

BLUE RIDGE BERRYESSA

NATURAL AREA

BRBNA ECONOMIC STUDY

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Prepared by

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For the

Blue Ridge Berryessa Natural Area Partnership

Blue Ridge Berryessa Natural Area
Economic Study

EXECUTIVE SUMMARY

The purpose of the study presented in this report is to provide economic information relating to the possible establishment of a formally-designated natural area in the Blue Ridge Berryessa Region.

Study Area. The Blue Ridge Berryessa Natural Area (BRBNA) is comprised of roughly 300,000 acres lying in California's Coast Range in the counties of Napa, Yolo, Lake, Solano, and Colusa. The lands within the BRBNA are rural: there are no incorporated cities and highway access is limited. Existing uses are primarily agricultural and/or recreational, and much of the land remains in a natural or wild state.

Study Sponsor. A group of property owners and organizations with interests in the BRBNA study area joined together in 1997 as the BRBNA Partnership. The partners include the public agencies, private land-owners, public interest/not-for-profit organizations, and private individuals who meet monthly to discuss issues of common interest, consult with each other, and consider how best to protect and manage the region's resources.

Study Direction. This study is one product of the BRBNA partners' 1999 decision to undertake two resource assessments, one focusing on natural resources and the other on economic potential. Under oversight provided by the BRBNA's Resources Assessment Subcommittee, a data collection and computer-based mapping program was undertaken primarily by the Geographic Information Systems group on the campus of the University of California at Davis under the direction of Professor Rob Thayer. The colored maps in this report are a product of that group's work.

The BRBNA's Feasibility Assessment Subcommittee provided oversight for the economic inquiry that is the subject of this report. Subcommittee members included representatives of the Napa County Land Trust, the Bureau of Reclamation, the UC Natural Reserve System, the Napa County Farm Bureau, private property owners in the area, and the Partnership. Consultant for the economic inquiry was Mundie & Associates of San Francisco, who are the principal researchers and authors of this report. Other contributors to the economic study are listed in the Contributors section of the report beginning on p. 79.

Study Purpose. The purpose of the study presented here is to provide information and direction needed to help the BRBNA partners work toward the establishment of a suitable organizational entity to provide leadership and guidance in the planning and management of BRBNA lands and to identify the magnitude of economic resources that may potentially be available to such an entity. In fulfillment of those purposes, this report presents information relating to both economic (revenue) potential and institutional structure, organized as follows:

- Chapters 1 and 2** describe the purpose and approach of the economic inquiry
- Chapters 3 through 7** review the land uses and user groups that are currently found in the BRBNA, or that might be attracted to the area, based on interest and resource availability. The nature and location of activities and current revenue generation are described.
- Chapter 8** summarizes and comments on the economic findings.
- Chapter 9** discusses institutional arrangements implemented in other resource areas to illuminate issues relevant to the future organization of the BRBNA.

Study Findings: Economics. Research conducted for this study identified a wide range of existing uses and activities in the BRBNA study area that might potentially generate income to support a collaborative planning and/or management entity. Those that are user based would depend for implementation on more detailed and comprehensive information about the user base itself; for example, how many hikers there are, how many boaters and fishers, how many people parking at recreational attractions. Better data would allow not only more accurate estimates of revenue potential, but more informed thinking about how a fee base might best be designed and the most effective mechanisms for fee collection.

Revenues that are not directly user-based appear to offer the greatest revenue potential. The most important of these are the concession fees paid by those who operate Lake Berryessa facilities under franchise agreements with the U.S. Bureau of Reclamation. An increase in revenues to those facilities and, more important, an increase in the franchise fee would augment revenue from this source substantially.

Other non-user-based revenue sources of potential magnitude include contributions and membership dues (assuming a membership organization is established). Building on this report (see especially Chapter 8), these potential revenue sources should be explored in greater detail.

Study Findings: Institutional. The case studies reviewed in Chapter 9 lend credence to views some of the BRBNA Partners expressed when the partnership was first established: that local revenue sources and local policymaking offer advantages over conventional federal models. Reluctance within the BRBNA community to support the federal model stems from doubt about the consistency of funding and management and concern that local priorities and objectives would not be given adequate consideration under a federal model.

Several recently-established conservation areas are described in Chapter 9. Looking at the economics side, it is evident from these case studies that the current Congress prefers that new conservation areas establish their own revenue sources. Large, on-going subsidies do not appear to be part of the conservation program for newly-delineated natural areas. Without such a subsidy, of course, benefits of federal management are reduced.

Looking at the institutional side, federal administration might be far more effective than local administration in deterring some of the most damaging kinds of private development, which is sometimes difficult for local agencies to prevent. Federal management could also provide some insulation for potentially unpopular resource decisions. On the other hand, some of the decisions of federal agencies within the BRBNA have in the past appeared to give greater weight to preferences of one group of recreationists over the preferences of other groups and the general public (to the degree the “general public” has a preference that can be brought into the decisionmaking process). There is also concern that federally-based statutes and guidelines may not be consistent with the level of preservation that locals would accord certain resources. For example, a requirement that wilderness areas be provided with service roads strikes many observers as contradictory or absurd.

Institutional considerations are among the issues to be addressed in a study the Bureau of Reclamation has under way of the future of Lake Berryessa. That study will look closely at efficiency as one of the criteria for determining the kind of entity best able to manage the various resources and activities found in the BRBNA area. It will add both information and insight to observations based on Chapter 9’s case studies.

Next Steps. A substantial proportion of the BRBNA’s resources are associated with Lake Berryessa. The Bureau of Reclamation’s current study and the Visitor Services Plan it now has in preparation – both culminating possibly in some changes to concession arrangements when current franchises expire – promise to contribute information and guidance for consideration of the future of the Lake Berryessa portion of the study area. Those efforts should not be duplicated.

While the Lake Berryessa studies are proceeding, it will be helpful to create a more comprehensive information base about the balance of the BRBNA area, including actual visitor and participation levels, leading toward testing of revenue vehicles and the framing of a management entity capable of undertaking both financial and planning functions. These steps would keep the BRBNA Partnership moving toward establishing an entity capable of knowledgeable, long-term conservation-oriented planning and advocacy for the BRBNA and capable also, possibly, of recommending itself as a successor entity to the Bureau of Reclamation at Lake Berryessa.

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CHAPTER 1. PURPOSE

The purpose of this study is to provide economic information relating to the possible establishment of a formally-designated natural area in the Blue Ridge Berryessa Region.

A. The Blue Ridge Berryessa Region

The Blue Ridge Berryessa Natural Area (BRBNA) is comprised of lands within California's Coast Range located along the spine of the Blue Ridge and in the valleys to the west and east. These lands lie in the counties of Napa, Yolo, Lake, Solano, and Colusa. Figure 1 (p. 3) is a context map of the BRBNA region.

The most prominent physical features of the area are Lake Berryessa and the Blue Ridge.

- Lake Berryessa is the name given to the body of water fed by Putah Creek and Pope Creek and their tributaries and impounded in 1957 by the construction of the Monticello Dam. The lake, which lies above the dam spillway at 440 feet, is about 23 miles long and three miles wide. It has a surface area of about 20,000 acres (31.25 sq. mi.) and a perimeter shoreline of approximately 165 miles.
- Blue Ridge is the name given to the northwest-trending topographic feature that rises north of Putah Creek in the south (where it carries the name Rocky Ridge) and continues uninterrupted to Cache Creek in the north, with an average elevation of approximately 2,400 feet and a maximum elevation of 3,057 feet at Berryessa Peak. North of Cache Creek a similar topographic feature, Cortina Ridge, extends further north, marking the eastern edge of the valley of Bear Creek.

Most of the study area lies in one of two watersheds. Cache Creek drains most of the northern portion of the BRBNA study area (including Clear Lake), emptying into the Sacramento River east of Woodland. Putah Creek drains most of the southern portion of the BRBNA study area (including Lake Berryessa), emptying into the Sacramento River in the area known as Putah Creek Sinks east of Davis.

BRBNA lands comprise roughly 300,000 acres.¹ The lands within the BRBNA are rural: there are no incorporated cities and highway access is limited. Existing uses are primarily agricultural and/or recreational, and much of the land remains in a natural or wild state.

B. Impetus for Designation of a Blue Ridge Berryessa Natural Area (BRBNA)

1. The BRBNA Partnership

A group of property owners and organizations with interests in the BRBNA study area has been working since 1997 to identify the region's resources and consider how best to protect and manage them.

¹ The rough estimate of acreage is based on mapping work undertaken for the Resources Assessment Subcommittee of the BRBNCA Partners by staff of the Geographic Information Systems group (operating from the campus of the University of California at Davis) under the direction of Professor Rob Thayer. The five-county region constitutes the "global" study area. A "local" study area has been provisionally delineated by joining the polygons of public lands on both sides of Blue Ridge and its north- and southward extensions. The boundaries of the local study area, which encompass roughly 300,000 acres, are expected to be revised based on the data to be assembled and, potentially, based on the management objectives, priorities, and interests of the BRBNA partners.

The BRBNA Partners include the public agencies, private landowners, public interest/not-for-profit organizations, and private individuals identified in Table 1.

Table 1
BRBNA Partnership

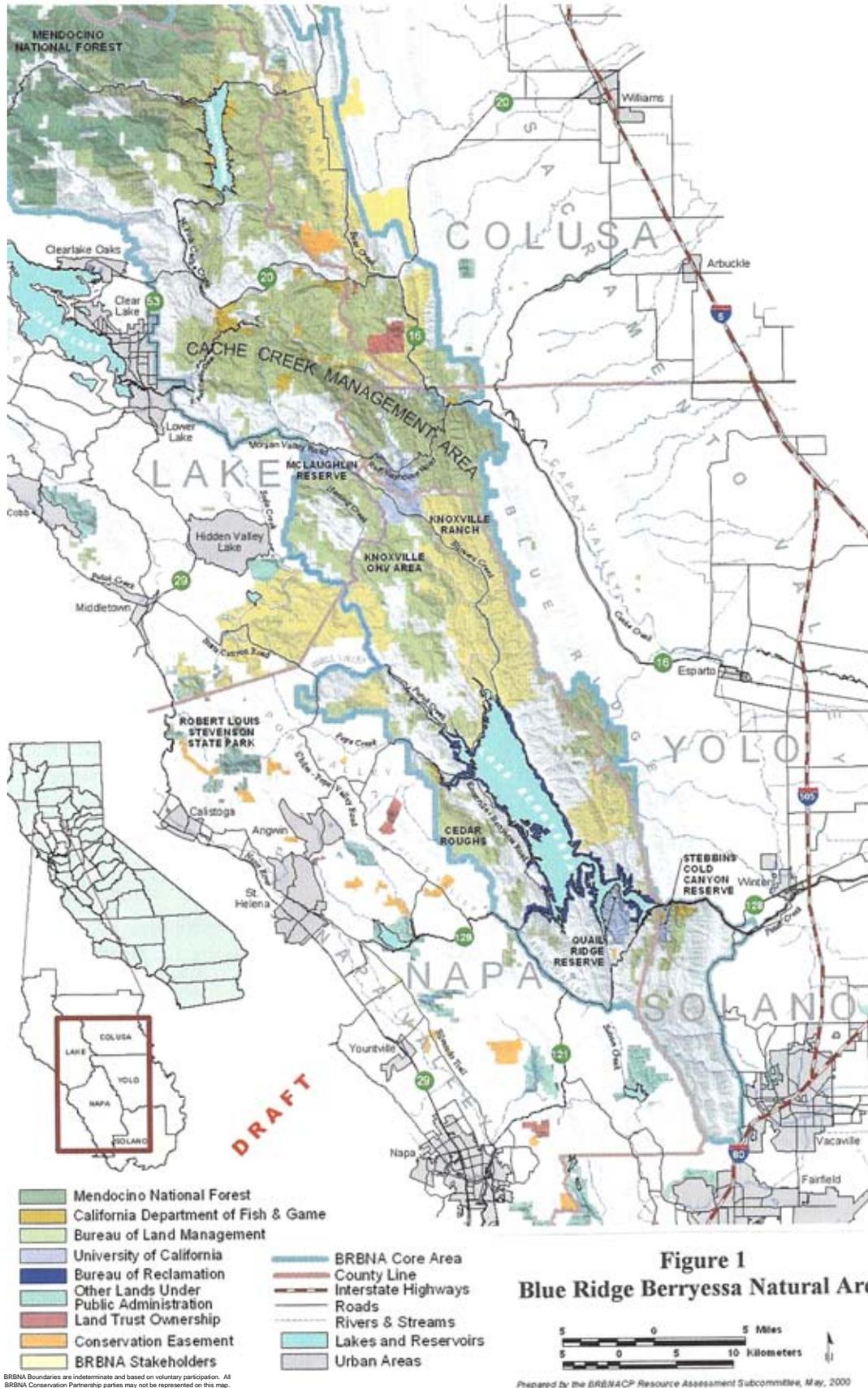
Participating Organizations	
Federal Bureau of Land Management Bureau of Reclamation	State Dept. of Fish and Game Dept of State Parks
County Lake Co. Community Dev. Dept. Napa Co. Planning Dept. Yolo Co. Community Dev. Dept. Napa Co. Resource Cons. Dist.	University U. C. Natural Reserve System U. C. Davis, Cache Creek/ Putah Creek Bioregion Project
Private The Morgan Valley Ranch The Livermore Ranch Homestake Mining Co. The Gamble Ranch The Todd Ranch The Guenoc Ranch	Nonprofit American Land Conservancy Quail Ridge Wilderness Conservancy The Trust for Public Lands The Wilderness Coalition The Conservation Fund Napa County Land Trust Lake County Land Trust Yolo County Land Trust Rocky Mountain Elk Foundation
Other Potential Conservation Partners	
Wildlife Habitat Council California Waterfowl Association American Birding Association	The Nature Conservancy The California Native Plant Society The Cache Creek Conservancy

Areas of the BRBNA owned by public agencies are indicated in Figure 1.

2. Objectives of BRBNA Partnership Efforts

The Blue Ridge/Berryessa region lacks a public identity. Those who have some familiarity with the area may be able to identify Lake Berryessa or Cache Creek as points of visitor interest, but there is little awareness of the overall character and natural offerings of the region. The BRBNA partners concur in the view that identification of the area can promote appreciation of the region and raise public awareness. An appreciative public can, in turn, stimulate financial support for the pursuit of BRBNA's conservation-oriented objectives.

With these thoughts in mind, in March, 1999 the BRBNA partners prepared and issued a statement that describes their mission, perspective, and shared interests. This statement is presented in the box on pp. 4 and 5. Drawing on this statement and the record of the partners' collaboration to date, the consultants have prepared the description of BRBNA partnership objectives that begins on p. 4.



BRBNA Boundaries are indeterminate and based on voluntary participation. All BRBNA Conservation Partnership parties may not be represented on this map.

a. Identify the Region's Resources and Increase the Public's Knowledge of the Area

The Blue Ridge/Berryessa region does not have a high public profile. Its topography, its geological character, and its richness of ecological resources are largely unfamiliar to those outside the region. Some of the resources are unusual or unique, and particular attention to rare and unique resources is needed to assure their preservation. Recognition has been hampered by lack of information about and familiarity with the region. Scientific and technical information known to or developed by the partners can be effectively shared and applied under a collaborative planning and management system. Some partners bring to the BRBNA a focus on research, education, and/or outreach; their contributions can both improve the public's understanding of the area's resources and strengthen a conservation constituency for the BRBNA.

b. Increase the Visibility of the Region to the General Public

Although the BRBNA is located within ready driving distance of two of California's major metropolitan areas, its limited access makes it remote. As one of the consultants has observed, the BRBNA is "a cognitive void on people's mental map."

The Blue Ridge/Berryessa Natural Area

March 1999

THE VISION. The Blue Ridge/Berryessa Natural Area Conservation Partnership is a voluntary group of private landowners and public land managers dedicated to the conservation, preservation and management of over 300,000 acres of natural, wild, agricultural and recreational lands located in the Cache and Putah Creek watersheds in Northern California.

THE MISSION. The mission of the Blue Ridge/Berryessa Natural Area Partnership is to cooperatively manage and enhance the Blue Ridge/Berryessa Natural Area, using the principles of ecosystem management, local administration and self-sufficient funding, and to protect natural and cultural values while promoting a compatible level of public use and fully respecting private property rights.

THE LANDS. The Blue Ridge/Berryessa Natural Area includes portions of the Putah and Cache Creek watersheds, both tributary to the Sacramento Valley, and is bounded by Blue Ridge on the east and extends from the area north of Highway 20 between Williams and Clearlake in the north to Highway 128 and Monticello Dam in the south.

Straddling the ancient contact between the rocks of the continental and pacific tectonic plates, the area's diverse geology supports a unique assemblage of ecological communities including serpentine chaparral in all of its variety, grasslands, oak woodlands, and extensive riparian and cliff habitats.

Wildlife species abound, with a diversity of songbirds, mammals, amphibians, reptiles and fish. The area is sufficiently large and remote to support tule elk, bald and golden eagles, mountain lions and bears, as well as a variety of hawks, osprey, harriers, falcons, owls and other raptors. Botanically, the serpentine soils of the region host a large number of serpentine indigenous plants, while Cache and Putah Creeks and their tributaries, as well as the region's lakes, provide abundant riparian and fisheries habitat.

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

Located just two hours from both the Sacramento and San Francisco Bay metropolitan areas, the cooperative efforts of these partners will preserve in perpetuity this significant Natural Area and its wild inhabitants for the enjoyment of further generations.

There is a user market associated with Lake Berryessa, which is recognized as a “gateway” to the BRBNA region. Other user groups and other markets may emerge as public awareness of the area increases with strengthening of visitor offerings and expansion of outreach and public education programs. Increased public awareness can stimulate financial support for the pursuit of BRBNA’s conservation-oriented objectives.

c. Identify and Respond to Restoration and Enhancement Opportunities

Within the BRBNA, development is geographically focused around Lake Berryessa. Beyond this focal point, the balance of the BRBNA lands are mostly open country with the appearance of a natural, even unspoiled, area. To the expert, though, human influence on the environment is apparent in the loss of native plants to intrusive botanic species, erosion resulting from excessive grazing and/or dated management practices, and visual blight where development of a scale, density, design, or use is out of keeping with its setting. Any future plan for management must address both restoration needs and enhancement opportunities.

THE PROCESS. The Blue Ridge/Berryessa Natural Area Coordinated Resource Management Plan will be prepared by the partners and the public to provide a framework for identifying conservation goals and objectives and the types and intensities of public usage proposed for each management unit within the Natural Area. The CRMP will include a Business Element that will identify potential multi-agency cooperative administrative management and funding opportunities and provide for the local administration and explore the feasibility of financial self-sufficiency of the Natural Area within ten years.

THE POTENTIAL. The Blue Ridge/Berryessa Natural Area will support both the individual and shared missions and goals of each partner. Identification of the Blue Ridge/Berryessa Area will promote appreciation of the region and raise public awareness of an important Natural Area located within a two hour drive of two major metropolitan centers, the San Francisco Bay Area and the Sacramento Area. The integrated efforts of the partners will enhance opportunities to attract outside funding to the area, optimize the effective use of those resources committed to the region, and provide a means of capturing for local use, revenue generated by Natural Area public use. The partnership will promote long range management and stewardship of a sufficiently large natural area to sustain a diversity of biological communities and a wide variety of species, thus mitigating habitat loss resulting from growth in nearby regions.

A designated and recognized Blue Ridge/Berryessa Natural Area with a Coordinated Resource Management Plan describing conservation goals and identifying appropriate enhancement work and activities will provide a basis for furthering the conservation efforts of private land owners and allow the dedication of labor, technical advise and funding to improve habitat quality. In addition, Natural Area land owners could more easily qualify for the Private Lands Management Program, a contract with the Department of Fish and Game/Fish and Game Commission providing an extended season or tag authorization, allowing owners to select hunters and have hunting privileges outside of the normal season regulations in return for providing benefits for wildlife.

Private conservation organizations such as Rocky Mountain Elk Foundation, Safari Club, National Wild Turkey Foundation, California Waterfowl Association, Audubon, The Nature Conservancy, and Ducks Unlimited may be attracted to participate in habitat enhancement and other projects benefiting wildlife.

The potential to demonstrate multi-partner cooperation by integrating efforts, coordinating plans, pooling data and resources, and sharing management and enforcement responsibilities is enormous. Collaboration among the partners will maximize public education and recreation opportunities and promote interpretive centers and public education events. Creation of an effective partnership will enhance the likelihood that funding can be secured to assist willing private owners to conserve and protect their lands or to sell or exchange their lands with an appropriate public or private organization. The success of the partnership may even provide a model and inspiration for similar natural area conservation projects elsewhere.

Above all else, the Blue Ridge/Berryessa Natural Area can remain wild and productive as an example of our natural heritage, serving California’s growing population into the future.

d. Find the Optimal Balance between Resource Protection and Resource Use

Large portions of the BRBNA are currently undeveloped, and this undeveloped quality is of value to many, including conservation and nature advocates, field biologists and other scientists, and local residents and landowners who prize the quiet and (mostly) uncrowded setting. Some planners, looking toward the time when the adjoining metro areas will have substantially greater populations than they do today, see a great benefit in retaining this natural area for the appreciation of future urban dwellers, when the extent and proximity of natural areas available will have diminished. But active appreciation of the BRBNA lands implies a possible increase in visitation and use, and accommodating such an increase could require additional visitor-support uses (accommodations, new recreational uses, infrastructure extension, and improved access) that may stimulate additional local development, possibly compromising the region's natural qualities. Balancing conservation (which implies strategic limits on development) with public access (which implies support for an increased visitor population) will be a challenge requiring coordinated stewardship.

e. Work toward Establishment of Priorities in Pursuing Conservation

The range of landscapes and habitats within the BRBNA lands is substantial. Variation in environmental sensitivity results in considerable differences in the development suitability of various lands. Benefits to user groups (who include recreationists and the private and public organizations for which users generate revenues) should not be pursued in a manner contrary to conservation of the resources that contribute to the area's environmental value and attractiveness. The key is priority setting that balances economic benefits of new development with desired conservation outcomes.

f. Match the Character of Land Use Desired with the Appropriate Administrative Structure

Whatever the type of owner, land ownership and management may require development that must be considered for its consistency with the goal of responsible, conservation-oriented use. Private owners require a sufficient economic return on their land to meet their costs (which include taxes) and to justify their continued ownership. Public owners generally hold land to meet a stated public purpose; serving that purpose may involve use and development. (Even "wilderness areas" administered by public agencies require a certain level of access and infrastructure to support management functions.) Nonprofits may own or manage land for conservation purposes, but they, too, are likely to require some facilities to support management functions and may need to make their lands available to the specialized groups that support them, if not to the public in general. Consensus is needed on a land conservation strategy that recognizes the need for management to effect the strategy and revenue to support effective management.

g. Give Precedence to Local Guidance in Conservation Policymaking and Management

The BRBNA Partnership was established, in part, from concern that multi-focused policymaking and management (each owner or manager pursuing its independent objectives) may result in undesired development. If the Partners do not collectively define a land conservation strategy and management structure, the area's multiple planning and administrative agents – federal, state, local, and private – will continue along their independent planning, management, and funding paths, with outcomes unimproved over the mixed picture presented by current conditions. Remote decisionmakers who lack hands-on familiarity with the area and who have responsibilities elsewhere may not give priority to this area and may undervalue its resources, whether for conservation or for use. A controlling local voice in policymaking would provide some insurance against neglect on the one hand and misuse on the other. A coordinated local effort can help avoid duplication of effort among the multiple actors and optimize use of the Partners' resources (personnel, tools, equipment, information, funding) in pursuit of individual and shared goals and objectives.

h. Minimize Reliance on Non-local Government Funding

Funding support for local initiatives by non-local government agencies not only is limited in magnitude but is subject to instability deriving from fluctuations in priorities. Funding decisions are made within a broad political context in which there cannot be assurance of a consistent funding stream. Given variations in revenue levels from external government sources, as well as an increasing emphasis on economic self-sufficiency on the part of government (especially federal) agencies, the advantages of independent funding are clear.

It is clear that, to the degree feasible, local funding would be advantageous: local autonomy in priority setting and management may, in fact, be partially dependent on the level of economic independence that can be accomplished. Self-sufficiency may be a long-term goal, one element of which may be establishment of “pay to use” as a principle of resource management on BRBNA lands.

3. Partnership Activities

To date, the BRBNA partnership has functioned through monthly meetings (open to all of the partners and the general public) and through subcommittees designated for specific purposes.

The subcommittees were formed to give guidance to two consulting studies undertaken in 1999. One of these is a resources assessment, for which the Resource Assessment Subcommittee provides oversight. The resources assessment work is being undertaken primarily by the Geographic Information Systems group (operating from the campus of the University of California at Davis) under the direction of Professor Rob Thayer.

Much of the information being brought together as part of the resources assessment work has been assembled in mapped form. This mapping effort (see footnote 1) has been one of the partnership’s major accomplishments, laying the groundwork for analysis of the area’s resources and opportunities and providing a means to improve the public’s awareness of the area. Figure 2 shows subareas of the region (BRBNA Districts) which can serve as useful orientation and planning units.

A second subcommittee, the Feasibility Assessment Subcommittee, provides oversight for the economic inquiry that is the subject of this report. Members of the Feasibility Subcommittee include representatives of the Napa County Land Trust, the Bureau of Reclamation, the UC Natural Reserve System, the Napa County Farm Bureau, private property owners in the area, and the Partnership.² Consultant for the economic inquiry is Mundie & Associates of San Francisco, who are the principal researchers and authors of this report.

C. Elements of the Economic Inquiry

1. Focus on Local Resources

Early on, the Partnership recognized the benefit of establishing a locally-generated revenue stream to support the BRBNA efforts. Revenue from local activities can help insulate BRBNA efforts from the vicissitudes of public funding and uncertainty about future public priorities, thereby insuring continuity in conservation and management programs.

² Representing the named organizations in the order listed, the following individuals or their designates have participated in the meetings and other activities of the Feasibility Subcommittee: John Hoffnagle, Cathi Wilbanks, Violet Nakayama Handelman, Volker Eisele, Launce Gamble, and Ray Krauss.

The economic inquiry has focused on local resources in order to (1) gain a preliminary understanding of possibilities, (2) use information about local revenue potential as one of the relevant considerations in looking at choices for institutional frameworks, and (3) reach conclusions about the level of outside financial support that may be needed during an initial period of developing institutional and management resources.

Outside revenues will also be sought, and may (if locally-generated resources prove slim) provide the majority of funding. These other revenues would include:

- revenues from public agencies with geographic responsibilities in the Conservation Area; and
- revenues from outside sources (e.g., grants from public and/or non-profit agencies).

2. Recognize Principle of “Limits of Acceptable Change”

Some – perhaps most – of the concepts for local revenue generation would depend on increasing the number or the scale of local economic activities in the BRBNA area. Such increases, while beneficial if they create a resource for addressing the BRBNA’s conservation and management needs, may nevertheless have some unwanted effects: increased visitation would tax roads that are already seasonally near capacity; could call for expansion of public services (such as emergency fire and medical services and 24-hour law enforcement services) that are not currently available locally and expensive to provide from distant staging sites; and result in resource use levels that may be excessive in strictly environmental terms.

Bureau of Reclamation staff has been utilizing the term “limits of acceptable change” to describe the concept of allowing (or sponsoring) additional development or use levels up to a point at which there would be a consensus that further development (or higher use) would be undesirable. These “limits” might be global (i.e., a certain maximum level of study-area-wide weekend traffic, for example) or resource based (i.e., a maximum level of boating on Lake Berryessa on a peak weekend day), or local area based (i.e., a maximum number of hikers on day-use trails or overnight campers back-country camping area). Such limits have not been set, but the understanding among the Partners appears to be strong that such limits do exist and need to be articulated to avoid the kind of overuse that would tend to deteriorate, rather than enhance, the environment.

3. Assemble Information

The lands within the BRBNA are owned and managed by many different entities, public and private, each with its own management structure, objectives, and interests. At the same time, the users of BRBNA lands include many groups and individuals who draw on the extensive resource base of the area to pursue their own objectives in resource development and use: recreation, agriculture, education, and resource development and use.

Developing an inventory of local economic resources potentially capable of being tapped for collective use has been an early priority of the BRBNA partners. Establishment and operation of an administrative system that can implement common goals requires a revenue stream. What current activities can help to provide such revenues? What additional activities might be established that might also contribute economic resources?

This is the first set of questions the economic inquiry addresses.

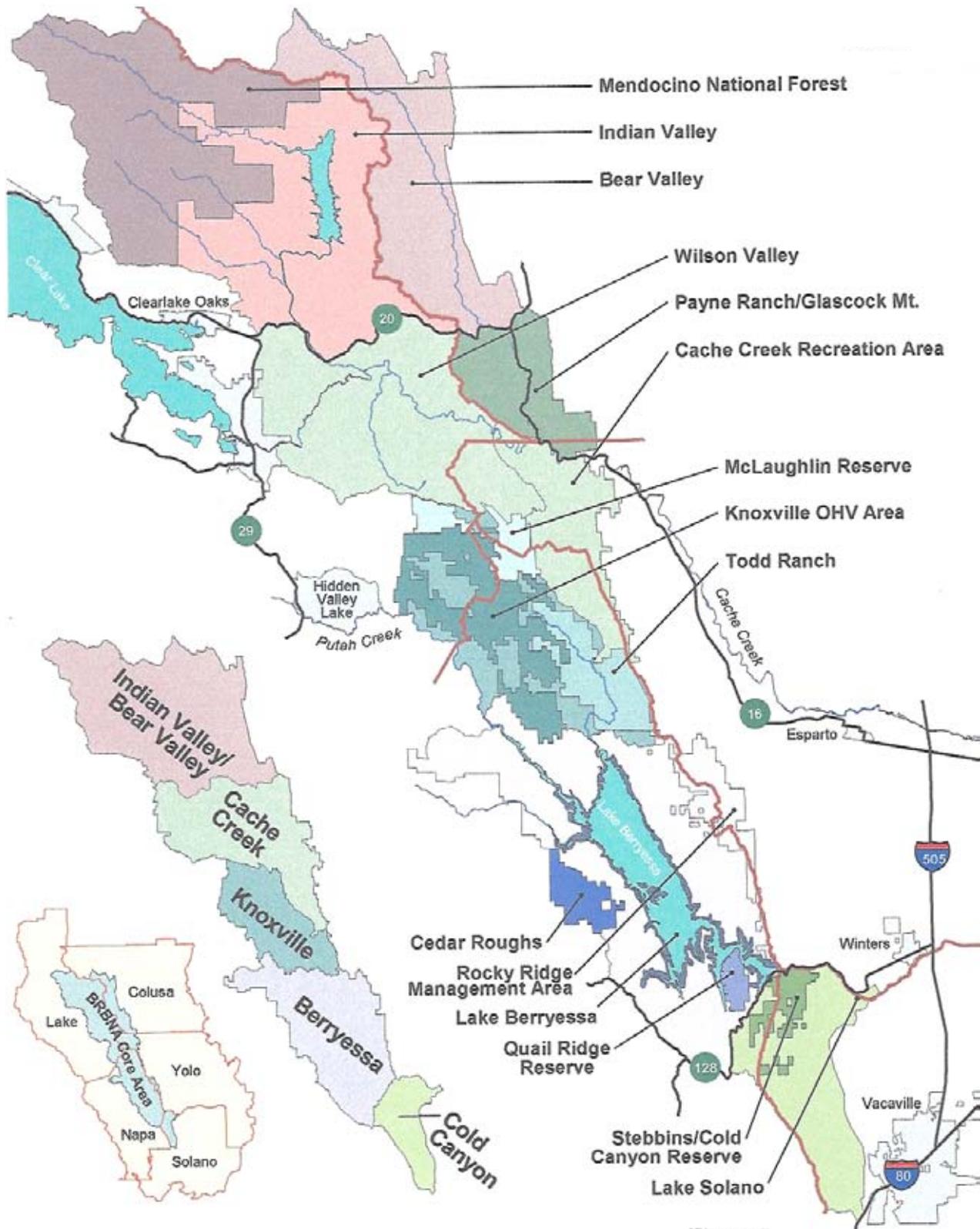
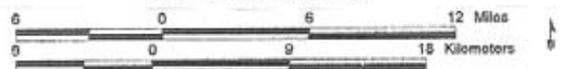


Figure 2
BRBNA Districts



Through a program of research among the partners and through outside sources, the consultants have sought to identify all those kinds of activities and/or user groups that could contribute to a revenue stream. These uses and user groups cover a wide range. Readily apparent are the various uses around Lake Berryessa operating under the administration of the Bureau of Reclamation and other major public and private landowners in the area (e.g., ranches, the Homestake McLaughlin Gold Project, and the Bureau of Land Management). There are also smaller-scale operations: individual operations, public and private, and the array of individuals and groups who draw on the area's offerings to meet their own recreational and economic purposes. In addition to all these established owners and user groups, large and small, there may be uses not yet developed that could generate revenues.

This inventory of uses and users, existing and potential, is an important element in evaluating future revenue potential. What economic resources are currently generated by these uses and users? How might those revenues be increased or augmented? What kind of additional sources of revenues might be sought?

This is the second set of questions the economic inquiry addresses.

The inventory undertaken by the consultants has been extensive. Although not exhaustive, the array of existing and potential uses identified provides an excellent foundation for beginning a process of assessing financial resources potentially applicable to commonly-shared administrative and operations functions of a yet-to-be-established BRBNA administrative organization. What is the range of dollar resources that such an organization might be able to call on, and what mechanisms or facilitating actions might be needed to make some share of existing and potential resources available for application to common purposes?

That is the third set of questions the economic inquiry addresses.

4. Relate to Potential Institutional Framework

Information gathering, while a critical aspect of the economic inquiry, has not been its ultimate goal. Once we know the range and magnitude of potential resources on which some conservation-oriented BRBNA organization can draw, we need to consider the kind of organization that is capable of collecting, managing, and utilizing those revenues. Such an organization would have to meet the legislatively-established conditions and legal requirements of the various public and private groups that might support a structure for common administration and management of the BRBNA.

The kind of institution that is, on the one hand, most advantageously organized for revenue development and collection, and the kind of institution that can best serve the fundamental conservation objectives of the partners would optimally be the same. The evolution of an appropriate management organization will occur through a process of continuing collaboration by the partners, and potentially other interests, as the purposes and potentials of the BRBNA continue to be defined over the next few years.

For the purposes of the economic inquiry, the consultants have been alert to limitations to, on constraints on, the potential of given revenue resources to be tapped by various kinds of administrative entities or for various kinds of applications. While the identification of the array of dollar resources was not limited by any preconceptions of their availability, it is clear that not all of the kinds of institutional structure that might be put in place can tap into revenue streams as easily as others. Some have no taxing power. Some may be limited in the purposes to which revenues may be put. Some may be limited in the scope of activities in which they are permitted to engage.

In future work to define the best kind of common planning and administrative structure, considerations about ability to tap into the economic resources may be important. Therefore, where information about limitations and constraints was known, this aspect of the resource has been described.

D. Organization of This Report

The organization of this report is as follows:

The **Executive Summary** highlights the content of the report and summarizes its conclusions.

Chapter 1 describes the purpose of the economic inquiry and the organization of the report.

Chapter 2 outlines the approach to the economic inquiry, including the research methodology, assumptions and constraints, and possibilities for future refinement.

Chapters 3 through 7 review the land uses and user groups that are currently found in the BRBNA area, or that might be attracted to the area, based on interest and resource availability. The nature and location of activities and current revenue generation are described.

Chapter 8 summarizes and comments on the economic findings.

Chapter 9 considers the implications of the economic findings for the institutional framework that the BRBNA partners and its supporters might find suitable for the achievement of their objectives.

Blue Ridge Berryessa Natural Area
Economic Study

CHAPTER 2. APPROACH

The purpose of the economic study as described in Chapter 1 is to provide a preliminary indication of future revenue sources to fund the activities of an entity that can implement conservation-oriented management and planning programs to the mutual benefit of the Blue Ridge Berryessa Natural Area partnership and the public.

One of the lines of inquiry pursued was the identification of new or expanded land uses and activities in the BRBNA study area from which some diversion of revenue to support a collaborative management entity may be possible.

This work was undertaken in several stages, beginning with development of a “long list” (A, below) of private-sector economic activities currently established, or theoretically possible, in the study area. These activities were ranged by industry group and their feasibility assessed collectively.

The review then proceeded to a “short list” (B, below), reviewed in greater detail, of specific kinds of uses that appear appropriate locally. Most, but not all, of the “short list” activities already exist in the BRBNA area, and research focused on describing the locations, scale, and existing operations of those activities provides a foundation for the revenue discussion in Chapter 8.

Finally, other revenue concepts (C, below) are also identified. Although these were not the focus of the economic study, it is clear that one or more of them will be essential to establish a strong planning and management capability in the region.

A. The “Long List”

1. Approach

The “long list” helped to structure the first stage of the consultants’ feasibility research by creating a broad, organized array of theoretically possible development and land use opportunities that could be used as a prompt for members of the Feasibility Subcommittee and the consultant team in identifying revenue-generating prospects.

The list was organized by industry, mirroring the Federal government’s comprehensive industry list as presented in the SIC (Standard Industrial Classification) Manual. Included in the long list were:

- uses and activities known to exist in the BRBNA,
- similar uses or uses that might be successfully developed in relation to an existing use,
- uses not known to be present but potentially compatible with the area’s location and physical and other characteristics (e.g., low population, limited access, marked seasonality, etc.)

The feasibility review was based on input provided by BRBNA members and others inside and outside the region, as well as the consultant’s knowledge of the economics of land development and use and general familiarity with the region. Field observations are consistent in judging the conventional land uses identified in subparts 2a through 2d below as infeasible locally, more so if generation of a revenue “surplus” is considered as imposing an additional financial burden on a use.

2. Conclusions

a. Agriculture

Agriculture has limited revenue potential beyond its current level. Range use, the most land-extensive agricultural use in the BRBNA, is currently economically marginal.

Cultivated agriculture is not a feasible use in the core area of the BRBNA: it is not supported by topography, soils, or available water. Those areas within the BRBNA where cultivation occurs (which lie west and east of its north/south “core”) have access to water. But (1) local conditions within the BRBNA core do not support commercial cultivation, and (2) those areas within the “global” boundaries that are successfully cultivated are not within the BRBNA core.³ The latter uses cannot be the foundation of a revenue plan for the BRBNA as a whole, both on feasibility and equity grounds.

b. Extractive Uses

For the purposes of this study, this category includes mining and forestry. The potential for mining, under available technologies, appears to have been tapped and fully realized. Industry based on forest products is limited by the underlying resource, which is limited in the BRBNA lands. In the case of both gold and forest products, final processing can be accomplished as economically off the site as locally.

c. “Workplace” Uses: Industrial, Commercial, Office

These higher intensity, concentrated land use types are the bread-and-butter uses of urban economies, but they are inappropriate in a rural area such as this one. There is not a resource base to support a major industrial installation, and no economic rationale for a concentration of commercial or office development.

d. Population-based Uses

Retail, business services, and professional services uses are established or located in response to demand, generally population-based. Given the current population within the BRBNA, the amounts of retail and service development are correspondingly low. While employment in cities adjacent to the BRBNA (Clearlake, Lakeport, Woodland, the cities of the Napa Valley) includes such activities, there is insufficient local population concentration to site such operations in the BRBNA core area. The thin market is further weakened by the seasonality of activity, such that a use that might be supported by the summer population may not be able to survive through the off-season.

e. Regionally-specialized Uses in Recreation and Tourism

Tourism and recreation uses that are concentrated around Lake Berryessa and in other local areas of important recreational facilities offer growth potential and possibly some revenue opportunity.

(1) Lake Berryessa. The majority of current BRBNA visitors are drawn to the BRBNA region by Lake Berryessa and its recreational and scenic attractions. Areas of intensive shoreline use along Lake Berryessa are shown in Figure 3. Seven recreation and/or resort areas operate as Bureau of Reclamation concessions: Putah Creek Park, Rancho Monticello Resort, Lake Berryessa Marina, Spanish Flat Resort, Steele Park Resort, Pleasure Cove Resort, and Markley Cove Resort.

³ The mapping program of the Resources Subcommittee distinguishes “core” BRBNA lands (mapped in Figure 5, p. 53) from those to the east and the west. Future maps are expected to illustrate the conditions (e.g., slope, soil types, vegetation, water supply) that make commercial cultivation infeasible within the core area.

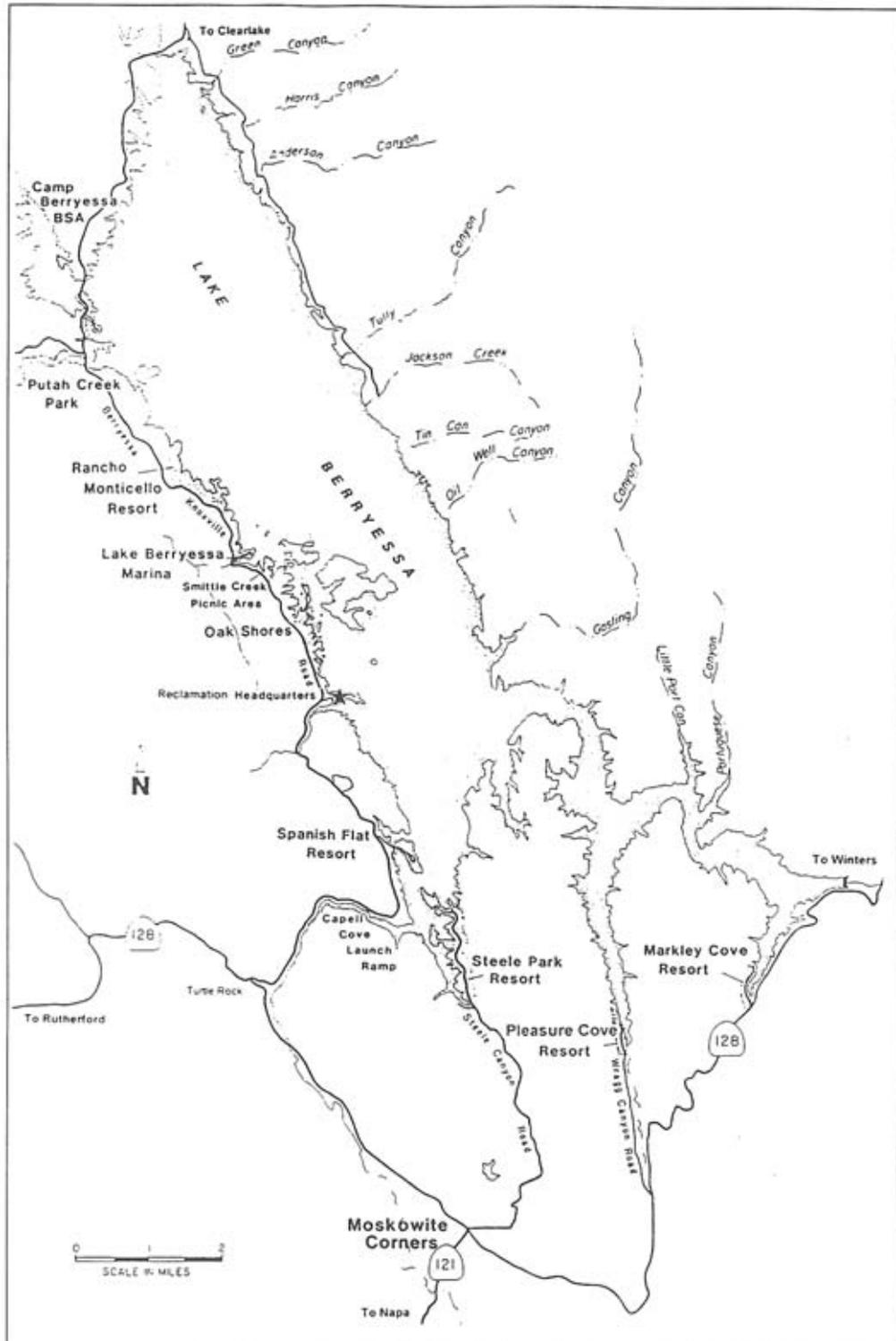


Figure 3
Lake Berryessa and Shoreline Use Areas

Most of the uses at Lake Berryessa were initially developed in conjunction with the creation of the lake, and much of the physical plant and infrastructure accommodating them dates from that period (1960s). As a consequence, lodging and dining places are small in scale and somewhat antiquated. In spite of the aging of some of its facilities, however, Lake Berryessa remains the principal point of attraction for the region's visitors, and where the resort areas have been established along the southern, western, and north-western lakeshore the intensity of development and use is urban. The volume of recreational use at Lake Berryessa, both boating and non-boating, probably represents the major share of total recreational activity in the BRBNA region; it is certainly the most concentrated center of such use. The nature and magnitude of water-oriented recreation at Lake Berryessa is discussed in Chapter 3.

The land on which the lakeshore uses have been established is owned by the Bureau of Reclamation and held by the operators of the commercial lodging places and other users on long-term contracts, scheduled to expire within the coming decade. The expiration of the contracts in 2008/2009 introduces the possibility of a change in the contractors and possibly in the character of the use(s). With this in mind, the Bureau of Reclamation has commissioned an economic analysis and strategy study⁴ to inform its own future planning. Reclamation's study will address the potential for expansion and re-positioning of its recreational and tourist-serving uses. Among other things, Reclamation will be considering how best to use its land (what kinds of contracts and where), how to increase its visitor pool (by offering lodgings serving a broader market spectrum and possibly giving greater emphasis to the shoulder seasons), and how to lengthen the average stay (such as by offering more/different activities).

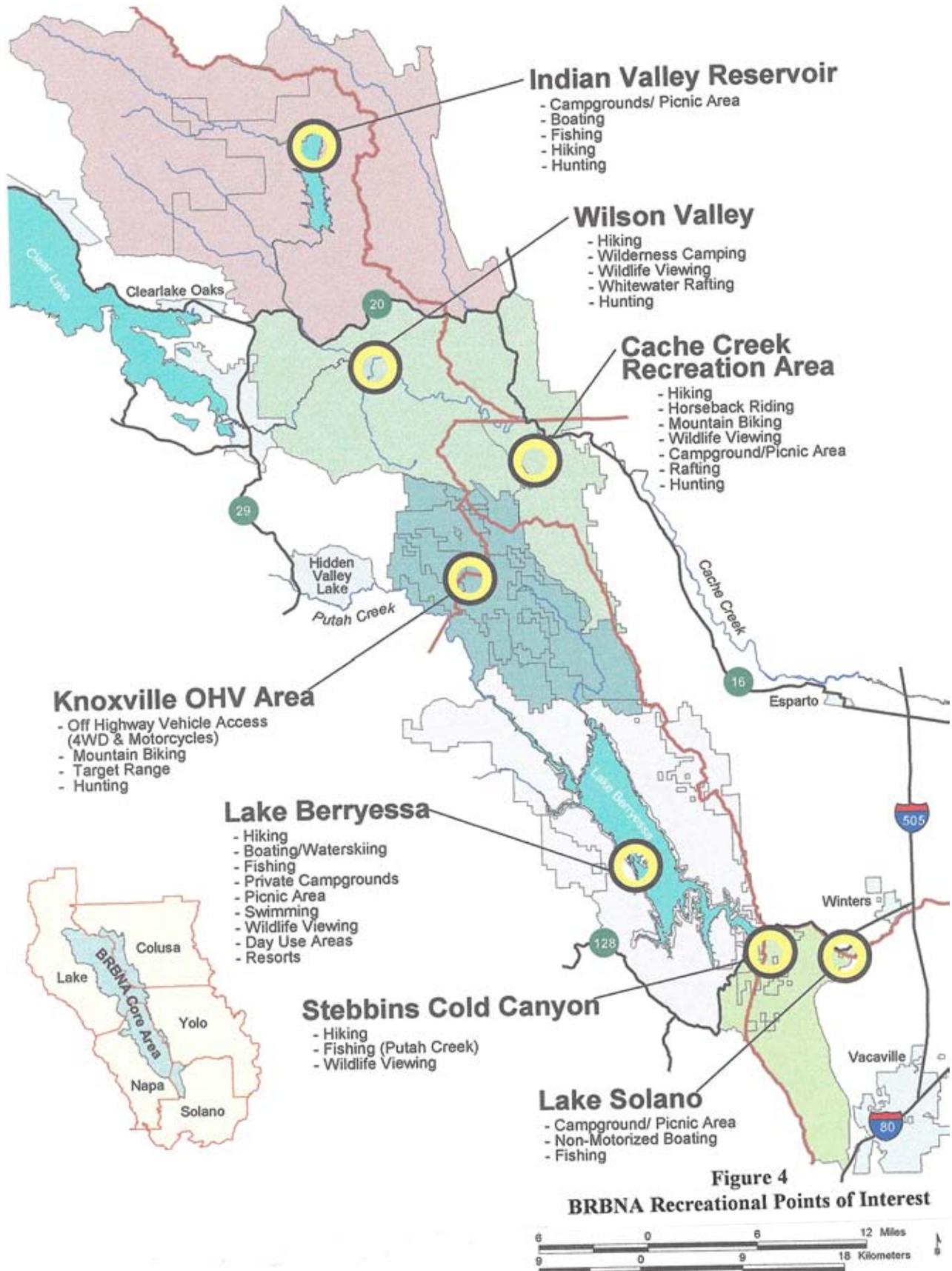
If the work the Bureau of Reclamation has under way concludes that new investment on Reclamation's lands would find success in the marketplace, new facilities may be developed that draw added people to the region and increase the revenue stream. New uses could include a conference center and lodge (similar in character to Asilomar), more up-scale lodging and dining places, and expanded recreational uses, including some that might operate by joint agreement on Federal and non-federal land (e.g., for foot or horse trails leading to campsites).

The Bureau of Reclamation's future actions will be important to the future economic shape of the area. Presumably, an expanded set of land uses on Reclamation's lands, well-planned and administered, could generate revenues to assist in overall conservation, but first call on any revenue surplus, under current Federal regulations, would be Reclamation's. The cost of the new development itself would have to be repaid, and because of the higher risk associated with tourist-related development, a future "surplus" is not a given.

(2) **Other BRBNA Lands.** Outside of the immediate area of Lake Berryessa, tourist and recreation uses are more scattered and smaller in scale. Figure 4 shows recreational points of interest in the BRBNA region.

Cache Creek is an important recreation resource. The south fork of the creek offers white water rafting, kayaking, and canoeing, with access in the BRBNA Fiske Creek area and Wilson Valley. Farther upstream, the north fork (up to Indian Valley Reservoir) also support recreational use. Water-related recreational activities in these areas are discussed further in Chapter 3.

⁴ The Bureau of Reclamation, through an agreement with the National Park Service, entered into a contract for the purpose of evaluating current concession operations, identifying all possible development and/or redevelopment options, determining the market for, and economic viability of, potential concession developments and assisting BOR in the development of a lake-wide visitor service plan for the future.



Another area of locally-concentrated recreational use is the Knoxville OHV area (discussed in Chapter 4). Along Cache Creek, and in more remote areas of the BRBNA, recreation use, while it may be locally concentrated, is far below the concentration at Lake Berryessa.

f. “Special” Land Uses

“Special” uses include those that may be proposed for location at remote sites, uses not represented in the BRBNA at this time, and collaborative recreational uses (uses that involve public/private partnerships in ownership, development and/or management). These uses have unknown revenue potential

Recreation and tourism uses, including “special” uses identified in the course of the study, are those constituting the “short list” discussed in the following section.

B. The “Short List”

1. Approach

Recreation- and tourism-oriented uses at Lake Berryessa and in other portions of the BRBNA represent the core of the “short list” of uses. These are uses that, in effect, represent the BRBNA’s “export” economy: they attract people to the region, stimulate spending (and possibly investment), and are largely responsible for the recognition of the area in the mind of the public. The “short list” of activities includes those recreational uses already established: flat-water activities (boating, water-skiing, and swimming), white-water activities (rafting), and land activities (hiking, hunting, equestrian, and biking, for example).

There is some overlap among resources and among uses: fishing, for example, may be a white water activity that involves hiking, or a flat water activity that involves boating.

These uses are discussed by type in Chapters 3, 4, and 5 below.

The consultants also attempted to identify other kinds of uses that exist or could be developed to complement the current recreational offerings and enhance local expenditures. Among the kinds of additional uses identified for addition to the “short list” are the following:

- Visitor-related facilities (museums and open-air interest sites)
- Camps: youth, membership groups, hunting/fishing, etc.
- Scenic toll roads/byways
- Sporting venues/events
- Collaborative recreational uses

The “short list” remains open: recreational and tourism uses are in a constant state of change, responding to trends, technology, and overall economic conditions. The possibilities listed are among those observed elsewhere or suggested to the consultants in the course of the research.

2. Conclusions

Recreation is the most common attraction to the BRBNA area. Other attractions depend on some of the resources that also make recreation attractive: scenic interest, an environment that is mostly non-urban, clean air and (again, excepting the busiest areas around Lake Berryessa) quiet, and the ability to engage in activities that are either not available or of a different quality in urban settings (e.g., walking, nature studies, photography).

Activities for which fees may be charged represent a revenue potential for the BRBNA. Some existing short-list recreation activities within the BRBNA region already are on a fee basis, at least in some parts of the study area. In other cases, potential for a fee exists. Examples of fees⁵ include:

- Entrance fees, to enter a defined recreational area (e.g., a day use area at Lake Berryessa, or a natural area, such as Anderson Marsh southeast of Clear Lake).
- Admission fees, to enter a building or structure (e.g., potentially, an exhibit facility at the Homestake Mine).
- Rental fees, charged (for example) for boat use or boat slip rental.
- User fees, such as for a ride in an equestrian facility, or participation in a raft trip offered by a white water operator.
- Sales revenues, such as those obtained from sales of merchandise or other property: recreational equipment, cameras and film, and restaurants (to name only a few examples).
- License and permit fees, such as boating, hunting, and fishing licenses.
- Special service fees, such as charges imposed for providing special services (e.g., the fee public agencies may charge for providing services to assist filmmaking or the operation of a special athletic or entertainment event).
- Franchise fees, such as those charged by the Bureau of Reclamation for franchise holders operating the Lake Berryessa resorts.

In inventorying uses and potential uses in the BRBNA, the focus of the short list was on uses in principle compatible with the non-urban setting, and uses for which some revenue potential (or enhancement of an existing revenue source) may be possible. While fee revenue alone is unlikely to prove sufficient to support an expanded program of conservation management in the BRBNA (as discussed further below, Chapter 8), fee potential is among the important considerations in evaluating uses, whether establishment, intensification in existing locations, expansion to new locations, or (possibly) discontinuation. Thus, the review of short list uses below, Chapters 3 through 6, focuses on the levels of use and the modes of operation, in part, to allow a basis for an order of magnitude estimate of potential local revenues.

Some of the existing (and potential) fees and charges may be set at a “break even” level (which would tend to be true of public uses). In other case, private operators set prices to make a profit and a return on investment. In either case, wherever a charge is imposed, there is an opportunity for a surcharge: an additional percentage that could be returned to the BRBNA management entity for recreation and/or conservation use. This concept is discussed further in Chapter 8.

⁵ The June 1999 report of the National Recreation Lakes Study Commission provides an overview of types of fees and revenues and a table indicating those fees each federal agency is authorized to collect. (Table 8-1, pp. 5 and 6 of Task Report 8 & 9)

C. Other Ideas

Not all of the revenue potential of the BRBNA is tied to activities that take place on the lands and waters of the region. Other generic concepts capable, in theory, of generating revenues include:

- Grants from private and non-profit organizations (discussed further in Chapter 7, p. 53),
- Public grants (or fund transfer vehicles), and
- Fundraising or fee generation focused beyond the boundaries of the BRBNA area.

While the focus of the economic study was onsite uses and use potential, these other sources may prove, collectively, to be an essential element of a financing program, as discussed further in Chapter 8.

CHAPTER 3. WATER ORIENTED RECREATION

Water oriented recreation is one of the principal attractions of the BRBNA region. Flat-water activities, including boating, fishing, and water skiing, are popular uses at Lake Berryessa. Elsewhere, boating and fishing at a more modest scale occurs on smaller water bodies (Indian Valley Reservoir). Whitewater activities are offered at Cache Creek.

A. Water Oriented Recreation: Activity Summary

1. Flat-Water Boating

The popularity of boating at Lake Berryessa is evident from multiple past studies and observations. Information sources include aerial surveys, launch statistics, slip rentals and occupancy, and survey data.

- Aerial survey data for Lake Berryessa show both volume of use and peaking patterns. Data from a survey taken in the summer of 1998 are summarized in Table 2. The highest count of boats during the survey period – 538 – was reported on a Sunday afternoon between 1:00 and 2:00 PM. The survey report suggests that this volume may be somewhat lower than the actual maximum, since resort managers estimate that boat traffic peaks later in the day (mid-afternoon between 2:00 and 3:00 PM), both weekday and weekends.

Bureau of Reclamation staff reports somewhat higher average counts than the 1998 survey found, generally in the range of 900 to 1,000. A Memorial Day weekend count (year 2000) recorded more than 1,200 boats including more than 300 in the Pope Creek area alone.

Table 2
Peak Season Lake Berryessa Boat Counts

Type of Boat	Weekday ^a	Weekend ^b	Peak Hour Boats: Percent by Type
	<i>Peak Daily Hour (1:00 – 2:00 PM)</i>		
Runabout (“other” boat)	72.6	358.5	65%
Personal Watercraft	24.3	64.0	14%
Ski Boat	13.0	43.0	9%
Fishing Boat	15.6	15.5	>5%
Patio Boat	8.0	25.5	>5%
Houseboat	1.6	5.0	1
Sailboat	1.3	4.0	1
Average Total	136.7	515.0	100

^a Average of surveys Tuesday, June 23; Monday, July 27; and Monday, August 17, 1998

^b Average of surveys, Sunday, July 26, and Sunday, August 16, 1998

Source: *A Study of Boater Recreation on Lake Berryessa, California, Summer, 1998*

- Traffic counts at Capell Cove provide another measure of boat use. Because Capell Cove is exclusively a boat launch facility, launchings from that facility can be estimated based on vehicle counts accessing it. Counts conducted in 1999 show an average of 54 vehicles per day, rising to 102 per

day during the three-month peak season.⁶ Even if not all of those who entered the launch area were actually towing boats, the vehicle counts suggest a high season boat launch rate of about 100 per day, with about half that amount in the off season. Bureau of Reclamation staff note that, because parking at Capell Cove is insufficient to accommodate all of those who launch boats from that location, the parking usage figures may understate launches.

The aerial boat survey cited in Table 2 also included counts of boat trailers at Lake Berryessa resort launch facilities. This study estimated that over 550 boats originated from ramps on a peak day, and that those launchings accounted for about half the boats on the lake over the course of a day, the balance coming from the marinas and private boat slips.

- Use of slips and docks also provides a measure of boating activity. The *Study of Boater Recreation on Lake Berryessa* notes that there are over 1,000 boat slips around the lake. The heavy use of dock space at the resorts is another strong indicator of boating's popularity and use levels. Moorings are available for rental on an annual basis (slip rental may be as much as \$900/year, or higher for large boats) and on a day-use basis (one-day car/boat permits are generally \$10 per car and \$15 for car with boat). Statistics from the resorts indicate that docks space is regularly fully occupied.⁷
- A recreation survey of the Lake Berryessa market area in 1996⁸ reported interest and participation in boating. Of those who had participated in outdoor recreation activities in the previous 12 months (829 respondents), 656 reported they did so near water. When asked their favorite recreation activity, almost 20 percent of those surveyed listed boating among their favorite forms of recreation. Of those who mentioned boating, boat fishing was the most popular form of boating, mentioned by 154 respondents. (Fishing is discussed separately, below.)

For respondents who said some activity other than fishing was their primary type of boating, power boating and/or water skiing and use of personal water craft were frequent responses (48 and 115 respondents). These uses are permitted throughout the lake outside of no wake zones (which are generally along the shoreline and at marinas and launch ramps). A water ski course (slalom) has been designated in one of the southern coves.

Other popular boating activities are sailing and rowing/kayaking (48 and 62 respondents). Aerial survey data for Lake Berryessa show both volume of use and peaking patterns.

The same survey provides information on the location of flat-water recreation activities of the respondents. The coast, rivers, and the Delta were popular destinations, but of the 163 who indicated that they most often pursued their water oriented recreation at a lake, Berryessa was the second most visited lake, mentioned by 40 respondents (Lake Tahoe, mentioned by 59 respondents, was first).

The following paragraphs summarize locations and types of flat-water boating in the study area.

a. Motor Boats

Motor boating is permitted at Lake Berryessa, and is one of the more popular activities. Lake Berryessa permits power boating and water skiing (the latter limited to designated areas). Boating is sufficiently

⁶ BOR vehicle data from electronic counts taken for entry road into Capell Cove. These figures assume that every vehicle entering the Capell Cove entry road pulls a trailer, and half of the trailers are double-axle.

⁷ Cathi Wilbanks, Bureau of Reclamation, telephone communication to Mundie & Associates, November 1999.

⁸ *Lake Berryessa Market Area Survey*, Survey Research Center, CSU-Chico, 1996 (responses to Questions Q1e and Q1f). The survey was conducted by telephone within a 100-mile radius of Lake Berryessa. Data reported reflect the responses of approximately 1000 responding households.

popular that the boat count on the lake can be substantial, particularly during the peak months. Boats (including runabouts and fishing boats) are available for rental at the Lake Berryessa resorts.

Motor boats are permitted at Indian Valley Reservoir, although speed is limited to ten miles per hour, ruling out power boating and water skiing.

b. House Boats

A small number of house boats are moored at Lake Berryessa. Markley Cove Resort is authorized to permit up to 30 houseboats. Permittees need a rental agreement, and the annual fee is \$1,050 to \$1,800, depending on the size of the berth. Currently, there is an approximately two-year waiting list for houseboat berth rental at Markley Cove Resort. Berryessa Marina Resort is authorized to permit 10 tie-ups, but reported only two in the fall of 1999.

Houseboats are relatively less in use at Lake Berryessa than at Lake Shasta, where permits for up to 650 houseboats or cabin cruisers can be issued.

c. Kayaks/Canoes

Kayaks and canoes can be put in Lake Berryessa either at Capell Cove or at any of the day use areas. Beyond the market area survey cited above, current participation has not been tabulated, either at Lake Berryessa or elsewhere in the study area.

2. Other Flat-Water Recreation

Water skiing and use of personal water craft have been mentioned above as important boating-related forms of recreation. Equipment for these activities is available for rental at the Lake Berryessa resorts.

Notwithstanding the popularity of boating, several other water-related forms of recreation outranked boating in the market survey cited above: picnicking (36.2 percent) was the top-ranked flat water based recreation activity in that survey (“water-based” evidently because favored picnic areas are located adjacent to lakes). Beach activities (mentioned by 27.5 percent) and swimming (mentioned by 24.9 percent) also outranked boating (19.6 percent).

There are facilities for each of these non-boating forms of flat water recreation at Lake Berryessa. As with most lakes, the water temperature discourages swimming early in the summer season, but the temperature rises during the summer to a comfortable level.

3. Whitewater Rafting

Three separate concessionaires operate river rafting programs between late April and late August/early September along segments of Cache Creek within the study area. Each concessionaire is based out of the Yolo County Cache Creek Canyon Park. Generally, these concessionaires offer inflatable, two-person kayak-style rafts for rental on a one- or two-day basis.

For rafting on the segment of Cache Creek upstream from the Yolo County park, participants either park at the Buck Island BLM staging area⁹ off SR 16 near the Yolo County line, or they park at the Yolo

⁹ A portion of the Buck Island staging area is the privately-held Payne Ranch, currently under acquisition by the BLM, which also plans to expand the staging area parking because it fills to capacity on summer weekends.

County park and take a bus to the Buck Island staging area. This upstream segment includes a privately-held day use area within Cache Creek Canyon for use by rafters.

A shorter, downstream rafting segment is also available that starts from the Yolo County park. Two-day participants generally raft the upstream segment on the first day and the downstream segment on the second day, camping overnight within specially-designated concessionaire portions of the Yolo County park.

Table 3 presents counts of rafting participants in the summer of 1998 (June through September). There was rafting activity in April and May, but activity statistics are not available.

Table 3
Whitewater Rafting on Cache Creek, Summer 1998

Month	Rafting Passenger Counts		
	One-day	Two-day	Total
June	480	454	1,025
July	852	1,593	2,445
August	1,589	876	2,465
September	170	844	1,014
Total	3,091	3,858	6,949

Source: Yolo County Parks Department

4. Fishing

The main area for sport fishing in the study area is Lake Berryessa, which has year-round fishing of large- and small-mouth bass, catfish, rainbow trout and salmon. Several bass tournaments take place on Lake Berryessa each year. Fly fishing also takes place on Putah Creek during the winter months and Cache Creek during the spring.

Fishing at Lake Berryessa is either from boats or from the shore. Of the seven boats identified in Table 2, four are commonly used for fishing: runabouts, fishing boats (generally specialized bass fishing boats), patio boats, and house boats. Shore fishing is popular, particularly (1) from the northern and middle shores of the lake, especially around the peninsula formed by Putah and Pope Creeks and near the Smittle Creek inlet day use area and (2) from the south shore along Markley Cove off SR 128.

The other major fishing resource within the study area is Indian Valley Reservoir, which is located in eastern Lake County and operated by the Yolo County Flood Control District. Large-mouth bass, rainbow trout, crappie, bluegill, and catfish fishing takes place at the reservoir year-round. Fishing at Indian Valley is either from the shore or from boats that put in at a launch near the reservoir dam, on the southern shore of the reservoir.

B. Water Oriented Recreation Activity: Related Economic Data

1. Flat Water Boating

The concessionaires along Lake Berryessa are on Bureau of Reclamation land and a portion of their gross receipts (including revenues from slip rentals) are returned to the Bureau of Reclamation in the form of their franchise fees.

None of the public boat launches in the study area charge a separate boat launch fee. There are no public marinas or public dry dock boat storage facilities in the study area.

Therefore, boating-related revenues are from indirect sources: vehicle registration fees, boat property taxes, and gas taxes.

a. Boat Registration Fees

The State Department of Motor Vehicles (DMV) keeps records of the number of registered boats by county. Boats must be registered if they are motorized, or if they are propelled by a sail and measure over eight feet in length. Each boat is subject to an initial DMV registration and titling fee of \$9.00, plus a \$10.00 renewal fee in odd-numbered years.

Table 4 summarizes the number of boats registered in Napa, Lake and Yolo Counties, and the State of California.

Boat registration fees are required by law to be conveyed to counties for boating law enforcement through a grant program administered by the State Department of Boating. A county law enforcement agency may qualify for this type of grant only if it agrees to spend all of its boat-related property taxes on boating law enforcement. Napa County manages its boat enforcement through the Sheriff's Department, which maintains several boats on Lake Berryessa for that purpose.

Table 4
Registered Boat Vessels: Study Area Counties and State of California, 1999

Area	Total Boat Vessels Registered ^a	Boats Subject to Property Tax ^b	
		Number	Valuation
Napa County	7,500	1,950	\$14,578,330
Lake County	10,724	6,493	\$24,611,475
Yolo County	6,038	1,366	\$13,791,739
State of California	954,716	9,809	\$52,981,544

^a These are all motorized vessels, including jet skis, plus all vessels with sails exceeding eight feet in length.

^b These are vessels with values generally exceeding \$2,000.

Source: California Department of Motor Vehicles, and
Assessors' Offices of Napa, Lake, and Yolo Counties

Local boat registration does not, of course, encompass all of the boats that are launched at Lake Berryessa in any given year. Bureau of Reclamation staff observe that a large proportion of the boats on the lake – probably a majority – are from the Bay Area and the Sacramento area, and those boats are probably

registered in the counties in which the owners reside. The statistics in Table 4 simply provide a census of local boats for which Lake Berryessa is a proximate water use area.

b. Boat Property Taxes

All boat vessels with a greater than \$2,000 assessed value (depending on county) are subject to a one percent property tax in Napa, Lake, and Yolo Counties. Table 3 shows, in the last two columns, the number of such vessels and their total assessed value on the 1999-2000 assessors' rolls in the three study area counties as well as the state.

A total assessed value of \$52,981,544 was reported in these three counties, including 1,950 boats with a total assessed value of \$14,578,330 in Napa County, 6,493 boats with a total assessed value of \$24,611,475 in Lake County, and 1,366 boats with a total assessed value of \$13,791,739 in Yolo County. Within the Napa County area immediately adjacent to Lake Berryessa, for the 1999-2000 assessors' rolls, 653 boats with an assessed value was \$5,802,590 were reported.¹⁰

Although boat property taxes can be distributed as part of a county's general fund, a county is eligible for boat registration water patrol grant monies only if it dedicates all of the boat-related property tax revenues for water patrol.

c. Boating-related Gas Taxes

Statewide, a total of approximately \$35 million per year is set aside from motor vehicle gas tax revenues as boating-related. These funds are administered by the Department of Boating and Waterways in the form of loans and grants for the construction of launch ramps, boarding floats, shore-side or floating restrooms, shore protection, and vehicle/trailer parking. These loans and grants are issued only if the applicant can demonstrate that (a) the improvements will not result in costs to the State of California for operations and maintenance, and (b) the improvement will be available for use at a "reasonable price" for all boaters for a period not less than 20 years.

2. Other Flat-water Recreation

No direct charge is made for picnicking or swimming at Lake Berryessa.

Equipment rentals (such as for personal water craft) are offered at some of the resorts.

3. Whitewater Rafting

Whitewater rafting concessionaires pay concessionaire fees both to BLM and to the Yolo County Parks Department. The BLM fee is 1.7 percent of gross receipts, whereas the fee to Yolo County is either a percentage of gross receipts (7 to 9 percent), or a per-person charge of \$5.00, plus \$2.50 for each person who stays over night, depending on the concessionaire. (Table 3 shows the numbers staying overnight.)

Table 5 presents data on concessionaire revenues in two recent fiscal years. These concessionaire fees were generated, in turn, from charges to rafters. Year 2000 raft trips on Cache Creek (which sometimes include lunch) range from \$20 to \$49 per person. Two-day trips, including overnight camping and meals,

¹⁰ Because no boats are permanently moored within Indian Valley Reservoir, and there is no housing or boat storage around that reservoir, and none of the boat-related assessed property value within Lake County is directly associated with the Indian Valley Reservoir.

range in price from \$75 per person in the low season (April through early June) to \$129 in the high season. Rafting trips on Cache Creek are generally self-guided.

Table 5
Public Revenues from Cache Creek Whitewater Rafting

Agency	Fiscal Year 1998-1999	Revenues	Fiscal Year 1999-2000	Revenues
Yolo County	July 1 – June 30	\$36,725.32	July 1 – April 18 (part)	\$65,288.42
BLM	October 1 – September 30	\$6,500 to \$7,000	October 1 – September 30	not available

Source: Yolo County Parks Department, BLM

The figures in Table 5 show a difference between BLM and Yolo County rafting revenues. That difference relates in part to the fact that the lower segment of Cache Creek does not cross BLM lands and is therefore not subject to the 1.7 percent BLM concessionaire fee. Table 5 revenue figures also show a marked increase in 1999-2000 revenues to Yolo County compared with those of a year earlier. The County's concessionaire charge structure did not change during this period; therefore, the increase probably reflects higher rates charged by concessionaires to rafters, or increased rafting activity, or both.

4. Fishing

Sport fishing in California is regulated by the California Department of Fish and Game (CDFG) through issuance of annual and two-day "sport fishing" licenses (before 1999, the short-term license covered a one-day period). Sport fishing licenses are purchased at retail establishments such as bait shops and sporting goods stores. Year 2000 annual sport fishing licenses for California residents cost \$28.10 each, including a \$1.35 license agent handling fee. Year 2000 two-day licenses cost \$9.75 each, including a \$0.50 license agent fee.

Statewide, sportfishing licenses and "stamps" for catching specific types of fish generated \$46 million in revenue to the CDFG. Sportfishing licenses can be purchased from the Lake Berryessa concessionaires (Putah Creek Park, Rancho Monticello, Berryessa Marina, Spanish Flat, Steele Park, Pleasure Cove, and Markley Cove) as well as elsewhere in the region. In 1999, sales of CDFG sportfishing and hunting licenses at these seven concessionaires generated approximately \$50,000 in revenue to the CDFG. In addition, CDFG year 1999 revenues totaled approximately \$500 for use of Lake Berryessa for bass tournaments (tournaments of up to 100 persons cost between \$50.00 and \$100.00 per event).

The CDFG provides statistics regarding the sales of sportfishing licenses by county. The pattern of annual licenses provides an indication of where people live who are regular sport fishers. Data on short-term (e.g., one-day) licenses is more suggestive of occasional fishers, and may be a better indication than the annual licenses of the level of sport fishing in the local area in which the licenses are sold.

Table 6 summarizes the 1996 CDFG sportfishing statistics for Napa, Lake and Yolo Counties, and the State of California.

Table 6
Sportfishing Licenses: Study Area Counties and State of California, 1996

Area	Sportfishing Licenses	
	Annual Resident	One-day
Napa County	10,033	1,561
Lake County	9,015	1,750
Yolo County	6,364	1,744
State of California	1,403,126	329,723

Source: California Department of Fish and Game

Fishing license revenues are used by the CDFG to fund fisheries and the stocking of lakes, as well as fishing education programs in urban areas. In 2000, the CDFG stocked Lake Berryessa with approximately 50,000 salmon (fingerlings up to eight inches in length) and 10,000 to 20,000 rainbow trout (“catchable” fish between eight and fourteen inches in length). Indian Valley Reservoir is also stocked with trout by the CDFG, as is Cache Creek just below the reservoir.

CHAPTER 4. LAND ORIENTED RECREATION

Land oriented recreation in the Blue Ridge Berryessa Region takes a wide variety of forms. The resources of the area lend themselves to individual and small group hiking, sometimes in combination with camping (which is discussed separately in Chapter 6). Nature exploration and photography are typical activities of both casual and ambitious hikers. Equestrian activities and bicycles are other activity choices of the non-motorized recreation user, while several forms of motorized recreation are also popular: motorized recreation includes both scenic driving on the area's roadways and use of off-highway vehicles (OHVs), generally in areas set aside for that activity.

BRBNA lands are also popular for fishing and hunting. Fishing is discussed in Chapter 3, while hunting is discussed in this chapter.

A. Land Oriented Recreation: Activity Summary

While flat water recreation on Lake Berryessa is the biggest single attraction of the region to recreationists, the lands away from Lake Berryessa offer a variety of other recreational opportunities. Some of these lands are under the administration of the U.S. Bureau of Land Management (BLM). Popular recreational activities on some BLM holdings are listed in Table 7.

Table 7
Reported Activity Levels on BLM Lands in the BRBNA

Management Area	User Count ^a (persons/year)	Principal Activity
Cache Creek	90,000	whitewater rafting
Cedar Roughts	n.a.	hunting
Knoxville	n.a.	OHV use
Rocky Ridge	n.a.	hunting

^a Use estimates are for 1999.

Source: BLM staff

The survey conducted in 1996 of households within the Lake Berryessa market area¹¹ found significant participation levels in a variety of outdoor recreation activities. Hiking (including backpacking) was the most popular of the strenuous activities reported, and it was among the most popular of all activities, out-ranked only by picnicking and beach activities. Other popular recreational activities reported included active sports: tennis, golf, and/or volleyball. Nature observing, most often done on foot, was also a popular choice.

1. Hiking

There are many public trails on lands in the BRBNA. Table 8 inventories major existing trails in the study area and possible new trails.

¹¹ *Lake Berryessa Market Area Survey*, Survey Research Center, CSU-Chico, 1996.

Table 8
Hiking Trails in the BRBNA: Existing and Future

Trail Name	General Location	Trailhead Location	Agency	Facilities
<i>Existing</i>				
Redbud Trail	Cache Creek Management Area	Near the SR 20 bridge across Cache Creek	BLM	Recently-improved trailhead: turn-around with ample room to maneuver a horse trailer, two information kiosks, a permanent restroom facility, and a parking area for approximately 20 cars
Judge Davis Trail	Cache Creek Management Area, Lower Wilson Valley	Near Destonella Flat area of SR 20 (several miles east of the Cache Creek bridge)	BLM	Not improved; old cattle loading area
Blue Ridge Trail	Rocky Ridge Management Area	Cache Creek Canyon Park on SR 16	BLM	Park has day use parking; accessible also from a trailhead at Fish Creek Road and Rayhouse Road; no facilities
Cedar Roughts Trail	Cedar Roughts Management Area	Access from Pope Canyon Road	BLM/CDFG/BOR	This trail is relatively undefined at this time and lacks a trailhead
Kowalski Trail	Western edge of Indian Valley Reservoir	Campground on the south shore of Indian Valley Reservoir, near the dam	BLM/Yolo Co. Flood Control District	Facilities at the campground
Unnamed trails	Perimeter of Lake Berryessa	Oak Shores and Smittle Creek day use areas and Capell Cove	BOR	Parking and restroom facilities at these sites
Cold Canyon Reserve Trail	Putah Creek below Monticello Dam	SR 128 below the Monticello Dam	UC	Unimproved trailhead, dirt turnout (Hiking on this trail is the only public use of the Reserve permitted by UC.)
Multiple trails	Lake Berryessa	At R Ranch	Private	Members-only facilities
<i>Future: Under Construction, Proposed, or Potential</i>				
Walter Springs-area trail	Pope Creek/Putah Creek west of Lake Berryessa	Pope Canyon Road near Pope Creek bridge	BLM	A 4.5 mile trail; construction anticipated to be completed by fall 2001
Barton Hill Trail	North shore of Lake Berryessa	Berryessa Knoxville Road	BOR/BLM	A 4-mile loop trail starting and ending on Reclamation lands; Bureau of Reclamation facilities on lakeshore
Pope Creek Trail	Lake Berryessa to Pope Canyon	Pope Canyon and Berryessa Knoxville Roads	BOR	Trail only
Future possible trails	Payne Ranch (near junction of SR 20 and SR 16)	As needed	BLM	A 50,000-acre property recently purchased; potential for additional trail and hiking opportunities
Blue Ridge Trail	Along Blue Ridge, to end of BLM lands at Fiske Creek	Rocky Ridge Management Area	BLM	Trail "landlocked" within BLM lands. Purchase of adjacent private lands could allow 22-mile extension to link with Putah Creek and SR 128 near Monticello Dam

Source: BLM (Bureau of Land Management), BOR (Bureau of Reclamation), CDFG (California Department of Fish and Game), and UC (University of California)

No admission is charged for trail use, and no counts of users are maintained, except for UC's Cold Canyon Reserve Trail (heavily used by residents of Davis, Winters, and Woodside), where 2,083 public trail users were reported in 1999.

2. Equestrian Use

Although horses are generally permitted on BLM and CDFG trails within the study area, the area's limited access precludes widespread equestrian usage. Difficult road access for vehicles pulling a trailer, and lack of trailhead staging areas (trailer parking, horse drop-off, adequate turnaround space) and horse boarding facilities are some of the limiting factors. In the summer months, limited natural water supply is also a constraint on horseback riding in the study area. The Redbud Trail within the BLM's Cache Creek Management Area has the best trailhead access for equestrian uses, with adequate area provided for horse trailer turnaround and parking.

The R-Ranch at Lake Berryessa provides the only horse boarding in the study area, but use of this facility is limited to R-Ranch members, immediate families, and their guests. R-Ranch also has equestrian schooling for members and an extensive network of equestrian trails.

Although equestrian use is permitted by the BLM within the Berryessa Knoxville Road Management Area, it is generally not compatible with the OHV use of this land. On other BLM lands, the other uses (hiking, mountain biking, river rafting, hunting and fishing) do not generally conflict with equestrian use.

3. Hunting

Hunting is permitted on the BLM and CDFG lands in the project area, as well as on private lands. Most of the hunting is for deer, which falls under the CDFG category of "big game" hunting and has an archery season from mid-July through the first week of August and a rifle hunting season from the second week of August through the end of September. Turkey, quail, and other "upland game" birds are also hunted in the Blue Ridge/Berryessa area, but no waterfowl hunting is permitted.

Anyone with a valid hunting license may hunt on public lands where hunting is permitted. For private lands, hunting is possible under several different arrangements, including hunting clubs and hunting guides, each of which negotiates hunting access agreements with land owners.

Hunters are required by the CDFG to report their successful big game kills, including deer, by returning the big game tags to the CDFG with information regarding the location where the animal was killed. The quantity of annual successful kills is known as the "harvest." During the 1999 deer hunting season, the reported deer harvest totaled 139 animals, including:

- Mendocino National Forest, 51
- Wilson Valley, 40
- Indian Valley, 29
- Cache Creek/Knoxville Ranch, 7
- Rocky Ridge, 4
- Balance of BRBNA, 8

According to CDFG staff, statewide, approximately 20 percent of the annual harvest is not reported. Adjusted for under-reporting, the approximate 1999 deer harvest in the study area was 167 animals.

No statistics are tabulated on the number of hunters in the BRBNA area or the game they are hunting; to do so would be difficult considering the fact that public trails are open and that hunting also takes place on private lands. BLM reports that hunting conditions on lands east of Lake Berryessa are particularly good, possibly because this area has no roadway access and is, therefore, relatively isolated. Deer are observed in this area in abundance.

On many of the lands where hunting is permitted, recreational users also engage in target practice, both during and outside hunting season. This sport is most often pursued in the BLM Knoxville Berryessa Management Area, where an adjacent private landholding owned by the Homestake Mining Company contains a developed target range. The BLM has indicated it may wish to purchase this range and make it available for public use.

4. Off-Highway Vehicle Use

Driving of motorized off-highway vehicles (OHVs) peaked as a sport in the 1960s but remains very popular. An OHV is propelled by an internal combustion engine and is generally categorized as either a motorcycle, an all-terrain vehicle (ATV), or a 4x4.¹² OHV motorcycles and 4x4s are similar to the on-road versions of these vehicles, except that they may have special features or equipment, such as very high clearance or mud guards, tailored to OHV use. ATVs are a more specialized three- or four-wheel vehicle designed almost exclusively for off-road use. In California, it is permitted to drive any “street” licensed motor vehicle (i.e., any motor vehicle with a standard license plate) in an area where OHVs are permitted. Because many OHVs do not meet minimum “street legal” bumper, roll bar, lighting, or other street and highway safety requirements, the state offers a separate registration, known as a “green sticker,” for OHVs that are intended for OHV use only. In general, ATVs are not street legal and therefore require a green sticker. A 4x4, which can be difficult to tow, is generally registered for on-road use with a standard license plate. The registration of OHV motorcycles varies depending on use and vehicle characteristics.

The OHV experience varies depending on the locale. In hilly or mountainous locales, such as the study area, the challenge is generally the wide variety of terrain, slope, and trail conditions. The type of OHV determines the maneuverability and versatility for various terrain and road/trail conditions, with motorcycles offering the greatest off-road versatility, ATVs offering lesser versatility but more stability under most conditions, and 4x4s the least versatility but a higher degree of safety. Most OHV parks require users to stay on designated trails and roads in order to contain environmental damage, and many of the designated OHV trails are suitable for motorcycles or ATVs, but not for 4x4s, because of trail conditions or layout factors such as lack of adequate turnaround or passing area.

OHV use requires a facility that is outdoors, large enough to accommodate a variety of speeds and maneuvers, and distant from other uses sensitive to noise and other impacts. Because of these requirements, OHV use often occurs in rural settings in which other uses – agricultural, rural residential, and recreational uses of a more tranquil character – may consider an OHV facility a nuisance. To avoid land use conflict, some public agencies have set aside sites specifically for OHV use. In these single-use areas, use levels can be monitored and controlled and impacts such as noise, dust, increased erosion potential, and damage to plant and animal life can be comprehensively managed.

¹² Other types of OHVs include “sandrails” for use on sand dune and snowmobiles for use on snow.

Off-highway vehicular use within the study area is limited to the BLM facility located adjacent to the BLM campground on the west side of Berryessa Knoxville Road about 14 miles north of Lake Berryessa. This Knoxville OHV use area (see location in Figure 4, p. 17) occupies approximately 17,500 acres containing some 30 miles of dirt tracks plus several miles of abandoned mining roads. It is used primarily by motorcycles, 4x4s, and, to a lesser extent, ATVs, either on a day-use basis or in conjunction with the campground facility. The estimated number of users, including day and overnight use, in 1999 was approximately 18,000. This figures includes both OHV users and non-users, such as campers and hunters.

A fire burned over 5,730 acres along Knoxville Road on the west side of Lake Berryessa in June, 2000. Costs of fire suppression were estimated at \$2.45 million in mid-June and expected to rise to as much as \$3.2 million. In October, 1999 a fire occurred in the Berryessa Knoxville Management Area. Restoration work by the BLM is in progress, funded by a special federal fund for fire restoration (rather than from the BLM's budget or from any grant sources).

In 1999, the California Conservation Corps received a \$116,352 grant for the following improvements at the Berryessa Knoxville Road Management Area:

- restoration and maintenance of existing trails;
- erosion repair;
- construction of 6.2 miles of new trails; and
- closure of trails on BLM lands at points where these trails currently lead to adjacent properties which prohibit OHV use (including adjacent private properties and the adjacent UC McLaughlin Reserve).

Most of the trail construction work of the Conservation Corps will be directed toward re-routing trails as "loops" at the points where trail closures occur. Under the terms of the grant issued to the Conservation Corps for this project, all improvements must be completed by June 30, 2002.

A management plan for the Berryessa Knoxville Management Area is in preparation. One of the features of that plan may be some kind of buffer area between the areas of active BLM-managed use and the neighboring UC McLaughlin site. A no-development zone of some 2,300 acres was being considered as an potential buffer under one of the planning concepts formulated in the summer of 2000.

In addition to the Knoxville area, the BLM offers more limited OHV opportunities within the Indian Valley Management Area. Walker Ridge Road, a graded gravel road, provides OHV access through the Indian Valley BLM lands to Mendocino National Forest, where OHV activities are also permitted in some areas.

5. Bicycling

Although mountain bikes are generally permitted on the public trails and fire roads in the project area, mountain bike usage is limited due to poor trail access, steep terrain, and the lack of a developed, mapped trail system within and between the public open space areas.

According to bicyclists in the City of Napa, some light mountain biking occurs on the BLM lands near Pope Canyon Road, even though this area has no developed trailheads or trail system.

On private lands, mountain biking is generally limited to the R Ranch at Lake Berryessa.

Roadway biking has the potential to expand in the BRBNA. The annual Davis 200 goes through the BRBNA, and SR 128 would be a good route for bicycle touring. Development of infrastructure supporting bike recreation, as well as promotion would be needed to make more of the region's biking potential.

6. Scenic Driving

Although none of the roads in the study area is designated by the State of California as a scenic highway, they all offer considerable opportunities for scenic driving. However, this potential use is hampered by poorly-maintained roads and a lack of roadside facilities such as scenic vista points or visitor-serving roadside establishments, commercial or public.

Between Lake Berryessa and Knoxville, the principal north-south road in the core of the BRBNA study area is not an all-weather facility: it crosses a creek at grade some eight times, and, therefore, is subject to closure at times of heavy rain (when the road is impassable). Winter snows (rare) can also block the road. These conditions arguably enhance the scenic interest of the road but, on the other hand, mean that a substantial increase in traffic is not possible.

A "loop" scenic route that includes this very rural, creek-fording stretch of the Berryessa Knoxville Road and the west shore of Lake Berryessa, connecting to SR 29 at both ends, might attract some traffic if leisure travelers were aware of it. Such a route could be promoted as part of a Napa Valley tourism package. The promotional content would be scenic, with an emphasis on environmental education. At some future time, cassette audio guides and/or printed materials might be made available to acquaint the traveler with the landscape, the underlying soils and geology, plant communities, animal species, and other natural features characteristic of this unusual region. The existing condition of the road north of Lake Berryessa, as well as the heavy traffic volumes on the west shore segment particularly during summer weekends, may be an asset: the primitive character of the roadway north of the lake enhances its rural quality while the heavy traffic along the lake may serve to "meter" scenic use during peak tourism periods.

Elsewhere in the country, scenic routes have been established for which fees are collected from motoring visitors:

- 17-mile Drive (Pebble Beach, California), is a private road open to the public during daylight hours for a fee. It is used by approximately 500,000 vehicles a year;
- Pike's Peak (Colorado) is a 19-mile public road (38 miles round trip), owned by the U.S. Forest Service. It is operated as a scenic route for a fee under permit issued to the City of Colorado Springs. It is used by approximately 100,000 vehicles a year;
- Mount Evans (Colorado) is a route of 14.4 miles (29 miles round trip), located on lands owned by the City and County of Denver, with the U.S. Forest Service collecting fees (currently under a fee demonstration program), and the Colorado Department of Highways supervising entry. This route is used by approximately 63,000 vehicles per year; and
- Mount Washington (New Hampshire) is a scenic route (about 15 miles round trip) wholly on private land. It is operated by the Mount Washington Summit Road Company and has been open for public use (on a fee basis) since 1961. This route is used by 40,000 to 45,000 vehicles per year.

These routes have been established in areas of outstanding scenic quality. The BRBNA's attractiveness is less dramatic. However, its offerings in terms of environmental interest are notable and, if packaged per-

suasively, might attract more users: users of type likely to support the basic purposes of the BRBNA partners.

7. Nature Observation

Considerable opportunities exist for wildlife observation in the study area. Mammals include a herd of free-roaming Tule elk, blacktail deer, mountain lion, black bear, coyote, gray fox, bobcat, badger, raccoon, beaver and river otter. In addition, at least 154 species of birds have been spotted in the Cache Creek area alone, including the bald eagle (throughout the year), great blue herons, belted kingfishers, white pelican, wild turkeys, quail, dove, and many other waterfowl and spring songbirds.

While the abundance of wildlife means that there are many places from which observation is possible, viewing opportunities at present are particularly good in the Cache Creek area. The Cache Creek Nature Preserve includes four observation decks (four more are planned) located to view waterfowl and other animals in the marsh areas along Cache Creek above Woodland, just outside the BRBNA study area. The Preserve (which opened for public use on May 20, 2000) is located on 130 acres of land restored by the Cache Creek Conservancy and operated by Yolo County.

The Lake Berryessa Wildlife Area (LBWA) was established in 1995 through a Memorandum of Understanding between the U. S. Bureau of Reclamation and the California Departments of Fish and Game. The purpose of the LBWA is to “restore, enhance, and protect the fish and wildlife resources along the east side of Lake Berryessa and develop compatible outdoor recreational opportunities for the public.” The agreement covers approximately 2,000 acres of undeveloped annual grassland and blue oak woodland. This area has been managed in the past primarily for cattle grazing and non-intensive recreational uses. The MOU recognizes that “the area has considerable potential for increasing fish and wildlife habitat values, which could be achieved through enhancement and restoration techniques, enhancing water quality by reducing erosion; and enhancing and conserving habitat for diverse populations of sport fish, native fish, plants, and wildlife species.” Habitat restoration and enhancement activities for LBWA are planned.

The LBWA has limited access. From the north, there is a gravel road from the Berryessa Knoxville Road south into the east side area extending approximately seven miles, one of the purposes of which is to provide recreational access to the public. A wildlife viewing facility on that road might be helpful in attracting visitors to this area. However, at present, the eastside road has very limited public use capability. Control of public use through the LBWA plan is intended to protect resource values.

The 400-acre “Big Island” within Lake Berryessa also has significant potential for wildlife viewing.

The American Land Conservancy is in the process of establishing a 13,000-acre wildflower preserve in the valley of Bear Creek (western edge of Colusa County; see Figure 2, p. 9). The degree of public access to this preserve, which is gradually being assembled through use of conservation easements, has not yet been determined.

B. Land Oriented Recreation Activity: Related Economic Data

Much of the land-oriented recreational use in the Blue Ridge Berryessa region occurs on lands that are owned by public agency. As noted below, basic recreational use of these lands, like hiking and back country camping, is typically free of charge at the present time.

Imposing a fee where sites and facilities are scattered would be difficult. In such situations, a self-service fee system is often used. The generally-preferred method of self-service payment within outdoor recreation areas is through the use of “iron rangers” which securely accept self-service payments. Iron rangers range in complexity from simple iron tubes with a slot for payment and a lock at the top (generally payment is made with a small envelope also provided for the user), to machines which measure the amount of money deposited and issue a receipt.

The East Bay Regional Park District utilizes battery-operated iron rangers manufactured by Ventek International (a Petaluma-based company) that issue different receipts depending on the service. For instance, at EBRPD’s Lake Chabot facility, the iron ranger accepts payments and issues receipts for parking (\$4.00), fishing (\$3.50), launch fees (\$2.00), and dogs (\$1.00). For parking, the receipt is left on the dashboard of the car to verify payment has been made. For other services, the participant retains the receipt as a kind of permit for the activity; park rangers may ask for proof of payment by requesting to see a copy of the receipt. The machine used by the EBRPD costs about \$9,000 to purchase and install, and requires very little maintenance assuming vandalism is low (which has been the case for the EBRPD). Equipment of this kind could be installed at various locations in the BRBNA region to assist the public agencies in collecting fees should fees for use of public facilities be imposed.

1. Hiking

No admission is charged and no counts of users are maintained.

2. Equestrian Use

Currently, there are no direct public revenues associated with equestrian uses in the project area.

3. Hunting

Hunting licenses, which are sold through retail outlets such as sporting goods stores, are issued by CDFG on an annual basis. Table 9 presents data on hunting licenses issued in the BRBNA’s core counties.

Table 9
Hunting Licenses in Napa, Lake, and Yolo Counties and State of California, 1996

Area	Annual Resident Hunting Licenses
State of California	300,480
Napa County	5,033
Lake County	1,302
Yolo County	2,434

Source: California Department of Fish and Game

In 1999, the CDFG also began issuing a one-day hunting license. In addition to hunting licenses, the CDFG requires the purchase of a “hunting tag” for big game such as deer and a “hunting stamp” for larger bird game such as wild turkey. Hunting tags are purchased directly from the CDFG by persons already possessing a hunting license. Statewide, hunters buy approximately 312,000 hunting licenses each year, plus big game tags, waterfowl and upland bird stamps, and other entitlements, generating annual revenues to the State of California of about \$13.4 million.

Four of the Lake Berryessa concessionaires sell hunting licenses. In 1999, sales of hunting and sport-fishing licenses at these four concessionaires generated approximately \$50,000 in revenue to the CDFG.

Although, as noted earlier in this chapter, the level of hunting activity on BRBNA lands is not known, it is believed to be substantial. Hunting activity might be increased if the relatively isolated area to the east of Lake Berryessa were made more accessible. Possibly the gravel road on the east side could be extended in order to provide access to BLM's Rocky Ridge Management Area (a charge for access could be made). Such a route could function as a scenic toll route outside of hunting season. The Mount Evans Scenic Route described earlier in this chapter is currently being operated under a fee demonstration program sponsored by the U.S. Forest Service. Possibly such a program could be put in place here. The outstanding scenic quality of the east shore would make this location among the most likely places for such a route within the BRBNA lands. Availability of such a route would create a revenue opportunity for the BRBNA relating both to hunting and to wildlife viewing.

4. Off-Highway Vehicle (OHV) Facilities

Because the BLM does not charge a fee for OHV use of its land, the only public revenues associated with this activity are the State of California Department of Motor Vehicles (DMV) OHV registration fees ("green sticker" fees, because of the color of the required registration sticker on each vehicle). The initial green sticker registration fee is \$20 per vehicle, with an additional \$20 fee required every two years to keep the registration active.

Revenues collected from the green sticker fees are in part (\$4 of the \$20 collected) returned to the county of the OHV owner's residence for OHV-related use. The remaining revenues go into the "green sticker fund," which also includes pooled revenues from the state gas tax and the \$4.00/vehicle fee charged at the six fee-based, state-operated OHV areas.¹³ The green sticker fund is administered by the Off-Highway Motor Vehicle Recreation (OHMVR) Division of the California State Parks Department.

The OHMVR distributes the green sticker fund, which amounts to approximately \$12 to 15 million annually, as grants to cities, counties, special districts, and the federal government to assist with the management of OHV areas. Some 80 grants are issued by the OHMVR Division each year to fund maintenance of OHV roads and trails, OHV-related law enforcement, public information regarding OHV areas (such as maps and brochures), erosion repair and protection of environmentally sensitive areas, trash removal and restroom maintenance, and to acquire new OHV lands.

Additional funds for OHV trail maintenance, repair, and construction are available from the Recreational Trails Fund, a State-administered and federally-funded (TEA-21) grant program which distributes approximately \$900,000 per year to non-profit and public agencies.

A summary of funds for operations, maintenance and construction at the Knoxville OHV facility is contained in Table 10.

¹³ The closest State-operated fee-based OHV facilities are located in Rancho Cordova about 20 miles east of Sacramento and at the Carnegie State Vehicular Recreation Area, located between Livermore and Tracy.

Table 10
Off-Highway Vehicle Grant Funds, Knoxville Berryessa Management Area
Federal Fiscal Years 1998, 1999, and 2000

Grant Source	Grant Recipient and Type of Expenditure	Fiscal Year Beginning October 1 and Ending September 30		
		1998	1999	2000
“Green Sticker” Grants	BLM, for maintenance, operation, conservation and enforcement	\$66,750	\$76,250	\$48,960
Same	BLM, for project-specific site improvements	\$120,000 grant, effective through 2002, to re-route 16 miles of trails, construct signage and vehicle barriers, and make campground improvements		
Recreational Trails Funds (TEA-21)	California Conservation Corps, for project-specific site improvements		\$116,352 grant, effective through 2002, for trail restoration, construction of new trails, and trail closures	
Total Grants		\$186,750	\$192,602	\$48,960
Additional BLM Matching Funds ^a		\$16,500 (25%)	\$24,500 (33%)	\$27,540 (57%)

^a Matching funds support maintenance, operation, conservation, and enforcement.

Source: BLM

5. Bicycling

No records are maintained of mountain bike use in the study area.

A recent newsletter exchange posted on the website of the International Mountain Biking Association mentioned the possibility that fees might be imposed for the use of trails on Federal lands; specifically, lands of the BLM and the U.S. Forest Service, on which trails are currently open to public use free of charge. The writer spoke approvingly of a fee level of one to five dollars a day, or \$50 for a full year of access to most public lands in the United States, observing that “That’s less than it costs for two trips to the movies for a family of four. It ‘buys’ a lot more than a movie: increased opportunities for pleasure, learning and spiritual advancement, and simple joys like the ability to walk on a solid trail, rather than a bog of mud.”

Bicycle touring is another area of potential development. Bicycle tours could be organized using concessionaire facilities for accommodations under a European-type “hostel” arrangement. As noted above, infrastructure for cyclists, as well as promotion, would need to be part of a bicycling enhancement program.

6. Scenic Driving

Scenic driving does not appear to represent a significant volume of existing travel through the BRBNA region at present: most vehicular activity relates to destination-type uses and activities. Whether a revenue potential exists has not been studied. Promotion would be an essential element in the development of a revenue base from this activity, whether in the form of a toll road or an audio tape. Future enhancement

of the region's resources, if scenic and visual quality are kept in mind, would enhance the potential for scenic driving use over time, particularly during the off season.

Toll roads in other location report, consistently, a number of factors that should be kept in mind if this option is considered for the BRBNA. One is that visitation is highly variable depending on weather conditions. A second is that toll road facilities require staffing: entrance gates, safety and security patrols, and surveillance for maintenance purposes. A third is that, due to the nature of the facilities (especially those in hilly or mountainous areas), maintenance costs are high.

The tolls charged by the facilities studied are imposed on a vehicle basis (\$6 to \$15) or on a per-person basis (\$10 per adult with a per vehicle maximum of \$35) covered a range from about \$7.50 to \$15 per vehicle.

Some of these scenic roads are supported, in part, by commercial revenues in tourist service concessions along the route.

In none of the cases investigated did there appear to be a clear "profit" from the road operation. On the other hand, the toll revenue does contribute importantly to costs of maintenance (which are essential expenses). The systems are designed to break even, not to create a revenue stream for other purposes. An effort to increase the revenue stream by expanding commercial uses along the roads would probably be counter productive, because the natural or wilderness quality of the experience would be compromised.

7. Nature Observation

Currently there are no direct public revenues associated with these activities, other than the \$5.00/vehicle day use fee at the Cache Creek Canyon and Indian Valley Reservoir parks. An eastside wildlife viewing area, if established, could charge for access or for use.

Blue Ridge Berryessa Natural Area
Economic Study

CHAPTER 5. OTHER RECREATIONAL USES

The preceding chapters have focused on the activities and resources in the BRBNA region that serve recreation interests of individuals and families. These activities, water related and land related, take place within a scenic backdrop that enhances the recreational experience.

Interests in the BRBNA include other kinds of leisure activities beyond the kinds of recreational uses inventoried in Chapters 3 and 4. The BRBNA serves as a staging area for performances and events, and can serve as well as a meeting place for organizations sponsoring educational or fraternal gatherings.

The BRBNA region offers assets for this kind of use: not only an attractive setting, but also a location relatively close to population centers, weather (pleasant summer evenings and comfortable winter days), and a good selection of activities to draw from outside of the scheduled meeting times or activities of a gathering or conference. On the other hand, the BRBNA has disadvantages in attracting such uses: limited road access, sparse accommodations clustered at the low end of the comfort range, and – again – weather (very hot summer days and often very wet winter conditions).

The further enhancement of this market – the market for regional or statewide group meetings or conferences, the hosting of athletic or musical events, the provision of facilities serving scientific, educational, or environmental interests – would depend on a stronger coordinated planning effort, effective promotion, and an investment in appropriate facilities.

A. Activity Summary

1. Events

A good number of athletic and performance events are already taking place on BRBNA lands. The BRBNA partnership itself assists in publicizing these events, and in effect sponsors a series of them annually in May (see box).

Among the events taking place at Lake Berryessa regularly, or on an ad hoc basis, are the following:

- Swim tournament (spring), sponsored by Davis Aquatic Masters
- Fishing tournaments (various sponsorships and times)
- Bicycle racing (various times); the route of the Davis 200 goes through the BRBNA
- Equestrian events (none in 2000)
- Water skiing (annual fee from Monticello Ski Club plus and three wake board events in 2000)
- Music/performance events (none in 2000; these events are not authorized by the Bureau of Reclamation)
- Concessionaire-based events

The BRBNA does not provide ideal conditions for all of these events. Water temperature at the time of the swim tournament is very cold. Equestrian events are limited by the lack of a major equestrian facility in the region. Bicycle racing is hampered by weekend traffic.

The fact that events take place anyway reflects a number of factors. Very likely, the BRBNA area offers an advantageous cost that partially offsets the disadvantages of the site and facilities. For bicycle touring and equestrian events, it may be an advantage that the area is not well known, making the event site something of a novelty. Certainly the Masters swim event is a challenge to the participants. The fishing and water skiing events are more in tune with the character of Lake Berryessa and its weather than the other seasonal events.

Some events are not appropriate to the region. Concerts/performance events of any size are difficult to stage because of limited road access into the Lake Berryessa area and difficult to manage given limited security and emergency personnel and facilities, which is one reason they are discouraged by the Bureau of Reclamation. In one recent year, nearly 300 law enforcement and support personnel were called into service at Lake Berryessa to oversee conditions relating to an ad hoc event – making the event very costly in terms of public expenditures.

The “right kind” of events could be a benefit to the region, attracting visitors appreciative of the area and its scenic and natural resources – visitors who would understand the special qualities of this environment and encourage support of its protection. Not all potential events would serve that purpose.

BLUE RIDGE BERRYESSA SPRING CELEBRATION, 1999

Join with us to marvel at the diversity of the Blue Ridge Berryessa Natural Area, a 300,000-acre treasure in the Inner Coast Range that forms the watersheds of Putah and Cache Creeks.

Sunday, April 25: Join the American Land Conservancy and the California Native Plant Society on a wildflower tour of Bear Valley, one of the world’s most spectacular wildflower displays. Over 400 species of wildflower will greet you as you experience the peak of wildflower season. Contact Nicole Dooskin at the American Land Conservancy for reservations (415) 403-3850.

Saturday, May 1: The Quail Ridge Wilderness Conservancy will host an engaging half day eco boat-tour to learn about the flora, fauna, and cultural history of the Berryessa Valley. The boat will leave at 1:00 and return at sunset. Space is limited, call (530) 758 1387 to reserve. Cost is _ per person.

Saturday, May 15: The U. C. Natural Reserve System, Homestake Mining Company, and the Napa County Land Trust host a full-day tour of the newly-created McLaughlin Reserve. Learn about birds, geology, and serpentine plants in northern Napa County. Also join Homestake Mining Company in celebrating their 3, 000,000-ounce of gold! Lunch provided, call Dean Enderlin at (707) 995-6070 x 274 for reservations.

Sunday, May 16: Join the Quail Ridge Wilderness Conservancy on an interpretive walk from 1:00-8:00 on the 2,000 acre Quail Ridge Reserve. This easy-moderate difficulty hike will let us learn about wildlife and the native habitats of the area. At twilight we will listen to bats using a special bat listening device. Bring picnic supper, drinking water, and sunscreen. Call (530) 759-1387 to reserve.

Saturday, May 22: Everyone is invited to the Second Annual Putah/Cache Watershed Arts Festival at Guenoc Winery, 21000 Butts Canyon Road (south of Middletown). Free admission. Art, food, wine, poems, stories, and songs. Sponsored by the Putah Cache Bioregion Project of the Commission on the Environment, U.C. Davis.

Sunday, May 23: End the celebration with the Bureau of Land Management and a strenuous 6-mile hike on the Blue Ridge Trail. A 2,000 foot elevation gain will provide you with unparalleled views of the Putah and Cache Creek watersheds. Meet at 9:00 a.m. at Lower Cache Creek Regional Park, 5 miles northwest of Rumsey. Call Scott Adams at the Bureau of Land Management for reservations: (707) 468-4071.

The Blue Ridge Berryessa Natural Area is a voluntary partnership of private land owners and public land managers dedicated to the conservation, preservation, and management of natural wild, agricultural, and recreational lands located in the Cache and Putah Creek watersheds.

2. Meeting Facilities

There are no public meeting facilities at Lake Berryessa.

Elsewhere in the state, such facilities attract a considerable number of visitors annually, and in doing so create a constituency for the support and continuation of the environmental context in which they are located. The California State Parks Department owns two conference facilities operated by concessionaires. The largest facility, Asilomar, is located in Pacific Grove on the Monterey Bay and contains lodgings for up to 900 persons and various meeting rooms with a total capacity of approximately 1,500 persons. The State also owns the Marconi Conference Center State Historic Park, located in the town of Marshall on Tomales Bay, containing lodgings for up to 96 persons and a meeting room capacity of about 150 persons.

There are sites on Lake Berryessa that could accommodate a meeting facility of moderate size. Oak Shores day use area, immediately north of the Bureau of Reclamation's headquarters on Lake Berryessa, is such a site. Although some observers argue that Lake Berryessa would not be a good site for such a use, because of heavy weekend traffic and very high temperatures in the summer, these problems could at least in part be addressed by a prices, scheduling, and management strategy. For business and professional meetings, at which much of the activity would be indoors, air conditioned meeting places with lake views would be very attractive during hot day time hours, while the more moderate evening temperatures would allow outdoor activity in pleasant temperatures when the meeting day is over.

3. Museums and Exhibitions

The character of the BRBNA – its unusual combination of geology and related vegetation and wildlife – raise the possibility of developing museums or exhibitions that would “tell the story” of the region. The UC McLaughlin Reserve development plan calls for a museum and visitor center which may, in the short-to intermediate term, be sufficient to meet the demands of the public.

Over the long term, other kinds of exhibitions or public interest/education facilities could be developed. In the course of preparing this report, the consultants identified a number of small, specialized museums in the United States and Canada and inquired into the development cost and visitation patterns of several. While such museums or exhibition facilities (e.g., a snake farm) would be complementary to BRBNA's use, both recreational and educational, it is clear that the development, management, and ongoing operation of a museum, even a small one, is expensive. Museum administrators contacted by the consultant observed that a museum does not support itself on entry fees alone: the “gate” rarely pays for more than one-third of the museum's cost.

B. Other Recreational Uses: Related Economic Data

1. Events

In addition, CDFG year 1999 revenues totaled approximately \$500 for use of Lake Berryessa for bass tournaments (tournaments of up to 100 persons cost between \$50.00 and \$100.00 per event).

2. Meeting Facilities

The State of California requires the following fees to be paid by the concessionaire that operates the Asilomar facility:

- 8.61 percent of gross income, appropriated as a general fee to the State Parks Department;
- 5 percent of gross income, appropriated for a “facility improvement account” to cover capital costs for the Asilomar facility;
- \$190,000 annual fee (adjusted by five percent annually) to cover “program costs” related to state park interpretive programs at the facility; and
- reimbursement to the state for state park employee wages and utility costs.

These figures could serve as a starting point for considering revenue possibilities for a similar meeting facility in the BRBNA. Funding development costs would be a separate issue.

3. Museums and Exhibitions

Unfortunately, the inquiry into small museums and exhibitions found that, while these uses are desirable and could be developed in a manner complementary to BRBNA objectives, they are very unlikely to be net revenue generators.

CHAPTER 6. ACCOMMODATIONS

The BRBNA offers a variety of overnight accommodations ranging from fully-equipped motels to RV and tenting campsites and back country camping.

Bureau of Reclamation concessionaires on Lake Berryessa operate mobile home/trailer sites on both a short-term and long-term basis. There are 688 short-term sites on concession lands; these sites accommodate RVs or tents. There are 1,484 long-term sites accommodating RVs or mobile; these sites can be occupied for up to three continuous months (but cannot be occupied as permanent residences).

Finally, communities located on the major roadways leading into the BRBNA area offer accommodations in both local and national-franchise motels.

A. Accommodations: Facilities and Use Summary

1. Lodging Places

The study area contains four commercial lodging establishments, including three Napa County facilities at Lake Berryessa and one Colusa County facility in Bear Valley. It also contains long-term and short-term mobile home facilities and RV facilities that can also be used for tents. Accommodations and supporting uses are summarized in Table 11.

Table 11
Summary of Resort Lodging Facilities within the BRBNA Study Area

Resort Facility	Motel Units/ Lodging Rooms	Cabins/ Cottages	Long-term Sites	RV Spaces	Tenting Campsites ^a	Services	Amenities
<i>Bureau of Reclamation Concessions:</i>							
Putah Creek	27 units	none	143	55	65	day-use parking boat launch	bait shop boat rentals ^b restaurant
Rancho Monticello		11	569	39	59		
Berryessa Marina		4	170	30	80		
Spanish Flat		2 yurts	187	5	120		
Steele Park	22 units	15	152	57	none	day-use parking boat launch	bait shop restaurant
Pleasure Cove		1 tee pee	213	52	78		
Markley Cove			50				
<i>Other Facilities:</i>							
BJ's Turtle Rock	6 units ^c	none		none	none		bar/lounge
Wilbur Hot Springs	17 rooms dorm (11 beds) one "apartment"	none		none	2		trails ^d hot springs massage

^a Table 12 (below) provides further detail on tent camping facilities.

^b Both fishing and patio boats available.

^c In the winter of 2000, the six motel rooms at this facility were closed for conversion into apartments.

^d Mountain biking and hiking.

Source: Mundie & Associates

The privately-operated R-Ranch at the Lake also has primitive cabins for use by its members.

2. RV Accommodations

Transportable living quarters – mobile homes and recreational vehicles – are among the principal kinds of accommodations at Lake Berryessa. A mobile home (or “manufactured home”), generally speaking, is a stationary unit not meant to be towed for recreational purposes, while a recreational vehicle (an RV or “trailer”) is designed to be towed by a car or truck.

As of May, 2000, Bureau of Reclamation staff estimates that the concessionaires on Lake Berryessa have 1,484 spaces for mobile homes/ trailers on long-term leases. Of this total of about 1,500 long-term mobile home/trailer spaces, a total of 211 mobile homes were reported to the Napa County Assessors office in 1999 as permanent stationary trailers; the remaining 1,270+ trailers were either unregistered or were registered with the California Department of Motor Vehicles as RVs. Many of these trailers, although technically considered RVs, have not been towed in several years and, as a result of additions affixed to the vehicles or other factors such as rust, may not be moveable unless hoisted on a truck. Therefore, although tabulated as “recreational vehicles” for the purposes of this study, current occupancy of these units is more in the residences than of recreational vehicles.

Most of the Reclamation concessionaires offer spaces for RVs or tents on a short-term rental basis (14 or fewer days). About 840 of these spaces were reported as of May, 2000. Of the total of 840 spaces, a majority are designed for use by tents rather than RVs, and are used by tent rather than RV campers.

Some separation of RV and tent camping sites is desirable to respond to tent campers’ preferences. In general, the RV sites are closer to the water and the tent sites are tucked into the hillside area; this pattern is reversed at Putah Creek Resort, which has tent spaces on the water and RV spaces on higher ground. Steele Park Resort recently converted its tent spaces to RV spaces.

Depending on the location and focus of the resort, a range of other services is offered by the Lake Berryessa concessionaires. These services are available to both long-term and short-term leaseholders on a fee-for-use basis. Boating services include boat and jet-ski rentals, boat launching, boat dump stations, and boat dry storage and mooring. Fishing related services include bait shops and fishing boat rental. General services, such as general stores and restaurants, are also offered at many of the concessionaires.

Free RV camping is permitted within all of the BLM lands wherever motorized vehicles are permitted (the Knoxville Berryessa Road Management Area and the Indian Valley Management Area), as well as at the two campsites described below under tent camping. BLM’s Lower Hunting Creek in the Berryessa Knoxville Management Area is used by RV and tent campers. This facility offers six undeveloped campsites with picnic tables and shade structures, and a pit toilet.

Private RV camping is also permitted for members of R-Ranch at the Lake.

3. Tent Camping

a. Campsites (Individual and Family)

Five of the Lake Berryessa concessionaires (Pleasure Cove, Spanish Flat, Berryessa Marina, Rancho Monticello, and Putah Creek) offer tent campsites; these generally are the same facilities offered for RV spaces. As noted above, most of these sites are utilized by tent campers.

Free tent camping is permitted within all of the BLM areas: within designated camping areas, at informal campsites along paved and unpaved roads, and in the back country.

Yolo County Parks and the Yolo County Flood Control District also offer camping facilities, and private tent camping is also permitted for members of the R-Ranch at the Lake.

Table 12 presents a summary of tent campsite accommodations.

Table 12
Summary of Tent Campsite Facilities in the BRBNA Study Area^a

Facility	Location	Campsites	Facilities
Blue Oaks Camp (BLM)	Indian Valley Management Area	6 (RV camping also permitted)	running water vault toilet
Wintun Camp (BLM)	same	1 (RV camping)	pit toilet
Lower Hunting Creek (BLM)	Berryessa Knoxville Management Area	6	picnic tables pit toilet shade structures
Cache Creek Canyon Park (Yolo County Parks)	SR 16 at Rayhouse Road	45 individual ^b 3 group ^b	picnic tables fire rings and barbecues
Indian Valley Reservoir (Yolo County Flood Control District)	Adjacent to Indian Valley Dam, off Access Road north of SR 20	65 (RV camping also permitted)	24 sites with electrical hookups
Kowalski Camp, west side of Indian Valley Reservoir	Accessible only by boat or as a hike-in camp	several unmarked sites	none
Wilbur Hot Springs	Bear Valley Rd. (Colusa County)	2	wooden platform for tents restroom facilities near springs no fires permitted

^a Excludes RV campsites at Lake Berryessa resorts (see Table 11).

^b Individual campsites are limited to 8 persons; group campsites, to 30.

Source: Mundie & Associates

b. Backcountry Camping

Backcountry camping, or backpacking, is permitted on all of the BLM and CDFG lands in the study area. No permit is currently required, and no public fees are currently assessed. Back country camping in the BRBNA is a recreational activity that could be further developed along with the area's trail system. Parking at trail access points and water at camp sites would be desirable amenities.

c. Group Camping

The Boy Scouts of America operate a group campground on the northern shore of Lake Berryessa, at the Putah Creek inlet near the north side of the Putah Creek Bridge off Knoxville Berryessa Road. Reclamation permits this facility to the Boy Scouts for an annual fee, with the requirement that the organization be responsible for all maintenance, upkeep, and management of these grounds.

The scouting organization permits the facility to other organizations (such as church groups) in order to raise funds for the operating and maintenance of the facility.

A group campground program could be developed in the BRBNA, under an arrangement that provided more than nominal revenues to the administrative entity while placing most maintenance responsibility on the permit holder.

B. Accommodations: Related Economic Data

1. Lodging Places

As summarized in Table 13, the study area contains four commercial lodging establishments, including three Napa County facilities at Lake Berryessa and one Colusa County facility in Bear Valley. In the two most recent completed calendar years, annual transient occupancy tax (TOT) collections for the three Napa County facilities averaged about \$40,000.¹⁴

Table 13
Summary of Lodging-related Revenues in the BRBNA Study Area

Facility	Overnight Rates	Jurisdiction and TOT ^a Rate		Other Revenue Sources
Steele Park Resort	\$120 (22 motel units) \$140 (15 cottages) \$30 (57 RV campsites)	Napa County	10.5%	\$17/day for one day use of boat launch \$8/day for one day use of car parking
Putah Creek Resort	\$60 to \$90 (27 motel units) \$23 (55 RV campsites)	Napa County	10.5%	\$17/day for day use of boat launch \$12/day for day use car parking ^b bait shop, fishing and patio boat rentals, restaurant
BJ's Turtle Rock Resort	No lodgings offered as of May, 2000	Napa County	10.5%	bar/lounge
Wilbur Hot Springs	\$99 to \$151 (17 rooms) \$65 per bed (11 bed dorm) \$211 (one "apartment") \$45/person for 2 campsites	Colusa County	7.25%	\$20/hour for room rental \$33/person for day use of hot springs and mountain biking/hiking trails \$45 - \$100/ session for massage

^a TOT not applied to RV or tent campsites.

^b Overnight charge of \$38 for RV with a boat.

Source: Mundie & Associates

2. RV Accommodations

Five of the Lake Berryessa concessionaires offer short-term recreational vehicle (RV) camping for \$18-30 per night (Pleasure Cove Resort, Steele Park, Spanish Flat, Berryessa marina, Rancho Monticello, and Putah Creek). These RV spaces represent a minority of the approximately 840 short-term sites offered. Public revenues from these sites include the three percent concessionaire fee to the Bureau of

¹⁴ For the two-year period between January 1, 1998 and December 31, 1999, Napa County collected a total of \$84,456.69 for the three local facilities.

Reclamation and the DMV license registration fees, which include a property tax that is passed back to the county of residents after having been collected by the DMV.

The permit for the approximately 1,500 long-term mobile home/trailer spaces, which are paid to the respective concessionaires, are also assessed the three percent concessionaire fee. In addition, depending on how the vehicles are reported, mobile homes and trailers are subject to property taxes either collected by Napa County or by the DMV. In fiscal year 1999, Napa County assessed a total of 211 long-term mobile homes for a total value of \$4,757,236. Property taxes on the remaining trailers are assessed by the DMV and are returned to Napa County only if the owners are residents of Napa County.

At the Indian Valley Reservoir campground, the Yolo County Flood Control District also allows RV camping in all of the 65 campsites. About a 24 of these sites have electrical hook-ups for which the charge is \$2 per night electrical hookup fee; no other fee is charged.

There is no charge for RV camping on BLM lands.

3. Tent Camping

a. Tent Campsites (Individual and Family)

Five of the Lake Berryessa concessionaires (Pleasure Cove, Spanish Flat, Berryessa Marina, Rancho Monticello, and Putah Creek) offer tent camping for \$15-\$21 per night, comprising a majority of the approximately 840 short-term camping sites offered (the remainder of the short-term spaces are for RVs). Steele Park Resort recently converted its tent spaces to RV spaces.

Table 14 summarizes charges for campsite use.

Table 14
Summary of Tent Campsite Fees in the BRBNA Study Area^a

Resort Facility	Campsites		Fee Facilities
Blue Oaks Camp (BLM)	6	no fee	none
Wintun Camp (BLM)	1	no fee	none
Lower Hunting Creek (BLM)	6	no fee	none
Kowalski Camp (boat or hike-in access only) (BLM)	several unmarked sites	no fee	none
Cache Creek Canyon Park ^a	45 individual ^b	\$13/resident; \$15/nonresident ^b	none
(Yolo County Parks)	3 group ^c	\$125 resident group; \$175 non resident group	none
Indian Valley Reservoir (Yolo Co. Flood Control District)	65 (RV camping also permitted)	\$12/vehicle ^d first night; \$1/vehicle subsequent nights	24 sites with electrical hookups at \$2/night
Wilbur Hot Springs (private)	2	\$45	none

^a Camping use requires annual permit: \$80/resident, \$100/nonresident; \$50/senior resident, \$75/senior non-resident

^b Rates shown are in season. Off season rates (November-April) are \$12 for all campers.

^c Rates shown are in season. Off season rates (November-April) are \$100 for all campers.

Source: Mundie & Associates

Yolo County charges the following fees for the use of Cache Creek Canyon Park:

- Day use fees: \$5.00/vehicle, \$5.00/boat launch, and \$3.00/motorcycle;
- Annual day use permit (allows use throughout the year of all Yolo County park facilities)
 - ; \$50.00 for Yolo County residents, \$60.00 for non-residents
 - ; \$20 for senior Yolo County residents, \$25.00 for senior non-residents;
- Miscellaneous fees: firewood, \$3.00/bundle; dogs, \$2.00/night; group picnic rental fee, \$25.00.

Yolo County Flood Control District operates the other publicly-operated campground in the study area: the Indian Reservoir Campground, an approximately 65-space facility located on the southern shore of Lake County’s Indian Reservoir. There, each campsite includes a fire ring and picnic table, and electrical hook-ups are provided at 24 of the sites. Day use fees at Indian Valley are \$5.50/vehicle with up to three persons and \$1.00 for each extra person. Unlimited use of the boat launch is included in the day use fee.

Fee revenues to Yolo County and to the Yolo County Flood Control District from these two publicly-operated campgrounds are summarized in Table 15.

Table 15
Camping Revenues from Cache Creek Canyon and Indian Valley Reservoir Parks

Type of Use Fee	Fiscal Year	
	July 1998 through June 1999 (Full)	July 1999 through June 2000 (Part)
Cache Creek Canyon (Yolo County)		
Day use fee	\$4,454.37	\$2,899.24
Overnight camping fees ^a	\$37,786.00	\$25,931.00
Group site reservation/deposit fees	\$2,035.00	\$1,230.00
Annual camping pass	\$4,577.50	\$3,425.00
Rafting concessionaire commission ^b	\$36,725.32	\$65,288.42
<i>Cache Creek Total</i>	<i>\$87,548.19</i>	<i>\$101,128.66</i>
Indian Valley Reservoir (Yolo County Flood Control District)		
Day use and overnight camping fees	\$12,253	\$18,838
<i>Indian Valley Reservoir Total</i>	<i>\$12,253</i>	<i>\$18,838</i>

^a Individual and group sites, including barbecue rentals at group sites

^b Percentage of gross receipts or per person/per day charge

Source: Mundie & Associates

b. Back Country Camping

Back country hiking/backpacking activity counts are not tabulated. No fees are charged.

c. Group Camping

The group campground permitted to the Boy Scouts of America from the Bureau of Reclamation pays a nominal annual fee (\$300). Reclamation staff believe that, on termination of the permit, direct management could increase the revenue from this camp, with a charge of up to \$800 per weekend (Friday night through Sunday).¹⁵

4. Future Study

The expiration of concession agreements (contracts) between Lake Berryessa resorts and the Bureau of Reclamation in 2009 presents an opportunity for change. Future contracts could be different from the current operations. Future agreements may contain different contract requirements and different payment schedules. A change in facilities and services of Lake Berryessa-based operations is at least a possibility.

Recognizing the opportunity that the expiration of existing contracts would provide, in 1999 the Bureau of Reclamation contracted with an economic consultant to undertake a study of the economic potential of the concessions at Lake Berryessa. That study is being conducted by David Dornbusch Company of San Francisco. The purpose of their work is:

To evaluate current concession operations, identify possible redevelopment and development operations, determine the market for, and economic viability of, potential concession developments and assist BOR in the development of a lake-wide concession management plan. ... The consultant will perform a market analysis to determine the current and future demand for visitation and concession services at Lake Berryessa.¹⁶

It is recognized that the resort areas serve as a gateway to the resources of the region. Opportunities for a variety of activities and experiences exist beyond those offered by Lake Berryessa itself. In the future, there will be a reduced emphasis on long-term exclusive uses, and an increased emphasis on short-term activities. In considering the future of the lands currently under Bureau of Reclamation administration, one of the key questions is the type and scale of those future activities. With the completion of appropriate market analysis, Reclamation will be able to consider strategies for the long term, including visitor lodging and facilities as well as recreational activities.

C. Accommodations: Facilities in Gateway Communities

The study area is accessible from the San Francisco Bay area via Wooden Valley Road from I-80, SR 121, SR 128, and the Deer Park/ Howell Mountain/Pope Canyon roadway segments.

From the Sacramento, Davis, and Vacaville areas, the study area is accessible via SR 128 and SR 16 for the Lake Berryessa and Cache Creek subareas, and via SR 20 for the Indian Valley and Bear Valley subareas. From Clear Lake, Butts Canyon Road and Morgan Valley Road are the main access routes.

Gateways to the BRBNA area, and access roads into the BRBNA from those gateways, are shown in Figure 5 (p. 53).

¹⁵ Eric Natti, October 8, 1999. Education camps could be run by non-profit organizations either at the existing facility now used by the Scouts or at other existing (or to-be-developed) facilities at Lake Berryessa.

¹⁶ Bureau of Reclamation, Scope of Work for Concession Services Planning and Feasibility Analysis (Draft, August 8, 1997), pp. 1 and 4.

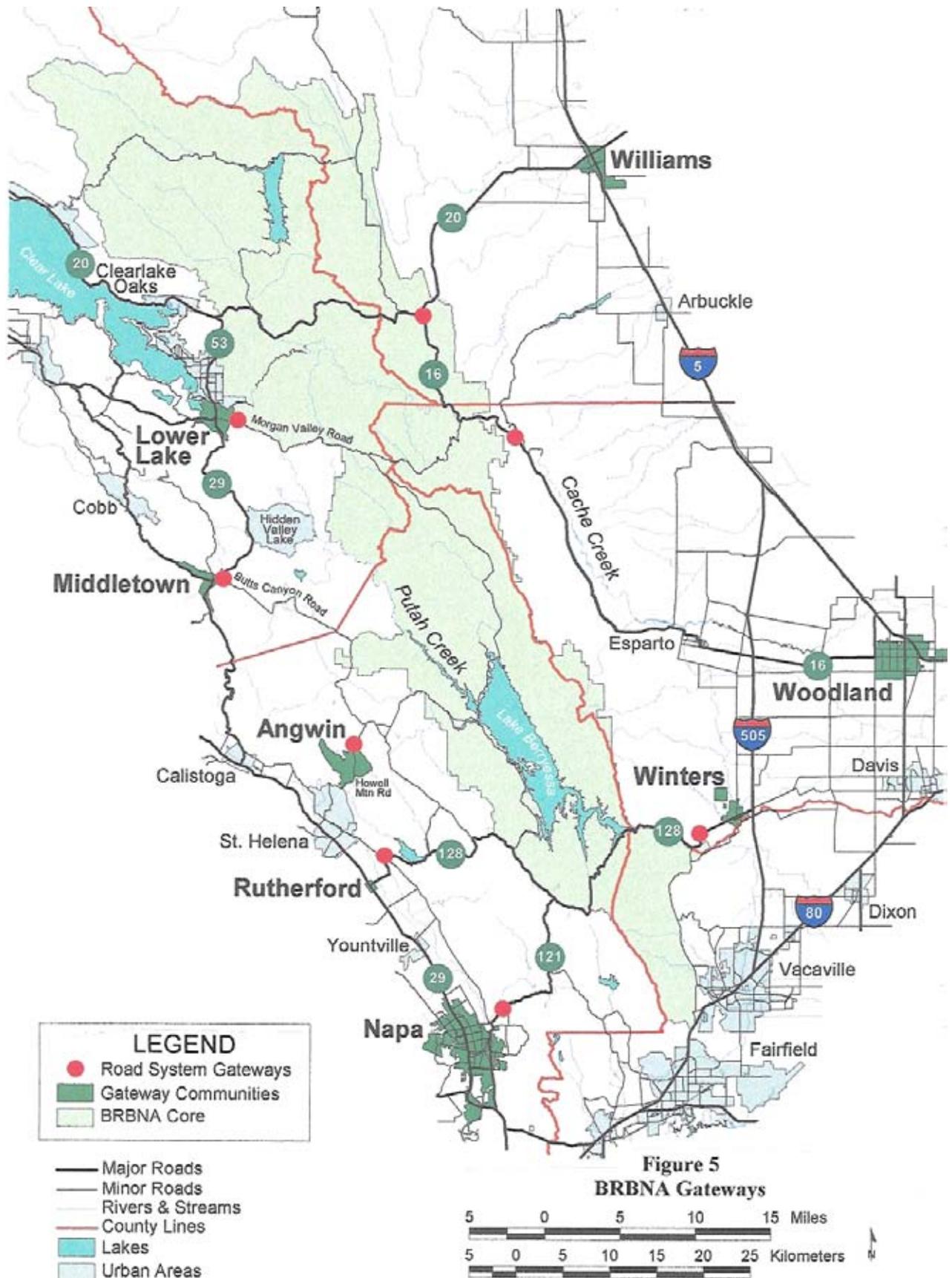
The gateway communities identified in Figure 5 offer the last services prior to entering the study area. As described in Table 16, most of these gateway communities offer some form of lodging either on the access route or very near the access route.

Table 16
Summary of Lodgings in BRBNA Gateway Communities

Gateway Community/ Route	Facility and Site	Room Rates and Number of Rooms	Amenities and Services Offered
City of Napa SR 121	Best Western SR 121 at Soscol Avenue	\$95 to 175 (68 units)	swimming pool, whirlpool
Same	Silverado Country Club Resort Atlas Peak Road 5.8 miles east of City of Napa via SR 121	\$140 to 325 (260 units)	swimming pools (8), golf (36 holes), tennis (23 courts), bicycle rental, gift shop
Rutherford SR 128	Rancho Caymus Inn Off SR 128 east of SR 29	\$165 to 345 (26 units)	None
Angwin Howell Mountain Rd.	Forest Manor Cold Springs Road just off Howell Mountain Rd.	\$210 to 395 (4 rooms)	swimming pool and 20-acre private grounds with hiking and mountain bike trails
Middletown Butts Canyon Rd.	Harbin Hot Springs Harbin Springs Road, 3-4 miles north of Butts Cyn Rd./SR 29 junction	\$50 - 185 (44 rooms) \$30 - 45 (10 dormitory beds) \$20 - 25 (several unmarked campsites)	swimming pool, soaking pools, trails on 1,160-acre grounds, con- ference rooms, general store, res- taurant/café, yoga classes, massage
Lower Lake	None (closest accommo- dations in Clearlake, a 10- 15 minute drive to north)	n.a.	n.a.
Woodland SR 13 (Main St.)	Comfort Inn	\$54 to 90 (51 units)	whirlpool
Same	Cinderella Motel	\$42 to 68 (30 units)	whirlpool
Winters	None (bed and breakfast under construction)	n.a.	n.a.

Source: American Automobile Association, Napa Chamber of Commerce, Clear Lake Chamber of Commerce, Winters Chamber of Commerce, Woodland Chamber of Commerce, University of California

Source: Mundie & Associates



Blue Ridge Berryessa Natural Area
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CHAPTER 7. OTHER USES AND SOURCES OF SUPPORT

A. Conservation, Education, Research

1. University-based Uses

The University of California owns three tracts of land within the BRBNA (see Figure 2, p. 9):

- Donald and Sylvia McLaughlin Reserve, which is located along the Knoxville Berryessa Road and is utilized exclusively for educational and research purposes
- Stebbins Cold Canyon Reserve, located below Monticello Dam, which is utilized for educational/research uses as well as recreation uses (for a discussion of recreational uses of the Stebbins Reserve, see Chapter 4, Part A.1 on hiking); and
- Quail Ridge Reserve, located on the northern shores of Lake Berryessa, which is utilized exclusively for educational and research purposes.

A summary of educational and research uses on the three UC holdings is presented in Table 17. The list of projects reflects the character and variety of the research and educational opportunities supported by the range of biological and geological resources in the study area.

2. Other Educational Uses

Other educational uses are possible, given the resources of the study area. One possibility is a program for school districts in the region, which might include an environmental education camp for secondary school students. A San Francisco private school experimented with such a program in the 1980s, using a former rural homestead south of Middletown (Lake County). Environmentally-oriented camping for high school students is popular throughout the state. This is an area that could be explored.

3. Conservation-based Uses

a. Conservation-based Purchase of Land or Development Rights

Conservation-oriented groups may acquire and hold land for purposes that further their conservation goals. Owners and purchasers of lands for purposes of conservation – broadly speaking – may include private individuals, private organizations (e.g., conservancies and land trusts), and public agencies. All of these kinds of groups are active participants in the mosaic of Blue Ridge Berryessa conservation efforts.

Individual and family organizations may hold and manage lands for conservation purposes. Family ranches held and managed for hunting offer an example of how private owners can choose to remain owners of lands retained essentially in non-developed use. Public agency owners, to some degree, operate in the same way. The California Department of Fish and Game, which has acquired Knoxville area lands from the Gamble Ranch, will be able to maintain those lands for conservation purposes

Outright purchase of land, or purchase of development rights, represents one approach a land trust can take to gain control of land. Alternatively, a trust may receive a gift of land (or development rights) from a private owner. In either case, the trust's purpose in acquisition, or acceptance of a gift of real estate, is to assure that the land involved will be withheld from development and managed with conservation and enhancement in mind.

Table 17
University-based Educational and Research Uses as of April, 2000

Funding Source and Amount		Research Project <i>Academic Affiliation</i>
McLaughlin Reserve (590 annual user-days ^a)		
Homestake Mining Co./Yolo Co.	\$182,325	Davis Creek Watershed Monitoring Program <i>UCD</i>
National Science Foundation	150,000	Ecology of Serpentine and Non-Serpentine Grasslands <i>UCD</i>
National Science Foundation	150,000	Turnover of Rare Plant Populations in Serpentine Spring-Seeps <i>UCD</i>
National Science Foundation	80,000	Where You Grow Versus Where You Are: The Role of Soil and Spatial Characters for Predicting the Occurrence of Rare Plants <i>UCD</i>
Putah-Cache Bioregion Project	1,600	Maintenance of Diversity in Plant Communities: Persistence of Rare Plants <i>UCD</i>
Putah-Cache Bioregion Project	1,250	Distribution and Abundance of <i>Vulpia Microstachys</i> across an Environmental Gradient <i>UCD</i>
UC Natural Reserve System and Public Service Research Program	2,150	Barbed Goatgrass on Serpentine Soil: Is It a Problem? <i>UCD</i>
	None	Long Term Population Changes in Fish Populations of Hunting and Knoxville Creeks <i>UCD</i>
	None	Aquatic Insect Assemblages in Temporary Streams in Serpentine and Non-Serpentine Drainages <i>UCD</i>
	None	Self Similarity in the Abundance and Distribution of Species <i>UCB</i>
	None	Floral Pigmentation and Speciation in <i>Antirrhinum</i> <i>Harvard Univ.</i>
Stebbins Cold Canyon Reserve (1,259 annual user-days ^a)		
Jastro Fields	\$1,400	The Influence of Gregarious Pipevine Swallowtail Butterfly Larvae on the Host Plant <i>Aristolochia Californica</i> <i>UCD</i>
National Science Foundation	n.a.	Studies on the Biology and Systematics of Ants <i>UCD</i>
Putah-Cache Creek Bioregion Project	\$2,000	California Pipeline Swallowtail: A Symbol of the Unique Character of Central Valley Flora and Fauna <i>UCD</i>
	None	Aquatic Invertebrate Phenology in an Unaltered Temporary Stream
	None	Nodulation in <i>Distica Glomerata</i> <i>UCD</i>
	None	Survey of the Parasitic Hymenoptera of the Stebbins Cold Canyon Reserve, California <i>UCD</i>
	None	The Influence of Gregarious Pipevine Swallowtail Butterfly Larvae on the Host Plant <i>Aristolochia Californica</i> <i>UCD</i>
	None	Surface Bedrock Geology of the Cold Canyon Area, Vaca Mountains, Solano County, California <i>UCD</i>
	None	An Inventory of the Lepidoptera of the Stebbins Cold Canyon Reserve <i>UCD</i>
Quail Ridge Reserve (347 annual user-days ^a)		
Center for Population Biology	\$3,050	Habitat Selection in Western Fence Lizards <i>UCD</i>
	None	Lepidoptera Survey of Quail Ridge <i>Private Study</i>
	None	Wildlife Habitat Relationships, Reptiles and Amphibians <i>UCD</i>

^a Approximate annual usage level. In addition to research, includes public outreach and class use.

Source: UCD

In both cases – acquisition of a whole or partial interest in land for purposes of conservation or environmental mitigation – the creation of a conservation-based interest in the land may involve a transfer of funds, but it does not create an income stream. These approaches are to be encouraged as consistent with, and reinforcing of, the BRBNA's objectives, but direct monetary support for the planning and administration of conservation would not be an outcome.

Land trusts have been established in each of the three principal BRBNA counties, and all three of the trusts are BRBNA partners (see Table 1, p. 2). Conservation easements and land trust ownerships in the BRBNA are shown in Figure 1 (p. 3).

b. Environmental Mitigation

Implementation of the California Environmental Quality Act has established a vehicle for channeling resources from development interests into land investment for conservation purposes. Where a project is found to have adverse impacts on vegetation and/or wildlife, its approval may be conditioned on proper mitigation of those impacts. Such mitigation may include replacement of the affected lands with lands on which the affected biological resource can be protected. Mitigation ratios are rarely less than one-to-one (1:1), meaning that for each acre of biologically-important land affected by a development project, one acre of suitable replacement land must be identified and secured. More often, a replacement ratio of 3:1 is required. Generally the suitability of replacement lands must be evaluated and attested to by a professional biologist expert in the particular type(s) of resource the project itself would adversely affect.

In recent years, it has been common for the California Department of Fish and Game (CDFG) to impose more demanding mitigation ratios in order to protect special status species. Such lands may serve a variety of purposes. For plant species, they must be lands that are suitable to the particular plant species of concern. The organization responsible for mitigation may be required to take steps to assure the successful establishment of the plant species in question on the replacement land. For wildlife, the mitigation land might play any of a number of roles for the species in question, including breeding, estivation, forage, and movement.

The Blue Ridge Berryessa Natural Area offers a variety of specialized biotic areas, where habitat for a broad range of animals exists. Lands within the BRBNA may be able to serve as mitigation of biological impacts of development projects in either the Bay Area or the Sacramento area that are closer to urban uses. In such cases, the project sponsor of the development may purchase the mitigation lands, or purchase mitigation rights to those lands, and then offer those lands to a local government or a private trust to carry out the mitigation objective established by the conditions of project approval. Public agencies both locally and in the non-BRBNA area in which the project is proposed would have to agree to the mitigation arrangements, and a transfer of funds to enable the BRBNA jurisdiction to monitor implementation would probably be an element of such a program.

c. Conservation Grants

Grants can be solicited from conservation-oriented agencies and organizations either for acquisition of lands that serve conservation objectives or for operations costs in planning and management. As of summer 2000, it appeared that funds might be available from the State as provided for under Proposition 12. At the same time, BRBNA was working with several organizations (including the Bay Area Open Space Council) to identify potentially fundable activities.

4. Fundraising with a Conservation Emphasis

There are several avenues that could be investigated by the BRBNA for income possibilities: memberships, gifts, and special fundraising activities. A number of Bay Area conservation groups use these and other techniques for raising funds, and might be willing to share their experience.

- The Greenbelt Alliance receives funds from memberships, gifts, and special events.
- The Lindsay Wildlife Museum receives funds from memberships, gifts, and other fundraising activities, including vehicle donations; the latter has generated about \$400,000 in revenues to the museum since the program began.
- Point Reyes National Seashore, which is owned primarily by the federal government and operated by the National Park Service, is also supported by a non-profit association, the Point Reyes National Seashore Association. The PRNSA operates a shop at the visitor center that in 1999 netted some \$90,000 on a sales volume of about \$350,000. This group, too, solicits vehicle donations as a fundraising technique. This program was begun in 1999 and had generated about \$40,000 as of mid-year 2000.

The vehicle donation concept uses the status of the conservation group as a not-for-profit organization under the regulations of the IRS to receive donations in kind from individuals, who may take a tax deduction for such gifts (a deduction that may be more financially advantageous to the donor than selling the item on the market). Donations of a variety of items may be made (and solicited), including land. The majority of advertising for donations focuses on automobiles.

The conservation organizations contract with a business to manage the solicitation, collection, and disposition of the gifts. The Vehicle Donation Center, which has its main office in Los Angeles, manages the vehicle donation programs for a number of northern California organizations. The costs involved in operating a program for a non-profit sponsor include advertising, vehicle towing, an administrative fee, and an auction fee. The arrangement is generally that the Vehicle Donation Center operates the program; any profit remaining after costs are paid are divided (generally 50:50) with the sponsoring organization.

The possibility of a donation program for the BRBNA could be evaluated as a source of funding for a non-profit sponsoring organization, if one is established. An analysis of this possibility might also consider solicitation of used mobile homes and boats, if it makes sense to solicit donations locally in the Lake Berryessa area. (Solicitation may produce more responses and yield higher revenues in affluent suburbs than in the study area.)

B. Resource-based

1. Grazing

Grazing is the principal agricultural activity in the core portion of the BRBNA. Both private ranches and public agencies are involved.

From the private sector perspective, grazing is economically marginal. Probably the “best” grazing lands are in private ownership, but the return fluctuates (as with most agricultural activity, unpredictability is intrinsic to the operation), and in recent years has been at levels that encourage owners to consider other options (such as enhancing their lands for leasing as hunting preserves).

BLM’s lands include mostly the higher ridges, the south slopes, and other lands without water. Nevertheless, in favorable seasons (essentially, the rainy season) ranchers supplement their own holdings via use of BLM lands. For a permit to graze, there is a basic fee of \$1.35 per cow per year – a fee which is considered well below the market (\$4.28 was estimated as a fair fee in the private market in the summer of 1999). A “willful trespass” fee can be imposed in a case of grazing without a permit. The fees are lower than environmental groups advocate: overgrazing and misuse of public lands made available for grazing have been chronic problems throughout the west. Under the current national administration, the Department of the Interior has revised establishes grazing area standards and guidelines in part to avoid overuse.

Only about 20 percent of BLM lands in the BRBNA are in grazing use. Some public lands that could be used for grazing have been set aside for other uses, such as wildlife habitat (e.g., for elk herds in the Cache Creek Management Area). BLM manages grazing allotments based on the “AUM,” or animal unit month. (The higher the AUM, the better the land for grazing.) Table 18 shows some of the BRBNA-area BLM allotments in 1999

Table 18
Examples of BLM Grazing Allotments in the BRBNA, 1999

Location	Acreage	Licensed for	Parcel Type
Cement Creek	1,671	84 AUMs	one contiguous piece
Maxwell Creek	628	6 AUM	two non-contiguous parcels
Jericho Valley	4,428	336 AUMs	basically contiguous lands
Portuguese Canyon	800	83 AUMs	two parcels barely attached
Rocky Ridge	1,720	120 AUMs	noncontiguous lands

Source: BLM

A local estimate to the effect that 100 acres of land is needed per head of cattle would be borne out by the ratio for Maxwell Creek; the other lands appear to be better. But using the yardstick of four acres per AUM as “fairly productive” grazing land, these lands are not in the “productive” category.

Rural land of the type in the BRBNA – whether privately or publicly managed for grazing – does not appear to generate sufficient revenue to attract new ranching/grazing enterprises.

2. Filmmaking

Another potential use of rural land is for filmmaking.

In pursuit of this possibility, Lake County has established a County department, the Lake County Marketing Program, to promote recreation, film making, and other economic development within the County. The department is funded entirely from County TOT (transient occupancy tax) revenues, which are collected at a 9 percent rate on hotel and motel rooms. The Marketing Program gets 78 percent of the Lake County TOT revenues, which allowed for a budget of \$415,224 in the 1999-2000 fiscal year.

Thus far, filmmaking in Lake County is in its infancy, and the scale of the future potential is unknown. Access difficulties are thought to be the main obstacle. However, the Marketing Program has been working on a “one-stop” film permit that would allow filming on any of the public lands in the County, and the County itself charges no fee for film permits – both of these factors providing incentives to interested filmmakers.

C. Future Development

The existing land use pattern in the BRBNA is predominantly rural. Most of the land uses are open (ranching, forests, open recreational areas) with minimal requirements for buildings. Scattered rural residences, some of which are part of ranches, are the most common buildings.

There are no incorporated cities in the BRBNA. However, urban density development exists in the Napa County portion of the BRBNA along parts of the Lake Berryessa shoreline and in nearby commercial nodes:

- Spanish Flat (private mobile home park, store, restaurant)
- Sugar Loaf (store near BOR headquarters)
- Moskowite Corners (trailer park with store and gas station)
- Berryessa Highlands (private residential subdivision near Steele Park Resort)
- Berryessa Pines (private residential subdivision north of Monticello Resort).

Napa County has designated certain areas in the rural portions of the County as urban use areas. These areas are mapped on the County’s General Plan. If urban land uses are developed in the Napa County portion of the BRBNA in the future, County policy would limit such development to lands already designated for urban use.

The five BRBNA counties (Yolo, Lake, Colusa and Solano in addition to Napa) do not, however, have land use authority over federal lands, and their land use policies are not binding on federal agencies like the Bureau of Reclamation and the Bureau of Land Management. There is therefore a need to coordinate federal objectives relating to land in federal ownership with County land use policy. Such coordination may be particularly important where federal lands would rely on County services (road maintenance or water supply) to make them developable. (Water supply for the two residential subdivisions bulleted above is provided by the Napa County Department of Public Works.) For rural counties, providing urban services to dispersed areas is difficult and costly, and establishment of any new such areas outside those already designated as urban use areas would face resistance on fiscal grounds by local governments that might be expected to provide services.

The fiscal concerns of local agencies are echoed by concerns of many of those whose focus is on resource protection. While new development may yield a revenue stream that could potentially be tapped by public agencies to offset the cost of government services or by organizations that would use the funds to support conservation, the perennial question is whether the financial gains from development would offset its environmental costs. To many, the idea of generating revenue to support conservation by permitting development appears contradictory and self-defeating.

There is also doubt about whether anticipated revenue streams from new development projects would offset the capital costs of establishing them. Consideration of any new development in the BRBNA will have to address persuasively these issues of fiscal and environmental soundness in order to counter a pervasive skepticism that, from the perspective of long term environmental protection, may well be justified.

CHAPTER 8. SUMMARY REVIEW OF FINDINGS

The Blue Ridge Berryessa Natural Area Partnership is an unusual organization: its partners include landowners from both public and private sectors and public interest groups that may not own land at all. Its purposes are not development-oriented but conservationist, yet it may endorse development that is acceptable in environmental terms, enhances public access to and use of the its geographical area (if access and use can be managed in an environmentally sound manner), and contributes to that area's ability to undertaken planning and management for conservation purposes.

The preceding chapters have reviewed the overall objectives of the BRBNA and begun the process of inventorying existing and potential opportunities for recreation, conservation, and education in the BRBNA area. This inventory is intended to serve as the basis for an initial order of magnitude estimate of a revenue stream to support BRBNA purposes.

This chapter reviews the assumptions and limitations of revenue estimates, presents revenue concepts and initial dollar targets attached to those concepts, and comments on the findings.

Anticipation of a common revenue base to support the BRBNA's work is, of course, premised on the constitution of BRBNA itself, or some successor entity, as an organization that can coordinate a revenue collection system among its constituent organizations and private interests, allowing it to define, mandate, and collect fees and other revenues. The BRBNA is not yet such an organization. The institutional aspect of a future administrative and management structure must also be addressed. The final chapter of this report reviews issues relating to organizational structure.

A. Purpose and Limitations

This report carries the simple title "Economic Study."

Initially, the term "Feasibility Study" was applied. After the work began, however, it quickly became clear that the conventional meaning of the term "feasibility" would not fit the context of the research reported here. While the information provided in the preceding chapters would be indispensable to a feasibility study, the variety of situations, uses, and markets in the BRBNA make the feasibility analysis of the kind of collaborative venture the BRBNA partners envision a daunting effort, given that:

- There is no common definition of feasibility.

There is no single provider or investor, as there normally is for a standard feasibility study. In this case, the BRBNA represents a wide variety of interests which, although committed to collaboration, nevertheless have independent purposes, responsibilities, and mandates that are not identical for all the participants.

- There is no use or activity program to which all of the partners have subscribed.

One of the basic ingredients of a feasibility study is a definition of the activity for which the costs, revenues, and return on investment is to be analyzed. The BRBNA hosts, among its many landowners, a great variety of activities and uses. The kind of collaborative effort it will take to put together a comprehensive programs of activities and uses (including type, scale, and location of any

new development) for which individual feasibility analyses may be performed has not yet been undertaken.

- There is no single market for BRBNA uses.

Feasibility analysis is premised on the ability to quantify demand within an identifiable group of consumers. In the BRBNA, users range in interests, both as individuals and as groups, and cannot be defined in terms of a single identifiable group. Many (possibly a majority) of user groups are not locally resident. In addition to users, other groups have interests in the BRBNA. These “client” groups include all those publics that the public agencies within the BRBNA are committed to serve.

- Quantification of the costs of a service or use and its market price is premature for the BRBNA.

Quantification is the hallmark of feasibility analysis. The point of the exercise is to gauge the likelihood that market price will exceed cost by a sufficient degree to reward investment and sustain risk. Such quantification is premature here in view of the still preliminary state of knowledge about activities already in place (e.g., counts of hikers) as well as potential activities (e.g., a wildlife viewing area on the east shore of Lake Berryessa).

These are potent obstacles to the completion of a feasibility study at this time, but that only serves to underscore the necessity of bringing together the kind of economic information needed to support a future feasibility analysis. This report makes a first effort to do exactly that.

The following presentation does not reach global findings of a “thumbs up” or “thumbs down” character. What it does is inventory use-based revenue possibilities, attaching a dollar potential to each and reviewing reservations and qualifications relating to the estimates. It also discusses some non-user-based revenue possibilities.

The overall report concludes, in Chapter 9, with some examples of institutional structures each of which, like the BRBNA, is addressing planning for and management of a geographically-based area serving a host of interests and markets. Lessons from these other entities may be helpful as the BRBNA shapes the most appropriate kind of collaborative structure to serve the particular needs and objectives of its geographic area of commitment.

B. Revenue Potential

1. Perspective

A suitable subtitle for this report would be, “An Exploration of Potential Revenues Applicable to Conservation Planning and Management in the Blue Ridge Berryessa Natural Area.” To review the significance of that title:

- “Exploration” means that the study explored uses not present now as well as uses already represented; it means that revenues are values based on existing information that is, at best, uneven; the term “estimate” is more definite than is currently justified.
- “Potential” means that the work looks at existing uses and revenues and reaches provisional conclusions about the potential for future revenues from expansion or augmentation of existing uses.

- “Revenues” indicates that the work is revenue focused. This is an important point, in view of the fact that revenue streams will not be cost-free. For market-based uses, and for some public uses as well, investments would be required. Furthermore, some increases in use would involve increased costs that come out of different pockets than the revenue go into. For example, county costs in providing law enforcement and emergency services might not be offset by revenues to counties from project on Federal land.
- “Applicable” is meant to communicate that the purpose of the revenue is to support the objectives of the BRBNA. Therefore, the revenues have somehow to be designated for that use.
- “Conservation Planning and Management” carries the implication that this is, indeed the principal purpose of the BRBNA.

Importantly, this term draws attention to the need to evaluate potential revenues in light of potential environmental effects of particular uses, an issue raised at the end of Chapter 7. If expanded or new development both generates revenue and creates environmental effects, how do we decide what the tipping point is? At some point, there will be a need for something like an environmental feasibility review to make sure that the level of change involved in the a particular introduction or expansion of a particular activity is acceptable.

With this introduction, let us turn first to the inventory of uses and their revenue characteristics, and then to more general revenue concepts.

2. Use-based Revenues

The uses identified in Chapters 3 through 7 offer a range of revenue possibilities which are summarized in Table 19.

The figures presented in the table are, at best, provisional. Some of the visitation statistics are weak or lacking. In some cases, the fees or permits charges have not been verified, or may not be current at the end of 2000. In some cases no fees are charged, and the revenue is the consultant’s best guess. In virtually all cases, the ability of the BRBNA or some successor entity to impose and collect a fee is not known.

Nevertheless, the effort at establishing an estimate is worthwhile. For one thing, it shows clearly which activities are likely to yield the highest overall revenues. It also shows the reverse: which activities are unlikely to yield substantial revenues, and may not justify further analysis at this time.

In all cases, it must be remembered that every activity has a set of costs behind it for its establishment and continuing operation. The ability of any fee to fully reimburse those costs is not known, although for activities in operation currently there is a presumption that they are paying their way. Newly imposed fees would not necessarily be “net” because there would certainly be a move on the part of the activity operator to tap into fee revenue to pay maintenance and administrative costs. Thus, summing the total revenues from the last column of Table 19 would almost surely overstate the revenue potential to the BRBNA or its successor entity.

Those cautions observed, the leading revenue generators are tabulated in Table 20 and an estimated annual total from those sources is presented.

Table 19
Revenue Characteristics of Existing and Potential Uses in the BRBNA

Use/Activity	Scale of Use/Activity (all figures approximate)	Current Use Charges	Basis of Estimate	Estimate
boat slip rentals	1,000 on Lake Berryessa	rough average of \$800 for annual rental	\$50 on annual rental	→ \$50,000
boat use fee	5,000 boats regularly using Lake Berryessa	none	annual decal @ \$5	→ \$25,000
boat launches, weekdays weekends/holidays	50/day on 250 weekdays 250/day on 115 other days	12,500 launchings 28,750 launchings	40,000 launchings @ \$2	→ \$80,000
houseboat tie-ups	40	tie-up fee rough average of \$1,500 annually	40 tie-ups @ \$150	→ \$6,000
whitewater rafting	7,500 participants/year	rough average of charge \$30 per participant	7,500 @ \$2	→ \$15,000
fishing	roughly 5,000 two-day licenses sole locally	license fee about \$10	5,000 fishers @ \$1	→ \$5,000
boat registrations	no local area-specific data	boat registration fees State collects and distributes to counties	no local revenues	none
boating-related gas tax	no local area-specific data	boat gas tax revenue State collects and distributes to counties	no local revenues	none
picnicking and swimming	unknown	--	parking fee (see parking)	--
hiking	unknown	--	parking fee (see parking)	--
hunting	unknown	not clear whether imposing a fee on hunting leases would be worthwhile	--	none
off-highway vehicle use	variously estimated	say 10,000 users	10,000 @ \$5	→ \$50,000
bicycling	unknown/undeveloped	say 5 touring events/year	5 @ \$500	→ \$2,500
scenic driving	unknown/undeveloped	--	--	none
nature observation: LB Wildlife Area (eastside) Cache Creek nature pres. Bear Creek wildflower pres.	undeveloped less than 1 year history not yet established	say, gated route; 500 users limited entry; 2,000 users limited entry; 500 users	3,000 @ \$5	→ \$15,000
special events (athletic and performance)	unknown	CDFG charges \$50-100 for fishing tournaments	say 50 @ \$200	→ \$10,000
parking	unknown; development potential not known	Cache Creek charges \$5	say average daily use of 1,000 in all locations @ \$5	→ \$5,000
meeting facility	BRBNA has none currently	complex set of charges to Asilomar concessionaire	say \$50,000	→ \$50,000
franchises	seven LB resorts	gross revenue rising to \$12 mil. (from \$10 mil.); increased franchise fee	say franchise fee rises from 3% to 15%	→ \$1.5 million
group camps	one camp currently (permitted to Boy Scouts)	current annual fee = \$300; instead, charge by day	say 10 weekends of use @ \$800 per weekend	→ \$8,000

Source: Mundie & Associates

It bears repeating as an introduction to Table 20 that the figures shown are not at a level of certainty for which the word “estimate” is justifiable. It would be best to consider the information in Tables 19 and 20 as an organizational aid to the further development of revenue estimates.

Table 20
Use-based Revenue Summary

Use/Activity	Annual Revenue^a	Status	Future Investigation
franchises	\$1,800,000	To be renegotiated when current permits expire (2009)	To be addressed in study for BOR now under way
boat launches	\$80,000	Function split between BOR and its concessionaires	Would be helpful if this were addressed in BOR study; number of launches, sustainable fee, and mechanism for collection all need to be addressed
boat slip rentals	\$50,000	BOR concessionaires	Slip count and current revenues should be determined in BOR study
OHV use	\$50,000	No trail use fee is currently collected, and use level is not systematically observed	Users may feel they are being “double charged.” Fee strategy will need to counter this resistance.
meeting facility	\$50,000	None currently exists. While a potential generator, development costs would be significant.	Cost of establishment? Is there a site at which environmental impacts can be mitigated? Would revenue stream be reliable?
boat use	\$25,000	Who would charge and how imposed are question marks	A \$5 annual fee is minor and would probably be acceptable to the public.
nature observation	\$15,000	Partially established; advantageous in terms of image as well as education and recreation	New viewing sites have development costs; all sites have costs in collection.
whitewater rafting	\$15,000	Established and popular use	Surcharge on user costs may be resisted not only by users but also by operators and by other agencies currently collecting revenue
special events	\$10,000	Very provisional estimate	Substantial promotion needed to increase number and range of special events
Total	\$2,095,000		

^a From Table 19.

Source: Mundie & Associates

As Table 20 shows, the use-based revenue potential very provisionally outlined in the chapter comes to roughly \$2.1 million. The lion’s share of this total is comprised of concession revenues which have been assumed to be capable of substantial increases when existing permits expire.

The remaining use-based revenue sources listed in Table 20 seem more promising than those that were listed in Table 19 but with lower annual revenue estimates than \$10,000 year. It is suggested that the uses in Table 20 may be more likely to repay further investigation than those that are not.

3. Other Revenues

Other revenue opportunities, some of which have been identified in Chapters 3 through 7, include:

- Membership-based revenues
- Contributions from the public (gifts and specific fund-raising programs, such as vehicle donations)
- Assessments, and
- Intergovernmental assistance.

All of these merit further study.

Membership-based revenues are certainly achievable: many other public-interest organizations raise a considerable proportion of their operating funds in this way. If the BRBNA established itself as a membership organization, five hundred members paying annual dues of \$25 would generate \$12,500 annually.

Contribution revenues could take the form of gifts of money or in kind. The vehicle donation program (described above p. 56) could be particularly helpful in the BRBNA area given the potential contributions of obsolete boats, RVs, and mobile homes in the area. The experience of other conservation organizations that use this program suggests that annual net revenues could be as much as \$50,000 to \$100,000, if the market for this service is not saturated. Note, however, that a program of this kind requires a certain level of organizational sophistication: some funding will be needed in order to secure more funding.

Special assessments as a financing mechanism is a theoretical possibility. Since much of the land is not in private ownership, this concept does not appear to be applicable to the full BRBNA area. For more limited subareas, where specific benefits could be identified and provided, the concept is worth considering. It must be kept in mind that some benefit to the affected lands would have to be identified, with that benefit justifying the assessment. Thus, this concept is less a revenue generator than a mechanism for providing financial support for certain designated costs.

Intergovernmental assistance is another non-user-based source of revenue. A number of government agencies, federal, state, and local, appear to be in general sympathy with the objectives of the BRBNA. Under existing conditions, of course, many of these are already actors in the study area, generally owning land for their own purposes and otherwise carrying out mandates for environmental protection and enhancement (e.g., the California Department of Fish and Game; the University of California). Government grants can augment current resources where specific activities are supported (see Table 17, p. 54), but would be unlikely to reimburse overall administrative costs of a management agency unless the BRBNA were reconstituted under some kind of Federal or State auspices (see discussion in Chapter 9).

C. Directions for Future Study

This chapter has described an array of funding concepts potentially applicable to the mission of the BRBNA, and has taken the first steps to gauge the amount of gross revenue they may be capable of generating. Refinement of the list and closer analysis of the options, working down the list from the more to the less remunerative, is the logical next step. Some of this work (the portion associated with Lake Berryessa concessions) may be included in the Bureau of Reclamation's organizational study. Non-Bureau revenue sources could be addressed independently, with the findings of both studies consolidated at the time further steps are considered with respect to the kind of entity that will provide leadership, management, and administrative support to this region in the future.

CHAPTER 9. INSTITUTIONAL FRAMEWORK

This chapter reviews options for protecting and managing BRBNA lands. Protecting and managing these lands requires identifying an “institutional framework,” i.e., a system for overseeing, funding, and planning for the BRBNA. The institutional framework will outline how and by whom the BRBNA will be managed and funded.

A. Elements of Institutional Framework

To establish an institutional framework for protecting and managing the BRBNA, the following questions must be answered:

- (1) What entity will oversee the BRBNA?
- (2) What will the funding sources be?
- (3) How will plans and policies for the area be established?
- (4) What general types of land uses will be allowed?

The answers to these questions can be considered elements of an institutional framework for the BRBNA. In drafting this framework, it should be recognized that some of these elements currently exist in some form; for example, the BRBNA Partnership consists of agencies that currently oversee and plan for various aspects of the BRBNA. The institutional framework ultimately chosen should either accommodate these elements as they currently stand or provide for changes as necessary for optimal protection and management of the BRBNA.

1. Involved Agencies

As indicated in Table 1 (p.2) of this report, approximately 50 organizations are participating in the planning process for the BRBNA. These organizations include federal, state, and county government agencies, nonprofit groups, and private concerns. Some of these organizations own land within the BRBNA study area, as indicated in Figure 1 (p. 3).

A relatively large number of organizations are involved in the BRBNA compared with other similar areas, which may be overseen by as few as one or two agencies (see Part B, Institutional Opportunities and Constraints, below).

The institutional framework for the BRBNA should identify the agency or agencies that will oversee the BRBNA, and describe their responsibilities.

2. Funding Sources

The BRBNA is not currently a recognized entity receiving its own funding. One of the objectives stated by the BRBNA Partnership is to minimize reliance on non-local government funding, which tends to be limited as well as unstable due to changing funding priorities. Independent, local funding is considered preferable (see further discussion in Chapter 1 of this report). In contrast, areas similar to the BRBNA, such as national recreation areas, typically rely on non-local government (e.g., federal) funding (see Part B, below).

The institutional framework for the BRBNA should identify ongoing sources of funding for the area.

3. Planning and Policymaking

Many different agencies – federal, state, local, and private – currently administer and plan for BRBNA lands. The BRBNA Partnership was established in part due to concern that this multi-focused policy-making and management may have gaps or inconsistencies in coverage that result, inadvertently, in undesirable development. The Partnership seeks coordinated local planning and policymaking that will avoid duplication of effort among agencies and optimize use of the Partners’ resources (personnel, tools, equipment, information, funding). The Partnership also hopes to avoid a situation in which remote decisionmakers who lack familiarity with the area and who have responsibilities elsewhere neglect the BRBNA and undervalue its resources (see further discussion in Chapter 1).

Planning for areas similar to the BRBNA, such as national recreation areas, is guided by comprehensive plans and policies prepared specifically for those areas. Some planning and policymaking takes place at the federal (e.g., U.S. Congress, National Park Service) level, however, rather than at the local level (see Part B, below).

The institutional framework for the BRBNA should outline how plans and policies for the area will be established.

4. Allowable Land Uses

A final factor that may affect the institutional framework ultimately chosen for the BRBNA is the general type of land use to be allowed in the area. Objectives identified by the BRBNA Partnership include (1) finding the optimal balance between resource protection and resource use, and (2) establishing conservation priorities. The Partnership has indicated that conservation (which implies strategic limits on development) should be balanced with public access (which implies support for an increased visitor population). Benefits to specific users (such as recreation groups) should not, however, be pursued in a manner contrary to conservation of the resources that contribute to the area’s environmental value and attractiveness, (see further discussion in Chapter 1 of this report).

Areas similar to the BRBNA have established varying balances between resource conservation on the one hand and development and public access on the other. This balance is largely determined by the location of the area and the types of natural and human-made resources contained in the area. Funding sources may also play a role (see Part B, below).

The institutional framework for the BRBNA should include a general statement of purpose that incorporates both resource conservation and development/public access in locations and proportions that reflect environmental conditions in BRBNA subareas and the goals and responsibilities of participating organizations. The need to plan for and manage diverse lands in a manner responsive to a variety of interests will affect the shape of an administrative entity, funding sources, and the types of planning efforts that it will be able to undertake.

B. Institutional Opportunities and Constraints

1. Case Studies

The following discussion reviews the management and financial structure of three areas that may be instructive in considering an organizational structure for the BRBNA: the Presidio of San Francisco, the Santa Monica Mountains National Recreation Area, and the Columbia River Basin. Table 21 (p. 68) summarizes the physical characteristics of the three areas in comparison with the BRBNA. Table 22 (p. 69) summarizes the organization and structure of the three areas.

a. The Presidio of San Francisco

The 1,480-acre Presidio of San Francisco became part of the Golden Gate National Recreation Area in 1994, when the U.S. Congress transferred the site from the U.S. Army to the National Park Service (NPS). The former military post contains more than 500 historic buildings, a collection of coastal defense fortifications, a national cemetery, a saltwater marsh, forests, beaches, native plant habitats, coastal bluffs, and hiking and biking trails. The site also contains housing and office space remaining from the previous U.S. Army use.

Management. The NPS manages the coastal areas of the Presidio and provides visitor and public safety services throughout the park. The Presidio Trust, a federal government corporation, manages the interior areas (approximately 80 percent of the park), including most of the Presidio's historic structures.

In 1994, the NPS issued the Golden Gate National Recreation Area General Management Plan Amendment (GMPA) for the Presidio. Local NPS staff prepared the GMPA with assistance from the NPS headquarters office in Denver and from local consultants in transportation, urban planning, economics, and housing. The result of a four-year public planning process that included more than 100 public meetings, the GMPA establishes the general framework for the management, development and preservation of the park within the context of the Golden Gate National Recreation Area.¹⁷

The U.S. Congress created the Presidio Trust in 1996 to preserve and enhance the Presidio in partnership with the NPS. The trust's stated duties are to manage the leasing, maintenance, rehabilitation, repair, and improvement of property within the Presidio. The Presidio Trust Act¹⁸ and the general objectives of the GMPA guide the trust's activities. The trust is governed by a seven-member Board of Directors and has a staff of about 400 people. The Golden Gate National Recreation Area Advisory Commission provides public input to the Board of Directors.

In 1998, the Presidio Trust initiated the next phase of more detailed planning for the Presidio. The trust is in the process of preparing an implementation plan based on the GMPA.

¹⁷ Presidio Trust, *Preserving the Presidio as a Sustainable National Park: A Year of Progress* (1998 Year-End Report).

¹⁸ Presidio Trust Act (Public Law 104-333) signed by President Clinton on November 12, 1996.

Table 21
Physical Characteristics: BRBNA, Presidio, Santa Monica Mountains, and Columbia River Basin

	BRBNA	Presidio	Santa Monica Mountains	Columbia River Basin
Location	Napa, Yolo, Lake, Solano, and Colusa Counties, CA (rural)	San Francisco, CA (urban)	Los Angeles County, CA (urban/rural)	Portions of Montana, Idaho, Washington, Oregon, Wyoming, Utah, and Nevada (rural)
Area Size	300,000 acres	1,480 acres	153,824 acres	144 million acres (72 million acres of public lands)
Natural Resources	Serpentine chaparral Grasslands Oak woodlands Riparian habitats Cliff habitats Agricultural land (rangeland) Lakes/reservoirs	Saltwater marsh Forests Beaches Native plant habitats	Mountain range Chaparral Riparian habitats Beaches	Mountain ranges Forests Rangelands Rivers/riparian habitats Deserts Agricultural land
Physical Facilities and Other Built Space	Commercial lodging establishments RV accommodations Retail uses Housing units	Historic buildings Housing units Office space National cemetery Athletic facilities (golf course, bowling alley, tennis courts, playfield, indoor pool) Meeting/event facilities Visitor center/museum Fast food/snack bar/cafe	Historic structures Archaeological sites Visitor center Getty Center (museum) Urban areas (e.g., Malibu)	Urban/rural communities
Uses/Activities	Recreation (e.g., hiking, boating, camping) Resorts/lodging	Recreation (e.g., hiking, biking, camping) Environmental protection Education programs Residential uses Office uses Digital arts center (to be built)	Recreation (e.g., hiking, biking, camping) Environmental protection Education programs	Recreation Timber harvesting Mining Cattle grazing Environmental protection Urban uses

Source: Mundie & Associates

**Table 22
Organization and Structure: Presidio, Santa Monica Mountains, and Columbia River Basin**

	Presidio	Santa Monica Mountains	Columbia River Basin
Ownership	Federal government	Various federal, state, and local government and private owners	Federal government
Designation(s)	National Historic Landmark District National Recreation Area (part of Golden Gate National Recreation Area)	National Recreation Area	Interior Columbia Basin Ecosystem Management Project
When Established	1962 (Landmark District) 1994 (National Recreation Area)	1978	1993
How Established	The U.S. Congress transferred the site from the U.S. Army to the National Park Service	The U.S. Congress designated the site as a national recreation area.	The U.S. Forest Service and U.S. Bureau of Land Management formed the project in response to a presidential directive requiring development of a management strategy for the basin.
Management Entity(ies)	National Park Service (coastal areas) Presidio Trust (non-coastal areas)	National Park Service California Department of Parks and Recreation Santa Monica Mountains Conservancy City and county governments	U.S. Forest Service U.S. Bureau of Land Management
Annual Budget Funding Source(s)	\$36 million Federal appropriations (decreasing from \$25 million in 1998 to zero in 2013); lease revenues; U.S. Treasury borrowing; golf course/concession/utility revenues	\$20 million Federal and state agency funds Recreation Fee Demonstration Program funds (federal)	\$5 to \$5.5 million National Forest Service (regional and research office) funds Bureau of Land Management (state office) funds
Applicable Planning Documents	Golden Gate National Recreation Area General Management Plan Amendment for the Presidio; Financial Management Program	Santa Monica Mountains National Recreation Area General Management Plan	74 existing land and resource management plans; management strategy (under development); strategy aquatic and riparian management plan, forest health objectives, integrated weed/grass management strategy (expected).

Source: Mundie & Associates

Financing. The Presidio Trust Act requires that the Presidio Trust become financially self-sufficient (i.e., independent of federal appropriations) by fiscal year 2013. If the trust fails in this mission, the park may be transferred to the General Services Administration and sold.

In 1998, the trust prepared a Financial Management Program to show “that the Trust will preserve and enhance the Presidio as an environmentally and economically sustainable national park in an urban area and achieve financial self-sufficiency by fiscal year 2013.”¹⁹ The Financial Management Program calls for market-rate leasing of residential and non-residential properties at the Presidio, renovations funded by Treasury borrowing and lease revenues, management of operating costs, capture of utility revenues, and set-aside of reserves for replacement, renovation, and restoration of buildings, landscaping, infrastructure improvements, and natural resources. The plan provides for office space renovation and construction, establishment of a conference center/lodging facility, leasing of 1,598 housing units, restoration of natural resources, and expansion of open space areas and hiking trails.

In 2000, the Presidio Trust began negotiating a development agreement and lease with Lucasfilm Ltd. to allow development of a 23-acre Digital Arts Center on the site of the former Letterman Army Hospital. The project would generate about \$5 million a year toward the \$36 million that the trust estimates it will cost annually to maintain the Presidio.²⁰ Other sources of revenue include leasing of residential and non-residential properties, U.S. Treasury borrowing, and revenues from the Presidio golf course, concessions, and utilities.²¹

b. Santa Monica Mountains National Recreation Area

In 1978, the U.S. Congress designated the 153,824-acre Santa Monica Mountains National Recreation Area (SMMNRA) to preserve natural and cultural resources as well as to help conserve the airshed of the Los Angeles Basin.²² The SMMNRA contains natural resources such as beaches, creeks, and chaparral, and cultural resources ranging from Native American archaeological sites to the recently-constructed Getty Center museum. The SMMNRA also encompasses urban areas; the city of Malibu, for example, is located entirely within the SMMNRA boundary. The SMMNRA sustains an estimated 200 outdoor recreation-related businesses.²³

The national recreation area was established through the efforts of grassroots groups and a local congressman. The campaign emphasized the conservation value of the area, with less attention given to recreational values. At the time, the area contained various state parks, but these parks did not share boundaries.²⁴

Management. The SMMNRA is a cooperative effort involving the National Park Service (NPS), the California Department of Parks and Recreation, the Santa Monica Mountains Conservancy, city and county governments, and private landowners. Over 70 governmental entities share jurisdiction in the SMMNRA.²⁵

¹⁹ Presidio Trust, *The Presidio Trust Financial Management Program, Report to Congress*, July 8, 1998, page 3.

²⁰ “A Force in Film Meets a Force of Nature,” by Patricia Leigh Brown, *New York Times*, March 30, 2000, page B1.

²¹ Presidio Trust, *The Presidio Trust Financial Management Program, Report to Congress*, July 8, 1998, pages 7-9.

²² “Fascinating Facts About Santa Monica Mountains National Recreation Area,” available at www.nps.gov/samo.

²³ *Ibid.*

²⁴ Charles Taylor, Santa Monica Mountains National Recreation Area; personal communication, September 26, 2000

²⁵ *Ibid.*

The California Department of Parks and Recreation is the largest landowner in the area, with about 42,000 acres. The NPS controls approximately 21,500 acres.²⁶ The Santa Monica Mountains Conservancy, an agency mandated by the federal government and established by the State of California, acquires land (including in-holdings within the park) using state funds and transfers the land to the NPS. All three of these agencies maintain a staff of rangers who patrol areas of the park under that agency's jurisdiction.²⁷ The area contains an additional 6,000 acres of private recreation and local public parklands, including beaches operated by Los Angeles County.²⁸

The SMMNRA is nearing the end of a four-year process of updating its 20-year-old General Management Plan. Alternatives considered during the planning process have generally emphasized recreational and educational programs and conservation of park resources, including removal of development in some areas. SMMNRA staff has indicated that balancing conservation needs (e.g., endangered species protection, habitat linkages) with recreational interests (e.g., mountain biking, horseback riding) has been a continuing challenge. The SMMNRA has sought to balance these demands by reserving areas that are easily accessible by car for more intensive recreation. The SMMNRA also directs some park users to nearby national forests where there are fewer use restrictions.²⁹

Financing. The SMMNRA's total operations budget is approximately \$20 million. The budget includes funding from state as well as federal government sources, which helps to ensure that money is available despite changes in government funding priorities.³⁰ The SMMNRA also competes for funds from the federal Recreation Fee Demonstration Program, which distributes fees collected at national parks to parks like SMMNRA that do not charge fees.³¹

Since its creation in 1978, this National Recreation Area has never received a line-item construction appropriation from Congress, which is typically the main source of major project funds for national parks. All visitor facilities have been inherited, donated, or constructed using operational funds.³²

c. Columbia River Basin

The Columbia River Basin encompasses approximately 144 million acres (including 72 million acres of public lands) in seven states (Montana, Idaho, Washington, Oregon, Wyoming, Utah, and Nevada). The basin contains a wide range of natural resources, including mountain ranges, forests, rangelands, rivers, creeks, deserts, and agricultural land. Land uses include recreation, timber harvesting, mining, cattle grazing, and urban uses.

Management. Two federal government agencies, the U.S. Forest Service and the U.S. Bureau of Land Management, oversee the approximately 72 million acres of public lands in the Columbia River Basin. These two agencies currently administer 74 land and resource management plans within the project area.³³

²⁶ *Ibid.*

²⁷ Taylor.

²⁸ "Fascinating Facts," *op. cit.*

²⁹ Taylor.

³⁰ Taylor.

³¹ "Fascinating Facts," *op. cit.*

³² *Ibid.*

³³ Bob Williams, Regional Forester, Pacific Northwest Region, Forest Service, United States Department of Agriculture, "Statement of the Executive Steering Committee of the Interior Columbia Basin Ecosystem Management Project," May 15, 1997.

In July 1993, President Clinton directed both agencies to develop a scientifically sound, ecosystem-based management strategy for the lands they administer in the Columbia River Basin. In response, the two agencies formed the Interior Columbia Basin Ecosystem Management Project (ICBEMP) to develop a management plan for the basin. Factors driving the project included the greater success and cost-efficiency of addressing ecosystem issues on a larger scale, and the need for consistency in federal land management decisionmaking in the basin.³⁴

The ICBEMP is in the midst of an environmental impact statement (EIS) process that has identified three management alternatives. The ICBEMP released a draft EIS in 1997, followed by a supplemental draft EIS in 2000. The Final EIS and Record of Decision will amend land use plans for the 32 national forests and BLM administrative uses within the project area.³⁵ Expected products and outcomes include a strategic aquatic and riparian management plan, forest health objectives, an integrated management strategy for exotic weeds and grasses, and a management emphasis on collaborative stewardship in all aspects of implementation.³⁶

Because of the large land area covered by the management plan, the ICBEMP has worked most successfully with regional and state agencies in the planning process. Coordinating with local governments has proved to be a bigger challenge, although the ICBEMP has worked with a coalition of counties made up of 12 county commissioners from within the (100-county) planning area. ICBEMP staff speculate that, even at a smaller scale, planning for an area overseen by multiple agencies would raise similar issues regarding governing structure and funding. The presence of federal agencies also creates the potential for conflict with the Federal Advisory Committee Act, which requires that a committee making recommendations to federal government agencies and that includes non-federal representatives receive a charter under the provisions of the act.³⁷

The ICBEMP consists of 20 to 35 full-time-equivalent staff in three offices (Boise, Idaho; Walla Walla, Washington; and Portland, Oregon). The ICBEMP office will close once the management plan is completed. However, the plan will recommend management and monitoring tasks that may be carried out by staff in the current ICBEMP office.

Financing. The ICBEMP has an annual budget of \$5 to \$5.5 million. A total of eight agencies, consisting of National Forest Service regional offices and Bureau of Land Management state offices, provide the major financing for the project. Contributions are commensurate with land ownership and each office's budget. National Forest Service research offices also provide funding for the ICBEMP.³⁸

d. Conclusions: Issues Relating to Administrative Structure(s)

None of the three case studies presented here is likely to provide an exact model for the BRBNA institutional framework. There are many reasons for this, including differences in project area size, location, government agencies involved, project purposes, and funding sources. Elements of each case study may

³⁴ Williams.

³⁵ "Statement of Dale Bosworth, Regional Forester, Northern Region, Forest Service, United States Department of Agriculture, before the Subcommittee on Forests and Public Land Management, Committee on Energy and Natural Resources, United States Senate, June 29, 2000, Concerning Interior Columbia Basin Ecosystem Management Project."

³⁶ Williams.

³⁷ Andy Brunelle, Interior Columbia Basin Ecosystem Management Project; personal communication, September 26, 2000.

³⁸ Brunelle.

be applicable to the BRBNA, however. The following discussion reviews the case studies in relation to the four elements outlined in Part A, Elements of Institutional Framework, above.

Involved Agencies. In two of the case studies (the Presidio and the Columbia River Basin), two federal agencies oversee the project area. In the case of the Santa Monica Mountains, responsibilities are shared among federal, state, and local agencies. In all cases, the agencies are responsible for some form of resource conservation or stewardship, although those mandates vary from agency to agency.

The BRBNA Partnership may not consider federal management of the BRBNA to be an ideal solution, due to concerns about the need for local, independent funding. Oversight of the BRBNA by one or two agencies – or a single agency created specifically for that purpose – may offer advantages, however, including efficiencies in management, funding, planning, and policymaking. Conversely, establishment of a policy board, the members of which would represent local organization, would help to assure that a non-local agenda not overwhelm local objectives for the area.

Funding Sources. All three of the case study areas receive some form of federal funding, although funding arrangements vary considerably. The ICBEMP, the planning project for the Columbia River Basin, is funded by the National Forest Service and the Bureau of Land Management, the two federal agencies that oversee the project area. The Santa Monica Mountains National Recreation Area receives funding from a variety of federal, state, and local government sources.

In the case of the Presidio of San Francisco, federal law requires that the park's management entity, the Presidio Trust, decrease its reliance on federal appropriations and become financially self-sufficient by 2013. This mandate has required the trust to lease substantial amounts of property in the Presidio to private interests, an approach that has created a perceived conflict between preserving and protecting the Presidio while also making the park economically self-sufficient. This perception has in turn created political and management challenges for the Presidio Trust.³⁹

The BRBNA Partnership has expressed a desire to minimize reliance on non-local government funding, which tends to be limited as well as unstable due to changing priorities. Based on the Presidio example, however, the Partnership may wish to consider to what extent the BRBNA can rely on private funding sources without compromising resource conservation goals or creating a public perception of this type of compromise.

Planning and Policymaking. In all three case studies, comprehensive areawide planning documents have been prepared or are anticipated. In the case of both the Presidio and the Columbia River Basin, two separate agencies have planning jurisdiction over different geographical subareas of the project area. In the case of the Santa Monica Mountains National Recreation Area, over 70 governmental entities share jurisdiction in the area.

The BRBNA Partnership's decisions regarding involved agencies and funding sources (see above) will affect the approach to planning and policymaking for the BRBNA. As the Columbia River Basin example suggests, a comprehensive planning approach may allow consideration of large-scale ecosystems and other broad-based issues. This approach may produce more effective, cost-efficient, and consistent results.

³⁹ "A Force in Film Meets a Force of Nature," *op. cit.* The article quotes Brian Huse, Pacific region director of the National Parks Conservation Association, a private watchdog group: "The question has become, Is it possible to preserve the Presidio's natural and historic treasures unimpaired with a mandate to raise money off the very resources we're trying to protect?"

Allowable Land Uses. The three case study areas differ significantly in geographical size, location, and types of existing and planned land uses. The Santa Monica Mountains National Recreation Area is the most comparable to the BRBNA in size, physical character, and distance from urban areas. All three case studies, and probably most vividly the Presidio, show the challenges of balancing resource protection with public access and resource use.

The BRBNA Partnership's decisions regarding involved agencies and funding sources will directly influence the balance between resource conservation and development/public access in the BRBNA; conversely, conservation and development goals may suggest management, funding, and policymaking approaches. In light of this interrelationship, drafting a general statement of purpose regarding land use goals may be an important first step to identifying appropriate management agencies, funding sources, and planning processes.

2. Congressional Designation

The concept of a designation of the BRBNA by Congress is attractive in theory because it implies consistent administration and stable funding.

a. Administration

A single manager (like the National Park Service, which is often mentioned as a candidate, or like the BLM, which is already a big landowner in the study area) would have clear objectives and an established modus operandi. Its policies, management objectives, and style of operation would be fairly well known in advance, and the unpredictability that might be associated with a more experimental administrative approach would be much reduced. However, such a non-local agency may be less sensitive to specific local resources and concerns.

b. Funding

From the revenue perspective, it is not certain that federal management would result in substantially greater investment in conservation in the BRBNA. There has been emphasis in recent years on assuring that federal facilities substantially pay their own way. The cases of the Presidio and Santa Monica Mountains in particular indicate that federal funding (at least for areas recently established) is thin – the Presidio will have to establish its own within a stipulated period and the SMMNRA has received no federal funds for operating costs.

Observers of the BRBNA study area frequently speculate that the Bureau of Reclamation's Lake Berryessa area is a net revenue loss to the federal government. If so, that is simply an indicator of how much investment the area needs. A new administrative entity bringing with it a charter of self-financing might have to undertake more development to finance its activities than would be consistent with the BRBNA partners' concept of the study area's future. Clearly, to avoid increased development of the area – including development the primarily purpose of which would be revenue generation – a subsidy would be required.

c. Observations

The case studies reviewed in this chapter constitute variations on the Congressional designation theme. This study focused on local activities with revenue potential rather than on organizational issues, but it is clear from the review of the case studies that there are both advantages and disadvantages to administration by a non-local (in particular, a federal) agency. The likelihood that a designation might

occur, and the form it might take, need further consideration. The current study for the Bureau of Reclamation is expected to address organizational issues in greater detail.

3. Acquisition of Pivotal Environmental Properties

The foregoing discussion relates primarily to issues of organization and ongoing (operating) funding. A different approach to environmental protection – given that such protection is a key concern of BRBNA partners – is the strategic acquisition of properties and the placement of acquired properties in hands that will prevent their use for purposes not responsive to environmental protection objectives.

The BRBNA has already had considerable positive experience in connection with property acquisitions by conservation-oriented organizations. Figure 1 (p. 3) shows that a substantial amount of the land in the BRBNA is in the ownership of land trusts or has been placed in conservation easement. In addition, much of the land is owned by government agencies with charters that respect environmental protection (including the University of California natural reserve system as well as state and federal agencies).

If the assumptions can be made not only that these lands will remain in these kinds of ownerships but that conservationist principles will be honored in their management, the BRBNA's existing arrangement has some protections "built in."

How effective existing ownerships will prove to be as insurance against inappropriate use will be seen over time. Clearly, if it were thought that federal or state or university ownership alone were a sufficient safeguard against misuse, BRBNA members might not feel so committed to considering other mechanisms that involve collaborative policymaking and management: the concept of a collective enterprise is seen as a way of ensuring that inappropriate management or use decisions being considered by any one member party can be discussed in a broader forum in which influence on those decisions can be brought to bear from the outside. Public (or non-profit) ownership alone may not be enough.

A second issue involving land acquisition and ownership patterns also should be considered: the fact that the lands that these ownerships confer some degree of protection to are not necessarily the lands most in need of protection. Federal agencies with BRBNA properties came into ownership of most of those lands decades ago, and for reasons that may have had very little to do with environmental protection. Public agencies and nonprofits that have made acquisitions (or accepted gifts of lands or easements) in recent years have generally done so for lands that meet their own resource conservation or use mandates. These mandates reflect the conservationist purposes of the organizations – but the lands involved may not be the lands that would be most subject to pressure for development.

Conservation-oriented land holdings, in other words, generally include lands with particular environmental qualities or assets. But the quality of these lands as environmental resources can be diminished if development within the larger context in which they are located becomes excessive or degrades the adjacent environment. The BRBNA enterprise needs to protect, not only the lands with recognized environmental resources, but also those lands in what might be called the environmental region that allow the protected resources to survive (if possible, to thrive) in something like a natural setting.

Over the long run, one of the ways to assure overall protection of regional resources, where not all land can be brought into dedicated ownership and management, is to target for strategic acquisition those properties that otherwise would be under greatest pressure for development-oriented acquisition, particularly by private entities. Identification of those lands should take into account their developability (access, service potential, and inherent attractiveness) and the effects of their development: not just the

direct effect but also, to use the language of the California Environmental Quality Act, the effects that would be cumulative or growth-inducing.

An example is the eastern shore of Lake Berryessa, up to the ridgeline defining the viewshed from around the lake. In the period of time since the lake was established, there have been numerous schemes proposed or rumored to develop the east shore. The fact that none of these has yet gone forward is indicative of the considerable obstacles to development, which include access and water supply. The value of these lands to the quality of the Lake Berryessa environment over the long run is so great that there should be some uneasiness (as in fact there is) regarding whether they will be maintained in their current (undeveloped) state. It may be possible to acquire, perhaps not all of those lands, but a sufficient acreage of strategically located parcels to substantially strengthen the impediments to development.

The collective knowledge of the BRBNA Partners would be a great fund of information on which to draw in putting together an inventory, not of the most important conservation sites, but of the more strategic parcels to assure that the generally undeveloped character of the entire core BRBNA area be retained. This is a model for resource protection that can operate either in tandem with a change in management/administration or separately. It should be considered as a primary or supplemental technique for preservation in the long term.

CONTRIBUTORS TO THIS REPORT

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This report was prepared by Mundie & Associates, consultants in land use and economics.

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These individuals assisted the consultant, Mundie & Associates, in finding information and contacting knowledgeable and interested individuals. Their comments on drafts of the report were valuable in organizing the material and bringing it to its current state of completion.

C. Other Contributors

A great many individuals and organizations contributed to the preparation of this report.

Consultants working under the umbrella of the Natural Resources Subcommittee were also very helpful to this effort. They include Professor Robert Thayer, Jr., Professor of Landscape Architecture, University of California Davis, and his colleagues Dennis Pendleton (in the Public Service Research Program) and Jake Mann. The color graphics included in this report represent some of the results of their mapping work, which has made an outstanding contribution to our collective understanding of the Blue Ridge Berryessa Region.

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Eric Natti, Resource Manager
Arnold Roessler, Natural Resources Specialist
Cleve Dufer, Concessions Specialist

Blue Ridge Berryessa Natural Area
Economic Study

Helpful comments on the final draft of this report were provided by some of those listed above and, in addition, by:

Bruce Wadlington, Mid Pacific Regional Concessions Manager, Bureau of Reclamation

John Reed, Consultant to Bureau of Reclamation (on the Lake Berryessa Management Analysis study)

Susan Harrison, University of California Davis, Facilities Director, UC McLaughlin Reserve

The consultant attended about half a dozen of the monthly meetings of the BRBNA Partnership groups. These are open meetings in which others also occasionally participate. These meetings were valuable in providing general background on the region, specific information items, and a sense of the organizational mission. A list of the Partnership groups is provided in Chapter 1 of this report and is not repeated here; many individuals affiliated with those groups participated.

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Private Organization and Businesses	Tom Gamble, Gamble Ranch Trail Blazer Ventek International