2111.

Contributors

The following Agencies and Organizations provided information in the preparation of this document:

Napa County Sheriff's Office
Napa, California

Napa County Fire Department
Napa, California

Napa County Office of Administration,
Napa, California

Napa County Resource Conservation District
Napa, California

Napa County Land Use Planning
Napa, California

California Fish and Game Department,
Sacramento, California

California Department of Forestry
Napa, California

California Department of Boating
And Waterways,
Sacramento, California

California Department of Transportation
Napa, California

California Highway Patrol
Napa, California

U.S. Department of Interior
U.S. Fish and Wildlife Service
Sacramento, California

U.S. Army Corps of Engineers
San Francisco District
San Francisco, California

Summary

The Bureau of Reclamation has prepared this Draft Environmental Impact Statement/Visitor Services Plan to identify and assess the various management alternatives for the re-development and management of visitor services (commercial and non-commercial) at Lake Berryessa, California. A comprehensive Visitor Services Plan (VSP) as described in the Purpose and Need Statement in Chapter 1, is needed to comply with Public Law 96-375, which specified how Reclamation will manage the existing concession contracts until expiration as well as the disposition of permanent facilities when the contracts have ended, and to correct long-established recreational programs that conflict with current policy and visitor preferences, as recommended in the OIG Audit Report of 2000. As part of this planning process, Reclamation is complying with the National Environmental Policy Act (NEPA) by preparing an Environmental Impact Statement in conjunction with the VSP.

One of the steps in the NEPA process is to develop a reasonable range of action alternatives that can be compared to the “No Action” or “projection of current conditions” alternative. This document describes the four alternatives developed for the Draft Environmental Impact Statement/Visitor Services Plan for public review and evaluation.

In developing the alternatives, attention was given to the recreation management objectives of the agency and current issues identified in Chapter 1, “Purpose of and Need for Action.” The guiding management document currently in effect at the reservoir is the Reservoir Area Management Plan (RAMP), developed in 1992. Elements of that plan are tightly integrated with concession agreements that govern operation of seven resorts at the lake, and those agreements are scheduled to expire in 2008-09, thereby necessitating the current planning effort. The RAMP and the 2000 OIG Audit Report may be viewed on the Reclamation website www.usbr/mp/berryessa/index.html, “Laws and Regulations”.

Alternative A is the No Action Alternative, which describes the projection of current conditions up to the expiration of the current concession contracts. Alternatives B, C, and D are the action alternatives displaying the range of options for new visitor services at Lake Berryessa.

Description of the Preferred Action, Alternative B

Under the proposed action, Alternative B, the Bureau of Reclamation (hereafter, Reclamation) would develop new facilities and programs at each of the Lake Berryessa’s seven resorts to better serve the short-term visitor. All long-term trailers would be removed from resort areas, and some of the former trailer spaces would be converted to short-term uses such as picnic and camping areas, lodging, food and

beverage service, thereby increasing and improving recreational opportunities for short-term users. Lakeshore areas at the resorts would be restored to a more natural setting, and public access to those areas would be improved. Reclamation would maintain existing day-use areas and upgrade two vehicle pullouts to improve parking and trailhead access to the reservoir.

Additional campsites, picnic areas, and recreational vehicle (RV) sites would be provided, along with customary lodging, houseboat rentals, and food, retail and marina services. A concessionaire would manage the Capell Cove launch ramp and the Camp Berryessa group campground under a fee-for-use system. Reclamation would develop a shoreline trail system and initiate a no-impact boat-in camping program. The existing special-use permit for the Monticello Ski Club would be cancelled.

Under the proposed action, Reclamation would adopt a reservoir-wide classification system, the (draft) Water Recreation Opportunity Spectrum (WROS), to designate appropriate types of recreational uses and use levels for the lake and shore areas.

This document amends Lake Berryessa's 1992 Reservoir Area Management Plan, which presently still guides recreation management at the lake. The proposed action is needed to correct over four decades of management practice under which prime shoreline areas have been reserved for exclusive long-term trailer site permittees, to the exclusion of the majority of visitors to Lake Berryessa.

A company with expertise in the commercial recreation hospitality industry was contracted to provide an economic feasibility analysis of the business potential as outlined in Alternative B. That report may be seen on the Reclamation Website, www.usbr/mp/-berryessa/index.html. "Final Feasibility Study, Visitor Services Plan, Draft Alternative B, under "Laws and Regulations". This analysis determined that Alternative B is economically feasible and provides a reasonable opportunity for a concessionaire to realize a profit. The economic analysis adopted a conservative approach because Alternative B introduces such significant changes from current operations. Typically when calculating business feasibility for the next term of a concession authorization, a major component of the work is projecting the current business. However, in this example the current business will no longer be applicable as all exclusive long-term trailer use will be eliminated and replaced with new facilities and programs that focus on traditional short-term recreation users. The feasibility analysis introduces two important concepts to help assure financial success:

- Phase in of operations over a period of years with only limited initial public services at some of the existing concession areas. The observed level of business and public demand for additional services would trigger secondary phase(s).

- Reduced number of concession operators from the current seven to as few as one. The same footprints and concession areas would be utilized as in the present operations but a single concessionaire would operate multiple locations.

Both of these conditions were suggested by the feasibility contractor in recognition of the significant level of private funding that will be required to develop the new outlined facilities and infrastructure. This scenario reflects the condition seen in numerous National Parks where a concessionaire is responsible for providing commercial visitor services at more than a single stand-alone area. This approach also allows for successful seasonal fluctuations and operations for businesses such as campgrounds, RV parks, cabin rentals, restaurants, and marinas, as examples, and eliminates the dependence on the year around revenue from exclusive long-term use trailer villages.

The present operations at Lake Berryessa relying on the year-round revenue from seven separate trailer villages display an incongruous mix of business when compared to hundreds of successful resorts and outdoor recreation support businesses throughout the country. It is not intuitively or financially correct to assume that commercial operations at Lake Berryessa can only be prosperous with a significant reliance on exclusive long-term trailer parks. However, Reclamation's financial contractor does demonstrate that adjustments, such as the two identified above, in the present business structures must occur that coincide with the proposed adjustments to the business types, that is, elimination of long-term trailer revenue.

A detailed description of the Preferred Alternative is provided in Chapter 2.

Additional Alternatives Considered

Three additional alternatives, including the No Action Alternative (Alternative A), are considered in this Visitor Services Plan/Draft Environmental Impact Statement (VSP/DEIS). Detailed descriptions of those alternatives also are provided in Chapter 2; descriptive summaries are shown below.

Relationship of Action Alternatives to 1992 RAMP

The terms of the 1992 RAMP specify that it will remain the guiding management document for Lake Berryessa until such time as the existing concession agreements expire or are cancelled. In the event that one of the action alternatives (Alternatives B, C, or D) is selected, that proposal would have to be consistent with conditions specified in the RAMP until concession agreements expire in 2008-09.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Under the No Action Alternative, the 1992 RAMP/EIS would continue to provide guidance for management and operations at Lake Berryessa, and long-term management trends (including non-compliance with some

specifications of the RAMP/EIS) would continue into the foreseeable future.

Alternative A would allow all concessionaires to continue offering services, including exclusive long-term trailer site permits, until their agreements expire in 2008-09, or until such time as operations are discontinued for any reason prior to scheduled agreement expiration. After the expiration of the existing contracts new contracts under existing conditions would be opened for competitive bidding. The numbers and variety of short-term visitor-use facilities would remain static, and the current level of facility maintenance would be continued. Reclamation would continue to monitor resort activities for compliance with existing commercial services policies and public health and safety regulations.

Reclamation also would continue managing existing day-use facilities, trails and land and water use, and would continue to administer special-use permits according to established Lake Berryessa, Central California Area Office and Bureau of Reclamation policy.

It is important to note that this No Action Alternative would not be in compliance with current policies, regulations and codes.

Alternative C: Remove Long-Term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Under this alternative, Reclamation would remove privately owned trailers from all existing long-term sites on prime shoreline areas, and then reintroduce a limited number of trailers at specified resorts. This proposal would accommodate the user types who traditionally have kept trailers as seasonal vacations homes at Lake Berryessa, while allowing greater public access to lakeshore that long has been reserved for private use.

During the summer months, a concessionaire also would operate, under a fee-for-use system, the Camp Berryessa group campground. Reclamation would use the facility for outdoor education and meeting purposes during the rest of the year.

Under this alternative, Reclamation would maintain existing day-use areas, including Capell Cove, and would upgrade two vehicle pullouts to improve parking and trailhead access to the reservoir. Existing long-term special-use permits would be cancelled.

Reclamation also would adopt a reservoir-wide classification system, the Water Recreation Opportunity Spectrum (WROS), to designate appropriate kinds of recreational use and use levels for the lake and shore areas.

It is important to note that this Alternative C would not be in compliance with current Reclamation policy regarding exclusive use.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

This alternative would give Reclamation a much greater role in day-to-day operations of facilities and programs, with a corresponding reduction in concessions services.

First, all trailers would be removed permanently from long-term permit sites. Concessionaires would continue commercial operations at five of the seven resorts, with Reclamation taking over operations at the other two resorts. In addition, Reclamation would cancel existing long-term special use permits and would directly manage the Camp Berryessa group campground, existing day-use areas and the Capell Cove launch ramp. The agency would improve two vehicle turnouts to enhance parking and trailhead access to the reservoir, develop a shoreline trail system, and initiate and manage a no-impact boat-in camping program.

Under Alternative D, Reclamation would adopt a reservoir-wide classification system, the Water Recreation Opportunity Spectrum (WROS), to designate appropriate kinds of recreational use and use levels for the lake and shore areas.

Comparison of Preferred Alternative B to the No Action Alternative A

The No Action Alternative would allow unsatisfactory conditions and trends to continue at the resorts. Reserved use of preferred shoreline by the small segment of the population with trailer-site permits would continue, to the exclusion of the general public. Day-use facilities such as camping and picnic sites, which are in high demand, would remain poorly maintained and limited in number, and would continue to be relegated to the less desirable areas of the resorts. Public access to resources would remain unsatisfactory.

Human health and safety concerns would continue to mount. Sewage treatment facilities at two of the resorts have a serviceable life of fewer than 15 years, and have been cited for health and safety violations on numerous occasions. Those facilities would become more costly to maintain and failures likely would occur even more frequently as equipment continued to age. In addition, numerous buildings and structures present serious fire protection deficiencies, which would not be corrected and which might be exacerbated under the No Action Alternative, as existing facilities continued to deteriorate.

Impacts to scenic resources near the resorts would not be mitigated by trailer removal and structural improvements, and those impacts would likely grow as buildings continued to degrade.

The existing special-use permit would remain in effect under the No Action Alternative, limiting recreational opportunities to a broader segment of the visitor population at those locations.

Reclamation would continue to manage existing day-use facilities, including trails and water areas, as provided by the RAMP, and would proceed with currently scheduled improvement projects. Accordingly, the agency would begin retrofitting its structures to comply with accessibility standards as part of its existing Government Performance and Review Act goals for 2010, and also would upgrade the Visitor Center/Museum under existing provisions.

In comparison, Alternative B would improve visitor access to preferred recreational areas, upgrade and expand visitor facilities such as trails and campgrounds, and correct known health and safety problems.

Specifically, under the Preferred Alternative, Reclamation would permanently eliminate all exclusive long-term trailer sites from the resorts, opening up space for short-term camping and picnicking and allowing full public access for the first time in more than 40 years. Unsightly residential materials would be removed, and resort lakeshore areas would be returned to a more natural appearance, thereby reducing or eliminating impacts to scenic resources.

Under Alternative B, concessionaires would expand their hospitality and recreational accommodations, offering food and provisions sales, retail and marina services, house boating opportunities, cabins, and camping and RV sites, as well as new formal lodging and dining opportunities. They would collect user fees at the Capell Cove launch ramp and the group campground. Existing resort facilities and utilities systems would be upgraded or replaced to meet health, safety and accessibility standards.

Further, Reclamation would improve two highway turnouts to provide better parking and access to the lake, would continue to maintain all the day-use sites along the west shore, and would develop a new network of hiking trails. The agency would cancel the existing special-use permit, and would remodel the reservoir's Visitor Center/Museum to meet accessibility requirements.

The Water Recreation Opportunity Spectrum would be employed to identify new use classifications for the reservoir's numerous islands, lake surface and the vicinity of Oak Shores, Smittle Creek, Big and Small Islands and the entrance to Steele Canyon Cove. These classifications would improve the visitor experience and protection of lake resources.

Comparison of the Preferred Alternative B to Alternative C

Alternative C would offer many of the same features as the proposed action, differing mainly in its treatment of trailer-site permits. Under Alternative C, all trailers initially would be removed, but a limited number of trailers would later be re-established in specific resorts, whereas all trailers would be permanently removed under the Preferred Alternative. Alternative C could accommodate some existing users of the trailer sites while opening up previously reserved shoreline areas for public day-use. However, the area

available for development of day-use facilities would be smaller than that available under the Preferred Alternative, due to the continuing need to reserve some space for trailer sites.

Overall, Alternative C would improve public access to the lakeshore, remove personal property from otherwise scenic areas, and return the shoreline to a more natural condition.

In this alternative, Reclamation and a concessionaire would share the management of the Camp Berryessa group camp, but the Capell Cove launch ramp would be managed solely by Reclamation. The agency also would continue to maintain all the day-use sites along the lake's west shore, develop a new trail network, remodel the Visitor Center/Museum, and upgrade all public and commercial facilities to meet accessibility standards. The existing special-use permit would be cancelled.

As in the Preferred Alternative, Alternative C calls for improvements to two highway turnouts to provide better parking and access to the lake.

Under both alternatives, Reclamation also would adopt a reservoir-wide classification system, the Water Recreation Opportunity Spectrum, to designate appropriate use levels for the lake and shore areas. The islands, shoreline sites, and lake surface would be assigned a new use classification under this system.

Comparison of the Preferred Alternative B to Alternative D

Alternative D assigns a greater role to Reclamation for day-to-day operations at Lake Berryessa, thereby reducing concession opportunities.

As in the Preferred Alternative, Alternative D would remove trailers from all seven of the commercial resorts. Under Alternative D, however, Reclamation then would assume direct management of two of those resorts. Initially, the agency would offer limited services and short-term accommodations at the resorts that it operated, but could expand those services and accommodation as demand increased. Ultimately, the same variety of accommodations and services described for Alternative B would be available under Alternative D, but the total number of facilities (e.g., camp sites) would be less than that provided by the Preferred Alternative.

As in the Preferred Alternative, personal property would be removed from the trailer sites and those areas would be opened up for general public use. Public access to the lakeshore would be improved, and scenic values would improve as the shore areas are returned to a more natural appearance.

Reclamation would continue to maintain all day-use sites along the reservoir's west shore, develop a new trail network, remodel the Visitor Center/Museum, insure that accessibility standards (ADA) are met at all public facilities, and cancel the existing special-use permit. The agency would upgrade two highway turnouts to provide better parking and access to the lake, and would adopt the WROS classification system to designate

appropriate kinds of recreational use and use levels for the lake and shore areas.

Summary of Impacts and Mitigations Table S 1 is a summary comparison of the environmental impacts for all of the alternatives. Table S 2 is a summary of environmental impacts and appropriate mitigating/monitoring measures associated with the Preferred Alternative (B). These tables are not offered as a definitive description of impacts and mitigations, but as a summary for easy reference. Detailed analyses of environmental impacts and mitigating measures are presented in Chapter 3.

Summary Comparison of Impacts by Alternative

Summary Table S 1.1

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D
Alternative Description	No Action	(Preferred) Remove trailers, develop short-term facilities, Concession operates Capell Cove, Camp Berryessa, upgrade visitor center, road-side turnouts, develop trails, manage uses under WROS.	Remove/reinstall small number of trailers, develop short-term facilities, concession seasonally operates Camp Berryessa, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.	Remove trailers, develop short-term facilities, Reclamation to operate two resorts, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.
Land Use	Impact due to concessions permits in non-compliance with current Reclamation policy and regulations for commercial services.	Positive impact	Violation of Reclamation Policy regarding Exclusive Use.	Positive impact
Geology, Soils, Topography.	Impact due to existing unstable slopes.	Similar to Alternative A. Short-term impact due to resort construction	Similar to Alternative A. Similar to Alternative B.	Similar to Alternative A. Similar to Alternative B.
Biological	Impact to	Beneficial impact	Similar to	Similar to

Resources	floodplain from trailers inundated by water levels above 440'. Potential impact to water quality as aging sewage treatment facilities continue to deteriorate	from replacing/ flood-proofing sewage treatment facilities, removing threat of discharge. Positive impact to bird populations from WROS. Impact to wildlife, vegetation, from resort and trail construction.	Alternative B. Similar to Alternative B. Similar to Alternative B	Alternative B. Similar to Alternative B. Similar to Alternative B
-----------	---	--	---	---

Summary Comparison of Impacts by Alternative

Summary Table S1.2

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D
Alternative Description	No Action	(Preferred) Remove trailers, develop short-term facilities, Concession operates Capell Cove, Camp Berryessa, upgrade visitor center, road-side turnouts, develop trails, manage uses under WROS.	Remove/reinstall small number of trailers, develop short-term facilities, concession seasonally operates Camp Berryessa, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.	Remove trailers, develop short-term facilities, Reclamation to operate two resorts, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.
Cultural Resources	No Impact	No Impact	No Impact	No Impact
Traffic and Circulation	No change	No impact, will be monitored	No impact, will be monitored	No impact, will be monitored
Noise	Potential impact due to increase in boat use and absence of WROS designation.	Positive impact due to non-motor zones.	Positive impact due to non-motor zones.	Positive impact due to non-motor zones.
Recreation	No change in sub-standard short-term use facilities.	Beneficial impact to visitor experience with increase in day use facilities. Beneficial impact due to WROS designation. Impact to exclusive long-	Similar to Alternative B. Similar to Alternative B. Similar to Alternative B.	Similar to Alternative B. Similar to Alternative B. Similar to Alternative B.

		term trailer owners.		
Scenic Resources	Continued impact due to deteriorating structures, trailers, docks, seawalls and shorelines.	Beneficial impact due to environmentally sensitive resort design, new facilities, rehabilitated shorelines.	Similar to Alternative B with limited number of trailers.	Similar to Alternative B.

Summary Comparison of Impacts by Alternative

Summary Table S1.3

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D
Alternative Description	No Action	(Preferred) Remove trailers, develop short-term facilities, Concession operates Capell Cove, Camp Berryessa, upgrade visitor center, road-side turnouts, develop trails, manage uses under WROS.	Remove/reinstall small number of trailers, develop short-term facilities, concession seasonally operates Camp Berryessa, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.	Remove trailers, develop short-term facilities, Reclamation to operate two resorts, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.
Socio-Economic Environment	No change to seasonal population No change to employment Must compete for new contracts Impact to short-term visitors due to lack of access, facilities.	Impact to seasonal population due to removal of trailers. Beneficial impact to employment, income due to resort development, increased visitor services. Impact to existing concessions due to expiring contracts, cost of removal of structures. Beneficial impact to short-term users due to increased number of facilities, access to shorelines.	Similar to Alternative B. Similar to Alternative B. Similar to Alternative B.	Similar to Alternative B. Similar to Alternative B. Similar to Alternative B.

	Continued poor local business environment	Beneficial impact to local businesses due to larger number of day-use visitors.	Similar to Alternative B.	Similar to Alternative B.
	Impact due to certain resort inaccessibility Beneficial impact from ADA accessibility upgrades by Reclamation in 2006.	Beneficial impact due to ADA accessibility features included in resort design and Reclamation upgrades.	Similar to Alternative B.	Similar to Alternative B.

Summary Comparison of Impacts by Alternative

Summary Table S 1.4

Impact Category	Alternative A	Alternative B	Alternative C	Alternative D
Alternative Description	No Action	(Preferred) Remove trailers, develop short-term facilities, Concession operates Capell Cove, Camp Berryessa, upgrade visitor center, road-side turnouts, develop trails, manage uses under WROS.	Remove/reinstall small number of trailers, develop short-term facilities, concession seasonally operates Camp Berryessa, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.	Remove trailers, develop short-term facilities, Reclamation to operate two resorts, upgrade visitor center, roadside turnouts, develop trails, manage uses under WROS.
Socio-Economic Environment (cont')	Continuing impact to low income visitors due to cost of resort services.	Potential beneficial impact due to elimination of resort entrance fees.	Similar to Alternative B.	Similar to Alternative B.
Public Safety	Continuing impact due to structural fire protection deficiencies in resorts. Potential impact to law enforcement coverage for the Reservoir, under current staffing levels. Potential impact to	Beneficial impact due to structural fire protection strategies included in resort design. Beneficial impact due to compliance with applicable codes and standards, concurrent with work load analysis. Beneficial impact	Similar to Alternative B. Similar to Alternative B.	Similar to Alternative B. Similar to Alternative B. Similar to

	Health, Safety coverage for the Reservoir under current staffing levels.	due to compliance with applicable codes and standards, concurrent with work load analysis.	Alternative B.	Alternative B.
Hazardous Materials/Soil Contamination.	Continuing impact to soils due to leaks from old resort fuel tanks.	Beneficial impact due to compliance with applicable codes and regulations	Similar to Alternative B.	Similar to Alternative B.

Summary of Impacts/Mitigation/Monitoring Measures: Preferred Alternative (B) Summary Table S 2.1

3.1 Land Use No impact	
3.2 Geology, Soils, Topography 3.2-3: Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion, Soil Movement from Excavation, Grading or Fill. The proposed action involves the excavation and fill of surface material during resort construction. There is potential for minor erosion to occur during these activities. 3.2-4: Potential Impact Due to Land Subsidence or Unstable Soil Conditions. The proposed action would include the management of Capell Cove Launch Ramp by a concessionaire. Slope instability would continue to be a factor until repairs are completed.	Reclamation would require that Best Management Practices be included in all construction activities to minimize potential soil erosion during resort construction. Engineering studies to be undertaken in 2004 will determine the most effective method of permanent stabilization
3.3. Biological Resources. 3.3-13: Potential Impacts to Mammals. The proposed action would involve the temporary minor disturbance of mammals in the immediate vicinity of the resorts and adjacent to the proposed shoreline trail, during construction activities 3.3-14: Potential Impacts to Birds (Common and Protected) The proposed action would involve the temporary disturbance of birds in the immediate vicinity of the resorts and adjacent to the shoreline trail during construction activities. 3.3-17: Potential Impacts to Vegetation Implementation of the proposed action would result in the loss of vegetation during the construction of the resorts and in the construction of the shoreline trail. As the vegetation is neither locally or	Monitor during construction. Monitor during construction Monitor during construction

<p>regionally significant and does not support special status species, the impact is considered minor.</p> <p>3.3-22: Potential impacts to Air Quality. The proposed action would result in the creation of airborne dust and various emissions associated with resort construction. As these activities would only occur in designated areas and at certain times of the year, they would not result in major impacts to local or regional ambient air quality.</p>	<p>Dust and emission abatement strategies would be a part of the construction plans required by Reclamation</p>
---	---

Summary of Impacts/Mitigation/Monitoring Measures: Preferred Alternative (B) Summary Table S 2.2

<p>3.4 Cultural Resources No impact</p>	
<p>3.5 Traffic and Circulation No impact</p>	
<p>3.6 Noise</p> <p>3.6-2: Potential Impacts Due to Noise. During resort construction activities, noise levels would increase, depending on equipment being used and the scope of work.</p> <p>Once facilities are open to the public, noise levels would increase due to the concentration of motorized watercraft and motor vehicles in and around the resort areas. These increases are anticipated to be minor. Noise levels elsewhere on the reservoir occur primarily when powerboats congregate at various locations during summer weekends. Potential adverse effects to visitors or wildlife have not been observed and noise, on these occasions, is not considered an impact.</p>	<p>Noise abatement procedures would be part of the construction plans required by Reclamation.</p> <p>Noise monitoring procedures may eventually be included in resort and lake operations, as conditions warrant.</p>
<p>3.7 Recreation.</p> <p>3.7-12: Potential Impacts to Visitor Profile. This proposed action would remove all exclusive long-term trailers, adversely affecting long-term users and creating an alteration to the visitor profile. This affect would be off-set by a potential increase in day-use visitation.</p> <p>3.7-13: Potential Impacts to Visitor Experience. Implementation of the proposed action would adversely affect the on-site experience of the exclusive long-term users with the removal of trailers. However, the addition of short-term facilities would encourage an increase in day-use visitation, offsetting potential impacts to overall visitor experience.</p> <p>3.7-16: Potential Impacts to Overnight Use Activities. The potential adverse affects to both long-term and</p>	<p>Monitor by periodic visitor surveys</p> <p>Monitor by periodic visitor surveys</p> <p>Monitor by periodic visitor surveys</p>

short-term users are the same for this proposed action as in previous impacts statements for Recreation.	
3.8 Scenic Resources No impacts	

Summary of Impacts/Mitigation/Monitoring Measures: Preferred Alternative (B) Summary Table S 2.3

<p>3.9 Socio-Economic Environment.</p> <p>3.9-2: Potential Impacts to Population. The proposed action requiring removal of all exclusive long-term trailers from the resorts, would temporarily impact the local population as seasonal residents were displaced. This impact, however, would be offset, particularly during the summer season, with an increase in short-term users as more day-use facilities were made available.</p> <p>3.9-49: Potential Impacts to Concession Services and Facilities. The proposed action would impact existing concessionaires by removing preferential rights for contract renewal and would limit compensation for resort facilities judged unusable or unneeded by Reclamation at the close of the current contracts.</p>	<p>Monitor by periodic visitor surveys</p> <p>Monitor by periodic visitor surveys</p>
<p>3.10 Public Safety</p> <p>3.10-34: Potential Impacts to Law Enforcement. The implementation of the proposed action may increase the potential for impacts to the Napa County law enforcement coverage at Lake Berryessa.</p> <p>3.10-49: Potential Impacts to Health and Safety. The implementation of the proposed action may increase the potential for impacts to county and state emergency services coverage of the reservoir area.</p>	<p>A survey of county law enforcement workload would establish level of coverage necessary. If warranted, additional staff may be funded under HR-2925, or by concessionaires as part of new contracts.</p> <p>A survey of Napa County and CDF emergency services workload would establish level of coverage necessary. If warranted, additional staff may be funded under HR-2925, or by concessionaires as part of new contracts.</p>
<p>3.11 Hazardous Materials and Soil Contamination No impact</p>	

Contents

	Page
Title Page	1
Contributors	2
Summary.....	3
Description of Proposed Action.....	3
Alternatives Considered.....	5
Summary of Impacts, Mitigation/Monitoring Measures	10
Table of Contents	17
Chapter 1 – Purpose of and Need for Action	33
1.1 Purpose of and Need for Action.....	33
1.2 Background.....	34
1.2.1 Regional Setting of Lake Berryessa.....	34
1.2.2 History of Reservoir Development and Operations.....	34
Chapter 2 – Alternatives	38
2.1 Introduction.....	38
2.2 Alternatives Development and Selection.....	38
2.3 Alternatives Described in Detail.....	38
2.3.1 Factors Common to all Action Alternatives.....	40
Chapter 3 – Affected Environment, Existing Setting and Environmental Consequences and Mitigation	65
3.1 Land Use	65
3.1.1 Affected Environment and Existing Setting	65
3.1.2 Environmental Consequences and Mitigation	84
3.1-1:(A) Potential Impact Due to Inconsistency with Reservoir Jurisdiction.....	84
3.1-2: Potential Impact due to Inconsistency with the Mission of Reclamation	84
3.1-3: Potential Impact Due to Inconsistency with Reclamation Policies.....	84
3.1-4: Potential Impact due to Inconsistency with Uses of Reclamation Land (Grazing).....	85
3.1-5: Potential Impact due to Inconsistency with Land	

Classification Categories as Described in the 1992 RAMP.....	85
3.1-6: Potential Impact Due to Incompatibility with Napa County Land Classification	85
3.1-7: Potential Impact due to Incompatibility with Related Plans (RAMP).....	85
3.1-8: Potential Impact due to Incompatibility with Related Plans (Lake Berryessa Wildlife Area)	85
3.1-9: Potential Impact Due to Incompatibility with Related Plans (Quail Ridge Reserve).....	86
3.1-10: Potential Impact due to Incompatibility with Related Plans (Blue Ridge/Berryessa Natural Area Conservation Partnership) ...	86
3.1-11 (B) Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Policies, Uses (Grazing), Land Classification (RAMP) and Napa county Land Use Classifications	86
3.1-12: Potential Impacts Due to Incompatibility with Related Plans (RAMP).....	87
3.1-13: Cumulative Environmental Impacts To Land Use	87
3.1-14: Potential Impacts to Land Use From Irreversible and Irretrievable Commitment of Resources	88
3.1-15: Potential Impacts to Land Use from Short-Term Effects versus Long-Term Effects.....	88
3.1-16: Unavoidable Adverse Impacts to Land Use.....	89
3.1-17: (C) Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Policies, Uses (Grazing), Land Use\ Patterns, Land Classification (RAMP, Napa County Land Use Classifications and Related Plans	89
3.1-18: Potential Impacts Due to Incompatibility with Related Plans (RAMP	89
3.1-19: Potential Cumulative Environmental Impacts to Land Use.....	90
3.1-20: Impacts to Land Use From Irreversible and Irretrievable Commitments of Resources	90
3.1-21: Potential Impacts to Land Use from Short-Term Effects versus Long-Term Effects.....	90
3.1-22: Unavoidable Adverse Impacts to Land Use	90
3.1-23: (D) Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Polices, Uses (Grazing), Land Use Patterns, Land Classification (RAMP), Napa County Land Uses Classifications and Related Plans	90
3.1-24: Potential Impacts Due to Incompatibility with Related Plans (RAMP).....	91
3.1-25: Cumulative Environmental Impacts to Land Use from Alternative D.....	91
3.1-26: Potential Impacts to Land Use from Irreversible and Irretrievable Commitments of Resources	91

3.1-27: Potential Impacts to Land Use from Short-Term Effects versus Long-Term Effects.....	91
3.1-28: Unavoidable Adverse Impacts to Land Use	91
3.2 Geology, Topography and Soils.....	92
3.2.1 Affected Environment/Existing Setting.....	92
3.2.2 Environmental Consequences and Mitigation	93
3.2-1: (A) Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill	93
3.2-2: Potential Impacts Due to Land subsidence or Unstable Soil Conditions	93
3.2-3: (B) Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill.....	93
3.2-4: Potential Impact Due to Land Subsidence or Unstable Soil Conditions.....	95
3.2-5: Cumulative environment Impacts Due to Geology, Topography and Soils.....	96
3.2-6: Potential Impacts Due to Geology, Topography and Soils from Irreversible and Irretrievable Commitments of Resources	96
3.2-7: Potential Impacts Due to Geology, Topography and Soils from Short-Term Effects versus Long-Term Effects.....	97
3.2-8: Unavoidable Adverse Impacts Due to Geology, Topography and Soils.....	97
3.2-9: (C) Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill	97
3.2-10: Potential Impacts Due to Land subsidence or Unstable Soil Conditions	98
3.2-11: Cumulative Environmental Impacts to Geology, Topography and Soils.....	98
3.2-12: Potential Impacts to Geology, Topography and Soils from Irreversible and Irretrievable commitments of Resources	98
3.2-13: Potential Impacts to Geology, Topography and Soils from Short-Term Effects versus Long-Term Effects.....	99
3.2-14: Unavoidable Adverse Impacts to Geology, Topography and Soils.....	99
3.2-15: (D) Potential Impacts of Seismic Instability, Change in Topography, Erosion, Soil Movement from Excavation, Grading or Fill.....	99
3.2-16: Potential Impacts Involving Land Subsidence or Unstable Soil Conditions.....	99
3.2-17: Cumulative Environmental Impacts to Geology, Topography and Soils.....	99
3.2-18: Potential Impacts to Geology, Topography and Soils from	

	Irreversible and Irretrievable Commitments of Resources	100
	3.2-19: Potential Impacts to Geology, Topography and Soils from Short-Term Effects versus Long-Term Effects.....	100
	3.2-20: Unavoidable Adverse Impacts to Geology, Topography and Soils.....	100
3.3	Biological Resources	100
3.3.1	Affected Environment/Existing Setting	101
3.3.2	Environmental Consequences and Mitigation	107
3.3-1:	(A) Potential Impact to Threatened, Endangered/Rare Species	107
3.3-2:	Potential Impact to Mammals.....	107
3.3-3:	Potential Impact to birds (Common and Protected Species).....	108
3.3-4:	Potential Impact to Fish Populations.....	108
3.3-5:	Potential Impact to Amphibians and Reptiles	108
3.3-6:	Potential Impact to Vegetation	108
3.3-7:	Potential Impact to Floodplain	108
3.3-8:	Potential Impact to Wetlands.....	109
3.3-9:	Potential Impact to Water Resources	109
3.3-10:	Potential Impact to Water Quality.....	109
3.3-11:	Potential Impact to Air Quality	110
3.3-12:	(B) Potential Impacts to Threatened, Endangered/Rare Species.	110
3.3-13:	Potential Impact to Mammals.....	110
3.3-14:	Potential Impacts to Birds (Common and Protected Species)....	112
3.3-15:	Potential Impacts to Fish Populations	113
3.3-16:	Potential Impacts to Amphibians and Reptiles.....	113
3.3-17:	Potential Impacts to Vegetation.....	114
3.3-18:	Potential Impacts to the Floodplain.....	115
3.3-19:	Potential Impacts to Wetlands	115
3.3-20:	Potential Impacts to Water Resources.....	116
3.3-21:	Potential Impact to Water Quality	116
3.3-22:	Potential Impacts to Air Quality.....	117
3.3-23:	Cumulative Environmental Impacts to Biological Resources.....	117
3.3-24:	Potential Impacts to Biological Resources from Irreversible and Irretrievable Commitments or Resources.....	118
3.3-25:	Potential Impacts to Biological Resources from Short-Term Effects versus Long-Term Effects	119
3.3-26:	Unavoidable Adverse Impacts to Biological Resources	119
3.3-27:	(C) Cumulative Environmental Impacts to Biological Resources	120
3.3-28:	Potential Impacts to Biological Resources from Irreversible and Irretrievable Commitments of Resources.....	120
3.3-29:	Potential Impacts to Biological Resources from Short-Term Effects versus Long-Term Effects	120
3.3-30:	Unavoidable Adverse Impacts to Biological Resources.....	120
3.3-31:	(D) Cumulative Environmental Impacts to Biological Resources	121
3.3-32:	Potential Impacts to Biological Resources from Irreversible and Irretrievable Commitments of Resources.....	121

3.3-33: Potential Impacts to Biological Resources from Short-Term Effects versus Long-Term Effects	121
3.3-34: Unavoidable Adverse Impacts to Biological Resources	122
3.4 Cultural Resources (Ethnographic, Archeological, Historic and Museum Collections)	122
3.4.1 Affected Environment/Existing Setting	123
3.4.2 Environmental Consequences and Mitigation	123
3.4-1: (A) Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources	123
3.4-2: (B) Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources	124
3.4-3: (C) Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources	125
3.4-4: (D) Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources	126
3.4-5: Cumulative Environmental Impacts to Cultural Resources	127
3.4-6: Potential Impacts to Cultural Resources from Irreversible and Irretrievable Commitments or Resources	127
3.4-7: Potential Impacts to Cultural Resources from Short-Term Effects versus Long-Term Effects	127
3.4-8: Unavoidable Adverse Impacts to Cultural Resources	127
3.5 Traffic and Circulation	127
3.5.1 Affected Environment/Existing Setting	128
3.5.2 Environmental Consequences and Mitigation	129
3.5-1: (A) Potential Impacts Due to Traffic	130
3.5-2: (B) Potential Impacts Due to Traffic	130
3.5-3: (C) Potential Impacts Due to Traffic	131
3.5-4: (D) Potential Impacts Due to Traffic	133
3.5-5: Cumulative Environmental Impacts Due to Traffic	134
3.5-6: Potential Impacts Due to Traffic from Irreversible and Irretrievable Commitments of Resources	134
3.5-7: Potential Impacts Due to Traffic from Short-Term Effects versus Long-Term Effects	134
3.5-8: Unavoidable Adverse Impacts Due to Traffic	134
3.6 Noise	134
3.6.1 Affected Environment/Existing Setting	134
3.6.2 Environmental Consequences and Mitigation	136
3.6-1: (A) Potential Impacts Due to Noise	136
3.6-2: (B) Potential Impacts Due to Noise	138
3.6-3: (C) Potential Impact Due to Noise	139
3.6-4: (D) Potential Impact Due to Noise	140
3.6-5: Cumulative Environmental Impacts due to Noise	140
3.6-6: Potential Impacts from Irreversible and Irretrievable	

Commitments of Resources Due to Noise	141
3.6-7: Potential Impacts from Short-Term Effects versus Long-Term Effects Due to Noise	141
3.6-8: Unavoidable Adverse Impacts Due to Noise.....	141
3.7 Recreation	141
3.7.1 Affected Environment/Existing Setting.....	141
3.7.2 Environmental Consequences and Mitigation	155
3.7-1: (A) Potential Impacts to Visitation Numbers	155
3.7-2: Potential Impacts to Recreation Carrying Capacity	156
3.7-3: Potential Impacts to Demand for Freshwater Recreation Opportunities.....	156
3.7-4: Potential Impacts to visitor Profile	156
3.7-5: Potential Impacts to visitor Experience.....	156
3.7-6: Potential Impacts to Day-Use Activities	157
3.7-7: Potential Impacts to Special-Use Activities	157
3.7-8: Potential Impacts to Overnight-Use Activities.....	157
3.7-9: (B) Potential Impact to Visitation Numbers.....	158
3.7-10: Potential Impacts to Recreation Carrying Capacity	158
3.7-11: Potential Impacts to Demand for Freshwater Recreational Opportunities.....	159
3.7-12: Potential Impacts to Visitor Profile	159
3.7-13: Potential Impacts to Visitor Experience	160
3.7-14: Potential Impacts to Day-Use Activities	161
3.7-15: Potential Impacts to Special-Use Activities	161
3.7-16: Potential Impacts to Overnight-Use Activities.....	162
3.7-17: (C) Potential Impact to Visitation Numbers.....	162
3.7-18: Potential Impacts to Recreation Carrying Capacity	162
3.7-19: Potential Impacts to Demand for Freshwater Recreational Opportunities.....	162
3.7-20: Potential Impacts to Visitor Profile	163
3.7-21: Potential Impacts to Visitor Experience	163
3.7-22: Potential Impacts to Day-Use Activities	164
3.7-23: Potential Impacts to Special-Use Activities	164
3.7-24: Potential Impacts to Overnight-Use Activities.....	164
3.7-25: (D) Potential Impact to Visitation Numbers.....	164
3.7-26: Potential Impacts to Recreation Carrying Capacity	164
3.7-27: Potential Impacts to Demand for Freshwater Recreational Opportunities.....	165
3.7-28: Potential Impacts to Visitor Profile	165
3.7-29: Potential Impacts to visitor Experience.....	165
3.7-30: Potential Impacts to Day-Use Activities	165
3.7-31: Potential Impacts to special-Use Activities.....	165
3.7-32: Potential Impacts to Overnight-Use Activities.....	165
3.7-33: Cumulative Environmental Impacts to Recreation.....	166
3.7-34: Potential Impacts to Recreation from Irreversible and	

	Irretrievable Commitments of Resources	166
	3.7-35: Potential Impacts to Recreation from Short-Term Effects versus Long-Term Effects.....	166
	3.7-36: Unavoidable Adverse Impacts to Recreation	167
3.8	Scenic Resources	167
3.8.1	Affected Environment/Existing Setting.....	167
3.8.2	Environmental Consequences and Mitigation	169
	3.8-1: (A) Potential Impacts to Scenic Resources	169
	3.8-2: (B) Potential Impacts to Scenic Resources.....	169
	3.8-3: (C) Potential Impacts to Scenic Resources	170
	3.8-4: (D) Potential Impacts to Scenic Resources	171
	3.8-5: Cumulative Environmental Impacts to Scenic Resources.....	172
	3.8-6: Potential Impacts to Scenic Resources from Irreversible and Irretrievable Commitment of Resources	172
	3.8-7: Potential Impacts to Scenic Resources from Short-Term Effects versus Long-Term Effects	172
	3.8-8: Unavoidable Adverse Impacts to Scenic Resources	172
3.9	Socio-economic Environment.....	172
3.9.1	Affected Environment/Existing Setting.....	172
3.9.2	Environmental Consequences and Mitigations.....	182
	3.9-1: (A) Potential Impacts to Population	182
	3.9-2: (B) Potential Impacts to Population	182
	3.9-3: Potential Cumulative Environmental Impacts to Population from Alternative B	183
	3.9-4: Potential Impacts to Population from Irreversible and Irretrievable Commitments of Resources from Alternative B.....	183
	3.9-5: Potential Impacts to Population from Short-Term Effects versus Long-Term Effects under Alternative B	184
	3.9-6: Unavoidable Adverse Impacts to Population from Alternative B.....	184
	3.9-7: (C) Potential Impacts to Population	184
	3.9-8: Potential Cumulative Environmental Impacts to Population from Irreversible and Irretrievable Commitments of Resources from Alternative C	185
	3.9-9: Potential Impacts to Population from Irreversible and Irretrievable Commitments of Resources from Alternative C.....	185
	3.9-10: Potential Impacts to Population from Short-Term Effects versus Long-Term Effects from Alternative C	185
	3.9-11: Unavoidable Adverse Impacts to Population from Alternative C.....	186
	3.9-12: (D) Potential Impacts to Population	186
	3.9-13: Potential Cumulative Environmental Impacts to Population from Alternative D.....	186
	3.9-14: Potential Impacts to Population from Irreversible and	

Irretrievable Commitments of Resources from Alternative D.....	186
3.9-15: Potential Impacts to Population from Short-Term Effects versus Long-Term Effects from Alternative D	187
3.9-16: Unavoidable Adverse Impacts to Population from Alternative D.....	187
3.9-17: (A) Potential Impacts to Employment.....	187
3.9-18: (B) Potential Impacts to Employment.....	187
3.9-19: Potential Cumulative Environmental Impacts to Employment from Alternative B	188
3.9-20: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative B	188
3.9-21: Potential Impacts to Employment from Short-Term Effects versus Long-Term Effects under Alternative B.....	188
3.9-22: Unavoidable Adverse Impacts to Employment from Alternative B.....	189
3.9-23: (C) Potential Impacts to Employment.....	189
3.9-24: Potential cumulative environmental Impacts to Employment from Alternative C	189
3.9-25: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative C.....	189
3.9-26: Potential Impacts to Employment from Short-Term Effects versus Long-Term Effects under Alternative C.....	189
3.9-27: Unavoidable Adverse Impacts to Employment from Alternative C.....	190
3.9-28: (D) Potential Impacts to Employment.....	190
3.9-29: Potential Cumulative Environmental Impacts to Employment from Alternative D.....	191
3.9-30: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative D.....	191
3.9-31: Potential Impacts to Employment from Short-Term Effects versus Long-Term Effects from Alternative D.....	191
3.9-32: Unavoidable Adverse Impacts to Employment from Alternative D.....	191
3.9-33: (A) Potential Impacts to Income.....	191
3.9-34: (B) Potential Impacts to Income.....	192
3.9-35: Potential Cumulative Environmental Impacts to Income from Alternative B.....	193
3.9-36: Potential Impacts to Income from Irreversible and Irretrievable Commitments of Resources from Alternative B.....	193
3.9-37: Potential Impacts to Income from Short-term Effects versus Long-Term Effects from Alternative B	193
3.9-38: Unavoidable Adverse Impacts to Income from Alternative B	193
3.9-39: (C) Potential Impacts to Income.....	193
3.9-40: Potential Cumulative Environmental Impacts to Income from Alternative C.....	194
3.9-41: Potential Impacts to Income from Irreversible and Irretrievable	

Commitments of Resources from Alternative C.....	194
3.9-42: Potential Impacts to Income from Short-Term Effects versus Long-Term Effects from Alternative C	194
3.9-43: Unavoidable Adverse Impacts to Income from Alternative C.....	194
3.9-44: (D) Potential Impacts to Income.....	194
3.9-45: Potential Cumulative Environmental Impacts to Income from Alternative D.....	194
3.9-46: Potential Impacts to Income from Irreversible and Irretrievable Commitments of Resources from Alternative D	195
3.9-47: Potential Impacts to Income from Short-Term Effects versus Long-Term Effects under Alternative D.....	195
3.9-48: Unavoidable Adverse Impacts to Income from Alternative D.....	195
3.9-49: (A) Potential Impacts to Concession Services and Activities	196
3.9-50: (B) Potential Impacts to Concession Services and Activities	199
3.9-51: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative B	203
3.9-52: Potential Impacts from the Irreversible and Irretrievable Commitment of Resources to Concession Facilities and Services From Alternative B	203
3.9-53: Potential Impacts from Short-Term versus Long-Term Uses from Alternative B.....	203
3.9-54: Unavoidable Adverse Impacts from Alternative B	204
3.9-55: (C) Potential Impacts to Concession Services and Activities	204
3.9-56: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative C	206
3.9-57: Potential Impacts from the Irreversible and Irretrievable Commitment of Resources from Alternative C	206
3.9-58: Potential Impacts from Short-Term versus Long-Term Uses from Alternative C.....	206
3.9-59: Unavoidable Adverse Impacts from Alternative C	206
3.9-60: (D) Potential Impacts to Concession Services and Activities	207
3.9-61: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative D.....	208
3.9-62: Potential Impacts from the Irreversible and Irretrievable Commitment of Resources from Alternative D.....	208
3.9-63: Potential Impacts from Short-Term versus Long-Term Uses from Alternative D.....	208
3.9-64: Unavoidable Adverse Impacts from Alternative D.....	208
3.9-65: (A) Potential Impacts to Reservoir Accessibility (ADA).....	208
3.9-66: (B) Potential Impacts to Reservoir Accessibility (ADA)	209
3.9-67: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative B	210
3.9-68: Potential Impacts to Reservoir Accessibility from Irreversible	

and Irretrievable Commitment of Resources from Alternative B...210

3.9-69: Potential Impacts to Reservoir Accessibility from Short-Term Effects versus Long-Term Effects from Alternative B.....	210
3.9-70: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative B.....	210
3.9-71: (C) Potential Impacts to Reservoir Accessibility (ADA).....	210
3.9-72: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative C.....	210
3.9-73: Potential Impacts to Reservoir Accessibility from Irreversible and Irretrievable Commitment of Resources from Alternative C.....	211
3.9-74: Potential Impacts to Reservoir Accessibility from Short-Term Effects versus Long-Term Uses from Alternative C.....	211
3.9-75: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative C.....	211
3.9-76: (D) Potential Impacts to Reservoir Accessibility (ADA).....	211
3.9-77: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative D.....	211
3.9-78: Potential Impacts to Reservoir Accessibility from Irreversible and Irretrievable Commitment of Resources from Alternative D..	212
3.9-79: Potential Impacts to Reservoir Accessibility from Short-Term Uses versus Long-Term Uses from Alternative D.....	212
3.9-80: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative D.....	212
3.9-81: (A) Potential Impacts to User Groups Protected under Environmental Justice Criteria.....	212
3.9-82: (B) Potential Impacts to User Groups Protected under Environmental Justice Criteria.....	213
3.9-83: Potential Impacts to User Groups Protected Under Environmental Justice Criteria, including those Resulting from Cumulative Environmental or Indirect Impacts, Impacts from Irreversible and Irretrievable Commitment of Resources, from Short-Term versus Long-Term Uses, and from Actions that are Adverse and Unavoidable.....	213
3.9-84: (C) Potential Impacts to User Groups Protected under Environmental Justice Criteria.....	214
3.9-85: Potential Impacts to User Groups Protected Under Environmental Justice Criteria, including those Resulting from Cumulative Environmental or Indirect Impacts, from the Irreversible and Irretrievable Commitment of Resources, from Short-Term versus Long-Term Uses, and from Actions that are Adverse and Unavoidable.....	214
3.9-86: (D) Potential Impacts to User Groups Protected under Environmental Justice Criteria.....	214
3.9-87: Potential Impacts to User Groups Protected Under Environmental	

Justice Criteria, including those Resulting from Cumulative Environmental and Indirect Impacts, from the Irreversible and Irretrievable Commitment of Resources, from Short-Term versus Long-Term Uses, and from Actions that are Adverse and Unavoidable	215
3.10 Public Safety	215
3.10.1 Affected Environment/Existing Setting	215
3.10.2 Environmental Consequences and Mitigation	219
3.10-1: (A) Potential Impacts due to Structural Fire Suppression	220
3.10-2: (B) Potential Impacts due to Structural Fire Suppression	220
3.10-3: Cumulative Environmental Impacts Due to Structural Fire Suppression from Alternative B.....	221
3.10-4: Potential Impacts from Structural Fire Suppression from the Irreversible and Irretrievable Commitments of Resources from Alternative B.....	221
3.10-5: Potential Impacts to Structural Fire Suppression from Short-Term Uses versus Long-Term Uses from Alternative B.....	222
3.10-6: Unavoidable Adverse Impacts due to Structural Fire Suppression	222
3.10-7: (C) Potential Impacts due to Structural Fire Suppression	222
3.10-8: Cumulative Environmental Impacts due to Structural Fire Suppression from Alternative C.....	222
3.10-9: Potential Impacts from Structural Fire Suppression from the Irreversible and Irretrievable Commitments of Resources from Alternative C.....	222
3.10-10: Potential Impacts to Structural Fire Suppression from Short-Term versus Long-Term Uses from Alternative C.....	223
3.10-11: Unavoidable Adverse Impacts due to Structural Fire Suppression from Alternative C.....	223
3.10-12: (D) Potential Impacts due to Structural Fire Suppression	223
3.10-13: Cumulative Environmental Impacts Due to Structural Fire Suppression from Alternative D	223
3.10-14: Potential Impacts from Structural Fire Suppression from the Irreversible and Irretrievable Commitments of Resources from Alternative D.....	224
3.10-15: Potential Impacts to Structural Fire Suppression from Short-Term Uses versus Long-Term Uses from Alternative D.....	224
3.10-16: Unavoidable Adverse Impacts Due to Structural Fire Suppression from Alternative D.....	224
3.10-17: (A) Potential Impacts due to Wildland Fire Suppression.....	224
3.10-18: (B) Potential Impacts due to Wildland Fire Suppression	225
3.10-19: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative B.....	225
3.10-20: Potential Impacts from the Irreversible and Irretrievable	

Commitments of Resources due to Wildland Fire Suppression From Alternative B	225
3.10-21: Potential Impacts from Short-Term versus Long-Term Uses from Alternative B	226
3.10-22: Unavoidable Adverse Impacts due to Wildland Fire Suppression from Alternative B	226
3.10-23: (C) Potential Impacts Due to Wildland Fire Suppression	226
3.10-24: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative C.....	227
3.10-25: Potential Impacts from the Irreversible and Irretrievable Commitment of Resources Due to Wildland Fire Suppression from Alternative C.....	227
3.10-26: Potential Impacts from Short-Term versus Long-Term Effects Due to Wildland Fire Suppression from Alternative C	227
3.10-27: Unavoidable Adverse Impacts due to Wildland Fire Suppression from Alternative C.....	227
3.10-28: (D) Potential Impacts Due to Wildland Fire Suppression	227
3.10-29: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative D	228
3.10-30: Potential Impacts from the Irreversible and Irretrievable Commitments of Resources Due to Wildland Fire Suppression from Alternative D.....	228
3.10-31: Potential Impacts from Short-Term versus Long-Term Uses from Alternative D.....	228
3.10-32: Unavoidable Adverse Impacts due to Wildland Fire Suppression from Alternative D	228
3.10-33: (A) Potential Impacts to Law Enforcement.....	229
3.10-34: (B) Potential Impacts to Law Enforcement	230
3.10-35: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative B	230
3.10-36: Potential Impacts to Law Enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative B.....	231
3.10-37: Potential Impacts to Law Enforcement from Short-Term Uses versus Long-Term Uses from Alternative B.....	231
3.10-38: Unavoidable Adverse Impacts Due to Law Enforcement Activities from Alternative B.....	231
3.10-39: (C) Potential Impacts to Law Enforcement Activities	231
3.10-40: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative C.....	232
3.10-41: Potential Impacts to Law Enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative C.....	232
3.10-42 Potential Impacts to Law Enforcement from Short-Term versus Long-Term Uses from Alternative C	232

3.10-43: Unavoidable Adverse Impacts due to Law Enforcement Activities from Alternative C.....	232
3.10-44: (D) Potential Impacts to Law Enforcement.....	232
3.10-45: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative D.....	232
3.10-46: Potential Impacts to Law enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative D.....	233
3.10-47: Potential Impacts to Law Enforcement from Short-Term Uses versus Long-Term Uses from Alternative D	233
3.10-48: Unavoidable Adverse Impacts Due to Law Enforcement Activities from Alternative D	233
3.10-49: (A) Potential Impacts to Health and Safety	233
3.10-50: (B) Potential Impacts to Health and Safety	234
3.10-51: Cumulative Environmental Impacts to Health and Safety from Alternative B.....	235
3.10-52: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resources from Alternative B.....	235
3.10-53: Potential Impacts to Health and Safety from Short-Term Uses versus Long-Term Uses from Alternative B.....	236
3.10-54: Unavoidable Adverse Impacts to Health and Safety from Alternative B.....	236
3.10-55: (C) Potential Impacts to Health and Safety	236
3.10-56: Cumulative Environmental Impacts to Health and Safety from Alternative C.....	236
3.10-57: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resource from Alternative C.....	237
3.10-58: Potential Impacts to Health and Safety from Short-Term Uses versus Long-Term Uses from Alternative C.....	237
3.10-59: Unavoidable Adverse Impacts to Health and Safety from Alternative C.....	237
3.10-60: (D) Potential Impacts to Health and Safety	237
3.10-61: Cumulative Environmental Impacts to Health and Safety from Alternative D.....	238
3.10-62: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resources from Alternative D...238	
3.10-63: Potential Impacts to Health and Safety from Short-Term Uses versus Long-Term Uses from Alternative D	238
3.10-64: Unavoidable Adverse Impacts to Health and Safety from Alternative D.....	238
3.11 Hazardous Materials and Soil Contamination	238
3.11.1 Affected Environment/Existing Setting.....	238
3.11.2 Environmental Consequences and Mitigation	239

3.11-1: (A) Potential Impacts Due to Hazardous Material and Soil Contamination.....	239
3.11-2: (B) Potential Impacts Due to Hazardous Material and Soil Contamination.....	240
3.11-3: (C) Potential Impacts Due to Hazardous Materials and Soil Contamination.....	240
3.11-4: (D) Potential Impacts Due to Hazardous Materials and Soil Contamination.....	241
3.11-5: Cumulative Environmental Impacts Due to Hazardous Material and/or Soil Contamination.....	241
3.11-6: Potential Impacts from Hazardous Material and Soil Contamination Due to the Irreversible and Irretrievable Commitments of Resources	242
3.11-7: Potential Impacts from Hazardous Material and Soil Contamination Due to Short-Term Uses versus Long-Term Uses.....	242
3.11-8: Unavoidable Adverse Impacts due to Hazardous Materials and Soil Contamination.....	242
Chapter 4 – Consultation and Coordination	243
4.1 Introduction.....	243
4.2 Scoping Process & Public Involvement.....	243
4.3 Public Scoping Workshop.....	243
4.4 Consultation with Other Federal/State/Local Agencies.....	245
4.5 Applicable Environmental Quality Statutes.....	245
4.6 Public Review of the Draft EIS Comments & Responses	247
4.7 Public Workshops	247
4.8 List of Agencies & Organizations to Whom Copies of Draft EIS	247
4.9 USBR Responses to Public Comments.....	247
4.10 List of Preparers.....	247
Chapter 5 – Literature Cited, Persons Consulted.....	248
Websites	248
Chapter 6 – Index.....	249
Attachments	
1. HR-2925, Law Enforcement Authority at Bureau of Reclamation Facilities.....	67
2. Water Recreation Opportunity Spectrum (WROS) (Draft)	68
3. Comparison of the Reservoir Area Management Plan and the Water Recreation Opportunity Spectrum	68

4.	Quail Ridge Reserve Memorandum of Understanding.....	76
5.	A Comparison of Preferred Actions in the RAMP/ROD and Proposed Actions In the VSP/DEIS.....	39, 85
6.	An Engineering Report of the Slope Failure at Capell Cove Launch Ramp	81
7.	Bureau of Reclamation Facility Design Guidelines.....	95
8.	US District Court Decision Regarding Critical Habitat for the California Red-Legged Frog	103
9.	Environmental Assessment for the Olive Orchard Wetland.....	105
10.	Results of Selected Water Samples from Lake Berryessa by Reclamation and the State of California	106
11.	Wetland Delineation Report for Rancho Monticello Resort.....	115
12.	State of California Boating Regulations	136
13.	Fire Protection Agreement between the California Department of Forestry and Reclamation.....	217
14.	Napa County and State of California Laws, Codes and Ordinances for Lake Berryessa, Bureau of Reclamation Land and Water	214
15.	California Department of Forestry Summary of Workload for Emergency Services for the Lake Berryessa area for 2002	219
16.	Glossary of Terms Used in Concession Contract Development and Administration of Commercial Facilities on Reclamation Land	38

Figures

1	Regional Setting of Lake Berryessa.....	34a
2	Site Plans for Concessions Areas	35a-g
3	Map 1- RAMP - Land/Water Use.....	40a
4	Map 2 – Alternative B.....	42, 44,45, 46, 48, 49, 51,51a, 110
5	Map 3 – Alternative C.....	53, 55, 56, 57, 58, 59,59a, 60
6	Map 4 – Alternative D	60, 61, 62, 63, 64,64a
7	Map 5 – Overnight Vessel and Seaplane Landing Zones	64, 64b,79, 82
8	Map 6 – Trails.....	64,64c
9	Visitation.....	142, 144, 155

Tables

S1.1 Summary Comparison of Impacts by Alternative10
S1.2 Summary Comparison of Impacts by Alternative11
S1.3 Summary Comparison of Impacts by Alternative12
S1.4 Summary Comparison of Impacts by Alternative13
S2.1 Summary of Impacts, Mitigation/Monitoring Measures:
Preferred Alternative (B)14
S2.2 Summary of Impacts, Mitigation/Monitoring Measures:
Preferred Alternative (B)15
S2.3 Summary of Impacts, Mitigation/Monitoring Measures:
Preferred Alternative (B)16
V-1 Visitation Data144
P-1 Census Data173
C-1 Concessions Expirations176, 177

Chapter 1 - Purpose of and Need for Action

1.1 PURPOSE OF AND NEED FOR ACTION

The purpose of this project is to develop a comprehensive plan for the redevelopment and management of visitor services (commercial and non-commercial) to support traditional, short-term, and diverse outdoor recreation opportunities at Lake Berryessa. These recreation opportunities will be compatible and in compliance with all applicable laws, regulations and codes, and will be consistent with the project purpose and the Reservoir Area Management Plan.

The project is needed to correct over four decades of resort operations under which prime recreational areas have been reserved for long-term trailer site permittees, to the exclusion of the majority of visitors to Lake Berryessa. Such practice is in conflict with modern Reclamation policies regulating exclusive use of public property.

Studies show that the general public prefers short-term day-use facilities such as campsites, picnic areas and boat launches. Existing facilities are few in number and relegated to less desirable shoreline areas because trailers occupy the preferred areas.

In addition, a significant number of facilities operated by the resorts are in violation of environmental and public health and safety laws, regulations and codes. The current concession operations agreements expire in 2008-09, and the existing concessionaires have no right of preference for renewal. The upcoming expiration of the agreements offers a timely opportunity to revisit the concessions operations and change management direction to better serve the public.

This project will identify appropriate changes to rectify present inadequacies in services and facilities, and introduce operations as identified in the Visitor Service Plan (VSP).

This planning document is tiered from Lake Berryessa's 1992 Environmental Impact Statement, which was prepared as part of the Reservoir Area Management Plan. The RAMP/EIS itself provides a broad-based analysis of the potential impacts and mitigating measures involving land, water surface and concession management proposals then being considered by Reclamation.

This VSP/DEIS builds on that analysis. It proposes changes to commercial operations and facilities and to visitor services, and adoption of a new, lake-wide recreation classification system. Finally, it assesses potential impacts and mitigating measures associated with those proposed actions.

1.2 BACKGROUND

1.2.1 Regional Setting of Lake Berryessa

Lake Berryessa is a water storage reservoir located in northeastern Napa County, among the hilly-to-steep slopes of the California Coast Range. It is only a 1 ½-hour drive from Sacramento, just a 2½-hour drive from the San Francisco Bay metropolitan area, and a 1-hour drive from Napa, the county seat of Napa County. (Figure 1).

The reservoir's drainage basin lies along the eastern slope of the Coast Range in Napa and Lake Counties, northwest of Solano County. Lake Berryessa is fed by Putah and Pope Creeks and their tributaries. There are few perennial tributaries in the basin, as flow in most drainages significantly diminishes or disappears by late summer. In winter months, however, runoff from rain and snow pours almost immediately into the drainages because of the lack of snowpack or significant groundwater storage in the upper watershed. Winters there seldom stay cold enough to develop a snowpack, and there is little groundwater storage because porous sandstone and shale underlie the eastern shore and both ends of the lake. The western side of the lake is bounded by sedimentary and associated intrusive rocks, such as serpentine and dolomite.

The Coast Range between Monticello Dam and the Pacific Ocean is cut by numerous faults; the Wragg Canyon fault is located just three miles southwest from Monticello Dam.

1.2.2 History of Reservoir Development and Operations

In 1948, construction of Lake Berryessa was authorized as part of the U.S. Bureau of Reclamation's Solano Project. The Solano Project was initiated to control flooding and to supply water for agricultural, municipal and industrial uses. The primary project facility was the Monticello Dam, constructed on Putah Creek in 1957 (www.usbr/mp/berryessa/index.html, "Berryessa Facts")

Because radically fluctuating water levels were anticipated at the reservoir, planners initially considered potential recreational use of Lake Berryessa to be insignificant. However, by August 1958, recreation demand was high, as evidenced by the 800 or more boats that operated on the lake despite the lack of public facilities.

Lake Berryessa officially became available for public recreational use in 1959, and a Public Use Plan (PUP) subsequently was prepared for Reclamation by the National Park Service (NPS). The PUP designated the initial land uses for approximately 28,916 acres of federally owned property, including 19,250 acres of surface water area. The PUP included a General Development Plan to guide development according to (1) the

capacities of the land and water to accommodate public use, and (2) the

recreation needs and desires of the people who would use the area.

In 1958, before public recreational use of the reservoir was officially sanctioned, Napa County entered into a management agreement with the Bureau of Reclamation to administer the recreational development of federally owned lands at Lake Berryessa. The agreement included a preliminary General Development Plan, which was subsequently incorporated into the PUP.

Because of the county's limited resources, and because a large majority of the public recreation use was by non-county residents, Napa County relied on concessionaires to provide most of the recreation services and facilities. Revenue from these concessionaires was used by the county to fund recreation management of the lake. It was at this juncture that trailer sites were introduced at the reservoir, in variance to the PUP and all seven concessions contracts.

Under formal concession agreements, the following seven resorts were developed on 1,700 acres of land and water: Markley Cove, Pleasure Cove (originally named South Shore Resort), Steele Park, Spanish Flat, Lake Berryessa Marina, Rancho Monticello, and Putah Creek (Figure 2, a-g).

In general, neither initial nor later recreational development of Lake Berryessa adhered to the recommendations of the 1959 PUP or in the concession contracts. Improvements did not always follow the original intended management designations of areas and uses. Some users eventually complained that the lake had become inaccessible to the general public and was being administered as private lakefront property. As a result, in 1971 the United States General Accounting Office (GAO) completed a study of public recreation facilities at Lake Berryessa. The GAO, concurring with public concerns, found that the facilities were not adequately developed or managed.

Specifically, the GAO report found that all seven concessionaires had concentrated on developing mobile home parks instead of the public campground and day-use areas recommended by the PUP and called for in the concessions contracts. In general, the mobile home developments occupied prime public access areas, filling the shoreline with exclusive long-term trailer sites. This situation, of course, was beneficial for the concessionaires, as it provided them with steady and predictable income. However, mobile home sites were developed not only on gentle slopes but also on steep hillsides, creating massive road cuts and surface erosion that degraded the physical and visual environment and accelerated erosion.

In 1972, at the request of Reclamation, the National Park Service updated the 13-year-old PUP. Among other proposals, the new plan recommended that the Department of Interior's Bureau of Outdoor Recreation study whether the lake possessed attributes that might qualify it as either a National Recreation Area or as a State Recreation Area. Under the former designation, the federal government would purchase and control all existing

access improvements (roads, launch ramps, etc.). The updated plan never was officially adopted, the study of potential National Recreation Area or State Recreation Area status was not undertaken, and no funds ever were appropriated to reimburse concessionaires for their improvements.

In March 1974, Napa County informed Reclamation of its intent to withdraw from its management agreement the following year. In October 1974, Congress passed PL 93-493, of which Title VI authorized Reclamation to assume the management of Lake Berryessa and authorized the appropriation of \$3 million for developments.

(www.usbr/mp/berryessa/index.html, “Laws and Regulations”)

When Reclamation assumed management in 1975, the agency reviewed the PUP and all existing developments. The agency concluded that the PUP was essentially satisfactory, but that it should be amended to take existing resort facilities into account. Reclamation also revised its recreation and land use objective for the lake, stating that its aim was to:

Provide outdoor recreation facilities and services for the visiting public at Lake Berryessa, which will accommodate a variety of aquatic-related recreation experience opportunities to the extent and quality and in such combination that will protect the aesthetic and recreational values and assure optimum short-term recreational use and enjoyment and social benefit. (1992 Reservoir Area Management Plan, p. 10; www.usbr.gov/mp/berryessa/index.html, “Laws and Regulations”)

Between the mid-1970s and late 1980s, Reclamation planned and constructed the Oak Shores and Smittle Creek day-use areas, along with the Capell Cove public launch ramp and parking area. During the same period, Reclamation constructed the current administrative office complex.

When the Oak Shores day-use area opened in 1977, Reclamation collected a fee for use of the facilities. In the mid-1980s, however, a drought lowered the reservoir water level, resulting in such a drop in visitor-use that fee collection was deemed impractical. The fee system was discontinued, and public use of Oak Shores has remained free of charge since that time.

Through the years, the concessionaires have continued to promote exclusive long-term use at the resorts. Such use produces a steady and reliable income, whereas income generated by general public use fluctuates depending on regional economic and environmental conditions. As a result of this management preference, a trailer park-like setting has developed near the otherwise scenic lakeshore. Because of the character of the terrain surrounding the lake, areas suitable for picnicking, camping, and boat launching are necessarily limited. With trailer sites occupying significant (and preferred) portions of the useable areas, public areas of the lake have grown increasingly crowded. By the late 1980s, Reclamation saw a need to re-evaluate the current PUP and to study carrying capacity and the diversity

of recreational activities at Lake Berryessa.

In 1980, PL 96-375 was passed, authorizing the Secretary of the Interior to initiate concessions-related changes at Lake Berryessa. Specifically, the Secretary was authorized to negotiate new concession agreements with existing concessionaires at the lake, set the terms and expiration dates of the agreements, and establish possessory interest and government retention of concession facilities ground rules. (See website referenced above.)

In 1992, Reclamation completed the Reservoir Area Management Plan (RAMP) and Environmental Impact Statement (EIS) for Lake Berryessa. The Preferred Alternative called for 41 actions aimed at addressing problems such as the lack of short-term recreational opportunities, the preponderance of long-term exclusive uses, and mitigation within the floodplain. Although the majority of the RAMP/EIS recommendations were implemented, many of the problem conditions identified by Reclamation in the 1980s have continued to exist, and some have become more severe over the years. These issues are now being addressed through the proposed Visitor Services Planning effort. (see Attachment 5)

The seven existing concession operations are nearing the 2008-09 expiration dates of their current concession agreements.

Chapter 2 – Alternatives

2.1 INTRODUCTION

This chapter provides detailed descriptions of the alternatives considered during this VSP/DEIS development process, as required by the National Environmental Policy Act (NEPA). NEPA requires an analysis of a reasonable range of alternatives that could accomplish the agency's purpose and need or a given action. These alternatives must objectively be evaluated to enable reviewers (including the interested public) to assess their comparative merits (40 CFR 1502.14). NEPA further requires that range of alternatives to include a No Action Alternative, and a description of any alternatives that were considered but eliminated from further study; these are provided in this chapter, as well. The No Action Alternative, which evaluates impacts that are predicted to occur if current management practices are continued, is used as a benchmark to which other alternatives are compared.

2.2 ALTERNATIVES DEVELOPMENT AND SELECTION

Reclamation considered a number of possible project alternatives that might meet the purpose of and need for the project and the recreation and land use objectives stated above. Those potential options were developed following public scoping in 2001 based on public issues and management concerns.

Four alternatives, including the No Action Alternative, were selected for further consideration and analysis. These are described in detail in chapter 2, section 2.3. Alternative C was developed as a result of comments received describing a resort upgrade that re-introduced long term trailers modeled on a Bureau of Land Management action at Lake Havasu, Az. It is recognized that this alternative does not meet Reclamation policy in regards to long term exclusive use.

Alternative D is based on an alternative submitted by a local group during the formal public scoping period in 2001.

An explanation of the various terms and phrases used in the VSP and associated with the planning and administration of commercial services can be found in Attachment 16.

2.3 ALTERNATIVES DESCRIBED IN DETAIL

This section includes a description of the four alternatives that are evaluated in this VSP/EIS.

ALTERNATIVE A

This alternative outlines what the situation would be at Lake Berryessa if no actions were undertaken to address expiring concession contracts or other Reclamation programs within the coverage of the 1992 Lake Berryessa Area Management Plan (RAMP) Environmental Impact Statement (EIS). The 'No Action Alternative' A, is a

requirement in an EIS as a benchmark for the action alternatives, which would introduce some level of change. If chosen, the No Action Alternative would be implemented by Reclamation at the time of contract expiration or at any time prior to expiration if any or all the concessionaires should discontinue current operations. The seven concession contracts will expire and discontinue operations in 2008/2009 by limitation of time as specified by Public Law 96-375. The existing concessionaires, as stipulated by Public Law 96-375 and Agency Policy, have no right of preference for renewal. (see previous reference)

Selection of this alternative would require Reclamation to plan for the closure of the existing resort facilities (at contract expirations). Reclamation would then provide access and support by issuing new competitive concession contracts, not directly tied to the Visitor Service Plan (VSP). These new contracts would use the existing contracts as a guideline. This alternative does not meet many applicable codes, regulations, standards and policies.

CONCESSION OPERATIONS

Recreation Areas

All concession areas would continue to operate in the same style as they have been in the existing contracts. The December 2002 “Environmental Compliance and Facility Condition Assessment Report” prepared by Klienfelder, Inc., describes the current condition of facilities at each resort. Reclamation would continue to monitor the concessions for contract compliance and major public health and safety violations. This report can be reviewed at the website www.usbr.gov/mp/berryessa/index.html, “Documents and Forms”.

Land-Use Classification

This would follow the same classifications described in the 1992 RAMP without change. (Figure 3, Map 1)

Water-Use Classification

This would follow the same classifications described in the 1992 RAMP without change. (Map 1)

GOVERNMENT OPERATIONS

Recreation Areas

Reclamation would continue to operate government facilities and programs as currently described in the existing conditions section of this document. (Map 1)

Land-Use Classification

This would follow the same classification described in the 1992 RAMP without change. (Map 1)

Water-Use Classification

This would follow the same classifications described in the 1992RAMP without change. (Map 1)

TRAILS

Reclamation would continue to manage the existing trails at Lake Berryessa as described in the 1992 RAMP without change.

USE PERMITS

Reclamation would continue to manage the existing Use Permits at Lake Berryessa as described in the 1992 RAMP and Central California Area Office (CCAO) Policy.

2.3.1 FACTORS COMMON TO ACTION ALTERNATIVES (B, C, D)

1. Achieve compliance with current codes and applicable regulations (Federal, State, and Local).
2. Rehabilitate lakeshore and riparian areas.
3. Increase public access to the lakeshore and enhance short-term use opportunities.
4. Rehabilitation and new construction would be accomplished within parameters of ‘Sustainable Design’ and in compliance with commonly accepted environmentally sensitive practices, e.g., energy efficiency, water conserving fixtures, and recycling. All concession areas would take an Eco-Tourism type approach to facility development and operation. In construction standards would follow “Reclamation’s Recreation Facility Design Handbook” and meet Americans with Disabilities Act of 1990 (ADA) requirements. Construction or placement of new or additional permanent facilities would not be allowed within the reservoir floodplain (440 feet to 455 feet mean sea level).
5. As in other locations, the architectural design of all facilities would be thematic for both the specific location and general physical and cultural heritage of the Lake Berryessa area. This plan would not attempt to determine the exact site where various facilities would be located and would leave that up to the professional suggestions and site plans of the eventual bidders on the new concession opportunity. However, the overall footprint would be within the area currently devoted to concession use and would not expand the land area required.
6. In recognition of the necessary financial investments and associated risks for the development of the new Concession operations, the full development of all the concession areas may be built in phases. The phases may be triggered based upon public demand and actual concessionaire financial performance during the initial phase.

7. The RAMP land-use classifications are unique to Lake Berryessa and do not address water-use classifications. The VSP will adopt use classifications from the draft Water Recreation Opportunity Spectrum (WROS) criteria and apply them to the land and water.
8. There would be no entrance fees charged at resorts.
9. Resort names may change.

ALTERNATIVE B

The focus at Lake Berryessa would be the development of new facilities and programs to better serve the short-term visitor. This alternative would permanently remove all private long-term exclusive-use trailer sites and provide increased and improved short-term use opportunities. Camping, RV sites, cabins and other overnight accommodations, food and beverage outlets, retail sales (groceries, camping, boating, hiking, etc. supplies), house boating, marinas, and picnicking would be increased and improved. Another major area of attention would be the improvement of lakeshore access in and around the resorts for day use activities some of which would be free. This alternative would also include providing selected areas of service offering a varying level of amenities. Reclamation would have an expanded involvement in providing visitor facilities including a focus on the development of a major trail system around Lake Berryessa. Water surface zoning would be implemented including additional 5 mph areas and adding and expanding facilities and areas for non-motorized watercraft.

CONCESSION OPERATIONS

Recreation Areas

1. Markley Cove

Markley Cove would become the houseboat center at Lake Berryessa and in that capacity would be the initial concession area on the lake where any houseboat rentals would take place. The topography at Markley Cove precludes the efficient development of significant land-based facilities such as those utilized for camping or lodging. Also, in comparison to many of the other concession areas, the views and vistas at Markley are limited; however, with fairly deep-water cove and an appropriate ramp, it can well serve the identified needs. Markley Cove would be similar and competitive with the activities at Shasta Lake, New Melones, and Lake Powell (AZ). It would also include some rental boat slips; fuel sales and boat launch activities to the extent that the houseboat operation has space available for its needs. Typical house-boaters would stay out for 3 to 7 days, and unless there are maintenance needs or other issues, it is likely that once they depart Markley they would not return until time to close out their contract and have the boat prepared for the next renter.

It is anticipated that Markley Cove would be a seasonal operation with the season length depending upon the demand for houseboat use. Slip rental and boat launch would be managed for year-round use.

Day Use

- See Marina Facilities below.

Overnight Use

- None proposed.

Marina Facilities

- Slip rental
- Marine fuel
- Marine sewage pump out
- Launch ramp
- Fish cleaning station
- House-boating

Provided 20 – 30 rental houseboats similar in size and style to those at other traditional house-boating lakes in the western United States. Generally these boats are 53 to 65 feet in length and feature various comfort and entertainment amenities.

Retail

- Sundries
- Snacks
- Gifts
- Boating supplies

Food and Beverage (Restaurant type facility)

None proposed.

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS),

Rural Developed – land and water areas. (Figure 4, Map 2)

2. Pleasure Cove

Pleasure Cove would be developed and managed as a camping/RV Center at Lake Berryessa. Its settings and isolation from the main road would make it a destination for users wishing to be in the most remote developed area at the lake. There would be a selection of different types of camping experiences, most of which would also feature nearby access to Lake Berryessa. All use and associated support services would be camping or RV oriented. Campers would be able to utilize the marina and

short-term slip facilities if they bring watercraft for an additional charge added to their camping fee. The operation would have a rustic flavor but with a high level of comfort and adequate support facilities. The 'Camping Center' facility would serve as a hub or public operation for the area and be developed in an architectural style in keeping with the area's theme.

It is anticipated that Pleasure Cove would be a seasonal operation with the season length depending upon the demand for RV use.

Day Use

- See Marina Facilities below.

Overnight Use

- Camping Center – A facility to serve as a hub for management and public contact at the site.
- Traditional Campground – Sites developed that provide adequate separation and privacy from adjacent campers.
- Additional tent camping and picnicking – Lakeshore sites developed for non-motorized land access and boat-in access in less developed part of report.
- RV Park with lake access
- RV sewage dump
- Restroom/shower/laundry

Marina Facilities

- Slip rental
- Marine fuel
- Launch ramp
- Fish cleaning station

Retail

- Sundries
- Snacks
- Gifts
- Boating and camping supplies

Food and Beverage (Restaurant type facility)

Cafe incorporating an architectural theme with simple dining at a moderate price range.

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS),

Rural Developed – land and water areas. (Map 2)

3. Steele Park

Steele Park would become a major contemporary overnight lodging area on lake Berryessa. It would also have a marina development similar in size to what is currently available. Facilities would be equivalent to a ‘Two star Rating’ from the Mobil Travel Guide. Steele Park would be the water skiing center at Lake Berryessa. Steele Park would be a full-service resort with opportunities for users to enjoy one or several days in a quality room, bungalow, or RV site offering good lake views. Steele Park is readily accessible from Napa Valley via Highway 128. It is anticipated that many users would want to combine the quieter and more economical experience at Lake Berryessa with excursions to winery tours/tasting and other activities in the surrounding area.

It is anticipated that Steele Park would be a year-round operation and include:

Day Use

- Picnic areas – Individual and group sites
- See marina facilities below

Overnight Use

- Lodging Center
- Hotel/Motel – Provide an increase in the number of rooms, over current amount, and establish more of a ‘Lodge’ environment with some cosmetic rehabilitation on existing motel units.
- Cottages – Update existing and provide additional with lakeshore access.
- RV Park – Located on the hill currently devoted to exclusive long-term use sites.

Marina Facilities

- Slip rental
- Marine fuel
- Launch ramp
- Fish cleaning station
- Water Ski Center – Manage formal water-skiing activities for groups and individuals including instruction. Water-skiing activities would be located in Skier’s Cove, 2 miles northeast of Steele Park Resort.

Retail

- Sundries
- Snacks
- Gifts
- Boating and RV camping supplies

Food and Beverage (Restaurant type facility)

- Full service restaurant
- Fast food type Meal Center with order window and delivery to the table.

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS)

Suburban and Rural Developed. (Map 2)

4. Spanish Flat

Spanish flat would be a mixture of camping and rustic lodging facilities. All of the accommodations here would be the most economical at Lake Berryessa and would be reflected in the level of amenities available. Facilities would be equivalent to a ‘One Star Rating’ in the Mobil Travel Guide. The facilities would be cabin type, very attractive, and serviceable providing lodging to many members of the public that are unable to afford some resort areas. Overnight rates would be affordable and the rooms, although nice, would provide a basic support package. Given the location on the peninsula, there are areas where great views of the lake can be a part of visitors’ lodging or camping experience. In some areas, the development can actually be in close proximity to the lakeshore. Although the camping and lodging areas would not be intermixed, they would be in proximity to one another and designed in a manner that provides appropriate privacy and general separation between users and use types.

The Overnight Center would serve as a registration and business center for all operations and be positioned in such a manner that it serves as a division between camping and lodging. An economical restaurant and retail area would be available for the public but architecturally designed to establish the theme of the area and provide service to day users. Spanish Flat would also have a marina and the Capell Cove launch area. Rates for the use of Capell Cove, as well as other marina launch areas, would be comparable to similar facilities in other Northern California areas.

It is anticipated that Spanish Flat could be a seasonal operation with the option to extend the season depending on business demand for cabins and RV sites. The boat slip rental operation could be operated year-round. Spanish flat could include:

Day Use

- Picnic areas – Individual and group sites
- See marina facilities below

Overnight Use

- Overnight Center
- Cabins – Located on Peninsula area using part of current exclusive use trailer area.
- Traditional Campground – Develop sites that provide adequate separation and privacy from adjacent campers and are located on Peninsula area using part of exclusive use trailer area.
- Restroom/Shower/Laundry

Marina Facilities

- Long-Term Boat Storage
- Slip rental
- Marine fuel
- Launch ramp
- Fish cleaning station
- Capell Cove launch ramp

Retail

- Sundries
- Snacks
- Gifts
- Boating and camping supplies

Food and Beverage (Restaurant type facility)

Family Cafe Style Dining

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS)

Suburban and Rural Developed. (Map 2)

5. Lake Berryessa Marina

Lake Berryessa Marina would provide a mixture of RV and cabin type lodging. Cabin sites and facilities would be ‘Rustic Charm’ with the highest level of amenities for such accommodations at Lake Berryessa. Facilities would be equivalent to ‘Three and Four Star Ratings’ in the Mobil Travel Guide. Lake Berryessa Marina would cater to visitors desiring added amenities in a recreational and cabin type setting. Rooms would be larger and the specific amenities would be greater in number and may include items such as refrigerators, higher quality furniture and carpet package, outdoor porch area, coffee makers, etc. The RV facilities would be of the highest quality level for RV amenities offered at Lake Berryessa. Pull-through sites for larger motor coaches would be available. The overall number of RV sites would be limited to provide a desirable level of separation among users.

The Food and Beverage operation at Lake Berryessa Marina would also be at a level that reflects the expectations of the cabin and RV users. It would not be large but designed in a 'Rustic Charm' fashion featuring nice but not extravagant menu selections especially for evening meals. There would be flexibility on the final layout and design of Food and Beverage facility depending on the final suggestions of the eventual new concessionaire at this location.

The marina operation would be similar in size to existing facilities.

It is anticipated that Lake Berryessa Marina would be open year-round with the option to operate some facilities on a seasonal basis.
Lake Berryessa Marina could include:

Day Use

- Picnic areas – Individual and group sites

Overnight Use

- Overnight Center
- Cabins – 'Rustic Chick' Style
- RV Park – Full hook-ups with Lake Vistas
- Restroom/Shower/Laundry

Marina Facilities

- Slip rental
- Marine fuel
- Launch ramp
- Fish cleaning station

Retail

- Sundries
- Snacks
- Gifts
- Boating and RV camping supplies

Food and Beverage (Restaurant type facility)

- Snack Bar
- Restaurant – Thematic to cabins

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS)

Suburban and Rural Developed. (Map 2)

6. Rancho Monticello

Rancho Monticello would offer some of the most diverse concession facilities and programs on Lake Berryessa and would provide services and facilities to a wide range of potential guests. Overnight facilities would include cabins and camping/RV use. All of these facilities would be at a mid-price range. Because of the size (acreage) of Rancho Monticello, it would likely have more cabins and camping facilities than any other single operation on the lake. Cabin facilities would be equivalent to a 'Two Star Rating' in the Mobil Travel Guide. Spanish Flat and Lake Berryessa Marina provide important facilities for either end of the economic spectrum, and Rancho Monticello's facilities would be at what most people might consider more traditional mid-level when compared with other outdoor recreation resorts around the State and country.

It is anticipated that Rancho Monticello would be a year-round operation with the option to shut down certain areas; e.g., campgrounds that may not be in demand.

Rancho Monticello could include:

Day Use

- Picnic areas – Individual and group sites

Overnight Use

- Camping Center
- Traditional Campground – Develop sites that provide adequate separation and privacy from adjacent campers and have lake access.
- RV Park – Full hook ups
- RV Park dump station
- Restroom/Shower/Laundry
- Cabins – Midrange as described above
- Youth/Elder Hostel with common Restroom/Shower/Laundry

Marina Facilities

- Boat Storage – 'Boat Valet' service to accommodate customers who call ahead to have their boat taken from storage and awaiting their arrival.
- Limited overnight docking facilities – No long-term slip rental
- Marine fuel
- Launch ramp
- Fish cleaning station
-

Retail

- Sundries
- Snacks
- Gifts
- Boating and RV camping supplies

Food and Beverage (Restaurant type facility)

- Family dining

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS)

Suburban and Rural Developed (Map 2)

7. Putah Creek

Putah Creek would become a major contemporary overnight lodging area on Lake Berryessa. Putah Creek would feature a contemporary hotel/lodging type development. It would be designed to incorporate a theme in keeping with the cultural and historic venue. Lodging facilities would be equivalent to a 'Two Star Rating' in the Mobil Travel Guide. The hotel/lodge would also incorporate some amenities and facilities that would support business meetings or retreats during shoulder and off seasons. In the busy season, family groups or others wishing some private area for socializing could lease such facilities.

Because of the area's exposure to wind during storms, it is not a particularly good location for major marina development. A few seasonal slips would be available for short-term use. The minimal facilities would give the shoreline and the outstanding vistas an uncluttered ambiance. Putah Creek would have convenient access to the Napa Valley and Chiles Valley via Pope Canyon Road, and it is expected, as at other resorts, that the link to the wine country would provide an attractive excursion alternative to many users having a multi-day stay.

Putah Creek would offer tent and RV camping on a year-round basis.

Camp Berryessa would be managed on a reservation basis as a group camping and activity area. Facilities would be developed for use by a wide range of groups and include covered dining, meeting and educational spaces, as well as showers and laundry facilities. The west shoreline water area would include a buoy line to separate boaters from swimmers.

Putah Creek could include:

Day Use

- Picnic areas – Individual and group sites
- Swim areas

Overnight Use

- Lodge – Architecturally thematic and offering meeting or special event rooms especially for shoulder season use of special groups to enhance marketing to non-recreation users, e.g., business meetings and small conferences.
- Camping Center
- RV Park
- Dump station
- Traditional Campground – Develop sites that provide adequate separation and privacy from adjacent campers and good lake access (current area upgraded)
- Restroom/Shower/Laundry

Group and Event Camping and Use – Camp Berryessa

- Tent sites
- Group support RV sites
- Dump station
- Restroom and shower
- Rental of canoes/kayaks

Marina Facilities

- Short-term overnight docking – No long-term slip rentals
- Boat storage
- Marine fuel
- Two launch ramps
- Canoe/Kayak launch at Camp Berryessa
- Fish cleaning station

Retail

- Sundries
- Snacks
- Gifts
- Boating and RV camping supplies

Food and Beverage (Restaurant type facility)

- Snack Bar
- Full-service restaurant

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations. Roadways and other necessary infrastructure (sewage, water, electric service, etc.) would be laid out and constructed based upon the desired final organization of visitor use and support facilities.

Land/Water Use Classification (WROS)

Suburban and Rural Developed (Map 2)

GOVERNMENT OPERATIONS

Recreation Areas

Reclamation would continue to operate developed day use areas such as Oak Shores and Smittle Creek, and dispersed day use areas such as Markley, Steele Canyon, Olive Orchard, Pope Creek, North Shore, and Eticuera, as provided for in Public Law 93-493, the 1992 RAMP, and any other site specific plans and policies tied to the RAMP. In addition, Reclamation would provide increased and enhanced visitor services by remodeling the visitor Center and developing interpretive and environmental education programs. Reclamation would work with the concessionaire to establish a boat-in access camping program.

Day Use

- Picnic Areas – Individual and group sites
- Swim areas in Oak Shores
- Hiking

Overnight Use

- Boat-in camping program (managed by concessionaire)
- Establish overnight shoreline securing areas for vessels (see map) at the following areas: Portions of Pope Creek, south Putah Creek and the eastside shoreline south of the northern Gunn Easement fence.
- Onboard camping allowed
- Anchoring offshore allowed
- No shoreline camping

Marina Facilities

Non-motorized launch ramps at Steele Canyon, Olive Orchard, Oak Shores, and Eticuera.

Retail

No retail facilities proposed

Infrastructure

Necessary maintenance and support facilities would be constructed for support of the above operations.

Land and Water Use Classification (WROS)

Suburban, Rural Developed and Rural Natural (Map 2)

Rural Natural Non-motorized: Area between Oak Shores Day Use Area, Smittle Creek Day Use Area, Small Island, and Big Island

Justification: Enhanced wildlife habitat, reduce motorized noise and wake effect from power boats, and provide a boating area for the use of canoes, kayaks, row boats, sailboats, vessels with battery-powered electric trolling motors.

Rural Developed Non-motorized: Area south of the entrance to Steele Canyon Cove.

Justification: Enhanced wildlife habitat, reduce motorized noise and wake effect from power boats, and provide a boating area for the use of canoes, kayaks, row boats, sailboats, and vessels with battery-powered electric trolling motors.

TRAILS

An informal partnership is being developed with other land management agencies, private landowners, and non-government organizations to create a regional trail system. As a partner in this effort, Reclamation would work to develop a trail system for non-motorized recreational use, which could include a shoreline trail and connector trails to other public lands. New concession agreements would include provisions to develop trails through the resort areas that would connect with other multiple-use trails around the lake. Trail development is expected to be ongoing.

Reclamation would continue to manage the existing trails at Lake Berryessa and improve their condition through repairs and reconstruction. Existing trails would be inventoried and upgraded for accessibility.

USE PERMITS

Use permits for Skier's Cove discontinued. The use of Skier's Cove would be associated with the formal water skiing activities of Steele Park Resort. Reclamation would assure through contract language that it would be managed to include the type of use currently supported by ski clubs. The use of Camp Berryessa would be associated with the group camping and activity area of Putah Creek Resort. Reclamation would continue to manage special events, uses, etc. (on land and water) under special recreation use permit procedures as directed by the 1992 RAMP and the Central California Area Office Special Recreation Use Permit Policy.

ALTERNATIVE C

This alternative would re-introduce exclusive long-term use sites at a minimal level. Further, under this alternative, life, health, and safety standards and environmental compliance regulations would be strictly enforced. All existing trailers and infrastructure would be removed and then a minimal number would be re-introduced in a more appropriate configuration. Trailer installations would not be permitted within 100 linear feet uphill of elevation 455 feet above mean sea level. Only a limited number of trailers would be accommodated in the new configuration. This would result in the availability of all shoreline areas for use by the general public. New facilities for short-term visitors would be introduced to enhance camping, RV, and other overnight lodging opportunities as well as providing general access to the lake. Although this alternative retains some exclusive use, it reduces the overall footprint of this use and increases emphasis on short-term use. Exclusive use, even on this limited level, is counter to Reclamation's national concession policy.

CONCESSION OPERATIONS

Recreation Areas

1. Markley Cove

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Because of steep slopes and eroding hillsides reintroduction of an exclusive long-term use trailer village would not be permitted at Markley Cove. There are no areas above 455 feet mean sea level within the 100 foot line that are suitable for trailer use without unacceptable natural resource disturbance. Markley Cove would become the houseboat center at Lake Berryessa as described in Alternative B.

Day Use

Same as Alternative B

Overnight Use

Same as Alternative B (No Long -Term Trailers)

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Land and Water Use Classifications (WROS)

Same as Alternative B (Figure 5, Map 3)

2. Pleasure Cove

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Pleasure Cove would be a camping/RV center with a limited number of exclusive long-term use sites re-introduced.

Day Use

Same as Alternative B

Overnight Use

Camping Center – same as Alternative B except there would be fewer camping sites available to accommodate the re-introduction of a limited number of exclusive long-term use sites. Long-Term Trailer Village – A re-introduction of a exclusive long-term use trailer village would be permitted to the extent that the configuration and individual trailers meet current local and national regulations and codes for establishment of new trailer villages. Mobile homes would not be allowed. These exclusive long-term use sites must fall within the following parameters of vehicle types, locations and use:

Size Limit – Self contained recreational vehicles with a maximum of 45 feet and a maximum width of 8 ½ feet (exclusive of pop-outs). Recreational vehicles with pop-outs still need to meet setback requirements.

Hook-ups – Exclusive long-term use sites shall have full hook-ups (water, sewage, and 50 amp electric services).

Out of Flood Plain – Exclusive long-term use sites shall be placed at least 100 linear feet above 455 feet mean sea level elevation line.

Age Limit – Concessionaire shall establish an age limit for recreational vehicles placed on exclusive long-term use sites, but the limit shall not be ore than 20 years.

Setbacks – there will be a minimum of 10 feet of site separation between all long-term recreational vehicles, vehicle pop-outs, improvements, decks, additions, enclosures, and sheds.

One-way Roads – All one-way roads adjacent to exclusive long-term use site improvements shall have a minimum setback of 16 feet from the centerline of the road.

Two-way Roads – All two-way roads adjacent to exclusive long-term use site improvements shall have a minimum setback of 20 feet from the centerline of the road.

Site Improvements – All modifications to a exclusive long-term use site shall be requested as a concessionaire generated project proposal. The concessionaire shall have the responsibility to construct, operate, and maintain the condition of all modifications to the long-term exclusive sites, including, but not limited to decks, awnings, sheds, retaining walls, sidewalks, patios, picnic tables, barbeque grills, driveways, etc.

Prohibitions

- No mobile homes, except for employee housing
- No privately owned park models, except for employee housing
- No permittee generated project proposals will be accepted by Reclamation

Employee Housing – Sites shall meet the same requirements as described above except electric service may be up to 200 amps.

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 3)

3. Steele Park

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. A limited number of exclusive long-term use sites would be re-introduced. Steele Park would become a contemporary overnight lodging area similar to that described in Alternative B except on a smaller scale due to accommodating exclusive long-term use sites.

Day Use

Same as Alternative B.

Overnight Use

Overnight Use would be similar to Alternative B except the number of RV sites would be considerably reduced to provide available space for the re-introduction of some exclusive long-term use sites.

Refer to Long-Term Trailer Village Standards outlined in Pleasure Cove Alternative C.

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 3)

4. Spanish Flat

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Besides the few long-term exclusive-use sites Spanish flat would feature a Camping Center similar to that described in Alternative B.

Day Use

Same as Alternative B

Overnight Use

Overnight Center – Same as Alternative B except there would be fewer cabin and/or campsites available to accommodate the re-introduction of a limited number of exclusive long-term use sites depending on the final configuration proposed by the selected concessionaire.

Refer to Long-Term Trailer Village Standards outlined in Pleasure Cove Alternative C.

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classifications (WROS)

Same as Alternative B (Map 3)

5. Lake Berryessa Marina

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Because of steep slopes and eroding hillsides reintroduction of a exclusive long-term use trailer village would not be permitted at Lake Berryessa Marina. There are no areas above 455 feet mean sea level within the 100 foot line that

are suitable for trailer use without unacceptable natural resource disturbance. Lake Berryessa Marina would provide a mixture of RV and cabin type lodging as described in Alternative B.

Day Use

Same as Alternative B

Overnight Use

Same as Alternative B (No Long -Term Trailers)

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 3)

6. Ranch Monticello

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Ranch Monticello could offer some of the most diverse concession facilities and programs depending on the degree of re-introduction of exclusive long-term use sites.

Day Use

Same as Alternative B

Overnight Use

- RV and campsites
- RV pump out
- The number of RV and campsites would be significantly reduced to provide available space for the re-introduction of some exclusive long-term use sites. Refer to Long-Term Trailer Village Standards outlined in Pleasure Cove Alternative C.

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS),

Same as Alternative B (Map 3)

7. Putah Creek

In order to comply with all applicable laws, regulations, and codes pertaining to environmental protection, public health and safety, and facility construction and maintenance, it would be necessary to remove all of the existing trailers and associated infrastructure. Re-introduction of exclusive long-term use sites would not be possible at Putah Creek because there is not enough assigned land over 100 linear feet from elevation 455 feet mean sea level to make such an installation suitable and reasonably profitable. Putah Creek would become a contemporary lodging area similar to the described in Alternative B.

Camp Berryessa would be managed as a group camping and activity area on a reservation basis. The area would include limited development with facilities designed to impart a primitive natural atmosphere. The concessionaire would manage and maintain the area from May to September for group and event camping. Reclamation would utilize and maintain the area from September to May for environmental education and special-use group activities. Facilities would be developed for use by a wide range of groups and include covered dining, meeting and educational spaces, as well as showers and laundry facilities. The west shoreline water area would include a buoy line to separate boaters from swimmers.

Day Use

Same as Alternative B

Overnight Use (No Long -Term Trailers)

- Lodge, Camping Center – Same as Alternative B
- Group Camping and Event Use – Camp Berryessa
- Small group tent camp areas designed to accommodate up to 150 people
- Main Dining Shelter
- Group Shade Shelter
- Limited Full Hook-up RV Sites (six or less)

- Restroom and Showers
- Canoe and Kayak Rentals (multiple-use agreement with Reclamation)
- Small office used by Concessionaire Staff
- Canoe/Kayak Launch Ramp
- Consolidated Remote Parking
- Hiking Trails to Remote Gathering Area

Marina/Storage

Same as Alternative B

Retail

Same as Alternative B

Food and Beverage (Restaurant type facility)

Same as Alternative B

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 3)

GOVERNMENT OPERATIONS

Recreation Areas

Reclamation would continue to operate developed day use areas such as Oak Shores and Smittle Creek, and dispersed day use areas such as Markley, Steele Canyon, Olive Orchard, Pope Creek, North Shore, and Eitcuera, as provided for in Public Law 93-493, the 1992 RAMP, and any other site specific plans and policies tiered to the RAMP. In addition, Reclamation would provide increased and enhanced visitor services by remodeling the Visitor Center and developing interpretive and environmental education programs.

Day Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Overnight Use

- Same as Alternative B including operating Camp Berryessa from September to May as described below
- Environmental Education and Special-Use Group Camp
- Small Group Tent Camp areas designed to accommodate up to 150 people
- Main Dining Shelter
- Group Shade Shelter
- Limited Full Hook-up RV sites (six or less)
- Restroom and Showers
- Canoe and Kayak Rentals (multiple-use agreement with Reclamation)

- Small Office used by Concession Staff
- Canoe/Kayak Launch Ramp
- Consolidated Remote Parking
- Hiking Trails to Remote Gathering Area

Land and Water Use Classification (WROS)

Same as Alternative B except that the non-motorized areas at Steele Canyon and Oak Shores would become 5 mph zones.

(Map 3)

TRAILS

Same as Alternative B

USE PERMITS

Same as Alternative B

ALTERNATIVE D

Reclamation would directly manage more of the services for the public, and the number of locations where traditional commercial services existed would be reduced. Water surface zoning would be implemented including additional 5 mph areas and expanding facilities and areas for non-motorized watercraft.

CONCESSION OPERATIONS

Recreation Areas

1. Markley Cove

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Figure 6, Map 4)

2. Pleasure Cove

Day Use, Overnight Use, Food and Beverage, and Infrastructure

See Government operations below

Marina/Storage

Fuel Dock

Retail

Limited sales – Camping, marina support, and sundries

Land and Water Use Classification (WROS)

See Government operations below. (Map 4)

3. Steele Park

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

4. Spanish Flat

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

5. Lake Berryessa Marina

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

6. Ranch Monticello

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

7. Putah Creek

Day Use, Overnight Use, Food and Beverage, and Infrastructure

See Government operations below.

Marina/Storage

- Fuel Dock
- Canoe and Kayak Rentals

Retail

Limited sales – Camping, marina support, and sundries

Land and Water Use Classification (WROS)

See Government operations below. (Map 4)

GOVERNMENT OPERATIONS**Recreation Areas**

Reclamation would continue to operate developed day use areas such as Oak Shores and Smittle Creek, and dispersed day use areas such as Markley, Steele Canyon, Olive Orchard, Pope Creek, North Shore, and Eticuera, as provided for in Public Law 93-493, the 1992 RAMP, and any other site specific plans and policies tied to the RAMP. In addition, Reclamation would provide increased and enhanced visitor services by remodeling the Visitor Center and developing interpretive and environmental education programs. Reclamation would establish a boat-in camping program.

Day Use, Overnight Use, Marina/Storage, Retail, Food and Beverage, and Infrastructure

Same as Alternative B except Reclamation would manage the boat-in camping program.

Land and Water Use Classification (WROS)

Same as Alternative B with the addition of a non-motorized zone within Pope Creek upstream from Pope Creek dispersed recreation area. (Map 4)

1. Pleasure Cove

Provide camping, RV sites, and a boat launch.

Day Use

Picnic areas – Boat-in day use

Overnight Use

Tent and RV Camping – Could include boat-in camping

Marina/Storage

Launch ramp

Retail

See Concession Operations above for Alternative D

Food and Beverage (Restaurant type facility)

None

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

2. Putah Creek

Provide camping, RV sites, and a boat launch.

Day use

Picnic areas

Overnight Use

Tent and RV Camping

Marina/Storage

Launch ramp

Retail

See Concession Operations for Alternative D

Food and Beverage (Restaurant type facility)

None

Infrastructure

Same as Alternative B

Land and Water Use Classification (WROS)

Same as Alternative B (Map 4)

3. Camp Berryessa

Camp Berryessa would be managed as a group camp and activity area on a reservation basis. Facilities would be developed for use by a wide range of groups and include covered dining, meeting and educational spaces, as well as showers and laundry facilities. Camp Berryessa would have a non-motorized boat launch ramp and a buoy line to separate boaters from swimmers.

Day Use

- Reservation Only
- Swim Area

Overnight Use

- Group Camping by Reservation Only
- Shower/Restroom
- Covered Food Preparation, Dining and Meeting Area

Marina/Storage

Canoe Launch Ramp

Retail

None

Food and Beverage (Restaurant type facility)

None

Infrastructure

Same as Alternative B

Land and Water Use Classifications (WROS)

Same as Alternative B with the addition of Suburban and Rural Natural 5 mph (area from Putah Creek Bridge upstream in Putah Creek)

(Map 4)

TRAILS

Same as Alternative B

USE PERMITS

In this alternative, the use permits for Skier's Cove and Camp Berryessa would be discontinued. The Steele Park Concessionaire would manage Skier's Cove. Camp Berryessa would be managed by Reclamation. Reclamation would continue to manage special events, uses, etc. (on land and water) under special recreation use permit procedures as directed by the 1992 RAMP and the Central California Area Office Special Recreation Use Permit Policy.

Figure 7, Map 5 depicts the off-shore mooring areas and seaplane landing zones and Figure 8, Map 6 depicts the proposed trail system. These features apply to all the action alternatives.

Chapter 3 - Affected Environment, Existing Setting and Environmental Consequences and Mitigation

This chapter describes the existing environmental setting for the areas potentially affected by the Proposed Action and the project alternatives, including the No Action Alternative. The affected environment is described for each resource of concern in the proposed project areas, and the descriptions include information relating to possible impacts, mitigation efforts, and the final selection of a Preferred Alternative. This chapter also evaluates the effectiveness of mitigation measures to determine whether they would reduce potentially significant impacts to less-than-significant impacts.

3.1 LAND USE

3.1.1 Affected Environment and Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Location

Lake Berryessa is a long, relatively narrow body of water located on the eastern slope of California's Coast Range, in Napa County. It is situated about 40 miles west of Sacramento, the state capital.

The reservoir is created by Monticello Dam, a 304-foot-high concrete structure that impounds Putah Creek where the creek crosses the eastern boundary of Napa County 9 miles west of Winters. The resulting lake is approximately 23 miles long by 3 miles wide at its broadest point, with a total storage capacity of 1.6 million acre-feet. Commercial and non-commercial (i.e., Reclamation-operated) developments are located primarily along the western lakeshore, between Camp Berryessa to the north, Capell, Wragg and Markley Coves to the south, and the Putah Creek corridor below Monticello Dam to the southeast.

Jurisdiction

Lake Berryessa is operated by the Department of the Interior's Bureau of Reclamation, which manages reservoir resources through concurrent jurisdiction with various federal, state and county authorities. Concurrent jurisdiction was Congressionally established in 1948, when the Lake Berryessa Reservoir was authorized as part of the Solano Project. Under this arrangement, the United States and the State of California jointly and concurrently hold and exercise all management rights. Both state and federal civil and criminal codes are in effect on federal lands, and both state and federal officials may enforce their respective codes, consistent with their authorizing legislation.

Mission, Policies and Authorities

Mission

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.

The mission of the Bureau of Reclamation specifically at Lake Berryessa is to provide water, flood control, power generation and recreational opportunities through the impoundment of Putah Creek at Monticello Dam. The lake and surrounding lands offer a variety of recreational opportunities, as well as habitat for fish and wildlife.

Policies and Authorities

Historically, the primary purposes of Reclamation water projects have been irrigation, flood control, and providing water for domestic, industrial and municipal use. In 1965, PL 89-72 (the Federal Water Projects Recreation Act) further charged the Secretary of Interior with providing recreational opportunities for reservoir users. The act thereby established outdoor recreation as an additional purpose for developing water resources. Consequently, potential recreation benefits and costs became and continue to be important factors in the evaluation of prospective water developments. Under this law, non-federal public entities (states, counties and local governments) are given the opportunity to administer, operate and maintain recreation-related facilities and lands that may be developed under the cost-share provisions contained in PL 89-7.

In 1974, passage of PL 93-493 authorized Reclamation, under Title VI, to assume responsibility for the development and management of Lake Berryessa. See previous reference/Reclamation website.

In 1980, PL 96-375 authorized the Secretary of the Interior to initiate concession-related changes at Lake Berryessa. Specifically, the Secretary was authorized to negotiate new concession agreements with existing concessionaires at the lake and set the terms and expiration dates of the agreements. Concession agreements were to cover an initial period not to exceed 10 years, commencing in 1989. Another condition stipulated that all permanent facilities put in place by the concessionaires became their property. Such facilities would be purchased by Reclamation or by a subsequent concessionaire at fair market value when concession agreements expired, if Reclamation wanted those facilities to remain in place.

The Reclamation Management Act of 1992 (PL 102-575, Title 28) reaffirmed the federal responsibility to provide recreational opportunities at federal water projects. This act, however, declared that passing the entire financial burden of such provisions on to non-federal agencies was unfair, especially in cases where the facilities were old or under-designed.

Therefore, Reclamation was authorized to expand existing recreational facilities in *partnership* with non-federal interests.

As the result of passage of HR 2925 on November 12, 2001 and the subsequent rule-making of June 4, 2002, Reclamation was authorized to use federal, state and local law enforcement personnel to protect its facilities, water resources, surrounding lands and the visiting public. The agency is also permitted to enter into agreements under which non-federal authorities can be reimbursed for law enforcement services carried out on Reclamation property. (See Attachment 1.)

Uses

At the time Monticello Dam was built, cattle ranching and localized agriculture were the primary land uses in the Lake Berryessa area, as steep terrain and soil types make the land undesirable for other uses. Once Reclamation assumed management responsibilities for the reservoir in 1975, it began to assess grazing activities in the vicinity of the lake. At that time, grazing allotments were still managed over much of the east side.

In the late 1980s and early 1990s, Reclamation tried to enhance wildlife habitat on the east side of the reservoir. To this end, the grazing allotments were terminated in 1996 with the establishment of the Lake Berryessa Wildlife Area. An exception was made, however, for a 592-acre parcel on the lake's east side, as that property had been non-exclusively reserved for the use of the adjacent property owner as the result of earlier court settlements.

Land Use Patterns

Lake Berryessa is in a rural setting on the southeastern edge of the northern California Coast Range. Like most of the surrounding area, the landscape adjacent to Lake Berryessa consists of moderately to steeply sloped mountains. Few perennial tributaries occur there, and the soil regimes are relatively dry. Moreover, being situated near the eastern edge of the Coast Range, Lake Berryessa has a more temperate climate than that found to the west, where the coastal influences dampen weather fluctuations and thereby extend the growing season. These conditions limit the kinds of agriculture and other activities that can occur there. Valleys in the vicinity of Berryessa support vineyards, orchards and pastures. Dominant land uses near the lake include livestock grazing, watershed preserves and wildlife habitat. These uses are augmented, since the creation of Lake Berryessa, by water-related recreational activities.

Land Classification Categories

Reservoir Classification

The following classification categories were developed for the 1992 Lake Berryessa RAMP/EIS. Because the RAMP/EIS still guides management at the reservoir, the classes are employed in the analysis of impacts associated with this document's No Action Alternative.

The action alternatives and their potential impacts on affected environments are analyzed using the land and water use level classifications provided by

the Water Recreation Opportunity Spectrum (WROS). An explanation of the WROS criteria (draft) and its method of classifying resources used for recreation purposes, together with a comparison of the RAMP and WROS classification criteria, is provided in (Attachments 2 and 3).

The 1992 RAMP categories are:

Class I - High Density Recreation Areas. Class I areas are “intensely developed and managed areas intended for mass public use, such as resorts with restaurants, marinas, launch ramps, RV hookups, paved parking and roadways, moorage, mobile home parks, campgrounds, restrooms, day-use and maintenance areas.”

Class II - General Outdoor Recreation Areas. Class II areas are “substantially developed areas intended for specific uses as camping, picnicking, boat launching, developed parking, paved roads, launch ramps, restrooms, showers, designated campsites and (potable) water.”

Class III - Dispersed Recreation Areas. Class III areas are “minimally developed areas, generally with road access, minimal sanitation facilities, road pullouts, trail development, fencing and ...controlled access.”

Class IV - Semi-Primitive Areas. Class IV areas are “undeveloped natural areas, with limited or constrained access, intended for limited recreational use with minimal improvements as trails, low density boat-in camping and fencing for livestock control.”

Class V - Restricted and Easement Areas. Class V areas are “areas which have restricted recreation potential due to their use for project administration and operation, or where flood easements are involved.”

Description: Class I - High Density Recreation Areas

High Density Recreation Areas at Lake Berryessa utilize 15 miles of shoreline and are found only in the seven commercial resorts located along the western shore and at the south end of the reservoir. These areas sustain the highest level of land use around the lake.

Visitor Experience

In high-density use areas, particularly during the peak summer season, visitors experience the traffic, congestion and competition for services normally found in a small community. Visitor accommodations in these areas include convenience facilities such as lodging, food service, camping and picnic sites, marina services with moorage and launch ramps, gasoline sales, boat rentals, general stores, bait and tackle outlets, laundry facilities and dump stations. These accommodations attract high numbers of visitors. The resulting congestion is compounded by the extensive development of long-term trailer parks at the resorts. In this environment, trailers are generally situated in close proximity to each other. Visually, they contribute to a sense of crowding and disarray, often clashing in color with nearby trailers and with the natural setting. Visitors report that the concession

operations, with the exception of one resort, do not provide satisfactory lake-related information or interpretive facilities, but focus instead on information that supports the resorts' commercial activities.

Access

Vehicular access to these resorts is provided by the Berryessa-Knoxville, Pope Canyon, Steele Canyon and Wragg Canyon Roads, and by California State Highways 121 and 128. Access within these areas is provided primarily by paved roads, with the exception of access to some "dry sites." Pedestrian access is available from paved and unpaved roads and some maintained trails.

Natural Resource Management

In Class I areas, the natural environment has been heavily impacted by extensive development. Natural processes are not readily observable in those areas, except along the shoreline where species of both year-round and migratory birds are found. Larger mammals such as mountain lion, black bear and bobcat are not commonly seen in these areas. However, deer and smaller animals such as coyotes, raccoons and striped skunks are common there, being attracted by food sources (garbage) inadvertently provided by residents and visitors. Other than erosion control efforts, natural resource management activities generally are not a feature of resort operations in these existing Class I areas.

Cultural Resource Management

No cultural resources that may be eligible for or listed on the National Register of Historic Places are known currently to occur in the Class I land areas of Lake Berryessa. Archeological survey was conducted both before and after construction of Monticello Dam. Most archeological and historical sites identified during that work are now submerged beneath the lake's normal-depth water level of 440 feet mean sea level (msl), but isolated buried artifacts are occasionally found within the normal operating drawdown zone. No artifact concentrations or sites are documented to exist either along the reservoir shoreline or the drawdown zone in Class I areas.

Facilities

Nearly all major facilities at the reservoir occur in these Class I areas. Existing developments include resort cabins, motels, restaurants, convenience food outlets, campgrounds, boat ramps and marinas, restrooms, maintenance facilities, trailer parks, electrical utility lines and water and sewage distribution and treatment infrastructure.

Maintenance

Maintenance activities in Class I areas include the upkeep of existing resort facilities and grounds, landscaping, maintaining roads, buildings, signs, walkways, docks, mooring sites, launch ramps and the power, water and sewage infrastructure.

Description: Class II - General Outdoor Recreation Areas

General Outdoor Recreation Areas encompass approximately 12 miles of shoreline along the western side of the reservoir. Camp Berryessa is located at the mouth of Putah Creek. The second area extends along the shore from the north end of Smittle Creek picnic area to the south end of Oak Shores day-use area. A third area extends along the north side of Capell Creek above the Capell Cove boat launch ramp.

Visitor Experience

In these areas, visitors can expect to experience a somewhat lower density of development than that found at the resorts. Facilities include designated parking, picnic tables and covered group picnic sites such as those at the Oak Shores day use area and at Camp Berryessa, with restrooms, potable water, trash containers, paved access roads, a designated swimming area and an information kiosk. Interpretation in these areas is limited to that offered at Oak Shores on summer weekends. Because a major road corridor is nearby, passing vehicles are likely to be seen and heard. Opportunities for hiking, fishing, swimming and picnicking while in a moderately developed but less congested environment are greater and more readily obtainable, except for occasional periods during the summer when visitation is heavy.

Access

Vehicle access to Class II areas is provided by the Berryessa-Knoxville, Pope Canyon, Steele Canyon and Wragg Canyon Roads and by California State Highways 121 and 128. Access within these areas is provided primarily by paved roads. Pedestrians can access the area via paved roads, some maintained trails, and informal visitor paths.

Natural Resource Management

In Class II areas, natural resource features predominate, but are still altered by moderate development of visitor amenities. Native species of vegetation are present or are being re-established. Barriers are in place to control erosion to the ground cover. Larger wildlife species are occasionally seen there, but smaller animals and birds are more common.

Cultural Resource Management

No cultural resources that may be eligible for or listed on the National Register of Historic Places are known currently to occur in the Class II land areas of Lake Berryessa. Buried isolated artifacts, artifact scatters and artifact concentrations are present within the normal operating drawdown zone of Class II areas.

Facilities

Facilities at Class II areas are designed to be less visually intrusive than those in high-density areas, and are more appropriate in a semi-natural outdoor setting. In these areas, there are large open spaces connected by relatively narrow paved roads and semi-improved pathways. Only those

facilities necessary to enhance a day-use experience are present. Such facilities include restrooms, potable water, parking areas, picnic tables and fire grills, trash receptacles, buoys to mark swimming areas, and informational kiosks and signage.

Maintenance

Maintenance activities in Class II areas include the upkeep, repair and replacement of access roads and paths, traffic barriers, restrooms, water and sewer infrastructure, picnic and swimming facilities and signs.

Description: Class III - Dispersed Recreation Areas

Class III areas at Lake Berryessa encompass 17 miles of shoreline, including a portion of the north shore between the mouth of Putah Creek and the mouth of Eticuera Creek; a section of the north shore of Putah Creek from the mouth and extending upstream for approximately 3 miles; and from the mouth of Putah Creek southward to the edge of the Putah Creek Resort. It also includes a small segment of the shoreline below Capell Cove launch site and the extreme south shore east of Markley Cove Resort, between the mouth of Markley Creek and Monticello Dam; and all of Big Island and Small Island, located a short distance to the north.

Visitor Experience

Visitors to dispersed recreation areas can expect to experience a moderate degree of privacy, although they likely will be aware of the presence of other visitors, especially during periods of heavy use. In this predominantly natural setting, visitors have the opportunity to swim (although there are no designated swimming areas), picnic, hike, fish and engage in sightseeing and wildlife viewing. Boat-in camping occurs although there are no approved sites for this activity.

Access

Access to Class III dispersed recreation areas is by private watercraft and a number of trails. Users can access these shore areas from the Putah Creek and Markley Cove resorts and from the Capell Cove boat launch area. There is also a two-mile trail between Smittle Creek and Oak Shores that follows the shoreline, with trailhead parking at Smittle Creek. Where turnouts exist along State Highway 128 and the Berryessa-Knoxville Road, there are trails to the shore areas that at one time were actively maintained by Reclamation. There also are user-created shortcut paths to the shoreline. Access to Big Island is only by watercraft.

Natural Resource Management

In the Class III areas of Lake Berryessa, natural processes occur essentially unimpeded by human intervention. Vegetation is not managed, and wildlife habitats are allowed to evolve without management interference. Shoreline erosion that occurs in these areas mostly results from nearby boating activity and lake fluctuations. Both resident and migratory bird populations

are present, and deer, raccoons, skunks and ground squirrels are fairly common there. Large carnivores such as mountain lions, black bears and bobcats, though known to reside in and around these, are not commonly observed even in Class III areas.

Cultural Resource Management

No cultural resources that may be eligible for or listed on the National Register of Historic Places are known currently to occur in the Class III land areas of Lake Berryessa. While the majority of archeological and historical sites are now below the lake depth of 440 feet msl, buried isolated artifacts, artifact scatters and artifact concentrations are present within the normal operating drawdown zone of Class III areas.

Facilities

There are no major facilities, including permanent restrooms, potable water or picnic site designations, in the Class III areas of Lake Berryessa.

Maintenance

Occasional trash collection is the only maintenance activity conducted within the Class III areas of Lake Berryessa.

Description: Class IV - Semi-Primitive Areas

Semi-Primitive Areas at Lake Berryessa consist of more than 105 miles of shoreline. These extend along nearly all of the eastern shore, along the vast majority of the shorelines along the southern portion of the lake, along the western shores of Steele Canyon and Capell Creek and between Spanish Flat Resort and the Reclamation offices on the western shore. These areas also occur along portions of Pope and Putah Creek inlets and the small island south of the mouth of Pope Creek.

Visitor Experience

Visitation is significantly less at many of these semi-primitive areas, particularly along the eastern shore where the Lake Berryessa Wildlife Management Area is located, than within other areas. This zone offers visitors the greatest opportunity for privacy and solitude at the lake. As with Class III areas, the presence of other visitors may be noticeable (particularly from the water view), depending on the time of year, but conditions approaching solitude are the most likely to be found in this setting. Visitors can expect to have the opportunity to fish, hike, picnic, engage in sightseeing, take nature walks, view wildlife and swim, although there are no designated swimming areas. Boat-in camping also occurs in these areas, but there are no sites designated or approved for this activity.

Access

With the exception of Small Island, shoreline areas in the Class IV Semi-Primitive zones can be reached most easily by private watercraft. They may

also be reached from other shore areas, and by way of designated and informal trails.

Natural Resource Management

In the Class IV areas of Lake Berryessa, natural processes occur essentially without human intervention. Vegetation is not managed and wildlife habitats are allowed to evolve without management interference. Shoreline erosion in these areas is mostly the result of nearby boating activity and lake level changes. As in Class III areas, both resident and migratory bird populations may be present, depending on the time of year, and smaller animals such as raccoons, skunks and ground squirrels are easily observed. Larger animals are not commonly seen in these areas, particularly during the main visitor season.

Cultural Resource Management

No cultural resources that may be eligible for or listed on the National Register or Historic Places are known currently to occur in the Class IV land areas of Lake Berryessa. While the majority of known archeological and historical sites are now submerged below the lake depth of 440 feet msl, buried isolated artifacts, artifact scatters and artifact concentrations are present within the normal operating drawdown zone of Class IV areas. Artifacts also are exposed during drought years when lower-than-normal drawdown occurs.

Facilities

There are no sanitary facilities, potable water sources, trash containers or picnic site designations in the Class IV areas of Lake Berryessa.

Maintenance

No maintenance activity occurs within the Class IV areas of Lake Berryessa.

Description: Class V - Restricted and Easement Areas

There are 15 miles of shoreline that are designated Restricted and Easement Areas at Lake Berryessa. These areas are located at the Reclamation offices and Government Point on the western shore, and at the upper reaches of Putah and Elicuera Creek, which are identified as flood easement areas.

Visitor Experience

Of the areas described above, only the Reclamation Visitor Center restrooms and administrative offices in the adjacent building are open to visitors on a regular basis. Government Point is open by special-use permit only.

Access

When access is required for official purposes, the areas set aside for flood easement are most easily reached by small watercraft. Access to the

Reclamation offices is provided by the Berryessa-Knoxville Road; Government Point is accessed by a dirt road through the administration access gate.

Natural Resource Management

Natural processes occur without human intervention in some parts of the Class V areas. Elsewhere, particularly within the developed and landscaped areas around the Reclamation offices, visitors can expect to find landscaping, paving, erosion control, fences, and non-native vegetation eradication. Most vegetation is not overtly managed within this zone, and wildlife habitats are generally allowed to evolve without interference. Shoreline erosion occurring in these areas mostly result from lake level changes. As in Class III and IV areas, resident and migratory bird populations are present, depending on the time of year, and smaller animals such as raccoons, skunks and ground squirrels are easily observed. The possibility of observing larger animals in the flood easement areas is enhanced, since visitor activity there is nearly non-existent.

Cultural Resource Management

In the Class V restricted and easement areas of Lake Berryessa, there is no evidence of the presence of significant cultural resources on or eligible for listing on the National Register of Historic Places. With the construction of Monticello Dam, and in subsequent studies, the reservoir basin and shorelines were surveyed for the presence of archeological sites, features, and artifacts. No cultural resources have been found on the shoreline or within the normal operating drawdown zone of Class V areas.

Facilities

The only facilities in the Class V areas are in Reclamation's administrative complex. That complex includes public restrooms, a recycling center, recycle bins, a Visitor Center/Museum, a parking lot, offices, and maintenance facilities.

Maintenance

No maintenance activities are conducted in the Class V areas, except at the Reclamation administrative complex.

Napa County Land Use Classification

Most of the land adjacent to the federal take-line is classified on the 2000 Napa County Zoning Map as Agricultural Watershed. However, the small, unincorporated sub-divisions of Berryessa Estates on the northern end of Putah Creek, Berryessa Pines on the western shoreline just south of Pope Creek, the community of Spanish Flat north of Capell Creek, and Berryessa Highlands on the southern shoreline overlooking Steele Park Resort have been zoned as Planned Development. All of these developments are on private land with limited access to the lake. In addition, there are three tracts that are zoned as Commercial Limited, one site zoned as Residential

Building Site-1, and one tract is zoned as Residential Country. Napa County has two other zone classes: Marine Commercial (which does not occur in the Berryessa vicinity) and Commercial Neighborhood.

A number of commercial establishments are located along the highways leading to the lake. These include food stores, a boat repair shop and supply store, restaurants, mobile home parks, service stations and taverns. There is also a small school located on the north side of the Berryessa-Knoxville Road on the northern end of the lake, and another school north of the intersection of Highways 128 and 121. The nearest community offering typical community services is the city of Napa, 26 miles southwest of the lake.

Related Plans, Projects and Management Arrangements

NEPA requirements and guidelines specify that projects must be reviewed for consistency and conformity to local and regional plans and policies of those jurisdictions that could be affected by proposed actions. Plans and associated projects applicable to this Draft Environmental Impact Statement are described below.

Programmatic Environmental Impact Statement/Reservoir Area Management Plan

A Programmatic Environmental Impact Statement (EIS) was prepared in 1992 in compliance with the NEPA, PL 91190; Council on Environmental Quality Regulations (40 CFR 1500-1508); Department of Interior Manual 516, “Implementing Procedures”; Bureau of Reclamation, National Environmental Policy Handbook; Floodplain and Wetlands Executive Orders 11988 and 11990; the Fish and Wildlife Coordination Act; the Endangered Species Act; and the National Historic Preservation Act. The EIS addressed the impacts of a number of actions proposed in the Reservoir Area Management Plan for Lake Berryessa, the most notable of which was correcting the lack of day-use public recreation facilities along the western lakeshore. Until the 1970s, development had occurred mainly in resort-operated trailer parks instead of at non-resort day-use facilities, as recommended in the 1959 Public Use Plan. PL 93-493 further attempted to correct this deficiency by mandating the development of day-use facilities at the Oak Shores and Smittle Creek picnic grounds and the Capell Cove boat launch ramp (See RAMP, www.usbr/mp/berryessa/index.html, “Laws and Regulations”).

Lake Berryessa Wildlife Area Management

The Lake Berryessa Wildlife Area is cooperatively managed by Reclamation and the California Department of Fish & Game. In 1995, the two agencies signed a Memorandum of Understanding to formalize a cooperative relationship for the establishment and management of the wildlife area on federal land. (The management area includes the shoreline fluctuation zone and appropriate open water.) The primary purposes of the Memorandum of Understanding are to (1) “restore, enhance, and protect the fish and wildlife resources along the east side of Lake Berryessa,” and (2)

“develop compatible outdoor recreational opportunities for the public.” A 1998 management plan developed jointly by both agencies, details goals, objectives and management actions for the wildlife area. The LBWA Management Plan may be viewed on the Reclamation website www.usbr/mp/berryessa/index.html, “Laws and Regulations”

The federal land on the east side of Lake Berryessa, above the high-water mark (elevation 440 feet msl), totals approximately 2,000 acres. Of this, most of the northern 1/3 is annual grassland (Kie 1988) with scattered valley oaks and riparian corridors, while blue oak woodland (Ritter 1988) communities dominate the middle and southern portions, a gravel road, maintained by Reclamation, serves the northern portion of the wildlife area. The road provides access to east side ranches, residences, and the upper 1/3 of the wildlife area. It also used by Reclamation, California Department of Fish & Game and the California Department of Forestry and Fire Protection for purposes of fire protection, management and administrative services, and by the general public for access to fishing locales and other places of recreational interest within the wildlife area.

Access to the southern portion of the wildlife area is by boat only, from boat ramps on the west and south sides of the lake. Unlike the northern 1/3 of the wildlife area, where extensive shallows occur, the southern portion is composed of hills and canyons that drop precipitously into the lake. There, the blue oak woodlands are relatively dense, with small, scattered openings throughout.

Quail Ridge Reserve Management

Quail Ridge Reserve is managed as an educational and scientific reserve for the study of unique and rare natural ecosystems. Management of the reserve is undertaken by the California Department of Fish & Game, the Napa County Land Trust, the Quail Ridge Wilderness Conservancy, the Bureau of Land Management, the Bureau of Reclamation, and the University of California. The arrangement is formalized under a Memorandum of Understanding dated November 22, 1991 (see Attachment 4).

Blue Ridge/Berryessa Natural Area Conservation Partnership

The Blue Ridge/Berryessa Natural Area Conservation Partnership is a coalition of public resource and land management agencies, non-profit conservation and preservation organizations, and private-sector interests working to conserve more than 500,000 acres of private and public lands located in Napa, Solano, Yolo, Lake, and Colusa Counties.

The Blue Ridge/Berryessa Natural Area includes portions of the Putah and Cache Creek watersheds. It is bounded by Blue Ridge on the east and extends from north of Highway 20 between Williams and Clearlake to just north of Interstate 80 in the south. Straddling the ancient contact between the rocks of the continental and Pacific tectonic plates, the natural area is geologically and ecologically diverse. Its unique assemblage of ecological

communities includes serpentine chaparral in all of its varieties, grasslands, oak woodlands, and extensive riparian and cliff habitats.

A substantial portion of the Blue Ridge/Berryessa Natural Area is currently in public ownership under the management of the Bureau of Land Management, the Bureau of Reclamation, the California Department of Fish & Game, the California Department of Parks and Recreation and the University of California Natural Reserve System. Private landowners have indicated an interest in promoting a regional conservation effort, coupling the use of easements and public acquisitions with state and federal designation to assure permanent, locally controlled, financially independent, enlightened stewardship of the area. Conservation groups such as the American Land Conservancy, the Trust for Public Lands and the Napa County Land Trust also are actively pursuing land conservation projects in the area.

Components of the Action Alternatives

In the section below, each action alternative is examined in light of its potential impacts in two topical areas: Concession Operations and Government Operations. Concession Operations discussions focus on those proposed actions that potentially could affect natural, cultural and recreational resources within the defined resort areas.

The Government Operations discussions examine proposed actions that potentially could affect the natural, cultural and recreational resources outside of each resort but within the reservoir boundary.

Related information is also provided in the sub-chapter 3.7, "Recreation," and sub-chapter 3.9, "Population," "Employment," "Income," and "Concession Services and Facilities."

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Concessions Operations

Under Alternative B, proposed actions affecting the seven existing resorts would include removing long-term private trailers and developing short-term visitor facilities such as RV and camp sites, cabins, retail outlets and picnic sites. Other actions would include expanding the houseboat program, improving lakeshore access, and developing local trails as part of a new reservoir trail network. The Capell Cove launch ramp, currently operated by Reclamation, and Camp Berryessa, a group campground currently used by the Boy Scouts under a special-use permit, would be operated by a concessionaire under a fee system. A boat-in camping program also would be developed.

The following section itemizes specific changes proposed under Alternative B for the individual resorts. For purposes of this discussion, the summary assumes that proposed developments and expansions have been fully completed.

- **Markley Cove** would offer houseboats on a seasonal basis, as well as marina, retail and food services and hiking opportunities. The resort would be classified as Rural Developed under the WROS system.
- **Pleasure Cove** would be managed as a seasonal operation and would offer camping (including lakeshore campsites), a camping center facility, RV sites, marina, and retail and food services. Under the WROS system, the resort would be classified as Rural Developed, and the site originally called “The Outback” would be classified Rural Natural.
- **Steele Park** would offer hotel/motel accommodations, food, camping, RV sites, picnicking, hiking and retail and marina services that include boat storage. Steele Park also would function as the water skiing center for the lake. The resort would operate year-round. The resort proper would be classified under the WROS system as Suburban, while its water ski site at Skier’s Cove would be classified as Rural Natural.
- **Spanish Flat** would operate seasonally, offering rustic, economical cabins, marina, food and retail services, camping, RV sites, hiking, and picnicking. The Spanish Flat concessionaire also would operate the Capell Cove boat launch under a fee system. The resort would be classified as Suburban under the WROS system.
- **Lake Berryessa Marina**, operating year-round, would provide premium amenities at its RV and cabin sites. It also would offer picnicking and hiking opportunities, and marina, retail and food services. Lake Berryessa Marina would be classified as Suburban under WROS system.
- **Rancho Monticello** would offer a wide range of cabins, camp and RV sites, picnicking, and retail, food and marina services (including boat storage). The resort would operate year-round and would be classified as Suburban under the WROS system.
- **Putah Creek** would offer hotel accommodations, picnicking, swimming and hiking opportunities, and minimal marina services. Camping and RV sites would be available year-round. The concessionaire also would operate the Camp Berryessa group campground, offering dining, meeting and educational spaces and canoe/kayak rentals at that locale. Putah Creek Resort would be classified as Suburban and Camp Berryessa would be classified as Rural Developed under the WROS system.

GOVERNMENT OPERATIONS

Under Alternative B, Reclamation would continue to manage the day-use areas at Oak Shores and Smittle Creek, and the Markley dispersed sites

(turnouts), Olive Orchard, North Shore and Pope Creek. An environmental assessment prepared for Pope Creek defines the level of development envisioned for this area.

The existing unimproved turnout at Eticuera would be closed and reseeded with native grasses consistent with surrounding vegetation. A new turnout would be constructed a short distance further north, at mile marker 18 on the Berryessa-Knoxville Road. The turnout would include a graveled parking area capable of accommodating 15 to 20 vehicles, a small vault-type toilet, an information kiosk and a short, gravel trail from the highway to the lakeshore. This proposed upgrade would have no significant impact on the surrounding environment, since a large part of the site locale has long been used unofficially for parking; the short trail to the lakeshore would follow an older road track used when the area was part of a grazing allotment; and the development of a small portion of grassland as part of this proposal would be offset by the rehabilitation of the existing Eticuera turnout.

A turnout at Steele Canyon would be upgraded in much the same manner, with a low-visibility trailhead, graveled parking for 15 to 20 vehicles, a small vault toilet, picnic table, trash receptacle and a graveled trail that would follow a pre-reservoir roadbed to the lake shore. These modest improvements are not anticipated to introduce significant impacts to the environment, as the area has been used for day-use activities for a number of years.

Reclamation also would assist the concessionaire in establishing a no-impact boat-in camping program; limit the use of the Steele Canyon, Olive Orchard, Oak Shores and Eticuera launch ramps to non-motorized watercraft; and classify the area between Oak Shores, Smittle Creek and Small and Big islands as Rural Natural Non-motorized. In addition, Reclamation would develop a new trail system within the reservoir take-line, upgrade the existing Visitor Center, rehabilitate existing shoreline and reservoir access trails and allow boaters to use offshore mooring sites near Pope Creek, south Putah Creek and the eastside shoreline south of the northern Gunn Grazing Easement fence. (These areas are depicted on Figure 7, Map 5). Reclamation also would establish and manage an environmental education day-use area on Government Point, including minimal rustic facilities that enhance the natural outdoor experience.

Reclamation would employ the WROS recreation classification system to guide management of remaining shorelines, islands and the lake surface. Finally, the special-use permits for Skier's Cove and for Camp Berryessa group campground would be discontinued, with those operations reassigned to a concessionaire.

The descriptions of Affected Environment (including Location, Jurisdiction, Mission, Policies, Uses, County Land Classification and Related Plans and Projects) provided in Section 3.1 for the No Action Alternative also apply to

this alternative. However, the 1992 RAMP classification system is not used here in evaluating the Preferred Alternative. Instead, the WROS recreational-use classification system, now in common use by state and federal land managing agencies, is employed.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Concessions Operations

Under Alternative C, proposed actions affecting the seven existing resorts would include the removal of all trailer sites, re-introduction of a limited number of sites in new locations and development of a new infrastructure for long-term trailer use. New camp and RV sites, lodging for short-term users, and expanded access to the lake would be provided in resort areas. However, the total number of additional camping and RV sites would be less than that proposed under Alternative B because trailers would continue to occupy some of the limited space that is appropriate for such developments. Nonetheless, many of the other commercial features described for the resorts under Alternative B would apply to this alternative, as well.

The following section itemizes specific changes proposed under Alternative C for the individual resorts. For purposes of this discussion, the summary assumes that proposed developments and expansions have been fully completed.

- ***Markley Cove*** would offer houseboat rentals on a seasonal basis, in addition to marina, retail and food services and hiking opportunities. The resort would be classified as Rural Developed under the WROS system.
- ***Pleasure Cove*** would offer limited long-term trailer sites, camping (but fewer campsites than provided in Alternative B), RV sites and marina, retail and food services. The resort proper would be classified as Rural Developed, and the site originally called “The Outback” would be classified as Rural Natural under the WROS system.
- ***Steele Park*** would offer hotel/motel accommodations, a limited number of long-term trailer spaces, and food, retail and marina services (including boat storage). Also available there would be camping facilities, RV sites (but fewer than the number proposed under Alternative B) and picnicking, hiking and water skiing opportunities. The resort proper would be classified as Suburban and the water ski site at Skier’s Cove as Rural Natural under the WROS system.
- ***Spanish Flat***, operating seasonally, would offer cabins, a limited number of long-term trailer spaces and marina, food and retail services. The resort would provide a camping center, RV and camp sites (but fewer than the number proposed under Alternative B) and picnicking and

hiking opportunities. The resort would be classified as Suburban under the WROS system.

- **Lake Berryessa Marina** would operate year-round, offering premium RV sites, picnicking and hiking opportunities, cabins and marina, and retail and food services. The resort would be classified as Suburban under the WROS system.
- **Rancho Monticello** would operate year-round, offering cabins, a limited number of long-term trailer sites and camp and RV sites (but fewer than the number proposed under Alternative B). Picnicking, retail and food service and limited marina services also would be available there. The resort would be classified as Suburban under the WROS system.
- **Putah Creek** would offer hotel accommodations, camping, RV and picnic sites, and hiking and swimming opportunities. The resort also would operate the Camp Berryessa group campground from May until September. At Camp Berryessa, the concessionaire would institute a reservation system and offer a group camping center with a small number of RV sites and canoe/kayak rentals. Reclamation would manage the camp from September until May for environmental education and special use groups. The resort proper would be classified as Suburban and Camp Berryessa would be classified as Rural Natural under the WROS system.

GOVERNMENT OPERATIONS

Under Alternative C, Reclamation would continue to manage the day-use areas at Oak Shores and Smittle Creek, and the dispersed sites (turnouts) at Markley, Olive Orchard, North Shore and Pope Creek. The proposed improvements to the old and new turnouts at Eticuera and the turnout at Steele Canyon described in Alternative B would be implemented under Alternative C, as well.

In addition, the launch ramps at Steele Canyon and Oak Shores, which are designated for non-motorized use under Alternative B, under Alternative C would allow for powered watercraft. (However, no trailers are allowed in Oak Shores Park due to inadequate parking for them.) Waters adjacent to those ramps would be zoned for speeds up to 5 mp. The launch ramp at Capell Cove, assigned to a concessionaire under Alternative B, would be managed by Reclamation under Alternative C. Launching facilities at Olive Orchard, Oak Shores and Eticuera would be restricted for non-motorized craft. As in Alternative B, Reclamation would employ the WROS recreational-use classification system, previously described for the resorts, to guide management of shorelines and lake surfaces.

Reclamation also would develop a new trail system within the reservoir take-line, upgrade the Visitor Center, rehabilitate existing shoreline and reservoir access trails and allow boaters to use offshore mooring sites near

Pope Creek, south Putah Creek and the eastside shoreline south of the northern Gunn Grazing Easement fence. These areas are depicted on Figure 7, Map 5.

The special-use permit for Skier's Cove and for the Camp Berryessa group campground would be discontinued, with those operations reassigned to a concessionaire. However, Reclamation would operate Camp Berryessa as an outdoor education center and for special-use groups from September until May. Finally, Reclamation also would establish and manage an environmental education day-use area on Government Point, which would include minimal, rustic facilities that enhance the natural outdoor experience.

The descriptions of Affected Environment (including Location, Jurisdiction, Mission, Policies, Uses, County Land Classification and Related Plans and Projects) provided in Section 3.1 for the No Action Alternative also apply to Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Concessions Operations

Under Alternative D, proposed actions affecting the seven existing resorts would include removing all long-term trailers and then converting two of the seven resorts to direct Reclamation management and operation. Commercial operations would resume at the five remaining facilities. Under this alternative, the variety *but not the number* of visitor accommodations (camp and RV sites, cabins, etc.) described for the various resorts under Alternative B would occur under Alternative D, as well.

The following section itemizes specific changes proposed under Alternative D for the individual resorts. For purposes of this discussion, the summary assumes that the build-outs have been completed.

- ***Markley Cove*** would offer houseboats on a seasonal basis, marina and retail services and hiking opportunities. The resort, which would continue as a concession operation, would be classified as Rural Developed under the WROS system.
- ***Pleasure Cove*** would revert to direct Reclamation management. It would offer camping, RV and picnic sites, a launch ramp and retail and basic food services. The resort would be classified as Rural Developed, and the site originally termed "The Outback" would be classified as Rural Natural under the WROS system.
- ***Steele Park*** would offer hotel/motel accommodations, food, retail and marina services (including boat storage) and camping and RV sites. It also would offer picnicking, hiking and water skiing opportunities. The resort, which would continue as a concession operation, would be

classified as Suburban and the water ski site at Skier's Cove as Rural Natural under the WROS system.

- ***Spanish Flat*** would offer on a seasonal basis, rustic cabins, marina, food and retail services, camping, RV and picnic sites and hiking opportunities. The resort, which would continue as a concession operation, would be classified as Suburban under the WROS system.
- ***Lake Berryessa Marina*** would offer premium amenities at its RV and cabin sites. Also available there would be hiking and picnicking opportunities, along with marina, retail and food services. The resort, which would continue as a concession operation, would be open year-round. It would be classified as Suburban under the WROS system.
- ***Rancho Monticello*** would offer cabins, camping, RV and picnic sites, retail and food service and limited marina services. The resort, which would continue as a concession operation, would be open year-round. It would be classified as Suburban under the WROS system.
- ***Putah Creek*** would revert to direct Reclamation operation. Camping and RV sites, hiking and picnicking opportunities, retail service and a launch ramp would be available for public use there. Swimming and canoe rental opportunities also would be available. The resort would be classified as Suburban under the WROS system.

GOVERNMENT OPERATIONS

Under Alternative D, Reclamation would continue managing the day-use areas at Oak Shores and Smittle Creek, and the dispersed sites (turnouts) at Markley, Olive Orchard, North Shore and Pope Creek. Proposed turnout improvements at Eticuera and the turnout at Steele Canyon, described in Alternative B, also apply to Alternative D.

The launch ramps at Steele Canyon and Oak Shores, designated for non-motorized watercraft under Alternative B, would likewise be limited to non-motorized use under Alternative D. Also, the entrance to Steele Canyon Cove would be restricted to no-motorized use. Boat speeds would be limited to 5 mph boat on Putah Creek upstream from the bridge to Camp Berryessa, to provide a safe swimming area adjacent to the camp.

Under this alternative, Reclamation also proposes to develop a major trail system, and to operate Pleasure Cove and Putah Creek Resorts as described above. Camp Berryessa would be managed by Reclamation year-round as a group camping, meeting and recreation center. The boat launch there would be restricted to non-motorized craft, a no-impact boat-in camping program would be initiated, and a water-sport special-use permit for the area would be cancelled in to provide a more natural setting for that part of the lake.

Lake management would be guided by the WROS recreational-use classification system, as described in the other action alternatives. Also, as

in Alternative B, overnight mooring would be permitted at areas designated near the east shore, and Reclamation would enhance visitor services by upgrading the Visitor Center.

The descriptions of Affected Environment (including Location, Jurisdiction, Mission, Policies, Uses, County Land Classification and Related Plans and Projects) provided in Section 3.1 for the No Action Alternative also apply to Alternative D.

3.1.2 Environmental Consequences and Mitigation

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.1-1: Potential Impact Due To Inconsistency with Reservoir Jurisdiction

The No Action Alternative would be consistent with the continued Concurrent Jurisdiction authority held by the Bureau of Reclamation since the establishment of Lake Berryessa Reservoir in 1948. Implementation of Alternative A would not create an impact in this regard.

The elements of Concurrent Jurisdiction are described in Chapter 3.1 Affected Environment/Existing Setting.

Impact 3.1-2: Potential Impact Due To Inconsistency with the Mission of Reclamation

The No Action Alternative would be consistent with the mission statement for Reclamation (as it is quoted in Chapter 3.1) and with the ongoing management of programs and facilities at Lake Berryessa Reservoir. Implementation of Alternative A would not create an impact in this regard.

Impact 3.1-3: Potential Impact Due To Inconsistency with Reclamation Policies

The No Action Alternative would permit commercial activities at the reservoir to continue under existing conditions, which are in conflict with current Reclamation policy at the reservoir. These activities were permitted under concession agreements that were signed before the current policy was developed, and the agreements remain valid until they expire in 2008-09. Their expiration offers an opportunity to bring concession operations into compliance with existing policy, but such change would not occur under a No Action Alternative. Further, the No Action Alternative would not be consistent with Reclamation policy regarding non-commercial facilities and services the agency provides to the public. That policy emphasizes short-term facilities and services, whereas current emphasis is on long-term, private uses. Therefore, implementation of Alternative A would have significant impacts in this regard.

Impact 3.1-4: Potential Impact Due To Inconsistency with Uses of Reclamation Land (Grazing)

Under the No Action Alternative, Reclamation would continue to permit grazing activities on Reclamation land. That management practice is consistent with approved land use policies for the reservoir. A non-exclusive grazing easement has been granted for that portion of land that lies between contour elevation 440 and the eastern line of Reclamation's acquisition, and between the south boundary of Parcel 4, Unit R-23, and between the south boundary of Parcel 3, Unit R-29. Implementation of Alternative A would not alter, interfere with, or otherwise impact the grazing use of that Reclamation land.

Impact 3.1-5: Potential Impact Due To Inconsistency with Land Classification Categories as Described in the 1992 RAMP

The No Action Alternative represents ongoing management under the guidance of the 1992 RAMP, which designates levels of appropriate visitor uses and/or development at the reservoir. Therefore, implementation of the No Action Alternative by definition would be consistent with the continued use of the land classification categories described in that document. Alternative A would have no impact in this regard.

Impact 3.1-6: Potential Impact Due To Incompatibility with Napa County Land Classification

There are no private lands within the federal take-line that would be subject to Napa County zoning criteria. Therefore, implementation of Alternative A would have no impact in this regard.

Impact 3.1-7: Potential Impact Due To Incompatibility with Related Plans (RAMP)

The No Action Alternative represents ongoing management under the guidance of the 1992 RAMP; therefore, implementation of Alternative A would be compatible with the preferred actions described in that management document. However, several of the actions proposed by the RAMP are not yet fully implemented. These actions include developing trails, rehabilitating facilities for special-needs populations and implementing water surface zoning and use restrictions. A list of completed preferred actions and their relationship to the alternatives is provided in Attachment 5. Progress toward the remaining RAMP proposed actions would continue unless and until a new Preferred Alternative is approved and implemented under the current EIS process. Implementation of Alternative A would continue that progress, and therefore would create no impact in this regard.

Impact 3.1-8: Potential Impact Due To Incompatibility with Related Plans (Lake Berryessa Wildlife Area)

Under the No Action Alternative, the 30-year Memorandum of Agreement signed by Reclamation and California Fish & Game in 1995 would remain

in effect. Alternative A is compatible with the provisions of that Memorandum of Understanding, and implementation of the No Action Alternative would have no impact in this regard.

Impact 3.1-9: Potential Impact Due To Incompatibility with Related Plans (Quail Ridge Reserve)

The Quail Ridge Reserve is cooperatively administered under a Memorandum of Understanding signed by the Bureau of Land Management, California Fish & Game, Napa County Land Trust, University of California, Quail Ridge wilderness Conservancy and Reclamation. This Memorandum would remain in effect under the No Action Alternative. Therefore, the alternative is compatible with the provisions of the Memorandum, and its implementation would have no impact in this regard.

Impact 3.1-10: Potential Impact Due To Incompatibility with Related Plans (Blue Ridge/Berryessa Natural Area Conservation Partnership)

The Blue Ridge/Berryessa Natural Area Conservation Partnership is an alliance of public resource management agencies and non-profit conservation and preservation organizations with private sector interests in ranching, mining and recreation. Member organizations work together toward the conservation of more than 500,000 acres of private and public lands in Napa, Solano, Yolo, Lake, and Colusa Counties. Under the No Action Alternative, Reclamation would continue to support the goals and objectives of the Partnership. Implementation of Alternative A therefore would be compatible with the partnership, and would have no impact in this regard.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.1-11: Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Policies, Uses (Grazing), Land Classification (RAMP) and Napa County Land Use Classifications

With one exception, the potential impacts of the Preferred Alternative (B) on the topics listed above under Impact 3.1-11 would be identical to those described for Impacts 3.1-1 through 3.1-6 for Alternative A, above.

The exception pertains to land classification. Under the No Action Alternative, the land classes described in the 1992 RAMP would continue to be applicable, as that alternative would essentially extend the life of the RAMP. However, under the Preferred Alternative (and under the other action alternatives), Reclamation's more recent WROS recreational-use classification system would be implemented.

The two systems are similar, insofar as concession and government operations are concerned. For example, areas classified as Urban under the WROS system are comparable to the RAMP's Class I – High Density, with both effectively describing resort developments with numerous facilities, infrastructure and public amenities. Areas classified as Suburban or Rural Developed under the WROS system are comparable to the RAMP's Class II - General Outdoor Recreation; and the WROS Rural Natural class is comparable to the RAMP's Class III – Dispersed Recreation category.

Further, if the Preferred Alternative were selected, the WROS system would take effect, and the old 1992 classification system would become defunct. Preferred actions under Alternative B would have to be internally consistent with the WROS recreational-use classification system – which they are; and they are also, in fact, consistent with the 1992 RAMP system.

Impact 3.1-12: Potential Impacts Due to Incompatibility with Related Plans (RAMP)

Implementation of the Concession Operations and the Government Operations components of Alternative B would not conflict with the ongoing requirements of the 1992 ramp until the expiration of concession agreements in 2008-09.

Impact 3.1-13: Cumulative Environmental Impacts To Land Use

Definition of Cumulative and Indirect Impacts

A cumulative impact is defined as the impact on the environment, which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR 1508.7-.25)

An indirect impact is one that may *eventually* result from a direct impact of a particular action, which would cause either beneficial or adverse results. Indirect impacts are generally associated with an intended use of water, and include economic and human population growth inducement, changes in land use (including habitat changes affecting biological resources) and potential industrial development.

Based on the analysis in this VSP/DEIS, information from the 1992 RAMP/EIS and other documents, the proposed implementation of the Commercial and Government Operations components for Alternative B would not result in significant cumulative environmental impacts to the Affected Environment (including Location, Jurisdiction, Mission, Uses (grazing), County Land Classification and Related Plans).

The application of recreation use criteria under WROS recreational-use classification system, as part of the management policy for Lake Berryessa, would be consistent with Preferred Action 17 in the RAMP, which stipulates the adoption of water surface and zoning restrictions.

Implementation of the WROS system would have a beneficial effect, as it provides a means of assessing and regulating public use of the reservoir and thereby provides increased protection to the natural resources.

Also, there is no record of incremental actions in the past or present or envisioned for the near future, taken or to be taken by Reclamation or other authorities, which constitute cumulative impacts to the Land Use topics under this alternative; and no indirect impacts would be anticipated.

Impact 3.1-14: Potential Impacts to Land Use from Irreversible and Irretrievable Commitments of Resources

Definition of Irreversible and Irretrievable Commitment of Resources

Irreversible commitments are decisions affecting renewable natural resources, the implementation of which would cause a resource to deteriorate to a point that renewal could only occur over a long period of time or at great expense, or that would cause the resources to be removed or destroyed (40 CFR 1502.16).

Irretrievable commitments are those decisions that would result in the loss of production or use of natural resources, or that would represent lost opportunities during the time the resource could not be used (40 CFR 1502.16.).

There would be no impacts to Land Use topics due to the irreversible or irretrievable commitment of resources as a result of implementation of Alternative B.

Impact 3.1-15: Potential Impacts to Land Use from Short-term Effects versus Long-term Effects

Definition of Short-term Effects versus Long-term Effects

Reclamation guidelines for the preparation of planning documents under NEPA specify that relationships between short-term uses and long-term productivity be considered (40CFR15002.16).

Short-term effects are those positive or negative effects that may occur as the result of actions in a selected alternative and that may affect the short-term use or productivity of the resources involved.

Long-term effects are those positive or negative effects that may occur as the result of actions in a selected alternative and that may affect the long-term use or productivity of the resources involved.

There would be no short-term effects associated with Alternative B for land use-related topics. Long-term productivity would be enhanced, however, through the continued support for the various agreements with other agencies and owners of the surrounding lands. It is further anticipated that long-term productivity would be positively affected by the implementation of the WROS recreation-use classification system, which would increase

protection of the natural resources and strengthens Reclamation's role in managing overall visitation.

Impact 3.1-16: Unavoidable Adverse Impacts to Land Use

Definition of Unavoidable Adverse Impacts

Unavoidable adverse impacts are those environmental consequences of an action that cannot be avoided, either by changing the nature of the action or through mitigation, and that would adversely affect a resource (40 CFR 1502.16).

There would be no unavoidable adverse impacts to land use associated with Alternative B.

Alternative C: Relocate and Reduce the Numbers of Long-Term Trailer Sites. Expand Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.1-17: Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Policies, Uses (grazing), Land Use Patterns, Land Classification (RAMP), Napa County Land Use Classifications and Related Plans

The descriptions of impacts on the topics under Land Use from the implementation of the Concession and Government Operations components under Alternative C are the same as those provided earlier for the No Action Alternative, with two exceptions. The first exception pertains to land classification. Under the No Action Alternative, the land classes described in the 1992 RAMP would continue to be applicable, as that alternative would essentially extend the life of the RAMP. However, under Alternative C (and under the other action alternative), Reclamation's more recent WROS recreational-use classification system would be implemented, as stated in Alternative B. The second exception is in the application of Reclamation policy. Under Alternative C, the re-introduction of long-term trailers would be in violation of Reclamations' policy regarding exclusive use.

As described under Alternative B, use of the RAMP Land Classification criteria would be comparable to the WROS classification.

Impact 3.1-18: Potential Impacts Due to Incompatibility with Related Plans (RAMP)

Impacts on the Land Use topics that might result from implementation of the Concession Operations and the Government Operations components of Alternative C would be compatible with the preferred actions described in the 1992 RAMP.

Impact 3.1-19: Potential Cumulative Environmental Impacts to Land Use

Impacts on the Land Use topics that might result from implementation of the Concession Operations and the Government Operations components of Alternative C would be compatible with the preferred actions described in the 1992 RAMP.

Implementation of the Commercial Operations and Government Operations components for Alternative C would not create cumulatively significant environmental impacts to the Land Use topics of Location, Jurisdiction, Mission, Uses (grazing), County Land Classification and Related Plans. The adoption of visitor-use criteria under WROS is consistent with Preferred Action 17 in the RAMP. The WROS system is anticipated to have a beneficial effect on land use, as it provide a means of evaluating and regulating public use of the reservoir, thereby providing increased protection to the natural resources.

No indirect impacts to land use would be anticipated under this alternative.

Impact 3.1-20: Impacts to Land Use from Irreversible and Irretrievable Commitments of Resources

No impacts to Land Use topics would be expected to result from irreversible and irretrievable commitment of resources proposed under Alternative C.

Impact 3.1-21: Potential Impacts to Land Use from Short-term Effects versus Long-term Effects

There would be no short-term effects associated with Alternative C for Land Use topics in the Affected Environment. Effects of Alternative C on long-term productivity would be beneficial, arising from the continued support of neighboring landowners for Reclamation management activities. Likewise, the adoption of a recreational-use classification system (WROS) that increases protection of the natural resources and strengthens Reclamation's role in managing overall visitation would be expected to have beneficial long-term effects.

Impact 3.1-22: Unavoidable Adverse Impacts to Land Use

No unavoidable adverse impacts would be associated with the Government Operations and Commercial Operations components of the Land Use topics under Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.1-23: Potential Impacts Due to Inconsistency with Reservoir Jurisdiction, Mission, Policies, Uses (grazing), Land Use Patterns, Land Classification (RAMP), Napa County Land Use Classifications and Related Plans

The implementation of the Concession and Government Operations components of Land Use topics under Alternative D would have the same effects as those described for the Alternatives A, B or C.

The compatibility of the existing RAMP land use system with the new WROS recreational-use classification system is the same for Alternatives B, C, and D.

Impact 3.1-24: Potential Impacts Due to Incompatibility with Related Plans (RAMP)

Implementation of the Commercial Operations and the Government Operations components of Land Use under Alternative D would be compatible with preferred actions described in the 1992 RAMP.

Impact 3.1-25: Cumulative Environmental Impacts to Land Use from Alternative D

There would be no cumulative environmental impacts associated with the Commercial Operations and the Government Operations components of Land Use topics listed under Alternative D

The adoption of visitor-use classes under WROS would have a beneficial cumulative effect, since it provide a means of evaluating and regulating public use of the reservoir, thereby providing increased protection to natural resources.

No indirect impacts to land use would be anticipated under Alternative D.

Impact 3.1-26: Potential Impacts to Land Use from Irreversible and Irretrievable Commitments of Resources

There would be no impacts to the topics under Land Use from irreversible or irretrievable commitments of resources proposed under Alternative D.

Impact 3.1-27: Potential Impacts to Land Use from Short-term Effects versus Long-term Effects

There would be no short-term effects associated with Alternative D under Land Use topics. As stated under Alternative B, long-term productivity would be beneficially affected due to the continued support by neighboring landowners for Reclamation management policies. Likewise, implementation of the WROS recreational-use classification system would increase protection of the natural resources and strengthen Reclamation's role in managing overall visitation.

Impact 3.1-28: Unavoidable Adverse Impacts to Land Use

There would be no unavoidable adverse impacts to land use associated with Alternative D.

3.2 GEOLOGY, TOPOGRAPHY AND SOILS

3.2.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Geology/Topography

Lake Berryessa is located in the northeastern portion of Napa County, among the hilly to steep mountains of the California Coast Range. The eastern shores and both ends of the lake are underlain predominantly by Cretaceous Knoxville sandstone and shale, over which the Bressa, Dibble, Los Gatos, Maymen, Sobrante, and Tehama soils series formed. The western side of the lake is bounded by Jurassic Franciscan sedimentary and associated intrusive rocks, such as serpentine and dolerite. The Montara, Hambright, and Henneke soils developed over those materials.

The coast range between Monticello Dam and the Pacific Ocean is cut by numerous faults. The Wragg Canyon fault is located three miles from Monticello Dam; the Concord-Green Valley and the West Napa Faults are approximately 25-30 miles southwest the dam, and are viewed by the State of California as having a low probability of seismic activity in the foreseeable future.

See websites <http://neic.usgs.gov/neis/states/california/hazards.html>, and <http://geohazards.cr.usgs.gov/eq> for maps of seismic activity in this area of central to western California.

Soils

There are 11 soil types and complexes identified by the USDA Natural Resource Conservation Service (formerly, the Soil Conservation Service) along the shores of Lake Berryessa. These include Bressa-Dibble soils, Contra Costa loam, Hambright-Rock Outcrop complex, Los Gatos loam, and Tehama silt loam found on old alluvial fans, terraces and on upland plateaus, Bressa-Dibble soils, Los Gatos loam, Montara clay loam, and Sobrante loam found on upland foot slopes, side slopes, and ridge tops; and Bressa-Dibble soils, the Hambright-Rock Outcrop complex, Henneke gravely loam, Los Gatos loam, Millsholm loam, and Montara clay loam, situated on upland plateaus, ridge tops, side slopes, and foot slopes.

A more detailed description of soils and their distribution is provided in Figure D-1 of the 1992 RAMP.

The Affected Environment topics of Geology, Topography and Soil described for the No Action Alternative A also apply to Alternatives B, C and D.

3.2.2 Environmental Consequences and Mitigation

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.2-1: Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill

There is no evidence for potential impacts to any development at Lake Berryessa resulting from geologic, soil or seismic instability, or changes in topography, erosion and soil movements from excavation, grading or fill. An assessment by the State of California found the potential for seismic activity in the general area of the reservoir to be very low. (see websites referenced above).

Impact 3.2-2: Potential Impacts Due to Land Subsidence or Unstable Soil Conditions

The developments along the western shore are situated mainly on a soil type described as the Bressa-Dibble Complex, with Henneke Gravelly Loam and the Los Gatos Loam soils present to a lesser extent. Although the Bressa-Dibble Complex is considered unstable when slopes are greater than 30 %, there have been no past incidents of subsidence or unstable conditions reported for soils underlying the resorts or other major use areas, with the exception of Capell Cove launch ramp.

The Millsholm Loam underlies the north bank of Capell Creek, near its mouth. The erosion hazard for this type of soil is considered high and the slope above the Capell Cove launch ramp at one time did fail. An engineering report prepared in 1995 indicated that the parking and ramp facilities were built on an old landslide composed of clay and rock material. Subsequent rainy seasons and high reservoir levels allowed water to reach and saturate these materials, reducing their sheer strength, and this condition together with the erosion of the toe of the slope and additional moisture caused to present slope to fail. The hill structure, which encompasses approximately 42,000 cubic yards of material, continues to move slowly towards the lake. The parking lot has been repaired and another engineering study to consider more permanent repairs is scheduled for 2004. This is an on-going condition and not seen as a significant impact.

The engineering report prepared in 1995 can be seen in Attachment 6. No other unstable soil conditions have been identified for this alternative.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.2-3: Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill

As stated in Alternative A, there is no record of seismic instability having affected any structures at Lake Berryessa and the state of California rates the likelihood of seismic activity occurring in the area as very low.

Under Alternative B, in the absence of design and construction plans for the Concession Operations component, it is assumed that new development at each resort would include the eventual removal and/or rehabilitation and construction of various structures and supporting infrastructure, as necessary. This development is anticipated to include both the excavation and relocation of earth materials with an unknown amount of cut and fill expected to occur at each resort site, depending on individual design requirements. There would be a potential for erosion to occur during these activities. However, with the use of best management practices, the potential effects from development related erosion would be considered minor. Corrective measures would include adhering to all design and construction criteria to insure a separation of construction areas from adjacent sources of water.

Construction of resort facilities would adhere to Title 24 of the 2001 California Code of Regulations, which includes requirements to minimize the potential for soil erosion during construction. Measures would include procedures to separate construction areas from water sources and in the case of Rancho Monticello, insure that the wetlands site adjacent to the sewage treatment plant is protected according to provisions of Section 404 of the Clean Water Act.

Other procedures would include the stockpiling and covering of soils in suitable locations to prevent erosion, and covering or treating disturbed soils (including use of temporary rooted vegetation) to reduce erosion by wind or rain. Rip-rap or other appropriate measures incorporated into project design would reduce erosion impacts to any nearby streams and to the lake. Because these measures would be incorporated into all construction related elements of this alternative, effects are anticipated to be minor.

There are no major changes envisioned for the facilities at Camp Berryessa, a group campground to be managed by the Putah Creek Resort or for Capell Cove Launch Ramp, a Reclamation facility proposed for management by the Spanish Flat Resort, other than modifications required to meeting accessibility standards. Consequently, it is not anticipated that either of these facilities would be affected by erosion from soil movement due to evacuation, grading or fill. The implementation of the Government Operations component, under Alternative B, calls for the development of a trail system and the reclassification of use levels for the reservoir, under WROS criteria. This reclassification would apply to 25 islands, areas along the shoreline as well as the lake surface itself. Reclamation would also

continue to manage the day use areas at Oak Shores and Smittle Creek, and the dispersed sites (turnouts) at Markley, Olive Orchard, North shore and Pope Creek. As described earlier, the existing unimproved turnout at Eitcuera would be closed and reseeded with native grasses consistent with surrounding vegetation and would be replaced with a turnout a short distance further north at mile marker 18 on the Berryessa/Knoxville Road. This site would include graveled parking for 15-20 vehicles, a small vault-type toilet, an information kiosk and a short pedestrian gravel trail to the nearby reservoir. This proposed upgrade would create less than a significant impact to the surrounding environment since a large part of the site has already been used for unofficial parking, the short trail to the lakeshore would follow an older road track used when the area was part of a grazing allotment and the use of a small portion of grassland as part of this proposal would be offset by the rehabilitation of the existing Eitcuera turnout.

A turnout at Steele Park would be upgraded much the same way as Eitcuera with a low visibility trailhead, graveled parking for 15-20 vehicles, a portable toilet, picnic table, trash receptacle and a graveled trail that would follow a pre-reservoir roadbed to the lakeshore. These modest improvements are not anticipated to create significant impacts to the environment since the areas has already been used for day-use activities for a number of years. Any cut of fill activities at these two turnouts would be minimal if occurring at all since the terrain is flat and already suitable for parking.

There are no plans for any development of the remaining sites under WROS and no adverse effects are anticipated.

The design and construction of new trails by Reclamation would also adhere to the same applicable state design and construction codes used at the resorts as well as the Department of Interior, Bureau of Reclamation "Recreation Facility Design Guidelines" (See Attachment 7).

The 1992 RAMP estimates that the construction of a trail measuring 3 feet wide by 50 miles long may affect from 10 to 18 acres of surface material including vegetation, but if well planned and aligned in an environmentally sensitive manner, a new trail would have a beneficial effect by directing previously indiscriminate uses to the improved system. Although the trail system proposed under this alternative has not yet been designed, it is anticipated that its extent may be at least twice the size of a trail network envisioned under Preferred Action 7, in the RAMP. However, the development of a reservoir-wide trail system, that adopts the erosion abatement and soil conservation criteria proposed for the resorts and utilizes the numerous existing roads and trails and other informal routes that have been created over the years, would likely create only a minor impact to the resources. However, further environmental analysis may be necessary once the final routes have been determined.

Impact 3.2-4: Potential Impact Due to Land Subsidence or Unstable

Soil Conditions

As noted under the No Action Alternative, the predominant soil types along the western shore are the Bressa-Dibble Complex, the Henneke Gravelly Loam and the Los Gatos Loam. The majority of development along the western shore occurs on the Bressa-Dibble Complex, which becomes unstable when slopes exceed 30%. There have been no reports of unstable soil conditions or land subsidence. Nevertheless, implementation of the Concession Operations component of Alternative B would be accomplished in accordance with design and construction standards that include all applicable codes regarding the presence and use of unstable soils located within the resorts. Earth materials would be compacted according to approved design and construction specifications. Potential effects under these specifications would be minor.

Under the Government Operations component, with the exception of conditions noted at the Capell Cove launch ramp, the potential effects described for “Land Subsidence or Unstable Soil Conditions” under the No Action Alternative also are applicable to this alternative, as well.

Impact 3.2-5: Cumulative Environment Impacts Due to Geology, Topography and Soils

The description of the analysis of cumulative impacts for Alternatives B, C and D provided in Chapter 3.1 apply to this alternative, as well.

The proposals in the Concession Operations component of the plan are the first significant developments envisioned for the resorts since their construction in 1958. This is, therefore, the first time that potential impacts due to geology, topography or soils have been evaluated for environmental compliance purposes. The proposal under the Government Operations component of Alternative B would add to the existing facilities developed by Reclamation, the most recent of which were the day-use areas at Oak Shores, Smittle Creek and the Capell Cove Launch Ramp.

There is no record of past actions that have resulted in cumulative impacts due to geology, topography, or soils; and no such actions are planned. No cumulative or indirect impacts would occur in this regard if Alternative B were implemented.

Impact 3.2-6: Potential Impacts Due to Geology, Topography and Soils from Irreversible and Irrecoverable Commitments of Resources

Under Alternative B, there would be an impact to soils resulting from an irreversible and irretrievable commitment of resources for the Concession Operations component. This would result from the likely displacement and/or removal of an unknown quantity of soil within the resorts during the construction of new facilities. In addition, some resort land would be temporarily unusable by the public during the construction period.

However, the mitigating measures described under Impact Statement 3.2 above would reduce those impacts to less than significant.

Another impact due to geology, topography and soils from irreversible and irretrievable commitments of resources would result from development of the trail system proposed under Alternative B. The completed new trail system could extend over 150 miles and affect up to three times the 10-18 acres of surface material predicted for the 50-mile trail proposed in the RAMP. If construction were similar to that described in the RAMP, an unknown quantity of soils within the project corridor would be displaced or removed, and portions of reservoir land would be unavailable to visitors during the course of trail construction. The impacts would be minor to moderate, assuming that erosion control and landscaping measures (as described above) are employed, and that route alignment would follow advantage of existing roads and trails wherever possible.

No other significant developments are proposed under this alternative, other than the accessibility alterations cited earlier, and no irreversible or irretrievable commitment of resources for these other areas would occur under Alternative B.

Impact 3.2-7: Potential Impacts Due to Geology, Topography and Soils from Short-term Effects versus Long-term Effects

There are no potential impacts from short-term effects associated with geology or topography under Alternative B; however, there would be impacts to soils from the irretrievable commitment of resources, as described in Impact 3.2-6 above. Development activities at the resorts and along the trail corridor would temporarily prevent public access to those project areas. Long-term uses or productivity, however, would be positively affected, as the completed, modern commercial and Reclamation facilities (trails) would be environmentally sited and designed to be compatible with their natural surroundings. Finally, the adoption of WROS, as noted earlier, would enhance Reclamation's ability to protect the natural resources and manage overall visitation.

Impact 3.2-8: Unavoidable Adverse Impacts Due to Geology, Topography and Soils

There would be no unavoidable adverse impacts associated with this alternative.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.2-9: Potential Impacts Due to Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill

The potential effects relating to seismic instability, changes in topography, erosion, soil movement from excavation, grading and fill for the Concession Operations component described under Alternative B apply to Alternative

C, as well.

Under Government Operations, the development, potential impacts and mitigating measures described for a new shoreline trail system under Alternative B also apply to this alternative. However, as in Alternative B, further environmental analysis may be necessary once the final alignment has been determined.

No significant developments are proposed that would affect the topography or the movement or erosion of soils for the areas reclassified under WROS.

Impact 3.2-10: Potential Impacts Due to Land Subsidence or Unstable Soil Conditions

The potential effects relating to land subsidence or unstable soil conditions for the Concession Operations component described for Alternative B apply to this alternative, as well.

With the exception of the unstable soil conditions at the Capell Cove launch ramp, the Government Operations components described under Alternative B also apply to Alternative C. These include the development of a reservoir-wide trail network and the upgrade of two parking/trailheads to the reservoir at Eticuera and Steele Canyon.

Impact 3.2-11: Cumulative Environmental Impacts to Geology, Topography and Soils

The description of cumulative environmental impacts under Alternative B for the Concession and Government Operations component applies to Alternative C, as well. Under Alternative C, no cumulative impacts to geology, topography or soils and no indirect impacts would occur.

Impact 3.2-12: Potential Impacts to Geology, Topography and Soils from Irreversible and Irrecoverable Commitments of Resources

Under Alternative C, an impact to soils resulting from an irreversible and irretrievable commitment of resources for the Concession Operations component would occur as described for Alternative B. This would arise from the likely displacement and/or removal of an unknown quantity of soil within the resorts during the construction of new facilities. In addition, some resort land would be unusable by the public during the construction period. However, the mitigating measures described under Impact Statement 3.2 above would reduce those impacts to less than significant.

Another impact due to geology, topography and soils from irreversible and irretrievable commitments of resources would result from development of the trail system, as described for Alternative B.

The impacts would be minor, assuming that erosion control and landscaping measures (as described above) are employed, and that route alignment would follow advantage of existing roads and trails wherever possible.

No other significant developments are proposed under Alternative C, other than the accessibility alterations cited earlier, and no irreversible or irretrievable commitment of resources for these other areas would occur under this alternative.

Impact 3.2-13: Potential Impacts to Geology, Topography and Soils from Short-term Effects versus Long-term Effects

There would be no impacts from short-term uses associated with the Affected Environment topics of Geology and Topography. However, the Alternative B description of short-term impacts due to disturbance of soils is applicable for Alternative C, as well. Likewise, the Alternative B description of short-term uses versus long-term uses or productivity for the remainder of proposals also applies to Alternative C.

Impact 3.2-14: Unavoidable Adverse Impacts to Geology, Topography and Soils

There would be no unavoidable adverse impacts to geology, topography and soils associated with Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.2-15: Potential Impacts of Seismic Instability, Changes in Topography, Erosion and Soil Movement from Excavation, Grading or Fill

Potential effects relating to seismic instability, changes in topography, erosion and soil movement resulting from excavation, grading and fill for described for concession and government operations-related proposals under Alternative B also apply to Alternative D. Under Alternative D, however, Reclamation (instead of concessionaires) would manage the group campground at Camp Berryessa, the launch ramp at Capell Cove and the Pleasure Cove and Putah Creek Resorts. Design and construction criteria described for the commercial resorts also would apply to these government facilities.

Other than the modest upgrade of the trailhead/parking areas at Eticuera and Steele Canyon, Alternative D proposes no development of the remaining sites reclassified under WROS.

No significant impacts under this topic would result from implementation of Alternative D.

Impact 3.2-16: Potential Impacts Involving Land Subsidence or Unstable Soil Conditions

The potential impacts involving land subsidence or unstable soil conditions for the Concession and Reclamation Operations components described under Alternative B apply to Alternative D, as well.

Impact 3.2-17: Cumulative Environmental Impacts to Geology, Topography and Soils

The description of cumulative environmental impacts described for the Concession and Government Operations component of Alternative B applies to Alternative D, as well. As in Alternative B, no cumulative impacts would be associated with geology, topography or soils; and there would be no indirect impacts under Alternative D.

Impact 3.2-18: Potential Impacts to Geology, Topography and Soils from Irreversible and Irrecoverable Commitments of Resources

The impacts from irreversible and irretrievable commitments of resources described under the Concession Operations component for Alternative B apply to Alternative D, as well.

Under Alternative D, the description of impacts under Government Operations would parallel those described for Alternative B, except that Reclamation would operate two resorts and the group campground. Finally, speed restrictions would be imposed near Camp Berryessa in addition to those previously noted for Steele Canyon Cove.

Impact 3.2-19: Potential Impacts to Geology, Topography and Soils from Short-term Effects versus Long-term Effects

The short-term impacts to soils described for Alternative B would be the same for Alternative D.

Impact 3.2-20: Unavoidable Adverse Impacts to Geology, Topography and Soils

There would be no unavoidable adverse impacts to geology, topography or soils associated with implementation of Alternative D.

3.3 BIOLOGICAL RESOURCES

Descriptions of and evaluations of impacts to biological resources at Lake Berryessa were derived from existing data. Information regarding the reservoir's flora and fauna, threatened, rare and endangered species, wetlands and aquatic resources, and water and air quality was provided in part by the Bureau of Reclamation and the U.S. Fish & Wildlife Service, both of the Department of the Interior; the National Resources Conservation Service of the Department of Agriculture; and the State of California and the Napa County Resource District.

Data specific to Lake Berryessa resources was also drawn from the 1992 RAMP/EIS. The RAMP/ EIS provides programmatic direction for the development of specific plans for the reservoir. A number of these plans were identified for possible future environmental analysis. Under NEPA and the Council on Environmental Quality, this sequence of future analysis is termed "tiering." Tiering occurs when specific actions may not be implemented for a number of years, but where general direction and guidance is needed in the interim. The VSP/DEIS also identifies certain

actions to be considered for future analysis, since they would not occur until after the resort permits expire in 2008-09.

3.3.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Threatened, Endangered and Rare Species

Special-status species are those that are:

- Listed or proposed for listing as endangered or threatened by United States Fish and Wildlife Service (USFWS) and/or the California Department of Fish & Game (CDFG);
- Candidates for listing by USFWS;
- Considered endangered, threatened or rare (Lists 1-4) by the California Native Plant Society (CNPS) (plants only); and
- Species of special concern or special interest to the CDFG.

Federal and state endangered species legislation gives special status to several species that *may* occur in one or more of the areas depicted in the U.S. Geological Survey 7 ½ minute quadrangles encompassing Lake Berryessa and its tributaries. These quadrangles are Capell Valley, CA, Lake Berryessa, CA, Monticello Dam, CA, Chiles Valley, CA, Brooks, CA, Aetna Springs, CA and Walter Springs, CA.

Raptors such as the bald eagle and peregrine falcon inhabit the area, as noted under “Birds, Common and Protected.” In addition, elderberry bushes (*Sambucus mexicana*), which supply habitat for the federally threatened valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), occur throughout the Lake Berryessa area.

No other special-status species are currently known to be in the project area. The USFWS, however, has identified listed species that may be present within the Lake Berryessa USGS quadrangle. (For the species list, see the Sacramento USFWS website at http://sacramento.fws.gov/es/spp_lists/Quadname_Detail.cfm?ID=515C).

Mammals

Mammals present in and near the Lake Berryessa area include black-tailed deer, mountain lion (*Felis concolor*), which is a specially protected mammal under the State Fish and Game code, Section 4800; coyote, black bear, bobcat, gray fox, raccoon, striped skunk, jackrabbit, California ground squirrel and various other small animals. A complete list of wildlife species is provided in Appendix F of the RAMP.

Birds (Common and Protected Species)

More than 80 species of birds are found in the Lake Berryessa area. These include the turkey vulture, great horned owl, belted kingfisher, bald eagle, Cooper's hawk, golden eagle, Aleutian Canada goose, mallard, California quail and wild turkey. (A complete listing is found in the RAMP, Appendix F) All but three species of wild birds are protected in the United States under federal and/or state law. Pursuant to the federal Migratory Bird Treaty Act of 1918 (MBTA), it is illegal to "take" any migratory bird without a federal permit, excluding only three non-native species: the English (house) sparrow, starling, and rock dove (pigeon). The federal MBTA (16 USC 703, Supp. 11989) prohibits killing, possessing or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Protections provided by this Act encompass whole birds, parts of birds, and bird nests and eggs.

Raptors, or birds of prey (e.g., eagles, hawks, and owls), and their nests are protected under both federal and state laws and regulations. The California Fish & Game Code Section 3503.5 states that it is illegal to take, possess or destroy any birds in the orders Falconiforms or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." In addition, bald and golden eagles receive protection under the federal Bald and Golden Eagle Protection Act of 1948.

At Lake Berryessa, the peregrine falcon, no longer federally listed as a threatened species, is resident in the area. Golden eagles and Aleutian Canada geese winter on and near the lake. Waterfowl and fish attract eagles, and open water and sprouting grasses provide habitat for the geese. The northern spotted owl and western snowy plover are listed as threatened, but neither species has been observed at the lake. The bald eagle, also listed, has been observed in the immediate vicinity of the reservoir, and two active nests have been observed on the western side of the lake. The greater sand hill crane, a migrant species, and the white-tailed kite, a year-round resident, are both on the state's fully protected list.

Fish

The California Department of Fish & Game (DFG) introduced largemouth bass, smallmouth bass and red-eared sunfish to Lake Berryessa in 1957. Largemouth bass was intended to be the reservoir's principal game fish, supported by red-eared sunfish as its primary food source. Eventually, cold-water species, including kokanee salmon, silver salmon, brown trout, and rainbow trout, were introduced. Threadfin shad were then introduced as the primary forage fish. During this same period, channel catfish, white crappie, and black crappie were introduced to the lake to increase the warm-water fisheries.

In addition to emphasizing warm-water fish, the DFG began a trophy trout program by stocking additional rainbow trout, brown trout and silver salmon in the lake. The only type of trout presently being planted in the lake

is the rainbow. However, in February 2001, the DFG made the first planting of Chinook salmon, an activity that has continued into 2003. In March 2002, the first planting of kokanee salmon also occurred.

There are no threatened, endangered or protected fish species reported in Lake Berryessa reservoir or its headwaters. A more detailed discussion of the management of fish can be found in the 1992 RAMP, "E. Fish Resources," page 42. A complete list of fish occurring in Lake Berryessa is found in the 1992 RAMP, Appendix H.

Amphibians and Reptiles

The western pond turtle, the western rattlesnake and the western fence lizard are but a few of the species found in the Lake Berryessa area.

The giant garter snake and the California red-legged frog both are listed as threatened species, but none have been reported in the study area. Further, the shoreline and streams that are within the boundaries of the lake's high-use areas (marina/resorts) do not contain habitat considered essential to the survival of the red-legged frog. Although 4.1 million acres, including those of Lake Berryessa, were previously declared critical habitat for the red-legged frog by the Department of the Interior, this designation was vacated by the District of Columbia Federal District Court on November 6, 2002. The complete Memorandum Order can be found in Attachment 8.

Vegetation

The rolling hills surrounding most of the lake are vegetated with oak, chaparral, and gray pine. North-facing slopes are generally about 90 % covered with black oak, scrub oak and chaparral. South-facing slopes are approximately 60 % covered with more temperature-resistant shrubs such as ceanothus, toyon, chamise, coyote brush, manzanita and poison oak. Forbs and grasses (fescue, wild oats, soft chess, mountain brome, and foxtails) compose much of the understory.

Six major habitat types that occur in the Lake Berryessa area are Blue Oak Woodland, Valley Oak Woodland, California Mixed Chaparral, Chamise Chaparral, Cismontane Introduced Grassland, and Mixed Northern Riparian Woodland.

Blue Oak Woodland is the dominant habitat type surrounding the lake. It occurs both as thick stands along the west and south shores and as open forests along the east shore, throughout the valleys and on lower slopes of the surrounding hillsides. At Lake Berryessa, Blue Oak Woodland occurs with Cismontane Valley Grassland and inter-grades with Valley Oak Woodland and the chaparral habitat types.

Valley Oak Woodland is found on soils that retain more moisture than those that support the Blue Oak Woodland. Typically, this habitat type occurs in the valley bottoms and along intermittent stream banks. California Mixed Chaparral covers many of the south-facing slopes and the higher ridges. It is often found adjacent to oak woodland and grassland habitats. At Lake

Berryessa it is commonly associated with steep rock outcrops.

Chamise chaparral is found on the most shallow and dry soils, exclusively on south-facing slopes. It is a homogeneous habitat consisting almost entirely of chamise, with some manzanita and buckbrush.

Cismontane Introduced Grassland covers nearly all of the northeastern shore. Historically, this area was probably oak woodland, but past brush clearing and livestock grazing have converted it to a grassland with a few remnant oaks. As in many parts of the region that have received the same treatment, regeneration of oak is not evident.

Mixed Northern Riparian Woodland usually occurs in a narrow band along the stream banks. The transition to adjacent oak woodland is usually abrupt. Riparian habitat makes up a small percentage of the total vegetation in the area. A list of trees, shrubs, grasses, forbs and ferns occurring in the Lake Berryessa area can be found in the RAMP, Appendix E.

Floodplains

Resort facilities and other long-term sites are located within the reservoir floodplain below the maximum lake level of 455 foot MSL. Flooding of these facilities and long-term sites has occurred, and these developments continue to be subject to flooding. Equipment and hazardous chemicals such as oils, gasoline and pesticides, when stored in the reservoir floodplain, continue to pose a threat to the lake's water quality

Wetlands

Wetlands are a subset of a much broader category, waters of the United States, which include regulated water bodies such as wetlands, and non-wetland habitats such as streams, rivers, lakes, ponds and oceans. Waters of the United States provide valuable habitat for a large number of wildlife species, and they are a sensitive resource. Waters of the United States are subject to regulations and are within the jurisdiction of state and federal agencies under the Clean Water Act (CWA).

The U.S. Army Corps of engineers (Corps) and the U.S. Environmental Protection Agency define a wetland as an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions. To fall under the Corps' jurisdiction, a wetland needs to meet specific criteria as defined in the Corps Wetland Delineation Manual.

Under Section 404, the Corps of Engineers, Department of Defense regulates the dredging and discharge of fill materials into waters of the United States. These waters include: intrastate lakes, rivers, streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs,

prairie potholes, wet meadows, playa lakes or natural ponds and wetlands adjacent to any waters of the United States (CFR 33 Part 328).

At Lake Berryessa, two sites have been identified as meeting the criteria for wetlands under Section 404 of the Clean Water Act. The first of these, located within the land assignment for Rancho Monticello Resort, measures 0.206 acres and is situated below and 200 feet to the east of the Rancho Monticello Resort sewage treatment plant. The second wetland, the Olive Orchard Wetland, which was created by impounding Sugarloaf Creek behind the Knoxville Road, was constructed by Reclamation and Ducks Unlimited to create a seasonal wetland for waterfowl. It is approximately 5 acres in size. Cattails and Pacific willows are the dominant types of wetland vegetation found at the Rancho Monticello site. Pacific willow, cottonwood, elderberry and tule grass were planted at the Orchard Wetland site with the completion of the project in 2001. An Environmental Assessment was prepared prior to the start of the Olive Orchard Wetland project and is provided in Attachment 9.

There are no other areas within the Lake Berryessa boundary that have been identified as wetlands.

Water Resources

The water supply for Lake Berryessa is provided by the 568-square-mile drainage basin above the dam. The elevation of the basin ranges from 182 feet at the base of the dam to 4,722 feet at the upper end of Putah Creek, with most of the basin lying below 1,500 feet. There are four principal creeks that flow into Lake Berryessa: Capell Creek, Pope Creek, Eticuera Creek, and Putah Creek — the main drainage of the basin. The mild climate of the basin has only two noticeable seasons: a warm, dry season from May through October and a cool, wet season from November through April. Most of the precipitation occurs as rain during the cool, wet season, with only minor amounts of snow falling on the upper portions of the basin.

Lake Berryessa has a storage capacity of 1,600,000 acre-feet (AF) at an elevation of 440 feet MSL. The average annual inflow to the reservoir is 369,000 AF and the annual firm yield is 201,000 AF. An additional release of 22,000 AF is required annually to meet prior downstream water rights along Putah Creek. An upstream reservation of 33,000 AF was established by the State Water Resources Control Board to provide water for future development of the area above Monticello Dam. Reclamation has appropriated 7,500 AF of the 33,000 AF to provide for future development around the reservoir. The reservoir water level may fluctuate from a maximum of 455 feet to a minimum elevation of 253 feet MSL. A water level of 309 feet MSL is considered dead storage elevation.

Water Quality

Oversight of the water quality of Lake Berryessa is provided jointly by Reclamation and the California Department of Health Services.

Reclamation collects monthly samples at Lake Berryessa for analysis of fecal coliform bacteria. Reclamation also tests water samples taken quarterly from Putah Creek below the dam to determine the presence of biological agents such as *Giardia* and *Cryptosporidium*, inorganic materials such as chloride, fluoride and sulfate, and a variety of minerals including mercury, arsenic, barium and zinc. The California Department of Health Services tests for many of the elements monitored by Reclamation, but takes its samples in the vicinity of the resorts. A recent report prepared by Reclamation indicates that the presence of MTBE, a by-product of gasoline used by motorized watercraft, has essentially disappeared from samples taken at various test sites on the reservoir since the chemical was banned from gasoline in 2001. In summary, water quality from all the sources currently meets the standards for drinking water supplies as specified under Title 22 of the State of California.

A sample of the results of Reclamation and Napa County tests for a variety of sites and selected periods between 1997 and 2002 can be seen in Attachment 10.

The Lake Berryessa area is considered a part of the San Francisco Bay Area Air Basin. This basin encompasses nine counties, including Napa County. The unifying feature of this monitoring area is the bay, which is oriented north to south and covers about 400 square miles within a total area of 5,545 square miles. Air quality in the San Francisco Bay Area Air Basin is considered better than in other areas of the South Coast Air Basin and this is due, in part, to a more favorable climate, with cooler temperatures and better ventilation. With about 20 % of California's population residing in the San Francisco Bay Area, pollution sources in the region account for about 16 % of the total statewide criteria pollutant emissions.

There are no large sources of industrial pollution near Lake Berryessa; therefore, visibility from point to point within the major drainage basin is good and air quality in the area is seen as essentially the same as, if not better than, air in the more southern portions of the Bay Area Air Basin. This observation, however, is not supported by empirical data, since there are no air-monitoring stations located within the Lake Berryessa/Putah Creek air shed. The closest station is located at Vacaville, CA, approximately 20 miles to the southeast. A more detailed assessment of the air quality found in the Bay Area Basin may be viewed at the website www.arb.ca.gov/aqd/almanac/almanac02/almanac02.htm.

The Affected Environment topics of Wildlife, Birds, Threatened, Endangered and Rare Species, Fish, Amphibians and Reptiles, Vegetation, Floodplains, Wetlands, Water Resources, Water and Air Quality described for the No Action Alternative A, also apply to Alternatives B, C and D.

3.3.2 Environmental Consequences and Mitigation

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.3-1: Potential Impact to Threatened, Endangered or Rare Species

Under the No Action Alternative, Reclamation, the U.S. Fish & Wildlife Service and California Fish & Game would continue their oversight and protection of special-status species at the lake. The two known active bald eagle nests are located at least two miles from any developed areas. Reclamation would continue to monitor the nests to insure adequate protection, especially during the breeding and nesting seasons. Other raptors, such as peregrine falcons, are somewhat more common. Their nesting sites, though not as closely monitored, are not found within the developed areas. The white-tailed kite is another year-round resident, and the greater sand hill crane is a migrant species. Both are on the state's threatened list. To date, human disturbance of any of the protected species has not been observed.

Threatened, endangered or rare examples of other species of birds, amphibians, reptiles and plants have not been documented within the project boundary. The valley elderberry longhorn beetle, which is federally listed as threatened, could potentially exist in elderberry shrubs growing in and near the project area. To date, however, the presence of the beetle there has not been documented. It should be noted that, in addition to the elderberry shrubs growing at Smittle Creek near the entrance to Lake Berryessa Marina, elderberry shrubs are quite common and occur throughout the Lake Berryessa area.

The critical habitat designation for the red-legged frog, which included land around the reservoir, was rescinded by the Department of Interior in 2002. This species has not been found at the lake.

Impact 3.3-2: Potential Impact to Mammals

Implementation of the No Action Alternative, which is a continuation of existing conditions, would not impact resident wildlife populations within the project boundary. Larger mammals such as mountain lion, black bear and bobcat, although not commonly found in the high-use areas in and near the resorts, occasionally are seen in lands bordering the reservoir. The presence of deer and smaller animals such as coyotes, raccoons and striped skunks, however, are more frequent, and would continue to be observed in the developed areas as well as more remote locations around the lake. The

immediate protection and management of these various animals would remain the responsibility of California Fish & Game and Reclamation.

Impact 3.3-3: Potential Impact to Birds (Common and Protected Species)

Implementation of the No Action Alternative would continue the existing conditions that support a diverse and viable bird population and protect those special-status species listed by the U.S. Fish and Wildlife and California Fish & Game. Active bald eagle nests have been mapped and are monitored to insure appropriate protection, as are other special-status species observed at the lake. Under this alternative, protection strategies currently in place would continue to be used, and there are no actions proposed by Reclamation, state, county or other authorities that are anticipated to impact the various common and protected species of Lake Berryessa.

Impact 3.3-4: Potential Impact to Fish Populations

The No Action Alternative would have no significant impact on the various species of fish that inhabit the lake. Stocking programs, which include periodic monitoring of game and other fish populations, would continue to be conducted by the California Fish & Game. Creel census occurs several times each month, and other than a systemic but non-threatening infestation of rainbow trout by the anchor worm and higher than normal concentrations of mercury occurring in various species, fish populations appear to be healthy.

Impact 3.3-5: Potential Impact to Amphibians and Reptiles

As stated previously, there are no surveys of amphibian and reptile populations residing within or frequenting the shallows, shoreline and areas up to the take-line of the lake. Though these environs are accessible to visitors, there is no evidence of adverse affects on these species and therefore no significant impact would be anticipated under this alternative.

Impact 3.3-6: Potential Impact to Vegetation

Vegetative cover has become well established, particularly after the cessation of grazing on sections of the land surrounding the lake. Black and scrub oak dominate north-facing slopes, coyote brush, manzanita and chamise cover sizable areas of south-facing slopes, and fescue, wild oats and foxtails compose much of the understory. This same mix of vegetation is also found on the lake's various islands. Class I and II areas both exhibit more cultivated landscapes, whereas the remaining class-types host a natural and unmanaged vegetative cover. This alternative would have no significant impact on Lake Berryessa vegetation.

Impact 3.3-7: Potential Impact to Floodplain

Under the No Action Alternative, incidents of flooding and subsequent adverse affects to the floodplain will continue when the reservoir level rises above 440 feet, flooding those resort buildings remaining in the water influence zone. Impacts occur when equipment and hazardous chemicals such as petroleum products and pesticides are inundated while stored in these lower structures. The potential for impacts has been alleviated to some degree with the removal of approximately 200 trailers from areas termed “dry sites,” which are located in two resorts. These are trailer sites with no sewage and water hookups. They were responsible, in part, for previous water quality violations when the lake level exceeded 440 feet.

Impact 3.3-8: Potential Impact To Wetlands

There are two wetland sites identified within the project area. The first is from the impoundment of Sugarloaf Creek behind the Knoxville Road, which was created for seasonal waterfowl. Approximately 5 acres are affected. The second is located adjacent to the sewage treatment plant that serves Rancho Monticello Resort. It is 0.206 acres in size. Neither of these sites is threatened by development or visitor activities. Under Alternative A, they would continue to be monitored and protected according to Section 404 of the Clean Water Act.

There would be no significant impacts to these resources anticipated under this alternative.

Impact 3.3-9: Potential Impact to Water Resources

Implementation of the No Action Alternative, which is a continuation of existing conditions, would not affect drainage patterns or the volume of streams flowing into the lake. Therefore, there would be no significant impacts anticipated for water resources under this alternative.

Impact 3.3-10: Potential Impact to Water Quality

Under Alternative A, regular testing of reservoir waters would continue to be conducted by the State of California and Reclamation. Due to a variety of deficiencies in equipment and operations, each of the resorts has been found at various times to be in violation of state and county regulations regarding the treatment of wastewater. When they occurred, these violations caused significant short-term impacts to the water quality in the vicinity of the particular resort out of compliance.

Corrective actions have been undertaken with success by Reclamation and the concessionaires to bring all resorts into compliance with wastewater treatment requirements. These actions have focused mainly on the removal of approximately 200 trailers from two resorts in areas termed “dry sites,” which are trailer sites without water or sewer hookups. Other than previous wastewater incidents noted here, water quality from all sources currently meets the standards for drinking water supplies as specified under Title 22 of the State of California.

However, the sewage systems at some resorts are aging and deteriorating, and are expected to require major improvements within the next 15 years. A significant risk to water quality would exist if all of the current sewage systems were allowed to remain in continued use until they completely fail. In the event of serious failure of the sewage system, such that untreated sewage were released into the reservoir, potential impacts to water quality could be significant.

Impact 3.3-11: Potential Impact to Air Quality

Under this alternative, the conditions that may contribute to the quality of air at Lake Berryessa would remain unchanged. The lake's air shed lies in the extreme northeast part of the larger Bay Area Air Basin. As there are no air-quality monitoring stations within 20 miles of the reservoir, no definitive data exists regarding actual air quality conditions at the lake over the course of the year. Although they are undocumented, potential adverse affects may result from automobile emissions, motorized watercraft concentrated within marina environs and the burning of wood at the campgrounds and day-use areas. These sources of emissions characteristically peak during the summer months of high visitor use. Due to lack of an ambient air-monitoring program, it is not known whether these emissions are within the limits set by federal and state clean air standards.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.3-12: Potential Impacts to Threatened, Endangered or Rare Species

Implementation of the Concession Operations components under Alternative B would not cause significant impacts to species protected under the threatened, endangered or rare classifications. One of the two known active nests of bald eagles is located on the west shore, two miles from any developed areas, while the other is located on the western tip of Big Island. Big Island has been given a special designation to insure adequate protection of the eagles, especially during the breeding and nesting seasons.

The preferred habitat of the valley elderberry longhorn beetle, a federally listed threatened species, occurs next to the Knoxville/Berryessa Road on the shore of Smittle Creek. It is undetermined whether the beetles actually occur there at this time. Nevertheless, the potential beetle habitat would be protected by requiring any proposed road improvements to avoid that area.

The presence of other species listed by the U.S. Fish & Wildlife Service or the California Fish & Game for the Lake Berryessa area has not been documented within the project area.

Impact 3.3-13: Potential Impact to Mammals

The Concession Operations development component of Alternative B would involve the removal, renovation and construction of concession facilities at each resort. (These activities hereafter are referred to collectively as “build-out.”) Wildlife more commonly found in the vicinity of the resorts could be temporarily disturbed while build-out occurs. These impacts would include increased dust, noise and human activity. Due to the abundance of the species that are common to these areas, their familiarity and adaptation to the urban environment, and their ability to move to and survive in other locations, these impacts would be minor.

Also under this alternative, the Capell Cove launch ramp would be managed by Spanish Flat Marina, and Camp Berryessa would be operated by Putah Creek Resort. As no additional development is proposed for Capell and only minor changes are envisioned for Camp Berryessa, no significant impacts to wildlife would be anticipated.

The Government Operations component proposes the construction of a more extensive trail network bordering the reservoir. Once the trail alignment has been determined, an environmental analysis might be necessary to evaluate further any potential affects to wildlife. However, any such impacts would be no greater than those anticipated for the resort areas, and for the same reasons.

Alternative B also proposes a use-classification change from the use-levels described in the 1992 RAMP to those adopted under the WROS recreational-use classification system, described earlier. Under this new classification, a number of sites, including islands and shore areas along the lake, would be assigned a new level of public use. These are shown in (Figure 4, Map 2).

Under this component, portions of the lake surface also would be reclassified according to WROS criteria. Several of these would include the areas between the Oak Shores day-use area, the Smittle Creek day-use area, Small Island, and Big Island, which would change from Rural to Rural Natural/ Non-motorized. The area south of the entrance to Steele Canyon Cove would be reclassified as Rural Developed. These restrictions would potentially have beneficial impacts on wildlife in the vicinity.

Reclamation would continue to manage the day-use areas at Oak Shores and Smittle Creek, and the dispersed sites (turnouts) at Markley, Olive Orchard, North Shore and Pope Creek, consistent with PL-93-493 and the RAMP. The existing unimproved turnout at Eticuera would be replaced with an upgraded turnout and trailhead a short distance further north on the Berryessa-Knoxville Road and a turnout at Steele Canyon would be upgraded much the same way.

The day-use sites noted above have been affected previously by various degrees of development. Proposed improvements to those areas under this alternative would have minimal effects on wildlife in these areas.

As previously mentioned, the lake encompasses 25 islands ranging in size from ¼ of an acre to 400 acres. A number of these islands provide habitat for the same types of smaller mammals found in and near the reservoir's resorts and day-use areas. Under WROS, these islands would remain unimproved, without picnic or camping facilities, and it is anticipated that they would generally experience the same level of use as they would under the No Action Alternative. As there is no indication of adverse effects to wildlife found on these islands, no major impacts would be expected under this alternative.

Impact 3.3-14: Potential Impacts to Birds (Common and Protected Species)

Again, under Alternative B, bird populations at each resort would be temporarily disturbed by increased dust, noise and human activity. Some displacement of nesting birds may occur if vegetation within the resorts were removed during development activities. As with wildlife, there is an abundance of the various bird species present in the resort areas, and their mobility and ability to adapt to an urban environment forecast less than a significant impact to resident populations under this proposal.

There are no special-status species nesting within or potentially affected by the proposed developments at the resorts, the Capell Cove launch ramp, or Camp Berryessa. No significant impact to common or protected species would be anticipated from build-out activities.

Once the alignment of the trail system has been determined, further environmental documentation of potential impacts to various bird species might be necessary. However, since new trails would be designed to be minimally intrusive to the environment and avoid sensitive areas such as active raptor nesting sites, detrimental affects on local populations would be minor.

In areas reclassified under WROS, a variety of both resident and migratory birds may be present, depending on the time of year.

The proposed improvements of the turnout sites at Eticuera and Steele Canyon under this alternative would only cause a temporary disturbance to an even lesser degree than that predicted for the resorts, and would have minimal affects on species found there. There is no evidence of special-status species nesting at or near these or the other day-use sites or on any of the islands.

Under this component, portions of the lake surface also would be reclassified according to WROS criteria. Several of these would include the areas between the Oak Shores day-use area, the Smittle Creek day-use area, Small Island, and Big Island, which would change from Rural to Rural Natural/ Non-motorized. The area south of the entrance to Steele Canyon Cove would be reclassified as Rural Developed, and a minimum speed zone would be imposed on a portion of the Putah Creek Arm. These restrictions

potentially would have beneficial impacts on both year-round and migratory fowl that may use these waters for breeding and nesting.

As was described under the topic of mammals, it is predicted that visitor-use of the islands would remain at about the same level as for the No Action Alternative. There is no evidence of adverse effects to the various species currently found there, and no significant impacts would be anticipated under Alternative B.

Impact 3.3-15: Potential Impacts to Fish Populations

With the eventual build-out of various concession facilities under Alternative B, species such as sunfish and bass that frequent the warm-water, littoral zone or shorelines near the resorts might temporarily be impacted by erosion or run-off from construction sites. However, strict adherence to the construction standards described under Alternative B for Soils would minimize the likelihood of significant impacts.

No major changes are proposed for the Capell Cove launch ramp or for Camp Berryessa under this alternative; therefore, significant impacts to fish populations near those facilities would not be expected.

The implementation of the Government Operations component would include the continuation of the fish planting and monitoring program conducted by the state as first identified under the No Action Alternative.

New trail construction along the shore would employ the same conservative design and construction criteria described for the resorts, and would not be expected to create a significant impact to fish. The two turnout/trailhead sites at Eticuera and Steele Canyon proposed for modest upgrades and already impacted by use do not pose any potential impacts to reservoir fish. The remaining day-use sites such as those at Markley, Olive Orchard, Oak Shores, Smittle Creek, Pope Creek and North Shore are not proposed for any development that would cause significant effects to the lake's fish population. The proposed WROS recreational-use changes for lake surface areas include allowing only non-motorized use between Oak Shores, Smittle Creek and between Big and Small Islands. Prohibiting motorboats would benefit fish resources by eliminating the erosion and re-deposition that occur when those vessels are operated close to shore, and by minimizing the disruption of aquatic vegetation and the harassment or dislocation of spawning fish by motorized vessels.

In general, the design and construction of all facilities around the lake that limit shoreline development and eliminate impacts to the floodplain will improve the general condition of soils, vegetation and water quality, thereby benefiting fish resources throughout the reservoir.

Impact 3.3-16: Potential Impacts to Amphibians and Reptiles

The description of potential impacts to amphibians and reptiles would be similar to that provided for impacts to fish under this alternative. As with various fish species that feed in shallow waters, the amphibians and reptiles

that inhabit the shoreline and tributaries would be temporarily impacted by any significant erosion and run-off that might occur during build-out activities at the resorts. An increase in human activity also would temporarily disturb these species, but as with wildlife and birds, amphibians and reptiles would be able to relocate to other environs until normal use conditions were restored. With the employment of design and construction techniques outlined in section 3.2, significant detrimental effects on these species would not be expected.

Implementation of the Government Operations components would not create significant impacts to amphibians or reptiles found elsewhere along and above the shore or on the reservoir's various islands. The construction of new trails would only temporarily disturb these species, which are not unaccustomed to human activity; consequently, amphibians and reptiles frequenting the other areas reclassified under WROS probably would be unaffected by the presence of humans, even if visitation gradually increased. The deeper water sites classified under WROS would not normally support habitat for amphibians or reptiles.

Finally, the proposed upgrade of the turnouts at Eticuera and Steele Canyon and the continued operation of the day-use areas (turnouts) at Markley, Olive Orchard, Oak Shores, Smittle Creek and North Shore, would not create adverse effects to reptiles and amphibian populations that may be near these areas. Significant impacts to these species are not anticipated.

Impact 3.3-17: Potential Impacts to Vegetation

As stated previously, design and construction plans have not been prepared for build-out activities at the seven resorts. Therefore, the potential impact to vegetation when development actually occurs cannot yet be accurately evaluated. Design of new facilities, however, likely would take advantage of existing open space such as roads, parking lots and utilities corridors. By focusing development in areas of previous impact, potential effects of build-out activities on vegetation would be limited and non-significant. The same would be true of any road realignments and improvements proposed as part of an updated structural fire protection plan under Alternative B.

Vegetation adjacent to the Capell Cove launch ramp and Camp Berryessa would not be affected by this alternative.

Vegetation might be moderately affected with the development of a new trail system, as proposed under Alternative B. The actual alignment of the expanded shoreline trail network has yet to be determined; however, an existing trail-development proposal described in the RAMP calls for a trail that is 3 feet wide by 50 miles long. The RAMP estimates that such a trail might disturb 10 to 18 acres of surface material. The expanded trail network proposed under Alternative B, in comparison, calls for up to 150 miles of trail, and could cause correspondingly greater impacts. Such impacts would be mitigated by aligning the new trail system with existing road and developed trail corridors, and by utilizing the numerous informal paths

surrounding the reservoir. The expanded trail system also would be aligned to avoid dense tracts of ground vegetation and stands of mature trees. Mitigation efforts would include, whenever possible, the re-planting of vegetation and re-use of other landscape materials disturbed during trail construction. Under these conditions, trail construction would likely cause only minor impacts. However, further pre-construction environmental documentation likely would be required once the trail network is planned in greater detail.

Vegetation on the islands and the on-shore areas of Markley, Olive Orchard, Oak Shores, Smittle Creek, Pope Creek and North Shore, and that at the improved sites at Eticuera and Steele Canyon would not be affected by trail development under this alternative.

Impact 3.3-18: Potential Impacts to the Floodplain

Under Alternative B, any specific plans for the reconstruction of resort facilities would include the provision that no structures (other than marinas) be placed below 455 feet MSL. This requirement would insure that any of the solid or liquid materials, such as sewage, with the potential to affect water quality would remain above the water influence zone (100 horizontal feet from elevation 440 MSL). This provision would result in a beneficial effect to the floodplain adjacent to the resorts.

Because this alternative proposes no change in the operation of the Capell Cove launch ramp or the Camp Berryessa group campground, there would be no significant impacts to the floodplain at the mouth of Capell Creek or on Putah Creek.

Reclamation's proposal for trail development, recreational reclassification of a number of island, shoreline and water areas and the upgrading of parking and trail access at Eticuera and Steele Canyon would have no effect on floodplain environments. Continued operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, the Markley turnouts and Olive Orchard would not include external developments or activities likely to cause adverse effects to the nearby floodplain.

Impact 3.3-19: Potential Impacts to Wetlands

As described under Impact 3.3-8 for the No Action Alternative, there are two Wetlands located within the reservoir boundary. The first, 0.206 acres in size, is adjacent to the wastewater treatment plant at Rancho Monticello. The wetland, which supports cattails and Pacific willows, lies below and 200 feet east of the sewage treatment plant. A Wetland Delineation Report, prepared in April 2003, can be found in Attachment 11.

The treatment plant at that locale has been evaluated by Kleinfelder, Inc., which concluded that it has a life expectancy of less than 15 years. Under Alternative B, no replacement or significant changes to the plant is proposed; however, any modifications that might eventually become

necessary would include strategies to protect surrounding water resources, consistent with the provisions of Section 404 of the Clean Water Act.

The second site, the Olive Orchard wetland, is located on Sugarloaf Creek, adjacent to the Knoxville Road. The 5-acre site was created in a joint effort by Reclamation and Ducks Unlimited to provide habitat for seasonal waterfowl. The wetland is adjacent to a paved road but otherwise removed from other existing and proposed development and intensive visitor activities. Reclamation would continue to monitor and protect the area consistent with the provisions of the Clean Water Act.

Potential impacts of Alternative B to these wetlands would be minor to nonexistent.

Impact 3.3-20: Potential Impacts to Water Resources

Under the Concession and Government Operations components of Alternative B, there are no proposals that would affect either the drainage patterns or volume of water flowing into the reservoir. Therefore, no significant impacts would be anticipated under this alternative.

Impact 3.3-21: Potential Impact to Water Quality

Alternative B calls for the eventual build-out of resort facilities and rehabilitation or replacement, as necessary, of existing sewer treatment facilities at each complex. Reclamation would prohibit structures from being placed below 455 feet MSL and would require that best-management practices be employed during construction. These restrictions would minimize impacts to nearby water sources, and modernization of the treatment plants would eliminate the kinds of water quality violations that have occurred in the past. An assessment of the current operational efficiency of these treatment plants is described under the Reclamation website, www.usbr/mp/berryessa/index.html.

In addition, the new facilities also would be equipped to pump out the holding tanks of watercraft, a service that would reduce the illegal release of gray water and sewage into the lake. Modern marina designs also would include state-of-the-art fueling equipment, thereby reducing potential impacts from fuel and oil spills.

No substantial changes are proposed for the operation of the Capell Cove launch ramp or the Camp Berryessa group campground that might cause significant impacts to water quality. No additional threats to water quality are foreseen, and potential impacts in the vicinity of the resorts would be minor.

There would be no significant impacts on the reservoir's water quality arising from the proposed improvements to the parking/trailhead areas previously described, or from the reclassification of remaining shoreline and water sites under WROS.

Trail construction would follow the conservation criteria described above for the resorts, and so would have little potential to cause significant impact to nearby water sources. Continued operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, Markley and Olive Orchard would not include external developments or activities likely to be cause adverse affects to the water quality.

Overall, implementation of Alternative B would be expected to have no significant adverse impacts to water quality, and in fact would have beneficial effects on that resource.

Impact 3.3-22: Potential Impacts to Air Quality

Under Alternative B, air quality issues could occur as the result of temporary construction activities during the resort build-out and, later, from the increased use of resort facilities once the resorts are re-opened for public use.

During construction activities, air pollutants -- primarily airborne dust, but also emissions from construction equipment -- would be generated. The duration and intensity of these impacts cannot be estimated, as construction plans have not yet been prepared. One function of such plans is to include air pollution abatement strategies to meet federal and state ambient air quality standards. Nevertheless, because Alternative B would confine construction activities to various sections of individual resorts, significant impacts to local ambient air quality likely would not be incurred during the build-out phases. In addition, whenever feasible, the build-out work would occur in off-peak months season. During that period, portions of those resorts under construction would be closed to visitors and any dust impacts to human beings would be minor.

Air quality in the vicinity of the resorts might possibly be adversely affected once all of the visitor facilities are in use, however. The increase in overnight camping and likely popularity of newly built marinas would have the potential to increase pollutants due to a greater number of motor vehicles, powerboats and campfires concentrated in a relatively small area. Because of the lack of air-monitoring equipment to measure current conditions, it is difficult to evaluate the extent of these impacts, but they have the potential to be moderate.

There are no significant changes proposed for the facilities at the Capell Cove launch ramp or the Camp Berryessa group campground that would significantly impact air quality.

The proposed new trail system, recreational-use changes designated by the WROS classification system, and the proposed improvement of turnouts at Eticuera and Steele Canyon would create no significant impacts to local ambient air quality.

Continued operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, the Markley turnouts and Olive Orchard would not include external developments or activities likely to be cause adverse affects to air quality.

Impact 3.3-23: Cumulative Environmental Impacts to Biological Resources

No known cumulative impacts are known have resulted to biological resources at the reservoir as the result of actions taken by Reclamation or other management authorities, and none would be anticipated under Alternative B. The Preferred Alternative, moreover, would employ environmentally sensitive measures to minimize any potentially adverse effects to biological populations, sensitive wetlands and lake environs. Besides taking precautions during development and construction activities, Reclamation would implement the WROS recreational-use classification system. WROS would also allow for more effective management of increasing visitor numbers and their potential effects on biological resources, while increasing opportunities for quality, short-term recreational experiences for the general public.

Continued operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, Markley and Olive Orchard would not include external developments or activities likely to be cause adverse affects to biological resources.

Therefore, no significant cumulative or indirect environmental impacts to the reservoir's biological resources would be anticipated under Alternative B.

Impact 3.3-24: Potential Impacts to Biological Resources from Irreversible and Irretrievable Commitments of Resources

Alternative B would have some potential impacts to wildlife, common birds, amphibians, reptiles and vegetation as a result of the irreversible and irretrievable commitment of resources related to the proposed developments in the resorts and along the reservoir shoreline. Wildlife would be temporarily displaced due to noise, dust and human activity; vegetation would be removed during construction in the resorts; and project sites would be temporarily unavailable for use by the public. These effects would be mitigated by replanting disturbed vegetation to re-establish habitat and by minimizing visual alterations to the resorts' landscape. Therefore, these impacts would not be significant.

The kinds of impacts to small mammals, common birds, amphibians, reptiles and vegetation that would result from resort development activities also would impact wildlife along the proposed new trail routes. Again, such impacts would be temporary, and would be mitigated in the manner described for the resort developments. Therefore, these impacts would not be significant.

Areas that would be reclassified for recreational-use purposes under WROS are not proposed for development as part of this proposal. Continued

operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, Markley and Olive Orchard would not include external developments or activities likely to be cause adverse affects to biological resources.

Therefore, no significant impacts to biological resources from irreversible and irretrievable commitments of resources would be anticipated under Alternative B.

There are no other effects arising from the irreversible or irretrievable commitment of resources for the remaining topics of Threatened, Endangered and Rare Species, Fish, Floodplains, Wetlands, Water Resources, Water Quality or Air Quality.

Impact 3.3-25: Potential Impacts to Biological Resources from Short-term Effects versus Long-term Effects

Alternative B would have some short-term impacts to wildlife, common birds, amphibians, reptiles and vegetation resulting from the proposed development of resort facilities and new trails. Wildlife would be temporarily displaced due to noise, dust and human activity; vegetation would be removed during construction in the resorts; and project sites would be temporarily unavailable for use by the public. However, Alternative B proposes to replant disturbed vegetation to re-establish habitat, and to employ construction techniques that would limit the amount of dust and noise generated during construction activities. Wildlife species common to the proposed project areas are mobile and adaptive, and can reasonably be expected to re-colonize the affected areas quickly once construction is completed. Long-term productivity in terms of wildlife and vegetation would be unimpeded. Therefore, short-term effects to wildlife and vegetation would be minimal and non-significant. No long-term effects would be expected under the Alternative B proposals.

Areas that would be reclassified for recreational-use purposes under WROS are not proposed for development as part of this proposal. Continued operations at North Shore, Pope Creek, Smittle Creek, Oak Shores, Markley and Olive Orchard would not include external developments or activities likely to be cause short- or long-term impacts to biological resources.

Therefore, no significant short- or long-term impacts to biological resources would be anticipated under Alternative B.

Impact 3.3-26: Unavoidable Adverse Impacts to Biological Resources

There would be no unavoidable adverse impacts to biological resources associated with Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

The impacts on the various biological, water and air resources for

Alternative C would be the same as those as described for Alternative B. This is judged to be the case even though the two alternatives differ in the final design and build-out specifications proposed for four of the resorts, because the actual project areas affected would encompass the same amount of space in the same locations.

Potential impacts to biological resources described under Alternative B also are the same for Alternative C. With the exception of a proposed speed limit for Steele Cove, the recreational-use changes (including development of the reservoir-wide trail system) proposed under WROS would follow those outlined in Alternative B. Potential impacts and mitigating measures for the trail development would be the same in both alternatives.

Impact 3.3-27: Cumulative Environmental Impacts to Biological Resources

The description of cumulative impacts for Alternatives B, C and D, under Chapter 3.1 and 3.2, and Alternative B under Chapter 3.3 apply to this alternative, as well.

Impact 3.3-28: Potential Impacts to Biological Resources from Irreversible and Irrecoverable Commitments of Resources

The impacts arising from the irreversible and irretrievable commitment of resources that were described for the Concession and Government Operations components of Alternative B are the same for Alternative C. The degree of development would vary somewhat, but would still occur within the resort footprint. There are no other irretrievable or irreversible commitments of resources that would impact biological resources under Alternative C.

Impact 3.3-29: Potential Impacts to Biological Resources from Short-term Effects versus Long-term Effects

The impact descriptions for short- and long-term effects resulting from proposed resort and trail network development under Alternative B are the same for Alternative C. Likewise, impact descriptions for short- and long-term effects arising from reclassification of recreational-use areas and from continued Reclamation management of Reclamation facilities are the same.

Impact 3.3-30: Unavoidable Adverse Impacts to Biological Resources

There are no unavoidable adverse impacts to biological resources associated with Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Under the Concession Operations component of this alternative, the final design and configuration of resort facilities would be similar to Alternative B, except that concessionaires would operate five rather than seven resorts under Alternative D. The remaining two resorts would be operated directly

by Reclamation. The ensuing differences in resort operations under this alternative primarily would impact visitors, concessionaires, and Reclamation managers. Potential resource impacts to Threatened, Endangered and Rare Species, Mammals, Birds, Fish, Vegetation, Floodplains, Wetlands, Water Resources, Water Quality and Air Quality, however, would be the same as those described for Alternative B.

Potential impacts to biological resources for the Government Operations component of Alternative D would be essentially the same as those described for Alternatives B and C. There are, however, minor differences between this alternative and the other two action alternatives. These include (in Alternative D) a speed restriction in Putah Creek, management of a sports skiing activity by a resort, and direct Reclamation management of two former resorts and the Camp Berryessa group campground. Finally, proposed trail development and adoption of the WROS recreation-use classification system are the same as those outlined in Alternative B. No significant impacts to mammals would be anticipated under Alternative D as a result of these actions.

Impact 3.3-31: Cumulative Environmental Impacts to Biological Resources

The description of the analysis of cumulative impacts for Alternatives B, C and D, under Chapter 3.1 and 3.2, and Alternative B under Chapter 3.3 apply to this alternative, as well.

Impact 3.3-32: Potential Impacts to Biological Resources from Irreversible and Irrecoverable Commitments of Resources

The impacts to biological resources due to irretrievable commitment of resources described for Concession Operations under Alternative B apply to Alternative D, as well.

As in Alternative B, mammals, birds, amphibians and reptiles would be displaced during each of the resort build-out phases. An undetermined amount of vegetation would be removed and restored as feasible, and areas of the resorts would be temporarily unavailable for use by the public.

The impacts from the irreversible and irretrievable commitment of resources for the Government component described for Alternative B are the same for Alternative D. As in Alternative B, trail development would temporarily disturb small mammals, common birds and perhaps some amphibians and reptiles; vegetation would be displaced; and portions of the reservoir's resources would be temporarily unavailable for public use. Although the alignment of the new trails system has not been determined, it likely would far exceed the trail development proposed in the RAMP. Even so, impacts likely would be minor by adopting the same conservation procedures described for resort construction.

Finally, other than the areas designated for moderate improvements, day-use sites managed by Reclamation and the remaining sites reclassified

under WROS would not be affected by development. Therefore, no significant impacts to biological resources would occur under implementation of this alternative.

Impact 3.3-33: Potential Impacts to Biological Resources from Short-term Effects versus Long-term Effects

The impacts from short-term effects versus long-term uses and predicted productivity as described for Alternatives B and C would be the same for Alternative D.

Impact 3.3-34: Unavoidable Adverse Impacts to Biological Resources

There would be no unavoidable adverse impacts to biological resources associated with Alternative D.

3.4 Cultural Resources (Ethnographic, Archeological, Historic and Museum Collections)

3.4.1 Affected Environment/Existing Setting.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Ethnographic Resources

At the time that Europeans first arrived in Northern California, the area was occupied by Patwin-speaking Native Americans. This group's territory covered the southwestern portion of the Sacramento River, including Berryessa Valley. At least one ethnographically identified village, Topayto or Topai, and possibly one other, Chemoco or Chemocu, was located in the reservoir area. Stephen Powers reported in 1877 that Topai-di-sel was the name of the group living in Berryessa Valley, but the area's original native culture evidently was destroyed by the late 1830s.

No known Traditional Cultural Properties (TCPs), gravesites, or other places of cultural significance to modern descendants of the original inhabitants of the reservoir area are known to Reclamation. TCPs might include large, prehistoric or historic-era village sites, but those village sites that are known to Reclamation were inundated by the reservoir around 1957. The area may potentially include sites of traditional religious significance to modern tribal peoples, but none of those are known to Reclamation.

Archeological Resources

The first systematic cultural resource studies in the reservoir area were conducted prior to 1957, during construction of Monticello Dam. During the course of that work, 53 archeological sites were recorded; of these, 48 were inundated with the filling of the reservoir.

Subsequent work, including two archeological investigations in the 1970s and 1980s, documented 29 more sites at Lake Berryessa. Many of these sites are partly or fully submerged during periods of high water. The most recent surveys concluded that many of the area's cultural resources are buried; therefore, in most instances, cultural resources are identified only where the overlying ground surface area has been eroded or disturbed.

Documented archeological sites at the reservoir consist of isolated artifacts, artifact scatters, artifact concentrations, campsites and large village sites. The large village sites were located adjacent to the major drainages and are now well below low-water levels. No documented sites are listed on or potentially eligible for listing on the National Register of Historic Places.

Historical Resources

Rancho Las Putas, located on Putah Creek and covering most of Berryessa Valley, was originally a Mexican land grant consisting of eight square leagues. Mexican Governor Micheltorean granted the 35,515.82-acre parcel to Jose and Sixto (Sisto) Berryessa in 1843. The grant was confirmed by the United States Supreme Court in 1855, after California became part of this country. By 1866, Rancho Las Putas was being subdivided for settlement and development. That same year, the town of Monticello was laid out within the boundaries of the former rancho. By 1867, a hotel and store were in operation there and the whole valley was taken up by new settlers. No historical remains related to these developments and located on Reclamation-administered lands surrounding the reservoir are listed or eligible for listing on the National Register of Historic Places.

Museum Collections

Reclamation has curatorial agreements with The Phoebe Hearst Museum of Anthropology, University of California; the Department of Anthropology, University of California, Davis; and the Department of Anthropology, California State University, Sacramento. Under the agreements, these institutions provide protection and care for archeological and historical artifacts collected at Lake Berryessa prior to the completion of the reservoir.

In addition, a small collection of prehistoric and historic artifacts is publicly exhibited and interpreted at Reclamation's Lake Berryessa Visitor Center.

The affected environment topics of Ethnography, History, Archeology and Museum Resources described for the No Action Alternative are the same for Alternatives B, C and D.

3.4.2: Environmental Consequences and Mitigation.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.4-1: Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources

Under the No Action Alternative, there would be a slight potential for disturbances to the kinds of cultural resources described above. Nearly all the documented archeological sites are inundated by the reservoir and would remain so under Alternative A; no known ethnographic or historical resources would be potentially impacted by continued Reclamation activities; curatorial agreements would remain in effect; and Visitor Center exhibits would remain in place.

However, some 1992 RAMP actions remain to be completed, and some of these may have the potential of uncovering buried cultural remains. For example, Alternative A calls for development of approximately 50 miles of trail. Trail-building activities have a potential to disturb buried cultural resources. Additional cultural resource survey and Section 106 review in consultation with the California State Historic Preservation Office (SHPO) may be necessary if trail routes were finalized and the project became active under this alternative. Even with completion of such work, however, there always remains a possibility that sub-surface cultural remains might be disturbed during construction activities. In the event of an unanticipated discovery of cultural (including human) remains during development, Reclamation would immediately halt activities at that location, notify the California SHPO and comply with all procedures set forth the National Historic Preservation Act of 1966 (16 USC 470) and the Native American Graves Protection Act of 1990 (25 USC 3001), as applicable.

Continuation of the recreation-use classification system utilized by the RAMP would result in ongoing parking in non-designated areas, motorboat-related erosion to some shorelines, and visitor impacts to resource-sensitive areas. Some of these areas have a slight potential to contain sub-surface archeological remains.

In summary, no significant disturbances to ethnographic, historical, archeological or museum resources would occur under Alternative A.

Alternative B (Preferred): Remove All Long-term Trailer Sites, Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.4-2: Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources

Alternative B calls for expanded development of resort facilities, a lakeside trail system, and installation of a vault toilet at the Eticuera turnout. During earth-disturbing activities related to these actions, buried cultural remains potentially could be discovered. In view of the intense development and sustained use at each of the resorts since their construction in 1958, the likelihood of disturbing previously undiscovered cultural resources at those locations is minimal. The proposed toilet site would also be sited in areas of previous disturbance, and its development is unlikely to result in disturbance of archeological, historical, or ethnographic resources.

Survey of the lakeshore area suggests that cultural remains there are few, but buried resources could exist there and could potentially be disturbed by trail-building activities, especially if those activities were to occur across 150 linear miles, as proposed by Alternative B.

As with natural environmental review, additional cultural resource survey and Section 106 review in consultation with the California SHPO may be necessary once development plans were finalized for any of these projects. Such work would allow more detailed and accurate analysis of the potential effect of the proposed development on Lake Berryessa resources.

Even with completion of such work, however, there always remains a possibility that sub-surface cultural remains might be disturbed during construction activities. In the event of an unanticipated discovery of cultural (including human) remains during development, Reclamation would immediately halt activities at that location, notify the California SHPO and comply with all procedures set forth the National Historic Preservation Act of 1966 (16 USC 470) and the Native American Graves Protection Act of 1990 (25 USC 3001), as applicable.

Under Alternative B, proposed concessionaire management of the Capell Cove launch ramp and Camp Berryessa would not call for any new activities that might disturb buried cultural resources. Reclamation likewise proposes no major development of day-use facilities at Markley, Olive Orchard, Oak Shores, Smittle Creek, Pope Creek and North Shore.

Areas that would be affected by implementation of the WROS recreational-use classification system previously have been surveyed for cultural resources, and none were observed. However, if any unknown archeological, ethnographic or historical resources exist in those areas, changes in recreational use that might arise under the WROS system could potentially result in mild beneficial impacts to those resources by reducing human-caused disturbances in sensitive resource areas.

Curatorial agreements and Visitor Center exhibits would remain in place.

In summary, no significant impacts to ethnographical, historical, archeological, or museum resources would likely result under Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.4-3: Potential Disturbance to Ethnographical, Historical, Archeological and Museum Resources

Alternative C proposes minor reductions in the numbers of campsites, RV and picnic sites as compared to Alternative B and the re-establishment of a limited number of long-term trailer spaces at six of the seven resorts. However, since construction activities would occur to about the same extent and in the same localities as those proposed in Alternative B, potential

impacts would be as described for that alternative. Likewise, the potential impacts of trail and restroom development would be the same as described for Alternative B. Additional cultural resource survey and Section 106 review in consultation with the California SHPO may be necessary once development plans were finalized for any of these projects. In the event of an unanticipated discovery of cultural (including human) remains during development, Reclamation would immediately halt activities at that location, notify the California SHPO and comply with all procedures set forth the National Historic Preservation Act of 1966 (16 USC 470) and the Native American Graves Protection Act of 1990 (25 USC 3001), as applicable.

Areas that would be affected by implementation of the WROS recreational-use classification system previously have been surveyed for cultural resources, and none were observed. Changes in recreational use that might arise under the WROS system could potentially result in mild beneficial impacts to archeological, ethnographic, or historical resources (if any exist in the areas of effect) by reducing human-caused disturbances in sensitive resource areas.

No other land-disturbing development activities are proposed under this alternative. Curatorial agreements and Visitor Center exhibits would remain in place.

In summary, no significant impacts to ethnographical, historical, archeological, or museum resources likely would result under Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.4-4: Potential Disturbance to Ethnographical, Historical, Archeological or Museum Resources

Under this alternative, the build-out plans for commercial facilities would be very similar to those described for Alternative B, except that only five of the seven resorts would be managed by a concessionaire. All resort development would occur within the same general localities and to the same general extent as that described for Alternatives B and C.

Likewise, the potential impacts of trail and restroom development would be the same as described for Alternatives B and C. Additional cultural resource survey and Section 106 review in consultation with the California State Historic Preservation Office (SHPO) may be necessary once development plans were finalized for any of these projects. In the event of an unanticipated discovery of cultural (including human) remains during development, Reclamation would immediately halt activities at that location, notify the California SHPO and comply with all procedures set forth the National Historic Preservation Act of 1966 (16 USC 470) and the Native American Graves Protection Act of 1990 (25 USC 3001), as

applicable.

Implementation of the WROS recreational-use classification system could potentially affect cultural resources as described above for Alternatives B and C. Curatorial agreements and Visitor Center agreements would remain in place. No other land-disturbing development activities are proposed under Alternative D.

In summary, no significant impacts to ethnographical, historical, archeological, or museum resources likely would result under Alternative D.

Impact 3.4-5: Cumulative Environmental Impacts to Cultural Resources

Based on analyses presented herein, in the 1992 RAMP/EIS, and in other documents, the proposed implementation of the Commercial and Government Operations components of the action alternatives would not create cumulatively significant environmental impacts to ethnographic, historical, archeological or museum resources. Likewise, no indirect impacts likely would affect these resources as a result of implementation of any of the action alternatives.

Impact 3.4-6: Potential Impacts to Cultural Resources from Irreversible and Irretrievable Commitments of Resources

No impacts to ethnographical, historical, archeological or museum resources arising from an irreversible or irretrievable commitment of resources would likely result from implementation of any of the action alternatives. However, there always exists the possibility (albeit not the probability) that buried cultural remains might be disturbed during trail construction and resort build-out activities. In the event of unanticipated discovery of cultural remains, Reclamation would follow the laws and procedures specified above. If the cultural remains were determined to be significant under criteria established by the National Historic Preservation Act of 1966, Reclamation would work out mitigation on a case-by-case basis in consultation with the California SHPO and the Advisory Council on Historic Preservation, as applicable.

Impact 3.4-7: Potential Impacts to Cultural Resources from Short-term Effects versus Long-term Effects.

Potential long-term effects on cultural resources resulting from implementation of Alternatives B, C or D would be non-significant and beneficial. Such impacts would result from long-term implementation of the WROS recreational-use classification system, which would re-structure types and levels of visitor-use to reduce environmental impacts. Under this type of management, use of shorelines and other areas vulnerable to erosion (and where buried cultural resources might occur) would be controlled; off-site parking would be restricted; and pedestrian traffic would be channeled onto developed trails routed to avoid sensitive resource areas.

There would be no significant short-term effects on cultural resources resulting from Alternatives B, C or D.

Impact 3.4-8: Unavoidable Adverse Impacts to Cultural Resources.

There would be no unavoidable adverse impacts to cultural resources associated with Alternatives B, C or D.

3.5 Traffic and Circulation

No traffic study comparable to the study prepared for the 1992 RAMP was undertaken for the purposes of this planning effort. However, traffic engineers for NAPA County, California Department of Transportation (CalTrans) experts and traffic officers with the California Highway Patrol were consulted regarding existing traffic conditions on the corridors serving Lake Berryessa. In addition, traffic flow statistics from CalTrans were used to determine the average daily increase in vehicles on the Knoxville/Berryessa Road over the past 10 years. This information is included in the Affected Environment section, below.

3.5.1 Affected Environment/Existing Setting

Lake Berryessa is accessed by county roads (Berryessa-Knoxville Road, Pope Canyon Road, Steele Canyon Road, and Wragg Canyon Road) and state highways (Highway 121 and 128). (See Location Map on Appendix M-1. of the RAMP.) The roads are mainly paved, two-lane routes designed for speeds of 25-55 mph. The four primary feeder roads into the lake originate from Winters, Fairfield, Napa, and Rutherford, CA. The Winters, Napa, and Rutherford routes are state highways; the Wooden Valley Road/Fairfield route is a county road.

The various routes, although rural in nature, tend to have multi-use functions and can be characterized as commuter, commercial, and recreational. On weekdays, traffic is mainly commuter and commercial in nature, with only a minor amount being recreational. However, during weekends and holidays and during the peak recreation season, these routes experience considerable increases in recreational use.

The main routes feed traffic onto additional county roads that provide direct access to the lake or to remote areas beyond the lake. The Knoxville-Berryessa Road is a county road that provides access to the west and north shores of the lake. It serves four resorts, two public day-use areas, a public launch ramp, several small stores and three private residential developments. Two additional county roads of lesser importance that provide access to resorts are Wragg Canyon Road and Steele Canyon Road. Steele Canyon Road also serves local traffic to and from a private residential development.

Pope Canyon Road intersects Berryessa-Knoxville Road at the northwest corner of the lake, and serves Lake County and other northern areas. Wooden Valley Road, maintained in part by both Napa and Solano

Counties, provides access from Vacaville and Fairfield. One section of Wooden Valley Road that is located in Solano County is generally narrow and poorly developed, at one point narrowing to a single-lane bridge.

A gravel road maintained by Reclamation serves the northern portion of the east side of Lake Berryessa. The road provides access to east-side ranchers, serves as a fire access route for the California Department of Forestry and Fire Protection (CDF) and can be utilized by Reclamation and California Fish & Game for administrative uses associated with the management of the Lake Berryessa Wildlife Area. In previous years, including the period of Napa County's management of the lake, the east-side road was closed to public use. Since Reclamation assumed management of the lake, public use of the road and previous restrictions have not yet been formally addressed.

A transportation corridor analysis prepared for the RAMP in 1992 indicated that the primary access roads for the Lake Berryessa area were not being used to capacity. Congestion, the study concluded, became an issue only during weekends and holidays over the summer season. This analysis also indicated that the accident rate for most sections of these roads was slightly lower than the state average, except along those stretches that were narrow, curving and had poor visibility. At those locations, the accident rate was slightly higher than average.

CalTrans conducts routine traffic surveys of all state roads every three years unless signal events (such as numerous and long delays on a particular section of highway) indicate a pressing need for a more immediate update. During 1992, the CalTrans Annual Average Daily Traffic count showed that an average of 1,705 vehicles per day used the Berryessa-Knoxville Road. In 2002, the number rose to 2,175 vehicles per day, an increase of 470 vehicles per day and a traffic increase of 27 % increase since 1992.

Nevertheless, consulting CalTrans and Napa County traffic engineers concurred that the 1992 analysis still accurately describes contemporary road conditions, and they continue to believe that the roads serving the reservoir are still below capacity except on weekends and holidays during the summer months.

The California Highway Patrol representative stated that, although no recent in-depth analysis has been conducted for accident rates in the Lake Berryessa area, they appeared to be generally comparable to those of other state roads on similar terrain. However, the accident rate for motorcycles had climbed higher than average on Lake Berryessa roads. The increase was attributed to motorcycle drivers more frequently using those portions of the roads with sharp curves while traveling to destinations other than the reservoir, and doing so in a dangerous and inappropriate manner.

Finally, state and county officials indicated that there are no plans to initiate any significant improvements to either that portion of State Highway 128 that parallels the reservoir or to the Berryessa-Knoxville Road. Such improvements, in their view, are not needed because the roads in Lake

Berryessa have not reached their traffic-bearing capacity. For additional information regarding traffic patterns and changes occurring on the state and county roads servicing the Lake Berryessa area, see www.dot.ca.gov/hq/traffops/saferesr/trafdata/.

3.5.2 Environmental Consequences and Mitigation

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.5-1: Potential Impacts Due to Traffic

Under the No Action Alternative, traffic patterns for the roads serving Lake Berryessa would not change substantially from those described a decade ago in the 1992 RAMP. Napa County and CalTrans engineers predict that, on most weekends during the summer months and on Memorial Day, the Fourth of July and Labor Day, traffic may still be heavy. In particular, heavy traffic might occur on those sections of Highway 128 and the Berryessa-Knoxville Road that serve the day-use areas, the resorts and the Capell Cove launch ramp. Under Alternative A, the number of turnouts along these routes would remain the same and parking would often be available only on a first-come, first-served basis -- especially at the non-fee, day-use sites and at certain peak summer periods at the resorts. During the remainder of the year, however, traffic volume would still be less than the capacity of these roads, according to predictions by CalTrans and county officials.

With road conditions remaining essentially unchanged, it follows that the accident rate on Lake Berryessa-area roads also would be expected to remain static. Those statistics could change, however, for reasons unrelated to use and physical road conditions.

There are no plans by either the county or the state to alter or improve the routes that provide access to the developed side of the reservoir. State and county roads-related activities, of course, are not directly controlled by Reclamation, and their plans could change without regard to which alternative is selected in this planning process.

Finally, the existing RAMP does not propose any new recreational developments that would be expected to change traffic patterns in any meaningful way.

In summary, there would be no impacts due to changes in traffic patterns resulting from implementation of Alternative A.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.5-2: Potential Impacts Due to Traffic

The proposals for the Commercial Operations component previously

described for Alternative B apply here, as well.

Under Alternative B, traffic associated with the resorts would decline temporarily once the long-term trailers were removed and only a limited number of short-term facilities (in the initial development phase) were available for public use. The resorts at Spanish Flat, Lake Berryessa Marina, Putah Creek and Pleasure Cove, have been designated for this treatment.

However, once the build-out was completed and visitors became aware of the camping, meeting and other amenities offered at the upgraded resorts, traffic would increase and perhaps parallel current levels. The no-impact boat-in camping program proposed for concessionaire management might also promote a slight rise in traffic once its popularity became established, but this would occur mainly during the peak season, and especially during holiday weekends.

Traffic to the Capell Cove launch ramp might experience a minor, temporary decline once user fees were implemented by the concessionaire. It is predicted that the house boating and water skiing programs, known to be popular with a smaller number of users, would not significantly increase traffic levels at the reservoir.

Under the Government Operations of this alternative, no significant developments are proposed for the day-use areas; the modest improvements proposed for the Eticuera and Steele Canyon turnouts would not likely cause a significant increase in traffic to these sites. The new reservoir-wide trail system might generate additional traffic, but overall traffic would be dispersed because visitors could choose among a number of trailheads.

Implementation of the WROS recreational-use classification system would not be expected to cause a general increase in traffic.

However, visitors to Lake Berryessa during the summer months and particularly during popular holiday weekends could still encounter congested parking areas at facilities such as the Capell Cove launch ramp, the main day-use areas and smaller turnouts. Alternative B does not propose to increase parking substantially for these areas, so parking would still be available on a “first come-first served” basis for these users. The resorts however, would plan for sufficient parking to meet the needs of their customers when finalizing their build-out plans.

On the whole, it is anticipated that the proposals under this alternative would not create significant short-term impacts to traffic circulation in the area since, according to CalTrans and Napa County traffic engineers, local traffic corridors remain underutilized most of the year. While there may be brief, seasonal periods of traffic congestion, state and county traffic experts do not consider that those warrant improving the traffic capacity of Lake Berryessa roads.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.5-3: Potential Impacts Due to Traffic

The proposals for the Commercial Operations component previously described for Alternative apply here, as well.

However, traffic patterns would be slightly different under Alternative C due to the removal and then the eventual re-establishment of a limited number of long-term trailers at four of the resorts. Initially, traffic would decline as trailers were removed from the resorts; but later, as some trailers were re-introduced, traffic would increase correspondingly. Although this alternative would allow for somewhat fewer short-term accommodations than would Alternative B, the differences would be minor and traffic patterns under both alternatives would be similar.

Again, with a number of accommodations only being available on a seasonal basis, the intensity of traffic around the resorts would peak during the summer months, particularly during weekends and holidays. Use of the group campground might actually help to disperse traffic, since a concessionaire would offer services there during the summer visitor season as well. The house boating, water skiing and no-impact boat-in camping programs, anticipated to be popular with a certain segment of visitors, would likely not contribute to a substantial increase in traffic during the peak season.

Overall increased traffic could be expected on the roads serving Camp Berryessa and concessions offering services during the fall and winter seasons. However, the impacts would be negligible since the roads are underutilized during those months.

Traffic conditions described under the Government Operations component of Alternative B apply to Alternative C, as well. There are no developments planned for the primary day-use areas and the modest improvements proposed for the Eticuera and Steele Canyon turnouts would not likely cause a significant increase in traffic to those sites. Reclamation would be managing the Capell launch ramp, and traffic associated with that facility would approximate current conditions. The new, reservoir-wide trail system could generate additional traffic, but that traffic probably would be dispersed as visitors could choose to start their hikes from among a number of trailheads. It is not anticipated that the remaining sites proposed for reclassification under WROS would generate additional traffic beyond what has already been described.

Like Alternative B, Alternative C would not pose long-term significant impacts to traffic at Lake Berryessa since roads currently are underutilized most of the year. Also like Alternative B, however, summer and holiday

visitors to Lake Berryessa could still encounter parking shortfalls at the Capell Cove launch ramp, the main day-use areas and smaller turnout. The resorts, on the other hand, would incorporate sufficient customer parking into their final build-out plans.

On the whole, it is anticipated that the proposals under this alternative would not create significant short-term impacts to traffic circulation in the area since, according to CalTrans and Napa County traffic engineers, local traffic corridors remain underutilized most of the year. While there may be brief, seasonal periods of traffic congestion, state and county traffic experts do not consider those warrant improving the traffic capacity of Lake Berryessa roads.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.5-4: Potential Impacts Due to Traffic.

The proposals for the Commercial Operations component previously described for Alternative D apply here as well.

Predicted traffic patterns under this alternative would not be substantially different than those described for Alternative B. That is the case even though concessionaires would manage only five of the seven resorts, and the number of short-term recreation-related facilities would be fewer. Consequently, potential effects are much the same as described under Alternative B.

Further, the houseboat and water skiing programs proposed under Alternative D would not cause a significant impact to traffic patterns, as the participants represent a small portion of visitors to the lake.

Proposals under the Government Operations component of this alternative include Reclamation management of two resorts. However, fewer amenities and services would be offered at those two resorts, compared to the amenities and services that are offered there currently by concessionaires. This modest reduction in available accommodations might slightly reduce summer traffic, but it would not likely cause a significant change in overall yearly traffic numbers.

Reclamation also would continue to operate the primary day-use facilities at Oak Shores and Smittle Creek and the existing turnouts along the west shore, and would upgrade the turnouts at Eticuera and Steele Canyon as described under Alternatives B and C. Under Alternative D, Reclamation also would operate the group campground at Camp Berryessa and the launch ramp at Capell Cove. The traffic patterns associated with these operations is anticipated to be parallel those previously described for Alternative B, with minor variations according to the availability of recreation resources at the other resorts. The no-impact boat-in camping program and the new reservoir-wide trail system would generate additional

interest and a corresponding increase in traffic, mainly during the summer months. However, this increase is predicted to be less than significant.

Again, as indicated in Alternatives B and C, it is to be expected that visitors to Lake Berryessa during the summer months and particularly during popular weekends might still encounter parking shortfalls at facilities such as the Capell Cove launch ramp, the main day-use areas and smaller turnouts, as no major parking increases are proposed for these areas. Parking would still have to be secured on a “first come-first served” basis for those users. However, planning for all seven resorts would incorporate sufficient customer parking in their final build-out plans.

As for the other action alternatives, it is anticipated that the proposals under this alternative would not create significant short-term impacts to traffic circulation in the area since, according to CalTrans and Napa County traffic engineers, local traffic corridors remain underutilized most of the year. While there may be brief, seasonal periods of traffic congestion, state and county traffic experts do not consider those warrant improving the traffic capacity of Lake Berryessa roads.

Impact 3.5-5: Cumulative Environmental Impacts Due to Traffic

No cumulative impacts due to traffic have been identified under this proposal. No significant indirect impacts would be anticipated for Alternatives B, C or D.

Impact 3.5-6: Potential Impacts Due to Traffic from Irreversible and Irrecoverable Commitments of Resources

No impacts are anticipated due to traffic in and around Lake Berryessa, relating to any irreversible or irretrievable commitment of resources under Alternatives B, C or D.

Impact 3.5-7: Potential Impacts Due to Traffic from Short-term Effects versus Long-term Effects

No significant short-term effects due to traffic would be expected under any of the action proposals. Possible minor, short-term effects to traffic were identified for Capell Cove as a result of the adoption of launch fees under Alternative B, and resulting from fewer resort accommodations being available during early phases of resort development under Alternatives B, C and D. Otherwise any effects would be considered long-term, non-significant, and consistent with traffic patterns previously described.

Impact 3.5-8: Unavoidable Adverse Impacts Due to Traffic

There would be no unavoidable adverse impacts due to traffic associated with Alternatives B, C or D.

3.6 Noise

3.6.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

To the knowledge of Reclamation, no noise-monitoring studies have been conducted at Lake Berryessa reservoir. The general perception of visitors, however, is that noise levels are relatively low at most locations except at the high-use areas on the western shore. The most intense noise occurs at the resorts during summer daylight hours (9 a.m. – 4 p.m.) primarily due to the concentrated operation of motorized watercraft (motorboats and personalized watercraft) in and around the marinas. Whether these noise levels exceed recommended safety margins is a matter of conjecture, as no data are available.

Noise is usually defined as sound that is undesirable because it interferes with speech communications and hearing, is intense enough to damage hearing, or is otherwise annoying. Exposure to high levels of noise can create an unpleasant recreational experience for those seeking solitude or relaxation, interfere with sleep (for instance, when camping) and speech and cause irritability, hearing loss and startle effects in human beings. Extended exposure to loud noise can cause cardiovascular and other stress-related physiological and psychological conditions, as well (Kryter 1971).

Unnatural levels of noise can have the same kinds of effects on wildlife. It also can disrupt wildlife breeding, nesting, feeding and migration patterns, cause panic reactions, deprive both nocturnal and diurnal species of sleep, and drive animal populations out of affected areas. When noise becomes a chronic stress, it can threaten an animal's long-term survival by causing it continually to expend energy in fleeing and to miss feeding opportunities, by interfering with its ability to detect predators and prey, and by interfering with its ability to identify and communicate with other members of its own species. Richard Knight's 1984 study of the impacts of recreational motorboat activity on a population of bald eagles wintering near a lake provides an example of these effects. Knight observed that motorboats were able to impact large areas of habitat over short periods of time, and that their noise disturbed nesting areas, caused eagles to make avoidance flights and disrupted feeding. A. Radle ("The Effect of Noise on Wildlife: A Literature Review," University of Oregon, Eugene, <http://interact.uoregon.edu/MediaLit/wfae/readings/radle.html>, accessed 09/18/03) provides a summary of this and other studies.

The majority of the loud sounds experienced at Lake Berryessa appear to be from powered watercraft operating in and near the marinas. The State of California regulates such noise, and has published the following restrictions regarding noise associated with watercraft on waters regulated by state or county authorities. Engine noise may not exceed the following levels:

- a) For engines manufactured before January 1, 1976, a noise level of 86 dba measured at a distance of 50 feet from the motorboat.

- b) For engines manufactured on or after January 1, 1976, and before January 1, 1978, a noise level of 84 dba measured at a distance of 50 feet from the motorboat.
- c) For engines manufactured on or after January 1, 1978, a noise level of 82 dba measured at a distance of 50 feet from the motorboat.
- d) Testing procedures employed to determine such noise levels shall be in accordance with the exterior sound level measurement procedure for pleasure motorboats recommended by the Society of Automotive Engineers in its recommended practice designated SAEJ34. The department may, by regulation, amend such testing procedures when deemed necessary to adjust to advances in technology.

The provisions of this section do not apply to motorboats competing in a regatta or boat race, on trial runs, or while engaged in official trials for speed records during activities and in those places so licensed by a local public entity or U.S. Coast Guard. In addition, this section shall not apply to motorboats preparing for a race or regatta if authorized by a permit issued by the local entity having jurisdiction over the area where the preparations will occur.

California State requirements also specify that the exhaust of every internal combustion engine used on any motorboat shall be effectively muffled at all times to prevent any excessive or unusual noise and as may be necessary to comply with the provisions of Section 654.05. This section may be found in Attachment 12.

The information provided in the Affected Environment section for the No Action Alternative also applies to Alternatives B, C and D, as well.

3.6.2 Environmental Consequences and Mitigation

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.6-1: Potential Impacts Due to Noise

Implementation of the No Action Alternative would continue the conditions currently found at the reservoir, as described in the Affected Environment section above. That noise centers in the busy marinas; it is believed, but not demonstrated by any research, that other areas of the reservoir experience much less noise. However, exceptions to that general pattern occur on those occasions when personalized watercraft (jet skis) are operating near other watercraft or populated beaches, when a large number of boats congregate at particular locales on the lake during special events, or when boats concentrate at popular sites such as the “Narrows” at the mouth of Putah Creek.

Such concentrations were noted during a 1998 Colorado State University survey entitled “A Study of Boater Recreation on Lake Berryessa,

California.” Though the study did not specify noise as one of the issues that boaters cited, the large numbers of watercraft on the lake, particularly during weekends and holidays, can and do create high levels of noise both in the marinas and on open water. The study found that over two weekends of anticipated high use, 490 to 538 boats were on the lake at one time. The survey also found that boats varied in size and horsepower along with their noise level, with several larger craft having motors rated at 300 hp and one rated at 750 hp. This study may be viewed on the Reclamation website www.usbr/mp/berryessa/index.html, “Laws and Regulations”.

During the year in which the survey was conducted, over 1.8 million visitors came to Lake Berryessa. Visitation statistics project that visitation could reach more than 2.4 million by the year 1020 – and it is reasonable to conclude that numbers of motorized watercraft using the reservoir would increase correspondingly. However, noise levels at the high-use areas likely would be only moderately higher, because the size and facilities of the marinas would limit the number of watercraft that could occupy those areas at any one time.

Open water, though, may be a different matter. With few physical limitations (the 1992 RAMP identified a reservoir carrying capacity of 3,000 boats per day), more watercraft could use the lake surface at any given time and the noise level would increase accordingly. It is impossible to predict precisely what levels noise might reach if visitation was to reach projected levels, because there are no baseline data available for extrapolation. At present, Reclamation is unable to determine whether boats operating on the reservoir are in compliance with state law, or if present noise levels are creating a health hazard to human beings. On a purely intuitive level and judging from visitor responses, noise impacts at present do not appear to be significant. However, under Alternative A, there appears to exist some potential for noise eventually to become a significant impact to visitors, staff and others in the immediate vicinity of the marinas and perhaps even near open water, as boat use increases with visitation.

Noise might already have affected wildlife populations in the affected areas for some time, although that possibility, too, is difficult to evaluate. Species that are able to adapt to human presence, activities, and noise (e.g., deer, skunks and coyotes) appear to be thriving around the marinas. On the other hand, species that are more sensitive to human presence, such as cougars and bears, are rarely if ever seen in those same areas. If the marina areas were allowed to naturalize, large animals could possibly return, being attracted to the prey species that are abundant there. It would very difficult to determine, however, whether they currently avoid the area because of noise, or whether they do so for other reasons.

Judging from studies of the impacts of noise on wildlife (see Affected Environment, above), it seems likely that noise may have affected and presently does affect wildlife populations at Lake Berryessa to some extent. Again, on an intuitive level those impacts do not appear to be significant:

dazed, panic-stricken, and half-starved wildlife are not common occurrences around the “noisy” resorts. However, increased levels of noise that might result from higher visitation and motorized watercraft use could potentially become a significant impact to wildlife habitat (as to people) in the vicinity of the marinas and along beach shores near open water utilized by that watercraft.

In sum, continuation of current management direction as proposed in the No Action Alternative could eventually result in significant impacts due to noise at Lake Berryessa.

Alternative B (Preferred): Remove All Long-term Trailer Sites, Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.6-2: Potential Impacts due to Noise

The implementation of the Concession Operations component of Alternative B could create two kinds of noise impacts: first, the noise of large machinery and power equipment used during the construction phase at resorts; and second, the noise of larger crowds and more traffic in and around the resorts once they are fully operational. During the construction phase, noise levels would vary depending on equipment type used and the duration of its use, the distance between noise sources and nearby receptors (visitors), and the presence or absence of barriers between these noise sources and the public.

When construction plans are drafted, Reclamation would require that they include noise abatement strategies such as limitations to hours of operation and weekend and holiday work, and other features designed to minimize or muffle work-related sounds that might be audible from those areas still open to the public during the construction phase.

Also under this alternative, noise levels in the vicinities of the resorts might be higher once all of the visitor facilities are in use. Additional and improved short-term recreational opportunities, such as overnight camping and attractive new marinas, likely would attract more visitors – along with their vehicles, powerboats, and jet skis. At least some of that use would be concentrated in a relatively small area.

The comparative level of noise and its potential effects cannot be extrapolated because there are no existing baseline data. However, the visitation and use projections discussed under Alternative A also apply here. As under Alternative A, increasing visitation and motorized watercraft use have the *potential* eventually to cause major noise-related impacts.

Under Alternative B, however, Reclamation could manage, mitigate and reduce any adverse noise impacts to non-significant levels, using the WROS recreational-use classification system. Noisy uses could be restricted to particular localities or dispersed to reduce their overall effects, or other

actions (e.g., water-speed restrictions) could be employed at the discretion of resource managers under the auspices of the WROS system.

As part of its preferred proposal, Reclamation proposes to implement immediate changes in public use at a number of shoreline and water areas at the reservoir, under the WROS system. Specifically, the areas between the Oak Shores day-use area, Smittle Creek day-use area, Small Island and Big Island would be changed from Rural to Rural Natural Non-motorized zones, and the area south of the entrance to Steele Canyon Cove would be reclassified as Rural Developed. The re-classifications would restrict those areas to non-motorized, significantly reducing the impacts of noise on visitors and wildlife in those vicinities. These actions would have an immediate beneficial impact, and would substantially mitigate any increasing noise levels that might occur along with growing visitation over the next decade.

Reclamation proposes to construct an extensive trail network bordering the reservoir under this Preferred Alternative. Trail construction, which would likely be done in segments, would occur over a number of months and over a linear area of up to 150 miles, has little potential to create significant noise impacts.

No significant changes are proposed to the Capell Cove launch ramp or the Camp Berryessa group campground that would alter the operation of these facilities. Therefore, no significant impacts from noise are predicted for those localities under Alternative B. The modest development proposed for Eticuera and Steele Canyon are not substantial enough to cause adverse, noise-related impacts to wildlife or visitors.

Finally, under this alternative, the ongoing operations at the Markley turnouts, Olive Orchard, Oak Shores, Smittle Creek, Pope Creek and North Shore would not cause significant impacts due to noise.

In sum, implementation of the Concession and Government Operations components of Alternative B would cause no significant adverse impacts to due to noise.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.6-3: Potential Impact due to Noise

The descriptions of potential impacts from Concession Operations due to noise that are described in Section 3.6-2 above for Alternative B also apply to Alternative C. Details of the proposed build-out of commercial facilities under Alternative C differ slightly from those of the Preferred Alternative, but overall impacts would be the same.

Likewise, the potential impacts from noise resulting from the Government Operations component of Alternative C would mirror those described for

Alternative B. Impacts of trail development would be the same, as would the proposed reclassification of shoreline and water areas under WROS. Reclamation would continue to operate the visitor facilities at Oak Shores, North Shore, Smittle Creek, Pope Creek, Markley and Olive Orchard, and the turnouts at Eticuera and Steele Canyon would be upgraded in the same manner under both alternatives.

Although under Alternative C Camp Berryessa would be managed by a concessionaire during the summer months and by Reclamation the rest of the year, those administrative changes would not result in significant changes in noise levels there.

In sum, implementation of the Concession and Government Operations components of Alternative C would cause no significant adverse impacts to due to noise.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.6-4: Potential Impact Due to Noise

Under this alternative the build-out plans for commercial facilities would be very similar to Alternative B, except that only five of the seven resorts would be managed by a concessionaire. As in Alternatives B and C, commercial development would occur within the resorts' land assignment, and the potential for increased noise levels from vehicles and powerboats would be essentially the same as predicted for those alternatives. Noise levels, however, would be substantially reduced in the vicinity of those water areas where new WROS zoning implemented under Alternative D would either prohibit motors or significantly restrict motorboat speeds.

The potential impacts due to noise arising from the proposals of the Government Operations component of Alternative D also would resemble those described for Alternative B. Trail development would proceed as described in Alternative B, and the reclassification of recreational-use areas on and around the lake would be implemented under WROS. In Alternative D, however, boat speeds would be restricted on Putah Creek, the entrance to Steele Canyon Cove and adjacent to Camp Berryessa, which would concurrently reduce noise levels in those locales. Introduction of a sports skiing center, to be managed by a concessionaire, could potentially increase general noise levels in that area, however.

Predicted impacts due to noise at Markley, Olive Orchard, Oak Shores, Smittle Creek, Pope Creek and North Shore, and at the turnouts at Eticuera and Steele Canyon would be the same as those described for Alternatives B and C.

In sum, implementation of the Concession and Government Operations components of Alternative D would cause no significant adverse impacts to due to noise.

Impact 3.6-5: Cumulative Environmental Impacts Due to Noise

No actions currently proposed by Reclamation or other management authorities would result in cumulative impacts due to noise under Alternatives B, C or D.

As stated earlier, there is no research-generated database with which current noise levels can effectively be evaluated or future levels could accurately be extrapolated. At present, there is no evidence to suggest that current noise-related impacts are significant. Finally, there are no indirect noise-related impacts predicted under these alternatives.

Impact 3.6-6: Potential Impacts from Irreversible and Irrecoverable Commitments of Resources Due to Noise

Construction activities related to resort build-out activities under alternatives B, C and D would constitute irreversible and irretrievable commitments of resources that could potentially result in noise-related impacts at Lake Berryessa. However, those impacts would not be significant under any of the three action alternatives.

Impact 3.6-7: Potential Impacts from Short-term Effects versus Long-term Effects, Due to Noise.

All of the proposals under Alternatives B, C and D would have positive long-term effects in terms of noise. No significant short-term noise-related impacts are predicted under those alternatives.

Impact 3.6-8: Unavoidable Adverse Impacts Due to Noise.

No unavoidable adverse impacts due to noise would be associated with Alternatives B, C or D.

3.7 Recreation

3.7.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Visitors go to Lake Berryessa for a variety of recreational opportunities, most of which are water-dependent and seasonal. The lake offers an assortment of activities, such as power boating and water skiing, picnicking, camping, swimming and fishing. Because most recreational activities that take place at the lake involve water sports, summer is the primary recreation season, with an estimated 75 % of total visitation taking place between Memorial Day and Labor Day weekends. The only exception to the seasonal nature of recreational activities is fishing, which more frequently occurs outside the summer months.

As a general rule, public lakes usually attract short-term users – those interested in brief campouts, a day or two of fishing, swimming, or skiing, or other activities. A few visitors may stay longer, sometimes up to two

weeks or the posted time limit.

Current use at Lake Berryessa, however, varies somewhat this general rule. Many of the visitors of the reservoir are exclusive long-term users who keep trailers and mobile vacation homes at sites under permits from the seven resorts. In many cases, those users have been frequenting the lake for dozens of years, using their long-term accommodations quite consistently and extensively, especially during the summer months. These long-term visitors, however, while economically important to resort operations, still represent a small proportion of visitors to Lake Berryessa.

Concession-operated resorts do offer some facilities for short-term visitors. Those are limited in number, however, and are located in less desirable areas of the resorts – the more attractive locations being reserved for trailer site permittees. For instance, short-term facilities are relegated to areas with poor or minimal access to the lake: resort-operated campsites tend to be crowded together and located in areas with conflicting use (e.g., adjacent to trailers or in high-activity areas such as parking lots, boat ramps and main access highways). Despite their shortcomings, those facilities generally are filled to capacity on summer weekends.

Facilities operated directly by Reclamation, on the other hand, are intended and designed to serve short-term users. Those facilities, however, are limited to day-use areas at Oak Shores and Smittle Creek, and dispersed day-use turnouts at Markley, Steele Canyon, Olive Orchard, Pope Creek, North Shore, and Eticurea.

In the main day-use areas at Oak Shores and Smittle Creek are picnic areas, swimming areas and short hiking trails. A small Visitor Center/Museum is open to the public at the Reclamation administrative complex on Government Point. High-quality, lower density camping areas typical of those found at other public lakes or recreation areas currently are not available at Lake Berryessa. Reclamation managers believe that more and higher quality facilities of that nature are needed for the short-term users who constitute the majority of visitors to Lake Berryessa.

Current and Predicted Visitation Numbers

A total of 1,079,466 users visited Lake Berryessa in 2002. The numbers of visitors at the lake between 1981 and 2002 are provided in Table V1. The historical visitation numbers and predicted visitation numbers are presented graphically in Figure 9.

As Table V1 and Figure 9 illustrate, visitation at Lake Berryessa does not climb steadily, but instead goes through a cyclical pattern of rising and falling visitation numbers. Since Reclamation began keeping visitation statistics in 1981, the greatest increase in the number of visitors over the period of a year occurred in 1982. Visitation climbed by 634,850 persons, an increase of nearly 40% over the 1981 baseline total. The trend did not continue, however, but declined over the next to years. By 1984, visitation

had dropped back to the 1981 level. The next three years saw a steep and steady increase, peaking in 1987 with a total 1,852,584 visitors.

Visitation began declining again in 1988, and finally bottomed out in 1994 with 1,231,162 visitors. That year was the final season of a lengthy drought, which left the lake at the 63 feet below crest on Labor Day weekend. Low lake levels combined with an economic recession at that time may have discouraged visitation.

Visitor numbers rose steeply again in 1995, presumably corresponding with increased lake levels and an improved economy, and reached an all-time high in 1996 when 1,854,996 persons visited the reservoir. Between 1997 and 2001, visitation numbers continued to fluctuate, with the greatest percent change occurring in 1999, which had a 34 % drop in visitation. While numbers steadily increased the following two years, 2002 saw the greatest decline in visitation ever recorded in a single year at Lake

Table V1. Visitation and Lake-Level Trends at Lake Berryessa

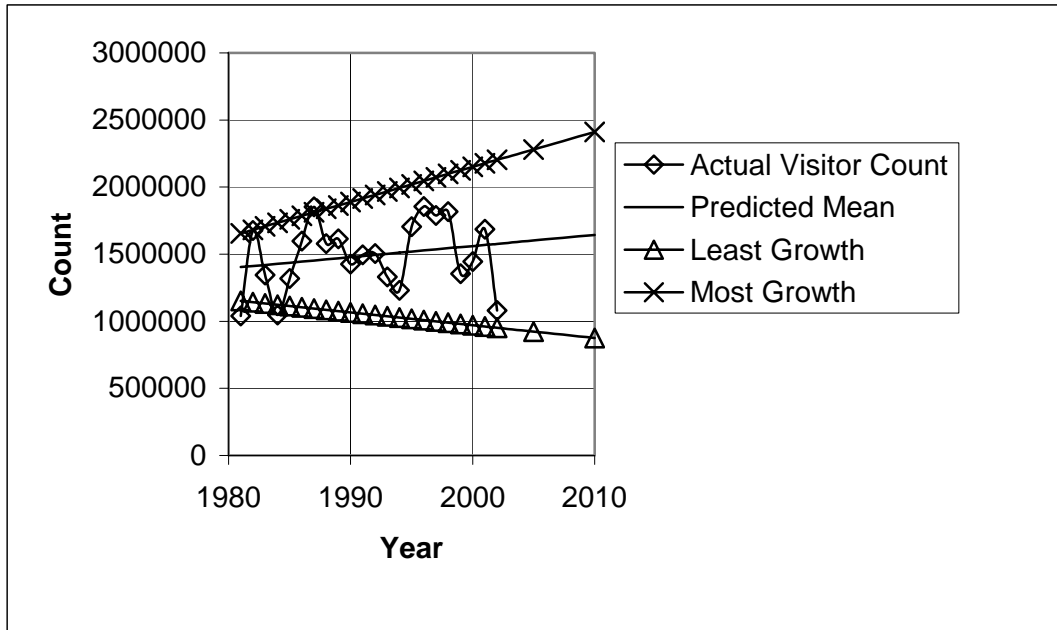
Year	Total number of visitors*	Change from previous year	% change from previous year
1981	1,040,506	No data	No data
1982	1,675,356	+634,850	+37.9%
1983	1,345,415	-329,941	-24.5%
1984	1,046,283	-299,132	-28.6%
1985	1,318,357	+272,074	+20.6%
1986	1,597,846	+279,489	+17.5%
1987	1,852,584	+254,738	+13.8%
1988	1,577,701	-274,884	-17.4%
1989	1,614,609	+ 36,908	+ 2.3%
1990	1,426,557	-188,052	-13.2%
1991	1,495,013	+ 68,456	+ 4.6%
1992	1,505,284	+ 10,271	+ 0.7%
1993	1,330,911	-174,373	-13.1%
1994	1,231,162	- 99,749	- 8.1%
1995	1,704,581	+473,419	+27.8%
1996	1,854,996	+150,415	+ 8.1%
1997	1,788,731	- 66,265	- 3.7%
1998	1,818,207	+ 29,476	+ 1.6%
1999	1,354,567	-463,640	-34.2%
2000	1,445,987	+ 91,420	+ 6.3%
2001	1,685,362	+239,375	+14.2%
2002	1,079,466	-605,896	-56.1

Total number of visitors over 22 years: 32,789,481

Average (mean) number of visitors per year: 1,490,431

** The number of visitors is calculated by multiplying the number of vehicles tallied by automatic traffic counters by the average number of persons (2.96) per vehicle.*

Figure 9. Visitation Trends and Predicted Visitation at Lake Berryessa. The upper and lower diverging lines indicate the predicted range of visitation numbers for Lake Berryessa through the year 2010.



Berryessa, as the total plunged to 1,079,466, a drop of more than 56% from the previous year. Severe drought conditions throughout the West, a sagging national economy, and preoccupation with the possibilities of war and terrorist strikes against the U.S. crippled recreation and hospitality providers nationwide. Those factors probably were responsible for the dramatic decline of visitation numbers at Lake Berryessa.

With the vacillating nature of visitation at Lake Berryessa in the past and the current uncertainty with the world political and economic climate, undertaking to forecast long-term trends in visitation numbers is particularly difficult. Nevertheless, the linear regression presented in Figure 9 illustrates the predicted trend of visitation through 2010, which is based on the visitation data between 1981 and 2002. The figure shows a general trend toward increasing visitation at Lake Berryessa. Specifically, it predicts (at the 0.1 confidence level) that Lake Berryessa will have between 875,878 and 2,411,179 visitors by 2010, with a predicted mean of 1,643,529 visitors. That number is similar to the number of people that visited the lake in the “crash” year of 2002.

Carrying Capacity

While predictions have been made for the number of future visitors at Lake Berryessa, such visitation numbers can be affected by weather patterns (fewer people during drought years when water levels are low and recreation opportunities become substandard), trends in recreational activities, and local and world events. In addition, the total number of visitors is also dependent upon the area's carrying capacity.

Carrying capacity on Lake Berryessa is evaluated for the reservoir's land and water access facilities and the water surface. A study conducted for the 1992 RAMP found that water access facilities for short-term day-use were the primary limiting factor with regard to carrying capacity. Currently, short-term facilities are used at or near capacity during the summer recreation season. The study also found that the reservoir's land and water surfaces rarely reached their carrying capacity, except holiday weekends. The 1992 Ramp has established a carrying capacity limit of 3,000 vessels on the lake's surface per day. At the time of the study, aerial reconnaissance recorded approximately 1,100 to 1,200 vessels on the lake during a typical summer weekend, with midweek use diminishing to approximately 300 to 400 vessels a day. However, up to 3,700 boats were counted at one time during peak holiday weekends.

Thus, while occasional holiday-weekends experience use that exceeds the carrying capacity estimated in the 1992 RAMP, regular weekend and weekday-use remains well within that limit -- with room to spare. In fact, a 1998 aerial boat count revealed 90 to 188 boats on the weekdays and 493 to 538 boats on the weekend, considerably lower than the 1992 numbers. This difference is difficult to explain, considering that total visitation numbers were greater in 1998 than in 1992.

While it seems that the lake surface may not have reached carrying capacity except on holiday weekends, some particular areas of the lake frequently are crowded. Favorite water sites and therefore the most congested areas, according the Colorado State study, continue to be in the Spanish Flat area, the Narrows, Twin Bridges between Pope Creek Bridge and the portion of Putah Creek from the bridge up to the 5 mph buoy line. The west shore area between the Reclamation administrative complex and the Putah Creek Resort, near-shore areas south of the Rancho Monticello Resort, and surrounding the Putah Creek Park Resort also are high-use areas.

Use concentration in popular areas results in congestion, use conflicts, and occasional serious accidents. Congestion is particularly problematic when large, fast boats requiring large areas of open water operate in proximity to divers, swimmers and smaller, slower watercraft. This kind of conflicting use results from a lack of any water-surface zoning on the lake.

Area Reservoir Recreation Demand

The National Recreation Lakes Study Commission estimated in 1998 that there are 900 million visits to federal reservoirs per year. This number was expected to increase by 2 % per year, reaching nearly 2 billion visits by 2048. Jones (1996) also found that the demand for public freshwater lakes and reservoirs for recreational uses is increasing and is especially high in areas where there are few natural lakes. Increasing growth and new road access to lakes has led to a rapid increase of recreational use of reservoirs for boating, swimming, camping, hiking, sightseeing and fishing (National Recreation Lakes Study Commission, 1999).

In California, too, the demand for outdoor recreational opportunities is growing. According to the last California Outdoor Recreation Plan prepared by the state Department of Parks and Recreation (DPR 1993), more than 75% of California residents consider outdoor recreation to be important to their quality of life. With a population now exceeding 33 million, the state is seeing visitation pressures increase on its open lands and established recreational areas. The DPR reports that more Californians are seeking recreational experiences closer to home (mainly near urban areas), and that Californians indicate a strong preference for natural or nature-oriented recreation areas. Lake Berryessa meets both these preferences.

California State University, Chico (1996) conducted a market analysis of people living within 100 miles or a 2-hour driving radius of Lake Berryessa. The market analysis area covered 16 counties, including Alameda, Colusa, Contra Costa, Lake, Marin, Mendocino, Napa, Sacramento, San Francisco, San Joaquin, San Mateo, Solano, Sonoma, Sutter, Yolo and Yuba Counties. In the study, 83 % of respondents said that they had participated in outdoor recreation activities in the previous 12 months, and 80 % of the same respondents said that they participated in outdoor recreation on or near water such as a river or lake.

Lake Berryessa is the largest freshwater lake in the 16-county market analysis study area. In recent years, visitors to the lake have come mostly from the San Francisco Bay and Sacramento metropolitan areas. If this trend continues, the phenomenal population growth of the Bay and Sacramento areas is of greater significance to the Lake Berryessa Reservoir area than is predicted growth in nearby Census Tract 2018 and Napa County as a whole. (Census Tract 2018 is an area designated by the U.S. Census Bureau, for census purposes, that includes the land around and to the west and south of Lake Berryessa, The land encompassed by Census Tract 2018 may be viewed at http://ftp2.census.gov/geo/maps/trt1990/st06_California/06055_Napa/90T06055_001.pdf.

A recreation-demand analysis was completed for the 1992 RAMP. That study concluded that extensive latent or unmet demand exists for freshwater recreation activities in the Lake Berryessa area. This conclusion was based

on the fact that when a new opportunity for freshwater recreation opened in an overlapping market area in 1986 (i.e., at Lake Sonoma), Lake Berryessa continued to receive increased use over subsequent years. Another indicator of latent demand is the public response to a survey conducted by DPR in 1987 (Public Opinions and Attitudes on Recreation in California). Participants in the survey said that there was a need for more short-term recreational facilities in the area – indicating that current facilities are not meeting the needs of the users.

Current Visitor Profile

A 1998 study, “A Study of Boater Recreation On Lake Berryessa, California,” examined boater use-patterns and perceptions to identify two types of users. The two user-types identified in the study were “ramp users” (those who used boat ramps to access the lake surface) and “resort/marina boaters” (those who kept their boats at resorts/marinas at the lake). Both groups were similar in terms of their places of residence and distances traveled to Lake Berryessa, with most residing within 75 miles of the lake. They used the lake because of its proximity to their places of residence. Both groups also were similar in that they tended to have used Lake Berryessa for many years: ramp users had an average of 13 years of experience on the reservoir, and resort/marina boaters had about 18 years of experience there.

Most ramp users were classified as “occasional visitors” because they had visited the lake 10 or fewer days during the year prior to the survey. Resort/marina boaters, on the other hand, were classified as “regular” or “frequent” users, with most having visited the lake 20 or more days in 1997. Further, resort/marina boaters tended to prefer Lake Berryessa to other waters in the area: only 27 % of those participating in the study named other lakes where they boated. Ramp users, on the other hand, were more mobile, with 81 % of those surveyed using lakes or reservoirs other than Lake Berryessa.

Ramp and resort/marina users also differed in terms of the typical length of their visits. While most ramp users surveyed were day-users, most resort/marina boaters visited for two or more days. About as many ramp users (43 %) stayed at long-term sites (i.e., trailers) as they did short-term sites (41 %; i.e., campgrounds, undeveloped areas). In comparison, the majority of marina/resort users (79 %) stayed at long-term sites, with only 8 % staying at campgrounds. Resort/marina users are thus almost exclusively long-term users while ramp users are a mix of short-term and long-term users. Nine to 10% of both groups spent nights on their boats at night, with very few (7 % of ramp users and 3 % of resort/marina boaters) staying at lodges or motels.

Interestingly, while both groups participated in similar activities (pleasure cruising, swimming, relaxing, sunbathing and fishing while the boat is stationary), their recreational values and perceptions of their experiences

diverged. Ramp users valued the opportunity to experience the outdoors in an undisturbed, natural setting, spending their time on the lake with friends and family, and relaxing. Resort/marina boaters, on the other hand, enjoyed socializing and interacting in the various outdoor environments provided at Lake Berryessa.

Visitor Experience

The quality of a visitor experience depends on a number of variables, including natural resource conditions; the number, duration, and character of encounters with other groups; the number and condition of developed facilities; and the type of activity that the visitor wishes to pursue. Experiences also depend on the preferences, motivations and needs of the user. For instance, visitors on a houseboat seek a type of recreation experience that is different from that sought by kayakers, and so have a different set of expectations and preferences relating to the nature of shoreline development.

Many of the visitors surveyed for the 1998 boater survey commented positively about the water quality and natural environment, which added to their enjoyment of their lake experience. In that study, both user groups were asked to name the qualities they liked best about Lake Berryessa. The most frequent response was related to water conditions (e.g., water quality, availability of calm water conditions) and the condition of the natural environment (e.g., scenery, wildlife, other natural features). Qualities least-liked by ramp users were crowded conditions, increasing boat traffic and the use conflict resulting from incompatible boat types and activities. Least-liked by marina users were use conflicts resulting from incompatible boat types and activities. Only half as many marina/resort users as ramp users viewed more crowded conditions and increased boating traffic as a problem – presumably because they were more interested in social and sporting activities than in solitude and relaxation. All told, though, less than 15% of all boaters surveyed in 1997 thought the reservoir was overcrowded.

The 1992 RAMP identified five land-use categories, of which four were based on the level of shoreline development and user density. (The fifth category consisted of restricted areas.) Section 3.1 of this document describes these land-use categories in detail.

The range and diversity of categories shows that Lake Berryessa provides for a range of visitor experiences. Visitors using the Class I - High Density Recreation Areas, which consist mostly of the seven resorts, would have a highly social experience in a well-developed area with many visitor conveniences. Their recreational activities would occur in a high-use and somewhat unnatural setting. This kind of experience does not appeal to everyone, but many users enjoy the opportunity to engage in socially-oriented activities and appreciate the conveniences and creature comforts available at the resorts.

Visitors using Class IV- Semi-Primitive Areas, such as those along the lake's eastern shore, would experience solitude in a natural setting. Their recreational activities would occur in a quieter, undeveloped environment. Again, this kind of experience does not appeal to everyone, but many users appreciate the sights, sounds, and scents of nature, and enjoy the experience of "roughing it" in a remote area.

The condition of the developed facilities and the natural environment encountered by visitors is also an important part of their experience. As stated earlier, the privately operated day-use and camping areas at the resorts are in deteriorating condition, are rudimentary in design and accommodations, and are situated in less than optimal locations. Visitors often are willing to endure the inadequate facilities because no other choice is available, but their recreational experience is diminished by the unsatisfactory condition of the facilities there.

The variety of recreational activities available is another part of the visitor experience. Visitors to the reservoir enjoy 44 water-related activities, including various kinds of boating, fishing, skiing, swimming, sightseeing, picnicking, and camping/lodging (RAMP, Appendix J, J-1, see associated Website). Some land-based recreational activities, such as walking, hiking, riding all-terrain vehicles and cycling, also occur on the 8,958 acres of public lands surrounding the lake, but those are secondary to the water activities in terms of visitor participation.

Most of the on-shore recreation use occurs on the west side of the lake, where there is a much greater level of development. The east side is managed under the Lake Berryessa Wildlife Area Management Plan, which allows for recreation facilities and use, but in a less developed setting.

The different types of visitor activities are discussed below under the categories "day-use" and "overnight use." To some extent, these categories overlap: although day-users, by definition, do not engage in overnight activities, overnight-users do engage in "day-use" activities during their stays. The categories are employed here only for organizational purposes.

Day-Use Activities

Boating

Most boating activity at the lake occurs on summer weekends between April 1 and October 15. Although some types of boating, such as sightseeing, occur year-round, most activity is concentrated in the warmer months. The most common watercraft used on the reservoir are runabouts and ski boats. Other common vessels include personal watercraft, fishing boats, pontoon/patio boats, houseboats, sailboats, rubber rafts, canoes, kayaks, paddleboats and rowboats. Runabouts, jet skis, self-powered surfboards and sailboards appear to be particularly popular with visitors,

judging from a 1998 aerial survey of boats on Lake Berryessa. See the earlier reference to “A Study of Boater Recreation On Lake Berryessa, California”

Visitors use their watercraft for pleasure boating, sailing, fishing, sight-seeing and water-skiing, as well as for nontraditional and “extreme” sports such as para-skiing, para-sailing, surf-sailing, inner tube “skiing,” and jet-skiing. These uses occur throughout the reservoir, but predominantly across the western half.

Houseboats, too, are gaining in popularity at the reservoir. House-boating was first introduced to Lake Berryessa in 1981, when a commercial houseboat fleet was authorized at Markley Cove Resort. Because of public concern about direct discharge of gray water (sink and shower discharge) into the lake, Reclamation analyzed the effects of the houseboat program on water quality and concluded that the amount of gray water from the number of houseboats currently on the lake would not harmfully contaminate the lake. However, DFG has conducted a number of studies of chemicals commonly found in gray water discharges, and has found those chemicals to be deleterious to aquatic life. Discharging any gray water or black water (sewage) is a violation of Section 5650 of the Fish & Game Code, and also of Reclamation policy. Reclamation’s requirements for houseboat use entitled “Private and Commercial Houseboat Policy for Lake Berryessa and New Melones Lake,” dated April 2, 2002, is in draft and not yet available for general distribution.

The use of personal watercraft (e.g., jet skis or wave-runners) has increased steadily, along with more traditional boating uses on the lake. These smaller vehicles are typically designed to hold one to three passengers, and can tow at least one water skier. Older models are equipped with a two-stroke water-jet engine; the latest versions are fitted with four-stroke engines that produce fewer emissions. Both models eliminate the need for a propeller, allowing them to access areas otherwise too shallow for conventional boats.

Fishing

Most fishing use occurs in the fall, winter, and spring, but typically diminishes throughout the summer. Cold-water game species include brook trout, rainbow trout and Konkani salmon. The lake is stocked with rainbow trout each year and more recently with Chinook and Konkani salmon. Silver salmon and brown trout were formerly stocked at the lake, but have not been reported in recent years. Warm-water game species include bluegill, largemouth and small mouth bass, white crappie, black crappie, and channel catfish.

Although no data specifically on fishing use of the reservoir are available, individuals are routinely observed engaging in several kinds of fishing. According to the 1988 Water Recreation Carrying Capacity Analysis, fly-fishing, spin casting, and cane pole fishing from the lakeshore occurs mostly along the lake’s west shoreline. Still-boat fishing, or fishing from an

anchored boat or one that is allowed to drift, generally involves spin casting, fly fishing or cane pole fishing from nearly any location on the reservoir. Trolling takes place from a motorboat or rowboat moving at about three miles per hour or less, and occurs in parts of the lake where the water is more than 6 feet deep. Tournament fishing, generally for bass, usually runs from January through April.

Swimming

During the period from 1975 to the drought of the 1980s, Reclamation provided lifeguard supervision at the swimming areas in the Oak Shores day-use area. The reduction in visitor-use during the drought caused the lifeguard program to be eliminated. Today, visitors enjoy non-organized recreational swimming at Lake Berryessa. Other activities associated with swimming are air mattress and inner tube floating, playing with inflatable toys and flotation devices, wading, snorkeling and diving. Swimming and floating occur throughout the lake, whereas the other related activities tend to occur in particular areas. Special swim events, such as open water swimming, distance swimming, triathlons and biathlons, are held at the lake each year under special-use permits issued by Reclamation.

Interpretation

Interpretation and information services are offered in a small Visitor Center adjacent to the Reclamation administrative building. Reclamation personnel and volunteers staff the Visitor Center on a regular basis from May through September. Information is provided regarding recreational opportunities at the lake. The Visitor Center also contains a number of interpretive displays, including several mounted wildlife exhibits and historical information about the local area. Other interpretive efforts, including interpretive trails and seasonal programs, are being initiated by Reclamation. Some regulation-related information is available at the Visitor Center, the entrance station to Oak Shores, several other day-use areas and the boat launch facilities at the resorts.

Picnicking, Boat Launching and Parking

Government-operated facilities available to the public include the Capell Cove launch ramp, which was constructed between 1977 and 1978. Parking for 71 vehicles and boat trailers is provided there. Since the State of California contributed a substantial portion of the funds for the facility's construction, it stipulated that the public be allowed to use the ramp without charge for a period of 10 years. That time period has expired. Capell Cove has been a popular facility, and its parking spaces usually are filled by mid-morning. However, most summer weekends the boaters continue to use the ramp even when the parking facilities are filled, parking their vehicles and boat trailers along the county road, up to more than half a mile from the ramp entrance. Because of the congestion this situation causes along the road, Reclamation has installed traffic control devices and gates that can be closed when the facility is full.

Construction of Oak Shores and Smittle Creek day-use recreation facilities began in 1978 and was completed in the spring of 1980. Prior to construction, the public utilized the area for day-use by parking within the county road right-of-way and walking down to the shoreline. These facilities now provide fewer than 500 parking spaces, many of which are located close to the water. Picnic tables, barbecues and garbage receptacles are placed throughout the area, and modern, conveniently spaced public restrooms are provided. Two swimming areas, Acorn and Coyote, have been designated at Oak Shores.

The resorts also offer a number of other facilities, including picnic areas, boat ramp, marinas, restaurants and food stores. Each resort offers a variety of marina services, including moorage, gas service and boat rentals.

Special-Use Activities

Any club or organization wanting to establish a special-use area, whether for long-term use or short-term use, must enter into an agreement with Reclamation. If the proposal is acceptable and an agreement is signed, Reclamation issues a special-use permit. Reclamation can cancel the permit at any time if the user fails to adhere to the terms of the agreement.

One of the current long-term permits was issued by Reclamation in 1975, to allow the Monticello Ski Club to operate a public ski slalom and jump course at Skier's Cove, north of Steele Park Resort. On weekends, ski club members are on hand to demonstrate the proper use of the facilities to club members and the general public. Visitors are charged for use of the facilities, which is on a first-come, first-served basis. Due to the increasing popularity of this facility, a demand is growing for additional areas for advanced water-skiing and wake-board event opportunities.

A second long-term special-permit is held by the Silverado Council of the Boy Scouts of America, for operation of a group campground. This permit is discussed in detail in the Overnight Use section below.

Short-term special-use permits may be issued for races, regattas, bass fishing tournaments, swim-a-thons and other events that may occupy large sections of the lake surface or surrounding land or otherwise exclude general public. Generally, Reclamation charges a fee for these activities, to cover administrative costs.

Another important special use is the military's use of the lake for operational exercises. Under the terms of a Memorandum of Understanding with the military, Reclamation is notified when the Department of Defense wants to use the area. Unless there is a conflicting prior use arrangement, permission is routinely granted.

Various business enterprises that provide recreational equipment or services have requested permits or agreements to provide services and/or facilities to the public from areas outside of the resorts. Such business opportunities include rentals of boats, personal watercraft, wind-surfing equipment and a

variety of other water-related services. Reclamation typically encourages those entrepreneurs to contact the resorts to discuss the possibility of entering into a sub-concession agreement and conducting their business through the concessions.

Hiking

The existing trail system at Lake Berryessa consists of the Smittle Creek and North End trails. The Smittle Creek trail is 2.5 miles long, starting from Coyote Knolls at the Oak Shores day-use area and following the shoreline to the Smittle Creek day-use area. The North End trail is 4.5 miles long, and begins on the north end of the Putah Creek Bridge and follows the lakeshore to Eticuera Creek. This trail is eroded in many areas, and needs extensive maintenance. Finally, the Markley Cove area has an informal social trail system (created by visitor use, not by plan) connecting various roads side parking areas with the shoreline.

Reclamation is interested in planning and developing trails to serve the lake and surrounding areas. To that end, an informal partnership for trail development is being formed among Reclamation, the Bureau of Land Management, California Department of Fish & Game, the University of California at Davis, and Lake, Napa, Yolo and Solano Counties. No specific plans for trail alignments or construction details have been developed for review under this DEIS; instead, site-specific environmental evaluation likely will be required as each trail-segment proposal is formulated.

Overnight Use

Short-term campgrounds are provided by six of the resorts at Lake Berryessa; Reclamation does not directly operate any campgrounds at the reservoir. Since the resorts have emphasized development of extensive mobile home parks, which occupy of the more desirable shoreline locations, the short-term overnight facilities generally are inadequately designed and relegated to locations with limited access to the lake. For instance, many of the sites are crowded together and rudimentary, offering only the bare necessities: picnic tables, a cooking grill, a parking place and a tent pad. Often, the sites are located in areas with conflicting uses, are next to trailers, or are near high-activity areas such as parking lots, boat ramps and main access highways. Demand for campsites during the summer is high, however, and even these marginal facilities are filled to capacity on weekends during the recreation season. High-quality, lower density public campgrounds typical of those offered at other state or federal recreation areas are not available at Lake Berryessa.

The one overnight facility on the lake that is not operated by concessionaires is Camp Berryessa, a group site that was constructed by and continues to be operated by the Silverado Council of the Boy Scouts of America. This site is located on the north side of the Putah Creek arm of the lake and on the west side of the Berryessa-Knoxville Road, north of the Putah Creek Bridge. Its facilities are primarily for Scout use; however,

Reclamation stipulates in its permit that the Scouts must make the camp available to other organizations and groups when it is not being used for Boy Scout programs.

The information provided the Affected Environment section for the No Action Alternative also applies to Alternatives B, C and D.

3.7.2 Environmental Consequences and Mitigation

This discussion of recreation at Lake Berryessa is not organized using the Commercial Operations and Government Operations categories employed in other sections of this document. Recreation-related topics are more broad-reaching and address uses and use profiles that are not necessarily limited to concession or Reclamation operations.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.7-1: Potential Impacts to Visitation Numbers

Based on visitation patterns documented from 1981 to 2002, it is predicted that visitation under current management practices at Lake Berryessa will generally and slowly increase, reaching a projected average of about 1.6 million visitors by 2010 (see Figure 9). This increase will not be steady, but will accrue over a series of fluctuating highs and lows. These cyclic fluctuations appear to result from a number of independent variables that affect the public's interest in water-related sports and their ability to participate in those activities: weather patterns, local and regional economies and the national political climate.

The predicted average increase in visitation is judged to be insignificant. Eight different years between 1981 and 2002, visitation actually totaled *more* than 1.6 million at the reservoir (see Table V1 and Figure 9 in Section 3.7, above); consequently, the projected average visitation would not be uncharacteristic of current conditions at the lake. In that sense, Alternative A would have no impact on visitation numbers at the reservoir.

However, it also appears that the number of day-use and overnight facilities provided at the lake is *at present* is a limiting factor for visitation. Campgrounds typically are full on summer weekends; presumably, some visitors are turned away because no site is available for their use. If more campsites were available, visitation would increase. In that sense, Alternative A does impact visitation, by artificially capping the number of visitors who can camp there during the summer season. If selected, the No Action Alternative would continue to have that dampening effect on visitation numbers. Since no study of camping demand has been conducted at the reservoir, it is not possible to quantify the extent of this effect and evaluate its significance. However, the numbers of proposed new facilities that could be provided under the existing 1992 RAMP, which would

continue to guide management under Alternative A, likely would not boost visitation by a significant amount.

Impact 3.7-2: Potential Impacts to Recreation Carrying Capacity

The lake surface carrying capacity of 3,000 boats, as identified in the RAMP, was determined by estimating the amount of traffic that reasonably could be funneled through the reservoir's boat launch facilities in a given day – not by the amount of boat traffic that potentially could be accommodated on the lake surface if unlimited access were available.

Existing facilities can accommodate the peak numbers of visitors who come during summer holiday weekends such as Labor Day and Memorial Day. Actual visitation numbers for those weekends are not available, but the number of watercraft on the lake at times is as high as 3,700, which exceeds the water surface carrying capacity established in the RAMP. Estimation of carrying capacity based on existing water-access facilities may have been too conservative.

While existing facilities are sufficient enough to allow the lake surface to reach and at times exceed its identified carrying capacity of users, they cannot handle that amount of traffic in a satisfactory manner. Long lines and long waits occur on busy weekends, and parking often spills out onto roadsides. Since there is no reason to predict that demand at the existing boat launches and moorages would increase significantly under Alternative A, this proposal would result in no impacts to recreation carrying capacity.

Impact 3.7-3: Potential Impacts to Demand for Freshwater Recreational Opportunities

Unmet or latent demand has been identified within the Lake Berryessa area. This demand would quickly fill any additional new reservoir-related recreation opportunities provided under Alternative A. Because Alternative A would not result in a predictable increase in visitation numbers at the lake, or increase carrying capacity by improving access to the water, latent demand would not be impacted.

Impact 3.7-4: Potential Impacts to Visitor Profile

Some long-term trailers already have been removed because they were not in compliance with environmental and health and safety requirements. Construction of the North Area Campground, as proposed under the RAMP, would provide new overnight facilities to help counterbalance those removals. Otherwise, continuation of existing conditions and practices under the No Action Alternative would have no impact on visitor profile. The ratio of long-term to short-term users would remain about the same, and visitors would continue to come from the same areas.

Impact 3.7-5: Potential Impacts to Visitor Experience

If the remaining improvements described in the 1992 RAMP were implemented, visitor experiences –especially those of the short-term user-- would be positively impacted in some important ways. Such improvements

would include the development of dispersed recreation areas, facilities for special-needs populations, trails and a boat-in camping program. These facilities and services would enhance the visitor experience.

However, other impacts of implementing Alternative A would be adverse. Deteriorating resort sewage systems would continue to fail, affecting the water quality that so many visitors value. Use conflicts and incompatibilities cited by many boaters would continue. Erosion and unsightly residential materials would continue to accrue in the trailer park areas, impacting the scenic qualities of the shoreline. Noise levels would continue to increase as the growing popularity of noisy personal watercraft, with their ability to access inappropriate use-areas, rises and is not adequately addressed under existing use criteria, infringing on the quiet and solitude valued by many users of backcountry areas. Continuation of existing trends under the No Action Alternative, then, could potentially have significant adverse impacts to visitor experience.

Impact 3.7-6: Potential Impacts to Day-Use Activities

If the remaining recommendations in the 1992 RAMP were implemented, opportunities for day-use activities for short-term users would be positively impacted. In addition, interpretation would be enhanced by the remodeling of the Visitor Center/Museum and Reclamation's administrative complex. However, if day-use activities were to continue under current conditions, trends in the various recreational pastimes of boating, fishing, swimming, picnicking and hiking would not substantially change.

Therefore, Alternative A would have no significant impacts to day-use activities at Lake Berryessa.

Impact 3.7-7: Potential Impacts to Special-Use Activities

Under Alternative A, special-use permits for operation of Camp Berryessa and the water skiing school (or ski club) would continue to be administered by Reclamation. Reclamation would continue to review those activities to insure that they continue to comply with permit conditions and agency policy and regulation. The agency also would continue to accept and review requests for permits for new activities or for recurring activities, such as fishing tournaments, boat regattas or similar events that use significant areas of the reservoir or that otherwise affect the use of the lake by the general public.

Therefore, Alternative A would have no significant impact to special-use activities.

Impact 3.7-8: Potential Impacts to Overnight-Use Activities

Removal of 15% of existing trailers for environmental, health and safety reasons has already adversely impacted that kind –long-term trailer occupancy-- of overnight use. However, that impact would be mitigated by new opportunities for overnight use if the North Area Campground were constructed as proposed in the 1992 RAMP. Otherwise, overnight use

opportunities would continue at slightly reduced levels. Therefore, Alternative A would have no significant effect on overnight-use at Lake Berryessa.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.7-9: Potential Impact to Visitation Numbers

The projected average increase of visitation described under Alternative A and in Section 3.7 above is based on continuation of current conditions and trends. Cyclic drops in visitation since 1981 have been attributed to a variety of independent variables, as described under Alternative A. However, current conditions, such as limited short-term and overnight accommodations, could be --and likely are-- a variable limiting the peaks in visitation, and therefore in dampening the average visitation over a period of years. If conditions were changed as the result of implementing one of the action alternatives, the visitation pattern observed to date could change as well. However, that change probably would not be significantly different from current projections.

Expansion and development of new short-term and public overnight facilities would attract more visitors, thereby increasing average annual visitation. The impact probably would be neither significant nor adverse, as a 1997 study indicated that the reservoir's carrying capacity is met or exceeded only a few times each summer. That is, despite purported latent demand for water-related recreational opportunities in the region, there appears to be room for some increase in visitation at Lake Berryessa under existing conditions. On non-holiday weekends, more lake-users could comfortably be accommodated by the new, improved facilities.

Impact 3.7-10: Potential Impacts to Recreation Carrying Capacity

Alternative B proposes to develop non-fee launch ramps for non-motorized boats at Steele Canyon, Olive Orchard, Oak Shores and Eticuera.

At present, as described under Alternative A, existing launch facilities appear to provide adequate access to the lake except during busy summer holiday weekends, when there may be a substantial wait to use them. The primary benefits of the new ramps would be to shorten the wait to use launch facilities and to provide new alternatives to launch non-motorized watercraft.

New launch ramps for motorized craft could potentially increase boat numbers on the lake because the resorts would no longer charge an entrance fee but only a use fee at the ramps. However, the nature of that increase could not be evaluated until the size and location of the ramps and supporting facilities (e.g., number of ramp lanes and parking spaces) are determined during subsequent planning.

Increased boat traffic has the potential to increase use conflicts and crowding at popular areas. Some areas of the lake would become restricted-use areas under the WROS system. These restrictions would include non-motorized boat use around Oak Shores, Smittle Creek, Small and Big Islands and Steele Park Cove.

However, Alternative B would implement no restrictions other than those identified under Section 3.6, Noise, on the number, type and speed of watercraft at the more popular areas that currently experience occasional overcrowding (e.g., around Spanish Flat, the Narrows, Twin Bridges, Pope Creek Bridge, and areas of Putah Creek). Consequently, congestion and adverse effects to boaters at those locations could potentially occur more frequently than at present under Alternative B. This potential is recognized by Reclamation, and further analysis over a summer season likely would be necessary in order to develop effective mitigating measures.

Changes in land-based concession operations (e.g., numbers of picnic and campsites, numbers of rooms at lodges and cabins) could not be known until more detailed planning is accomplished, which makes determining potential changes in carrying capacity on land problematic.

Overall, it is anticipated that Alternative B could have moderate impacts to lake carrying capacity. Some of those impacts, such as increasing the ability of the public to use the lake, would be beneficial; others, such as increasing congestion and possible conflicts at popular use areas, may be adverse.

Impact 3.7-11: Potential Impacts to Demand for Freshwater Recreational Opportunities

Unmet or latent demand has been identified within the Lake Berryessa use-area. The addition of no-fee launch ramps for non-motorized watercraft under Alternative B would by definition slightly increase the carrying capacity of the lake, thereby meeting some of that latent demand. This impact would be beneficial, and not significant.

Impact 3.7-12: Potential Impacts to Visitor Profile

Alternative B calls for the removal of all of the exclusive long-term trailers from the reservoir resorts. That action would adversely affect the users of those trailers, entirely eliminating that kind of use and that kind of user. No mitigation of this effect is proposed under the Preferred Alternative.

At the same time, removal of the trailers and development of short-term accommodations at those sites arguably would result in a rise in short-term users. The change would somewhat alter the lake's general visitor profile by "exchanging" some long-term users for a somewhat larger number of short-term users, when counted over the high-use season. However, the primary effect of Alternative B would be to increase the quality as well as the quantity of short-term accommodations. The beneficial effects of those changes will be discussed further under Visitor Experience.

Most current short-term users would prefer less developed sites or more primitive recreational opportunities than they now enjoy at the lake, and place a high value on experiencing the outdoors in an undisturbed natural setting. If staying overnight, they often prefer camping to staying at a conventional lodge or hotel; and they generally bring their own boat for recreational purposes. Under the Preferred Alternative, concessionaires would introduce a variety of lodging opportunities: hotels, motels, lodges, cottages and cabins. The selection might appeal to some kinds of short-term users – people who have difficulty sleeping on the ground, or parents of small children, for example. These overnight facilities tend to be more costly than campsites, but offer more comforts and amenities, and several would be open year-round. The type of user that would be attracted to such accommodations would not necessarily be interested in water-dependent recreation activities or in outdoor activities, but might be tourists passing through the area. Such users would have a different recreation agenda than current short-term users, might tend to come from a greater distance, and might have a different economic profile than most of the users who currently choose to camp.

Likewise, it is anticipated that some long-term visitors also would return to take advantage of the new variety of lodging opportunities.

In summary, Alternative B would likely have a significant impact on the visitor profile. Impacts on a small proportion of visitors would be adverse; impacts for the vast majority of visitors would be beneficial.

Impact 3.7-13: Potential Impacts to Visitor Experience

The removal of long-term trailer sites would adversely impact the experiences of the long-term user by eliminating that particular experience altogether. Beneficial impacts would accrue mostly to short-term visitors from the addition of short-term visitor facilities such as campsites and cabins, retail outlets and picnic sites; the expansion of the house-boating program; the improvement of public access to lakeshores and elimination of fees to use the launch ramps; and the development of a new trail network. The quality of short-term accommodations would be improved under Alternative B, and access to the lake surface would be greatly enhanced. Improvement to and/or additions of boat ramps would decrease congestion and wait times that users now experience at existing launch ramps. Additional beneficial impacts under the Preferred Alternative would result from improving launch ramp facilities at the resorts, providing pedestrian access from several highway turnouts, and from making the Camp Berryessa group campground experience available to a wider public. Ski-training activities would still be available to the public, but would be managed by a concessionaire.

Changing the land-use classification system developed in the 1992 RAMP to the WROS system would have some impacts to visitor experiences, in that several areas of the lake would be re-designated to exclude motorized

craft. In general, the resorts would not be impacted by the change, as their current classification status would simply be given a different name (i.e., Class 1 - High Density would become Rural Developed or Suburban). Skier's Cove, however, would be zoned as Rural Natural but would still be used for ski instruction. Overall, Alternative B would have significant negative impacts on the recreational experience of exclusive long-term trailer-site permittees, but would have positive effects of greater significance on most other visitor experiences. There is no mitigation proposed regarding the impact to long-term trailer users.

Impact 3.7-14: Potential Impacts to Day-Use Activities

Alternative B would result in positive impacts to various day-use activities. Adding and/or improving boat ramps and parking lots at the resorts would greatly improve boating experiences by providing easier access to the water and reducing the waiting time to use the launch facilities. Designating non-motorized launch ramps at Steele Canyon, Olive Orchard, Oak Shores and Eticuera would beneficially impact the experiences of visitors who prefer non-motorized boating activities. Classifying the area between Oak Shores, Smittle Creek, Small Island and Big Island as Rural Natural - Non-motorized would further improve the quality of non-motorized water activities, as it would provide a quiet and safe boating environment area for canoes, kayaks, rowboats and sailboats.

Fishing activities would not be greatly impacted by Alternative B, although anglers may be provided better access to preferred fishing spots. Swimming opportunities would be beneficially affected, with an additional swimming area designated under Putah Creek's management of Camp Berryessa. Remodeling the Visitor Center and developing interpretive and environmental education programs would positively impact educational experiences. Expanding and developing picnic facilities within the resorts would positively impact such day-use experiences, especially if the locations of such facilities are optimal (i.e., located with close access and/or good views to the water and away from congested areas such as busy roads and boat ramps).

Impact 3.7-15: Potential Impacts to Special-Use Activities

Under Alternative B, special-use permits administered by Reclamation for the operation of Camp Berryessa and the water skiing school would be discontinued. Instead, those operations would be turned over to a concessionaire: Steele Park would manage the ski instruction activity and Putah Creek would oversee summer use of Camp Berryessa. Off-season Reclamation management of the group camp would open up opportunities for expanding environmental education to local and regional schoolchildren.

These proposals would have significant beneficial impacts to existing and potential special-use participants. In the case of Camp Berryessa, use would be expanded well beyond the former Boy Scout operation that had almost exclusive use of the site for many years. In addition, the fee revenue

generated by the group campground and ski school would help offset maintenance and operational costs to facilities.

Reclamation would continue to administer other special-use activities as described under Alternative A, consistent with agency policy and regulations. Future special-use permits would still be subject to the review and approval of Reclamation, which would evaluate the propriety of any requests for such activities.

Impact 3.7-16: Potential Impacts to Overnight-Use Activities

Alternative B would significantly and adversely impact overnight-use experiences for a small group of long-term users by eliminating their trailer sites from the lakeshore. However, overnight users who do not have vacation sites at the resort would be beneficially impacted, as a greater number of campsites and a greater variety of lodging opportunities would replace the trailers. These users would be able to choose from rustic to fully developed campsites, boat-in and on-board camping opportunities, full-hookup RV sites, and a variety of hotels, motels, cabins and lodges for overnight accommodations.

Overall, the Preferred Alternative would have a beneficial and substantial impact on overnight-use activities.

Alternative C: Remove Long-Term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.7-17: Potential Impact to Visitation Numbers

The impacts to visitation numbers under Alternative C would be similar to those described for Alternative B. However, since Alternative C would retain some trailer sites and develop fewer short-term facilities than the Preferred Alternative, there likely would be slightly fewer short-term visitors and more long-term visitors than under Alternative B, and fewer long-term visitors and more short-term visitors than under Alternative A. Annual visitation would be expected to increase somewhat, but overall the impact would be non-significant.

Impact 3.7-18: Potential Impacts to Recreation Carrying Capacity

The impacts to recreation carrying capacity under Alternative C would be as described for Alternative B.

Impact 3.7-19: Potential Impacts to Demand for Freshwater Recreational Opportunities

The impacts the demand for freshwater recreational opportunities under Alternative C would be as described for Alternative B.

Impact 3.7-20: Potential Impacts to Visitor Profile

Alternative C would impact the current Lake Berryessa visitor profile by significantly reducing the number of long-term trailer users at the reservoir. Precisely how and to what extent long-term sites would be reintroduced at certain resorts has not been determined, but it seems likely that only a small fraction of the current number of long-term sites ultimately would be available. Most long-term users would have no opportunity to relocate their trailers at the lake, a change that would adversely affect those tenants.

Instead, Alternative C would provide for short-term users by enhancing camping, RV and other overnight lodging opportunities, as well as general access to the lake. As a result, the number of short-term users likely would increase, eventually filling the void left by the decreased numbers of long-term users and offsetting the negative impacts to that segment of the lake's clientele. Expansion of the short-term facilities under this alternative would help meet both the existing and increased demand for such facilities.

As described for Alternative B, a new type of short-term user would emerge to take advantage of the more developed overnight opportunities in the form of hotels, motels, cabins, lodges and RV sites. In addition, some former long-term users would take advantage of those opportunities.

Overall, these impacts to visitor profile are judged to be significant and beneficial, in keeping with Reclamation policy to provide for short-term visitation.

Impact 3.7-21: Potential Impacts to Visitor Experience

The removal of long-term trailer sites would adversely impact the recreational experience of the displaced long-term users. However, long-term users who are able to transfer to the new long-term sites would be positively impacted by the improved configuration of trailer site and the associated visual improvements. These users also would have the same improved access to the lakeshore and to new lodging opportunities available to all visitors. Impacts to the experience of short-term users – the majority of visitors to the reservoir -- would be the same as described under Alternative B.

The impacts resulting from using the WROS recreation-use classification system under Alternative C would be similar to those described under Alternative B. However, under Alternative C, motorboat speeds at Oak Shores and Steele Park would be limited to 5 mph, whereas under Alternative B, no motorized use would be permitted in those areas. Under Alternative C, boaters would be slightly impacted by the speed limit designation, with some perceiving it as a positive change and others seeing it as an adverse one.

The visitor experience would be enhanced by development of the lakeshore trail system, improvements to pullouts, parking and boat launches, and

improvements to the existing Visitor Center. Overall, impacts under Alternative C are judged to be significant and beneficial.

Impact 3.7-22: Potential Impacts to Day-Use Activities

The impact to day-use activities under Alternative C would be as described for Alternative B.

Impact 3.7-23: Potential Impacts to Special-Use Activities

Potential impacts to special-use activities under Alternative C would be as described for Alternative B.

Impact 3.7-24: Potential Impacts to Overnight-Use Activities

Alternative C would significantly and adversely impact overnight-use experiences for a small group of exclusive long-term users by eliminating trailer sites from the lakeshore. However, those long-term users who are able to relocate when some trailer sites are re-introduced, along with short-term users, would be beneficially impacted. The new trailer sites would be an improvement over the old ones.

The vast majority of visitors to the reservoir would benefit from the greater number of campsites and a greater variety of lodging opportunities that would replace those trailer sites. All users would be able to choose from rustic to fully developed campsites, boat-in and on-board camping opportunities, full-hookup RV sites, and a variety of hotels, motels, cabins, and lodges for overnight accommodations.

Overall, Alternative C would have a beneficial and significant impact on overnight-use activities.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.7-25: Potential Impact to Visitation Numbers

The impacts to visitation numbers under Alternative D would be the similar to those described under Alternatives B and C. However, visitation numbers might decline, to some degree if Reclamation were to take over operation of two the resorts and offer fewer facilities and services, thereby at least partly counterbalancing any visitation growth resulting from improvements at the other resorts. Overall, impacts to visitation numbers from implementation of Alternative D would be neither significant nor adverse.

Impact 3.7-26: Potential Impacts to Recreation Carrying Capacity

The impacts to recreation carrying capacity under Alternative D would be as described for Alternatives B and C.

Impact 3.6-27: Potential Impacts to Demand for Freshwater Recreational Opportunities

The impacts to the demand for freshwater recreational opportunities under Alternative D would be as described for Alternatives B and C.

Impact 3.7-28: Potential Impacts to Visitor Profile

Impacts to the current visitor profile at Lake Berryessa under Alternative D would be similar to those identified for Alternative B. However, Reclamation management of two of the resorts at a lower level of services and facilities likely would reduce visitation by those who prefer the kinds of services and facilities currently offered by concessionaires. These impacts likely would be insignificant in terms of total visitor profile.

Impact 3.7-29: Potential Impacts to Visitor Experience

Impacts to visitor experience at Lake Berryessa under Alternative D would be similar to those identified for Alternative B. The recreational experience of visitors who prefer the kinds and quality of services and facilities offered by concessionaires may be adversely impacted if Reclamation took over operation of two resorts. On the other hand, visitors who prefer lower levels of services and activity would be beneficially impacted by the change.

Visitor impacts relating to direct Reclamation management of Camp Berryessa and the ski instruction program are anticipated to be minor under this Alternative.

Otherwise, potential impacts to visitor experience would be as described for Alternatives B and C.

Impact 3.7-30: Potential Impacts to Day-Use Activities

Under Alternative D, Reclamation would take over direct operation of two of the seven resorts, and would not (at least initially) offer food and other services used by both overnight and daytime visitors. Other impacts to day-use activities under Alternative D would be similar to those described under Alternative B. Overall, these impacts would be insignificant and beneficial.

Impact 3.7-31: Potential Impacts to Special-Use Activities

Under Alternative D, special-use permits administered by Reclamation for the operation of Camp Berryessa and the water skiing school would be discontinued. Instead, those operations would be directly managed by Reclamation. The impacts of those changes would be similar to those described under Alternative B.

The administration of any future long-term special-use permits would still be subject to the review and approval of Reclamation, which would evaluate the propriety of any requests for such activities.

Impact 3.7-32: Potential Impacts to Overnight-Use Activities

Alternative D would significantly and adversely impact overnight-use experiences for a relatively small group of long-term users by eliminating

trailer sites from the lakeshore. In addition, Reclamation would take over direct operation of two of the seven resorts. There, visitors would find opportunities only for camping, RV parking and boat launching. Services and facilities formerly made available under concession management, such as lodging and food service, no longer would be available.

Since this proposal would actually reduce to some degree both the numbers and variety of lodging and services available to overnight users, for a period of time, it is judged to likely have a potentially adverse but only moderate effect.

Impact 3.7-33: Cumulative Environmental Impacts to Recreation

There are no plans to build additional freshwater reservoirs, or for extensive development or improvement of recreational facilities at the other existing freshwater reservoirs in the area. No cumulative impacts to freshwater reservoir recreation in the area are therefore predicted under Alternatives B, C or D. Even if a new and comparable reservoir were to be built, it could be expected that use of Lake Berryessa would remain relatively unchanged due to the existing latent demand.

Currently, the service area of Lake Berryessa greatly overlaps with that of Lakes Sonoma, Mendocino, Folsom and New Melones. Until 1986, the people within the San Francisco and Sacramento areas considered Lake Berryessa and Lake Mendocino the two primary freshwater recreational areas. When Lake Sonoma opened to the public for recreation in 1986, it attracted considerable use, which has increased in the subsequent years. Visitation at Lakes Berryessa and Mendocino, however, continued to rise despite the tremendous increase of use at Lake Sonoma. Consequently, any past, present and reasonably foreseeable future actions that might increase recreational opportunities would not greatly affect recreation at Lake Berryessa, although it would partially meet the existing latent regional demand for such opportunities.

Impact 3.7-34: Potential Impacts to Recreation from Irreversible and Irretrievable Commitments of Resources

Irreversible and irretrievable commitments of resources would be incurred by the removal of trailers and naturalization of their sites; development of additional short-term facilities, trails, launch ramps and parking lots; and improvement of the Visitor Center. All of these proposed actions taken together would positively and significantly impact recreation under all three of the action alternatives.

Impact 3.7-35: Potential Impacts to Recreation from Short-term Effects versus Long-term Effects

Under all of the action alternatives, displacement of the trailer site users would impact concessionaire, who have historically depended on trailer site rentals to support their business. This action also would impact the trailer

site permittees themselves. These impacts are evaluated in detail, separately, later in this document.

During redevelopment activities under Alternatives B and C, some short-term recreational opportunities would be displaced or curtailed, first by construction activities and then from the temporary lack of short-term accommodations. Noise and dust during the construction period would also have short-term effects on some recreational pastimes.

Under Alternative D, closure of certain customary services and facilities made available under concession management at two of the resorts likely would have moderate to minor long-term effects on recreation. Whether those impacts were positive or adverse would depend on the preferences of the visitor. Those who enjoy the visitor accommodations traditionally provided by the concessionaires would perceive the impacts as adverse; those who prefer a lower level of activity and noise would perceive the impacts as positive. Under all three action alternatives, long-term impacts would be significant and positive, to the extent that they would ultimately better serve the majority of users to Lake Berryessa.

Impacts 3.7-36: Unavoidable Adverse Impacts to Recreation

Unavoidable adverse impacts under Alternatives B and D would include the displacement of all long-term users from their trailer sites, and under Alternative C, the displacement of most long-term users from those sites. Those impacts are considered to be unavoidable, as the purpose and focus of the plan is to eliminate or significantly reduce trailer site use in order to accommodate more short-term recreational uses. Overall, however, removal of those trailers would have a significant and beneficial impact on the recreational experience of the vast majority of visitors.

3.8 Scenic Resources

3.8.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Like many Northern California areas, the Berryessa region is rich in scenic resources. However, Lake Berryessa is unique in that it is fairly close to several major urban areas, and provides residents of those areas with convenient outdoor recreational opportunities in a wildland setting. These opportunities and this setting attract users from the metropolitan areas of San Francisco and Sacramento, as well as the much smaller communities surrounding the reservoir.

The east shore of the lake provides a particularly scenic and pastoral backdrop. The southern section is composed of steep, high hills that descend directly into the lake. Vegetation there is dense, but small, open grasslands are scattered throughout. The northern section begins with flat

grasslands extending eastward from the lake toward the distant hills. Ranch houses and associated outbuildings have been constructed in this area, but no housing is visible on the nearby hills or ridges.

The reservoir's west shore, too, has steep hills that drop directly to the water, but more significantly, it has several open sloping areas where most of the recreational facilities have been developed. Four resorts are located on the upper west shore; these include extensive developments such as sea walls, docks, marinas, and mobile homes, which visually dominate the shoreline. The foreground view at these resorts can be characterized as a highly developed, cluttered, human-altered environment that does not harmonize with the surrounding natural landscape.

The Capell Cove boat launch area, the Oak Shores day-use area, the administrative complex, Camp Berryessa and the (private) Berryessa Pines subdivision are located in this area of the west shore, as well. These developments, too, are unnatural intrusions into the natural landscape.

Vegetation communities on the west shore consist of gray pine and oak woodland, and sloping grasslands interspersed with large expanses of chaparral. The tree canopy combined with steep slopes provides a secluded environment for recreational users.

Scenic coves and inlets are numerous along the west shore, creating areas of solitude and natural quiet that are highly valued by many lake visitors. Three concession operations, the largest of which is Steele Park, have developed along the lake's southwest shore. These present the same kinds of views as described for the other resorts. The privately-owned lands of Berryessa Highlands, with over 200 homes, can be glimpsed from a number of locations along the south shore. Some homes have been built on the ridge tops, and are visually prominent and obtrusive against the skyline.

The lake, including its major arms, is wide enough to provide an impressive expanse to water surface users. Oak Shores Park, on the west shore, and Big Island and Small Island represent important resource elements. Other elements include the peninsulas between lake arms, as well as the entire shoreline. However, for some water surface users, the view of mobile homes and attendant facilities presented by each of the concessions is a significant intrusion in the otherwise natural and pastoral landscape.

The undeveloped north shore has two small deltas formed by Eticuera and Putah Creeks as they enter the lake. These are in the foreground, with gently sloping, well-vegetated terrain forming a backdrop. No homes are visible there. The north shore also has a number of coves and inlets, which provide a visual quality similar to but more open than the west shore, since no developments are present.

The south shore lies at the foot of steep canyons, including Wragg Canyon and Steele Canyon. These, in combination with the main course of Putah

Creek, form the greatest variety of coves, scenic variations, secluded spaces and well-defined natural enclosures to be found anywhere on the lake.

The information provided for the Affected Environment of the Scenic Resources section for the No Action Alternative (A) also applies to Alternatives B, C and D.

3.8.2 Environmental Consequences and Mitigation.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.8-1: Potential Impacts to Scenic Resources

Under the No Action Alternative, the scenic views found along the east, southeast and north shores of Lake Berryessa would remain essentially unchanged. These panoramas, which comprise the Lake Berryessa Wildlife Area, have been classified as Agricultural Watershed, and would not be rezoned to allow development.

The entire west shore is where significant visual impacts occur at present because of the development of the seven resorts on that side of the lake. Each resort has extensive developments, much of which is in poor repair, including disintegrating sea walls, eroding shorelines, deteriorating docks and marinas, and numerous trailers. These features, and those described above for the south and southwestern shores, visually overshadow and degrade the shoreline, and would continue to do so under the No Action Alternative.

Under Alternative A, the negative visual impacts originally described in the 1992 RAMP have become even more deleterious over the past decade. Those impacts would remain essentially remain unmitigated, and in fact would continue to accrue, at least until the resort permits expire in 2008-09. Some of those impacts could, in fact, continue and grow well past 2009, if no specific action were planned and taken to halt them.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.8-2: Potential Impacts to Scenic Resources

Plans for the build-out of each resort (described in the Government Operations component of the alternative) would include provisions to insure that facilities would be sited to minimize visual intrusions from the lake, with new structures and supporting utilities designed to blend with the surrounding environment. As previously mentioned under Section 3.3, Water Quality, all of the new structures would be located above elevation 450 MSL, and any buildings from the original resort remaining below that level would be relocated or eliminated. No facilities, other than docks and ramps, would occur below the water-influence zone.

Also under this alternative, the remaining sea walls, docks and other structures used in conjunction with the trailers would be removed, and the shoreline would be rehabilitated to a more natural condition.

These actions would remove a number of visual intrusions, including the trailer parks, and create a more orderly and natural appearance along the shore. Those changes would have significant and beneficial impacts on the scenic resources around the resorts.

The concession-operated boat ramp at Capell Cove and the group campground at Camp Berryessa are not proposed for any development that

would affect the views from the water. They would remain as relatively minor intrusions along the greater western shoreline.

The description of proposals under previous Government Operations components for Alternative B applies to Scenic Resources, as well.

Though the proposed trail system has not yet been designed, it is likely that it would have a gradient of 10% or less, be surfaced with compacted, decomposed granite or an equivalent material and be situated to minimize impacts to streams at crossings. The trail would be aligned along existing roads and trails wherever feasible, would be kept below the skyline as conditions permit, and would be topographically situated to reduce its visibility from the lake. As a result of those precautions, impacts to scenic resources due to trail development would be minor under Alternative B.

Scenic resources would not be affected by the proposed recreational-use classification change under WROS.

Under this alternative, the facilities that Reclamation would continue to manage at Pope Creek, Olive Orchard, Oak Shores, Smittle Creek, North Shore, Markley, Eticuera and Steele Canyon would not undergo any changes that would further alter the scenery. The Oak Shores day-use area is the largest development visible from the water, and with its extensive landscaping and lack of obtrusive structures, it would remain a minor intrusion on that portion of the lakeshore.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.8-3: Potential Impacts To Scenic Resource

Alternative C would include the same provisions as Alternative B, in terms of designing and locating facilities to minimize visual impacts from the shore and lake surface. All of the new structures would be located above elevation 455 msl, and those remaining resort buildings occurring below that level would be relocated or removed. No facilities, other than docks and ramps, would be situated below the water influence zone.

Also as described in the Preferred Alternative, the trailers would be removed and some would be re-situated in areas away from the shoreline. The remaining sea walls, docks and other structures associated with the trailers would be removed and the shoreline returned to a more natural appearance. Under Alternative C, effects to the scenic resources in the vicinity of the resorts would be significant and beneficial.

The group campground at Camp Berryessa is not proposed for any development and would remain as a minor intrusion into the scenic views of the western shoreline.

The description of proposals under previous Government Operations components for Alternative C applies to Scenic Resources, as well.

The proposed new trail in Alternative C would be constructed under the conditions described for Alternative B above. Impacts of the trail to scenic resources would not be significant.

The areas proposed for reclassification under WROS would not be affected by any development, and their scenic value would remain unchanged.

Under this alternative, the facilities that Reclamation would continue to manage at Pope Creek, Olive Orchard, Oak Shores, Smittle Creek, North Shore, Markley, Eticuera and Steele Canyon would not be altered so as to affect the scenic views along the shore. The Oak Shores day-use area is the largest development seen from the water, and with its extensive landscaping and lack of obtrusive structures, it would remain a minor impact to the scenery on that portion of the lakeshore.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.8-4: Potential Impacts To Scenic Resources

The potential impacts to scenic resources for the Concession Operations component described for Alternatives B and C would be the same for Alternative D.

Under this alternative, Reclamation would manage the Pleasure Cove and Putah Creek Resorts and the group campground at Camp Berryessa. No major development is proposed for Camp Berryessa, and hence there would be no change in its visual profile. Closure of some facilities, such as lodges, at the two government-operated resorts could result in some minor change in scenic value.

The design and construction criteria used for the five commercial resorts would include measures to insure that new structures and supporting utilities would be visually compatible with the surrounding environment.

These criteria also would be employed for any long-term build-out at the two government resorts.

Development criteria for a new trail system described under Alternatives B and C would also hold for Alternative D. There are no proposed changes to the exteriors of other day-use facilities.

Use of WROS in designating recreational use-areas would have no effect on scenic resources.

Overall, impacts to scenic resources under Alternative D would be significant and positive.

Impact 3.8-5: Cumulative Environmental Impacts to Scenic Resources

Based on the analyses in this DEIS, information from the 1992 RAMP/EIS, and other documents, the proposed implementation of the Commercial and Government Operations components for Alternatives B, C and D would not create significant cumulative environmental impacts to the scenic resources of the reservoir. No indirect impacts under these alternatives are predicted, either.

Impact 3.8-6: Potential Impacts to Scenic Resources from Irreversible and Irretrievable Commitment of Resources

There would be no significant or adverse impacts to scenic resources from any irreversible and irretrievable commitment of resources under Alternatives B, C or D.

Impact 3.8-7: Potential Impacts to Scenic Resources from Short-term Effects versus Long-term Effects

Short-term scenic impacts to Alternatives B, C and D may result from visible dust and heavy equipment used in construction and rehabilitation activities at the resorts. All of the action proposals describe potential and significant long-term improvements to scenic resources at Lake Berryessa.

Impact 3.8-8: Unavoidable Adverse Impacts to Scenic Resources

There are no unavoidable adverse impacts to scenic resources associated with Alternatives B, C or D.

3.9 Socio-economic Environment

3.9.1: Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Population

Census data show that in 1970 approximately 463 persons resided within Census Tract 2018, which is one of many land delineations in Napa County used by the U.S. Census Bureau to monitor population and economic changes. By 1980, the number had grown to 740 residents, an increase of nearly 60 % over a decade. Data from 1990 show the population at 1,426, an increase of another 52 % since 1980 — and an increase of 208 % since the original reference year of 1970 (Table P-1).

This increase is interesting, given that growth in Napa County as a whole in 1980-90 and 1990-99 was only 11-12 %. In comparison, population growth in Tract 2018 alone has expanded significantly. It is important to note, however, that the area surrounding Lake Berryessa was and still is rural. The tract's 1980 population of 740 residents represented less than 1 % of Napa County's 1980 population; and the tract's 1990 population of 1,426 represented just 1.3 % of Napa County's 1990 population. The population

of Census Tract 2018 grew by only 685 people in 1980-90 — unimpressive in terms of raw numbers, although significant in terms of percent increase.

Population growth in the rural area surrounding the lake could be expected to plateau at some point, however, if development is constrained by zoning ordinances and topography. Reasons for the growth could be the general increase in economic prosperity in the area as a whole, as computer, communications, and bio-technological businesses expanded in the 1990s, government support services grow correspondingly, and both private sector and government employees built homes in unincorporated areas. Reasons for population increase also could include growth in the area’s recreation and hospitality industry, which offers employment opportunities.

Year	Population	% Change Since 1970
1970	463	
1980	740	60%
1990	1,426	208%

The State of California’s Employment Development Department (EDD) predicts that the rate of population growth in Napa County will double over the next 20 years. By 2020, it predicts, the county will have 157,900 residents. That is a growth rate of 24.3 %, compared to the 12 % growth that occurred in Napa County as a whole between 1980 and 1999. Most of that predicted growth will likely occur in the county’s existing urban and suburban areas, as that is where most jobs are located. That countywide growth can be expected to result in more home-building and other development in the rural area surrounding Lake Berryessa. Assuming that the population of Census Tract 2018 continues to represent only approximately 1.5 % of the county’s total population, then residents of that tract may be expected to number around 2,368 by 2020.

Employment

Population increases go hand-in-hand with general economic prosperity and low unemployment rates. According to the EDD, Napa County’s 1999 unemployment rate was only 3.3 %, compared to a 5.2 % unemployment rate statewide. Although the Chamber of Commerce publicizes the county’s burgeoning biotechnological developments, nearly 28 % of jobs in Napa County in 1999 were provided by the service industry. Service jobs include housekeeping for hotels, restaurants and hospitals; waiting tables; janitorial work; secretarial duties; and general management and administration. Retail

trade, which includes work in sales, cashiering, waiting tables, and preparing food, provides 17 % of the county's jobs; manufacturing, which includes food service work, general labor, mechanics, packaging and sales, provides 16.3 %; and local, county, state and federal governments provide 15.6 % of jobs. The EDD predicts that in coming years, trade, services, and manufacturing will dominate the county's non-farm job market.

The U.S. Census Bureau uses a different employment classification scheme in its analyses, which will be elaborated below. The 1990 census data reported that Census Tract 2018 had a potential labor force (consisting of persons 16 years and older) of 1, 178 people and an actual civilian labor force of 714 individuals. (Some members of the potential labor force were actually retired, others enrolled in school, others had small children in school, etc.) Of the actual labor force, 685 persons were employed and 29 were unemployed, reflecting an unemployment rate of 4 % at that time.

Census data show that of the 685 employed individuals living in Tract 2018, 134 (19.56 %) held executive, administrative or managerial positions; 128 (18.691/o) worked in service occupations; 100 (14.601/o) were in wholesale and retail trade; 96 (14.0 %) were in "professional and related services"; 88 (12.85 %) were employed in construction; and 82 (11.971/o) worked in administrative support jobs. The remaining individuals were employed in sales, craft, repair and production jobs; transportation services; and a variety of other occupations.

Combining some of the census bureau employment categories will cause them to correspond roughly with the categories used by the EDD, so that the data can be compared. Accordingly, the census employment categories of executive, administrative and managerial positions, professional and related services, and administrative support and services can be combined to correspond with the EDD's service industry category. The census category of wholesale and retail trade appears to be equivalent to the EDD's retail category, and the census categories of construction, craft, repair, etc. can be combined for comparison to the EDD's manufacturing category.

This reclassification of jobs held by residents of Census Tract 2018 shows that in 1990, 440 (64 %, compared to approximately 28 % for Napa County as a whole) of the 685 jobs held by Tract 2018 residents fell into the EDD services category. Another 100 (14.6 %) were in retail, and the remaining 145 jobs were in the manufacturing category.

Again, this comparison is rough because the combined census categories do not match up exactly to the state employment categories. However, the results show that the majority of employed Lake Berryessa residents worked in the services industry 10 years ago. An unknown proportion of the service and other jobs held by residents of Census Tract 2018 presumably were (and are) located outside of the tract itself, with employees commuting to nearby urban areas. However, many of these positions are likely related to the recreation/hospitality industry that depends on the recreation area.

The lake currently supports seven concessions that offer marina facilities, recreational equipment rental, equipment repair, food and other services, and sales. These reservoir-related businesses probably account for many of the employment opportunities available to residents of Census Tract 2018.

Income

In 1980, the estimated median family income for full-time residents in Census Tract 2018 was \$20,600. That was approximately \$1,700 higher (+8.3 %) than the median family income (\$18,900) for Napa County as a whole.

However, by 1989 the estimated median family income for full-time residents in Census Tract 2018 had risen to \$33,182. Although an impressive increase, this amount was approximately \$3,591 less (-9.76 %) than the median family income (\$36,773) for Napa County as a whole.

These differences in median income *may* arise from the development of applied technological industries in the population centers of Napa Valley. But regardless of the differences between Census Tract 2018 and Napa County as a whole, family income increased significantly over the course of those nine years. All county residents appear to have benefited from an economic upswing. More recent census data pertaining to family income specifically within Census Tract 2018 are not available for comparison at the time of this writing. However, median household income for Napa County as a whole was reported by the Chamber of Commerce in 1999 to be \$53,300. The general prosperity of the rest of the county is undoubtedly reflected in Census Tract 2018, as well.

During 1985, total gross receipts generated with Lake Berryessa's seven resort areas were approximately \$7 million. Of the total gross receipts, approximately \$2.4 million (34 %) were generated from long-term recreational activities; \$1.8 million (26 %) were generated from short-term activities; and the remaining \$2.8 million (40 %) were generated at other concessionaire-operated activities used by both long- and short-term users (e.g., convenience stores and snack bars).

By comparison, in 2002 total gross receipts from the seven resort areas totaled approximately \$12,841,000.00. A further view of receipts is available on the Reclamation website referenced earlier.

In addition to the resorts, many other businesses in the Lake Berryessa area are likewise dependent on recreation visitors. These include convenience stores, gas stations, restaurants, snack bars, motels, boat storage facilities, beauty shops, real estate offices, and other businesses/employers. Figures for annual income that is generated for these businesses by recreational visitors were not available for analysis in this study.

Concession Services and Facilities

The current concession contracts reflect the general concerns and management priorities of the late 1950s, when the resorts were established.

The seven resort areas were developed during the management tenure of Napa County. The resorts are operated under separate concession agreements, which have been administered by Reclamation since Napa County relinquished its involvement and authority in 1972. However, some of the recreational programs and facilities that were developed under Napa County's management (1958 through 1972) are still functioning today at Lake Berryessa. Many of these are not in compliance with approved plans, or current Reclamation policy. None of the existing contracts or the Public Use Plan called for any long-term trailer villages. Nonetheless, today there are approximately 1,300 of these trailers within the seven existing concession sites.

The length of term of the current contracts (which will expire before the end of the decade) is 50 years. By today's standards, that term is excessive for concession contracts of this type. Shorter contracts can still give a concessionaire reasonable opportunity for profit, while allowing lake managers adequate opportunity to make adjustments that reflect contemporary public recreation demands and new information. The ultimate length of contract needs to be based on economic feasibility and analysis of the required investment and associated risks, rather than on some arbitrary and customary term.

The existing seven contracts expire by limitation of time as shown in Table 5.

Table C-1 Expiration of Concession Contract	
Resort	Expiration Date
Rancho Monticello Resort	June 15, 2008
Spanish Flat Resort	July 13, 2008
Lake Berryessa Marina Resort	August 13, 2008
Putah Creek Resort	August 13, 2008
Markley Cove Resort	May 26, 2009
Pleasure Cove Resort	May 26, 2009
Steele Park Resort	May 26, 2009

Laws, regulations and policies that pertain to public commercial facilities on Reclamation lands and at Lake Berryessa, in particular, are provided in The Reclamation website www.usbr.gov/recman/Ind/Ind-p02.htm. Oversight of resort operations is accomplished through Reclamation's monitoring and enforcement of concession contracts.

The resorts offer a variety of facilities for the short-term public, such as camping and picnicking sites, RV sites, boat launching ramps, marina facilities, restaurants, food stores and related support facilities for public use. Each resort offers a variety of marina services, including moorage, gas service and boat rentals. The resorts generally occupy the most desirable shoreline locations. For the most part, short-term facilities have been relegated to secondary locations with often poor or minimal access to the lake.

Short-term campgrounds presently exist in six of the resort areas. Most of the sites are in close proximity to one another and offer minimal amenities, such as picnic tables, a cooking or barbecue grill, a parking place and a tent pad. Often, the sites are located in areas with conflicting uses, placed next to mobile homes, or are in high-activity areas such as parking lots, boat ramps and main access highways. Summertime demand for campsites is high, such that even these marginal facilities are filled to capacity on weekends throughout the recreation season. High-quality, lower density campsites typical of those offered at other state or federal recreation areas are not available at Lake Berryessa.

A draft report of the conditions of marina buildings and supporting infrastructure was prepared by Kleinfelder Inc., and submitted to Reclamation in August, 2002. This report, entitled "Environmental Compliance and Facility Condition Assessment Report, Seven Concession Areas Lake Berryessa, California," was referenced previously and is found at www.usbr.gov/mp/berryessa/index.html.

Kleinfelder's assessment of the seven concession areas entailed inspection of buildings, wastewater systems, potable water systems, roads, parking lots, boat ramps, electrical systems, shoreline development, marinas and environmental hazards. The report made recommendations for the removal, retention, or re-use of each system at each resort based on the results of those inspections.

Wastewater systems generally were found to be in very poor condition. All of the sewers examined are deteriorated and in need of replacement. Kleinfelder recommended that each sewer line be individually tested to determine the useful service life of its components. All of the lift stations were found to be inadequate, requiring, at a minimum, additional reliable pumping capacity, new instrumentation and controls, a functional alarm system and standby power facilities. In addition, the structures housing the pump stations are generally substandard, which makes the lift stations themselves unreliable.

These conditions, coupled with the near-lake locations of many of the stations, make the risk of failure leading to contamination of the lake very high. The force mains connecting the lift stations to the wastewater retention ponds are in questionable condition, according to the report, and should be replaced unless vigorous testing proves them to be sound. The retention ponds, where used, are undersized and inadequate for the amount of product they are required to handle. Further, the current practice of spray disposal should cease immediately, said Kleinfelder, because the wastewater being discharged is minimally treated and the potential for human pathogenic contact is alarmingly high.

Rather than replace all of the sewerage in kind, Kleinfelder recommended studies to analyze such alternatives such as combined systems or pumping to publicly owned systems.

Potable water systems were found to be in better condition than the sewerage. Residual chlorine testing at the taps must be conducted before any upgrades to the water treatment or storage facilities are planned, and testing should verify that any leakage within systems is minimal before any decision is made to retain them, Kleinfelder recommended. Other suggested improvements include additional onsite storage tanks to extend the chlorine contact times, and storage tanks and better mixers to increase the effectiveness of the polymer solution for turbidity removal. Some of the existing storage tanks were observed to be leaking.

Marinas were found to be in generally substandard condition. The concession marinas widely use non-encapsulated foam billet floats. Many of the docks are not recommended for further use due to the cost of upgrading them with encapsulated foam billets and new decking. It is more economical to replace them with a new dock that meets current guidelines and Reclamation's specifications.

Many code deficiencies in the fueling systems were noted in the report. The most common deficiency was piping that is made of or incorporates improper materials and that is inadequately supported. Other issues included minor leaks and lack of formalized filling procedures, alarms and/or containment procedures at the shore tank.

An engineering evaluation of pavements and roads concluded that the remaining life of existing pavements ranges from near 0 to approximately 11 years. To achieve a design-life of 20 years, all existing pavements require rehabilitation varying from overlays to complete reconstruction. Realignment, widening, additional parking, striping and additional controls all were recommended. Serious concerns regarding fire truck access were noted with regard to some dwellings (trailers) on gravel roads or short driveways. Detailed recommendations for specific road segments are contained in the resort-specific sections of the Kleinfelder report.

Electrical systems ranged in service capability from inadequate to suitable for long-term use, and each system had components that ranged from poor

to good condition. Code violations were often noted, however, and some of those are of immediate concern.

Shoreline developments in current use include wood (both treated and non-treated), shotcrete, masonry block, poured-in-place concrete and gabion baskets. The majority of the walls are at or very near failure due to material deterioration, significant cracking, out ward tilting or foundation failure. Retaining structures that appear to have a long remaining service life are noted in the report.

A hazardous materials/waste environmental assessment did not reveal significant concerns. Hazardous findings were limited to gasoline and MtBe contamination from former underground storage tanks at two resorts; disposal or storage of paints and oils; recycling of used oil; and the presence of small quantities of weed killer. These concerns are minor in comparison to the environmental implications posed by resort sewage systems.

The Condition Assessment Report was not designed to include a similar analysis of trailer/recreational vehicle sites that have been adopted for use by long-term, exclusive-use permittees. Originally, these so-called “dry sites” (which still occur at four of the seven resorts) were intended to accommodate short-term camping without utilities. As long-term trailer use of the sites began to be permitted, however, those sites proved to be difficult to manage and were cited for a large proportion of sanitation violations. For this reason, Pleasure Cove and Lake Berryessa Marina chose to eliminate dry sites. At Pleasure Cove, where an outlying portion of land called the “Outback” was devoted to dry sites, the impacted areas currently are being restored to a natural setting to be managed by Reclamation. At Lake Berryessa Marina, the dry sites are being converted back to the short-term camping sites they were originally intended to be. Rancho Monticello and Spanish Flat Resorts, however, continue to manage dry sites for long-term, exclusive-use trailers, and this is accomplished in compliance with standards and guidelines imposed by Reclamation and the Regional Water Quality Control Board.

The complete report is also available for review at the Lake Berryessa Administrative Offices, 5520 Knowville Road, Napa, California.

Accessibility For People With Disabilities

The goal set by the Commissioner of the Bureau of Reclamation in 1999 was to have all (1) places of employment for Reclamation employees, and (2) places of public visitation (including those managed by Reclamation and those managed by partners such as state, county, water district, etc.) meet Americans With Disabilities Act accessibility criteria by 2010. The first phase of the goal is to have all evaluations completed by 2003. The second phase is to have all action plans completed by 2006. The final phase is to have all retrofits completed by 2010. This goal was established to meet the requirements of the Government Performance Review Act (GPRA), with which all federal agencies must comply. In the Mid-Pacific Region,

Reclamation has approximately 200 sites or facilities that must work toward these goals to meet GPRRA requirements.

Accessibility evaluations of the facilities at Lake Berryessa were conducted using the Bureau of Reclamation's Accessibility Data Management System (ADMS). From the inventory in the ADMS database, an evaluation of each major facility at Lake Berryessa was undertaken using a checklist for a comprehensive evaluation of each component (a component being a door, ramp, program, etc.) at each site. This involves measuring such attributes as the slope of a ramp, width of a door, and amount of pressure required to open a door.

The information was then entered into the ADMS database, and the program compared the data to accessibility criteria. From that, ADMS generated a report to identify the deficiencies of each component at each sites.

All seven resorts at Lake Berryessa, as well as the Capell Cove launch ramp, the Olive Orchard day-use area, the Oak Shores day-use area, the Smittle Creek and Pope Creek day-use area, and the Bureau of Reclamation Visitor Center, were evaluated in this manner. A significant degree of noncompliance was identified, as the construction of many of the facilities at Lake Berryessa was completed prior to 1980, pre-dating current federal accessibility requirements. Bringing many of these facilities into compliance will likely require extensive renovations, or in many cases the construction of new facilities. A copy of the complete report can be seen at the Administrative Offices for Lake Berryessa.

Environmental Justice

Executive Order 12898 requires each federal agency to achieve environmental justice as part of its mission, by identifying and addressing disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies and activities on minority populations and low-income populations of the United States. This has been further defined as by the EPA's Office of Environmental Justice as:

...the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies.

Lake Berryessa has no record of any surveys or analysis of user-groups based on racial, ethnic or socio-economic parameters. The reservoir has no

documented complaint of adverse human health or environmental, social or economic impacts to any group of visitors as the result of Reclamation programs policies or activities at the reservoir.

Casual observations by Reclamation personnel of visitors at the lake over the past decade indicate that all groups of users enjoy Reclamation's non-fee day-use facilities, including those at Oak Shores, Smittle Creek and Capell Cove.

The seven marinas do not collect customer information relating to race, ethnicity, or socio-economic status. It is reasonable to assume, however, that costs discourage lower-income individuals from participating in fee-for-use activities at the reservoir.

Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian tribes or individuals. Trust status originates from rights imparted by treaties, statutes or executive orders. These can include rights to timber, minerals, water, fishing, gathering and hunting. These rights are reserved for or granted to federally recognized Indian tribes. A defining characteristic of an ITA is that it cannot be sold, leased or otherwise alienated without federal approval. Indian reservations, rancherias and allotments are common ITA designations. Allotments, which can occur both within and outside of reservation boundaries, are parcels of land for which title is held in trust for specific individuals.

Impacts on Other Federal and Non-Federal Projects and Plans

40 CFR Section 1502.16 (c) requires that each Environmental Impact Statement discuss all related federal and non-federal projects in the study area. The effects of the proposed action shall be presented in the document and shared as soon as available with the other federal and non-federal project operators. Possible conflicts with all existing land use plans, policies and controls shall be discussed and reasonable options to avoid or otherwise mitigate adverse effects should be examined in the EIS.

International Impacts

Executive Order 12114, dated January 4, 1979, requires federal agencies to consider the effects of any actions that may have a significant effect on the environment outside the jurisdiction of any nation (such as at sea), upon the environment of an uninvolved foreign nation that may benefit from the action, and upon global resources protected by treaty or designated by the President.

This description of socio-economic environment for the No Action Alternative (A), applies to Alternatives B, C and D, as well.

3.9.2 Environmental Consequences and Mitigation

The following analysis of socio-economic issues is structured somewhat differently from analyses in earlier chapters. For purposes of clarity and

accuracy, cumulative and other impacts are evaluated individually for each alternative, rather than being combined and summarized for all alternatives following the discussion of Alternative D.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.9-1: Potential Impacts to Population

Under this alternative, the population profile (as described in the Affected Environment discussion) will gradually change for a variety of reasons. The strongest growth likely will occur in the county's existing urban and suburban areas, as that is where most jobs are located.

Countywide growth can be expected to result in more home-building and other development in the rural area surrounding Lake Berryessa. Population increase there, although predicted to be no more than 1.5 % for the census tract in which Lake Berryessa falls, could be linked to the area's recreation and hospitality industry. Under the No Action Alternative, that industry – and those employees and residents -- would continue to support both short-term visitors and long-term recreation users of Lake Berryessa. These conditions are not anticipated to change under this alternative.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-2: Potential Impacts to Population

The proposed actions under Alternative B would be unlikely to have any major impact on the regional population, either in terms population increase or decline. Regional population dynamics are linked to regional economic conditions, which in turn appear to be highly dependent on technology industries in the urban population centers of Napa County, some distance from Lake Berryessa.

The proposed actions could, however, temporarily affect the local population of the rural Lake Berryessa area. Specifically, the local population would likely decline, as a result of removal of some 1,300 trailers currently located on the Berryessa lakeshore under long-term exclusive permit agreements.

It is important to note, however, that summer residents were likely not included in census counts, as they have permanent homes elsewhere. Therefore, in terms of official census numbers, the loss of these summer residents would have little impact.

The proposed build-outs proposed under this alternative would offer new employment opportunities at the reservoir. Since these opportunities would be mostly seasonal, they might result in a slight increase in summertime population. Individuals already residing in the area presumably could fill

many of these jobs, however, so the overall impact to population probably would not be major.

Development undertaken by Reclamation under this alternative, either for new trails or modest upgrades to two turnouts, is substantially less than proposed for the resorts and is not anticipated to create major impacts to population.

Impact 3.9-3: Potential Cumulative Environmental Impacts to Population from Alternative B

No significant cumulative environmental impacts would be anticipated as a result of implementing Alternative B.

Indirect impacts to the local population might occur over the long-term as others move into the area to take advantage of expanded and improved visitor facilities and services, and the jobs that will come with those developments. Some of these newcomers would be part of an expanded concessionaire workforce. Others, attracted by improved recreational opportunities or related business opportunities, may build vacation or permanent homes in nearby communities or establish businesses in the area. In any case, total numbers of newcomers who might take up permanent residence in the vicinity of Lake Berryessa strictly because of management actions under Alternative B likely would be relatively low to non-existent.

Impact 3.9-4: Potential Impacts to Population from Irreversible and Irretrievable Commitments of Resources from Alternative B

Irreversible and irretrievable commitments of resources would likely impact the local population directly under Alternative B. The Preferred Alternative calls for permanent removal of some 1,300 existing trailers from the Lake Berryessa lakeshore, and restoration of the former trailer sites to natural conditions. Their former sites, once restored, would no longer be available for long-term use. The ultimate impact on population of this particular action would be to reduce, on a short-term basis, the local summer-season population. This would be eventually off-set, however, by an increase in day users.

Further irreversible and irretrievable commitments of resources as a result of implementing Alternative B would be incurred by the development of the seven resorts. However, the eventual expansion and improvement of facilities and services would likely attract some new employees, also offsetting the predicted loss of summertime residents who currently use long-term trailers. Overall, these impacts on total population in the Lake Berryessa area would be minor.

Impact 3.9-5: Potential Impacts to Population from Short-term Effects versus Long-term Effects under Alternative B

Exclusive long-term trailer sites on the lakeshore would be terminated and trailer owners would be required to vacate under Alternative B. These

effects would be expected to be moderate to minor. The impacts would be relatively short-term in the sense that the loss of trailer residents eventually would be compensated by gains in other areas, but long-term in the sense that removal of long-term trailer opportunities would be permanent.

Enhancement of short-term visitor facilities and services under Alternative B would be expected to attract a number of new employees and residents who would at least partially compensate for the loss of the long-term lessees. These effects would be positive and long-term.

Impact 3.9-6: Unavoidable Adverse Impacts to Population from Alternative B

No unavoidable, significant adverse impacts to population have been identified with respect to Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-7: Potential Impacts to Population

The proposed actions under Alternative C would be unlikely to have any major impacts on the regional population, either in terms population increase or decline.

The proposed actions could, however, directly affect the seasonal population of the Lake Berryessa area, although to a lesser extent than under Alternative B. Specifically, the summer population would likely decline, as a direct result of removal of the majority of 1,300 trailers and mobile homes currently located on the Berryessa lakeshore. However, Alternative C would allow for re-establishment of a limited number of trailer sites at four of the seven resorts.

Because the numbers of trailers slated for removal and retention are not specified in the plan, a more precise comparison of the impacts under Alternatives B and C is not possible. Clearly, however, the population that traditionally used long-term trailers as summer residences would be affected to a somewhat lesser degree under this proposal than under the Preferred Alternative.

Again, as was stated in Alternative B, summertime trailer residents would not have been included in census counts, as they have permanent homes elsewhere. Therefore, in terms of official census numbers, the loss of these summer residents would have a minor impact.

As in Alternative B, the proposed build-out of the various resorts would attract new seasonal employees and residents, which would at least partially compensate for the loss of the trailer residents.

Also as stated in Alternative B, the development proposed by Reclamation for upgraded turnouts at Eticuera and Steele Canyon and the creation of a

reservoir-wide trail system would not be expected to affect population.

Impact 3.9-8: Potential Cumulative Environmental Impacts to Population from Alternative C.

No cumulative impacts to population would be expected to result from implementation of this alternative.

Indirect impacts might occur over the long-term as others move into the area to take advantage of expanded and improved visitor facilities and services. These impacts are anticipated to be similar to those described above for Alternative B.

Impact 3.9-9: Potential Impacts to Population from Irreversible and Irretrievable Commitments of Resources from Alternative C

Irreversible and irretrievable commitments of resources are anticipated to impact the local population directly, but to a lesser extent under Alternative C than under Alternative B. Alternative C calls for removal of all 1,300 long-term trailers from the Berryessa lakeshore, followed by the re-establishment of some of those trailers to some resorts. The potential impact on seasonal population would be a temporary and modest reduction. However, this reduction likely would be partly compensated by an increase in seasonal employees at the resorts.

Further impacts to population from irreversible and irretrievable commitments of resources would be incurred by the development of the seven resorts. These impacts to population would be the same as described for Alternative B.

Impact 3.9-10: Potential Impacts to Population from Short-term Effects versus Long-term Effects from Alternative C

Most, but not all, exclusive long-term permits for lakeshore sites would be terminated under Alternative C. The effects on population are anticipated to be as described above. These effects are expected to be minimal and short-term, and of less significance than those anticipated for Alternative B.

Other anticipated impacts are the same as those anticipated for Alternative B.

Impact 3.9-11: Unavoidable Adverse Impacts to Population from Alternative C

No unavoidable adverse impacts to populations have been identified with respect to Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.9-12: Potential Impacts to Population

Like the Preferred Alternative, Alternative D proposes to end the use of

exclusive long-term trailer sites entirely, remove all existing structures from those sites, and restore the sites to a natural condition. Anticipated effects on population as a result of these actions are the same as those under the Preferred Alternative.

Unlike Alternative B, however, Alternative D would remove two resorts from concession management and place them under the direct management of Reclamation. Reclamation would offer limited facilities and services at those resorts, at least initially. Consequently, it is likely that fewer individuals would be employed at those locations. This action could result in a very small reduction or a dampening of the projected growth rate of the local population. Such an effect is likely to be non-significant.

The description of the effects of the proposed Reclamation development discussed in Alternative B applies to this alternative, as well.

Impact 3.9-13: Potential Cumulative Environmental Impacts to Population from Alternative D

No cumulative impacts to population would be expected to result from implementation of this alternative.

Impact 3.9-14: Potential Impacts to Population from Irreversible and Irrecoverable Commitments of Resources from Alternative D

Irreversible and irretrievable commitments of resources would be anticipated to impact a portion of the seasonal population directly under Alternative D. Like the Preferred Alternative, Alternative D calls for permanent removal of some 1,300 existing trailers and other structures from the Lake Berryessa lakeshore, and restoration of the former trailer sites to natural conditions. Anticipated impacts on population would be the same as those described for Alternative B.

Impact 3.9-15: Potential Impacts to Population from Short-term Effects versus Long-term Effects from Alternative D

Impacts of long and short-term use of the lakeshore would be as those described for Alternative B.

Impact 3.9-16-: Unavoidable Adverse Impacts to Population from Alternative D

No unavoidable adverse impacts to populations have been identified with respect to Alternative D.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.9-17: Potential Impacts to Employment

Census data indicate that, in the past, many Lake Berryessa residents were employed in the service industry. An unknown proportion of the service and other jobs held by residents of Census Tract 2018 presumably were (and

are) located outside of the tract itself, with employees commuting to nearby urban areas. However, many of these positions are directly linked to recreational activities at Lake Berryessa. Under Alternative A, the lake would continue to support seven concessions that offer marina facilities, recreational equipment rental, equipment repair, food and other services. These facilities and services would continue to account for many of the employment opportunities available to residents of Census Tract 2018, presumably at about the same levels as at present. Alternative A, therefore, is judged to have no effect on employment in the area.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-18: Potential Impacts to Employment

Alternative B would establish new public services and facilities at Lake Berryessa. These would include new campgrounds and RV parks, rustic and standard lodging, contemporary houseboat rentals, group camping, marinas, dining, retail sales, and associated support functions. In addition, concessionaires would take over operation of the Capell Cove launch ramp and Camp Berryessa group campground. These facilities and services would require a corresponding increase in administrative, maintenance, grounds-keeping, security, clerical, and hospitality personnel, who would be hired by the concessionaires.

Because build-out of the resorts would occur over a period of time, these employment opportunities would become available over a span of years. They are anticipated, nonetheless, to contribute to local employment, which traditionally has depended heavily on the service industry. These positive impacts in employment would be direct and long-term.

The proposed resort developments might stimulate some hospitality- and recreation-based business opportunities in the greater Lake Berryessa region, as well. A relatively few entrepreneurs with the means to start up hospitality and recreation-based businesses in the surrounding area, along with their employees, might benefit from new opportunities. It is not anticipated, however, that Alternative B would provide a significant boost to the local economy. That is, in part, because small recreation-based businesses tend not to have many jobs available.

It is also because the majority of employment opportunities at the lake resorts and surrounding business community would be seasonal and possibly minimum-wage jobs. Further, their availability would fluctuate with visitation, with fewer jobs available in low-visitation years. Most of these jobs would not pay enough to support families or an independent adult lifestyle, but would be most useful for students and others seeking temporary supplemental income.

Resort development itself would briefly stimulate employment as contractors hired workers for construction, roadwork, and related tasks. These employment opportunities, however, could be spread out over the entire Napa Valley region and beyond, and they would exist only during the proposed span of construction activities. These effects, then, are anticipated to be significant and short-term.

Proposed development by Reclamation under Alternatives B, C and D likely would not have either a significant adverse or beneficial affect on overall employment in the area.

Impact 3.9-19: Potential Cumulative Environmental Impacts to Employment from Alternative B

There are no cumulative environmental impacts to employment resulting from the proposed actions under Alternative B.

Impact 3.9-20: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative B

Irreversible and irretrievable commitments of resources would be anticipated to affect employment beneficially under the Preferred Alternative, but not to a significant degree. Build-out of the resorts likely would result in an increase in low-paying seasonal employment, and possibly somewhat in year-round employment at those resorts that remain open during winter months. In addition, the build-outs could stimulate some additional employment opportunities outside of Reclamation boundaries.

Impact 3.9-21: Potential Impacts to Employment from Short-term Effects versus Long-term Effects under Alternative B

Exclusive long-term use of the lakeshore under the permit program would be terminated under Alternative B. Employment opportunities related to this program are minimal, and their elimination would not be a significant impact to employment in the Lake Berryessa area. However, expansion and enhancement of short-term visitor services and facilities under Alternative B would be expected to result in additional new employment opportunities in the area, as discussed above. These positive impacts would be direct and long-term, but probably not significant.

Impact 3.9-22: Unavoidable Adverse Impacts to Employment from Alternative B

No unavoidable adverse impacts to employment have been identified with respect to Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-23 Potential Impacts to Employment

Like Alternative B, Alternative C would establish new public services and facilities at Lake Berryessa. However, there would be somewhat fewer new facilities due to the re-establishment of an undetermined number of trailer sites. As described above, these new developments would likely require a corresponding increase in seasonal concessions personnel. That increase in employment opportunities presumably would be lower under Alternative C than under Alternative B; however, the difference may not be significant. The predicted increase in employment opportunities under Alternatives B and C would be greater than under the No Action Alternative.

Other impacts to employment opportunities are anticipated to be about the same as those described for Alternative B, and are judged to be non-significant.

Impact 3.9-24: Potential Cumulative Environmental Impacts to Employment from Alternative C

There are no cumulative environmental impacts to employment resulting from the proposed actions under Alternative C.

Impact 3.9-25: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative C

Irreversible and irretrievable commitments of resources would be anticipated to impact local employment in the same manner described for Alternative B. These impacts would be non-significant.

Impact 3.9-26: Potential Impacts to Employment from Short-term Effects versus Long-term Effects under Alternative C.

Long-term use of the lakeshore by trailers would be terminated under Alternative C, although an undetermined number of trailers would be permitted to return to a designated trailer park at a distance from the shoreline. Employment opportunities related to long-term trailer use are minimal, and their elimination would have a less than-significant, short-term impact on employment in the Lake Berryessa area. However, expansion and enhancement of short-term visitor services and facilities under this alternative would be expected to result in additional new employment opportunities in the area, as discussed above. These positive impacts would be gradual, long-term and non-significant.

Impact 3.9-27: Unavoidable Adverse Impacts to Employment from Alternative C

No unavoidable adverse impacts to employment have been identified with respect to Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.9-28: Potential Impacts to Employment

Alternative D would establish new public services and facilities at five Lake Berryessa resorts. These would include new campgrounds and RV parks, rustic and standard lodging, contemporary houseboat rentals, group camping, marinas, dining, retail sales, and associated support functions. The new facilities and services would require a corresponding increase in administrative, maintenance, grounds-keeping, security, clerical, and hospitality personnel, who would be hired by the concessionaires.

Because development would likely occur over a period of time, these employment opportunities would become available over a span of years. They are anticipated, nonetheless, to contribute to local employment, which traditionally has depended heavily on the service industry. These positive impacts in employment would be direct and long-term.

However, unlike the Preferred Alternative, Alternative D calls for direct Reclamation management of two of the seven resorts currently operated under concessions agreements. The Reclamation resorts would offer significantly fewer facilities and services than the concession operations. The Reclamation resorts would likely use seasonal employees (e.g., rangers and maintenance workers) to help provide services at the campground and launch ramps, but would employ fewer than would be employed by concessionaires under Alternatives B and C. The nature of these employment opportunities would be as described under Alternative B.

Development also would stimulate construction employment, but less of this would occur under Alternative D because jobs at the two Reclamation-managed resorts would be limited.

The proposed resort developments might stimulate hospitality- and recreation-based businesses opportunities in the greater Lake Berryessa region. A relatively few entrepreneurs with the means to start up hospitality and recreation-based businesses in the surrounding area might benefit from new opportunities, as would their employees.

As under Alternatives B and C, overall impacts to employment under Alternative D, although beneficial, would not be significant.

Impact 3.9-29: Potential Cumulative Environmental Impacts to Employment from Alternative D

There would be no cumulative environmental impacts to employment resulting from the proposed actions under Alternative D.

Impact 3.9-30: Potential Impacts to Employment from Irreversible and Irretrievable Commitments of Resources from Alternative D

Irreversible and irretrievable commitments of resources are anticipated to impact local employment as described for Alternative B. These impacts would be non-significant.

Impact 3.9-31: Potential Impacts to Employment from Short-term Effects versus Long-term Effects from Alternative D

Long-term trailer use would be terminated under Alternative D, and employment opportunities related to their presence would disappear. Consequently, their elimination may have a non-significant, short-term impact on employment in the Lake Berryessa area. However, expansion and enhancement of short-term visitor services and facilities under this alternative would be expected to result in additional new employment opportunities in the area, as discussed above. These positive impacts would be gradual, long-term, and non-significant.

Impact 3.9-32: Unavoidable Adverse Impacts to Employment from Alternative D

No unavoidable adverse impacts to employment have been identified with respect to Alternative D.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.9-33: Potential Impacts to Income

Under Alternative A, income in the Lake Berryessa area is inexorably tied to the resorts and the business of recreational services. During 1985, total gross receipts generated by Lake Berryessa's seven resort areas were approximately \$7 million. Of the total gross receipts, approximately \$2.4 million (34 %) were generated from long-term activities; \$1.8 million (26 %) were generated from short-term activities; and the remaining \$2.8 million (40 %) were generated at other concessionaire-operated activities used by both long- and short-term users (e.g., convenience stores and snack bars).

By comparison, in 2002 total gross receipts from the seven resort areas totaled approximately \$12,841,000.00, an increase of over 82% in 17 years. A further view of receipts for 2002 is shown in the Lake Berryessa website referenced previously. This increase is not indicative of a significant increase in visitation so much as the increases in costs of services.

Other businesses in the Lake Berryessa area are likewise dependent on recreation visitors. These include convenience stores, gas stations, restaurants, snack bars, motels, boat storage facilities, beauty shops, real estate offices, and other businesses/employers. The amount of annual income to these businesses that is generated by recreational visitors was not available for this study.

Under this alternative, current conditions would continue, with revenues generated by the resorts providing the primary sources of income for the area and many of those businesses immediately surrounding the reservoir. Continuation of these conditions, then, would be beneficial and would not cause any significant impact on the local economy.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-34: Potential Impacts to Income

The anticipated new job opportunities that would result directly from expanded public services and facilities at Lake Berryessa under Alternative B likely would primarily benefit local family incomes. For the most part, these benefits would come from low-paying seasonal and/or part-time jobs for teenagers, college students, and adults wishing to supplement their income. Median family income in the immediate area could conceivably increase by a few thousand dollars per annum. Summer jobs also would benefit out-of-area residents who take seasonal work at the lake. These benefits would accrue gradually, with development, and would be long-term and direct.

Construction-related employment opportunities arising from development activities would be higher paying than the summer jobs. These employment opportunities, however, could be spread out over the entire Napa Valley region and beyond, and they would exist only during the proposed span of construction activities.

It is more difficult to predict impacts relating to new hospitality and recreation-based businesses in the surrounding area. While these businesses have the potential to bring substantial incomes to their owners, they also carry a high risk of failure.

The proposed development of a trail network and two upgraded parking/trailhead sites as well as the routine maintenance of other day-use facilities by Reclamation is not envisioned to cause significant affects to the income levels in the area surrounding the lake.

Overall, given that local average incomes are relatively low by statewide standards, the addition of a few thousand dollars per annum from seasonal employment could be significant to local residents.

Impact 3.9-35: Potential Cumulative Environmental Impacts to Income from Alternative B

There would be no cumulative environmental impacts associated with this alternative.

Impact 3.9-36: Potential Impacts to Income from Irreversible and Irretrievable Commitments of Resources from Alternative B

Irreversible and irretrievable commitments of resources would be anticipated to impact local incomes under Alternative B. During the early build-out period, when areas of the resorts would be closed to the public, income would be either beneficially or adversely affected, depending on the nature of the work, e.g., visitor services or construction. These impacts

would persist until the build-outs were completed and visitor services were restored.

Impact 3.9-37: Potential Impacts to Income from Short-term Effects versus Long-term Effects from Alternative B

Elimination of jobs directly related to long-term trailer use would be expected to be minimal, if it occurred all, and the loss of those jobs would not have a significant impact on median income in the Lake Berryessa area. However, low-paying seasonal jobs resulting from new visitor services and facilities under Alternative B could have significant beneficial effects on median income in the area. These positive impacts would be direct, long-term, and potentially significant.

Impact 3.9-38: Unavoidable Adverse Impacts to Income from Alternative B

No unavoidable adverse impacts to income have been identified with respect to Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-39: Potential Impacts to Income

The anticipated new job opportunities that would result directly from expanded public services and facilities at Lake Berryessa under Alternative C would likely benefit local family incomes. However, there may be slightly fewer of these opportunities than would be available under Alternative B, as the development would not be quite as extensive. Impacts to median income in the Berryessa area would be expected to be as described for Alternative B. These impacts would be greater than those incurred by Alternative A.

As stated under Alternative B, development proposed by Reclamation under this alternative would not appreciably affect income levels in the area.

Impact 3.9-40: Potential Cumulative Environmental Impacts to Income from Alternative C

There would be no cumulative environmental impacts associated with the developments and increased short-term visitor activities proposed in Alternative C.

Impact 3.9-41: Potential Impacts to Income from Irreversible and Irretrievable Commitments of Resources from Alternative C

Irreversible and irretrievable commitments of resources would be anticipated to impact local incomes under Alternative C. These impacts would be as described for Alternative B.

Impact 3.9-42: Potential Impacts to Income from Short-term Effects versus Long-term Effects from Alternative C

Potential long-term and short-term effects on income would be expected to be as described for Alternative B.

Impact 3.9-43: Unavoidable Adverse Impacts to Income from Alternative C

No unavoidable adverse impacts to income have been identified with respect to Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.9-44: Potential Impacts to Income

The anticipated new job opportunities that would result directly from expanded public services and facilities at Lake Berryessa under Alternative D would likely benefit local family incomes. The nature of these benefits would be as described for Alternatives B and C. However, the total amount of money added to local incomes is expected to be somewhat lower because fewer jobs would be available under the proposed Reclamation management of two of the resorts.

Construction-related employment opportunities arising from development activities would be expected to contribute to local incomes, but to a lesser extent than they would under Alternatives B and C, as two of the resorts under Reclamation would not be developed to the same extent as the remaining five commercial resorts.

Overall, impacts to local income from the availability of seasonal employment under Alternative C would be low to moderate.

Impact 3.9-45: Potential Cumulative Environmental Impacts to Income from Alternative D

There would be no cumulative environmental impacts associated with Alternative D.

Impact 3.9-46: Potential Impacts to Income from Irreversible and Irrecoverable Commitments of Resources from Alternative D

Irreversible and irretrievable commitments of resources would be anticipated to impact local incomes directly under Alternative D in the manner described in Alternative B. These impacts would persist until the build-outs were completed and visitor services were restored.

Impact 3.9-47: Potential Impacts to Income from Short-term Effects versus Long-term Effects under Alternative D

Long-term occupation of the lakeshore by trailers would be terminated under Alternative D, as under Alternative B. Employment opportunities

related to this program are minimal, and their elimination would not be a significant impact to income in the Lake Berryessa area. However, expansion and enhancement of short-term visitor services and facilities under Alternative D would likely result in additional new employment. These new jobs likely would add somewhat to existing incomes in the area, as discussed above. Even so, job opportunities likely would be fewer than under Alternatives B and C, since Reclamation would reduce services available at two of the resorts. Overall, impacts on local incomes would likely be long-term and moderate.

Impact 3.9-48: Unavoidable Adverse Impacts to Income from Alternative D

No unavoidable adverse impacts to income have been identified with respect to Alternative D.

Concession Services/Facilities

This analysis of socio-economic impacts relating to concession services and facilities is structured to examine potential effects on four main groups of people. Those four groups are:

- ***Current Concessionaires.*** These are the seven existing concessionaires that currently are approaching the end of their 50-year agreements at Lake Berryessa.
- ***Long-Term Trailer Permittees.*** These are the approximately 1,300 trailer owners and their families who use the exclusive-use, long-term trailer sites at Lake Berryessa.
- ***General Public.*** This group is comprised of those members of the public that presently utilize Lake Berryessa on a short-term basis, and those who may use the area in the future if the appropriate types of facilities and services become available.
- ***Local Entrepreneurs.*** These are the people and business operations that may directly or peripherally be impacted or utilized by concessionaires, their customers, or others visiting Lake Berryessa. They would consist of businesses and revenue centers that can detect positive or negative revenue fluctuations directly attributable to traffic and activities associated with Lake Berryessa activities.

These categories also were utilized in a similar discussion on socio-economic impacts in the 1992 RAMP. The approach is still a reasonable way to outline the impacts on individuals and groups of the various concession operation alternatives for this VSP/DEIS.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

3.9-49: Potential Impacts to Concession Services and Activities

Under all of the alternatives, the current seven concession contracts will expire in 2008-09. The existing concessionaires have no preferential rights of renewal. It is a legal (PL 96-375) and policy requirement that the next contract(s) for providing commercial services at Lake Berryessa shall only be authorized following a response to a prospectus and a formal competitive bid process.

Also, as previously identified in the Affected Environment section, existing concession operations have been cited for numerous violations of various health, safety, construction and environmental codes and regulations. Therefore, even if a determination were made to continue into the next contract term with the existing or similar type of operations, specific changes in operations and facilities would be necessary to address the existing problems. To effectively outline the socio-economic impacts and consequences for all the alternatives, the following description for Alternative A assumes that current operations would carry through into the next term. It provides the benchmark for the descriptions of impacts and consequences for the other alternatives (B, C and D), all of which propose changes from the No Action Alternative.

Current Concessionaires

Under Alternative A, the existing concessionaires would be required to re-compete, on the same basis as other bidders, for the opportunity to operate the concession services at Lake Berryessa.

If Reclamation did not select an existing concessionaire as having submitted the best and most responsive bid to the prospectus for the next contract term, that concessionaire's tenure would be concluded. The incoming concessionaire would have to purchase any existing concession property that is (a) currently owned by the out-going concessionaire, and (b) identified by Reclamation as a property to be retained.

If an individual concessionaire were judged to have provided the best and most responsive bid to the prospectus for the next contract term, his or her tenure as a concessionaire would continue. Under this alternative, an operator could continue operations with no change (except mitigation of existing violations), in nearly the same configuration of services and facilities. A major focus would continue to be the management of long-term, exclusive-use trailer sites and the other services and facilities that provide for the general, short-term public. The concessionaire could expect that his or her revenue and level of business would continue at about the same rate as at present, showing growth or loss that reflects market demands and customer preferences.

Some concessionaires may prefer this alternative to all the others because it might pose the best opportunity to remain in business at Lake Berryessa, with minimal risk and cash outlay for improvements. However, the required bidding process for concessions operations allows existing concessionaires

no preferential treatment over other competitors, and they are by no means assured that their bids would prevail.

Long-Term Trailer Site Permittees

Under Alternative A, individuals owning trailers and having a long-term site permit at the expiration of the current concession contract would retain their site into the next contract term. Changes would only be to rectify previously identified violations of life, health, safety and environmental codes and regulations. The use of the area would be similar to the present situation, with occasional rate changes and other operational adjustments over time based occurring at the discretion of the concessionaire.

Existing permittees may favor this alternative because it is their best opportunity to retain exclusive long-term use of their current sites, and because it would insure that concessionaires would continue to place priority on trailer village operations.

General Public (Short-Term Users)

Under the No Action Alternative, the general public would continue to utilize concession facilities at Lake Berryessa in the same manner as at present. Campgrounds, short-term RV areas, overnight lodging (Steele Park and Putah Creek only), food and beverage, retail sales, marinas, etc. would appear and be operated in a nearly identical manner as at present. Public facilities and lake access would be the same. Entrance and use fees would continue to be charged. Campground and RV areas would be of the same size and character as currently available. Limited attention to short-term users and day-use opportunities would still be the norm. The prime shore areas at all concession operations would be utilized by long-term trailer sites, with short-term public facilities continuing in their existing locations.

The government would continue to operate the launch ramp at Capell Cove and picnic and day-use facilities at Oak Shores in this alternative. These areas are utilized nearly exclusively by short-term users, and that use would continue. The few short trails maintained by Reclamation would remain in their current condition. No new government facilities or development would occur in this alternative.

In general, the traditional short-term public may find this alternative disappointing because it retains management focus on exclusive trailer use and continues the assignment of prime lakeshore and adjacent land for that use, with only marginal attention to short-term users.

Local Entrepreneurs (Private Business Outside of Reclamation Land)

Local Entrepreneurs are those business operations that may directly or peripherally be impacted or utilized by concessionaires, their customers, or others visiting Lake Berryessa.

This analysis establishes no set mileage delineation on how close to Lake Berryessa a business must be, to be considered part of the local economy.

Rather, any businesses and revenue centers that can detect positive or negative revenue fluctuations directly attributable to traffic and activities associated with visitor-use at Lake Berryessa are considered to be part of the local economy.

Local entrepreneurs should not anticipate a significant boost in business or business opportunities as the result of the No Action Alternative. The nearby external (non-concession) business environment is not vigorous. The nearest local businesses are seasonal and tend to reflect the same ebb and flow noticeable at the concession operations. All of the closest businesses are operating out of facilities that are fairly old and of the same vintage as most concessionaire facilities. They appear to have developed simultaneously with the impoundment of the reservoir and the establishment of the concessions. Over the years, many business sites have changed hands and others have closed down and are sitting empty and unused. Business generally appears marginal in the immediate Lake Berryessa area, with the best opportunities being in trailer and boat storage and marina and fishing supplies.

The long-term trailer residents at Lake Berryessa probably do not contribute significantly to local businesses. It is likely that they bring supplies from home to stock their trailers, and do not regularly patronize local business establishments. Patronage of short-term users of the reservoir would remain at about current levels.

Businesses that are more distant from but located en route to Lake Berryessa have a wider spectrum of customers, and depend less on Berryessa visitors. Like commercial operations close by, these establishments, too, should not anticipate seeing more business a result of the No Action Alternative.

In general, businesses involved in the local economy may find this alternative disappointing because it is unlikely to introduce any positive changes to their level of income.

Some local entrepreneurs, of course, might consider bidding on the concessions contracts, and in this manner they could be affected by Alternative A. However, an important factor that an experienced businessperson would consider is the physical condition of many of the buildings and structures currently owned and operated by the concessionaires at Lake Berryessa. The incoming concessionaire who wins the contract under Alternative A would be required to purchase all of those facilities. The report by Kleinfelder, Inc. (see the Lake Berryessa website) details the specific condition of those buildings and structures, and also provides general information on their remaining use-lives. Some facilities require major rehabilitation and expensive maintenance to be brought into compliance, while others would not be salvageable, based on the projected expenses and returns. Costly corrections would be required, even under the No Action Alternative, in order to remedy the numerous violations of life,

health, safety and environmental codes and regulations that already have been identified and cited. Eventually, some operations would have to be closed as facilities deteriorated to the point they were no longer serviceable or legally sustainable.

These conditions, if they did not discourage new bidders from seeking the contract, would certainly involve substantial expense and risk to the prevailing business person.

Overall, business-related impacts to the affected parties would continue along the same trajectory as at present. That trajectory is neither particularly adverse nor beneficial, and impacts, in general, would not be considered significant.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-50: Potential Impacts to Concession Services and Activities

Current Concessionaires

Under Alternative B, there would be significant changes to the concession business environment. Since existing concessionaires do not have a preferential right for renewal, they would have to compete for the Reclamation contract. Under this alternative, there would likely be fewer than the seven concessionaires that currently operate at the lake, although same number of resorts would be retained. Alternative B would encourage the merging of separate concessions into fewer, more extensive concessions that operate more than one resort. This might occur as the result of all the costs related to infrastructure improvements at the resorts, insofar that these expenses would be economically more feasible as part of a larger package with potentially larger (ultimately) profit margin.

Under Alternative B, each bidder, including any existing concessionaires who wished to participate, would prepare a bid package covering a significantly larger and much more complex business than those currently operated under contract agreements at the lake. Operation of such a concession would demand substantial financial resources and management expertise from the outset. These demands would be challenging for any bidder, including existing concessionaires, to meet.

Also of critical importance to existing concessionaires is PL 96-375, which establishes the requirements and stipulations for compensation due outgoing concessionaires for their property located at Lake Berryessa. The law states that concessionaires will be paid only for those facilities that Reclamation requires for use into the next contract term. Those that are not so identified would be demolished or removed at the owners' expense. As noted in the Klienfelder Report, many of the existing concession facilities are decrepit and have a very limited useful life remaining. Many are of marginal value. In some instances, the value is further compromised because of poor

location or design when viewed in regard to changes required by this alternative to enhance short-term visitor use and facilities. Under the law, those facilities not designated for use in the next contract must be demolished and/or removed by the existing concessionaire *without compensation* from the government or incoming concessionaire.

In general, it is likely that existing concessionaires would be disappointed with this alternative, for a number of reasons. First, their ability to continue as concessionaires at the reservoir is jeopardized by the required bidding process. Under Alternative B, being intimately familiar with existing operations and facilities would be of no particular advantage in the bidding process, as those operations and facilities would change tremendously. Second, competing for the contract would likely require development of an expanded business plan to incorporate the merging of two or more resort operations into a single concession. Third, the expanded and updated operations would require a large initial cash outlay by the concessionaire who prevails in the bidding process. Fourth, any concessionaire who does not compete or who does not prevail in the bidding process would still be required to demolish or remove at least some of his or her existing facilities (those identified by Reclamation as being unnecessary under the new contract). Demolition and removal would have to be done at the existing concessionaire's expense. Fifth, existing concessionaires would be responsible for seeing that existing long-term trailers and associated structures are removed, and in some cases they may also be financially responsible for naturalizing those disturbed areas. Finally, they would be required to sell some existing facilities to the incoming concessionaire, at prices set by pre-determined procedures, and those prices might not be acceptable to the seller.

These impacts would be significant and adverse to the current concessionaires over at least the short term. Over the long term, however, they would eventually recoup their expenses and their concessions would be profitable. The economic feasibility of commercial requirements described under Alternative B is detailed in the Lake Berryessa website under "Documents"

Long-Term Trailer Site Permittees

This alternative would terminate exclusive-use, long-term trailer sites at Lake Berryessa. It also would require the existing permittees to remove all of their property from their assigned sites prior to the final day of the contract. Many of the existing trailers have been on site for 20-40 years. In their deteriorated and fragile condition, some may require demolition. The expense for removal of all personal property, and in some instances rehabilitation of the site, would be the responsibility of the concessionaire, but presumably would ultimately be passed on to the individual permittee.

In general it seems likely that existing long-term trailer site permittees would be disappointed in this alternative. It would eliminate their

opportunity for continued exclusive use of prime Lake Berryessa locations and require the removal of their property and rehabilitation of their assigned site, likely at their own expense.

Overall, impacts to long-term trailer site permittees under Alternative B would be significant and adverse.

General Public (Short-Term Users)

The core of Alternative B is the establishment of new public services and facilities at Lake Berryessa. The goal of this alternative is to establish an outdoor recreation support environment that broadens the opportunities for public enjoyment of the area. Featured would be a range of commercial and government amenities, including new campgrounds and RV parks, rustic and standard lodging, contemporary houseboat rentals, trails, group camping, marinas, dining, retail sales and associated support functions. Concession areas that now dedicate their prime locations to private exclusive long-term use trailer villages would, under Alternative B, use these same areas to provide these new facilities to the general public.

The majority of the public impacts should be positive. With more area devoted to traditional camping and RV parks, users would have larger and better-designed sites that feature a degree of privacy, views, and better lake access. Visitors desiring overnight facilities would have a range of choices, in terms of cabins or hotel/motel facilities at varied price and amenity levels. Food and beverage outlets would provide a similar range of dining experiences. Marina facilities and lake access would be improved. The houseboat rental operation would be similar in character to those popular in other western reservoirs such as Shasta, New Melones, Lake Roosevelt, and Lake Powell. These and other new developments and services would be viewed as improvements by many traditional outdoor recreation enthusiasts to Lake Berryessa.

The most significant additions to recreation services offered by Reclamation in this alternative would be a substantial trail development program along the lake. The creation of shorter spur trails connecting to future Bureau of Land Management trails also would be considered.

Some users may be disappointed in the proposed assignment of Capell Cove and the Skier's Cove activity to a concessionaire. Currently, Reclamation and a private club, respectively, operate these facilities. Some boating enthusiasts may not like the re-designation of some areas to exclude motorized use, whereas canoe, kayak and other enthusiasts of non-motorized water sports may enjoy the change. Some users could be disappointed in the proposed level of resort build-out at Lake Berryessa. The expiration of existing contracts and the ensuing development of new facilities would be accompanied by a period of years where Lake Berryessa would be unable to fully realize its potential ability to serve the public, and this may be frustrating to potential users anxious to visit the area.

The residents of the greater San Francisco Bay area and adjacent Northern California communities could perceive this alternative as a new opportunity to experience a physically attractive, appropriately developed, and moderately priced recreation area. Lake Berryessa could be “discovered” by many new users, once more “public-friendly” programs and facilities become available there. Alternative B would also offer greater opportunity for low-income citizens to enjoy the lake, as many of the new facilities (e.g., low-cost campgrounds) would be more affordable to them.

In general, short-term users should find this alternative as a positive change that would enhance their opportunities for lake access and introduce a range of improved facilities that users of many different economic profiles. Overall, impacts to the general public under Alternative B would be significant and positive.

Local Entrepreneurs (Private Business outside of Reclamation Land)

The local economy might experience many more positive than negative impacts from the proposals under Alternative B. Some business demand could increase because all visitors would now be short-term, with a greater need for commercial support. There would likely be new opportunities for some business development in the immediate area for entrepreneurs who observe needs and demands peripheral to the new concession developments at Lake Berryessa. The proposed developments outlined in this alternative could also create a more robust nexus with the successful adjacent business environment in Napa Valley. The change in commercial focus to short-term services and clientele would create prospects for staying at Berryessa for a few days, enjoying the outdoor environment and water recreation opportunities in an affordable setting and taking an excursion to Napa Valley. Some of the small, local wineries in the greater Berryessa area could experience added interest through initiation of this alternative. In addition, the expanded resort operations would bring in more seasonal employees, who also would contribute to the local economy.

Alternative B would have beneficial impacts, but these would not be enough to override the general national and statewide economic downturn. The general economy is thought to be one of the variables that influence how much recreation-related visitation occurs at destinations like Lake Berryessa in any given year. Therefore, the local impacts of Alternative B on local entrepreneurs are judged to be positive but, overall, probably non-significant.

Impact 3.9-51: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative B

No cumulative impacts to concession facilities and services are anticipated from this alternative, and no indirect impacts have been identified.

Impact 3.9-52: Potential Impacts from the Irreversible and Irretrievable Commitment of Resources to Concession Facilities and Services from Alternative B

Alternative B would likely create a number of potential impacts due to the irreversible and irretrievable commitments of resources. As stated earlier in Chapter 3.2, Soils, and Chapter 3.3, Vegetation, impacts would occur following the removal of many outdated and poorly maintained existing facilities and infrastructure, which would be replaced with new facilities. In some instances these new facilities may be located in areas that are not currently impacted by structures. Most new development, however, would occur on already existing developed footprints and would not cause significant impacts. In addition, any impacts would be mitigated, insofar as possible, by rehabilitating existing heavily disturbed areas. Most notably, major shoreline structures and other inappropriate stabilization devices would be removed. The total mileage of roadways throughout the concession areas would be reduced and unplanned and poorly executed landscaping in the present trailer village areas would be returned to as natural a condition as possible.

Impact 3.9-53: Potential Impacts From Short-term versus Long-term Uses from Alternative B

Short-term impacts to concessionaires would be adverse and significant under the Preferred Proposal. If existing concessionaires won new contracts, they would be required to make costly repairs to or replacements of existing facilities. Long-term impacts to current concessionaires also would be adverse and significant (as they would be under any alternative), as the concessionaires may be required to demolish or remove some facilities at their own expense, accept unsatisfactory payment for other facilities, and incur costs in the cleanup of trailer sites. These expenses would have long-term impacts to the economic well being of the concessionaires. Finally, there would be significant adverse long-term effects on trailer permittees, who would permanently forfeit their vacation sites.

Long-term uses related to new facilities also would offer substantial benefits to a rehabilitated environment, the visiting public and to commercial interests outside the reservoir, as described above. Overall, these effects would be beneficial and significant.

Impact 3.9-54: Unavoidable Adverse Impacts from Alternative B

Given that existing contracts will expire within the next few years, and given that necessary modifications of those contracts would incur significant expenses for current concessionaires, Alternative B does have unavoidable adverse impacts. These impacts would affect existing concessionaires, and would likely be significant in many instances.

It is important to note, however, that all of the proposed alternatives—including No Action Alternative A—would have these unavoidable

impacts, as they arise from the expiration of contractual agreements, federally mandated re-bidding processes, and federal, state and local environmental and safety requirements.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-55: Potential Impacts to Concession Services and Activities

Current Concessionaires

The proposals and impacts of this alternative are similar to those of Alternative B. Concessionaires who prevail in the contract competition process would be required to modify some existing facilities to comply with environmental and safety regulations, to raze some buildings and structures, and to build some new facilities. Current concessionaires who do not compete or do not prevail in the bidding process would be compelled to sell some of their buildings and demolish or remove the rest at their own expense. Further, they would be required to oversee the complete removal of all long-term trailers and associated infrastructure, as described under Alternative B.

The major difference between the two alternatives is that C allows the re-introduction of a limited number of exclusive long-term use trailer sites at some of the concessionaire locations. This action would be beneficial and possibly financially significant to those concessionaires who are allowed to re-establish some trailer use as part of their operations.

Alternative C also would continue the enhancement and development of programs and facilities for short-term use in largely the same manner as described under Alternative B. These actions would have the same impacts described under Alternative B, above.

Overall impacts would be as described for Alternative B, above. These impacts would be somewhat mitigated by the fact that some existing concessionaires (if they prevail in the bidding process) would be allowed to re-establish some of the lucrative long-term trailer sites that support their business.

Long-Term Trailer Site Permittees

This alternative would require the initial removal of all long-term trailers and the associated infrastructure, as outlined in Alternative B. However, Alternative C would allow the re-introduction of an as-yet-undetermined number of long-term trailer sites to four of the concession areas. This action would mitigate, to some extent, the adverse impacts on long-term trailer site permittees.

The major focus of this alternative, as in Alternative B, would be providing programs and facilities for short-term users. These would be largely as described under Alternative B, above.

It is likely that existing long-term trailer site permittees would be disappointed in this alternative, although perhaps to a somewhat lesser extent than they would be disappointed in Alternatives B and D. It would require the removal of their property and rehabilitation of their assigned site. Their opportunity to return to reconfigured sites would be limited, as the total number of trailer sites would be significantly reduced. Furthermore, their previous locations in prime lakeshore and adjacent areas would no longer be available.

Overall, the impacts to trailer site permittees under Alternative C would be significant and adverse.

General Public (Short-Term Users)

The goal of Alternative C is to establish at Lake Berryessa new public services and facilities, which would occur in a manner closely similar to that described under Alternative B. However, Alternative C would have fewer short-term facilities, due to retention of some long-term trailer sites in some of the concession areas. As in Alternative B, some users could be disappointed in the proposed level of resort build-out at Lake Berryessa. The expiration of existing contracts and the ensuing development of new facilities would be accompanied by a period of years where Lake Berryessa would be unable to fully realize its potential ability to serve the public, and this may be frustrating to potential users anxious to visit the area.

Also, as in Alternative B, Camp Berryessa would be operated by a concessionaire; a new trail system would be developed; and some shoreline and water areas around the reservoir would be reclassified under the WROS recreational-use management system.

Capell Cove would be managed by Reclamation, as would the other day-use areas of Markley, Olive Orchard, Oak Shores, Pope Creek, North Shore, Eticuera and Steele Canyon.

Visitors to Lake Berryessa, who are predominantly short-term users, will likely see this alternative as significantly beneficial, as it would enhance opportunities for the general public to access the lake and would introduce a range of improved facilities. Many of these facilities would be more affordable, and some would be free (non-motorized launching), enabling users of all economic backgrounds to enjoy them. However, with fewer short-term recreational facilities than would be available under Alternative B, the overall benefit of Alternative C would be somewhat less than that of the Preferred Alternative.

Local Economy (Private Business outside of Reclamation Land)

The impacts of Alternative C on the local economy would as described for Alternative B. There may be a very minor difference because of the re-

introduction of a limited number of long-term trailer sites and associated reduction of short-term programs and facilities. However, it is likely that the economic differences between this alternative and Alternative B would not be measurable or detectable.

Impact 3.9-56: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative C

No cumulative impacts to concession facilities and services are anticipated from this alternative, and no indirect impacts have been identified.

Impact 3.9-57: Potential Impacts from the Irreversible and Irrecoverable Commitment of Resources from Alternative C

These potential impacts would be as described under Alternative B. Impacts would occur following the removal of many outdated and poorly maintained existing facilities and infrastructure. New facilities would replace them. In some instances, these new facilities may be located in areas that are not currently impacted by structures. Most new development, however, would occur on existing developed footprints and would not cause significant impacts. Any new impacts would be mitigated, by rehabilitating existing disturbed impacted areas. Most notably, major areas of shoreline structures and other inappropriate stabilization devices would be removed. The total mileage of roadways throughout the concession areas would be reduced and unplanned and poorly executed landscaping in the present trailer village areas would be returned, to as natural a condition as possible.

Impact 3.9-58: Potential Impacts From Short-term versus Long-term Uses from Alternative C

Potential impacts from short-term versus long-term uses would be as described under Alternative B.

Impact 3.9-59: Unavoidable Adverse Impacts from Alternative C

Unavoidable adverse impacts would be as described under Alternative B. These would be mitigated to a minor extent by the Alternative C provision for re-establishment of some long-term trailer sites at some concessions.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

**Impact 3.9-60: Potential Impacts to Concession Services and Activities
Current Concessionaires**

Alternative D would have nearly the same impacts and mitigating measures affecting current concessionaires as those described under Alternative B. However, with Reclamation taking over operation of two of the resorts, concessionaires would have a reduced business opportunity, since at least two concessions would be eliminated from the contracting process under this alternative.

Otherwise, impacts would be as described under Alternative B, and those impacts, overall, would be significant and adverse for existing concessionaires.

Long-Term Trailer Site Permittees

The impacts and mitigating measures would be as described under Alternative B, above.

General Public (Short-Term Users)

The focus of Alternative D would be the establishment of new public services and facilities at Lake Berryessa in a manner very similar the proposals under Alternative B.

The primary difference is that Reclamation, instead of a concessionaire, would be operating Pleasure Cove and Putah Creek facilities. Under Reclamation management, overnight lodging opportunities would be terminated, and overnight use would be limited strictly to camping and RV facilities. Pleasure Cove would be configured approximately the same in this alternative as in Alternative B, but would be operated by the government.

As described under Alternative B, Reclamation also would develop a trail system that would eventually include spur trails connecting to trails outside the take-line. Further, under this alternative, Reclamation would continue to manage the day-use facilities at Markley, Pope Creek, Oak Shores, Smittle Creek, Olive Orchard, Eticuera and Steele Canyon. Recreation uses would be reclassified under the WROS management system, affecting several water and shoreline sites throughout the reservoir as described for Alternative B.

The general public's perception of this alternative is expected to be similar to that described for Alternative B. However, some users may be disappointed in the reduced amenities that would be available at Putah Creek, while others may look forward to that reduction in favor of additional camping.

Local Economy (Private Business outside of Reclamation Land)

The impacts on the local economy under Alternative D would be as described for Alternative B.

Impact 3.9-61: Potential Cumulative Environmental Impacts to Concession Facilities and Services from Alternative D

No cumulative environmental impacts to concession facilities and services are anticipated from this alternative.

Impact 3.9-62: Potential Impacts from the Irreversible and Irrecoverable Commitment of Resources from Alternative D.

Under Alternative D, impacts would occur from the irreversible and irretrievable commitments of resources as described for Alternatives B and

C. Impacts would occur following the removal of many outdated and poorly maintained existing facilities and infrastructure where new facilities would be built. In some instances these new facilities may be located in areas that are not currently impacted by structures. Most new development, however, would occur on already existing developed footprints and would not cause significant impacts and impacts would be mitigated, by the rehabilitation of present heavily impacted areas. Most notably, major areas of shoreline structures and other inappropriate stabilization devices would be removed. The total mileage of roadways throughout the concession areas would be reduced and unplanned and poorly executed landscaping in the present trailer village areas would be returned to as natural a condition as possible.

Impact 3.9-63: Potential Impacts From Short-Term versus Long-term Uses from Alternative D

Impacts would be as described for Alternatives B and C. These impacts would be significant and adverse for existing concessionaires.

Impact 3.9-64: Unavoidable Adverse Impacts from Alternative D

Unavoidable adverse impacts would be as described for Alternative B. These are related to the expiration of existing concession contracts, the federally mandated re-bidding process, and expenses that would be incurred by complying with federal, state and local environmental and safety requirements. They would impact existing concessionaires.

Accessibility for People With Disabilities

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.9-65: Potential Impacts to Reservoir Accessibility (ADA)

During 2002-03, an accessibility assessment was completed by Reclamation for its public use facilities, including Capell Cove launch ramp, Olive Orchard, Oak Shores, Smittle Creek and Pope Creek day-use areas, and the Visitor Center adjacent to the Lake Berryessa Administrative Complex. In addition, buildings at the seven resorts were evaluated. All of these assessments were conducted under Americans with Disabilities Act Accessibility Guidelines (commonly referred to as ADAAG).

The assessment demonstrated that many of the Reclamation and concession facilities fail to meet current federal accessibility standards. Most of these buildings and structures were built before 1980 (before ADA standards were in place) and had never been brought into compliance.

Under the No Action Alternative, Reclamation would complete an action plan that identifies the federal buildings to be corrected, the time required to accomplish the work and the cost for each of the modifications. These retrofitting efforts have been designated as agency goals to be met under the Government Performance Review Act (GPRA) by the year 2010.

Although there are no current plans to conduct reservoir-wide renovations of concession facilities at the various resorts to bring everything into compliance with current accessibility standards, individual modifications will occur for various structures. Planning for these modifications will take into account the structure's current state of repair, life expectancy and the public purposes for which it is used. However, a number of these facilities likely will not be made universally accessible.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-66: Potential Impacts to Reservoir Accessibility

Under Alternative B, the GPRA goals identified above would still be in effect. The Concession Operations component of the Preferred Alternative would include accessibility provisions in the design and construction of new indoor and outside facilities, and any modifications to existing structures necessary to bring them into compliance.

The Capell Cove launch ramp and Camp Berryessa group campground, both of which would be managed by a concessionaire, will have already been retrofitted by Reclamation in meeting their Government Performance and Review Act goals for 2010.

Under Government Operations, the steps that are already being taken to correct accessibility issues posed by Reclamation facilities and identified under the No Action Alternative would continue under this alternative, as well. Beginning in 2006, the day-use facilities at Oak Shores, Olive Orchard, Smittle Creek, Pope Creek and the administrative complex Visitor Center would be modified to meet current accessibility requirements. These changes would be accomplished during periods when the various facilities are not heavily used and therefore they would not be closed to public use. Consequently, potential impacts to users are predicted to be minor.

The trail system design proposed under Alternative B would incorporate appropriate accessibility features to comply with UFAS and ADAAG standards. Topographic conditions, however, may render some parts of these trails inaccessible.

Impact 3.9-67: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative B

There is no evidence of cumulative environmental impacts related to the application of accessibility standards for government facilities at Lake Berryessa; and there are no indirect impacts associated with this alternative.

Impact 3.9-68: Potential Impacts to Reservoir Accessibility from Irreversible and Irretrievable Commitment of Resources from Alternative B

There would be no impacts from the irreversible or irretrievable

commitment of resources linked to accessibility compliance under Alternative B.

Impact 3.9-69: Potential Impacts to Reservoir Accessibility from Short-term Effects versus Long-term Effects from Alternative B

There would be no short-term effects due to uses associated with the implementation of accessibility standards under this alternative. Accessibility modifications to federal and commercial facilities promote long-term uses that will better serve a greater diversity of visitors.

Impact 3.9-70: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative B

There would no unavoidable adverse impacts to reservoir accessibility associated with Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-71: Potential Impacts to Reservoir Accessibility

The potential impacts and mitigating measures regarding the accessibility of Reclamation and resort facilities would be as described under Alternative B.

Under this alternative, however, Capell Cove would be managed by Reclamation, as would the other day-use facilities, whereas Camp Berryessa would remain a concession operation. The majority of visitor accommodations proposed for each resort would be similar to those described in Alternative B. Trail development would mirror that described for Alternative B, including compliance with standards for accessibility proscribed under UFAS and ADAAG criteria. The reclassification of use levels for land and water sites under WROS would be the same as in Alternative B, with those day-use areas receiving appropriate modifications to comply with UFAS and ADAAG standards.

Impact 3.9-72: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative C

There is no evidence of cumulative environmental impacts related to compliance with accessibility standards for government facilities at Lake Berryessa; and there are no indirect impacts associated with this alternative.

Impact 3.9-73: Potential Impacts to Reservoir Accessibility from Irreversible and Irretrievable Commitment of Resources from Alternative C

There would be no impacts from the irreversible or irretrievable commitment of resources as a result of compliance with accessibility standards under Alternative C.

Impact 3.9-74: Potential Impacts to Reservoir Accessibility from Short-

term Effects versus Long-term Uses from Alternative C

There would be no short-term uses associated with compliance with accessibility standards under this alternative. Accessibility modifications to federal and commercial facilities promote long-term uses that will better serve a greater diversity of visitors.

Impact 3.9-75: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative C

There would be no unavoidable adverse impacts to reservoir accessibility associated with Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.9-76: Potential Impacts to Reservoir Accessibility

The potential impacts and mitigating measures pertaining to accessibility of facilities under Commercial and Government Operations would be as described under Alternative B. Under Alternative D, however, Capell Cove, Camp Berryessa and two of the resorts (Putah Creek and Pleasure Cove) would be managed by Reclamation. Accessibility-related modification of the structures at Capell Cove and Camp Berryessa are part of Reclamation's ongoing GPRG Goals, and these modifications are to be achieved by 2010.

Under this alternative, accessibility features would be incorporated into designs for the visitor accommodations proposed for all resorts, as described for Alternative B. Development of trails and day-use sites would meet UFAS and ADAAG standards, as described for Alternative B. Finally, under Alternative D, shoreline and water areas would be reclassification according to WROS criteria as described under Alternatives B and C. This reclassification is not anticipated to require the development of accessibility features.

Impact 3.9-77: Cumulative Environmental Impacts to Reservoir Accessibility from Alternative D

There is no evidence of cumulative environmental impacts related to compliance with accessibility standards for government facilities at Lake Berryessa; and there are no indirect impacts associated with Alternative D.

Impact 3.9-78: Potential Impacts to Reservoir Accessibility from Irreversible and Irrecoverable Commitment of Resources from Alternative D

There would be no impacts resulting from the irreversible or irretrievable commitment of resources, arising from compliance with accessibility standards under Alternative D.

Impact 3.9-79: Potential Impacts to Reservoir Accessibility from Short-term Uses versus Long-term Uses from Alternative D

There would be no short-term uses associated with the implementation of accessibility standards under this alternative. Accessibility modifications to federal and commercial facilities promote long-term uses that will better serve a greater diversity of visitors.

Impact 3.9-80: Unavoidable Adverse Impacts to Reservoir Accessibility from Alternative D

There would be no unavoidable adverse impacts to reservoir accessibility associated with Alternative D.

Environmental Justice

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.9-81: Potential Impacts to User Groups Protected under Environmental Justice Criteria

Under Alternative A, visitors would continue to pay for resort services and facilities according to rates that are comparable for the area and approved by Reclamation. There are no data that demonstrate or suggest that the rates currently charged by various resorts discourage use by any group of potential users, although that possibility exists. Though the use of resort entrance fees is likely to have a discouraging effect on some lower-income users, there are no known disproportionately high adverse human health or environmental impacts, including social or economic effects to minority or low-income populations, as a result of approved programs and policies employed by the resorts.

Under this alternative, Reclamation would continue to offer services at its non-fee day-use facilities without prejudice toward any particular user-type or special interest group. A number of these facilities have been offering services for over a decade and, as noted in the Affected Environment section, there is no evidence that issues relating to Environmental Justice criteria have ever occurred in relation to those operations. However, in an effort to more fully appreciate the interests and needs of returning visitors as well as potential visitors, Reclamation will begin collecting relevant use statistics, using approved Government Accounting Office procedures. This data will help in the design of programs, exhibits, publications and presentations, thereby allowing Reclamation to reach a greater diversity of potential visitors.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.9-82: Potential Impacts to User Groups Protected under Environmental Justice Criteria

Under Concession Operations, resorts would begin collecting information about the clientele, following GAO procedures. Gathering data about customer interests and preferences is a process that occurs industry-wide. This would allow resort operators to better recognize and, as appropriate, tailor certain programs and services according to the interests of different groups of visitors. In addition, under this alternative, there would be no resort entrance fees, removing the “air of exclusivity” associated with resorts under current conditions. Prices of accommodations would be more amenable to lower income visitors than those that would exist under Alternative A, with economy cabins and campsites available at Spanish Flat and Rancho Monticello, as an example. The operations at Capell Cove launch ramp would remain essentially unchanged, but attractions at the Camp Berryessa group campground would be expanded to include covered dining and shower and laundry facilities, available by reservation.

Under Government Operations, Reclamation would continue efforts to more fully appreciate the diverse interests of reservoir user, and would offer programs that inform visitors through different mediums, including multi-language publications, about their role in protecting reservoir resources while also having a safe and enjoyable experience.

The operation of the non-fee day-use facilities, the elimination of resort entrance fees, the new trail development and the changes in the use levels for land and water sites described previously under Alternative B, apply here, as well.

Impact 3.9-83: Potential Impacts To User Groups Protected Under Environmental Justice Criteria, Including those Resulting from Cumulative Environmental or Indirect Impacts, Impacts from Irreversible and Irretrievable Commitment of Resources, from Short-term versus Long-term Uses, and from Actions that are Adverse and Unavoidable

The purpose of Alternative B is to provide quality service to all segments of the population using Lake Berryessa, while insuring the protection of its users and its resources. Consequently, implementation of this alternative would not be expected to result in disproportionate adverse effects on any sub-population group, and no adverse effects would be anticipated under the impact categories listed above. Further, no indirect impacts are anticipated.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.9-84: Potential Impacts to User Groups Protected under Environmental Justice Criteria

The potential impacts and mitigating measures regarding user groups and Environmental Justice criteria, as described for Concession and Government Operations under Alternative B, apply to Alternatives C, as well.

In addition, previous descriptions of proposals under Concession and Government Operations for Alternative C are also applicable here.

Impact 3.9-85: Potential Impacts To User Groups Protected Under Environmental Justice Criteria, Including those Resulting from Cumulative Environmental or Indirect Impacts, from the Irreversible and Irretrievable Commitment of Resources, from Short-term versus Long-term Uses, and from Actions that are Adverse and Unavoidable

The purpose of Alternative C, like Alternative B, is to provide quality service to all segments of the population using Lake Berryessa while insuring the protection of its users and its resources. Consequently, the implementation of this alternative would not be expected to result in disproportionate adverse effects on any sub-population group, and no significant direct or indirect impacts are predicted under the categories listed above.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.9-86: Potential Impacts to User Groups Protected under Environmental Justice Criteria

The potential impacts and mitigating measures regarding user groups and Environmental Justice criteria, as described for Concession and Government Operations under Alternative B, apply to Alternative D, as well. However, under this alternative, two of the seven resorts and the group campground would be managed by Reclamation rather than by a concessionaire. The concerns relating to disproportionate effects on certain segments of the population are as valid for the additional facilities proposed for government operations as they are for commercial resorts, and would be addressed as described under Alternative B.

Finally, previous descriptions of the proposals under Concession and Government Operations for Alternative D apply here, as well.

Impact 3.9-87: Potential Impacts To User Groups Protected Under Environmental Justice Criteria, Including those Resulting from Cumulative Environmental and Indirect Impacts, from the Irreversible and Irretrievable Commitment of Resources, from Short-term versus Long-term Uses, and from Actions that are Adverse and Unavoidable

The purpose of Alternative D, like Alternatives B and C, is to provide quality service to all segments of the population using Lake Berryessa while insuring the protection of its users and its resources. Consequently, the implementation of this alternative would not be expected to result in

disproportionate adverse effects on any sub-population group and no significant impacts are predicted under the categories listed above. Further, no indirect impacts are anticipated.

Indian Trust Assets

Reclamation policies protect Indian Trust Assets from adverse impacts resulting from their programs and activities, where possible. There is no Indian land within the reservoir boundary and therefore no impacts are expected from either the No Action Alternative or from implementing Alternatives B, C or D.

Impacts on Other Federal and Non-Federal Projects and Plans

Title 40 of the Code of Federal Regulations, Section 1502.16 (c) requires that each Environmental Impact Statement discuss all related federal and non-federal projects in the study area. There are no other federal or non-federal projects underway or being considered that are within the study area.

International Impacts

Executive Order 12114, dated January 4, 1979 requires federal agencies to consider the effects of their actions when they may have a significant effect upon the environment outside the jurisdiction of any nation, upon the environment of an uninvolved foreign nation that may benefit from the action, and upon global resources protected by treaty or designated by the President. The proposed action at Lake Berryessa is within the jurisdictional boundaries of the United States and does not affect the resources or environmental integrity of any of legal entity.

3.10 Public Safety

3.10.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Structural Fire

During the development in the 1950s and early 1960s of long-term exclusive trailer villages operated by the seven concessionaires, little thought was given to structural or wildland fire concerns. Within the last 30 years, however, regulations and codes have been adopted by the State of California and the County of Napa that require much stricter building and development standards as well as new maintenance requirements for existing structures and premises. These regulations and codes were developed to minimize the loss of life and property from large, devastating fires, and to insure that firefighters would have adequate access to such properties.

The primary fire hazard, which is typical for any development in the rural areas of California, is vegetation fires that occur in close proximity to

structures. The general area of Lake Berryessa has experienced vegetation-related fires in the recent past, and these have destroyed homes and burned over many acres of land. Mitigation of this hazard includes meeting standards for road access, turnouts and turnarounds, on-site fire protection water storage, and vegetation clearance requirements for individual structures and roadways. These are addressed under the state's Public Resources Code and the Napa County Fire Code.

A 2001 survey by the Napa County Fire Department of the marina complexes on the lake indicates that six of the seven resorts do not comply with Public Resource Code (PRC) 429-1, which require a defensible space around structures. Defensible space is defined as the area within the perimeter of a parcel, development, neighborhood and community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against an encroaching wildfire or escaping structure fire.

The survey found that dead trees and vegetation are adjacent to trailers and out-buildings and Liquid Propane Gas tanks (LPG) have less than the 10 feet of clearance required by PRC 4291.

The California Department of Forestry and Fire Protection (CDF) recommends two separate points of ingress/egress for each development. Nearly all of the resorts on the lake have only one point of ingress/egress.

The Napa County Fire Code (NCFC) requires that fire apparatus access roads shall have an unobstructed width of not less than 20 feet, an unobstructed vertical clearance of not less than 15 feet, and that street and road networks limit dead ends and provide reasonable widths, turnarounds and turnouts for fire equipment. These minimum requirements shall not be obstructed in any manner, including parking of vehicles. A fire engine, waiting for civilians to exit a narrow roadway cannot provide the necessary fire suppression action. Further, the lack of a reasonable access for emergency equipment and civilian evacuation concurrently can result in a major loss of life, property and natural resources.

Many of the roadways in the resorts, due to their narrow design, contain obstacles and turns that are inaccessible to fire engines. Dead-end roads do not include either a hammerhead or terminus bulb, which are meant to provide a safe change of direction for emergency equipment. Speed bumps have been installed on many of the roadways within the resorts, thereby hindering the progress of fire engines responding to emergencies

Resorts lack uniform addressing and street signs. Many of the existing signs are not compliant with state and local codes, and some are missing altogether. The Napa County Fire Code Section 15.32.380 and 15.32.390 require that addresses shall be provided for all new and existing buildings, and those addresses must be plainly visible and legible from the street or road. PRC 4290 also has signing and building numbering requirements to facilitate locating a fire and to avoid delays in response.

Water supply for fire suppression is a major concern at Lake Berryessa. When the resorts were designed there was little, if any, allowances for water for fire protection. This has led to water supply problems on every fire that has occurred in the resort areas. Resorts either have a limited number of hydrants or none at all. Current codes specify a water supply capable of providing the required flow for fire protection.

The entire survey including a list of specific deficiencies may be seen at the Lake Berryessa website, www.usbr.gov/mp/berryessa/index.html.

Wild Land Fire

The Bureau of Reclamation has a wildland fire-suppression cost reimbursement agreement with the California Department of Forestry and Fire Protection. The purpose of this agreement is to authorize the CDF to provide fire prevention services on lands under the administration of Reclamation at Lake Berryessa. The agreement authorizes the CDF to provide planning for fire suppression, to patrol designated lands covered under the agreement, to operate heavy equipment to construct and maintain fire roads and fire breaks, to reduce fire fuels and to improve wildlife habitats. In turn, Reclamation agrees to provide CDF with current maps of lands to be protected, to permit the CDF to use Reclamation facilities such as roads, trails and water sources, to provide a Resource Advisor per the request of the state Incident Commander, and to reimburse the CDF for costs incurred in fire suppression activities on Reclamation lands. The agreement is in force until September of 2005 (Attachment 13).

Law Enforcement

With the enactment of HR 2925 into law on November 12, 2001, and the subsequent rule-making of June 4, 2002, Reclamation now has legislative authority to use federal, state and local law enforcement personnel in the protection of its facilities, water resources, surrounding lands and the visiting public. Further, though Lake Berryessa operates under concurrent jurisdiction, Reclamation is permitted to enter into agreements where non-federal authorities can be reimbursed for law enforcement services carried out on Reclamation property. Although uniformed Reclamation personnel can address certain minor violations through the use of warnings, they have no investigative or arrest authority and must rely on the Napa County Sheriff's Office, the California Highway Patrol and the California Fish & Game to provide this level of enforcement.

A review of the Napa County Sheriff's dispatch logs from January 1 until December 31, 2002 indicate that sheriff's department personnel handled approximately 541 calls involving Lake Berryessa residents and visitors. Of these, 349 calls related to law enforcement issues at the reservoir. Seventy percent of all calls occurred during the peak visitor period of June through September. Most of the law enforcement complaints were about problems at the resorts or on the Berryessa-Knoxville Road. A smaller number of calls concerned the day-use areas, the public launch ramp, and Monticello Dam.

All of the violations that occurred at shore-based facilities (day-use areas and resorts) were violations of county or state statutes. During the summer months the lake surface receives the greatest law enforcement attention due, in part, to the California Department of Boating and Waterways which provides funds to the Napa County Sheriff's Office permitting them to assign additional officers to water patrols.

The Bureau of Reclamation also continues to rely on Napa County and the California Department of Forestry to address visitor safety, fire suppression, and medical emergency needs, both on the water and in shore-based recreation sites. The enforcement of building and sanitation regulations are the responsibility of Napa County. Fish & Game regulations remain the responsibility of state game wardens.

A copy of the Napa County sheriff's dispatch log is not included in an attachment due to the sensitive nature of information it contains.

Health and Safety

Basic responsibility for the health and safety of the visiting public is shared among the State of California, Napa County and Reclamation. Though the reservoir is federally-owned and managed, Reclamation insures that county ordinances are enforced at all resorts at the lake. The county enforces Title 25 of the State Administrative Code, which regulates trailers and mobile home parks, and requires that all resorts obtain a yearly operating permit from the county. The Napa County code of ordinances for Lake Berryessa can be seen in Attachment 14.

Water quality monitoring is done on a routine basis. (See 3.3, Water Quality.) The State of California, Napa County and Reclamation routinely inspect the sewage systems in the resorts and surrounding areas to insure their safe operation.

For lake users, Reclamation and Napa County are actively engaged in a land and water safety program that emphasizes public education through individual contacts and informational signing. Boating safety is a joint responsibility of the Napa County Sheriffs Department and Reclamation. While the Sheriff's Department enforces state boating laws, Reclamation also uses boat patrols for similar activities (except for law enforcement purposes). Reclamation, for example, has marked manmade and natural navigational hazards with buoys. Some areas of the lake are marked with 5 mph spherical buoys in an effort to reduce boat speeds in narrow inlets and coves, reduce boating accidents in congested areas and prevent undesirable shoreline erosion. These buoys may be moved as water levels fluctuate during the year. Waterway signs are used to warn boaters of hazards such as floating debris, reefs or shoals and areas of congestion.

Safety statistics provided by the California Department of Boating and Waterways indicate that during 2002 there were 32 reported boating accidents at Lake Berryessa, resulting in nine injuries and one fatality.

During the previous year, there was one fatality due to drowning, and 14 visitors were injured; and for the four years subsequent to 2001, a total of four visitors lost their lives on the lake and another 78 were injured.

These statistics do not include injuries and fatalities from causes other than water-related activities. The state did not provide the specific causes of the fatalities and injuries or suggest any corrective actions that might be taken by Reclamation or the county. The Napa County Sheriff's Office reported 192 safety-related contacts on or near the reservoir during 2002. The majority of these incidents appear to be related to boater assistance, where minor property damage was reported but no injuries occurred.

According to information provided by the California Department of Forestry, CDF personnel located at the Spanish Flat station responded to 359 calls in 2002. During the winter months, call volumes usually fell below 20 per month and include responses to the subdivisions adjacent to the reservoir. During the summer months, however, calls increase substantially to over 50 per month, reflecting the increased activity around the lake, and mostly in and around the resorts. Details of safety issues and emergency actions taken by Napa County and CDF do not include specific locations or individuals for reasons of confidentiality. Additional information regarding CDF health and safety coverage for the Lake Berryessa area can be found in Attachment 15.

The information found under the Public Safety sections for the No Action Alternative, applies to Alternative B, C and D, as well.

3.10.2 Environmental Consequences and Mitigation.

Structural Fire

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.10-1: Potential Impacts Due to Structural Fire Suppression

Under Alternative A, a number of deficiencies identified in the Affected Environment for six of the seven resorts cannot be corrected without major reconstruction efforts. Putah Creek, Rancho Monticello, Berryessa Marina, Spanish Flat, Pleasure Cove and Markley Cove resorts have been found to be extremely limited in their capabilities to protect against structural fire due to:

- the lack of “defensible space” or the area within the perimeter of a parcel of land where fire protection measures can be effective;
- the lack of two points of ingress/egress;
- access roads that are too narrow and improperly designed to accommodate modern fire equipment

- inadequate water supply with too few hydrants in two resorts to none at all in four others.

Steele Park has the least number of problems, but still is deficient in signing, the number of hydrants, and water supply.

Under this alternative, significant mitigation of these problems is not likely to occur due to the cost of rehabilitation, the age and condition of the various facilities, and the short time remaining under the existing agreements/contracts. Though the resorts have been notified that they are in violation of sections 4290 and 4291 of the California Public Resources Code and the Napa County Fire Code, no punitive actions are planned by the state or county officials responsible for enforcing these codes, for the reasons cited above.

The less serious deficiencies, such as the lack of building addresses and road signs, poorly situated propane tanks, illegal parking on main access routes, the accumulation of underbrush and dead trees near structures and the presence speed bumps could be corrected immediately. Acquisition of firefighting equipment already proven to be effective in other federal areas would reduce, to some degree, the serious threat of uncontrolled structural fire, particularly where numerous structures are close together. These are minor mitigations, however, and the more serious deficiencies would remain unresolved under the existing contracts. Once those contracts expire, Reclamation will require that all the deficiencies be resolved under the new contracts.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.10-2: Potential Impacts Due to Structural Fire Suppression.

Under Concession Operations, design and construction plans for a build-out would incorporate provisions for a modern structural fire prevention plan to include at least two routes in and out of each resort. Designs also would incorporate roads that permit modern fire equipment to quickly reach all facilities in the resorts, streets and buildings that are properly addressed, defensible space between all resort structures and a network of fire hydrants connected to a water supply able to fight fire at the rate of a 1,000 gallons/minute for two hours, or a storage capability of 120,000 gallons. Depending on final resort designs, potential impacts to soil and vegetation as described in Chapter 3.2 and 3.3 could be minor if existing roads were renovated to accommodate smaller fire trucks, defensible space was created without removing mature trees, and other clearings were incorporated into the route planning for water lines and fire hydrants. However, when the final design is completed, additional environmental documentation may be needed to evaluate potential impacts to vegetation and soil surfaces, and possibly, cultural resources. There would no major changes to existing

structural fire suppression plans for the Capell Cove launch ramp or Camp Berryessa.

Reclamation would not propose under Alternative B to alter the procedures it now has in place for structural fire protection for the administrative complex or for the remaining day-use facilities, including those along the highway or proposed for minor upgrades. The proposed trail network and the shoreline and water sites scheduled for use changes under this alternative also would not be affected.

Impact 3.10-3: Cumulative Environmental Impacts Due to Structural Fire Suppression from Alternative B

Based on the analysis in this DEIS, information from the 1992 RAMP/EIS, and other documents, the proposed implementation of the Commercial and Government Operations components for Alternative B would not create cumulative environmental impacts due to structural fire suppression.

No indirect impacts are anticipated for Alternative B.

Impact 3.10-4: Potential Impacts from Structural Fire Suppression from the Irreversible and Irretrievable Commitments of Resources from Alternative B

As described in Alternatives B, C and D under Chapter 3.2, Geology, Topography and Soils and under Chapter 3.3, Vegetation, there would be impacts due to the irreversible and irretrievable commitment of soil and vegetation during the rehabilitation and new construction of resort facilities. That construction would include fire access roads, water lines and defensible space around structures. However, the use of existing routes, clearings and serviceable infrastructure, whenever possible, coupled with landscaping efforts would likely reduce potential impacts to insignificant levels.

Impact 3.10-5: Potential Impacts to Structural Fire Suppression from Short-Term Uses versus Long-term Uses from Alternative B

All of the proposals under this alternative describe positive long-term changes for reservoir resources. There are no short-term uses identified either from development or reclassification of use levels for the reservoir.

Impact 3.10-6: Unavoidable Adverse Impacts due to Structural Fire Suppression from Alternative B

No unavoidable adverse impacts are associated with Alternative B.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.10-7: Potential Impacts Due to Structural Fire Suppression

Under Concession Operations for Alternative C, the proposals and mitigating measures described for structural fire suppression under Alternative B also apply here. The basic differences between the two alternatives are that, under Alternative C, there would be fewer numbers of short-term accommodations offered to visitors, Camp Berryessa would be managed by a concessionaire part of the year, and Capell Cove would be operated by Reclamation.

Under Government Operations for Alternative B, the proposals and mitigating measures described for structural fire suppression for Reclamation facilities also apply to this alternative. Other parallels include the development of a new reservoir-wide trail and the reclassification of shoreline and water areas under WROS (with the exception that Steele Park would be zoned for 5 mph to minimize potential adverse effects to wildlife and to encourage greater use of non-motorized watercraft). Again, as in Alternative B, day-use sites at Pope Canyon, North Shore, Markley, Smittle Creek, Oak Shores and Olive Orchard would be maintained in their current state, and the turnouts at Eticuera and Steele Canyon would be improved for parking and lake access.

Impact 3.10-8: Cumulative Environmental Impacts Due to Structural Fire Suppression from Alternative C

No cumulative environmental impacts have been identified from proposals relating to structural fire suppression, and there are no indirect impacts anticipated for Alternative C.

Impact 3.10-9: Potential Impacts from Structural Fire Suppression from the Irreversible and Irrecoverable Commitments of Resources from Alternative C

As described in Alternatives B, C and D under Chapter 3.2, Geology, Topography and Soils, and under Chapter 3.3, Vegetation, there would be impacts due to the irreversible and irretrievable commitment of soil and vegetation changes during the rehabilitation and new construction of resort facilities. This new construction would include fire access roads, water lines and defensible space around structures. However, the use of existing routes, clearings, and serviceable infrastructure, whenever possible, coupled with landscaping efforts would likely reduce potential impacts to insignificant levels under Alternative C.

Impact 3.10-10: Potential Impacts to Structural Fire Suppression from Short-term Uses versus Long-term Uses from Alternative C

All of the proposals under Alternative C describe positive long-term changes to reservoir resources. There would be no short-term uses either from development or reclassification of use levels for the reservoir.

Impact 3.10-11: Unavoidable Adverse Impacts Due to Structural Fire Suppression from Alternative C

There are no unavoidable adverse impacts associated with Alternative C.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.10-12: Potential Impacts Due to Structural Fire Suppression

The potential impacts and mitigating measures regarding structural fire suppression described for Concession and Government Operations under Alternative B also apply to Alternative D. Under this alternative, however, Capell Cove, Camp Berryessa and two of the resorts (Putah Creek and Pleasure Cove) would be managed by Reclamation rather than by a concessionaire. However, the fire suppression planning used in the commercial resorts also would be adopted by the government in its management of Putah Creek and Pleasure Cove. The majority of visitor accommodations proposed for each resort would be similar to Alternative B.

Under Government Operations, trail development would be the same as proposed under Alternative B. Reclassification of land and water sites under the WROS system also would be as described under Alternative B, except that a speed limit would be imposed for a portion of Putah Creek near Camp Berryessa. Reclamation would not propose to alter existing structural fire suppressions procedures for the administrative complex or for any of the day-use facilities under this alternative.

Impact 3.10-13: Cumulative Environmental Impacts Due to Structural Fire Suppression from Alternative D

Cumulative impacts under Alternative D are the same as described for Alternative B. There is no evidence of cumulative impacts related to structural fire suppression for either Concession or Reclamation Operations, and there are no indirect impacts associated with Alternative D.

Impact 3.10-14: Potential Impacts from Structural Fire Suppression from the Irreversible and Irrecoverable Commitments of Resources from Alternative D

Again, as described in Alternatives B, C and D under Chapter 3.2, Geology, Topography and Soils and under Chapter 3.3, Vegetation, there would be impacts due to the irreversible and irretrievable commitment of soil and vegetation changes during the rehabilitation and new construction of resort facilities. These new facilities would include new and rehabilitated fire access roads, water lines and defensible space around structures. However, the use of existing routes, clearings, and serviceable infrastructure, whenever possible, coupled with landscaping efforts would likely reduce potential impacts to insignificant levels under Alternative D.

Impact 3.10-15: Potential Impacts to Structural Fire Suppression from Short-term Uses versus Long-term Uses From Alternative D

All of the proposals under Alternative D describe positive long-term changes to reservoir resources. There would be no short-term impacts either from development or reclassification of use levels for the reservoir.

Impact 3.10-16: Unavoidable Adverse Impacts Due to Structural Fire Suppression from Alternative D

There are no unavoidable adverse impacts associated with Alternative D.

Wild Fire

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.10-17: Potential Impacts due to Wildland Fire Suppression

Under the No action Alternative, Reclamation would continue to abide by the provisions of the agreement with the California Department of Forestry and Fire Protection. This agreement applies to all lands administered by Reclamation and authorizes CDF, on a cost-reimbursable basis, to develop and implement appropriate plans for the suppression of wildland fire occurring within the reservoir take-line. This includes activities to reduce fuel, maintain fire roads and improve wildlife habitat. This agreement is in force until September 2005. Assuming that this agreement would be renewed in September 2005 and again in 2008 under the same criteria and with the same level of service, its provisions would continue to apply to the No Action Alternative until after the selection and implementation of a Preferred Alternative.

Under the No Action Alternative, should the CDF respond to a wildland fire on Reclamation lands outside of the resort complexes, there could be impacts to vegetation and soils. These impacts would occur if equipment, such as bulldozers and other vehicles, were driven to the fire and used to construct fire breaks through landscapes that may otherwise be relatively undisturbed. Should these techniques be used, they would be mitigated by re-vegetation and rehabilitation activities to restore the natural landscape. Therefore, the potential impacts of these kinds of wildland firefighting activities would be considered minor.

Alternative B (Preferred): Remove All Long-Term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.10-18: Potential Impacts Due to Wildland Fire Suppression

Assuming that, under this alternative, a fire suppression agreement is in force that is similar to the one described under the No Action Alternative, there would be no impacts anticipated to resort facilities under the Commercial Operations component. The CDF would respond to fires in the resorts as part of the Napa County Fire Protection Program, and the use of equipment would be compatible with firefighting techniques employed in a

residential setting. This also would apply to the other facilities being managed by a concessionaire at Capell Cove and Camp Berryessa.

Under Government Operations, the potential impacts to Reclamation lands from the use of large firefighting equipment as described under the No Action Alternative apply to Alternative B, as well.

The remaining proposals under this alternative regarding the administrative complex/museum remodeling, the continued operation of day-use facilities and the classification of water sites under WROS would not be affected by wildland fire suppression. However, the areas used for a new trail system may experience the same potential impacts as other Reclamation land, should the agreement with CDF be employed.

Impact 3.10-19: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative B

There is no evidence of cumulative environmental impacts associated with the proposals under Alternative B, and no indirect impacts are predicted.

Impact 3.10-20: Potential Impacts from the Irreversible and Irretrievable Commitments of Resources due to Wildland Fire Suppression from Alternative B

Under Alternative B, should the CDF respond to a wildland fire on Reclamation lands outside of the resort complexes, there could be impacts to vegetation and soils. These would occur if equipment, such as bulldozers and other vehicles, were driven to the fire and used to construct fire breaks through landscapes that may otherwise be relatively undisturbed. These kinds of disturbances, however, would be mitigated by re-vegetation and other rehabilitation activities to restore the natural landscape. Therefore, the potential impacts of these kinds of wildland firefighting activities would be considered minor.

Impact 3.10-21: Potential Impacts from Short-Term versus Long-Term Uses from Alternative B

There are no impacts due to short-term or long-term uses associated with wildland fire suppression for Concession Operations under this alternative.

There are no anticipated impacts due to short-term or long-term uses associated with Reclamation facilities under this alternative.

Impact 3.10-22: Unavoidable Adverse Impacts Due to Wildland Fire Suppression from Alternative B

Should the CDF respond to a wildland fire on Reclamation lands outside of the resort complexes, there may be impacts to vegetation and soils. These would occur if equipment, such as bulldozers and other vehicles, were driven to the fire and used to construct fire breaks through landscapes that may otherwise be relatively undisturbed. These kinds of disturbances, however, would be mitigated by re-vegetation and similar rehabilitating

activities to restore the natural landscape. Therefore, the potential impacts of these kinds of wildland firefighting activities would be considered minor.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.10-23: Potential Impacts Due to Wildland Fire Suppression

The potential impacts and mitigating measures regarding wildland fire suppression for Concession Operations described for Alternative B apply to Alternative C, as well. As in Alternative B, wildland fire suppression activities would not normally be associated with resort structures, and therefore no impacts are anticipated. Also, the proposals for resort facilities described under previous impact statement for Alternative C apply here as well.

The potential impacts to Reclamation facilities due to wildland fire suppression activities as described under Alternative B also apply to Alternative C, and are anticipated to be minor. Impacts to resident wildlife are also predicted to be minor since any fire activity would likely cause various species to migrate to other habitats.

It is predicted that the remaining proposals under this alternative, including the use-level reclassification of the lake surface, islands and a number of shoreline sites, would not be affected by wildland fire suppression activities. However, the land above the shoreline used for new trails may experience the same potential impacts as other undeveloped Reclamation land, should CDF suppression techniques be used.

Impact 3.10-24: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative C

There are no cumulative environmental impacts associated with the proposals under Alternative C, and no indirect impacts are predicted.

Impact 3.10-25: Potential Impacts from the Irreversible and Irrecoverable Commitment of Resources due to Wildland Fire Suppression from Alternative C

Impacts from the irreversible and irretrievable commitment of resources due to wildland fire suppression would be minor, as described for Alternatives A and B.

Impact 3.10-26: Potential Impacts from Short-term versus Long-term Effects Due to Wildland Fire Suppression from Alternative C

There would be no impacts due to short or long-term uses associated with wildland fire suppression for Concession Operations under Alternative C.

There are no anticipated impacts due to short or long-term uses associated with Reclamation facilities under Alternative C.

Impact 3.10-27: Unavoidable Adverse Impacts Due to Wildland Fire Suppression from Alternative C

Under Alternative C, should the CDF respond to a wildland fire on Reclamation lands outside of the resort complexes, there could be impacts to vegetation and soils. These could occur if equipment, such as bulldozers and other vehicles, were driven to the fire and used to construct fire breaks through landscapes that may otherwise be relatively undisturbed. These kinds of disturbances, however, would be mitigated by re-vegetation and similar rehabilitative activities to restore the natural landscape. Therefore, the potential impacts of these kinds of wildland firefighting activities would be minor.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.10-28: Potential Impacts Due to Wildland Fire Suppression

The potential impacts and mitigating measures regarding wildland fire suppression described for Concession and Government Operations under Alternatives B and C also apply to Alternative D. Under this alternative, however, Capell Cove, Camp Berryessa and two of the resorts (Putah Creek and Pleasure Cove) would be managed by Reclamation rather than by a concessionaire. The majority of visitor accommodations proposed for each resort managed by the government would be similar to Alternative B.

Under Alternative D, in the event of a wildland fire, impacts to undeveloped Reclamation lands are anticipated to be similar to those described for Alternatives A, B and C. Impacts to soil would be minor and temporary and impacts to resident wildlife would be also minor since any fire activity would likely cause various species to migrate to other habitats.

It is predicted that the remaining proposals under this alternative, including the use level reclassification of a number of islands, water areas and shoreline sites, would not be affected by wildland fire suppression activities. However, areas designated for use by a new trail system may experience the same potential impacts as other undeveloped Reclamation land, should CDF suppression techniques be used.

Impact 3.10-29: Cumulative Environmental Impacts from Wildland Fire Suppression from Alternative D

There is no evidence of cumulative environmental impacts associated with the proposals under Alternative D, and no indirect impacts are predicted.

Impact 3.10-30: Potential Impacts from the Irreversible and Irretrievable Commitments of Resources Due to Wildland Fire Suppression from Alternative D

As described under Alternatives A, B and C, should Reclamation required the assistance of CDF because of a wildland fire incident, impacts to reservoir resources would be considered minor.

Impact 3.10-31: Potential Impacts from Short-Term versus Long-term Uses from Alternative D

There are no impacts due to short or long-term uses associated with wildland fire suppression for Concession Operations, under this alternative.

There are no anticipated impacts due to short or long-term uses associated with Reclamation facilities under Alternative D.

Impact 3.10-32: Unavoidable Adverse Impacts Due to Wildland Fire Suppression from Alternative D

Under Alternative D, should the CDF respond to a wildland fire on Reclamation lands outside of the resort complexes, there could be impacts to vegetation and soils. These could occur if equipment, such as bulldozers and other vehicles, were driven to the fire and used to construct fire breaks through landscapes that may otherwise be relatively undisturbed. These kinds of disturbances, however, would be mitigated by re-vegetation and similar rehabilitative activities to restore the natural landscape. Therefore, the potential impacts of these kinds of wildland firefighting activities would be considered minor.

Law Enforcement

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.10-33: Potential Impacts to Law Enforcement

Under the No Action Alternative, law enforcement at the reservoir would continue to be managed by the Napa County Sheriff's Office and the California Highway Patrol, since the Bureau of Reclamation has no authority to conduct law enforcement activities on lands it administers.

A review of the Napa County Sheriff's dispatch logs indicates that for the period of January 1, 2002 through December 31, 2002, sheriff's deputies responded to over 345 calls dealing with law enforcement issues in the Lake Berryessa area. The majority of these calls involved incidents at the various resorts, on the Berryessa - Knoxville Road and occasionally on the lake. A lesser number came from the day-use areas, Capell Cove launch ramp, and from Monticello Dam. Over 70 % of these calls occurred from June through September.

All of the violations that occurred at shore-based facilities (day-use areas and resorts) came under county or state statutes, yet this is the area where the county has assigned the least number of officers, due to the lack of funds, according to the Sheriff's Office. This is not the situation on the lake, however, where the California Department of Boating and Waterways has

provided funds each year to Napa County for additional officers to increase safety and enforcement coverage, primarily during the summer season. The annual county budget for boat patrol activities during 2000 was over \$256,000. This amount dropped in 2001 to \$213,000, but was increased to \$291,000 for 2002.

Under this alternative, Reclamation would continue to rely on Napa County to address violations occurring on federal property. However, according to officials in the Napa County Sheriff's Office, without additional deputies assigned to the more heavily used shore areas at Lake Berryessa during the summer months, there is the possibility that the current number of assigned officers would not be able to insure a greater coverage that the Sheriff's Office believes is desirable.

Sheriff Office officials have stated that assigning additional law enforcement officers without greater financial support for additional personnel would put an unacceptable burden on their resources. However, without a thorough workload analysis of the county law enforcement program in the Lake Berryessa area, it is not possible to accurately predict the number of additional officers that might be required, particularly during the summer months.

If it is found to be necessary, however, mitigation of this funding issue may be possible since the enactment of HR 2925 and the final rulemaking in June 2002 gave Reclamation the authority to subsidize the cost that local governments incur in providing safety, protection and enforcement services for the government.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.10-34: Potential Impacts to Law Enforcement

It is anticipated that under this alternative, with the concession build-out in the early phases, there would possibly be a decrease in law enforcement incidents associated with the resorts. That is predicted because the long-term trailer occupants, which constitute a moderately large seasonal population, would be removed, and the number of short-term facilities would still be limited for several years. Therefore there it is anticipated that there may be an overall temporary reduction of visitors at the lake, with a possible corresponding reduction of law enforcement related incidents.

However, once the build-out was completed for the seven resorts, the need for law enforcement coverage could eventually parallel those described under the No Action Alternative. The Concession Operations component proposes a significant increase in short-term camping, which would create a greater daily turn-over of users and a potential rise in the number of incidents that may require the attention or assistance of law enforcement

officers. In this event, a survey of the law enforcement workload would be helpful in determining whether additional staffing would be necessary. The operation of the Capell Cove facility and Camp Berryessa, proposed for management by a concessionaire, is not anticipated to increase the workload of county officers.

Under the Government Operations component for existing facilities, the demands on county officers would remain essentially the same as under the No Action Alternative, since no major expansions are planned and the level of use at these day-use sites would be limited by available parking. Use of a new trail system or areas proposed for reclassification under WROS, and the potential impacts they may pose to county law enforcement coverage, would remain undefined until a clearer view of use levels became available. The islands and water areas designated for user level changes under WROS also would require analysis of at least a summer season to determine the potential affects to the county boat patrol program.

Impact 3.10-35: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative B

Based on the analysis in this DEIS, information from the 1992 RAMP/EIS, and other documents, law enforcement activities under the proposed implementation of the Commercial and Government Operations components for Alternative B would not create cumulatively significant environmental impacts at Lake Berryessa.

However, there would be minor indirect impacts anticipated under Alternative B, first with the removal of the long-term trailers and the predicted beneficial impacts due to a decrease in county law enforcement activities. Later, as the build-out is completed and short-term uses increase, there may be a potential impact due to a possible rise in incidents requiring actions by county officers. Again, depending on the results of a survey of the law enforcement workload, these potential adverse effects might be countered, in part, by additional personnel funded by Reclamation and /or concession operations.

Impact 3.10-36: Potential Impacts to Law Enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative B

There are no irreversible or irretrievable commitment of resources associated with law enforcement activities under this alternative.

Impact 3.10-37: Potential Impacts to Law Enforcement from Short-term Uses versus Long-term Uses from Alternative B

There are no short-term uses associated with law enforcement activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-38: Unavoidable Adverse Impacts Due to Law Enforcement Activities from Alternative B

There are no identified unavoidable adverse impacts associated with law enforcement activities at the reservoir.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.10-39: Potential Impacts to Law Enforcement Activities

The proposals for Concession Operations previously described for Alternative C, apply here, as well. Napa County officers might initially find a decrease in calls from the resorts since all the long-term trailers would be removed and the seasonal population would be reduced. Further, under this alternative, there would be slightly fewer short-term accommodations than proposed for Alternative B, and a number of these facilities would not yet exist in the early years of the build-out at the various resorts. However, in this alternative, a limited number of trailers would be re-introduced at approximately four of the seven resorts. With the completion of the remaining overnight facilities at the resorts, law enforcement may experience an increase in work load for the same reasons cited in Alternative B.

Under this alternative, Capell Cove would be managed by Reclamation, but the group campground would be a concession operation during the summer months. There would be no use by visitors that would significantly increase the need for additional law enforcement coverage.

The description of proposals for Government Operations would be the same as those described for previous impact statements for Alternative C. The day-use areas managed by Reclamation are not envisioned to cause an increase in the county's law enforcement efforts; however, a new trail system and the islands and water areas designated for new use levels under WROS would likely require monitoring over a season to determine if the county boat patrol and landside workload would be affected. Finally, under Alternative C, Camp Berryessa would be used by Reclamation as an environmental education center during the off season and these activities would not likely create an additional workload for law enforcement officials.

Impact 3.10-40: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative C

No cumulative environmental impacts associated with law enforcement activities have been identified under this alternative. However, the indirect impacts described under Alternative B also would apply to Alternative C.

Impact 3.10-41: Potential Impacts to Law Enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative C

There would be no irreversible or irretrievable commitment of resources associated with law enforcement under this alternative.

Impact 3.10-42: Potential Impacts to Law Enforcement from Short-term Uses versus Long-term Uses from Alternative C

There would be no short-term uses associated with law enforcement activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-43: Unavoidable Adverse Impacts Due to Law Enforcement Activities from Alternative C

There would be no identified unavoidable adverse impacts associated with law enforcement activities at the reservoir.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.10-44: Potential Impacts to Law Enforcement

The impacts and mitigating measures described for law enforcement under Alternative B apply to Alternative D, as well. As in Alternative B, the concession build-out would likely decrease law enforcement incidents associated with the resorts, since a portion of the seasonal population (long-time trailer occupants) would be removed and short-term visitation would be reduced for several years. However, once the build-out was completed for the seven resorts, two of which would be managed by Reclamation, the law enforcement workload may eventually increase to current levels.

Like Alternative B, this alternative proposes an increase in short-term camping, which would create a greater daily turnover of users, and a potential rise in the number incidents requiring law enforcement attention or assistance. As indicated previously, however, a workload analysis may indicate whether additional personnel would be necessary and if it was determined that there was a shortfall in county staffing, this might be remedied with funding assistance from either concessionaires and/or from the government.

The operation of Capell Cove, Camp Berryessa, Putah Creek and Pleasure Cove Resorts proposed for management by Reclamation, is not anticipated to increase the workload of county officers.

Under the Government Operations component for existing facilities, the demands on county officers would remain essentially the same as under the No Action Alternative, since no major expansions are planned and the level of use at these day-use sites would be limited by available parking. The level of use for a new trail system or for other sites proposed for reclassification under WROS, and the potential impacts they may pose to county law enforcement coverage, would remain undefined until a clearer view of use levels was available. The islands and water areas designated for

a reclassification of use levels under WROS also would require analysis over at least a summer season to determine the potential affects to the county boat patrol program.

Impact 3.10-45: Cumulative Environmental Impacts Associated with Law Enforcement Activities from Alternative D

There would be no cumulative environmental impacts associated with law enforcement activities under this alternative. However, the indirect effects described under Alternative B also would apply to Alternative D.

Impact 3.10-46: Potential Impacts to Law Enforcement from the Irreversible and Irretrievable Commitments of Resources from Alternative D

There would be no irreversible or irretrievable commitment of resources associated with law enforcement associated with Alternative D.

Impact 3.10-47: Potential Impacts to Law Enforcement from Short-term Uses versus Long-term Uses from Alternative D

There would be no short-term uses associated with law enforcement activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-48: Unavoidable Adverse Impacts Due to Law Enforcement Activities from Alternative D

There would be no identified unavoidable adverse impacts associated with law enforcement activities at the reservoir.

Health and Safety

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.10-49: Potential Impacts to Health and Safety

Under the No Action Alternative, emergency services at the reservoir would continue to be provided by the Napa County Sheriff's Office, the California Highway Patrol and the California Department of Forestry.

A review of the Napa County Sheriffs' dispatch logs indicate that for the period January 1, 2002 through December 31, 2002 sheriff's deputies provided safety related assistance on 192 occasions to residents and visitors in the Lake Berryessa area. As with law enforcement calls, the majority of these assists involved incidents at the various resorts, on the Berryessa - Knoxville Road and occasionally on the lake. A smaller number came from the day-use areas, Capell Cove launch ramp, and several from Monticello Dam. The majority of these calls occurred during the peak visitor season, from June through September.

During 2002, the California Department of Forestry (CDF), another source

of emergency assistance, responded to 359 calls from areas adjacent to the reservoir and from within the reservoir boundary. These calls included providing medical aid for a variety of causes, including traffic-related injuries. The majority of requests for assistance occur during the months of May through September, with most originating from the resorts.

As indicated, the facilities on the western shore generated the vast majority of emergency requests, yet this part of the county has the least coverage, according to the Sheriff's Office, due to a lack of funds for additional personnel. Though there is no documented study to support their views regarding the current workload, CDF officials expressed the same concern, stating that the resources of the county and local CDF units were "impacted" in their efforts to provide health and safety coverage for the Lake Berryessa area, particularly during the summer months.

Under this alternative, Reclamation would continue to rely on Napa County to respond to emergency situations occurring on federal property. However, since the deputy sheriff's addressing law enforcement issues often are the same personnel responding to emergency calls, further study would be necessary in order to accurately assess whether additional Napa County and/or CDF personnel were needed to provide more comprehensive emergency services coverage for the Lake Berryessa area.

If additional staff was called for, funding for personnel might be addressed through HR 2925 and the final rulemaking in June 2002, which authorized Reclamation to subsidize local governments for providing safety, protection and enforcement services for the federal government.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.10-50: Potential Impacts to Health and Safety

It is anticipated that, under the Concession Operations component, the early phases of the build-out would cause a decrease in health and safety related emergency incidents at the resorts, since summer-season visitation would likely decline for a few years. However, once the build-out was completed for the seven resorts, workloads for personnel provided emergency services would likely parallel those described under the No Action Alternative. The concession component proposes a significant increase in short-term camping opportunities, which would create a greater turnover of users, and a likely rise in the number of incidents requiring the intervention of emergency medical personnel. As indicated in the No Action Alternative, however, should a potential shortfall in county staffing be identified in a workload analysis, this situation might be remedied with funding assistance from either concessionaires and/or from Reclamation.

Under this alternative, the operation of the Capell Cove launch ramp and

Camp Berryessa, proposed for management by a concessionaire, is not anticipated to significantly increase the workload of county or state personnel.

Under the Government Operations component for existing facilities, the demands on county and state emergency service providers would remain essentially the same as under the No Action Alternative. That is because no major expansions are planned and the level of use at these day-use sites would still be limited by available parking. Use of a new trail system or other sites proposed for reclassification under WROS, and the potential impacts they may pose to emergency medical coverage, would remain undefined until a clearer view of use levels was available.

Impact 3.10-51: Cumulative Environmental Impacts to Health and Safety from Alternative B

Based on the analysis in this DEIS, information from the 1992 RAMP/EIS, and other documents, health and safety activities under the proposed implementation of the Commercial and Government Operations components for Alternative B would not create cumulatively significant environmental impacts at Lake Berryessa.

However, indirect affects may be anticipated under Alternative B, first with the removal of the long-term trailers and the predicted beneficial impacts due to a decrease in state and county emergency medical responses. Later, as the build-out is completed and short-term use increases, there could potentially be impacts due to a rise in incidents requiring actions by a limited number of state and county emergency medical providers.

Impact 3.10-52: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resources from Alternative B

There would be no irreversible or irretrievable commitment of resources associated with health and safety activities, under this alternative.

Impact 3.10-53: Potential Impacts to Health and Safety from Short-term Uses versus Long-term Uses from Alternative B

There would be no short-term uses associated with health and safety activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-54: Unavoidable Adverse Impacts to Health and Safety from Alternative B

There are no identified unavoidable adverse impacts associated with health and safety activities at the reservoir.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.10-55: Potential Impacts to Health and Safety

The proposals for Concession Operations, previously described for Alternative C, apply here, as well. Napa County and CDF emergency medical providers would initially find a decrease in calls from the resorts since the summer population would be substantially reduced. Further, under this alternative, there would be slightly fewer short-term accommodations than those proposed for Alternative B. However, in this alternative, a limited number of trailers would be re-introduced at approximately four of the seven resorts. This, together with completion of the remaining overnight facilities for the resorts, would possibly lead to an increase in health and safety issues that may increase the workload, particularly if county and state staff levels were to remain static.

Under Alternative C, Capell Cove would be managed by Reclamation, but the group campground would be a concession operation during the summer months with no anticipated use that would significantly increase the need for additional emergency medical coverage.

The description of proposals for Government Operations would be the same as those described for previous impact statements for Alternative C. The day-use areas managed by Reclamation are not envisioned to cause an increase in county or CDF efforts; however, a new trail system and the islands and water areas designated for new use levels under WROS would likely require monitoring over a season to determine if health and safety issues would change significantly. Finally, under Alternative C, Camp Berryessa would be used by Reclamation as an environmental education center during the off-season. It is anticipated that these activities would not create an additional workload for emergency service providers.

Impact 3.10-56: Cumulative Environmental Impacts to Health and Safety from Alternative C

No cumulative environmental impacts have been identified to health and safety under this alternative. However, the indirect impacts described under Alternative B also would apply to Alternative C.

Impact 3.10-57: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resource from Alternative C

There would be no impacts to health and safety as a result of the irreversible or irretrievable commitment of resources under this alternative.

Impact 3.10-58: Potential Impacts to Health and Safety from Short-term Uses versus Long-term Uses from Alternative C

There would be no short-term uses associated with health and safety activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-59: Unavoidable Adverse Impacts to Health and Safety from Alternative C

There are no identified unavoidable adverse impacts to health and safety activities under this alternative.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.10-60: Potential Impacts to Health and Safety

The impacts and mitigating measures described for health and safety under Alternative B apply to Alternative D, as well. The concession build-out would likely decrease the need for emergency services at the resorts, since the summer population would be substantially reduced for a few years. However, once the build-out was completed for the seven resorts, two of which would be managed by Reclamation, the demand for medical emergency personnel would be better understood if a workload analysis was completed.

As in Alternative B, this alternative proposes an increase in short-term camping, which would create a greater turnover of users, and a rise in the number of occasions when emergency medical intervention may be requested. Should an analysis of staffing needs indicate a shortfall in personnel, this condition might be remedied with funding assistance from either concessionaires and/or from Reclamation.

Under the Government Operations component, the management of Putah Creek and Pleasure Cove Resorts and Camp Berryessa by Reclamation is not anticipated to increase the workload of state or county responders. In addition, the existing day-use facilities at Capell Cove, Oak Shores and Smittle Creek, as well as the remainder of the turnouts along the west shore, are not likely to cause a significant increase in the need for emergency services, as no major expansions are planned and the level of use at these sites would be limited by available parking. The potential impacts that might occur to health and safety coverage from the use of a new trail system would remain undefined until a clearer understanding of use levels was obtained.

Impact 3.10-61: Cumulative Environmental Impacts to Health and Safety from Alternative D

No cumulative environmental impacts have been identified to health and safety under Alternative D. However, the indirect impacts described under Alternative B also would apply to this alternative.

Impact 3.10-62: Potential Impacts to Health and Safety from the Irreversible and Irretrievable Commitments of Resources from Alternative D

There would be no impacts to health and safety as a result of the irreversible or irretrievable commitment of resources under Alternative D.

Impact 3.10-63: Potential Impacts to Health and Safety from Short-term Uses versus Long-term Uses from Alternative D

There would be no short-term uses associated with health and safety activities under this alternative. The proposals describe long-term changes in the use levels for both commercial and government resources.

Impact 3.10-64: Unavoidable Adverse Impacts to Health and Safety from Alternative D

There are no identified unavoidable adverse impacts to health and safety activities under this alternative.

3.11 Hazardous Materials and Soil Contamination

3.11.1 Affected Environment/Existing Setting

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

There are two known hazardous materials and soil contamination sites located in the project area. Both of these sites are former underground fuel storage tanks, the first located in Steele Park Resort and the second located at Putah Creek Resort. Both sites have tested positive for the presence of gasoline and MtBe. Both sites are currently undergoing HAZMAT abatement or bio-remediation procedures to oxidize the fuel residue in the surrounding soil. There is presently no firm estimate as to the amount of time that will be required to return the affected soil to its pre-contamination condition.

The Environmental Condition Assessment Report prepared by Kleinfelder, Inc. found no additional underground storage tanks or evidence of the presence of PCBs within the project area, and only small amounts of herbicide, paint and oils scheduled to be recycled. The larger environmental concerns are with the sewage treatment plants at Rancho Monticello and Spanish Flat Resorts. In their present condition, one facility is estimated by Kleinfelder to have less than 15 years of serviceability, and the other, less than 10 years.

A household hazardous waste recycling facility located on the Knoxville Road between Lake Berryessa and Rancho Monticello Resorts was opened for public use in the fall of 2002. The facility was developed cooperatively by Reclamation, the Departments of Environmental Management for both Napa and Solano Counties, California Environmental Protection Agency-Integrated Waste Management Board, and Solano County Water Agency. The facility is certified by the state to receive batteries, oil, filters, and latex paint.

The information found under the Hazardous Materials and Soil

Contamination section for the No Action Alternative applies to Alternative B, C and D, as well.

3.11.2 Environmental Consequences and Mitigation.

Alternative A (No Action): Continue Existing Commercial Services until Permits Expire in 2008/2009. Continue Reclamation Services and Facilities in Accordance with the 1992 RAMP/EIS.

Impact 3.11-1: Potential Impacts Due to Hazardous Material and Soil Contamination

Under the No Action Alternative, the combination of contaminated soil due to fuel leakage from former buried fuel tanks at Steele Park and Putah Creek Resorts and the subsequent bio-remediation procedures at these sites have created significant impacts that would not be mitigated until soil samples are certified by the California Environmental Protection Agency to be free of contaminants. When this occurs, these sites and the surrounding landscape impacted by cleanup efforts will be rehabilitated and returned to a more natural state.

Reclamation would continue to insure that all resort and government activities comply with the regulations and policies regarding the handling and disposal of toxic substances, as required by the California Department of Toxic Substance Control, a branch of the California Environmental Protection Agency.

The household hazardous waste recycling station located on the Berryessa-Knoxville Road near Rancho Monticello Resort would continue to service the local community for the foreseeable future.

Alternative B (Preferred): Remove All Long-term Trailer Sites. Concessionaire to Expand and Develop New Short-Term Facilities at Resorts. Develop Trails and Land and Water Use Zones.

Impact 3.11-2: Potential Impacts Due to Hazardous Material and Soil Contamination

Under this alternative, the Commercial Operations component would include provisions insuring that in both the build-out phase and in subsequent resort operations, all federal laws and regulations, California laws and the specific regulations under the California Department of Toxic Substance Control would be followed. The Department of Toxic Substance Control, in particular, oversees the administration of a variety of regulations and policies including hazardous material permits, regulatory enforcement, site cleanup, the management of hazardous waste and the prevention of pollution. More information regarding the control and regulation of toxic materials in California may be seen at www.dtsc.ca.gov/ “Department of Toxic Substance Control”.

The storage and use of pesticides, herbicides, water and sewage treatment chemicals and the storage and dispensing of fuel and oil at the various

marinas proposed to provide this service would likely be the most potentially hazardous substances found at the resorts. The concessionaire management of the Capell Cove launch ramp and the group campground is not anticipated to involve the use of substances that are considered hazardous materials requiring special treatment.

Under the Government Operations component, Reclamation would continue to monitor commercial activities to insure compliance with Federal and State regulations. The maintenance of the day-use sites including Oak Shores, Smittle Creek, North Shore, Markley, Olive Orchard and Pope Creek and the upgraded Eticuera and Steele Canyon turnouts, would not involve the use of hazardous materials, nor would the development of a new shoreline trail system or the use level changes proposed for shoreline and water sites under WROS.

Alternative C: Remove Long-term Vacation Trailers and Relocate Some to Specified Resorts. Increase Quantities of Short-Term Public Facilities Provided by Concessionaires. Continue Existing Reclamation Facilities/Services. Develop Trails and Land & Water Use Zones.

Impact 3.11-3: Potential Impacts Due to Hazardous Materials and/or Soil Contamination.

The proposals for commercial and government facilities and operations described previously under Alternative C apply here, as well.

Although this alternative removes and then re-establishes a limited amount of trailers at certain resorts and offers a correspondingly smaller number of short-term accommodations, the storage and use of toxic materials such as pesticides, herbicides, water and sewage treatment chemicals, paint and gasoline and oil at all of the resorts would be managed according to the regulations described under Alternative B. There would be no hazardous materials used at the concession-managed facility at Camp Berryessa.

Under the Government Operations component for Alternative C, Reclamation would continue to monitor commercial activities to insure compliance with federal and state regulations. The maintenance of the day-use sites including Capell Cove launch, Oak Shores, Smittle Creek, the upgraded Eticuera and Steele Canyon turnouts and the remaining shoreline turnouts would not involve the use of hazardous materials, nor would the development of a new shoreline trail system or the use level changes proposed for shoreline and water sites under WROS.

Alternative D: Reclamation to Manage, Expand and Develop Camping/Lake Access Facilities and Services. Reduce Commercial Services Provided by Concessionaires.

Impact 3.11-4: Potential Impacts Due to Hazardous Materials and/or Soil Contamination

The proposals for commercial and government facilities and operations described previously under Alternative D apply here, as well.

As stated for Alternatives B and C, the storage and use of toxic materials such as pesticides, herbicides, water and sewage treatment chemicals, paint and gasoline and oil at the five commercial resorts and the two resorts to be operated by Reclamation would be managed according to the regulations and policies administered by the California Department of Toxic Substance Control, a branch of the California Environmental Protection Agency.

Under the Government Operations component for Alternative D, Reclamation would continue to monitor commercial activities to insure compliance with federal and state regulations. There would be no hazardous materials used at the Camp Berryessa facility. Further, the maintenance of the day-use sites including Capell Cove launch, Oak Shores, Smittle Creek, the upgraded Eticuera and Steele Canyon turnouts and the remaining shoreline turnouts, would not involve the use of hazardous materials, nor would the development of a new shoreline trail system or the use-level changes proposed for shoreline and water sites under WROS.

Impact 3.11-5: Cumulative Environmental Impacts Due to Hazardous Material and/or Soil Contamination.

No cumulative environmental impacts have been identified due to the presence of hazardous materials or soil contamination, and there are no indirect impacts under Alternatives B, C or D.

Impact 3.11-6: Potential Impacts from Hazardous Material and/or Soil Contamination due to the Irreversible and Irrecoverable Commitments of Resources

There are no impacts from hazardous materials or soil contamination due to the irreversible or irretrievable commitment of resources under Alternatives B, C or D.

Impact 3.11-7: Potential Impacts from Hazardous Material and/or Soil Contamination due to Short-term Uses versus Long-term Uses

There are no short-term uses associated with the management and disposal of hazardous materials, including contaminated soil, under Alternatives B, C or D. The proposals describe long-term procedures for the protection of the public and the resources of the reservoir.

Impact 3.11-8: Unavoidable Adverse Impacts due to Hazardous Materials and/or Soil Contamination

There are no identified unavoidable adverse impacts associated with Alternatives B, C or D.

Chapter 4 – Consultation and Coordination

4.1 Introduction

This chapter describes Reclamation compliance with public involvement and scoping, consultation and coordination, a description of applicable Environmental Statutes, public response to the DEIS, a list of organizations, agencies and individuals receiving copies of the DEIS, Reclamation's response to comments received and a list of preparers.

4.2 Scoping Process & Public Involvement

The Notice of Intent was filed in the Federal Register of November 7, 2000 (Federal Register Volume 65, Number 216). Shortly thereafter, a newsletter requesting scoping comments was sent to all individuals on the mailing list including all long-term site permittees. Comments were also solicited on the Mid Pacific Region web site, www.usbr/mp/berryessa/index.html. The formal scoping period ended June 29, 2001.

Approximately 120 comment letters/emails were received. The comments were compiled, summarized, and sent to all individuals on the mailing list. They are posted on the Mid Pacific Region web site and may be viewed at the website noted above under "Laws and Regulations", "Public Scoping Comments, September 20, 2001"

4.3 Public Scoping Workshop

A workshop was held in Vallejo, California on March 31, 2001 at the Solano County Fairgrounds. Approximately 500 people attended. Comments received at the workshop were included in the comments described above.

In addition, a power point presentation was developed to demonstrate the changes that Reclamation has undertaken at the reservoir in recent months and was presented on the following dates and locations;

June 10 & 11, 2003, Presentation given to Commissioner John Keyes and Congressman Mike Thompson in Washington D.C.

June 19, 2003, Putah Creek Discovery Corridor, Vacaville, Ca.

July 7, 2003 Gave presentation and tour to San Francisco Chronicle Staff at Lake Berryessa, Ca.

July 10, 2003, Napa County Executive Officer and Chief of Planning. LBFO, Napa, Ca.

July 28, 2003, Cortina Indian Rancheria, Williams, Ca.

July 29, 2003, Putah Creek Watershed Partnership, Napa

August 8, 2003, Blue Ridge Berryessa Natural Area (BRBNA) Partnership, Yountville, Ca.

August 12, 2003, Napa County Board of Supervisors, Napa, Ca.

August 19, 2003, Mid Pacific Regional Office Bureau of Reclamation, Regional Director Kirk Rodgers, Sacramento, Ca.

August 22, 2003, California Parks Recreation Society (District 1), Lake Berryessa, Ca.

September 5, 2003, Regional Deputy Director Mid Pacific Region, John Davis, Special Assistant Federico Barajas, at Lake Berryessa, Ca.

September 6, 2003, Task Force 7, Putah Creek Resort, Lake Berryessa, Ca.

September 8, 2003, Anheuser Bush, Fairfield Plant, Fairfield, Ca.

September 16, 2003, Bureau of Land Management, Eureka Field Office, Eureka, Ca.

September 17, 2003, Media Tour at Lake Berryessa Vacaville Reporter, Fairfield Republic, Berryessa News, Napa Sentinel, Lake Berryessa, Ca.

September 23, 2003, Solano County Board of Supervisors, Fairfield, Ca.

September 24, 2003, Bay Area Delegation representatives from the offices of Feinstien, Tauscher, Miller, Matsui and Thompson, Oakville, Ca.

September 26, 2003, Commissioner John Keys and Regional Deputy Director Mid Pacific Region John Davis, Lake Berryessa, Ca.

September 27, 2003, Information Booth and Power Point Presentation for the public, Lake Solano Park, National Public Lands Day event, Lake Solano, Ca.

September 29, 2003 Napa Tourism Director, Napa, Ca. October 1, 2003, Solano Water Advisory Commission, Vacaville, Ca.

4.4 Consultation with Other federal/state/local agencies.

(Information to be supplied for FEIS)

4.5 Applicable Environmental Quality Statutes.

National Environmental Policy Act

This draft EIS was prepared in compliance with the National Environmental Policy Act, (NEPA). It was determined that the Bureau of Reclamation would be the lead Agency, in the preparation of an EIS for the Future Use

and Operation of Berryessa Reservoir, Napa County, California and Reclamation executed a Notice of Intent to that effect in the Federal Register (Vol 65, Number 216) on November 7th, 2000.

Clean Water Act, as amended

Section 404 of the Clean Water Act identifies conditions under which a regulatory permit is required for projects that result in the placement of dredged or fill material into Waters of the United States. There are no proposed actions in this DEIS that would result in the placement of dredged or fill material in the tributary streams or the waters of Lake Berryessa.

Clean Air Act, as amended

The Clean Air Act requires that any Federal entity engaged in an activity that may result in the discharge of air pollutants must comply with all applicable air pollution control laws and regulations (Federal, State, or local). Measures will be incorporated into contractor specifications to ensure that compliance with Federal, State, or local laws and regulations are achieved. These measures are noted in Chapter 3.3-22.

National Historic Preservation Act of 1966, as amended

The National Historic Preservation Act (Act) requires Reclamation to identify significant cultural resources that may be impacted by an action, and to consult with the Advisory Council on Historic Preservation and the State Historic Preservation Officer (SHPO) concerning significant cultural resources. It is anticipated that no cultural resources will be affected by the Preferred Action.

Wild and Scenic Rivers Act of 1968

There are no portions of rivers either designated or under study as a wild and scenic river in the project area.

Wilderness Act of 1964, as amended

There are no portions of land either designated or under study as wilderness areas in the project area.

Fish and Wildlife Coordination Act, as amended

The Fish and Wildlife Coordination Act (16 USC 661 et seq.) requires federal agencies to consult with the USFWS before planning new projects or modifying existing projects that control or modify surface water. This consultation is intended to promote the conservation of wildlife resources by preventing the loss of or damage to wildlife resources where possible, and to provide for the development and improvement of wildlife resources in connection with water projects. Federal agencies undertaking water projects are required to include recommendations made by the USFWS in the project reports, to give full consideration to the recommendations, and

to include in project plans justifiable means and measures for protecting wildlife resources.

The preferred action in this DEIS does not control or modify surface waters of Lake Berryessa. Actions proposed in the Preferred Alternative include the adoption of monitoring strategies for recreation user levels for certain portions of the lake, including the employment of non-motorized boating zones near several areas along the western shore.

Endangered Species Act of 1973, as amended (ESA), and the California Endangered Species Act (CESA).

Prior to any federal action, Section 7 of the ESA requires that the agency taking the action consult with the USFWS or the National Marine Fisheries Service (NMFS) to determine if there are any listed species present in the vicinity of the Proposed Action. If species are present and are likely to be affected, a biological assessment is prepared for USFWS review and a biological opinion as to whether the action will likely jeopardize the future of the species is rendered. Reclamation, through its primary consultant, initiated informal consultation in the form of a letter dated (to be added) requesting information regarding the presence of any federally listed (or proposed for listing) endangered or threatened species or critical habitat that may occur within the project area. A letter from USFWS dated (to be added) was received identifying species known or likely to occur in the project area. Through the informal consultation process conducted thus far, it is probable that no formal consultation will be necessary, as no endangered or special status species will be impacted by the Preferred Action.

Executive Order 11988, Floodplain Management

Construction activities associated with the Preferred Action is outside of the 100-year floodplain. Therefore, compliance with this Order is achieved.

Executive Order 11990, Protection of Wetlands.

There are no designated wetlands that are anticipated to be impacted during the construction phase of the Preferred Action.

Indian Trust Assets (ITAs)

It is the policy of the Federal government to identify, conserve, and protect Indian Trust sources. This policy has been outlined in a Department of the Interior Order, a Departmental Manual supplement and a memorandum from Reclamation's Commissioner detailing Reclamation's Indian Trust policy. Reclamation procedures have also been established to address ITAs within the context of NEPA documents. There is no Indian land within the reservoir or the project area and therefore no impacts to Indian Trust Assets associated with this DEIS.

Additional information on the laws, regulations and executive orders listed above can be found on the website <http://hydra.gsa.gov/pbs/pt/call-in/er/sub3> htm.

4.6 Public Review of the Draft EIS Comments & Responses

To be completed for FEIS

4.7 Public Workshops

To be completed for FEIS

4.8 List of Agencies & Organizations to Whom Copies of Draft EIS

To be completed for FEIS

4.9 USBR Responses To Public Comments

To be completed for FEIS

4.10 List of Preparers

John C. Reed
Management Consultant
BS, Earth Sciences
MS, Applied Sciences
30 years experience
National Park Service

Chapter 5 – Literature Cited, Persons Consulted

The bibliographic citations in the 1992 RAMP on pages 123-125, apply to this DEIS , in addition to the following;

Dornbusch and Associates, *Final Feasibility Study, Visitor Services Plan, Draft Alternative B*. Prepared for the U.S. Bureau of Reclamation, Sacramento, California, 2003

Klienfelder Inc., *Environmental Compliance and Facility Condition Assessment Report, Seven Concession Areas, Lake Berryessa, California*. Prepared for the U.S. Bureau of Reclamation, Sacramento, California, 2002.

U.S. Bureau of Reclamation, “National Environmental Policy Act Handbook” (Draft). 2000

Websites:

www.usbr/mp/berryessa/index.html, “Laws and Regulations”.
“Berryessa Facts, Documents and Forms”.

<http://neic.usgs.gov/neis/states/california/hazards.html>

<http://geohazards.cr.usgs.gov/eq>

http://sacramentofws.gov/es/spp_lists/Quadname_Detail.cfm?ID=515C

www.arb.ca.gov/aqd/almanac/almanac02/almanac02.htm.

www.dot.ca.gov/hq/traffops/saferesr/trafdata/.

www.usbr.gov/recman/Ind/Ind-p02.htm.

www.dtsc.ca.gov/ “Department of Toxic Substance Control”

<http://hydra.gsa.gov/pbs/pt/call-in/er/sub3> htm.

Chapter 6 – Index