I. Introduction

The United States Bureau of Reclamation ("Reclamation") is currently preparing a Visitor Services Plan ("VSP") for the Lake Berryessa Recreation Area ("LBRA") in Napa County, California. The VSP will focus primarily on: [a] the proposed development and redevelopment of LBRA concession and recreation facilities and infrastructure, and; [b] the expansion of services and facilities that better serve the short term user.

Dornbusch Associates (Dornbusch) was contracted by Reclamation to assist in its VSP planning efforts. Specifically, Dornbusch was engaged to independently evaluate the financial feasibility of VSP draft Alternative B ("Alternative B"); i.e., determine if one or several third-parties would have a reasonable opportunity to realize a profit from investing in and subsequently operating the facility and infrastructure development and redevelopment proposals that comprise the alternative, considering the associated capital and financial, operating and management risks that would be assumed by those parties. The Dornbusch findings are intended to guide Reclamation in its efforts to establish the minimum concessionaire investment and operational responsibilities that should be stipulated in the prospectus(es) that will be issued for the next LBRA concession contract(s).

The purpose of this report is to summarize Dornbusch's analysis and findings.

It should be noted that the current LBRA concession contracts will expire between 2008 and 2009. Consequently, the next concession contracts, and thus the proposed concession developments/redevelopments examined in this study, are expected to be implemented starting in the 2009 to 2010 period (following inception of the next concession contract(s)). The activities and revenues derived from these new developments are expected to begin one to two years after the inception of the new contract(s), after a period of construction. This report, however, is based only on information/data available up through the middle of 2003. Therefore, and also due to a lack of specific detail regarding the proposed development, supporting infrastructure upgrades specific to those developments, and historical concession operational information, this report is a conceptual-level analysis. Accordingly, the financial conclusions contained herein

will need to be revisited and, if necessary, appropriately adjusted closer to the time that the prospectus(es) for the new LBRA concession contract(s) are to be issued, so that the contract's (or contracts') financial requirements appropriately reflect contemporaneous conditions/information.

II. Executive Summary

This analysis evaluates the financial feasibility of only a subset of the Alternative B proposal, referred to herein as Phase I.

Overall, our analysis (detailed in subsequent sections) indicates that Phase I of Alternative B, as it is presently conceived and based on contemporaneous information, represents a viable business opportunity for a third-party concessionaire; i.e., Phase I is financially feasible. Phase I stipulates full concession development at three of the seven current resort locations at Lake Berryessa, and limited development providing at least lake access at the other four sites. These developments consist of recreation enterprises intended to provide visitors with the opportunity to enjoy all of Lake Berryessa's natural resources, and include a hotel, cabins, RV and tent camping, food and beverage services, retail support, marina slip rentals, houseboat and small boat rentals, and a water-ski center. The feasibility of the remainder of the proposed Alternative B concession developments (Phase II) will need to be evaluated, if and when future visitor demand warrants its implementation.

As a component of Phase I, we assumed that all 1,300 long-term exclusive use trailers would be removed from the current Lake Berryessa concession sites. Accordingly, it was necessary that our analysis, at a minimum, recognize the potentially significant change to Lake visitor usage and spending patterns following a likely shift in the prevailing visitor demographics from long-term trailer tenant to shorter-term visitor. This anticipated transition in visitor demographics, combined with the overall improvement in concession quality and a decrease in concession scale envisioned under Phase I translates to a degree of uncertainty regarding the future demand for concession services at the LBRA. This uncertainty precludes the preparation of accurate demand projections for the concession operation conceived following Phase I implementation.

Absent a reliable basis for projecting actual concession demand, we performed the feasibility study as follows. First, we prepared estimates of the initial (capital development) and ongoing (operating) costs necessary to implement each proposed component of Phase I, such as marinas, cabins, campgrounds, etc., including an allocation for upgrading the supporting infrastructure, where necessary, as defined by engineers. We then developed cash flow models to project these expenditures over an assumed 20-year contract term and back calculated the gross receipts necessary for the concessionaire(s) to achieve a reasonable rate of return on anticipated capital investment in the associated concession facilities and infrastructure ("threshold revenues"). Finally, we evaluated each threshold level of revenues in terms of corresponding necessary concession enterprise occupancy and utilization rates, to determine whether it would be reasonable to expect that the proposed concession developments would experience the level of demand necessary to achieve the threshold level of revenues (and thus financial feasibility) given historical LBRA concession performance and the operating experience of comparable hospitality enterprises near other lakes in the region. This analysis was performed on a conceptual level only, acknowledging the fact that many details will need to be determined and/or updated prior to the issuance of a prospectus for the new concession contract, approximately seven years from the time of this report. Additionally, we recommend that, at some time closer to the time of prospectus issuance, the infrastructure upgrade costs provided by Reclamation as inputs to our analysis be evaluated in greater detail, making them consistent with the probable infrastructure requirements of the specific developments proposed under Phase I.

Table 1 summarizes the estimated capital costs and threshold levels of revenue necessary to achieve financial feasibility, according to proposed Phase I concession development.

Table 1: Costs and Sales Necessary to Achieve a 15% Rate of Return, by Concession Component

(In 2003 dollars. Rounded to the nearest thousand dollars.)

Enterprise	Quantity (# Locations)	Unit	Total Capital Cost[1]	Necessary Sales Revenues
Hotel/Motel	30 (1)	Rooms	$1,335,000	$465,000
Cabins/Cottages	28 (1)	Units	$873,000	$255,000
RV Sites	300 (3)	Sites	$4,833,000	$894,000
Tent Sites	250 (2)	Sites	$1,141,000	$189,000
Group Tent Sites	3 (1)	Group Sites	$117,000	$21,000
Marina (Slips, launch, and fuel)	601 (3) 8 (8)	Slips Ramps	$6,277,000	$1,311,000
Houseboats	20	Houseboats	$4,605,000	$1,701,000
Other Rentals	36 (2)	Boats	$1,072,000	$543,000
Dry Storage	100 (1)	Boats	$128,000	$29,000
Restaurant	2 (2)	Restaurants	$1,058,000	$725,000
Snack Bar	2 (2)	Snack Bars	$381,000	$224,000
Store	3 (3)	Stores	$813,000	$601,000
Portable Store	4 (4)	Units	$177,000	$108,000
Water Ski Center	1	Center	$287,000	$132,000
Total			**$23,093,000[2]**	**$7,198,000**

[1] Total Capital Cost includes distributed allocation of infrastructure upgrade costs.

[2] The sum of the line items do not add exactly due to rounding error.

III. Background

- Lake Berryessa Recreation Area

Lake Berryessa is a man-made reservoir in Napa County, California, managed by the United States Bureau of Reclamation. Lake Berryessa is about 20 miles from the heart of Napa Valley's wine region, 50 miles from San Francisco, and 65 miles from Sacramento. The lake is in a densely populated and relatively affluent area of California. In the year 2000, there were about 6.3 million residents living within about fifty miles of the lake with average household incomes more than 10% above the state average.[1] The lake is one of the largest bodies of fresh water in California, approximately 23 miles long by three miles wide, with 165 miles of shoreline and covering approximately 19,250 surface acres of water when full.

Anglers enjoy Lake Berryessa for its year round availability of rainbow trout, bass, catfish, crappie, and bluegill. In addition to fishing, visitors to Lake Berryessa participate in swimming, water skiing and other boating, picnicking, camping, and generally enjoying the scenic outdoor environment.

According to Reclamation estimates, 1.1 million people visited Lake Berryessa in 2001.[2] According to one study, about 75% of the Lake's historical visitors resided within about 50 miles of Berryessa in the San Francisco-Bay Area and another almost 20% resided within the Sacramento area. Of the study's nearly 500 respondents, all were residents of California.[3] A separate study of Lake Berryessa boaters revealed that over 20% of all boaters on Lake Berryessa live within 25 miles of the lake and therefore might be considered local residents.[4]

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[1] United States Census, Summary Tape File 3, 2000.
[2] The most recently available visitation data is for 2001. Additional historical visitation data for the Lake was either not available or incomplete, such that we were unable to quantitatively evaluate the historical trend in visitation.
[3] Lake Berryessa Market Area Survey, James E. Fletcher and Roger H. Guthrie, Survey Research Center California State University, Chico, March 5, 1997.
[4] A Study of Boater Recreation on Lake Berryessa, California, William Jackson, George Wallace, James Vogel, and John Titre, Colorado State University, 1998.

- Existing Concession Operations

There are at present seven different concessionaires under contract with Reclamation to provide concession services at each of seven separate locations within the LBRA. These concessions provide lake visitors with a range of short-term hospitality and water-based recreation services. They also effectively lease nearly 1,300 sites to private parties, who have installed mobile homes, travel trailers and even made improvements to the sites for their own long-term exclusive use. During the last several years, the seven LBRA concessions realized an average combined annual gross income of $12.7 million (in 2003 dollar terms), nearly 40% of which (about $5 million) derived from rental fees for long-term exclusive use trailer sites.

The following concession hospitality/marina facilities are currently operating at the LBRA:

- **Lodging:**
  - Motel Rooms: 52 rooms (two concession sites);
  - Cabins: 57 temporary 'park models' (four concession sites);
  - Camping:
    - Tent Camping: 448 sites (at five of the concession sites);
    - RV Camping: 212 sites, 137 of which have full hook-ups (at six of the concession sites);

- **Marina:**
  - 1,349 boat slips (at all seven of the concession sites);
  - 8 private launch ramps (at all seven of the concession sites);
  - 6 fueling stations (at six of the concession sites);

- **Food/Retail:**
  - Four restaurants (at three of the concession sites);
  - Two snack bars (at two of the concession sites);
  - Ten retail outlets (at all seven of the concession sites);

- **Other:**
  - One water ski course (one concession site).

The quality and condition of the LBRA concessions vary by location and operational component. Overall, with the exception of the Steele Park Resort, the LBRA concessions are in generally poor condition and in violation of various safety codes. The safety code violations are associated

with, among other factors, hazardous electrical systems, the close proximity of sewage ponds to camping facilities, and excessive congestion in long-term trailer, tent, and RV camping areas. Additionally, many of the concession buildings are in very poor condition, with cracked and sagging walls and widespread deferred maintenance. According to a 1999 survey, the majority of Lake Berryessa surveyed visitors rated the scenery, convenience, boating, and cleanliness at Berryessa as good or excellent (the top two ratings on scale of five). However, the majority of visitors did not rate accommodations, restaurants, RV camping, tent camping, fishing, hiking/biking trails, or security at Lake Berryessa as good or excellent.[5] The high ratings of Lake Berryessa's natural resources suggest a potential for concessions to better capitalize on these resources with higher quality concessions. Accordingly, a substantial increase in concession quality, safety, and aesthetics is a primary objective of Alternative B.

- Proposed Concession Operations (VSP Alternative B) and Phased Development

In February 2003, Dornbusch prepared a financial evaluation of Alternative B assuming the alternative's capital program would be fully implemented starting in 2009 to 2010. The analysis indicated that Alternative B would not represent a viable business opportunity if the underlying concession contract(s) stipulated that the concessionaire(s) would have to fund all of the associated capital investment requirements. This conclusion was due in large part to the substantial amount of uncertainty in the future level and nature of visitor demand for concession services within the LBRA. (See Section IV for a discussion of demand.) Accordingly, the analysis summarized in this report examined the concession business opportunity conveyed by Alternative B assuming that potential concessionaires would be required only to develop some reasonable subset of the alternative's plan components (Phase I), with the flexibility to later implement the remaining components as demand and financial performance warranted (Phase II). This phased approach effectively reduces the minimum facility/infrastructure development requirements that would be stipulated in the concession contract prospectus(es), which should have several benefits. First, it would likely result in a larger pool of potential concessionaires bidding on the contract opportunity(ies) (enhancing competition for the contract(s), and potentially resulting in better financial terms for the government, all else equal). Also, and

[5] Lake Berryessa Survey Results Data Tables, Constat, Inc., May 1999.

especially important, a phased development approach will reduce the risks associated with the uncertainty in visitor concession demand, thus increasing the probability that the selected concessionaire(s) will achieve financial success and thereby sustain long term visitor services.

Implementation of the new, phased Alternative B would result in significant scale and quality changes to concession activities at Lake Berryessa early during the next concession contract(s). Among its other elements, Alternative B includes the development of new high-quality concession facilities to provide short-term visitors with a range of appropriate goods and services, stipulates the removal of *all* long-term, exclusive-use trailers from the LBRA, and stipulates initial redevelopment at three of the existing concession sites (comprising a combination of lodging, food & beverages, retail support, and extensive marina services, including houseboat rentals), but only basic services (lake access with few or no ancillary facilities) at the other four sites. The remaining Alternative B prescriptions for the latter four sites would be implemented if and when future visitor demand warranted (Phase II).

The type and scale of the development components proposed under Phase I are summarized below. These characterizations were prepared based on a combination of the facility concepts contained in the VSP Alternative B descriptions provided by Reclamation, marina upgrade cost estimates provided by Reclamation, industry standards (such as average size of small retail stores), and interviews with operators of concession facilities at other California lake recreation areas.[6] We did not offer assumptions regarding the scale of potential Phase II facilities for this analysis, since that determination will only be necessary when demand indicates expansion of the concession(s) beyond Phase I is warranted.

- **Markley Cove**
  - **Phase I:**
    - Houseboat and other boat rental operation, including pump-out capabilities. Assuming 20 houseboats, 10 speed boats, and 8 personal watercrafts (PWC's);
    - Marina slip rental, launching capabilities, marina fuel, and a fish-cleaning station. Assuming 173 slips;

[6] Interviewed operators of lakeside concessions at Lakes Mead, Mojave, Roosevelt, Shasta, and Don Pedro. Discussed lodging, marina, food & beverage, and retail operations.

        - Retail support.

- **Pleasure Cove**
    - **Phase I:**
        - RV sites with full hook-ups; assuming 100 sites;
        - Tent sites (both traditional and secluded); assuming 150 sites;
        - Marina slip rental, launching capabilities, marina fuel, and a fish-cleaning station; assuming 200 slips;
        - Retail support;
        - Food and beverage services (restaurant and simple café).

- **Steele Park**
    - **Phase I:**
        - Hotel/motel; assuming 30 rooms;
        - Cottages (cabins); assuming 28 units (7 four-unit cottages, similar to what exist now);
        - RV sites with full hook-ups; assuming 100 sites;
        - Marina slip rental, launching capabilities, boat rentals, and marina fuel; assuming 228 slips;
        - Retail support;
        - Food and beverage services (restaurant and snack bar).

- **Spanish Flat (Phased Development)**
    - **Phase I:**
        - Marina launching capabilities;
        - Limited retail space.

    - **Potential Phase II:**
        - Marina slip rental, launching capabilities, marina fuel, and a fish-cleaning station;
        - Cabins;
        - Tent sites;
        - Retail support;
        - Food and beverage services (restaurant only).

- **Lake Berryessa Marina (Phased Development)**
  - **Phase I:**
    - Marina launching capabilities;
    - Limited retail space.

  - **Potential Phase II:**
    - Marina slip rental, launching capabilities, marina fuel, and a fish-cleaning station;
    - "Rustic chic" cabins;
    - RV sites with full hook-ups;
    - Retail support;
    - Food and beverage services (restaurant and snack bar).

- **Rancho Monticello (Phased Development)**
  - **Phase I:**
    - Tent sites; assuming 100 sites;
    - RV sites; assuming 100 sites;
    - Marina launching capabilities;
    - Limited retail space.

  - **Potential Phase II:**
    - Tent sites;
    - RV sites;
    - Cabins;
    - Youth/elder hostel;
    - Short-term marina slip rental, launching capabilities, marina fuel, and a fish-cleaning station;
    - Retail support;
    - Food and beverage services (restaurant and snack bar).

- **Putah Creek (Phased Development)**
  - **Phase I:**
    - Group camping;

        - Marina launching capabilities;
        - Limited retail space.
    - **Potential Phase II:**
        - Lodge;
        - Group and event camping;
        - Tent sites;
        - Group support RV sites;
        - Short-term marina slip rental, launching capabilities, marina fuel, and a fish cleaning station;
        - Canoe/kayak ramp;
        - Retail support;
        - Food and beverages services (restaurant and snack bar).

- **Capell Cove**
    - **Phase I:**
        - Launch ramp.

IV. Methodology

The following analysis focuses only on the Alternative B components that the next concessionaire(s) would presumably be required to implement (Phase I). Discounted cash flow/rate of return models ("cash flow models") were constructed to evaluate the financial feasibility of each of the operational components of the Phase I concession development or redevelopment plan elements. These models present schedules of the projected future cash receipts and cash disbursements associated with an income-generating property that represents the proposed concessions. Prospective developers/operators of the LBRA concessions would likely use the same type of analysis to evaluate the financial opportunity conveyed by the eventual concession prospectus(es) in formulating their contract bids. The cash flows presented in this study reflect a steady-state condition, meaning that the models represent the projected cost and revenue structures, and subsequent feasibility, of the proposed Phase I concession development program following the post-construction ramp-up period.

Estimating demand, and thus projecting sales, is generally the most difficult task in a financial feasibility assessment. This is particularly true of Alternative B because the alternative includes extensive physical and operational changes to the current concessions. As such, historical data on LBRA visitor demand for concession services provides limited insight into future demand for Phase I of the Alternative B conditions. (In a more typical situation where commercial operations would only be moderately altered, data permitting, future demand could be extrapolated from historical experience with reasonable confidence.) But, Alternative B calls for the elimination of all remaining (nearly 1,300) long-term exclusive-use trailers that currently generate a substantial portion of the existing concession revenues. In addition to trailer rental fees, long-term trailer tenants account for some amount of revenue at other concession profit centers, particularly long-term boat storage.[7] It is not clear whether current long-term trailer tenants will return to Lake Berryessa as short-term visitors or the extent that these visitors will be replaced by other visitors attracted to the changed experience and opportunities at the lake.

Therefore, the removal of long term exclusive use trailers and concurrent refocusing of the concession operations on short-term visitors with substantial improvements in service quality will not only change the nature of the concessions themselves but most likely the characteristics and spending behavior of Lake Berryessa visitors. It is likely that the improvements in quality will attract a clientele with more disposable income than the current concessions attract, and it is additionally possible that the new concessions will access the nearby Napa Valley's relatively affluent visitor base (which is not yet the case).[8] Thus, it cannot be assumed that the spending habits of future day-only and short-term overnight visitors to the lake would be similar to the spending habits of current long-term trailer tenants, nor can historical spending data for current short-term visitors be used to accurately infer the potential visitor spending effects from substantial improvements in concession quality. In contrast, it seems likely that per capita spending would increase in Alternative B over the current operations.

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[7] In interviews, various current concessionaires estimated that between 10% and 90% of their boat slips were occupied by long-term trailer tenants. Revenues at other concession components are significantly less dependent on long-term trailer tenants, as these tenants tend to bring their provisions with them.

[8] According to the Napa Chamber of Commerce, the mean household income of Napa visitors is $53,500, compared to the 1999 California statewide median income of $47,500.

There are four widely adopted approaches for estimating demand for new recreation and lodging facilities and services. These approaches are based on personal interview surveys, statistical modeling, observation of community participation, and evaluation of community need. However, we concluded that none of the approaches were appropriate to estimate demand for concession services under Alternative B. The methods include:

- Survey-Based Approach - A survey-based approach was not used because survey-based demand analysis risks serious bias; i.e., people do not necessarily do what they say they would do when posited a hypothetical change in opportunity. Nonetheless, data from past surveys administered at the LBRA, which focused primarily on visitor recreation preferences, helped to guide us in evaluating the potential effects on visitation and visitor spending behavior of the proposed commercial service changes.

- Statistical Analysis - A statistical analysis approach was not used because historical visitation data for existing concessions at other lakes was insufficient to develop a statistically accurate regression model. Ideally, such an analysis would relate lake and concession visitation to specific concession facility, recreation opportunities, and demographic characteristics, among other potential explanatory factors.

- Participation Rate - A participation rate approach was not used due to a lack of available data on Lake Berryessa market-area community participation in lake recreation and lodging, and the difficulty of making appropriate assumptions for implementing this approach, such as identifying the current utilization of existing lake recreation resources by the populations within the primary market areas.

- Supply Approach - A supply approach was not used because it assumes for analytic purposes that the need for the proposed facilities and services are so great that it is reasonable to expect the facilities to operate at capacity. Research revealed that while demand for lake recreation within the LRBA region is strong, evidence was insufficient to suggest that it exceeds the supply of lake recreation resources; particularly since any definition of recreation supply is highly subjective.

We therefore concluded that the ground-up development of accurate demand estimates for the concession facilities and services proposed under Alternative B would not be viable. Accordingly, we used a different approach. We began the feasibility analysis by developing reasonable estimates of the initial (capital development) and ongoing (operating) costs necessary to implement each component of the proposed Phase I of Alternative B (e.g., marinas, hotels, restaurants, house boat rental operation, etc.). We then developed cash flow models that projected annual expenditures over a 20-year term and back calculated the gross receipts required to achieve an appropriate rate of return on capital invested. (Our assumption on the target rate of return is discussed in Section V). In our cash flow models, we also accounted for capital expenditures related to the following:

- A Reserve Account for Facilities Improvement (RAFI) to pay for necessary cyclical future replacements of facility components with relatively short economic useful lives. Such replacements would include roof covers, floor covers, certain HVAC components, etc.

- The end-of-contract Capital Investment Recovery (CIR) based on the acquisition/construction costs of the assets less depreciation and accounting for inflation. The CIR is intended to provide compensation to concessionaires for the remaining value of improvements they either purchased from a previous concessionaire or funded during their contract term (including RAFI related spending).[9]

Based on the models' indications regarding the revenue required to achieve financial feasibility, and research-drawn assumptions on market level rates within the LBRA region for goods and services comparable to those that would be provided by the LBRA concessions (e.g. hotel room rates, houseboat rent rates, etc.), we derived estimates of the visitor demand necessary to achieve

[9] Estimations for the useful life, and thus capital investment recovery (CIR), for the infrastructure improvements were estimated based on Marshall & Swift Estimation Service construction data and interviews with industry experts.. Note that since the infrastructure improvements were presented to us only as aggregated costs, the economic life estimates should be viewed as general estimates only.

financial feasibility ("threshold demand"). The probability of achieving this threshold demand, and thus the overall feasibility of Phase I of Alternative B, was then evaluated in the context of:

- Historical Berryessa visitation and Berryessa concession operations;[10]
- Financial performance (and implicit demand) at similar concession enterprises at comparable lakes;
- Interviews with resort managers at similar lakes regarding concession operations; and
- Trends in regional boating, demographics, and tourism.

V. Assumptions

The financial feasibility of the proposed Phase I of Alternative B was analyzed using the following assumptions:

- **Single Concession Contract**: In our analysis, we assumed that Reclamation would grant one concession contract to develop and operate all seven resort sites at LBRA. This assumption is acceptable to Reclamation as a component to help assure feasibility and allowed us to combine concession components and analyze the overall business opportunity.

- **20-Year Contract**: This relatively long term was selected to provide prospective concessionaires with ample opportunity to realize a reasonable opportunity for profit on their investment, especially in light of the anticipated scale of that investment (even assuming a phased development approach), the substantial uncertainty regarding future visitor demand, and the potential initial adverse revenue effects of removing long-term exclusive use trailers.

[10] As noted in the beginning of this section, historical local spending data cannot be used to predict future spending, because of the substantial change to the nature and quality of the concessions services proposed in the Preferred Alternative. Instead, historical visitation and operations data were used to help assess the reasonableness of the threshold demand.

- **Discount Rate of 15%**: The projected cash flows for each of the Alternative B components included in the initial development phase were analyzed assuming that prospective concessionaires would use a 15% target nominal internal rate-of-return (IRR) on their expected capital investment in the concession.

We are confident that the 15% IRR is within the range of IRRs that a prospective concessionaire would likely seek in a fair and open competition for the next LBRA concession contract(s). The rate is based on our professional experience in performing evaluations of:

- Historical operations of full service hospitality and retail enterprises operated by concessionaires in National Park Service ("NPS") and Reclamation administered sites nationwide; and
- Recent sales of private sector full-service hotels and National Park concessions.

It is also based on:

- Informal conversations with representatives of several NPS concessionaires; and

- An assumption that the new concession contracts will guarantee the concessionaire(s) will be able to recover the residual fair value of their investment in the concession; and
- Our understanding of the future risks and uncertainties associated with operating the LBRA concession(s) under draft Alternative B.

Because of the demand uncertainty for the proposed visitor facilities under Alternative B, we initially leaned towards a target rate-of-return greater than 15%. However, because the phased implementation approach would require a relatively smaller investment from the concessionaire, offer a larger likelihood of financial success, and a single concession operator would face little competitive pressure, we concluded that 15% would be the appropriate discount rate for the analysis.

- **Reserve Account for Facility Improvement (RAFI) of 4% of Revenues**: It is standard business practice within the hospitality sector to set funds aside for future cost to replace certain short-lived capital assets (including personal property, roof covers, floor covers, etc.) that are necessary to continue operations and to sustain the enterprise's income stream. Rather than estimate the costs individually, we accounted for a reserve for capital replacement as a percentage of gross revenues. In the hospitality business, this reserve usually falls in the range of 2% to 4% of total revenues. For this analysis, we chose to be conservative and assumed an annual capital replacement reserve of 4% of sales.

VI. Feasibility Conclusions of Proposed Draft Alternative B Concession Operations

Alternative B stipulates the development of seven marina resorts at the LBRA, each comprised of a mix of recreation enterprises, including a hotel, cabins, RV and tent camping, food and beverage services, retail support, marina slip rentals, houseboat and small boat rentals, and a water-ski center. Our assumptions regarding the size of each enterprise (in terms of number of hotel rooms or slips, for example) are based on both the Alternative B descriptions developed by Reclamation and interviews with marina and resort operators regarding the optimal sizes for these types of visitor serving enterprises.

A. Alternative B Capital Costs

Table 2 presents the total estimated construction/implementation costs ("capital costs") for each component of the proposed concession operations under Alternative B. The table indicates that these costs, including estimated infrastructure upgrades, total approximately $23 million in year 2003 dollars. The costs presented in the table include both hard and soft construction costs and account for anticipated premiums associated with the locations' remoteness and generally high regional cost of living (and thus relatively high labor rates). They were estimated based on a combination of infrastructure and marina upgrade cost estimates provided by consulting

engineers retained by Reclamation[11], Marshall & Swift Estimation Service construction cost data (assuming fair-average construction quality), and relevant input from marina resort and RV and tent campground development experts. The estimated capital expenditures also account for the anticipated cost to acquire necessary furniture, fixtures, and equipment ("FF&E").

Table 2: Capital Costs of All Resorts, Phase I of Alternative B
(In 2003 dollars. Rounded to the nearest thousand dollars.)

Enterprise	Quantity	Unit	Capital Cost
Hotel/Motel	30	Rooms	$1,199,000
Cabins/Cottages	28	Units	$798,000
RV Sites	300	Sites	$2,744,000
Tent Sites	250 Individual and 3 Group	Sites	$757,000
Marina (Slips, launch, and fuel)	600 7	Slips Launch Ramps	$5,385,000[1]
Houseboats	20	Houseboats	$4,000,000
Other Rentals	36	Boats	$896,000
Restaurant	2	Restaurants	$603,000
Snack Bar / Café	2	Snack Bars	$241,000
Retail Store	3	Stores	$489,000
Water Ski Center	1	Center	$248,000
Dry Storage	100	Boats	$12,000
Infrastructure (Roads, parking, electrical systems, potable water and wastewater systems)	4	Sites	$5,721,000
TOTAL			**$23,093,000**

[1] The marina costs include some rehabilitation costs and other new improvements.

In 2001, the engineers retained by Reclamation developed general estimates of the remaining useful life of the structures currently used by the LBRA concessionaires, and concluded that most of those structures had a useful life of "less than ten years" (and, thereby, are likely to have

[11] Infrastructure upgrade costs are taken from the Environmental Compliance and Facility Condition Assessment Report, Seven Concession Areas, Lake Berryessa, California, prepared for the Bureau of Reclamation by Kleinfelder, Inc.

little or no useful life remaining upon inception of the new concession contract(s) at the end of this decade). However, the engineers did identify certain concession buildings that had a useful life of "greater than fifteen years." They did not, however, conduct cost appraisals of or assess the cost to upgrade those structures and, as of the time of this report, such assessments have yet to be performed. Therefore, lacking a formal replacement cost appraisal of the existing concessionaire buildings (and leaving only to speculation the specific structures that the next concessionaire may choose to retain and incorporate into its operation), we assumed for this analysis that; [a] the cost to compensate the current concessionaires for their salvageable structures, plus [b] the cost to upgrade those structures to meet the anticipated quality requirements of the new contract(s) would approximately equal [c] the cost to completely replace the structures. Accordingly, in developing estimates of the capital investment that would be required of the next concessionaire to implement Phase I of Alternative B, we assumed that all necessary structures would be constructed new from the ground up. The only exceptions are particular marina slips and launch ramps, for which the engineers provided upgrade costs, after concluding that these improvements could be used for operations under the next concession contract.

The infrastructure upgrade costs provided to us by Reclamation only account for upgrading the *existing* roads, parking lots, electrical systems, and potable and wastewater systems at each site to be developed under Phase I. Therefore, the infrastructure upgrade assumptions and associated cost estimates adopted for the financial feasibility analysis are not aligned precisely with the actual scale of the concession facilities proposed in Phase I of Alternative B (e.g., hotels, restaurants, etc.). Therefore, they may or may not satisfy the parking and utility support needs of those facilities.

The disparity between the infrastructure upgrade assumptions provided by Reclamation and the scale of the Phase I facility developments can be highlighted by the proposed concession development at Markley Cove. Alternative B stipulates development of a new houseboat operation at the Markley Cove site. This operation will require substantially more parking than currently exists at the site, and thus the true cost of parking infrastructure at Markley Cove will most likely be higher than the cost to simply upgrade the site's current parking lot. Moreover,

our analysis necessary assumed that there would be *no* infrastructure rehabilitation at three of the four sites identified for limited development under Phase I. However, that may not be an accurate reflection of the infrastructure rehabilitation that will be necessary at those locations.

Accordingly, we believe that the infrastructure cost estimates provided by Reclamation, and that we were directed to adopt for this analysis, should be viewed as minimum estimates of the cost to upgrade and install the necessary infrastructure at each site.

As mentioned above, we assumed that the next concessionaire would be able to incorporate some of the existing launch ramps, marina docks, and other current LBRA marina facilities into its operation. The costs to upgrade (and not replace) these existing marina facilities were provided by Reclamation and included in the model within the capital costs. For the model, we also assumed the next concessionaire(s) would ***not*** be responsible for compensating the outgoing concessionaires for any improvements they have implemented and that will continue to be used under the next concession contract. This assumption means that existing marinas in good condition will cost the new concessionaire less than marinas in poor condition (since the former will require substantially less rehabilitation investment than the latter).

B. Feasibility Analysis

A generalized analysis of the concession development/redevelopment proposal indicates that the aggregated concession operations proposed under Phase I would need to generate about $8.5 million in annual gross sales to provide a reasonable rate of return on the associated approximately $23 million of necessary capital investment. This finding is based on the somewhat optimistic expectation that the combined earnings before income, taxes, depreciation, and amortization (EBITDA, net of capital reserve) would be 35% of gross receipts.[12]

This level of annual sales is significantly less than is currently being collectively realized by the existing seven Lake Berryessa resorts – which is about $12.5 million (in 2003 dollars), as noted

[12] In this initial, general case, average free cash flow refers to gross sales less all operating expenses, including the cost of labor, goods, insurance, marketing, and an annual reserve for capital replacement.

previously. However, as about $5 million of the total current concession sales derive from long-term exclusive use trailer rental fees (which would be eliminated under the new contract(s)), the $8.5 million necessary level of annual sales is better evaluated in comparison to the recent concession revenues net of long-term trailer rental fees, or about $7.5 million.

Despite the closeness of these sales revenues, it is difficult to assess the feasibility of achieving the $8.5 million revenue threshold in the context of existing concession operations at the lake. While the new concession development will provide a similar range of services as is currently offered (less the long-term trailers), the quality of the concession facilities and services and coordination of concession activities will be greatly improved and the general appeal of the lake enhanced by the elimination of the long-term trailers. Concurrently, however, the scale of facilities will be reduced from seven to three fully developed sites. Given these considerations, as well as the substantial uncertainty in visitor demand for the proposed Phase I developments, we decided to separately evaluate the feasibility of each concession functional component that comprised Phase I to: [a] evaluate the minimum occupancy/utilization levels that must be realized to achieve feasibility; and [b] determine which concession components might be financially most and least attractive to prospective concession developers/operators as part of the overall proposed Phase I development program.

Descriptions of the Alternative B developed by Reclamation provided some thematic specificity in describing the proposed eating places and lodging facilities to be implemented throughout the seven proposed LBRA resort sites. However, at this stage of the planning process the ultimate format of these facilities is highly uncertain. Accordingly, for our analysis we evaluated the proposed business opportunity on a conceptual level, and therefore were not able to specifically consider particular details that might actually have some impact on operating revenues and costs. It is our opinion that this approach, nevertheless, provides an adequate level of accuracy for the planning purpose of the analysis.

To effectively analyze the stand-alone feasibility of each proposed concession component, it was necessary to allocate among those components the anticipated infrastructure development and

redevelopment costs provided by Reclamation (such as roads and parking lots, electrical, potable water, and waste water systems). However, a lack of specific detail regarding the infrastructure redevelopment cost estimates provided by Reclamation precluded application of the most logical approach for allocating these costs to each concession component; namely, one based on their respective anticipated infrastructure requirements. Thus, a more general distribution method was applied.[13] *Specifically, we allocated the estimated infrastructure costs at each site to each of the sites' proposed concession components based on the percentage of the sites' total projected revenues that we expected each component to generate.* The obvious weakness of this distribution method is that infrastructure needs are not necessarily a function of revenue generation, in that, for example, a hotel will most likely require more electricity and water per dollar of revenue than will a marina. However, because the anticipated infrastructure investment costs are relatively modest at most of the proposed concession locations, we felt that this cost distribution method was generally adequate for evaluating the conceptual feasibility of the different proposed concession components.

1. Hotel/Motel

For the hotel/motel analysis, we assumed that a 30-room hotel would realize an average room rate of $95 per night before occupancy taxes. This rate is consistent with rates recently charged within the local region for hotel/motel lodging similar to that proposed under Phase I (including at other lakes).

We analyzed operating cost statistics for hotels/motels from a number of national sources, including PKF Consulting and Smith Travel Research, and concluded it reasonable to assume that operating costs for the proposed lakeside hotel would average about 62% of gross receipts. In this analysis, we defined operating costs to be total annual operating expenditures including a reserve for capital replacement, before interest, taxes, and depreciation. And because the hotel in this case was assumed to be part of a larger concession (as opposed to a stand-alone operation),

[13] The infrastructure rehabilitation cost estimates for each resort site that were provided by Reclamation are broken down into costs for roads/parking lots, electrical systems, potable water, and waste water. The costs are not aligned with the particular proposed developments, such as how much electricity infrastructure would be needed to sustain a 30-room hotel versus that needed for a marina.

we accounted for some overlap (sharing) of indirect costs such as general and administrative costs, marketing, and overhead. It should be noted that the cost of utilities is embedded in the figure for total operating expenses above. And, in general, a portion of the cost of utilities includes the capital cost of associated infrastructure; this is particularly the case for water. Therefore, there is most likely some redundancy built into our model, as we separately accounted for the costs of infrastructure upgrades in the figures provided by the engineers. This double counting of utility expenses may help mitigate the likely under-estimation of infrastructure costs.

Based on the above, we determined that to achieve financial feasibility the proposed 30 hotel/motel units would need to rent almost 5,000 room-nights per year, thereby generating approximately $465,000 per year in receipts (excluding inflationary growth). This translates to an approximately 45% average annual rate of occupancy.

To place this 45% threshold occupancy in context, we researched hotels and motels at resorts at other lakes[14] comparable to Lake Berryessa, obtaining financial statements when made available, and also interviewing resort managers. According to the resort managers with whom we spoke, the average annual occupancy achieved at comparable lakeside resort hotels/motels is about 40%, with occupancy levels nearing 100% in the summer, but remaining low much of the remainder of the year. From the financial information we were able to obtain, we determined that lakeside hotels/motels are generating anywhere from $9,000 to $16,000 in receipts per room per year. To achieve financial feasibility, the proposed hotel (at the Steele Park location) would need to achieve occupancy and receipts near the upper end of the likely range.

We thus concluded that a hotel and motel operation at Lake Berryessa represents a reasonable business opportunity, but would require an occupancy rate in the upper range of occupancies currently being realized by similar facilities to be financially feasible. Also, the proposed hotel would most likely *not* be able to defray more of the anticipated infrastructure upgrade costs (than assumed in our model), despite the fact that it would most likely use a greater share of electricity, water, etc. at the concession.

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[14] The lakes researched include Clear Lake, Folsom Lake, Lake Mead, Lake Mojave, Lake Isabella, Lake Roosevelt, Lake Shasta, Lake Meredith, New Malones Lake, and Lake Don Pedro.

It should also be noted that the 52 motel rooms currently available at the LBRA, which are divided between two lakeside locations, realize only about $285,000 per year in gross revenues, substantially less than the amount we determined would be required to achieve a reasonable investment rate of return at the proposed hotel at Steele Park. However, as mentioned earlier, comparisons to current operations have limited value due to the very poor quality conditions of one of the two motels, and an expected shift in concession clientele and spending habits following the removal of the long-term exclusive use trailers and implementation of proposed improvements to the concession facilities and short-term visitor access to lake resources and opportunities. Improved lodging quality and supporting food & beverage and other ancillary facilities may significantly enhance the year-round appeal of the lake and increase off-season visitor demand for concession services.

It is also difficult to forecast future demand for lodging at the lake based on recent regional tourism and economic trends, as the current economic downturn and events of September 11, 2001 have had a persistent depressive effect on tourism nationwide. Furthermore, as recent trends have shown, any conclusions regarding the economic and tourism trends of the past few years can only provide very limited insights to visitor demand conditions in 2008 to 2009; the anticipated start of the next LBRA concession contract(s). Nonetheless, it should be noted that three new hotels will be opening in the Napa Valley region in the remaining months of 2003 alone (for a combined nearly 250 rooms),[15] suggesting some optimism in regional tourism growth.

In conclusion, we believe that the proposed hotel/motel operation at the Steele Park location is just within the feasible range.[16]

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[15] According to Maggie Schafer of the Napa Valley Conference and Visitor's Bureau, the River Terrace Inn in Napa (106 units), the Carneros Inn in Carneros (86 units), and the Calistoga Ranch in Calistoga (54 units) are all slated to open in the last few months of 2003.

[16] A potential concessionaire might be able to increase off- and shoulder-season revenue by 1) collaborating with a non-profit organization such as an elder hostel or youth hostel, 2) accommodating conferences and business getaways, and/or 3) tapping into the year round Napa Valley visitor base. Because Reclamation voiced a specific interest incorporating an elder hostel at LBRA, we discussed such an opportunity with the operator of the Bay Area Center for Learning Elderhostel (BACL). BACL organizes and implements educational trips for seniors and rents lodging for these trips at discounted prices. Pat Kleinberg of BACL reported that currently BACL uses a hotel in Napa for their lodging needs. However, she said that while she is unable to predict the future lodging needs of her

2. Cabins/Cottages

To analyze the proposed cabins and cottages, we assumed that a total of 28 cabins and cottages would be constructed under Phase I of Alternative B, all at the Steele Park location. Currently, there are 57 cabins divided between four of the existing resort locations at the lake. We assumed that the proposed cabins would realize an average room rate of $80 per night before occupancy taxes. This rate is consistent with rates recently observed within the local region and at comparable lakeside cabins and cottages of a similar level of quality to those anticipated under Phase I. Currently, cabin rates at Lake Berryessa are higher than are assumed for this analysis, ranging between $75 and $150 per night and varying by resort, unit size, and season. To be conservative, we assumed lower rates consistent with rates within the region; however, given the alleged high occupancy rates of the Lake Berryessa concession cabins, the incoming concessionaire may wish to charge rates more consistent with those currently charged.

We collected operating cost statistics for cabins/cottages from a number of national sources and determined that it is reasonable to assume that operating costs for the proposed lakeside cabins would average about 54% of gross receipts. Again, in this analysis, we assumed total operating costs to be annual operating expenditures before interest payments, taxes, and depreciation.

Based on the above, we determined that to achieve financial feasibility the proposed 28 cabin units would need to be rented about 3,200 room-nights per year, thereby generating

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organization, a partnership between BACL and Reclamation is a possibility. Accommodating business conferences is another way to perhaps add off- and shoulder-season revenue to a concession. However, this extra revenue would be greatly offset by the cost to construct conference space. Another option would be for the potential concessionaire to use its restaurant as meeting space if the restaurant is open in the off- and shoulder-season. However, it is very difficult to estimate the benefit of incorporating conference capabilities into a concession. Estimating demand is nearly impossible because very few comparable lakeside concessions have conference space, so there is little precedent and examples from which to collect historical data. Additionally, using a restaurant for conferences will only add the marginal revenue above what the restaurant would realize if open to the public. Lastly, professional experience suggests that demand for conference space is unpredictable and take a long time to cultivate. A final opportunity for increasing off-season occupancy at the Lake Berryessa concessions would be to tap into the large, year-round Napa Valley visitor base. According to the Napa County Chamber of Commerce's 2001 statistics, 44% of the 4.7 million visitors to Napa County visited the region in the winter months between October and March. Presumably, the increase in quality at the LBRA concessions (together with the proximity to Napa) will attract the wealthier Napa visitor base. The incoming concessionaire may wish to target this year round visitor base through an increase in marketing expenditures.

approximately $255,000 in receipts annually. This translates to an approximately 31% average annual rate of occupancy.

According to the current LBRA concessionaires, the cabins are very popular and are sold out during the summer at all locations. Thus assuming that the cabins achieve 90% occupancy during the three summer months, the 31% average annual occupancy necessary to achieve financial feasibility translates to an average occupancy of only 11% the other nine months of the year. The necessary revenues translate to about $9,100 per cabin unit per year. Currently, the sixteen cabins at the Steele Park resort earn around $11,500 per cabin unit annually, and *all* Lake Berryessa concession operators said that cabins are profitable. Interviews with operators of lakeside resorts within the LBRA region indicated that cabins achieve an average annual occupancy of about 40% and are extremely profitable because of their lower capital investment cost as compared to other types of accommodations. These interviews further revealed that anglers comprise an important component of the cabin rental market, and thus demand for cabins is not as seasonal as some other resort operations.

We thus concluded that cabins would be a profitable enterprise at the proposed Lake Berryessa concession. If the 28 proposed cabins were to achieve 40% occupancy (instead of the 31% necessary for feasibility), the cabins would also help support other, less profitable but necessary concession components. Indeed, it appears that demand will likely support more than the 28 cabins envisioned for Phase I, and Reclamation should allow bidders to propose more.

3. RV Sites

For the RV site development analysis, we assumed that the 300 RV sites would be constructed under Phase I, divided evenly among Pleasure Cove, Steele Park, and Rancho Monticello. We assumed that the RV sites would realize an average rate of $30 per night before occupancy taxes. This rate is consistent with rates recently observed at the LBRA, other locales within the region, and at comparable lakeside RV sites offering a similar level of quality to that proposed.

We collected operating cost statistics for RV parks from a number of sources, including the National Foundation for RVing and Camping and the National Recreational Vehicle Industry Association, and determined that it is reasonable to assume that operating costs for the proposed RV sites would run about 35% of gross receipts. Again, in this analysis, we assumed total operating costs to be annual operating expenditures including a capital replacement reserve but before interest payments, taxes, and depreciation. Additionally, we estimated that the operating costs as a percentage of revenues would be slightly lower than if the RV campground were entirely a stand-alone operation. We did this based on the assumption that the various components of the concessions would be able to share certain facilities (such as bathrooms) as well as operational overhead, such as office space and labor for reservations and fee collections

Based on the above, we determined that to achieve financial feasibility, the proposed 300 RV sites would need to rent about 30,000 site-nights per year, generating approximately $894,000 per year in gross receipts. This translates to an approximately 27% average annual occupancy. Stated differently, the proposed RV campgrounds would need to be fully occupied the equivalent of about 3.3 months of the year to be financially feasible We believe it reasonable to expect such an occupancy rate will be achieved given recent occupancy rates at similar lakeside RV campgrounds. Interviews with personnel at Folsom Lake, Clear Lake, and current Berryessa concessions suggest that comparable RV campgrounds achieve average annual occupancy rates of around 25% and can sustain near 100% occupancy during the summer.

It should be noted that the approximately 200 RV sites currently made available by the Lake Berryessa resorts together generate about $300,000 in annual revenues.[17] However, we believe that the proposed RV sites will be too different from the current sites to merit a direct comparison regarding financial performance. For example, in our analysis we assumed that all new RV sites would have full hook-ups (water, sewage, and electricity), room for newer, larger vehicles, and a standardized and greater amount of space between the sites to provide optimal recreation enjoyment. Deficiencies at the current Berryessa RV sites help explain why those sites have performed relatively poorly. Most of the sites are extremely close together and many

[17] Due to (1) an incomplete set of current resort financial information and (2) grouping of revenue sources within the concessions' annual financial reports, the RV revenue figure is an estimation only.

are unsightly, having nearby sewage ponds and/or visible electrical wires. Moreover, many of the RV locations provide parking spaces only, have no picnic tables, grass, or comfortable separations between sites. Accordingly, the under-utilization of sites at Berryessa is not representative of what we believe to be reasonably expected for the new RV sites.

4. Tent Sites

For the tent camping analysis, we assumed that 250 individual tent sites and 3 large group sites would be constructed under Phase I, distributed between the Pleasure Cove, Rancho Monticello, and Putah Creek locations. As described in Alternative B, we assumed that the proposed group campsites would be situated at the Putah Creek location (as they are currently), and would use the existing bathroom facilities at that site (without upgrade). We conservatively assumed that the concessionaire would charge an average rate of $14 before occupancy taxes for individual tent sites. This rate is at the higher end of the range of rates recently observed at many comparable lakeside tent sites, and is consistent with the rates charged at Lake Don Pedro, New Melones, and Lakes McClure and McSwain. We believe $14 is a conservative rate for Lake Berryessa, because the tent sites that will be constructed will be new, have good spacing and desirable facilities, such as new restrooms, picnic tables, grills, water spigots, and landscaping.

We assumed that the group tent sites, which could accommodate up to 50 people per site, would rent for an average of $150 per night before occupancy taxes. This rate is based on group sites at comparable lakes, and is an average based on a sliding scale rate structure corresponding to the number of cars brought to the site.

We collected operating cost statistics for tent camping from a number of sources, including the National Foundation for RVing and Camping, and determined that it is reasonable to assume that operating costs for the proposed tent sites would run about 25% of gross receipts (and less in the case of group sites). Again, in this analysis, we assumed total operating costs to be annual operating expenditures including a reserve for capital replacement but represent EBITDA (excluding interest payments, taxes, and depreciation). Additionally, the estimation of operating costs as a percentage of revenues is lower than if the tent campground were a stand-alone

operation. We assumed that the various components of the concessions would be able to share certain facilities (such as restrooms) as well as certain operating overhead, such as office space and labor for reservations and fee collections.

Based on the above, we determined that to achieve financial feasibility the proposed 250 tent sites would need to rent about 13,600 site-nights per year, generating approximately $189,000 per year in gross revenues. This translates to an approximately 15% average annual rate of occupancy. Stated differently, the proposed tent campgrounds would in effect need to be fully occupied less than two months of the year to be financially feasible. Similarly, the three group tent sites would together need to rent just 140 nights per year (about 47 site-nights each) generating about $21,000 per year in receipts to achieve financial feasibility. This translates to less than 15% occupancy per year.

Demonstrating the probable conservative level of our rate assumption, it should be noted that the Lake Berryessa concessions currently charge rates higher than $14 (average among concessions is $20 per night in 2003) for poorly spaced, poor condition tent sites, and still maintain that the sites experience good occupancy rates throughout the summer months.[18] Moreover, it is reasonable to expect that the individual tent-sites proposed will achieve the estimated threshold occupancy rate, given the occupancy rates at similar lakeside tent campgrounds (with similar or larger numbers of tent sites per campground, and with multiple campgrounds at a single lake). Interviews with personnel at Folsom Lake, Clear Lake, and the current Berryessa concessions (see footnote above) suggest that comparable tent campgrounds are full all summer weekends, many summer weekdays, and have some occupancy on shoulder season weekends. Also, according to Reserve America, a national campground reservation company, and personnel at various lakeside group campgrounds, group campsites are very popular all throughout the summer, as well as weekends during the fall and spring months.

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[18] Conversations with managers of the current Lake Berryessa resort concessions indicated that lakeside camping accommodations are fully occupied on summer weekends and often occupied all summer long. For example, the manager of Rancho Monticello reported that the 57 tent sites at that resort were fully occupied during the 2001 summer season, despite their unusually long, three-night minimum stay. Similarly, the Spanish Flat concession operator asserted that campsites are usually reserved for all summer weekends by April. However, these operators

Overall, while tent camping is not generally a major source of revenue for lakeside resorts, tent sites require relatively little capital investment and operational expenditures, are generally profitable on their own, and help to enhance demand for other concession goods and services.

5. Marina

In our marina-specific analysis, we assumed that some level of marina development would be provided at each of the lake's seven developed sites. However, at four of those sites, Phase I stipulates only limited, day-use lake access (launch ramps). The other three marinas are to provide lake access, but also offer a combined 600 wet boat slips and a range of other marina services, including fuel. In addition to the seven launch ramps at each of the proposed resort sites, the launch ramp at Capell Cove will also be under concession operation (whereas currently, Reclamation operates this public launch ramp free-of-charge). However, we believe the details of operation of the ramp at Capell Cove should be left up to the incoming concessionaire to decide, and thus it was not included in the financial model.[19] Dry storage and boat rental operation were not included in the marina analysis, although those and other ancillary facilities could be proposed initially or implemented later, if and when demand warrants. Dry storage and boat rental operations were thus analyzed separately in this report, below. Assumptions as to the number of slips at each proposed marina site (as well as all of the associated development costs) were provided by Reclamation. We then estimated the additional costs of fuel stations, fish cleaning stations, and bathrooms, included under Phase I.

For the marina-specific analysis, we assumed that the marina slips would realize an average daily rental fee of $10. (Covered slips would yield a higher rent, but would also cost more to construct. We did not evaluate the potential financial implications of covering some of the slips.) This rate falls into the upper range of uncovered slip rental rates charged at marinas on

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also acknowledged that there is little demand for tent camping in non-summer months. Finally, due to the lack of revenue breakdown in the concessions' financial reporting, it is difficult to validate these claims of high occupancy.

[19] Depending on the necessary capital costs to upgrade the launch ramp, parking, and road at Capell Cove, as well as the cost of labor and any improvements necessary to collect fees, the incoming concessionaire may wish to [a] close the launch ramp to funnel demand through the other seven launching locations, or [b] keep the launch ramp at Capell Cove free-of-charge if Reclamation requires that it remains open. The launch ramp at Capell Cove may well

comparable lakes within the region, and assumes that 50% of demand will be short-term storage, and the rest will be a mix of weekly and monthly rentals. The relatively high storage fees are reflective of the shift to short-term visitation that is expected to occur with the removal of the long-term exclusive use trailers. We also assumed a daily launch fee of $10, which is consistent with rates at comparable lakes and slightly less than what is currently charged at the LBRA concessions. (The rate assumption based on comparable facilities is probably conservative, considering that the average launch [and park] fee at the seven concessions is just over $11.)[20] The marina rates assumed in this model also reflect interviews with lake resort operators regarding the popularity and profitability of marinas and the need for wet slips in the Berryessa region.

We based our operating cost assumptions for marinas on statistics published by the International Marina Institute and the Independent Petroleum Marketers Association (fuel service cost assumptions), and determined that it is reasonable to assume that operating costs for the proposed slips and launching services would run about 38% of receipts. Again, in this analysis, we assumed total operating costs to be annual operating expenditures including a reserve for capital replacement but excluding interest payments, taxes, and depreciation. The resulting profit margin is consistent with the consensus of managers from marinas at comparable lakes who reported that marina operating costs generally run at about 35% of gross receipts.[21] The potential contribution to profit from gasoline sales was not considered. Although necessary to sustain marina operations, gasoline sales margins are generally very small, and for the analysis the fuel component of the marina operations were assumed to break even.

Our cash flow analysis indicates that the marina development would need to generate approximately $1.3 million a year in gross receipts to achieve a 15% rate-of-return. We assumed that 75% of the revenues would come from slip rentals and 25% from launch fees, a ratio that reflects the operations of marinas for which we have financial information, adjusted for the

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be a source of additional revenue for the incoming concessionaire, but without improvement cost estimations, we chose to conservatively omit it from the financial projections.

[20] We say "probably" because it is not clear that the current rates charged at Berryessa are appropriate, given the current level of demand.

[21] Phone interviews with marina operators at Folsom Lake, Lake Shasta, Clear Lake, New Hogan Lake, Lake Don Pedro, Lake McClure, Lake Mead. Additionally validation came from marina financial statements, when available.

proposed mix of eight launch ramps (at seven locations) and 600 slips (at three sites). Based on these findings, to achieve feasibility, the proposed marinas would need to maintain an average annual slip occupancy rate of 45% and launch an average of about 90 boats per day among the seven marinas.

In terms of boat launching, the required number of boats launched per year from the concession launch ramps to achieve financial feasibility would be 32,850, generating revenue of about $329,000. This translates to about 13 launches per day per site, which seems optimistically high when compared to current concession revenues derived from day launches and the decline in boating activity on the lake during the late fall, winter and early spring months. (According to current LBRA concession operators, boaters do use the lake year round. However, operators reported that winter boating activity tends to occur mostly on the weekends.) If we estimate that 67% of all boating occurs during the three summer months,[22] the number of necessary boat launches translates to an average of nearly 35 launches per site per day in the summer and under six per day during the remainder of the year. Therefore, we believe that the number of boat launches necessary to achieve financial feasibility is in the upper range of what we might expect to occur, but still realistic. For example, Folsom Lake, which is similar in size to Berryessa but is much less developed than Berryessa (and charges $9.00 per launch), recorded nearly 70,000 launches in 2002 and over 100,000 in 2001.[23] Additionally, estimations drawn from a 1997 boat count on Berryessa suggest that there were about 90,000 boats per year on Lake Berryessa that year.[24] Because no records of ramp-specific launch counts at Lake Berryessa were available, we are unclear of the historical breakdown of launches from the public ramp at Capell Cove versus launches from the concession ramps. With the shift of the Capell Cove launch ramp from public to concession operation, the likelihood of achieving higher launching revenues than in the past increases dramatically. Regardless, Reclamation has made it very clear that providing lake

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[22] In telephone interviews with operators from the current Steele Park, Pleasure Cove, Rancho Monticello, and Markley Cove concessions, resort operators guessed that about two-thirds of all Berryessa revenues occur in the summer. Note, however, that this estimate is an average of the responses to the general question of all Berryessa activity/revenues.

[23] Folsom Lake 2002 boat launch data reflects July 2001 to June 2002.

[24] A Study of Boater Recreation on Lake Berryessa, California, William Jackson, Dr. George Wallace, James Vogel, and John Titre, Colorado State University, 1998. Total boat count per year was estimated from actual aerial boat counts, using assumptions of boat turnover and peak month usage provided by the Army Corps of Engineers.

access at all seven resort sites at Lake Berryessa is a priority, regardless of the stand-alone financial feasibility of the proposed marina operations.

Regarding slip occupancy rates, the threshold demand necessary (45% slip occupancy) for the proposed marinas at Lake Berryessa to achieve financial feasibility seems realistic. According to the California Department of Boating and Waterways, in 1995, California inland (lake) marinas experienced an average occupancy rate of 80%, close to double the occupancy needed for financial feasibility at the proposed Lake Berryessa development.[25] Since 1995, total pleasure boat registrations with the California Department of Motor Vehicles (DMV) have increased steadily at about 1.1% per year.[26] Substantial unmet demand for boat slips is evidenced by long waiting lists at the Folsom Lake, Clear Lake, and Lake Berryessa marinas.[27] Further, marina operators that we contacted all expressed the opinion that slip rentals are good for marina resort concessions, because they provide revenue not only during the summer but also the off-season, when demand for other concession services is relatively low.

Thus, the occupancy necessary for the marina berth component of Phase I to achieve financial feasibility is substantially lower than what would be expected. However, we recommend that the potential concessionaire(s) initially implement only the Phase I level of marina development, as slip revenues may have to help cover the cost of providing lake access (launch ramps) at all seven sites. More importantly, there is one aspect of the uncertainty of demand that is particularly relevant to marinas. According to the Lake Berryessa concession operators with whom we spoke, between 50% and 95% of current marina slips at the LBRA are occupied by long-term trailer tenants.[28] Thus, as the focus of Lake Berryessa concessions shifts to short-term camping, lodging and recreation services, there is obviously some uncertainty about the demand

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[25] 1995 California Boating Facilities Inventory and Demand Study, California Department of Boating and Waterways.

[26] Department of Motor Vehicles, Pleasure Boat Registrations 1991-2001.

[27] Conversations with managers at marinas on Folsom Lake, Clear Lake, and Lake Berryessa. According to Ken Christensen of Folsom Lake Marina, they have slip waiting lists that range from 2-3 years for 16 foot slips to 10 years for 24 foot slips. According to Tom Wayman, operator of Markley Cove Marina at Lake Berryessa, his marina leased each of his marina's new boat slips prior to installation of the slips.

[28] Conversations with John Givens from Rancho Monticello, Tom Wayman from Markley Cove, Steve Nelson from Pleasure Cove, and Mr. Hanson from Steele Park.

for boat slips. Most likely, Lake Berryessa marinas will face a transition period following the elimination of long-term trailers as many slips change tenants.

6. Houseboats

It is very difficult to project the costs and revenues of a houseboat rental operation. A new houseboats can cost anywhere from $50,000 to $200,000 depending on the size and amenities of the particular vessel. They are very expensive to maintain, and they depreciate quickly. However, it is our belief that a houseboat rental operation on Lake Berryessa could be very profitable, given the success of such operations at many lakes throughout California. No meaningful houseboat rentals are currently available at the lake.

Managers of lakeside resorts at comparable lakes such as Shasta, Mead, Mojave, Isabella, and Don Pedro with whom we spoke unanimously claimed not only that houseboats are the most profitable component of marina operations but that the most luxurious houseboats with the greatest number of amenities are the most popular and most profitable.

We developed a houseboat cash flow model for Markley Cove. However, the model can be used to represent similar operations elsewhere within the LBRA. For the analysis, we assumed that the concession at Markley Cove would run a houseboat operation consisting of twenty, top-of-the-line houseboats costing $200,000 each. This model does not account for the cost of associated parking, as parking costs are included in the general infrastructure costs for the Markley cove and all other proposed concession sites. However, it should be noted that houseboat operations require significant parking to accommodate the large groups that typically use each houseboat at one time, and thus the issue of parking should be revisited at Markley Cove (or any site accommodating houseboats) prior to implementation of Phase I. The houseboat operation will not need a separate marina from the one already proposed at Markley Cove. The houseboats can be anchored in open water during the season and stored off-site during the off-season. They can be repaired, cleaned, loaded, and fueled at the proposed Markley Cove docks. We estimated that these houseboats would rent for an average of $1,000 per night, a rate consistent with average spring/summer rates for high-end houseboats at

comparable lakes. According to operators of houseboat operations at lakes with similar climates to Lake Berryessa, the incoming concessionaire could most likely expect to rent houseboats from May through the end of September.

We collected operating cost statistics for houseboats from a number of sources including Water Resorts, Inc. (Houseboats.com) and houseboat resort managers at Lakes Shasta, Mead, Mojave, and Don Pedro. From this research, we determined that it is reasonable to assume that operating costs for the proposed houseboat operations would be about 60% of receipts. In this case, total operating costs are comprised of all annual operating expenditures including the cost to store the houseboats off-site during the off-season, but excluding replacement, interest, tax, and depreciation expenses, and in this case the operating costs also account for the expense. In this model, we assumed that the houseboats have a useful life of 16 years.[29]

Based on the above, we determined that the proposed houseboat operation would need to generate just over $1.7 million in annual revenues, or about $82,000 per year per boat to achieve financial feasibility (excluding inflationary growth and assuming nineteen of the twenty houseboats would be operational at any one time). Therefore, at an average fee of $1,000 per night, the 19 boats would need to be rented about 90 days per year, or about 60% of the time during an assumed May to September season. Achieving this level of demand appears reasonable, as most houseboat operation managers with whom we spoke reported nearly 100% occupancy throughout the summer and about 40% average occupancy during the shoulder months of May and September, or about 68% overall in an assumed May to September season.[30]

Validating our conclusions, houseboat operations expert Dave Smith of Water Resorts, Inc. (Houseboats.com), told us that houseboats should be expected to realize 45% of their capital costs (excluding capital costs) per year in a seasonal operation, or in the case of our analysis,

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[29] It was difficult to estimate the useful life of a houseboat due to the lack of consensus on this issue. According to Dave Smith at Water Resorts, Inc. (Houseboats.com), houseboats have a life of 20 years, and a resort operator should be able to sell each houseboat after ten years and recoup half of his/her money. In our model, we assumed a more conservative useful life of 16 years. This estimate is more consistent with conversations with houseboat operation managers.

[30] We spoke to houseboat operators at Lakes Shasta, Mead, Mojave, Don Pedro, and New Melones. We found that houseboat fleets ranged in size from 20 to 50 houseboats, and that all houseboat operators endorsed high-end, brand-new houseboats regardless of the mean household income of the visitor base.

$90,000 per houseboat in annual sales. The lake's beauty, sinuosity of its shoreline, the mild spring and fall weather, and the lack of competition all suggest that a houseboat operation at Berryessa could be very successful. In fact, we suspect that demand will warrant additional expansion of the houseboat operation beyond that proposed. However, because of the high capital costs associated with houseboats and, in truth, the unknown demand for this service at Berryessa, we recommend initially opening only the single houseboat operation as described in evaluated.

7. Other Boat Rentals

In analyzing the feasibility of other boat rental services at the LBRA, we assumed that under Phase I such boat rental services would be provided at the Markley Cove and Steele Park locations, which together would make available 20 ski boats and 16 personal watercrafts (PWC). (We assumed that the water ski operation will have its own fleet of boats that they use for water ski camps only. The proposed water ski operation is discussed separately, below.) The boats can be anchored in open water during the season and stored off-site during the off-season, and they can be repaired, and fueled at the proposed marina docks. This model does not include the cost of office space, presuming that the marina operation will have adequate office space to support the boat rental operations. We assumed that the boats would rent for an average of $275 per 8-hour day, a rate consistent with average rates for ski boats and PWC at comparable lakes.

We were unable to obtain published estimates of the operating costs of a boat rental operation or segregate non-houseboat boat rentals from the overall marina financial statements we did obtain. Therefore, we estimated the operating expenses of the proposed boat rental service based on a combination of interviews with marina operators and professional judgment, concluding that the costs for the proposed boat and PWC rental services would run at about 30% of receipts. In this case, we assumed total operating costs to be annual operating expenditures before replacement, interest, tax, and depreciation expenses. We separately accounted for the annual average anticipated expense to replace the boats and PWCs as necessary. This expense is substantial because of the generally short useful lives of these vessels. According to marina operators, ski boats used for rental operations have useful lives of five years and PWCs used for rental

operations have useful lives of one year only. Therefore, instead of including a reserve for capital replacement of 4% of gross revenues in our assessment of operating expenses (as we did for many other concession service categories), we assumed that the potential concessionaire(s) would replace all of its rental PWCs and 20% of its other rental vessels each year, conservatively assuming no salvage value at the end of the projected lives.

Our cash flow model indicates that the boat rental operations would need to generate approximately $543,000 a year in receipts to achieve an appropriate rate-of-return on investment. Assuming 90%, or 33 of the boats and PWCs would be available at any one time, this level of sales translates into 55 8-hour days per year of use per boat, or 17% annual rental occupancy.

The level of demand necessary to achieve feasibility appears to be realistic. Operators of concession operations at Lakes Shasta, Don Pedro, and New Melones have found that utilization is between 80% and 90% in the summer and remains substantial on shoulder-season weekends as well. Further, financial information from comparable boat rental concessions demonstrate that boat rental operations of a similar scale to that proposed at Berryessa generate revenues comparable to the revenues necessary for the proposed Berryessa boat rental operations to achieve feasibility.

Note that the scale of a boat rental operation is highly scalable. Specifically, it will not be necessary for the next concessionaire(s) to invest in a large fleet of boats or PWCs the first year following contract inception. Instead, the concessionaire(s) could initially invest in a smaller number of boats than we analyzed here and quickly expand the fleet as demand warrants. This strategy would also allow the concessionaire(s) to remain flexible to any changing policies concerning PWCs, engine types, or fuel additives such as MTBE's that might constrain such a rental service in the future.

8. Dry Boat Storage

Alternative B stipulates the construction of dry boat storage at the Rancho Monticello location, but provides few specific associated details. Dry boat storage appeals to boat owners, primarily

because it protects boats against bottom fouling and (if sheltered) deterioration from ultraviolet radiation, rain, and wind. If combined with an efficient service for transferring the boats between storage and the water, the storage service can provide the additional convenience of avoiding ramp traffic. A concessionaire can even provide "valet" service, where boat owners can arrange for the concessionaire to have their boats placed in the water at a courtesy dock, full of gasoline, and even supplied with ice, bait, food and beverages, all simply by making a phone call to the storage operator. For this reason, we initially expected that dry storage, and particularly dry stack storage, would have a positive financial impact on the proposed concessions, particularly since Lake Berryessa is near relatively high-income regions of Northern California such as Napa and the Bay Area. (Studies have shown that preference for dry stack storage versus wet boat slips increases as per capita income of the boat owners increases.[31])

We analyzed the projected cash flows for dry stack storage and concluded that in fact, dry stack storage at Berryessa is not as promising a business opportunity as anticipated. Based largely on discussions with a marina engineer and review of a previous dry stack storage feasibility study,[32] we concluded that the fixed capital and operating costs, such as those for the necessary storage shed and forklift, are such that dry stack storage is generally unprofitable for operations with less than 120 racks, and provides a reasonable rate-of-return only at a size of 200 racks or more, assuming near-capacity occupancy. Demand notwithstanding, space will most likely be an issue in the planning of the proposed concessions, and thus such a large dry stack storage facility may not be physically feasible. Further, our research indicated that the demand for dry-stack storage is highest by owners of second-homes on or near lakes. With the proposed removal of the long-term trailers, this demand base will be greatly reduced and thus the future demand for such storage highly uncertain. Accordingly, we recommend excluding dry stack storage as a minimum requirement for the Lake Berryessa concession contractor(s).

Note, however, that it is easy, relatively inexpensive, and potentially lucrative to include dry stand storage (non-stack) in the proposed concession operation(s). There are various ways to provide dry stand storage, ranging simply from providing unfenced, open space to supplying

[31] International Marina Institute, 1992.

trailers, valet service, and intricate security systems. For our analysis, we assumed a barebones dry storage facility for 100 boats would be provided at the Rancho Monticello site – in the form of a simple lot surrounded by a locked, 10-foot fence. Thus the associated capital investment costs would be simply the cost of the fence, some minor landscaping/grading, as well as a small share of distributed infrastructure. Our model assumed that dry storage customers would have their own trailers, and would simply need to ask a concession employee at Rancho Monticello to open the gate for boat retrieval. We assumed that such a dry boat storage facility would rent spaces for an average of $80 per month, reflecting a $4 per foot per month fee and store boats with an average length of 20 feet. This fee is consistent with the low end of similar dry storage operations at lakes throughout California and seems appropriate for the minimal service dry storage services assumed in our analysis. Operating expenses are conservatively estimated to be about $11,000 per year, based on two hours per day of labor and 10% of the estimated capital cost of the fencing for annual maintenance.

Because of the small capital cost involved with creating a dry storage lot, our cash flow model indicates that the operation would require only $29,000 per year in rental revenues to achieve financial feasibility. This translates to about 30% occupancy, which is lower than what we would expect a potential concessionaire to achieve, suggesting that such a storage facility would be financially feasible. Additionally, simple dry storage of this kind is easily scalable and is really only limited by the availability of space. While the developable space at the Rancho Monticello site may prove to be a limiting factor in the proposed Phase II expansion, there will be ample space under Phase I at the proposed Rancho Monticello concession for dry-stack storage. Therefore, a potential concessionaire may want to include more simple dry storage space than is proposed in this analysis, as the availability of dry storage will likely channel visitors to the other concession services.

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[32] Conversation with Tim Bazley, of Blue Water Design Group, and Dornbusch Associates financial feasibility analysis of Spud Point Marina, May 2000.

9. Restaurant

Phase I of Alternative B recommends that full-service food and beverage service (restaurants) be provided at two of the proposed development sites. A standard, 2,500 square foot size for each restaurant was recommended for Lake Berryessa by a restaurant industry expert and thus adopted for the analysis.[33] In actuality, however, a potential concessionaire would likely scale the restaurant to be consistent with both the relative size and theme of the rest of the nearby concession facilities. Based on a review of restaurant operating statistics available from the National Restaurant Association, we assumed that the per-person check at the proposed restaurants would average about $12 (average between lunch and dinner). We also assumed that while some alcoholic beverages would be made available at the restaurants, they would primarily be configured to provide sit-down, family style service. Again, these generalizations will need to be fine-tuned by a potential concessionaire to be consistent with the specific restaurant theme and scale.

Restaurants are often not very profitable due to the high costs of equipment, food and supplies, food spoilage, and labor. Of the nearly 1,500 restaurants surveyed for the National Restaurant Association's Restaurant Industry Operations Report,[34] 30% reported being unprofitable based on operating expenses alone (i.e., before accounting for capital costs). According to the Restaurant Industry Association, average operating costs for full-service single-unit restaurants are 85% of gross receipts. Again, we assumed total operating costs to be annual operating expenditures including a capital replacement reserve but excluding interest, tax, and depreciation expenses.

Based on estimated construction costs, substantial FF&E expenses, and operating expense ratios, we concluded that each of the two proposed restaurants would need to generate on average about $363,000 per year in sales (excluding inflationary growth) to return 15% on the concessionaire's

[33] Conversation with Adam Block, of Block and Associates 4/23/02.
[34] 1998 Restaurant Industry Operations Report, National Restaurant Association.

investment.[35] This revenue translates to about $1,000 in sales per day per restaurant year-round, or about 83 people per day per restaurant assuming an average check per cover of $12. 83 people per day at two restaurants translates into over 60,000 diners annually, or over 5% of the estimated total number of visitors to Lake Berryessa in 2001.

Our research revealed that restaurants in marina resort concessions are generally break-even or not profitable. 2000 to 2001 restaurant revenues at eight comparable concessions for which we obtained financial information ranged from $120,000 to nearly $400,000, depending in large part on the length of season and hours of daily operation. However, on average, these eight restaurants experienced a loss of 17% on total receipts, even before accounting for overhead or capital replacement.

On the other hand, relatively simple restaurant menus and operations, and restaurants that do a large bar business can prove viable. To illustrate, the current Steele Park concession, generated about $250,000 in food and alcohol revenue in 2000, realizing a departmental net income of about 10% (before the any expenditures on facility capital replacement).

Interviews with resort operators at Lakes Shasta, Mead, Mojave, and Don Pedro suggest that while restaurants are usually the least profitable component of their operations, they are a critical and complimentary service in the context of the overall concession enterprise particularly if there are no alternative eating places nearby. Additionally, the demand for food and beverage services will most likely increase with the removal of the long-term trailers, as trailer tenants are much more likely to bring their own food to Lake Berryessa than other day-use and overnight visitors. Furthermore, the proposed Phase I development will force all restaurant demand (from marina activities at seven resorts) through just two full-service restaurants. Because of the lack of alternative nearby food and beverage options, the likelihood of financial success at the two proposed restaurants is better than at many of the other lakeside resorts we analyzed, where there

[35] Stand-alone restaurant operations are often evaluated applying higher rate-of-return assumptions due to their inherent risk and limited profitability. In this model, we evaluated the restaurant component at an assumed 15% IRR, because the restaurant is one part of a larger operation, which includes many relatively lower-risk enterprises and helps to diversify the risk of individual components. Additionally, all marina resort managers with whom we spoke asserted that food and beverage service is an integral part of a marina resort, and cannot be eliminated despite its limited profitability.

is significant competition. For this reason, we recommend that food and beverage services remain a part of the Phase I, but that potential concessionaires be offered the opportunity to propose cost-cutting measures such as seasonal food operations, limited table service, and/or limited menus.

10. Limited-Service Restaurant (Snack Bar)

Alternative B recommends that there be fast-food snack bars at two of the development sites in Phase I of the contract, at the Pleasure Cove and Steele Park locations. The standard, 1,500 square foot size of each snack bar was the size recommended for Lake Berryessa by a restaurant industry expert and thus assumed for the analysis.[36] In actuality, however, a potential concessionaire should scale the snack bar to fit both the size and theme of the concession, and consider how to best complement any full-service restaurant at the site. Based on a review of restaurant operating statistics available from the National Restaurant Association, we assumed that the per-person check of the proposed limited-service restaurants would average about $6. We also assumed that alcoholic beverages would not be made available at these snack bars.

Like full-service restaurants, snack bars also incur high costs of equipment, food and supplies, food spoilage, and labor costs. Of the 175 limited-service fast food restaurants surveyed in the National Restaurant Association's Restaurant Industry Operations Report,[37] 27% reported being unprofitable based on operating expenses alone, and not including capital costs. According to the Restaurant Industry Association, average operating costs for limited-service single-unit restaurants are 81%. Consistent with the rest of our analysis, we assumed total operating costs to be annual operating expenditures including a reserve for capital replacement but excluding interest, tax, and depreciation expenses.

Based on the above, we estimated that each of the proposed snack bars would need to generate on average about $112,000 per year in sales (excluding inflationary growth) to return 15% on the concessionaire's investment. This revenue translates to nearly $310 in sales per day per snack

[36] Conversation with Adam Block, 4/23/02.
[37] 1998 Restaurant Industry Operations Report, National Restaurant Association.

bar year-round, or an average of about 51 customers per day or over 37,000 customers per year assuming an average bill per person of $6 (approximately 3.4% of the estimated total number of visitors to Lake Berryessa in 2001). Put in different terms, assuming that about half of the snack bar revenues are generated in the three summer months of June, July, and August[38], this level of sales would require about 101 customers a day per snack-bar in the summer, and about 34 people per day during the other nine months of the year.

Compared to our limited information regarding revenues of the snack bars at the current concessions, the revenue necessary to achieve feasibility under the new contract is high.[39] However, as noted above, the shift in visitor population away from long-term trailer tenants is expected to yield a much higher per capita use of concession food and beverage operations, as we have learned that most long-term trailer tenants bring their own food with them to the Lake. And, snack bars will be a necessary complement to the other visitor services, regardless of their contribution to overall concession profits. We recommend that potential concessionaires be offered the opportunity to propose the nature of the food and beverage service that they consider most appropriate given the nature and scale of their other operations so that they may maximize the profitability of these food service operations.

11. Retail Store

a. Permanent Retail Space

For the analysis of retail development at Berryessa, we assumed that three retail stores would be constructed under Phase I, at Markley Cove, Pleasure Cove, and Steele Park. The standard, 2,000 square foot size assumed for the analysis was developed from Marshall & Swift construction information, but would be adjusted to fit the visitor needs of each individual concession. We assumed that the stores would most likely resemble a general convenience store, although they would certainly offer a number of items not typical of a convenience store, such as

[38] According to interviews with current LBRA concessionaires operators and managers.
[39] Rancho Monticello's snack bar generated about $74,000 in 2001, and Lake Berryessa Marina's snack bar earned only about $31,000 in 2001 (from AFR's; all figures adjusted into 2003 dollars).

fishing-related gear, fishing licenses, and sundry goods (like t-shirts, etc.). Although any potential concessionaire will also need to invest in inventory for the retail stores, we assumed for our analysis that the up-front inventory costs to the concessionaire would be negligible due to available vendor credit.

Based on financial statistics provided by the National Association of Convenience Stores, we determined that it is reasonable to assume that operating costs (total annual expenditures including a reserve for capital replacement but excluding interest, taxes, and depreciation) for the proposed stores would be about 85% of receipts.

Based on these assumptions, we determined that the retail stores would be feasible if they were each to generate on average about $200,000 in annual receipts (excluding inflationary growth). We believe this level of demand should be achievable, as the current Lake Berryessa retail stores earned an average of about $239,000 each, in 2003 dollars. Also, as mentioned above, we expect the shift in visitor population away from long-term tenants will further increase demand for food and other provisions. Financial information from retail operations at comparable lakes further supports the likelihood of this threshold demand. Lastly, interviews with marina resort operators suggest that despite relatively low merchandise profit margins, retail stores generally represent a vital and profitable component of marina resorts.

b. Portable Retail Store

Phase I of Alternative B includes limited retail space for providing sundries, snacks, and some basic boating supplies at the Spanish Flat, Lake Berryessa Marina, Rancho Monticello, and Putah Creek locations. Given the low level of initial Phase I development at these locations, and the limited projected revenue stream associated with this development, we recommend that the potential concessionaire use portable buildings at these sites that are leased, thus requiring no initial construction investment. As with our analysis of permanent stores above, we assumed that the up-front inventory costs for these smaller retail operations would be negligible due to available vendor credit. We also assumed that the portable buildings would be 8 feet by 16 feet (128 square feet), operate without electricity or water (day-use only), and cost $2,000 per year to

lease.[40] [41] While this operation is of a much smaller scale than a full convenience store, we assumed, as we did for the permanent retail stores, that operating costs for these portable stores would run at 85% of revenues.

Because of the lack of initial investment and the monthly rental structure, we did not evaluate these portable stores using discounted cash flows (since the discounted cash flow models used in the rest of this analysis evaluate return on initial investment, and virtually no investment will be required). Additionally, we were unable to find a similar operation on which to base expected revenues.[42] Instead, we simply inserted into our overall model an estimated amount of sales that we deemed reasonable given the anticipated level of development at each site, $20,000 in sales per site, which translated into an average of $27,000 per portable store when accounting for a small share of the distributed infrastructure costs. Assuming these portable stores are open from May through September, this translates to under $180 per day in sales per portable concession stand. We believe that these portable retail spaces will complement day use at these sites, and may generate an even greater level of sales than necessary to achieve feasibility. However, given the negligible associated initial investment, these portable stores would have little overall effect on the LBRA concession operation as a whole, and thus a more exact financial assessment is not crucial to this analysis.

12. Water Ski Operation

Alternative B includes a water ski instruction center at the Steele Park location, which we assumed to be similar in scope to the existing operation, Willi's Water Ski Center, which runs

[40] Rate and size were provided by a representative from Sani-Hut Company, a company which leases portable concession buildings.

[41] According to Reclamation wishes, we assumed in this model that there would be no electricity at the limited development concession sites. If the incoming concessionaire feels that a basic level of electricity is necessary for even a small retail concession (to provide ice cream and deli food, for example), then the concessionaire may want to veer from this model and instead introduce a truck or electricity generator to the proposed limited development sites.

[42] The Sani-Hut Company representative was unable to help estimate revenue stream associated with these concession buildings. As expected, the revenues associated with these portable, 128 square foot concession buildings depend on what is sold as well as the location of the concession and associated foot traffic.

camps and day lessons in the closed-off private cove near Steele Park.[43] For the analysis, we assumed this operation would run camps and instruction at all skill levels for six to ten students per day, and remain open for six months of the year (assuming five days per week only, based on similar operations), from April through October. We estimated that a 1,500 square feet building would be necessary to store equipment, house a small office, and provide on-land instruction.[44] Additionally, we assumed that the initial investment would include the cost of three boats and FF&E (including water ski equipment). We assumed that the water ski operation would realize an average rate of $150 per day per skier. This rate is actually slightly lower than the rates currently charged by Willi's Water Ski Center, but consistent with the rates charged at other water ski schools in California.[45]

We were unable to find published operating cost statistics for water ski operators such as the one proposed for the LBRA concession. However, based on interviews with operators of similar operations, we used a ground-up approach to estimate expenses, accounting for salaries, camp insurance, and a reserve account for facilities improvement (RAFI) associated with the short life and high maintenance cost of ski boats.[46] Based on the scale of the current operation, we assumed that three full-time instructors would be required to run the operation during its anticipated six months of annual operation.

Based on the above, we calculated that the water ski operation would need to generate $132,000 in sales to achieve financial feasibility. This figure translates into a 68% utilization rate of total capacity (10 students per day) throughout the six-month season. According to operators of similar water ski centers, utilization is near capacity during the three summer months (with most water ski camps sold-out), and is significantly lower in the shoulder season. Therefore,

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[43] According to water ski operators with whom we spoke, having a private cove in which to operate the water ski classes is crucial to the success of a water ski center, and it would be difficult to be financially self-sustainable without such a cove.

[44] The potential concessionaire may be able to take advantage of economies of scale by sharing building space (among various concession components) at the Steele Park location. In this model, however, we evaluated each component separately, both to be conservative in our cost estimations and also to isolate the projected returns on each individual component.

[45] Despite numerous attempts, we were unable to speak with management at Willi's Ski School, and Reclamation did not provide us with any financial information regarding the water ski operation. Therefore, we were unable to learn the justification for the relatively high rates at Willi's Ski School.

[46] Interviews with operators of Boot Camp, Soda Lake Ski School, and Cutting Edge Ski School.

assuming the proposed water ski operation achieves 90% capacity in the three summer months, it would need to realize just under 50% utilization rate in the three shoulder season months. It is uncertain whether this shoulder season utilization will be achieved. According to operators of water ski camps and centers, these types of operations can be profitable if run correctly, but are not known to be particularly lucrative businesses. Also, the interviews revealed that popularity of water ski operations often depends on the fame (in the water ski world) of the water ski instructor, a variable that is impossible to incorporate into a financial model. Therefore, we conclude that the necessary level of revenue to achieve financial feasibility at the proposed water ski center may be reasonable, and that the details of this operation will need to be revisited closer to its implementation.

VII. Conclusions

Table 3 presents a summary of the threshold level of revenues necessary to achieve financial feasibility, by concession component. These thresholds represent the *minimum* revenues that need to be generated by each concession component under Phase I of Alternative B for those components to represent a viable business opportunity for prospective concessionaires. The thresholds in the table do not represent an assessment of the probable demand for concession services (as the next concessionaire may well achieve a revenue stream substantially different than the thresholds). We evaluated the threshold revenue indications of our analyses in terms of the corresponding necessary occupancy and utilization rates. We concluded, based largely on historical LBRA concession and other regional lakeside hospitality enterprise performance that it is realistic to expect the proposed concession development to meet or surpass the threshold revenue levels. Accordingly, we conclude that the Phase I of Alternative B is financially feasible at the conceptual level proposed, , and applying the costs to upgrade the associated infrastructure as directed by Reclamation.

As presented in the Table 3, the proposed Phase I development of Alternative B would require about $23 million in initial capital costs, and would need to realize a minimum threshold of about $7.2 million in revenues, in 2003 dollars, to achieve feasibility.

Table 3: Costs and Sales Necessary to Achieve a 15% Rate of Return, by Concession Component

(In 2003 Dollars. Rounded to the nearest thousand dollars.)

Enterprise	Quantity (# Locations)	Unit	Total Capital Cost[1]	Necessary Sales to Achieve 15% Return
Hotel/Motel	30 (1)	Rooms	$1,335,000	$465,000
Cabins/Cottages	28 (1)	Units	$873,000	$255,000
RV Sites	300 (3)	Sites	$4,833,000	$894,000
Tent Sites	250 (2)	Sites	$1,141,000	$189,000
Group Tent Sites	3 (1)	Group Sites	$117,000	$21,000
Marina (Slips, launch, and fuel)	601 (3) 7 (7)	Slips Ramps	$6,277,000	$1,311,000
Houseboats	20	Houseboats	$4,605,000	$1,701,000
Other Rentals	36 (2)	Boats	$1,072,000	$543,000
Dry Storage	100 (1)	Boats	$128,000	$29,000
Restaurant	2 (2)	Restaurants	$1,058,000	$725,000
Snack Bar	2 (2)	Snack Bars	$381,000	$224,000
Store	3 (3)	Stores	$813,000	$601,000
Portable Store	4 (4)	Units	$177,000	$108,000
Water Ski Center	1	Center	$287,000	$132,000
Total			**$23,093,000[2]**	**$7,198,000**

[1] Total Capital Cost includes distributed allocation of infrastructure upgrade costs.

[2] The sum of the line items do not add exactly due to rounding error.

Our analysis was somewhat limited by lack of historical information regarding the usage and financial operations of the current Lake Berryessa concessions. Without usage numbers, trends, and/or financial information broken down by concession component, much of our assessment of the current Lake Berryessa concession operations is based on interviews with Lake Berryessa concession and other lakeside hospitality enterprise operators. However, due to the anticipated shift of the LBRA visitor base (and their associated spending habits) from long-term trailer tenants, knowledge of the operations of the current Lake Berryessa concessions provided only limited insights to future demand for LBRA concession services following Phase I implementation, and thus are not integral to this analysis.

Additionally, we believe that the infrastructure upgrade costs provided by Reclamation (and that we were directed to incorporate directly into our analysis) will, at some stage, need to be reassessed, so that infrastructure costs correspond to the level of infrastructure that will actually be required to support Phase I concession operations rather than a simple upgrade of existing infrastructure. This disparity is of particular concern when evaluating certain components of Phase I that will clearly require additional infrastructure beyond that which is already in place. These include, in particular, the Phase I proposals to replace RV sites that currently do not have full hook-ups (electricity, water, and sewage) with those that do, and to open a new houseboat operation that will require a considerable number of parking spaces per vessel (spaces that are currently not available at the proposed development site). Further, the infrastructure upgrade costs estimates provided by Reclamation that we adopted for our analysis do not account for any infrastructure-related expenditures at three of the four LBRA sites where only limited development would be implemented under Phase I. The next concessionaire, however, may find that some upgrade of the infrastructure at these sites will be necessary to provide even the limited services that will be required. On the other hand, the infrastructure upgrade costs include $2.7 million for one of the four LBRA sites where only limited development would be implemented under Phase I, the Rancho Monticello resort location. This expenditure level may prove excessive given the minimal nature of concession services to be provided at that site under Phase I.

VIII. Socio-Economic Impacts

The purpose of this section is to evaluate the potential regional socio-economic impacts of the proposed concession development under Phase I. These impacts can be separated into two primary categories: those impacts that may result from expenditures to construct/rehabilitate concession facilities and supporting infrastructure ("construction phase") and those impacts that may result from expenditures of visitors on concession goods and services once the concession is operational ("operations phase").

Napa County was selected as the primary geographic study area for the socio-economic analysis, as the LBRA is located entirely within the County. While the socio-economic influence of concessions at the LBRA may extend beyond the County's borders, particularly into Yolo and Solono Counties where many concession employees may reside, the majority of LBRA concession-related economic effects, including all direct job creation, was assumed to occur within Napa County. It should be noted that defining a County as the primary study area, rather than designating an ad-hoc geographic boundary, facilitates the impact analysis since much of the relevant socio-economic data available from federal, state and local sources is aggregated at the county level.

A. Methodology

The input-output model IMPLAN was used to quantify the direct and secondary economic impacts associated with the proposed concession development. The model was originally developed by the U.S. Forest Service to conduct this type of regional economic assessment. Input-output models, like IMPLAN, are well regarded and used all over the world to characterize regional and national economies, and to quantify potential economic impacts from commercial and public developments as well as changes in policy and resource allocation. IMPLAN provides estimates of the direct and secondary economic effects that result from an initial stimulus to a business sector (e.g., agriculture, construction, transportation & utilities, etc.). In the current case, for example, the stimulus includes spending in the Napa County construction sector to construct and rehabilitate concession facilities and infrastructure. The IMPLAN model

calculates a range of economic metrics, most importantly the effects of spending changes on industrial output, personal income and employment within a specified region. Industrial output represents the total value of production of goods and services. Personal income is derived from employee compensation and proprietor income. This includes, but is not limited to, wages, benefits, rents, and income to business owners. Employment impacts are measured in full-time equivalents or FTEs (one FTE equals 2,080 hours of work). The employment impacts indicated by the IMPLAN model were used to separately evaluate the potential population, housing and infrastructure effects of Phase I of Alternative B.

B. Socio-Economic Baseline

An important step in evaluating the potential socio-economic effects of the proposed LBRA concession development is to characterize the existing socio-economic conditions (or baseline) within the chosen study area. This baseline provides a benchmark to evaluate the magnitude of impacts indicated by the IMPLAN model, and, to determine if adequate labor resources are available within the study region to meet the anticipated labor needs of the concession development.

Relevant socio-economic statistics for Napa County were obtained from a number of sources including the California Departments of Finance and Employment Development, the U.S. Census and the IMPLAN model output itself.

Just north of the San Francisco Bay, Napa County covers 788 square miles. The County is recognized internationally for its wine production, and for that reason, has become an important tourist destination. In the year 2002, the County had a total population of 128,000, almost 60% of which resided in the city of Napa. Since 1990, the County population has grown at an average annual compound rate of about 1.2%. The California Department of Finance projects the County's population to increase another about 30,000 by the year 2020.[47]

[47] California Department of Finance, 2003.

In the year 2001, Napa County had an employment base of 64,400 jobs. In that same year, the County's unemployment rate was 3.3% well below the statewide rate of 5.3%. Recent job growth in Napa County has been quite robust. For the period 1997 through 2001, employment in the County increased by 10,500 wage and salary jobs, or about 15%. Much of this expansion occurred in the agricultural and service sectors.[48]

Table 4 summarizes year 2001 Napa County employment by broad industrial sector. The table indicates that the County economy is relatively well diversified with relatively large manufacturing, trade and service sectors. A portion of manufacturing sector employment is involved in the production and bottling of wine. Tourism is not considered its own industrial sector. Instead, tourism jobs are found mostly in the services sector, but also appear in retail and wholesale trade and government sectors (Bureau of Reclamation, for example).

Table 4

Industrial Sectors	# FTE Jobs
Agriculture	5,500
Construction & Mining	3,900
Manufacturing	10,600
Transportation and Utilities	1,600
Retail and Wholesale Trade	12,500
Finance, Insurance and Real Estate	2,400
Services	17,900
Government	9,700
Total	**64,400**

Source: California Department of Finance 2003

Total Napa County personal income in 1999 was approximately $4.23 billion or $34,935 per capita, ranking 7th in county per capita income statewide.[49] Total industrial output for the County in the year 2000 was about $8.5 billion.[50] The median price of a home in the County as of December 2001 was $312,500, and the overall vacancy rate that year for the County's approximately 49,000 housing units was approximately 6.5%.[51]

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[48] California Department of Finance, 2003, and California Employment Development Department.
[49] U.S. Census Bureau, 2000.
[50] Micro-ImPlan Group, 2003.

C. Socio Economic Impacts of Phase I Project Development

The purpose of this section is to evaluate the potential economic impacts of anticipated construction-related activities proposed under Phase I of Alternative B ("project development"). Spending on labor, materials and services to construct new concession facilities and upgrade/rehabilitate existing concession facilities and infrastructure at LBRA will impact Napa County industrial output, employment and personal income. At this time, a time schedule for project development has yet to be formulated by Reclamation. Accordingly, for this analysis we reasonably assumed that project development would occur over a two-year period during which there would be a full cessation of concession activities at the lake.

As discussed previously, total project development costs are estimated at almost $23.1 million in 2003-dollar terms. Lacking more specific information, it is assumed that half this cost, $11.55 million, will be spent during each of the two years assumed for project development. The direct expenditures of $23.1 million ($11.55 million per year) will trigger secondary rounds of spending that will in turn generate additional regional industrial output, employment, and personal income. Offsetting the positive economic effects of this spending will be the elimination of economic activity at the lake as the existing concession facilities are closed/demolished and concession services are no longer made available during construction. There is no available information regarding the employment and personal income generated by the existing concessionaires. However, and as discussed previously, recent reported LBRA concession revenues have averaged approximately $12.7 million for the seven concession operations combined (estimation, in 2003 dollar terms), including about $5.0 million from long-term trailer rental fees.

Thus, one might conclude, based purely on a comparison of recent concession revenues and projected concession-related construction spending, that during project development, much of the anticipated construction-related positive economic impacts may be offset by the elimination of concession-related service and retail sector positions. Despite this mitigating factor, we still felt it relevant to the planning process to evaluate the potential construction-related effects of

[51] California Department of Finance, 2003.

project development, primarily to characterize the project's overall scale in the context of the regional economy.

- **Project Development Industrial Output Impacts**

The estimated contribution to Napa County industrial output from project development is estimated to be about $38.5 million over the two-year period implementation period (in 2003 dollar terms). The $38.5 million represents approximately 0.2% of recent total annual industrial output in the County. Thus, project development will have only a negligible impact on County industrial output even before accounting for any probable offsetting effects resulting from a cessation of concession operations during project development. It should be noted that based on their recent combined sales, the current LBRA concessions have historically only made a negligible contribution to the Napa County economy.

Among Napa County's industrial sectors, the construction sector will be the most significantly impacted by project development, experiencing an estimated total output increase of about $23.1 million over the two-year implementation period. The majority of the remaining approximately $15.4 million of industrial output generated will occur in the services, trade and FIRE sectors (finance, insurance and real estate), which together should realize approximately $9.7 million in output due to project development.

- **Project Development Employment Impacts**

The total estimated contribution to Napa County employment from project development is estimated to be the creation of about 185 new jobs (which represents about 0.3% of recent total employment in the County, a negligible effect). Accordingly, even before accounting for the offsetting loss of concession operation-related jobs during project development, project development will have only a negligible impact on regional employment (again noting that based on their recent combined sales, the current LBRA concessions have themselves historically only made a negligible contribution to the Napa County economy).

The Napa County construction sector will be the most significantly impacted sector, realizing a total estimated increase in employment of 89 jobs during project development. These jobs would increase the employment base in the County's construction sector by about 2.3% over recent levels, a relatively minor effect, and one that can easily be accommodated by the current unemployed portion of the region's labor force. The remaining approximately 95 jobs created secondarily by project construction activities will be generated primarily in the services and trade sectors.

- **Project Development Personal Income Impacts**

The total estimated contribution to Napa County personal income from project development is estimated to be $7.4 million annually during each of the two years anticipated for construction, which represents about 0.2% of recent total personal income in the County. Accordingly, even before accounting for the offsetting loss of concession operation-related jobs during project development, project development will have only a negligible impact on regional personal incomes (again noting that based on their recent combined sales, the current LBRA concessions have themselves historically only made a negligible contribution to the Napa County economy).

- **Project Development Population, Housing and Infrastructure Impacts**

Due to the relatively negligible anticipated regional economic effects of project development even before consideration of the offsetting loss of economic activity with closure of the existing LBRA concessionaires, it is reasonable to conclude that the project associated effects on regional population, housing and infrastructure will also be negligible. (Again, it should be noted that based on their recent combined sales, the current LBRA concessions have themselves historically only made a negligible contribution to the Napa County economy and thus have had a negligible effect on regional population, housing and infrastructure).

D. Socio Economic Impacts of Phase I Concession Operations

The purpose of this section is to evaluate the potential economic impacts of anticipated concession operations proposed under Phase I of Alternative B ("concession operations") following project development. Spending by visitors at Lake Berryessa concessions affects Napa County industrial output, employment, and personal income. These direct impacts have secondary effects as well, as spending is generated in related sectors. For example, the concession restaurants purchase supplies from vendors in the county. These purchases generate personal income for the vendor's proprietor and employees, and in turn results in further spending in the regional economy.

As discussed previously, total threshold revenues necessary for a concessionaire to achieve financial feasibility in developing and operating Phase I of Alternative B are estimated to be approximately $7.2 million annually in 2003-dollar terms. While certainly the concession may generate more revenues than the threshold levels concluded earlier in this report, we limited the impact analysis to the threshold amounts determined for the purpose of feasibility evaluation. We did so because we lacked the basis to develop specific projections regarding demand and therefore visitor concession spending beyond the threshold level. Offsetting the positive economic effects of visitor spending at the new concession operation will be the elimination of economic activity at the lake associated with the existing concessions. There is no available information of the employment and personal income generated by the existing concessionaires. However, based on recent reported LBRA concession revenues which have averaged approximately $12.7 million for the seven concession operations combined (in 2003 dollar terms) including about $5.0 million from long-term trailer rental fees, it would appear that the new concession operation will have very little net effect on the regional economy. (Although, as noted previously, according to Reclamation many of the existing concessions historically have operated understaffed and the long-term trailer operations require very little labor.) Despite this obvious mitigating factor, we felt it relevant to evaluate the potential effects of the proposed concession to characterize the operation's scale in the context of the regional economy.

- **Concession Operations Output Impacts**

The total estimated direct and secondary contribution to Napa County output from concession operations is estimated based on the IMPLAN model to be almost $13.0 million (in 2003 dollar terms). This output represents about 0.15% of recent total annual industrial output in the County, a negligible amount. About 70% of this output effect, or $9.0 million, will occur in the services sector (including lodging, eating & drinking places and marina services).

- **Concession Operations Employment Impacts**

The total estimated direct and secondary contribution to Napa County employment from proposed concession operations is estimated based on the IMPLAN model to be almost 140 FTEs. This employment represents about 0.2% of total recent employment in the County. About 70% or nearly 100 of these jobs will be in service-related positions (primarily in lodging, eating & drinking places and marina activities).

- **Concession Operations Personal Income Effects**

The total estimated direct and secondary contribution to Napa County personal income from proposed concession operations under Phase I of Alternative B is estimated based on the IMPLAN model to be almost $4.4 million (in year 2003 dollar terms). This personal income represents slightly more than 0.1% of recent total personal income in the County. About 65% of this income will derive from service-related fields (primarily from lodging, eating & drinking places and marina activities).

Due to the relatively negligible anticipated regional economic effects of operation of the concession under Phase I of Alternative B even before consideration of the offsetting loss of economic activity with closure of the existing concessionaires, it is reasonable to conclude that the effects of the proposed concession operation on regional population, housing and infrastructure will also be negligible.

- **Concession Operation's Population, Housing and Infrastructure Impacts**

Due to the relatively negligible anticipated regional economic effects of the concession operations proposed under Phase I even before consideration of the offsetting loss of economic activity with closure of the existing LBRA concessionaires, it is reasonable to conclude that the concession operations-associated effects on regional population, housing and infrastructure will also be negligible.