

Chapter 4. Environmental Consequences

4.1 Introduction

4.1.1 Overview of the Impact Analysis

The Contra Loma RMP is a programmatic, planning-level document that provides management direction at a broad scale and is not intended to provide project-level detail of future management actions or projects. For this reason, the EIS evaluates the environmental impacts of each RMP alternative in a programmatic manner. Future actions carried out under the purview of the RMP beyond the programmatic analysis presented in the EIS would be subject to project-level NEPA analysis and compliance.

The Environmental Consequences chapter evaluates the environmental impacts that would result from implementing each of the alternatives. The chapter is organized in sections by resource topic. Each resource section begins with a brief description of the resources addressed within the section and the types of activities that could affect the resource, followed by a list of assumptions upon which the analysis is based. The impacts of activities common to all of the alternatives are then discussed, followed by a discussion of impacts unique to each alternative. Where appropriate and if feasible, the EIS then describes mitigation measures that would avoid and/or minimize impacts to the resource.

4.1.2 Cumulative Effects

Cumulative effects are discussed at the end of each resource. Cumulative effects are defined as the direct and indirect effects of a proposed alternative's incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action (40 CFR, Part 14 1508.7). Guidance for implementing NEPA requires that Federal agencies specify the time frame and geographic boundaries within which they evaluate potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. Effects of past actions and activities on resources are manifested in the current condition of the affected resources, as described in Chapter 3 (Affected Environment) for resources on Reclamation-administered lands.

Public documents and data prepared by Federal, state, and local government agencies are the primary information sources for past, present, and reasonably foreseeable future actions and for identifying reasonable trends in resource conditions and land uses. Actions undertaken by private persons and entities are assumed to be captured in the information made available by such agencies. Actions included in the cumulative impact analysis do not affect all resources equally: some resources would be affected by several or all of the described activities, while others would be affected very little or not at all. The actions that make up the cumulative effect scenario were analyzed in conjunction with the effects of each alternative to determine if they would have any additive or interactive effects on a particular resource.

The cumulative impact analysis provided in this EIS is general because decisions about other actions in the vicinity of Contra Loma would be made by various public and private entities, and the location, timing, and magnitude of these actions are not well known at this time. The actions and trends with the highest potential to cumulatively affect the resources discussed in this EIS include:

- Improvements at Contra Loma that may be implemented concurrent with preparation of the RMP (i.e., improvements to sports fields 4 and 5 and the boat launch area upgrades to the restroom and fish cleaning station).
- Reclamation's issuance of a new license to the City to allow continued use of 5.7 acres of land on the eastern side of Contra Loma for golf course use.
- Buildout of the City, the County, and other nearby cities in accordance with their adopted general plans. The City and County general plans are described below.

Antioch General Plan

The City's General Plan EIR was prepared in 2003 and the City's General Plan was adopted in 2003. The planning horizon for the General Plan is 25 years (i.e., 2003-2028). According to the General Plan EIR:

- The City has a relatively large amount of open land available for future development. Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003.
- General Plan build out would result in construction of about 52,000 new dwelling units.
- Between 2010 and 2025, the City's population is expected to increase by 15 percent, an increase of 15,900 people.
- General Plan build out would result in more daily vehicular trips within the Planning Area, non-peak hour travel will increase in relation to peak hour traffic, and the "peak hour" of traffic will lengthen over several hours. However, the transportation policies in the General Plan would be very effective in maintaining acceptable levels of service on the City's roads and highways (City of Antioch 2003b).

Contra Costa County General Plan

The County's General Plan was adopted in 2005. The planning horizon for the General Plan is 15 years (i.e., 2005-2020; Contra Costa County 2005). The General Plan Housing Element was updated in 2009 (Contra Costa County 2009). According to the General Plan:

- The County's population is expected to grow by almost 19 percent from 2000 to 2020, an increase of 179,984 people (Contra Costa County 2005).
- Much of the future growth in the County is planned for the Pittsburg-Antioch-Oakley areas of East Contra Costa County (Contra Costa County 2005).

- In 2000, County residents generated approximately 2 million vehicle trips per day; by 2020, County residents will generate approximately 2.8 million trips per day (Contra Costa County 2005).

According to the Housing Element Update:

- The County's population is projected to grow by almost 9 percent from 2010 to 2020, an increase of 95,100 people. The population in the unincorporated areas of East Contra Costa County is expected to grow by almost 20 percent from 2000 to 2020, an increase of 9,569 people (Contra Costa County 2009).

Other Cities in Northeastern Contra Costa County

In addition to Antioch, several other cities are located in the northeastern portion of the County. These cities include Pittsburg, Brentwood, Oakley, Martinez, Clayton, Concord, and Walnut Creek. Each of these cities has its own general plan, and the population of each city is expected to continue growing in the future. The increased population growth within these cities would increase the amount of land converted to urban uses and the number of vehicles travelling on regional roadways. The growth estimates for population and traffic are included in the estimates presented above for the County.

4.1.3 Issues Considered But Eliminated from Further Study

Indian Trust Assets

As a Federal land management agency, Reclamation is responsible for identifying and considering potential impacts of its plans, projects, programs, or activities on Indian Trust Assets (ITA). ITA are legal interests in property held in trust by the U.S. for Indian Tribes or individuals. As the nearest ITA to the Action area is the Lytton Rancheria, located in San Pablo, California, approximately 28 miles west of Contra Loma, none of the alternatives have the potential to affect ITA.

Indian Sacred Sites

As a Federal land management agency, Reclamation is required to accommodate access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners and to avoid adversely affecting the physical integrity of such sacred sites. Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

On June 23, 2010, Reclamation's archaeological consultant requested a Sacred Lands File search and list of appropriate Native American representatives and tribal organizations from the NAHC. The NAHC responded on July 19, 2010 and indicated that no culturally significant sites or properties were known to exist within or near the APE. In 2010 and 2013, Reclamation and its consultant performed outreach to the Native American contacts listed with the NAHC. No responses have been received. Because no Indian Sacred Sites appear to be located within Contra

Loma and the alternatives would not limit access to and ceremonial use of Indian sacred sites by Indian religious practitioners, or significantly adversely affect the physical integrity of such sacred sites, no impacts to Indian sacred sites would occur.

Paleontological Resources

As a Federal land management agency, Reclamation is responsible for managing and protecting paleontological resources on the Federal land under its management (PL 111-011). The geology of the Contra Loma region consists of terrestrial and marine Eocene- to Pliocene- (Tertiary) aged sandstone with lesser amounts of siltstone, conglomerate, and shale (Graymer et al. 1994). Of the geologic formations underlying Contra Loma, Cierbo Sandstone is the only formation that is known to contain abundant paleontological resources, or more specifically marine fossils. Cierbo Sandstone runs beneath the southernmost portion of Contra Loma, forming the east-west trending ridge that runs along the southern boundary of the Regional Park (Figure 3-15).

No known paleontological resources have been identified in Contra Loma (Bondurant, pers. comm. 2013). Due to the relatively steep topography in this area, few new improvements would be built atop the Cierbo Sandstone formation. Exceptions may include a new communications tower (both action alternatives) and portions of a disc golf course (Expanded Recreation and Facilities Alternative). For these reasons, the likelihood of encountering paleontological resources that provide new information about the history of life on earth is very low. The two action alternatives would include Management Action 56, which is intended to manage and protect any important paleontological resources encountered during construction activities in the portion of the Regional Park underlain by Cierbo Sandstone. This measure would ensure that impacts on paleontological resources are minor.

4.2 Land Use

4.2.1 Types of Impacts

Land uses at Contra Loma include recreation, grazing, operations and maintenance, administration, and reservoir management. This section assesses the potential impacts of the RMP alternatives on land use compatibility with existing uses within Contra Loma. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to land use could result from three general types of activities:

- Human Use
- Livestock Grazing
- Facility Improvements

4.2.2 Assumptions

The land use impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.

- The proposed management actions would comply with applicable laws and regulations governing public utilities.
- No land use changes would occur that do not meet RMP goals.

4.2.3 Impacts Common to All Alternatives

Human Use

Recreational use of Contra Loma would continue under all of the RMP alternatives. Currently, only occasional minor conflicts arise between user groups. Such activities are likely to increase, heightening the potential for conflicts between uses. Impacts on land use would be dependent on the availability and suitability of a particular facility to accommodate the proposed use; the density of recreational use; and potential impacts imposed on natural resources, the setting, and other user groups. The managing partner(s) would be expected to continue to manage recreational use of Contra Loma's recreational facilities in a manner that minimizes land use conflicts. Therefore, no additional land use effects would be expected from implementation of the action alternatives when compared to the current low levels of conflict expected under the No Action Alternative.

Under all of the RMP alternatives, the Regional Park would continue to be used by the public for recreational activities. The existing Regional Park trail system would continue to be operated, managed, and maintained for activities such as hiking, biking, wildlife viewing, and equestrian uses. Although various user groups (i.e., hikers, bicyclists, equestrians) utilize many of the same trails, trail users are often widely dispersed and the different user groups have not come into serious conflict in the past. If conflicts were to occur, they would likely be infrequent, isolated incidents of relatively minor nature. Increased use of the Regional Park trail system by differing user groups would slightly increase the potential for conflict.

4.2.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.2.3.

Livestock Grazing

Livestock grazing performed for fire suppression now occurs on 454 acres of grasslands within the Regional Park, and grazing would likely continue under the No Action Alternative. Under this alternative, no change in the acreage, location, or intensity of grazing is expected to occur although grazing could decline depending on need. Grazing would be implemented according to a grazing management plan that would be prepared specifically for Contra Loma by the managing partner(s) and would require Reclamation approval. Although the potential exists for recreational activities such as biking or hiking to conflict with grazing, these activities already occur alongside grazing and any future conflicts are expected to be minor.

4.2.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

In addition to the impacts addressed in Section 4.2.3, this alternative would include more enhanced recreation opportunities than the No Action Alternative, which could incrementally

increase visitor use. Currently, only occasional minor conflicts arise between user groups. An incremental increase in visitor use would proportionally increase the potential for conflicts among user groups, but would not preclude any class of recreational uses that are currently allowed at Contra Loma. Under this alternative, increased visitor use would only have a minor impact on land use.

Livestock Grazing

In addition to the impacts caused by livestock grazing under the No Action Alternative, adjustment of the boundary lines between the Regional Park and Community Park under this alternative could result in an overall increase of approximately 0.3 acre of grazing in Contra Loma. Under this alternative, approximately 8.4 acres of land currently located within the southwest corner of the Community Park could be placed within the Regional Park by future local managing partner(s). This adjustment would result in introduction of grazing for fire suppression on approximately 3 acres of land that previously had not been grazed with the remainder being fenced off to protect riparian vegetation (Figure 2-1). In addition, the adjustment of 2.7 acres of land in the northeast corner of Contra Loma from the Regional Park to the Community Park would result in cessation of grazing within this area. This slight increase would not substantially increase the intensity of grazing, nor would it substantially increase the potential for recreational activities such as biking or hiking to conflict with grazing. These activities already occur alongside grazing and future conflicts, if any, are expected to be minor. Increased grazing under this alternative would only have a minor impact on current land uses.

Facility Improvements

This alternative may include new, expanded, or renovated facilities at the Regional Park to enhance recreation and improve operations that would not occur under the No Action Alternative. Examples include a new park residence, classroom facilities near the swim lagoon, improvements to the park office and police substation, a new fueling station, a radio communications tower, new restrooms, additional picnic sites, enhanced fishing and boating facilities, expanded parking areas, a storm water retention basin, and a “safe swim” area or splash pad at the swim lagoon. These facilities are expected to be designed and located in order to promote compatibility with existing land uses. For example, the classroom and the “safe swim” area or splash pad would be located near the swim lagoon and would be designed to support and complement use of the swim lagoon. Improvements to the boat launch area would be designed to enhance boating and fishing access and may include a new fishing pier separate from the boat dock, thereby reducing conflicts between anglers and boaters using the existing launch ramp. New fishing docks would reduce conflicts by dispersing anglers. New restrooms and picnic sites would be located where they would best accommodate demand. In addition, the new park residence, fueling station, and radio communications tower would be situated where they would be most useful and functional. Future managing partner(s) would be expected to place all new facilities where they would be compatible with nearby land uses, thereby minimizing the intensity of any land use conflicts. Therefore, land use impacts from construction and operation of the new, expanded, or renovated facilities are expected to be minor.

When specific facilities are designed and sited, a site-specific environmental analysis would be conducted that would include a more focused assessment of the activity’s impact on land use. At that time, more clearly defined land use impacts may be identified. If substantial land use

impacts were to be identified, the proposed project would be modified, if possible, to reduce these impacts.

4.2.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

In addition to the impacts addressed in the previous Section 4.2.5 and those expected for the No Action Alternative, this alternative may include overnight camping as part of the Regional Park's current day camp programs and other special events. Existing day use facilities may be modified to accommodate group campers; however, no new camping facilities would be built. Because overnight camping would not coincide with daytime recreational activities, potential conflicts with existing land uses in the park are not anticipated. Under this alternative, increased visitor use would only have a minor impact on land use.

Livestock Grazing

This alternative may include the expansion of the Community Park into approximately 15 acres of the Regional Park (see Figure 2-2). Should this occur, the boundaries between the parks would be adjusted by the local managing partner(s) and current grazing of this area would cease. In conjunction with the potential boundary change between the parks described in Section 4.2.5 (see Figure 2-1), this expansion would result in a net reduction of grazing in Contra Loma by 14.7 acres. Compared to the No Action Alternative, this would reduce grazing within Contra Loma by about 3 percent, which is not expected to cause grazing to be uneconomical at Contra Loma.

Grazing could present conflicts with a new disc golf course that might be built at the Regional Park under this alternative because some areas within the course may require clearing of grass and herbaceous vegetation within currently grazed areas to improve visibility for disc golfers. This could reduce the amount of vegetation available for consumption by livestock. Also, livestock waste could present a nuisance to players. After implementation of BMPs including optimized disc golf course siting, construction of a disc golf course would lead to only occasional conflicts between land uses, including grazing. Therefore, this adverse effect would be minor. This effect would not occur under the No Action Alternative.

Facility Improvements

This alternative would include construction of new or expanded recreational facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Expanded recreational facilities proposed for the Regional Park under this alternative may include expansion of the swim lagoon, a new angler's shelter, a playground structure, a disc golf course, new trails, and a fitness course. These facility improvements and their effects on land use would not occur under the No Action Alternative. The managing partner(s) would be expected to design and locate these facilities where they would be compatible with nearby land uses.

The swim lagoon is one of the principal attractions at the Regional Park. A swim lagoon expansion project would be designed to support and complement existing use of the swim lagoon, and would therefore be compatible with the lagoon and nearby recreational facilities. An angler's shelter and a playground structure may be built along the south or east shore of the reservoir in locations that would accommodate demand. These facilities would also be

compatible with nearby recreational uses. Swim lagoon improvements would have no effect on land use because the adjacent recreational uses are compatible with these improvements. Designing and locating these facility improvements where they would be compatible with nearby land uses would minimize the intensity of any land use conflicts.

This alternative may include construction of new trails that would be open to bicycles and/or may allow bicycles on portions of trails that are not currently open to bicycles. Expansion of the bicycle-accessible trail system could conflict with livestock grazing or with other trail users such as hikers or equestrians. Expansion of the bicycle-accessible trail system would follow BMPs such as installation of additional signage and optimizing of trail alignment to improve visibility. This alternative may include establishment of a new fitness course by installing outdoor exercise stations with stationary equipment and signage along the shoreline trail loop. Use of the shoreline trail loop would likely increase with establishment of the fitness course; however, the use of exercise equipment located near the trail would be consistent with existing trail use and is not expected to create conflicts with other trail users. Conflicts among trail user groups and between trail and grazing uses are currently minor and relatively infrequent. The managing partner(s) would be expected to continue to manage recreational use of Contra Loma's recreational facilities in a manner that minimizes land use conflicts. Therefore, no additional land use effects would be expected from these activities.

This alternative may include a new disc golf course at the Regional Park that would be built in a suitable location so as to minimize conflicts with other park uses; however, such conflicts might not be completely avoided. If the course is not properly designed and located, errant golf discs (similar to Frisbees) could interfere with the enjoyment of other park users. Therefore, a disc golf course would be best suited to areas of the Regional Park that receive less visitation and use. As discussed previously, grazing could also present conflicts with a disc golf course because some areas within the course may require clearing of grass and herbaceous vegetation to improve visibility and because livestock waste could present a nuisance to players. After implementation of BMPs including optimized disc golf course siting, construction of a disc golf course would lead to only occasional conflicts between land uses. Therefore, this adverse effect would be minor.

This alternative may include the addition of two new sports fields within the Community Park south of the two existing sports fields, and increased parking capacity if needed to serve the new sports fields. This management action would require expansion of the Community Park boundaries south into the Regional Park and an adjustment of the boundary between the two parks (see Figure 2-1). The proposed area for the new sports fields is currently undeveloped but is grazed by livestock. Livestock would be excluded from the expanded Community Park area; therefore, no land use conflict between grazing and recreation would result from this alternative because grazing would be excluded from the sport fields' area. The effect of constructing the new sports fields would neither increase nor decrease the land use conflicts at Contra Loma.

When specific facilities are designed and sited, a site-specific environmental analysis would be conducted that would include a more focused assessment of the activity's impact on land use. At that time, more clearly defined land use impacts may be identified. If substantial land use impacts were to be identified, the proposed project would be modified, if possible, to reduce

these impacts. Therefore any land use impacts related to installation of new facilities would be minimized and would only result in minor adverse effects.

4.2.7 Cumulative Impacts

Increased Visitation and Concurrent Improvements

Regional Park visitation increased by 20 percent (24,248 visitors) during the six-year period from 2005 through 2010. Visitation to Contra Loma is expected to continue to increase under all of the alternatives. More visitation is expected under the two action alternatives than the No Action Alternative, because the action alternatives would include enhanced or expanded facilities that would attract more visitors than the No Action Alternative.

A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The City's population is expected to increase by 15 percent (15,900 people) between 2010 and 2025 (City of Antioch 2003b). The County's population is expected to increase by 9 percent (95,100 people) between 2010 and 2020 and the population in the unincorporated areas of East Contra Costa County is expected to grow by almost 20 percent from 2000 to 2020, an increase of 9,569 people (Contra Costa County 2009).

The improvements to sports fields 4 and 5 and the boat launch area upgrades would increase visitation to Contra Loma. However, neither these improvements nor issuance of a license to the City for continued use of the 5.7 acres of land east of the Regional Park for golf course use would involve land use changes.

Human Use

The presence of additional visitors to the park would increase the potential for conflicts between various activities. Given the ability of the current managing partner(s) to manage recreational use of Contra Loma's recreational facilities in a manner that minimizes land use conflicts, the intensity of the projected cumulative increase in visitation is expected to cause minor adverse cumulative impacts on land use. Because more visitation is expected under the two action alternatives than the No Action Alternative, the intensity of this effect is expected to be greater under the action alternatives than the No Action Alternative.

Livestock Grazing

Although the potential exists for recreational activities such as biking or hiking to conflict with grazing, these activities already occur alongside grazing and any future conflicts caused by the cumulative increase in visitation are expected to be minor. The intensity of this effect would be greater under the two action alternatives than the No Action Alternative because visitation would be higher under the action alternatives.

Facility Improvements

No land use changes would result from the improvements to sports fields 4 and 5, the boat launch area upgrades, or issuance of a license to the City for continued use of the 5.7 acres of land east of the Regional Park for golf course use. These actions represent a continuation of existing uses, although some of these actions would include facility upgrades. Because these actions do not involve land use changes, there would be no change in their compatibility with

existing land uses (i.e., the land uses under the No Action Alternative). They would also not change the intensity of the minor adverse land use effects attributable to construction of new facilities under the two action alternatives.

4.2.8 Mitigation Measures

No need for mitigation has been identified.

4.3 Recreation

4.3.1 Type of Impacts

The effects of the RMP alternatives on recreation at Contra Loma would vary depending on the type and location of the recreational activity. Because recreation is a complex and integral part of the RMP, some impacts on recreation are assessed according to the effect that RMP alternative management actions may have on four general categories of recreation found at Contra Loma: General Recreation (administration, management), Land-Based Recreation, Water-Based Recreation (swimming, fishing, and boating), and Interpretive Services (public education, programs, public perception). Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

As described in sections 2.2.4 and 3.2.1, two distinct management zones based on the WROS system have been identified for Contra Loma Reservoir. The southern half of the reservoir is managed as WROS Class S4 while the northern half is managed as WROS Class RD6 (see Figure 1-2). The attributes that differentiate these WROS management zones have a direct effect on the type of recreational opportunities and the visitor's recreational experience. The S and RD zones under the WROS system are similar, though not identical, to the S and RD zones under the WALROS system. The 2008 WROS inventory did not identify classifications for the land portions of Contra Loma. Because Contra Loma has not been re-inventoried under the WALROS system, each RMP alternative is analyzed below for consistency with the reservoir's existing WROS classifications.

The RMP does not address dam and reservoir operations, other than to describe activities included in the Expanded Recreation Facilities Alternative to manage the reservoir in a manner that supports and improves recreational fishing and habitat enhancement/restoration along the shoreline. Responsibilities for dam and reservoir operations are subject to a separate contract agreement between Reclamation and CCWD and are therefore outside the scope of the Contra Loma RMP.

Potential impacts to recreation could result from five general types of activities:

- Facility Management
- Facility Maintenance
- Resource Management
- Livestock Grazing
- Facility Improvements

4.3.2 Assumptions

The recreation impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- Visitation to Contra Loma and use of the Regional Park and Community Park recreation facilities would continue to increase.
- None of the RMP alternatives include adjustments to the WROS classification zones. Therefore, management actions included in the RMP alternatives are intended to be consistent with the existing WROS classifications.
- No land use changes would occur that do not meet RMP goals.

4.3.3 Impacts Common to All Alternatives

Facility Management

General Recreation Included in all of the RMP alternatives are actions that would support a diverse range of recreational opportunities within the Regional Park and the Community Park. Management actions include regulation of park uses, opening and closing of park gates for daily operations, concessionaire administration, issuance of special use permits, and implementation of a reservation system for use of the Community Park's sports fields. These management actions would be similar to the management activities currently being implemented by the managing partners (see Sections 3.2 and 3.3) and, therefore, would have no impact on recreation.

The managing partner(s) or other organizations may continue to provide public recreation programs at the Regional Park, such as low-income youth swim programs, Girl Scout and Boy Scout events, fundraiser events, and environmental and outdoor educational programs. These management actions would be similar to the management actions currently being implemented by the managing partners (see Sections 3.2 and 3.3). In addition, management regulations pertaining to recreation programs would continue to minimize user conflicts. Currently, a small potential currently exists for conflicts between group recreational activities and the recreational experience of other park visitors. Continuation of these management actions would not increase the potential for such conflicts. Therefore, these management actions would have no impact on recreation.

Under the RMP alternatives, user fees would continue to be collected at the Regional Park. Parking, day use, and special event fees contribute to the ability of the managing partner(s) to provide safe and desirable recreation opportunities. The collection of fees also provides a means to account for the number of users and monitor recreational preferences at the Regional Park. Fees can also deter some would-be park visitors who cannot afford fees or do not wish to pay fees. It is assumed however, that those visitors choosing to pay a fee to participate in a particular recreational activity do so because they find equitable value in the quality of the recreational experience available at the park. By serving as a limiting factor to visitation, fee payment may reduce the number of user conflicts and increase the level of satisfaction enjoyed by those

choosing to pay fees; however, those who cannot afford the fees could be prevented from participating in recreational activities available at the Regional Park. Fees are charged at the Community Park for group activities where reservation of a specific part of the park may be desired (e.g., picnic sites, sports fields). Otherwise, use of the Community Park by individuals is not subject to day use fees. Fee collection would be a continuation of an existing management activity (see Section 3.3) and, therefore, would have no impact on recreation.

Land-based Recreation Under all of the RMP alternatives, a diverse range of land-based recreational opportunities would continue to attract large numbers of users to the Regional Park and the Community Park. It is anticipated that the upward growth trend in the region would result in the increased use and demand for land-based recreational opportunities at Contra Loma. Under all RMP alternatives, the Regional Park trail system would continue to be operated, managed, and maintained for dispersed recreational activities such as hiking, biking, and equestrian uses, while the areas of concentrated recreation such as the day use areas adjacent to the WROS S4 zone on the reservoir's south side and the Community Park sports fields would continue to be operated, managed, and maintained at levels that would provide visitors with a positive recreation experience. Similarly, wildlife viewing, artistic pursuits (e.g., painting, photography), and other passive forms of recreation would not be affected because there would be no significant changes to existing management activities. Therefore, continued recreation management and administration would have an inconsequential impact on land-based recreation.

Picnicking, team sports play, and other activities supported by developed recreation facilities at the Regional Park and the Community Park would continue under all of the RMP alternatives. Continuation of these activities would have no impact on other forms of land-based recreation.

Water-based Recreation Water-based recreation opportunities including swimming in the lagoon, boating, and fishing—both on the water and from the shoreline of the reservoir—would continue to be allowed under all of the RMP alternatives. Consistent with existing conditions, use of the reservoir for recreational activities would be carefully managed by the managing partner(s) to protect water quality (see Section 3.3). The WROS classifications for the reservoir would continue to guide management actions related to recreation in and around the reservoir. The types of water-based recreation allowed at the reservoir would remain the same under all alternatives. Prohibition of gasoline-powered engines and swimming within the reservoir would continue. These prohibitions would continue to be enforced to protect water quality and to minimize the potential for conflicts between visitors using the reservoir for fishing, kayaking, or windsurfing and those who visit to Contra Loma to swim. Therefore, continuation of these activities would have no effect on water quality or conflicts between water-based recreationists.

Under all RMP alternatives, recreational fishing would continue to be allowed at the reservoir. Fish populations would be managed to maximize angler success and recreational experience. Fish planting, fish monitoring, angler permit sales, and public education would be some of the management activities used to maintain the reservoir's fish populations and satisfy user demand. The managing partner(s) for the Regional Park would also continue to enforce regulations against unauthorized fishing (i.e., poaching). Continued recreation management would have no impact on water-based recreation.

The managing partner(s) for the Regional Park would continue to implement measures to prevent mussel infestation and/or the introduction of other invasive aquatic pest species in the reservoir. Public education, pre-launch boat inspections by trained staff, and prohibitions against wet boats or gear entering the reservoir would be continued under all of the RMP alternatives (see Section 3.3). While such actions by the managing partner(s) may require an added level of intensive management (i.e., personnel to enforce measures) to respond to visitation increases, the intensity of these actions would be consistent with present conditions and, thus would have no impact on water-based recreation.

Interpretive Services Under the RMP alternatives, the managing partner(s) would continue to provide opportunities for public education and interpretation of natural and cultural resources. Interpretive opportunities are valuable tools for increasing visitor appreciation of Contra Loma's resources. Continued provision of interpretive opportunities would be consistent with existing conditions (see Section 3.3) and, thus would have no impact on recreation.

Facility Maintenance

Under all of the RMP alternatives, provision and maintenance of public facilities and infrastructure would continue to be performed by the managing partner(s) at a level suitable to ensure that visitors have a safe and positive recreation experience and to encourage continued use of Contra Loma. Regular maintenance benefits users by preserving the quality of park facilities, although maintenance activities can temporarily restrict or impair public use and access to certain recreational facilities.

Visitor recreational use of Contra Loma is expected to increase under all of the RMP alternatives, consistent with the visitation trend over the past few years. Increased visitation would incrementally increase the need for routine maintenance activities which could incrementally increase the frequency of temporary restriction or impairment of public use and recreation access. However, this change would be negligible, resulting in a minor impact on recreation. In addition, the local managing partner(s) would implement BMPs to notify visitors through signage or other means about areas closed for construction. Facility maintenance would have no impact on the WROS reservoir classifications, because it would not change land uses.

Resource Management

Under the RMP alternatives, the managing partner(s) would continue to operate Contra Loma in a manner that is consistent with Federal and state laws and regulations that govern the protection of natural and cultural resources within Contra Loma. The local managing partner(s) for the Regional Park may also develop programs to protect special-status species likely to occur at the park. The public could be restricted from certain areas of Contra Loma if necessary to avoid sensitive natural or cultural resources. Such restrictions could impair recreational activities within those areas. However, most recreational activity occurs within Contra Loma's developed recreation areas, which have little potential to support special-status species or for cultural resources to be present. Therefore, such restrictions would not substantially impair recreational activities within Contra Loma. Resource management activities would have a minor impact on recreation.

Livestock Grazing

Livestock grazing would likely continue in the Regional Park under all of the RMP alternatives. Grazing would be implemented according to a grazing management plan that would be prepared specifically for Contra Loma by the managing partner(s) and approved by Reclamation.

Although the potential exists for recreational activities such as biking or hiking to conflict with grazing, these activities already occur alongside grazing and any future conflicts are expected to be minor.

4.3.4 Impacts Specific to the No Action Alternative

Facility Management

The impacts would be the same as those addressed in Section 4.3.3.

Facility Maintenance

The impacts would be the same as those addressed in Section 4.3.3.

Resource Management

The impacts would be the same as those addressed in Section 4.3.3.

Livestock Grazing

The impacts would be the same as those addressed in Section 4.3.3.

4.3.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Facility Management

The impacts would be the same as those for the No Action Alternative and as discussed in Section 4.3.3.

Facility Maintenance

In addition to the impacts expected under the No Action Alternative and as addressed in Section 4.3.3, this alternative would include new facilities to enhance recreational opportunities. These facilities would not be built under the No Action Alternative. The new facilities would increase the need for routine maintenance activities which could increase the frequency of temporary restriction or impairment of public use and recreation access. Also, because this alternative would include more enhanced recreation opportunities than the No Action Alternative, it could result in more visitor use and require incrementally more maintenance. Therefore, this alternative could result in more frequent occurrences of temporary restriction or impairment of public use and recreation access than the No Action Alternative. However, this change would be negligible, resulting in a minor adverse effect on recreation. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for maintenance further reducing the effect.

Resource Management

In addition to the impacts expected under the No Action Alternative and as addressed in Section 4.3.3, this alternative may increase habitat restoration and improvement through construction of additional quail habitat enhancement projects and installation of additional bat houses and avian nest boxes. Recreation could be affected if these actions require recreation restrictions in areas where these actions would occur in order to prevent adverse impacts on habitat restoration and

improvement activities. However, the areas needed for these restoration projects would be relatively small within the context of Contra Loma, and they would generally be located in areas that do not receive heavy recreational use. Therefore, restrictions caused by habitat restoration and improvement activities would have a minor adverse effect on recreation.

Livestock Grazing

In addition to the impacts expected under the No Action Alternative and as addressed in Section 4.3.3, this alternative may include new water infrastructure (e.g., pumps, water lines, troughs) to support grazing. Installation of the new infrastructure could temporarily inhibit recreation in certain locations during construction. Because such restrictions would be of short duration and would be located in discrete areas, and because the managing partner(s) would be expected to carry out the improvements in a manner that minimizes conflicts with recreation, the intensity of the effect on recreation from grazing facility improvements would be minor. These improvements would not substantially affect recreation.

Under this alternative, livestock would be grazed within a portion of the 8.4 acres of land currently within the Community Park that may be managed as part of the Regional Park. This would not occur under the No Action Alternative. Because no trails or recreational facilities are located within the potential new grazing area, it likely receives little use. Therefore, no conflicts between grazing and recreation are expected to occur under this alternative.

Facility Improvements

This alternative would include several new facility improvements in various locations throughout Contra Loma that would not occur under the No Action Alternative. Long-term changes in visitor use patterns could occur as new facilities become identified by visitors as more preferable and draw visitors away from the older facilities.

General Recreation Under this alternative, improvements would be made to existing administrative buildings and recreational facilities. These improvements would enhance Regional Park operations, public services, and public safety. This alternative requires the managing partner(s) to design future improvements to comply with ADA accessibility requirements. This alternative would also include an ADA facility retrofit program that involves replacing, retrofitting, and restructuring many of the park facilities to meet current ADA standards. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Enhancement and expansion of existing facilities and accessibility improvements, however, would have a long-term beneficial impact on recreation that would not occur under the No Action Alternative.

Land-based Recreation Under this alternative the East Shore Trail, the West Shore Trail, and the trail across the dam would be improved by paving the surfaces along the entire reservoir shoreline loop. Improvements to the trail surfaces that compose the shoreline loop would not result in any changes in WROS classifications or adversely affect land-based recreational opportunities adjacent to the reservoir. Trail improvements along the reservoir shoreline would have a long-term beneficial impact on recreation by making more trails accessible to a variety of visitors, including the disabled and elderly. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would

minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would notify the public about temporary closures. These impacts would not occur under the No Action Alternative.

This alternative includes the potential to construct additional individual and group picnic sites in the vicinity of the Regional Park's south or east shore recreational clusters. The exact location of the new picnic sites would be chosen based on usefulness and public demand. The new picnic sites would be located within an existing recreational cluster where some supporting infrastructure is already in place, especially along the south shore. Because these improvements would be consistent with the experience descriptions for the WROS S and RD zones, they would not affect the reservoir's WROS classifications. These improvements would have a long-term beneficial impact on recreation by increasing the availability of picnic facilities. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would notify the public about temporary closures. These impacts would not occur under the No Action Alternative.

Water-based Recreation This alternative may include renovations to the buildings near the swim lagoon within the WROS S4 zone. A "safe swim" or splash pad specifically for small children may also be constructed at the swim lagoon. Because these improvements would be consistent with the experience description for the WROS S zone, they would not affect the reservoir's WROS classifications. These improvements would have a long-term beneficial impact on recreation by enhancing recreational opportunities at or near the swim lagoon. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would notify the public about temporary closures. These impacts would not occur under the No Action Alternative.

4.3.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Facility Management

The impacts would be the same as those for the No Action Alternative and as discussed in Section 4.3.3.

Facility Maintenance

In addition to the impacts expected under the No Action Alternative and as addressed in Section 4.3.3, this alternative would include more recreation and infrastructure facilities than the other two alternatives, which could require more maintenance than the other alternatives. Also, because this alternative would include more expanded recreation opportunities than the other two alternatives, it could result in more visitor use and require incrementally more maintenance than the other alternatives. Therefore, this alternative could result in more frequent occurrences of temporary restriction or impairment of public use and recreation access. However, this change would be negligible, resulting in a minor adverse effect on recreation. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for maintenance further reducing the effect.

Resource Management

The impacts would be the same as those addressed in Section 4.3.5.

Livestock Grazing

In addition to the impacts caused by livestock grazing addressed in Section 4.3.5, grazing could present conflicts with use of the disc golf course that might be built under this alternative because livestock waste could present a nuisance to players. After implementation of BMPs including optimized disc golf course siting, grazing would lead to only occasional conflicts with disc golfers. Therefore, this adverse effect would be minor. This impact would not occur under the No Action Alternative.

This alternative may include the expansion of the Community Park into approximately 15 acres of the Regional Park. Should this occur, the boundaries between the parks would be adjusted by the local managing partner(s) and current grazing of this area would cease, thereby avoiding any conflict between livestock and users of the new sports fields. Grazing would have no effect on use of the new sports fields.

Facility Improvements

General Recreation The impacts would be the same as those addressed in Section 4.3.5.

Land-based Recreation This alternative would include the impacts addressed in Section 4.3.5, but would also include impacts from facility improvements that would not occur under the other two alternatives.

The swim lagoon is one of the principal attractions at the Regional Park's south shore recreation cluster and may be expanded to accommodate increased future demand. Its expansion would not likely result in permanent conflicts with adjacent recreational land uses, such as picnic sites or the shoreline trail system, because these facilities would be considered during project design and because they could be relocated if necessary to accommodate the swim lagoon expansion. During construction, however, some areas near the swim lagoon may be temporarily unavailable for use. However, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would notify the public about temporary closures.

This alternative may include the addition of two new sports fields in the Community Park south of sports fields 4 and 5 and increased parking capacity, if needed. This management action would require expansion of the Community Park boundary southward into the Regional Park and a resulting adjustment of the boundary between the two parks (see Figure 2-1). The area where the new sports fields would be located is currently undeveloped and receives little recreational use, except for a Regional Park trail that follows the existing Community Park boundary. Because this area currently receives little recreational use, and because the existing trail could be rerouted or incorporated into the design of the new sports fields, the addition of two new sports fields would not adversely affect existing recreational uses and would have a long-term beneficial impact on land-based recreation. This area would be unavailable for use during construction, but any adverse effect would be minor considering the temporary nature of the closure and that the area currently receives little use. Also, the local managing partner(s) would

implement BMPs to notify visitors about areas closed for construction further reducing the effect.

This alternative may include construction of new trails that would be open to bicycles and/or allow bicycles on portions of trails that are not currently open to bicycles. Expansion of the bicycle-accessible trail system could conflict with other trail users such as hikers or equestrians. However, trail users are often widely dispersed and the different user groups have not come into serious conflict in the past. If conflicts were to occur, they would likely be infrequent, isolated incidents of relatively minor nature. Increased use of the Regional Park trail system by differing user groups would slightly increase the potential for conflict, but would not substantially affect recreation within the Regional Park adversely. Rather, the overall effect of making more trails available to recreationists would be a beneficial impact. Expansion of the trail system to include new trails and to improve interconnection between trail systems would also be beneficial for recreation and is not likely to conflict with any other user groups. This alternative may also include establishment of a new fitness course by installing outdoor exercise stations with stationary equipment and signage along the shoreline trail loop. This would be beneficial for recreation and, as discussed in Section 4.2.6 above, is not likely to conflict with any other user groups. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for construction further reducing the effect.

This alternative includes a proposal to build a disc golf course in the Regional Park. Potential locations being considered include undeveloped areas east of the reservoir and in the southeast part of the Regional Park located within the natural environment unit of the Regional Park. Although segments of the Contra Loma trail system pass through or near the areas being considered in the southeast part of the Regional Park, disc golf requires very little infrastructure. As such, development of a disc golf course is unlikely to conflict with other low-impact recreational user groups. Overall, the addition of a disc golf course would have a long-term beneficial impact on land-based recreation due to increased recreational opportunities within Contra Loma. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for construction further reducing the effect.

This alternative may also include periodic overnight camping as part of the Regional Park's current day camp programs and other special events. Conflicts with other recreational uses are not anticipated because overnight camping would not coincide with other recreational activities. Overnight group camping would create additional recreational opportunities, resulting in a beneficial impact on land-based recreation. No new camping facilities would be built, but some existing day use facilities may be modified to accommodate group campers. During construction, recreationists may be temporarily excluded from some areas; however, the short duration of any such exclusion would minimize the intensity of its effect on recreation resulting in a minor, short-term impact. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for construction further reducing the effect.

Other facilities and improvements that may occur under this alternative such as a playground structure in the developed recreational areas along the south side of the reservoir and shade trees to support recreational uses would also have a beneficial impact on land-based recreation.

Water-based Recreation This alternative would include the short-term minor adverse impacts due to construction activities and the long-term beneficial impacts on water-based recreation that were identified for the Enhanced Recreation and Facilities Alternative in Section 4.3.5. This alternative would also include facility improvements that would not occur under the Enhanced Recreation and Facilities Alternative.

Expansion of the swim lagoon to accommodate the anticipated increase in future demand would benefit water-based recreation by improving the quality of the visitor's recreational experience at the Regional Park. This would be a beneficial impact that would be consistent with the experience description for the WROS S zone.

Fishing improvements would include fish habitat and population enhancements, and improvements to the recreational facilities used by anglers. Such management actions would benefit recreational fishing activities. Construction of a fisherman's shelter on the reservoir's south or east shore would enhance recreational fishing and improve the visitor experience. The shelter would be consistent with the experience descriptions for the WROS S and RD zones. There would be no conflicts with other recreational uses as a result of these actions and these actions would result in a beneficial impact to recreation.

Interpretation This alternative may include increased use of interpretive signage and programs to educate the public and improve its interpretation of Contra Loma's history and natural resources. This alternative may also include a botanical garden in the Community Park. Increased interpretive opportunities would have a beneficial impact on recreation. During construction, however, some areas may be temporarily unavailable for use resulting in a temporary and minor impact.

4.3.7 Cumulative Impacts

Increased Visitation and Concurrent Improvements

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans.

The improvements to sports fields 4 and 5 and the boat launch area upgrades would increase visitation to Contra Loma. These improvements and issuance of a license to the City for continued use of the 5.7 acres of land east of the Regional Park for golf course use would affect recreation.

Facility Management

None of the RMP alternatives would change the manner in which the managing partner(s) manage Contra Loma for recreation. Nor would such changes be caused by increased visitation

or the concurrent improvements. Therefore, no cumulative impact to facility management would occur under any of the alternatives.

Facility Maintenance

Under all of the alternatives, provision and maintenance of public facilities and infrastructure would be performed by local managing partner(s). As discussed previously, visitation to Contra Loma would increase under all of the alternatives, with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades would also increase visitation to Contra Loma.

This increased visitation would incrementally increase the need for routine maintenance activities which could incrementally increase the frequency of temporary restriction or impairment of public use and recreation access. Also, the new or improved recreational facilities that would be built under the two action alternatives would increase the need for routine maintenance activities which could increase the frequency of temporary restriction or impairment of public use and recreation access. Because the two action alternatives would include more recreation opportunities than the No Action Alternative, they could result in more visitor use, require incrementally more maintenance, and increase the frequency of temporary restriction or impairment of public use and recreation access. Under all of the alternatives, however, this increase would be negligible resulting in a minor cumulative adverse effect on recreation. Also, the local managing partner(s) would implement BMPs to notify visitors about areas closed for construction further reducing the effect.

Resource Management

The public could be restricted from certain areas of Contra Loma if necessary to avoid sensitive natural or cultural resources. The habitat restoration and improvement projects that could occur under the two action alternatives could increase the number of locations restricted to visitors. Such restrictions could impair recreational activities within those areas and increased visitation could increase the number of visitors affected by such restrictions. However, most recreational activity occurs within Contra Loma's developed recreation areas, which have little potential to support special-status species or for cultural resources to be present. Therefore, such restrictions would not substantially impair recreational activities within Contra Loma. Resource management activities would have a minor cumulative impact on recreation.

Livestock Grazing

Under all of the alternatives, the potential exists for recreational activities such as biking or hiking to conflict with grazing. Increased visitation to Contra Loma would increase the potential for conflicts between recreation and grazing. The potential for such conflicts would be greater under the two action alternatives than the No Action Alternative, because visitation would be greater. However, recreation activities already occur alongside grazing and any future conflicts are expected to have a minor cumulative impact on recreation.

Facility Improvements

The new or improved recreational facilities that would be built under the two action alternatives would have long-term beneficial impacts on recreation that would not occur under the No Action

Alternative. The improvements to sports fields 4 and 5, the boat launch upgrades, and the renewed lease between Reclamation and the City of the 5.7-acre parcel located outside of Contra Loma for the existing golf course would have a beneficial cumulative impact on recreation in the general area.

4.3.8 Mitigation Measures

No need for mitigation has been identified.

4.4 Visitor Access and Circulation

4.4.1 Type of Impacts

This section assesses the potential impacts of the RMP alternatives on visitor access and circulation. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts on visitor access and circulation could result from four general types of activities:

- Increased Human Use
- Facility Maintenance and Operation
- Natural and Cultural Resource Management and Protection
- Facility Improvements

4.4.2 Assumptions

The visitor access and circulation impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations governing visitor access and circulation.
- The demand for facility management at Contra Loma would continue to increase regardless of the selected alternative, and would require an increased level of management to satisfy this demand.
- The managing partner(s) would continue to provide the standard of care necessary to ensure the health and safety of visitors to Contra Loma, as well as protect the natural environment and cultural resources.
- No land use changes would occur that do not meet RMP goals.

4.4.3 Impacts Common to All Alternatives

Increased Human Use

Visitor use of Contra Loma is expected to increase under all of the RMP alternatives, consistent with the visitation trend over the past few years. Increased visitation would result in greater demand for parking within the Regional Park and Community Park, and would increase the number of vehicles using park roads and parking areas for internal circulation and public roads to access Contra Loma. Currently, the internal roads and parking areas accommodate increased visitation on most days, although occasional gate closures to vehicles are necessary when road and parking capacity is reached. Increased visitation could cause vehicle gate closures to occur more frequently or earlier in the day than current conditions. However, the increased frequency of gate closures is expected to be relatively minor. Increased visitation would cause a minor impact on visitor access and circulation within Contra Loma.

Facility Maintenance and Operation

All of the RMP alternatives have been designed to avoid potential land use conflicts to the extent possible. Public motorized vehicles would be confined to existing roads and parking areas within both the Regional Park and the Community Park. Trail system use by private motorized vehicles would continue to be prohibited throughout Contra Loma. The opening and closing of park gates for daily visitor access would be the responsibility of the managing partner(s). The managing partner(s) would continue to maintain and operate publicly accessible roads and parking areas within Contra Loma. If road closure is required during maintenance activities, the closure would be short term and the effect on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Trail system maintenance and operation in the Regional Park would continue under all of the RMP alternatives. Hiking, equestrian, and bicycle trail system users could encounter trail sections receiving periodic maintenance activities, such as gravel and rock placement on fire trails to maintain all-weather access for emergency vehicles. The impact on recreational trail access and circulation during maintenance would be temporary and of short duration. If trail closure is required during maintenance activities, the closure would be short term and the effect on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Natural and Cultural Resource Management and Protection

All of the alternatives include management actions for protecting and managing natural and cultural resources. Under the RMP alternatives, the local managing partner(s) for the Regional Park would continue to perform periodic biological surveys to inventory and assess special-status plant and wildlife species within the Regional Park. Federal and state regulations and laws governing the protection of special-status plant and animal species may require modification or closure of trails or roads if public access is determined to have an adverse impact on such species. Avoiding or minimizing disturbance of special-status plant communities or special-status wildlife species (individuals or populations) could affect current and proposed visitor access and circulation due to road or trail closures, or could influence future road and trail planning. Cultural resources within Contra Loma would be afforded similar protections.

Known populations of special-status plant or animal species, or cultural resource sites are currently protected by the managing partner(s) as directed by Federal or state regulations. Public access and circulation in the vicinity of currently known biologically or culturally sensitive areas would continue to be managed similar to existing conditions (see Section 3.3) and, thus would incur no new impacts. All future planning improvements in the Regional Park would be consistent with laws and regulations that govern the protection of natural and cultural resources. Therefore, conflicts between a visitor access and circulation planning action and a sensitive resource can be proactively addressed early in the planning process to reduce or avoid conflicts to the extent possible. Natural and cultural resource management and protection could result in a minor impact on visitor access and circulation.

4.4.4 Impacts Specific to the No Action Alternative

Increased Human Use

In addition to the impacts addressed in Section 4.4.3, increased visitation would increase the number of vehicles using public roads to access Contra Loma. This increased traffic would be most noticeable on high-volume days and in the immediate vicinity of Contra Loma. Visitation to the Regional Park is generally highest on weekends and holidays from Memorial Day weekend through Labor Day. The local roads providing access to the park (i.e., James Donlon Boulevard, Lone Tree Way, Contra Loma Boulevard) are classified as major collector roads and primary arterials (i.e., high capacity urban roads) in the local road system. Peak traffic on these roads generally occurs on weekday mornings and afternoons which correspond with peak commuting periods. Increased visitation to the Regional Park would mostly occur on the weekends; therefore, its effect on peak hour traffic would be minimal.

The most popular activities at the Community Park involve use of the sports fields; therefore, increased visitation to the Community Park would mostly occur on weekday evenings from 4:00 to 10:00 p.m. and on Saturdays. Therefore, increased visitation to the Community Park could increase traffic on roads leading to the Community Park during the weekday afternoon peak hour.

Increased vehicle trips to Contra Loma would represent a small proportion of the existing traffic on local roads serving Contra Loma. According to the City's General Plan EIR (prepared in 2003), average daily traffic on James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevard ranges from 13,490 to 27,760 vehicles and volume-to-capacity ratios for these streets range from 0.53 to 0.82 (City of Antioch 2003b). The Regional and Community parks have a combined parking capacity of about 1,500 spaces. If daily visitation by visitors driving vehicles to Contra Loma increases by 20 percent, vehicle trips would increase by about 600 trips per day ($1,500 \times 20\% \times 1 \text{ trip each direction} [2 \text{ trips}] = 600$) on the busiest days. These additional trips would increase average daily traffic from 2 to 4 percent of the current traffic volumes and would increase volume-to-capacity ratios to a range from 0.55 to 0.84. As of 2003, James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevards had available remaining capacity of approximately 6,100 to 15,000 vehicles. The increased trips expected under this alternative (i.e., about 600) would be minor in the context of the available capacity of the roads servicing Contra Loma. It appears that these roads would be sufficient to accommodate increased visitation expected under this alternative. Increased human use of Contra Loma, therefore, would cause a minor impact on the capacity of local roads.

Facility Maintenance and Operation

The impacts would be the same as those addressed in Section 4.4.3.

Natural and Cultural Resource Management and Protection

The impacts would be the same as those addressed in Section 4.4.3.

4.4.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Increased Human Use

In addition to the impacts addressed in Section 4.4.3, this alternative would include more enhanced recreation opportunities which could result in more visitor use and generate more vehicle trips to Contra Loma. The internal roads and parking areas would be expected to accommodate increased visitation on most days; however, gate closures to vehicles when road and parking capacity is reached could occur more frequently than the No Action Alternative. Impacts to parking capacity caused by increased human use could be alleviated by the management action to expand the gravel/overflow parking areas within the Regional Park. Also, the local managing partner(s) would implement BMPs to notify visitors about gate closures further reducing the effect.

If this alternative were to generate 20 percent more new daily visitors than the No Action Alternative, vehicle trips on the busiest days would increase by about 720 trips per day as compared to existing conditions (600 trips under No Action Alternative x 120% = 720 trips). These additional trips would increase average daily traffic from 3 to 5 percent of the current traffic volumes and would increase volume-to-capacity ratios to a range from 0.56 to 0.84. As of 2003, James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevards had available remaining capacity of approximately 6,100 to 15,000 vehicles. The increased trips expected under this alternative (i.e., about 720) would be minor in the context of the available capacity of the roads servicing Contra Loma. Similar to the No Action Alternative, it appears that these roads would be sufficient to accommodate the increased visitation expected under this alternative. Increased human use of Contra Loma, therefore, would cause a minor impact on the capacity of local roads. The impacts of increased human use on visitor access and circulation would be minor.

Facility Maintenance and Operation

In addition to the impacts expected under the No Action Alternative and those addressed in Section 4.4.3, this alternative would include new facilities to enhance recreational opportunities. The new facilities would increase the need for routine maintenance activities which could increase the frequency of temporary road or trail closures. Also, because this alternative would include more enhanced recreation opportunities than the No Action Alternative, it could result in more visitor use and require incrementally more maintenance. Therefore, this alternative could result in more frequent occurrences of temporary road or trail closure than the No Action Alternative. If temporary road or trail closure is required during maintenance activities, the closure would be short term and the effect on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Natural and Cultural Resource Management and Protection

The impacts would be the same as those expected under the No Action Alternative and those addressed in Section 4.4.3.

Facility Improvements

Under this alternative the East Shore Trail, the West Shore Trail, and the trail across the dam would be improved by paving the surfaces along the entire reservoir shoreline loop. The shoreline loop is open to pedestrian and bicycle traffic. Improvements to the trails that compose the shoreline loop would make the shoreline loop more accessible to a wider range of pedestrian and bicycle traffic, including handicap visitors and other recreationists who may have trouble negotiating unpaved surfaces. Trail improvements along the reservoir shoreline would have a beneficial impact on visitor access and circulation within the Regional Park that would not occur under the No Action Alternative.

This alternative includes the potential to expand or renovate existing buildings or construct new facilities for the purpose of improving Regional Park operations. These facility improvements would not occur under the No Action Alternative. Existing roads and parking areas are anticipated to be sufficient to accommodate any increased vehicle traffic resulting from building and facilities enhancements, although some existing gravel parking areas may be paved and overflow parking at the Regional Park may be expanded, if it becomes necessary to accommodate more vehicles. Facility improvements would not result in permanent impacts on visitor access or circulation. However, temporary road or trail closures, if needed during construction, could result in minor, short-term adverse effects on visitor access and circulation. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Facility improvements at the Regional Park included in this alternative would comply with ADA accessibility requirements. The local managing partner(s) may implement a management action that would replace, retrofit, or restructure many of the Regional Park facilities to meet current ADA requirements resulting in beneficial impacts that would not occur under the No Action Alternative.

4.4.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Increased Human Use

In addition to the impacts addressed in Section 4.4.3, this alternative would include more expanded recreation opportunities which could result in more visitor use and generate more vehicle trips to Contra Loma. The internal roads and parking areas would be expected to accommodate increased visitation on most days; however, gate closures to vehicles when road and parking capacity is reached could occur more frequently than the other two alternatives. Similar to the other alternatives, the local roads providing access to Contra Loma would be sufficient to accommodate increased visitation. The effect of increased human use on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about gate closures further reducing the effect.

If this alternative were to generate 20 percent more new daily visitors than the Enhanced Recreation and Facilities Alternative, vehicle trips would increase by about 864 trips per day on

the busiest days as compared to existing conditions (720 trips under Enhanced Recreation and Facilities Alternative x 120% = 864 trips). These additional trips would increase average daily traffic from 3 to 6 percent of the current traffic volumes and would increase volume-to-capacity ratios to a range from 0.56 to 0.85. As of 2003, James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevards had available remaining capacity of approximately 6,100 to 15,000 vehicles. The increased trips expected under this alternative (i.e., about 864) would be minor in the context of the available capacity of the roads servicing Contra Loma. Similar to the other two alternatives, it appears that these roads would be sufficient to accommodate the increased visitation expected under this alternative. Increased human use of Contra Loma, therefore, would cause a minor impact on the capacity of local roads. The impacts of increased human use on visitor access and circulation would be minor.

Facility Maintenance and Operation

In addition to the impacts expected under the No Action Alternative and those addressed in Section 4.4.5, this alternative would include new facilities to expand recreational opportunities. The new facilities would increase the need for routine maintenance activities which could increase the frequency of temporary road or trail closures. Also, because this alternative would include more expanded recreation opportunities than the other two alternatives, it could result in more visitor use and require incrementally more maintenance. Therefore, this alternative could result in more frequent occurrences of temporary road or trail closure than the other alternatives. If temporary road or trail closure is required during maintenance activities, the closure would be short term and the effect on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Natural and Cultural Resource Management and Protection

The impacts would be the same as those expected under the No Action Alternative and those addressed in Section 4.4.3.

Facility Improvements

This alternative would include construction of new or expanded recreational facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Expanded recreational facilities proposed under this alternative would also include expansion of the swim lagoon and construction of additional sports fields. The swim lagoon is one of the principal attractions at the Regional Park's south shore recreation cluster and would be expanded to accommodate increased future demand. The addition of two new sports fields and increased parking capacity (if needed) south of the two existing soccer fields located in the Community Park would attract a substantial number of visitors to the Community Park. Existing roads and parking areas at both the Regional Park and the Community Park are anticipated to be capable of providing an adequate level of service to accommodate increased visitor traffic. Facility improvements would not result in any permanent impacts on visitor access or circulation. However, road or trail closures, if needed during construction, could result in temporary, minor effects on visitor access and circulation that would not occur under the No Action Alternative. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

This alternative may include construction of new trails that would be open to bicycles and/or allow bicycles on portions of trails that are not currently open to bicycles. Expansion of the trail system would improve bicycle, equestrian, and pedestrian access and circulation throughout the Regional Park. In addition, the expansion of the Community Park trails system to include new trails and improve interconnection between trail systems would also improve bicycle and/or pedestrian access and circulation throughout the Community Park. Expanding the trails system in the Regional Park and the Community Park would be beneficial for visitor access and circulation that would not occur under the No Action Alternative.

4.4.7 Cumulative Impacts

Increased Visitation and Concurrent Improvements

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma. In particular, the installation of flood lights to sports fields 4 and 5 will allow for increased nighttime visitation to the Community Park.

Increased Human Use

Increased visitation would result in greater demand for parking within the Regional Park and Community Park, and would increase the number of vehicles using park roads and parking areas for internal circulation. The internal roads and parking areas would be expected to accommodate increased visitation on most days; however, gate closures to vehicles when road and parking capacity is reached could occur more frequently than current conditions. The cumulative increase in human use of Contra Loma, therefore, would cause a minor impact on visitor access and circulation within Contra Loma under all of the alternatives. However, the management action included in the two action alternatives to expand the gravel/overflow parking areas within the Regional Park could help reduce cumulative impacts to parking capacity caused by increased human use. Also, the local managing partner(s) would implement BMPs to notify visitors about gate closures further reducing the effect.

Increased visitor use of the Regional and Community parks would increase vehicle trips to Contra Loma; regional population growth would also increase traffic volumes on roads near Contra Loma. As discussed previously, the increased traffic would be most noticeable on high-volume days and in the immediate vicinity of Contra Loma. Also, increased vehicle trips (up to about 864 new trips per day) to Contra Loma from implementation of the RMP would represent a small proportion (up to 6 percent) of the existing traffic on local roads serving Contra Loma. The two action alternatives would generate more traffic than the No Action Alternative.

According to the City's General Plan EIR (prepared in 2003), average daily traffic on James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevard ranges from 13,490 to 27,760 vehicles and volume-to-capacity ratios for these streets range from 0.53 to 0.82. The projected daily traffic on James Donlon Boulevard, Lone Tree Way, and Contra Loma Boulevard after build out of the General Plan would range from 17,000 to 42,700 vehicles and volume-to-

capacity ratios for these streets would range from 0.50 to 0.84 (City of Antioch 2003b). Although the traffic volume would increase over time, expected future roadway improvements envisioned in the General Plan would ensure that the volume-to-capacity ratios for these streets would not exceed their expected range or capacity. Therefore, these roads would be sufficient to accommodate cumulative increases in traffic volume, including those attributable to increased visitation to Contra Loma.

Facility Maintenance and Operation

As previously discussed, hiking, equestrian, and bicycle trail system users could encounter trail sections receiving periodic maintenance activities under all of the alternatives. The cumulative increase in visitation would increase the need for trail maintenance, and could also increase the number of visitors unable to access the sections of trail undergoing maintenance. Under all of the alternatives, if trail closure is required during maintenance activities, the closure would be short term and the cumulative effect on visitor access and circulation would be minor. Also, the local managing partner(s) would implement BMPs to notify visitors about such closures further reducing the effect.

Natural and Cultural Resource Management and Protection

All of the alternatives include management actions for protecting and managing natural and cultural resources. Avoiding or minimizing disturbance of special-status plant communities or special-status wildlife species (individuals or populations) could affect current and proposed visitor access and circulation due to road or trail closures, or could influence future road and trail planning. Cultural resources within Contra Loma would be afforded similar protections. Increased visitation from buildout of the City and County general plans would increase the number of visitors potentially affected by such protective measures.

However, conflicts between a visitor access and circulation planning action and a sensitive resource can be proactively addressed early in the planning process to reduce or avoid conflicts to the extent possible. Natural and cultural resource management and protection could result in a minor cumulative impact on visitor access and circulation.

4.4.8 Mitigation Measures

No need for mitigation has been identified.

4.5 Utilities

4.5.1 Types of Impacts

As described in Section 3.5.1, public utilities within Contra Loma include water service, wastewater service, solid waste disposal, electricity, and telephone and radio service available to personnel and visitors of the Regional Park and the Community Park. All of the RMP alternatives would have an effect on the availability of and demand for utilities. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to public utilities could result from four general types of activities:

- Human Use

- Livestock Grazing
- Facility Improvements
- Communications

4.5.2 Assumptions

The public utilities impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- Neither Reclamation nor its local managing partner(s) are public utilities service providers.
- The proposed management actions would comply with applicable laws and regulations governing public utilities.
- The demand for energy relating to future improvements at Contra Loma cannot be quantified until specific project details are known. Based on current projects, it is expected that regional energy demand will continue to increase regardless of the selected alternative, and an increased level of pro-active facilities management will be required to offset demand.
- The managing partner(s) would uphold their responsibilities to provide the standard of care necessary to ensure that utilities are reasonably available and maintained for the benefit of visitors to Contra Loma. These agencies would provide staff levels commensurate with recreation visitation to ensure implementation of the policies and management actions intended to maintain the level and quality of safety and services expected by visitors to the Regional Park and the Community Park.

4.5.3 Impacts Common to All Alternatives

Human Use

As described previously, visitor use of Contra Loma is expected to increase under all of the RMP alternatives. Increased visitation would increase the demand for publicly available utilities such as restrooms, potable water, electricity, and litter and waste disposal. It is anticipated that the managing partner(s) would provide additional portable chemical toilets if needed to accommodate increased demand. Also, similar to current practices, routine maintenance of public utilities, including litter and waste removal, sewage pumping, and plumbing repairs would be required under all project alternatives to avoid potential public health and safety concerns, ensure adequate service, and protect water quality (see Sections 3.2, 3.5, and 3.8). The anticipated increase in human use and corresponding waste disposal needs would be a minor impact because the managing partner(s) would continue to provide adequate waste disposal services. Increased demand for electricity would be a minor impact as electricity would continue to be provided by PG&E under its current electrical generation capacities.

4.5.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.5.3.

4.5.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

This alternative would include facility improvements and renovations that would increase the public's enjoyment and use of the Regional Park and the Community Park. This alternative would likely attract more visitors than the No Action Alternative, thereby increasing demand for utilities. Consequently, this alternative would include utilities infrastructure improvements and renovations. Additional restrooms may be built to accommodate existing and future user needs, while existing portable chemical toilets may be replaced with permanent restrooms served by vault systems, septic tanks, or the City's sewer system. This would be a beneficial impact that would not occur under the No Action Alternative.

The greatest potential for water use occurs during the peak visitor season (May through October). During this peak season, irrigation and potable water use account for the greatest demand for water. Potable water service at Contra Loma is provided by the City via its contractual agreement with CCWD. Additional drinking water fountains and spigots may be installed as a result of this alternative. Extension of City sewer and potable water lines may be needed to accommodate the new infrastructure. This alternative would generate higher water demand than the No Action Alternative; however, the City's water system is expected to have adequate capacity to serve Contra Loma's potable water needs. Therefore, the impact of increased human use on water supply would be minor.

Raw water for irrigation and livestock grazing is derived from the reservoir, with an allocation of up to 100 acre-feet per year. Under this alternative, the volume of water pumped from the reservoir to irrigate the Regional Park might be increased from 100 acre-feet per year to 150 acre-feet per year. This water would be purchased from CCWD if the requested water is available. CCWD would be responsible for reviewing the request for additional water, and would only approve the request if sufficient water is available. Because CCWD would only provide additional water to the Regional Park if it is available, the provision of increased raw water would have a minor impact on water supplies. This impact would not occur under the No Action Alternative.

This alternative would also generate higher demand for other public utilities (i.e., electricity, and litter and waste disposal) than the No Action Alternative. However, this impact would be minor because PG&E would be able to provide electricity to serve the increased demand and because the managing partner(s) would continue to provide adequate litter and waste disposal services.

Livestock Grazing

This alternative could result in 0.3 more acre of grazing area than the No Action Alternative. This slight increase would not substantially increase the amount of water needed for livestock. If additional water for livestock grazing is needed, the water would be purchased from CCWD if it is available. This impact is discussed above (Human Use).

Facility Improvements

This alternative would generate more demand for utilities than the No Action Alternative. Proposed building expansion or renovation of the existing park offices, the police substation, the secondary storage yard, and the buildings near the swim lagoon could increase demand for electricity as well as for wastewater and solid waste disposal. A fueling station and fuel storage tank facility proposed for use by the managing partner(s) could also result in an increased demand for utilities. Infrastructure improvements, including a new radio communication tower and facilities as well as the addition of call boxes and security cameras in the Regional Park, would require electricity to operate. The anticipated increase in wastewater and solid waste disposal needs would be a minor impact because the managing partner(s) would continue to provide adequate waste disposal services. Increased demand for electricity would be a minor impact because PG&E would be expected to have sufficient capacity to serve the increased demand. Reclamation may coordinate with PG&E to identify renewable energy sources to meet the energy demand of park operations and maintenance.

Communications

The new radio communication tower and supporting facilities proposed under this alternative would improve communications at Contra Loma, thereby enhancing public service response and aiding the managing partner(s) and other public service personnel in serving the Regional Park. Therefore, construction of the radio tower would be a beneficial impact that would not occur under the No Action Alternative.

4.5.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

This alternative would include facility improvements and renovations beyond those proposed under the other two alternatives. These improvements would further increase the public's enjoyment and use of the Regional Park and the Community Park and would likely attract more visitors than the other alternatives. Similar to the other two alternatives, however, the impacts of increased human use on public utilities would be minor because the City's water system is expected to have adequate capacity to serve Contra Loma's potable water needs, PG&E would be able to provide electricity to serve the increased demand, and the managing partner(s) would continue to provide adequate litter and waste disposal services.

Livestock Grazing

This alternative may include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma as compared to the other two alternatives, thereby reducing the amount of water needed for livestock.

Facility Improvements

This alternative would include new facility improvements in addition to those that would be included in the Enhanced Recreation and Facilities Alternative.

Some improvements may be needed to accommodate overnight camping, such as installation of wash basins and electrical outlets. Allowing overnight camping would increase use of potable

water, electricity, and restroom facilities as a result of the change in duration of use by visitors to the park. The expanded swim lagoon would also require some additional electricity to filter the larger volume of water. The increased demand for electricity and water as a result of overnight camping and expansion of the swim lagoon would be a minor impact because the City's water system is expected to have adequate capacity to serve Contra Loma's potable water needs and PG&E would be able to provide electricity to serve the increased demand. This impact would not occur under the No Action Alternative.

Proposed improvements to the recreational facilities at the Community Park include two new lighted sports fields. Power would be provided by PG&E, which already provides electrical power to the Community Park, including the three lighted sports fields, and the Regional Park. This increased demand for electricity would be a minor impact that would not occur under the No Action Alternative.

To help meet the increased demand for energy, this alternative would include installation of solar panels on shade structures or buildings (Management Action 74), which would contribute to renewable energy procurement goals identified by EPA. Energy derived from these solar panels would be used to supplement the park's energy needs, including powering the water pumps at the swim lagoon. This would be a beneficial impact that would decrease dependency on commercial electricity and that would not occur under the No Action Alternative.

Communications

The impacts would be the same as those addressed in Section 4.5.5.

4.5.7 Cumulative Impacts

Increased Visitation and Concurrent Improvements

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. This buildout would also increase regional demand for utilities. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma and the new flood lights will increase electrical demand.

Human Use

Increased visitation would increase the demand for publicly available utilities such as restrooms, electricity, and litter and waste disposal. It is anticipated that the managing partner(s) would provide additional portable chemical toilets if needed to accommodate increased demand. Under the two action alternatives, additional restrooms may be built to accommodate existing and future user needs, while existing portable chemical toilets may be replaced with permanent restrooms. The anticipated increase in human use and corresponding sanitary and solid waste disposal needs would result in a minor cumulative impact because the managing partner(s) would continue to provide adequate waste disposal services. Increased demand for electricity would have a cumulative minor impact because PG&E would be expected to have sufficient capacity to serve the increased demand.

Water service at Contra Loma is provided by the City via their contractual agreement with CCWD for CVP water. The cumulative increase in visitation to Contra Loma and regional population growth would increase potable water demand within the City. The City's General Plan EIR estimates that water usage between 2010 and 2020 will increase by 13 percent (2,832 acre-feet per year). The City's General Plan includes policies to ensure that adequate water supply is available for future growth, such as maintaining adequate pumping and storage capacity, ensuring that adequate water supply infrastructure is in place prior to occupancy or development, maintaining existing levels of water service, implementing a residential growth management program development review process for non-residential development to ensure that adequate long-term water supplies are available, and requiring new development to be equipped with drought-tolerant landscaping and water conservation devices. The City's General Plan EIR concludes that these policies will reduce water supply impacts below a level of significance (City of Antioch 2003b). Therefore, the City's water system is expected to have adequate capacity to serve the cumulative increase in potable water needs for Contra Loma and the City. Increased visitation would, therefore, have a minor adverse cumulative impact on water supply.

Wastewater from the Regional Park's permanent restrooms, the showers near the swim lagoon, and the restrooms and concession building/snack bar within the Community Park are collected and conveyed through the City's sewer lines to the DDS's wastewater treatment plant. As of 2010, the plant was operating at 77 percent of its capacity (Delta Diablo Sanitation District 2013). The cumulative increase in visitation to Contra Loma and projected population growth the DDS service area (i.e., Antioch, Bay Point, Pittsburg) would increase wastewater demand within the DDS service area. DDS is expected to continue to expand its treatment capacity consistent with growth projections and the associated demand increase and the City is expected to continue to expand sewer line capacity to serve increased growth within its service area. Therefore, the DDS treatment plant and the City's sewer lines are expected to have sufficient capacity to serve the cumulative increase in wastewater generation. Increased visitation would have a minor adverse cumulative impact with respect to wastewater generation and treatment.

Facility Improvements

The two action alternatives would include facility improvements that are not included in the No Action Alternative. These improvements would generate increased demand for utilities. Similar to the cumulative effects described under Human Use above, the increased demand for utilities caused by the facility improvements and increased visitation would have a minor cumulative impact on utilities.

4.5.8 Mitigation Measures

No need for mitigation has been identified.

4.6 Public Health and Safety

4.6.1 Types of Impacts

Public health and safety issues at the Regional Park and the Community Park include fire protection, police service, medical response, boating and swimming safety, natural hazards, and general public safety. Safety issues related to wildland fires, dam failure, and hazardous

materials are described in Section 4.15 (Hazards), and safety issues related to seismicity and other potential geologic hazards are described in Section 4.11 (Geologic and Soil Resources). The RMP does not address health and safety issues related to operation of the dam and reservoir, which is subject to a separate contract between Reclamation and CCWD and is therefore outside the scope of the Contra Loma RMP. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to public health and safety could result from seven general types of activities:

- Human Use
- Emergency Preparedness
- Facility Maintenance
- Facility Improvements
- Enhanced Recreational Facilities
- Communications
- Expanded Recreational Facilities

4.6.2 Assumptions

The public health and safety impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations governing public health and safety.
- The managing partner(s) would uphold their responsibilities to provide the standard of care necessary to ensure the health and safety of visitors to Contra Loma. These agencies would provide staff levels commensurate with recreation visitation to ensure implementation of the policies and management actions intended to maintain the level and quality of safety and services expected by visitors to the Regional Park and the Community Park.

4.6.3 Impacts Common to All Alternatives

Human Use

As described previously, visitor use of Contra Loma is expected to increase under all of the RMP alternatives. More visitors would result in the increased use of restrooms and other facilities and infrastructure and would generate more solid and sanitary waste. The current managing partners manage and maintain sanitary services in a manner that protects public health and safety (see Section 3.5). Even with increased visitation, the future managing partner(s) would be expected to manage sanitary services public utilities at levels that would ensure that the RMP's public health

and safety goal is maintained. It is anticipated that under all of the RMP alternatives, the managing partner(s) would provide additional portable chemical toilets if needed and would increase the frequency of solid waste removal and/or provide more waste receptacles, as needed.

Increased human use could also increase the amount of solid waste, discarded food, and other attractants for unwanted pests (such as rodents or wasps), and could increase the potential for accidental fires. However, the local managing partner(s) would implement integrated pest management (IPM) plans to control pests and to reduce fire hazards by mowing and grazing the grassland areas.

Therefore, impacts of increased human use on public health and safety would be minor.

Emergency Preparedness

The current managing partners provide emergency services, including fire, police, and lifeguard services. Increased visitation would potentially increase the demand for emergency services, as well as the number of rescues and assistance responses performed by lifeguards at the swim lagoon and possibly the reservoir. The managing partner(s) would either implement fire and emergency preparedness plans for the Regional Park and the Community Park or would contract the provision of police and fire services to other local agencies. At the Regional Park, continued operation of the existing police substation and fire station as well as continued provision of lifeguard services may be included in the proposed management actions common to all alternatives. Maintenance of the Regional Park trail system would continue to ensure all-weather access for emergency vehicles. Trail system bike patrols may also be included in management actions. Use of existing and expanded emergency and safety services, and the development and implementation of emergency preparedness plans would ensure that increased visitor use of Contra Loma would have no impact on the public health and safety of park users.

The City's Office of Emergency Services maintains a community emergency disaster warning system to notify the public of potential emergencies, including earthquakes, severe winter storms, wildland fires, and hazardous materials events. The RMP would have no impact on the City's emergency disaster warning system.

Facility Maintenance

All of the RMP alternatives include continuation of routine maintenance and repair activities that could affect visitor health and safety, such as the use of mechanized equipment for maintenance and repair activities, and some activities could create temporary hazards such as from open trenches or herbicides application. Increased visitation could incrementally increase the amount of facility maintenance required, thereby incrementally increasing the potential risk to visitors. However, facility maintenance would have a minor adverse impact on public health and safety because the managing partner(s) would be expected to perform maintenance and repair activities in a manner that meets the RMP goal of protecting public health and safety through the pesticide management plan and trail maintenance program.

4.6.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.6.3.

Emergency Preparedness

The impacts would be the same as those addressed in Section 4.6.3.

Facility Maintenance

The impacts would be the same as those addressed in Section 4.6.3.

4.6.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

In addition to the impacts addressed in Section 4.6.3, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of the Regional Park and the Community Park. This alternative would likely attract more visitors than the No Action Alternative, thereby increasing demand for public health and safety services. However, facilities management actions performed by the managing partner(s) would maintain public utilities at levels that would ensure that the RMP's public health and safety goal is maintained. Also, the local managing partner(s) would implement IPM plans to control pests and to reduce fire hazards by mowing and grazing the grassland areas. Therefore, the impacts of increased human use on public health and safety services would be minor.

Emergency Preparedness

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.6.3.

Facility Maintenance

This alternative would include more recreation and infrastructure facilities than the No Action Alternative, which could require more maintenance and repair than the No Action Alternative. In addition, because this alternative would include more enhanced recreation opportunities than the No Action Alternative, it could result in more visitor use and require incrementally more maintenance and repairs than the No Action Alternative. Similar to the No Action Alternative, however, facility maintenance would have a minor adverse impact on public health and safety because the managing partner(s) would be expected to perform maintenance and repair activities in a manner that meets the RMP goal of protecting public health and safety.

Facility Improvements

This alternative would include a new fueling station and fuel storage tank for use by park personnel to refuel equipment and vehicles used for Regional Park operations. The new fueling station and fuel storage tank would not be available for public use and would only be operated by trained managing partner staff, thereby minimizing the potential for public contact with the fuel. The facility would be designed with fuel containment devices to protect public health and safety as well as prevent accidental spills from entering the reservoir or contaminating groundwater; therefore, the impact on public health and safety would be minor. This impact would not occur under the No Action Alternative.

This alternative also includes renovations to the existing park offices, police substation, secondary storage yard, and buildings near the swim lagoon. These renovations are intended to better provide for public service and safety by increasing park management efficiency and creating a place for public education activities such as swim and safety lessons. Renovations to

these existing buildings and structures would have a beneficial impact on public health and safety that would not occur under the No Action Alternative.

Under this alternative, the existing portable chemical toilets may be replaced with permanent restrooms and new or upgraded sewer lines may be built to connect future permanent restrooms to the City's sewer and wastewater system. Because the existing restrooms and portable toilets are properly used and maintained, they represent a very limited potential source of biological contamination to the reservoir. These improvements, however, would further reduce the potential for inadvertent spills from the portable restrooms, resulting in a beneficial impact on public health and safety. This impact would not occur under the No Action Alternative.

Enhanced Recreational Facilities

Fishing is a popular recreational activity at the reservoir. During drawdowns, the floating fishing docks often become unusable and unsafe due to the steep angles of the access ramps and/or the steepness of the fishing docks themselves, requiring temporary closure. When this occurs, some anglers choose to fish from the boat dock, which can cause congestion and interfere with boater access. Fishing from the boat dock poses a safety issue to boaters who could be ensnared in fishing line or injured by a fish hook while using the dock. This alternative may include the modification or addition of more fishing docks to provide anglers with safe, continuous fishing opportunities away from the boat dock during reservoir drawdowns. These improvements would be a beneficial impact on public safety that would not occur under the No Action Alternative.

This alternative may include a "safe swim" area or splash pad specifically for small children. This would improve swim safety for small children because it would separate them from older children and adults, thereby reducing the potential for injurious physical contact. This improvement would also reduce the potential for small children without proper swimming skills to venture into deeper water. This improvement would have a beneficial impact on public safety that would not occur under the No Action Alternative.

Communications

A new radio communications tower and supporting facilities would be built under this alternative. Improvements to communications at Contra Loma would enhance emergency response and preparedness as well as aid the managing partner(s) and other public service personnel in the management of the park providing a beneficial impact that would not occur under the No Action Alternative.

Call boxes and/or security cameras may also be installed in the Regional Park. Call boxes would allow visitors to contact public safety officials in case of an emergency. Security cameras could help reduce the potential for unlawful activities (e.g., mugging, assault) that could harm visitors. Installation of these devices would have a beneficial impact on public safety that would not occur under the No Action Alternative.

4.6.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

In addition to the impacts expected under the No Action Alternative and addressed in Section 4.6.3, this alternative would include facility improvements and renovations that would increase

the public's enjoyment and use of the Regional Park and the Community Park. This alternative would likely attract more visitors than the other two alternatives, thereby increasing demand for public health and safety services. However, facilities management actions performed by the managing partner(s) would maintain public utilities at levels that would ensure that the RMP's public health and safety goal is maintained. Also, the local managing partner(s) would implement IPM plans to control pests and to reduce fire hazards by mowing and grazing the grassland areas. Therefore, the impacts of increased human use on public health and safety services would be minor.

Emergency Preparedness

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.6.3.

Facility Maintenance

This alternative would include more recreation and infrastructure facilities than the other two alternatives, which could require more maintenance and repair than the other two alternatives. In addition, because this alternative would include more expanded recreation opportunities, it could result in more visitor use and require incrementally more maintenance and repairs than the other alternatives. Similar to the other two alternatives, however, facility maintenance would have a minor adverse impact on public health and safety because the managing partner(s) would be expected to perform maintenance and repair activities in a manner that meets the RMP goal of protecting public health and safety.

Facility Improvements

The impacts would be the same as those addressed in Section 4.6.5.

Expanded Recreational Facilities

This alternative would include expanded recreational facilities and opportunities beyond those of the other two alternatives. The expanded trail systems, increased interpretive opportunities, and disc golf course would result in a wider dispersal of park visitors than current conditions and any of the other alternatives, increasing the potential for visitors to encounter natural hazards such as snakes and ticks as well as increasing the likelihood of visitors sustaining injuries in more remote parts of the park. Introducing overnight group camping opportunities to the Regional Park would increase the potential for injury due to reduced visibility during nighttime hours. Also, an expanded swim lagoon would increase the number of people using the lagoon, and could increase the likelihood of water-related accidents. However, the managing partner(s) would ensure that adequate staff and emergency plans are available to effectively accommodate the increased risk to public health and safety related to expanded recreational facilities resulting in a minor impact.

Communications

The impacts would be the same as those addressed in Section 4.6.5.

4.6.7 Cumulative Impacts

Increased Visitation and Concurrent Improvements

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No

Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Human Use

More visitors would result in the increased use of restrooms and other facilities and infrastructure and would generate more solid and sanitary waste, which could create public health and safety issues. However, facilities management actions performed by the managing partner(s) would maintain public utilities at levels that would ensure that the RMP's public health and safety goal is maintained. It is anticipated that under all of the RMP alternatives, the managing partner(s) would provide additional portable chemical toilets if needed and would increase the frequency of solid waste removal and/or provide more waste receptacles, as needed. Increased human use could also increase the amount of solid waste, discarded food, and other attractants for unwanted pests (such as rodents or wasps), and could increase the potential for accidental fires. However, the local managing partner(s) would continue to implement IPM plans to control pests and to reduce fire hazards by mowing and grazing the grassland areas. Therefore, cumulative impacts of increased human use on public health and safety would be minor.

Emergency Preparedness

The cumulative increase in visitation would potentially increase the demand for emergency services. The two action alternatives would likely result in more demand than the No Action Alternative. Included in all RMP alternatives are management actions that require local managing partner(s) to meet the anticipated increased demand for emergency services, which would include additional demand caused by cumulative increases in visitation. Use of existing and expanded emergency and safety services, and the development and implementation of emergency preparedness plans would ensure that the cumulative increase in visitor use of Contra Loma would have no impact on the public health and safety of park users.

Facility Maintenance

All of the RMP alternatives include continuation of routine maintenance and repair activities that could affect visitor health and safety. The two action alternatives would require more maintenance than the No Action Alternative. A cumulative increase in visitation could incrementally increase the amount of facility maintenance required, thereby incrementally increasing the potential risk to visitors. However, facility maintenance would have a minor cumulative adverse impact on public health and safety because the managing partner(s) would be expected to perform maintenance and repair activities in a manner that meets the RMP goal of protecting public health and safety.

Expanded Recreational Facilities

The Expanded Recreation and Facilities Alternative may include expanded trail systems, increased interpretive opportunities, and disc golf course that would result in a wider dispersal of park visitors than current conditions and any of the other alternatives, increasing the potential for visitors to encounter natural hazards such as snakes and ticks as well as increasing the likelihood of visitors sustaining injuries in more remote parts of the park. Increased visitation would incrementally increase the potential for these effects. However, the managing partner(s) would ensure that adequate staff and emergency plans are available to effectively accommodate the

increased risk to public health and safety related to expanded recreational facilities. This would result in a minor cumulative impact with respect to public health and safety.

4.6.8 Mitigation Measures

No need for mitigation has been identified.

4.7 Water Resources

4.7.1 Types of Impacts

Water resources include groundwater and surface water carried by drainages or stored in the Contra Loma Reservoir. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative. Potential impacts to water resources could result from five general types of activities:

- Human Use and Waste Disposal
- Livestock Grazing
- Facility Improvements
- Construction Activities
- Increased Withdrawal of Reservoir Water
- Climate Change

4.7.2 Assumptions

The water resources impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The local managing partner(s) would implement BMPs when necessary to protect water resources.
- The proposed management actions would comply with applicable laws and regulations governing water resources.

4.7.3 Impacts Common to All Alternatives

Human Use and Waste Disposal

As described previously, visitor use of Contra Loma is expected to increase under all of the alternatives. Increased visitation would increase the potential for unauthorized human contact with the reservoir, would increase the volume of solid, human, and domestic animal (e.g., dogs and horses) waste generated within the recreation area, would increase trail and road use, and would increase the potential for reservoir infestation by non-native zebra and quagga mussels.

Human-borne pathogens and viruses can affect reservoir water quality through direct bodily contact; however, body contact with the reservoir is highly restricted to protect the reservoir's domestic water supply. These restrictions would continue under all of the alternatives, thereby ensuring that potential adverse impacts to water quality due to bodily contact would be minimal.

Improper disposal of litter and waste can affect reservoir water quality if introduced to the reservoir through wind dispersion or other means. Under all of the alternatives, however, litter and waste reduction programs would continue to be implemented to effectively meet demand. As a result, adverse impacts to water quality related to litter and waste disposal would be minor.

Increased visitation would increase the volume of human sanitary waste generated at Contra Loma. Improper sanitary disposal, plumbing system failure, accidental spills, or overflow of portable toilets can affect reservoir water quality. Under all of the alternatives, however, the restroom facilities would continue to be inspected and maintained at regular intervals, thereby ensuring that adverse impacts to water quality from human sanitary waste would be minor.

Increased visitation would likely increase boating activity, thereby increasing the potential for reservoir infestation by zebra and quagga mussels and other non-native species. Under all of the alternatives, however, the local managing partners(s) would continue to support and complement CCWD's programs to prevent zebra and quagga mussel infestation, thereby ensuring that adverse impacts to water quality from invasive species would be minor.

The public is not allowed to operate gasoline-powered engines on the reservoir to prevent contamination from petroleum products and exhaust byproducts, and none of the RMP alternatives would alter this restriction. Therefore, no impacts to water resources would result from gasoline-powered engines.

Equestrian activities and dog walking have the potential to introduce animal waste into the reservoir through surface runoff. Under all of the alternatives, however, the local managing partner(s) would continue to provide plastic waste bags in various locations and encourage dog owners to dispose of dog waste in garbage cans. Therefore, adverse impacts to water quality from domestic animal waste would be minor.

Hiking, biking, and equestrian activities can cause small amounts of localized erosion, and the resulting sediment can be transported to the reservoir by surface runoff. Chemical runoff from roads, parking lots, and grazing and restoration areas can also be transported to the reservoir by surface runoff. Under all of the alternatives, however, the local managing partner(s) would continue to manage and maintain the facilities in a manner that conforms to invasive plant management and pesticide management plans, as well as ensures proper drainage and erosion controls for chemical runoff. Therefore, adverse impacts to water quality from trail and road use would be minor.

Climate Change

A number of studies have discussed the potential for environmental impacts as a result of climate change. The discussion below addresses potential for climate change on the future environments in the Plan Area and if those changes could affect the implementation of the RMP. Federal and State water planners are concerned about climate change and its potential effects on the state's

water resources. There are many potential ways in which climate change can affect the water resources including changes to precipitation as well as increases in extreme wet and dry conditions, decreased snowpack; variability in annual runoff, sea level rises and ecosystem challenges. The California Department of Water Resources (DWR) is currently addressing the issues of global climate change and the impacts under the public draft of the *California Water Plan Update 2009* released in January 2009. This draft plan looks at emerging effects of climate change on the state's water resources and builds upon the managements strategies laid out in the *California Water Plan Update 2005*. The DWR also released a technical memorandum report called *Progress on Incorporating Climate Change into Management of California's Water Resources* in July 2006. The technical memorandum looked at potential effects in regions in California close to Contra Loma reservoir, thereby providing an idea of what the potential effects on lake levels would be. In addition, the Climate Action Team (CAT) released a biennial report in April 2009 that used updated, comprehensive scientific research to outline environmental and economic climate impacts. The CAT report synthesized 37 research papers written by world-class scientists from prominent universities and research institutions. Based on the finding in the CAT report and the DWR report and technical memorandum, there are three potential climate change effects that could affect water levels at Contra Loma reservoir:

- Changes in precipitation and runoff
- Increased future demand for drinking water and agricultural needs
- Possible effects to the aquatic ecosystem and endangered species

There are direct correlations between decreased snowpack and global climate change laid out in the DWR technical memorandum. However, since the water in Contra Loma reservoir is not the result of snowpack this effect will not be an issue at Contra Loma reservoir.

Reclamation has been tasked with assessing the potential impacts of climate change and how these changes might affect water operations, hydropower, flood control, and fish and wildlife. The Reclamation Mid-Pacific Region is currently coordinating several studies, including the Sacramento and San Joaquin Basins Study (Bureau of Reclamation 2014). The Sacramento and San Joaquin Basins Study is a partnership between Reclamation, State agencies, and regional water districts. The study encompasses the entire Central Valley of California with an area of more than 22,500 square miles from the Tehachapi Range in the south to the Klamath Mountains in the north. The study area includes the three major hydrologic basins of the Central Valley. It will assess potential climate change impacts on the Basins' water supplies and demands and will specifically evaluate potential changes to agriculture and urban water supplies, flood control, hydroelectric power generation, recreation, fisheries, wildlife and wildlife habitats, water quality, and water-dependent ecological systems.

Changes in Precipitation and Runoff

The DWR technical memorandum looked at statewide annual average precipitation from 1890-2002. According to this analysis, Contra Loma reservoir has experienced decreasing precipitation in recent years. It is difficult to predict what the future changes in precipitation at Contra Loma would be, however the data trend suggests that there might be a decrease in precipitation, and therefore a decrease in water levels due to global climate change.

Future Water Demand

A group of researchers at UC Davis as outlined in the CAT report investigated the effect of potential climate-induced reductions in water supply to the agricultural sector. One of their findings is that the lack of water could result in reductions in irrigated crop area contributing to the loss of agricultural lands in the Central Valley. Under the particular climate change scenario investigated, the researchers also found that changes in yields (mostly negative) and changes in water availability could result in gross revenue losses of up to 3 billion dollars by year 2050. The DWR technical memorandum states that the domestic water use typically increases with increasing temperature. The water at Contra Loma reservoir is used for municipal drinking water. Global climate might cause an increase in drinking water demand, thereby possibly affecting the water demand and related reservoir levels at.

Aquatic Ecosystem Changes

The DWR technical memorandum revealed that increased air temperatures as the result of climate change will likely cause increases in water temperatures at California's lakes and waterways. Increased water temperatures might affect the aquatic ecosystem, especially for aquatic species that are sensitive to changes in water temperature. Increases in water temperature might also cause a decrease in dissolved oxygen demand concentrations, which would likely increase production of algae and some aquatic weeds.

4.7.4 Impacts Specific to the No Action Alternative

Human Use and Waste Disposal

The water quality impacts would be the same as those addressed in Section 4.7.3. Because the No Action Alternative would not involve new facilities or land uses, it would have no impact on hydrology.

Livestock Grazing

Livestock grazing can impair water quality not only through transport of feces from surface runoff, but also through the process of livestock-induced erosion and subsequent transport of sediment. Within Contra Loma, grazing is rotated between multiple enclosures and livestock are not allowed near the reservoir to protect water quality. One small ephemeral stream flows through the southern part of the grazed area into the reservoir. This ephemeral stream has a limited potential to transport fecal matter and sediment directly into the reservoir. Grazing would likely continue under all of the alternatives, subject to preparation of a Reclamation-approved grazing management plan by the local managing partner(s). Under this alternative, the acreage, location, and intensity of grazing are not likely to change. Continuation of grazing at current livestock levels would have no impact on water resources beyond the existing limited effects of this activity described above.

4.7.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use and Waste Disposal

In addition to the impacts expected under the No Action Alternative and addressed in Section 4.7.3, this alternative would include more enhanced recreation opportunities which could result in more visitor use. Increased visitation would increase the potential for water quality impacts caused by unauthorized human contact with the reservoir; generation and disposal of solid,

human, and domestic animal waste; trail and road use; and introduction of non-native zebra and quagga mussels into the reservoir. As discussed in Section 4.7.3, the proposed management actions would ensure that these impacts are minor.

This alternative would include new infrastructure and facility improvements that could affect water resources. For example, the existing portable chemical toilets may be replaced with permanent restrooms. Because the existing portable toilets are properly used and maintained (see Section 3.5), they represent a very limited potential source of contamination to the reservoir. This improvement, however, would further reduce the potential for inadvertent spills from the portable restrooms, resulting in a beneficial impact on water resources. This impact would not occur under the No Action Alternative.

This alternative may include new, expanded, or renovated buildings and structures to improve operations. Examples include a new park residence, classroom facilities near the swim lagoon, and a radio communication tower. This alternative may also include new or renovated recreational facilities, such as new or reconstructed fishing docks, and improvements at the boat launch area to enhance boating and fishing access. Operation of these improvements would be substantially similar to use of the existing facilities and would result in minor impacts on water resources that would not occur under the No Action Alternative.

This alternative may include a new fueling station and fuel storage tank for Regional Park vehicles and equipment as well as for public safety officers. The managing partner(s) would be required to implement substantial design and operational measures to protect surface water (e.g., reservoir) and groundwater quality. Only staff trained to safely use the station would be allowed to operate it, thereby reducing the potential for spills caused by improper use. The managing partner(s) must design the facility with fuel containment devices to prevent any spilled fuel from reaching the natural ground surface (i.e., soil), entering the reservoir, or otherwise impairing surface water or groundwater quality. This facility may only be built and operated in compliance with applicable federal and federally-mandated laws, regulations, and permits. As a condition of Reclamation's approval of this facility, the local managing partner(s) will ensure that spill prevention and decommissioning plans are prepared or amended to address operation of this facility. By implementing these measures, this facility would have a minor adverse impact on water quality. This impact would not occur under the No Action Alternative.

This alternative may include a new "safe swim" area or splash pad at the swim lagoon for small children and expansion of the pumping and filtration facility to accommodate this additional swim/splash area. Similar to the swim lagoon, these additional swim/splash areas would be hydrologically separated from the reservoir, ensuring that water from the lagoon does not enter the reservoir; therefore, the new swim/splash area would have no impact on water quality.

Livestock Grazing

This alternative could change the locations of some grazing areas and could increase the total grazing area by 0.3 acre. The changes to the grazing areas would not be located within the reservoir's watershed, so grazing in those areas would not affect reservoir water quality. Also, the relatively small increase in grazing acreage would not adversely affect water quality and hydrology beyond the existing effects of this activity. Therefore, livestock grazing would have

no impact on water quality and hydrology beyond the existing effects of this activity. These effects would be similar to the grazing effects under the No Action Alternative.

Facility Improvements

Under this alternative, a storm water retention basin may be built to improve the quality of water carried by the Regional Park's storm drain system before it reaches the reservoir. This would have a beneficial impact on reservoir water quality that would not occur under the No Action Alternative.

Construction Activities

This alternative would include construction of new, expanded, or renovated facilities and supporting infrastructure that would not occur under the No Action Alternative. This alternative may also include drainage improvements to sports field 3. Construction activities and drainage improvements can affect water quality through erosion and sedimentation, a temporary increase in turbidity due to runoff from construction areas, or inadvertent spilling of construction-related chemicals. However, this alternative includes a management action requiring a focused site-specific assessment of any potential impact on water quality when specific construction activities are proposed. If required by Federal regulations, the local managing partner(s) proposing a construction activity would submit a plan that identifies the sources of sediment and other pollutants on site and ensures the reduction of such pollutants in stormwater discharged from the construction site. The plan will provide descriptions of BMPs selected to control erosion, sediment discharge, turbidity, and other pollutant sources during construction. If appropriate needed, BMPs would be implemented prior to construction and would be continued through the duration of construction activities. This management action would ensure that construction activities and drainage improvements would result in minor adverse effects on water quality. These effects would not occur under the No Action Alternative.

4.7.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use and Waste Disposal

This alternative would include more expanded recreation opportunities than the other two alternatives which could result in more visitor use. Increased visitation would increase the potential for water quality impacts caused by unauthorized human contact with the reservoir; generation and disposal of solid, human, and domestic animal waste; trail and road use; and introduction of non-native zebra and quagga mussels into the reservoir. As discussed in Section 4.7.3, the proposed management actions would ensure that these impacts are minor.

This alternative may include expanding the size and capacity of the swim lagoon. However, the swim lagoon is hydrologically separated from the reservoir, ensuring that water from the lagoon does not enter the reservoir. Because the enlarged portion of the swim lagoon would also be separated from the reservoir, it would have no impact on water quality.

This alternative may introduce overnight group camping to the Regional Park on a discretionary basis as part of the current day camp programs or other special events. Group camping would require event-specific authorization, oversight, and regulation by the Regional Park's local managing partner to ensure protection of the park's facilities and natural resources, including water quality. As with all of the alternatives, body contact with the reservoir would remain

highly restricted to protect the reservoir's domestic water supply. Because camping would be discretionary and would receive oversight from the Regional Park's local managing partner, and because body contact restrictions would continue to be enforced, adverse impacts to water quality from overnight group camping would be minor. These impacts would not occur under the No Action Alternative.

Livestock Grazing

In addition to the changes described in Section 4.7.5, this alternative may include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma. This area is not located within the reservoir's watershed, so elimination of grazing in this area would not affect reservoir water quality. Reducing grazing in this area could have a minor beneficial effect on the water quality of receiving waters that would not occur under the No Action Alternative.

Facility Improvements

The impacts would be the same as those addressed in Section 4.7.5.

Construction Activities

This alternative would include construction of new infrastructure and facility improvements in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Therefore, this alternative would have more potential to adversely affect water resources from construction activities than the other alternatives would. Similar to the Enhanced Recreation and Facilities Alternative, however, this alternative includes a management action requiring a focused site-specific assessment of any potential impact on water quality when specific construction activities are proposed, preparation of a construction stormwater plan, and implementation of water quality BMPs as appropriate. This management action would ensure that construction activities and drainage improvements would result in minor adverse effects on water quality. These effects would not occur under the No Action Alternative.

Increased Withdrawal of Reservoir Water

Under this alternative, the volume of water pumped from the reservoir for irrigation of the Regional Park might be increased from 100 acre-feet per year to 150 acre-feet per year. This water would be purchased from CCWD if the requested water is available.

Because the additional water would be drawn from the reservoir, it would have the same water quality as the reservoir water and therefore, would have no impact on the water quality of the reservoir. CCWD uses the reservoir in combination with other raw water storage supplies to meet peak summer demand. The net reservoir drawdown of 50 acre-feet would be withdrawn from the reservoir gradually over a 3-4 month period of time during the summer irrigation season. It should also be noted that some of the irrigation water not lost to evaporation or evapotranspiration would return to the reservoir via surface flow and subsurface seepage. CCWD would be responsible for reviewing the request for additional water, and would only approve the request if sufficient water is available. Because CCWD would only provide additional water to the Regional Park if it is available and not already allocated for municipal water supply, the

provision of increased raw water would have a minor impact on water supplies that would not occur under the No Action Alternative.

4.7.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, increasing the potential for water quality impacts.

Human Use and Waste Disposal

Increased visitation would increase the potential for unauthorized human contact with the reservoir, would increase the volume of solid, human, and domestic animal (e.g., dogs and horses) waste generated within the recreation area, would increase trail and road use, and would increase the potential for reservoir infestation by non-native zebra and quagga mussels. The two action alternatives would have greater potential for this effect than the No Action Alternative.

However, body contact restrictions on reservoir use would ensure that potential adverse impacts to water quality due to bodily contact would be minimal, litter and waste reduction programs would continue to be implemented to effectively meet demand, restroom facilities would continue to be inspected and maintained at regular intervals, the local managing partners(s) would continue to support and complement CCWD's programs to prevent zebra and quagga mussel infestation, prohibitions on public use of gasoline-powered engines on the reservoir would continue, the local managing partner(s) would continue to provide plastic waste bags in various locations and encourage dog owners to dispose of dog waste in garbage cans, and the local managing partner(s) would continue to manage and maintain the trail and road system in a manner that maintains proper drainage and controls erosion and chemical runoff. For these reasons, the cumulative effect on water quality from increased human use would be minor.

Facility Improvements and Construction Activities

About 350 acres of the 741-acre recreation area drains to the Contra Loma Reservoir, and the remainder drains elsewhere. The reservoir's total watershed is about 680 acres. About half of its watershed lies within Regional Park and nearly all of the remainder is located in EBRPD's Black Diamond Mines Regional Preserve located adjacent to the southern boundary of Contra Loma. No foreseeable land use changes or other activities are expected to occur within Black Diamond Mines Regional Preserve that would substantially alter the water quality of the reservoir or its watershed. The RMP, therefore, would not contribute to a cumulative impact on the water quality of the reservoir or its watershed.

As discussed above, certain RMP activities could have minor impacts on water quality. Some of those activities would occur within the areas located outside the reservoir's watershed, which drain either toward the municipal reservoir at the golf course, the Contra Costa Canal, or the City storm drain system. Development needed to accommodate project regional population growth could also impair the water quality of the receiving waters. For example, erosion and inadvertent chemical spills from construction activities could pollute these waters. Also, increased urbanization would increase the amount of fertilizers, pesticides, and other pollutants washed into streams by storm events and other means. These related activities could cumulatively affect the water quality of receiving waters.

As discussed above, RMP management actions would protect water quality and ensure that RMP activities result in only minor impacts on water quality. In addition, the City's General Plan includes policies to protect water quality from contaminated runoff. These measures include working with the Contra Costa County Flood Control District to ensure that runoff from new development is adequately handled; requiring new developments to provide erosion and sedimentation control measures to protect water quality; requiring implementation of BMPs in the design of drainage systems to reduce discharge of nonpoint source pollutants originating in streets, parking lots, paved industrial work areas, and open spaces involved with pesticide applications; requiring the implementation of BMPs to minimize erosion and sedimentation resulting from new development; opposing proposals with the potential to increase the salinity of the Delta; and, participating in the Contra Costa Clean Water program to reduce stormwater pollution and protect the water quality of the City's waterways (City of Antioch 2003a). The County's General Plan also includes policies to protect water quality including identification and control of point sources of pollution to protect beneficial uses of water; cooperating with other regulatory agencies to control point and non-point water pollution sources to protect beneficial uses of water; requiring that grading, filling and construction activity near watercourses be conducted in a manner that minimizes impacts from increased runoff, erosion, sedimentation, biochemical degradation, or thermal pollution; preserving watersheds and groundwater recharge areas by avoiding the placement of potential pollution sources in areas with high percolation rates; discouraging runoff of pollutants and siltation into marsh and wetland areas from outfalls serving nearby urban development; encouraging public ownership of lands bordering reservoirs to safeguard water quality; and, taking an active role in reviewing regional, State, and Federal programs that could affect water quality (Contra Costa County 2005).

The RMP management actions to protect water quality, City and County water quality protection policies, and project specific compliance with applicable water quality regulations would ensure that cumulative water quality impacts would be minor.

4.7.8 Mitigation Measures

No need for mitigation has been identified.

4.8 Vegetation

4.8.1 Types of Impacts

Vegetation communities within Contra Loma have been classified according to habitat types defined by the CWHR System (California Department of Fish and Game 2011). These habitat

types include annual grassland, blue oak woodland, valley foothill riparian, fresh emergent wetland, riverine, lacustrine, urban, and barren. Inasmuch as the classification of barren is defined as the absence of vegetation due to hardscape such as paving, sidewalks, curbs, and gravel roads and parking lots, impacts to vegetation within this category are considered inconsequential and no further discussion of impacts to this habitat type is needed. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to vegetation resources could result from seven general types of activities:

- Wildland Fire
- Protection or Conservation of Special Status Plant Species
- Human Use at Public Sites and Trails
- Livestock Grazing
- Introduction of Invasive Species
- Construction Related Surface Disturbance (Temporary or Permanent)
- Increased Withdrawal of Reservoir Water

Impacts to vegetation can be direct, as in the case of trampling or removing rooted vegetation as a part of construction activities, or may be indirect, as in the case of introduction of invasive weeds by various vectors.

4.8.2 Assumptions

The vegetation resources impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations governing protection of special-status plants and upland and wetland plant communities.
- Reclamation and the managing partner(s) would continue to manage, protect, and restore Contra Loma's vegetation resources in a manner consistent with current management trends as articulated in existing management and policy documents and ordinances.
- The local managing partner(s) would implement BMPs to protect vegetation from chemical spills or other storm-water runoff pollutants.

4.8.3 Impacts Common to All Alternatives

Wildland Fire

Wildland fire can have temporary negative impacts on annual grasslands, especially native bunchgrasses and special status plants. However, wildland fire was commonly employed by Native Americans in the coastal prairies of California to enhance wildlife habitat. California's

native coastal prairies have adapted to this historic occasional fire regime. Thus, occasional grassland fire does not necessarily lead to lasting negative impacts on native grasslands. In Contra Loma, occasional grassland fires may have a beneficial impact by controlling certain noxious weeds, most notably star thistle.

The risk of catastrophic wildland fire in Contra Loma is low because existing wildland fire management facilities provided by the CCCFPD are maintained at high response levels near Contra Loma, with 2 stations located within 1.5 miles. The current local managing partner for the Regional Park also provides backup fire suppression with satellite stations and a wildland fire truck located at the southern park boundary. Included in all RMP alternatives are management actions that require the local managing partner(s) to meet the anticipated demand for fire suppression services. The managing partner(s) would either implement fire preparedness plans for the Regional Park and the Community Park or would contract the provision of police and fire services to other local agencies. Wildland fire risk is further reduced because the management actions common to all alternatives would include periodic mowing and livestock grazing of the grassland areas to reduce fire hazard. Vegetation fire risk within the developed areas of Contra Loma is very low due to the scarcity of dry vegetation and the predominance of landscaped or wetland vegetation types.

Under all management alternatives, the potential temporary negative impacts of wildland fire on vegetation resources in Contra Loma would be moderated by the potential long term beneficial impacts of isolated or occasional wildland fire.

Protection or Conservation of Special Status Plant Species

Under all RMP alternatives, the local managing partner(s) for the Regional Park would continue to perform periodic biological surveys to inventory and assess special-status plant and wildlife species. Known populations of special status plants in Contra Loma are limited to stinkbells, which are located adjacent to one trail in the northwest corner of Contra Loma. Effects on the native vegetation resources resulting from special status plant conservation and protection, as called for in the management actions, is expected to be beneficial.

4.8.4 Impacts Specific to the No Action Alternative

Wildland Fire

The impacts would be the same as those addressed in Section 4.8.3.

Protection or Conservation of Special Status Plant Species

The impacts would be the same as those addressed in Section 4.8.3.

Human Use at Public Sites and Trails

As described previously, visitor use of Contra Loma is expected to increase under all of the alternatives. This increased visitation would predominantly be in the developed portions of Contra Loma such as the picnic areas, fishing access areas, and sports fields which currently experience the most visitor use. Additional use of these areas could increase the potential for trampling of sensitive habitats near the developed areas (e.g., wetland and riparian habitat) should visitors venture into them for fishing access or other purposes. Trampling can damage vegetation through direct contact and by increased soil compaction or erosion that can impair

plant growth. However, environmental conditions such as the density of vegetation, soil moisture (i.e., muddy) conditions, and the risk of contact with insects, blackberry prickles, or poison oak reduce the attractiveness of entering these areas, thereby reducing the potential for trampling of sensitive habitats.

The trails in the undeveloped portions of Contra Loma would also receive increased visitation, although in fewer numbers than the developed areas. The trails in the undeveloped areas now pass through annual grasslands and provide access to areas supporting other vegetation types (e.g., wetlands, riparian, oak woodland). Increased pedestrian traffic on these trails could increase foot traffic within the annual grassland in the vicinity of the trails causing increased soil compaction and erosion that could impair the growth of the grassland species. Trail users can also damage other vegetation types (e.g., wetlands, riparian, oak woodland) by trampling them when poor trail conditions (e.g., muddy or eroded sections) cause them to leave the trail to bypass the problem sections or when venturing off the trail for other reasons. Increased visitation would increase the potential for trampling; however visitors are less likely to leave trails adjacent to wetlands due to the density of vegetation and soil moisture conditions.

RMP management actions would require the local managing partner(s) to manage and maintain the trails, thereby reducing the likelihood of visitors leaving the trails to avoid poor trail conditions. These management actions, and the fact that existing trails have been routed to avoid direct incursion into sensitive habitats would reduce but not eliminate the likelihood of trampling.

Impacts on vegetation caused by human use are expected to be similar to existing conditions, but increased visitation would incrementally increase the potential for vegetation impacts.

Livestock Grazing

Unmanaged grazing can contribute to degradation of vegetation through excessive trampling, soil erosion, sedimentation, and over-harvest. As discussed below (Introduction of Invasive Species), however, livestock grazing can control the growth of non-native grasses and herbs. Grazing would likely continue under all management alternatives, subject to a Reclamation-approved grazing management plan prepared by the managing partner(s). Under this alternative, no change in the acreage, location, or intensity of grazing would occur. Therefore, the overall effect of livestock grazing on vegetation would be similar to current conditions.

Introduction of Invasive Species

Reconnaissance surveys conducted in 2010 and 2011 identified 23 invasive and/or noxious non-native plant species occurring at Contra Loma. None of these plants are listed as noxious weeds in accordance with Section 2814 of the Federal Noxious Weed Act of 1974; however, they are rated as noxious or invasive by either the CDFA or Cal-IPC. Invasive plant species can threaten or disrupt native vegetation species and communities by altering nutrient and hydrologic cycles, increasing fire hazard, creating changes in sediment deposition and erosion, displacing native species, or hybridizing with native species. Invasive plant species can spread via natural dispersion, or they can be spread by humans, horses, livestock, or vehicles.

The RMP includes management actions requiring the local managing partners(s) for the Regional Park to continue implementation of pesticide management plans and IPM plans for weeds, which

are subject to review and approval by Reclamation prior to implementation. Future vegetation management for the control of invasive weeds or for trail maintenance activities requiring herbicides will continue to be guided by these existing plans.

The current grazing practices at Contra Loma may also serve to successfully control some species of invasive grasses and other weeds, including oat species, bromes, ryegrass, and burclover. Livestock grazing can control the growth of non-native grasses and herbs so that other desirable plants (e.g., wildflowers, native grasses) can regenerate and coexist with them (East Bay Regional Park District 2012a). Grazing can favor native annual forbs and can control non-native species (Immel et al. 2012). Under this alternative, no change in the acreage, location, or intensity of grazing would occur and grazing would likely continue under all RMP alternatives, subject to a Reclamation-approved grazing management plan prepared by the managing partner(s). The grazing management plan would address means to control the introduction of invasive plants when livestock first enter a grazing area or are moved from one grazing area to another within Contra Loma. Therefore, the effect of livestock grazing on control of non-native species would be similar to current conditions.

4.8.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Wildland Fire

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.8.3.

Protection or Conservation of Special Status Plant Species

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.8.3.

Human Use at Public Sites and Trails

The impacts would be similar to those addressed in Section 4.8.4; however, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma. This alternative would likely attract more visitors than the No Action Alternative, thereby increasing the potential for human use to impact vegetation.

Livestock Grazing

This alternative could increase the total grazing area by 0.3 acre. This small change in grazing area would incrementally increase the potential for degradation of vegetation as compared to the No Action Alternative, resulting in a minor adverse impact.

Introduction of Invasive Species

The impacts are similar to those addressed in Section 4.8.4; however, this alternative could increase the total grazing area by 0.3 acre as compared to the No Action Alternative. This small change in grazing area would incrementally increase the potential for introduction of invasive species, resulting in a minor adverse impact.

Construction Related Surface Disturbances (Temporary or Permanent)

This alternative would include construction of new, enhanced, or renovated facilities and supporting infrastructure that would not be built under the No Action Alternative. Most construction proposed under this alternative is expected to be on sites that are already altered or

developed, in areas where a vegetation component is either entirely lacking or has been replaced by hardscape (i.e. barren), or in areas that are urban in nature. The management action to provide drainage improvements to sports field 3 includes a provision to minimize the effects on the adjacent riparian habitat caused by placement of fill, removal of vegetation, transport of chemicals and fertilizers, or changes in hydrology.

This alternative potentially includes some construction on undisturbed or unoccupied sites, including the construction of a new park residence near the park office and a new fueling station and fuel storage tank.

New construction can cause impacts to vegetation from vegetation removal on the structure footprint, from ground disturbance due to equipment operations, or from covering due to spoils deposition or erosion and siltation. Most of the affected vegetation is expected to be non-native annual grassland. Management Action 53 provides that future improvements should be consistent with laws and regulations that govern the protection of natural resources. However, this provision alone would not necessarily prevent impacts without specific knowledge of the risk to wetlands, potentially present rare plants, or other sensitive vegetation for each construction site. Incorporation of Mitigation Measures Vegetation-1 and Vegetation-2 (Section 4.8.8) within this alternative would reduce impacts to the no impact or minor impact level. These impacts would not occur under the No Action Alternative.

4.8.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Wildland Fire

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.8.3.

Protection or Conservation of Special Status Plant Species

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.8.3.

Human Use at Public Sites and Trails

This alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma beyond those of the other two alternatives. This alternative would likely attract more visitors than the other two alternatives, thereby increasing the potential for human use to impact vegetation.

This alternative may also include expanding the trail system for hiking, equestrian, and bicycle use, and allowing bicycle use on existing trails not currently open to bicycles. Expansion of the trail system would improve access to certain areas of Contra Loma beyond those already accessible by trail. Therefore, trail system expansion may increase the potential for trampling of vegetation communities. RMP management actions would require the local managing partner(s) to manage and maintain the trails and to implement future improvements in a manner that is consistent with laws and regulations that govern the protection of natural resources. This alternative also includes an interpretive signage and education program intended to both instill an appreciation of the region's natural resources and motivate conservation of natural resources. Despite these measures, however, this alternative may result in a major adverse impact on

vegetation resources resulting from increased human use at public sites and trails. With incorporation of Mitigation Measures Vegetation-3 and Vegetation-4 (Section 4.8.8) into this alternative, human use impacts would be reduced to a minor level. These impacts would not occur under the No Action Alternative.

Livestock Grazing

This alternative may include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma and the potential for degradation of vegetation. This would result in a minor beneficial impact that would not occur under the No Action Alternative.

Introduction of Invasive Species

The impacts are similar to those addressed in Section 4.8.4; however, this alternative could reduce the grazing area by 15 acres, thereby reducing the potential for introduction of invasive species. This would result in a beneficial impact that would not occur under the No Action Alternative.

Construction Related Surface Disturbances (Temporary or Permanent)

This alternative would include construction of new infrastructure and facility improvements in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Therefore, this alternative would have more potential for construction activities to adversely affect vegetation resources than the other alternatives. New facilities under this alternative could include an anglers' shelter along the south or east reservoir shore, a fitness course along the shoreline trail loop, a disc golf course, and additional multi-use sports fields directly south of the two existing sports fields which would include additional parking. Some or all of these facilities could potentially be constructed on previously undisturbed sites with grassland vegetation, or adjacent to sensitive riparian or wetland vegetation. New construction can cause impacts to vegetation from vegetation removal on the structure footprint, from ground disturbance due to equipment operations, or from covering due to spoils deposition or erosion and siltation.

Management actions would serve to lessen potential impacts. Despite these measures, however, this alternative may result in a major adverse impact on vegetation resources resulting from new construction. Incorporation of Mitigation Measures Vegetation-1 and Vegetation-2 within this alternative would reduce impacts to the no impact or minor impact level. These impacts would not occur under the No Action Alternative.

Increased Withdrawal of Reservoir Water

Under this alternative, reservoir water pumping for irrigation of vegetation within developed areas may be increased from 100 acre-feet per year to 150 acre-feet per year. The additional irrigation can be expected to have a beneficial impact on vegetation resources in developed areas of Contra Loma, including managed landscaping.

The increase in irrigation water of 50 acre-feet would represent a net additional reservoir drawdown of approximately one foot, occurring most likely during the hot months of July and August. The additional reservoir drawdown would cause a small decrease in the reservoir's

wetted perimeter of less than one foot along 5,300 linear feet of existing wetland vegetation at the reservoir high water mark primarily during the months of July and August. This change is not expected to affect wetland vegetation beyond that which currently occurs due to periodic drawdowns.

4.8.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, increasing the potential for regional impacts on vegetation.

Wildland Fire

Increased visitation to Contra Loma could increase the potential for accidental wildland fires to start. However, the potential temporary negative impacts of wildland fire on vegetation resources in Contra Loma would be moderated by the potential long term beneficial impacts of isolated or occasional wildland fire. Increased visitation, therefore, would have a minor cumulative effect with respect to wildland fires.

Human Use at Public Sites and Trails

Visitation to Contra Loma would increase under all of the alternatives, with more visitation expected under the two action alternatives than the No Action Alternative. Regional population growth would further increase visitation to Contra Loma and the addition of flood lights to sports fields 4 and 5 will increase nighttime visitation to the Community Park. This cumulative increase in visitation would result in greater potential for trampling of vegetation and the spread of invasive weeds.

As discussed in Sections 4.8.4 and 4.8.5, the No Action and Enhanced Recreation and Facilities alternatives would result in minor adverse effects on trampling of vegetation and all three alternatives would result in minor adverse effects on the spread of invasive weeds. Increased visitation is expected to cause minor cumulative impacts. Increased development from buildout of the City and County general plans could facilitate introduction and spread of invasive weeds, contributing to this cumulative adverse effect.

Because the Expanded Recreation and Facilities Alternative may include expansion of the trail system and would generate more visitation than the other two alternatives, it would contribute more to this adverse cumulative impact than the other two alternatives. As discussed in Section 4.8.6, the Expanded Recreation and Facilities Alternative would result in a major adverse impact with respect to trampling of vegetation. Increased visitation could have a major cumulative

impact. With incorporation of Mitigation Measures Vegetation-3 and Vegetation-4 (Section 4.8.8) into this alternative, cumulative human use impacts would be reduced to a minor level.

Construction Related Surface Disturbance (Temporary or Permanent)

The two action alternatives would include construction of new, enhanced, expanded or renovated facilities and would, therefore, result in vegetation removal. The Expanded Recreation and Facilities Alternative would remove the most vegetation. The improvements to sports fields 4 and 5 would replace several acres of annual grassland with artificial turf. Development needed to accommodate the projected regional population growth would convert a substantial amount of vacant land to urban uses. Such development would remove a substantial amount of native and non-native vegetation, increasing habitat fragmentation. These actions could result in major adverse cumulative impacts on vegetation.

As discussed above, RMP management actions and Mitigation Measures Vegetation-1 through Vegetation-4 would protect Contra Loma's vegetation, especially sensitive plant communities, and ensure that RMP activities result in only minor impacts to vegetation. In addition, the City's General Plan includes policies to preserve sensitive habitats and habitats supporting rare and endangered species of plants. The County's General Plan includes policies to preserve and enhance areas important for the maintenance of natural vegetation and wildlife populations. These management actions, mitigation measures, and general plan policies would reduce cumulative impacts on vegetation.

4.8.8 Mitigation Measures

Mitigation Measure Vegetation-1: Perform wetland delineations for construction related impacts to wetland and riparian vegetation communities.

When specific construction activities are proposed, site-specific environmental analysis would be conducted that would include a more focused assessment of any potential impact on vegetation resources. If deemed necessary by Reclamation, the local managing partner(s) proposing a construction activity will perform a delineation of wetland and riparian vegetation of all areas potentially affected by temporary or permanent construction-related activities. The delineation will fully describe all areas classified as Waters of the U.S. (Federal Clean Water Act). Feasible mitigation shall be proposed for any temporary or permanent losses of wetlands or for any wetland or riparian vegetation communities impacted. Such project-specific mitigation could include impact avoidance, minimization or compensatory measures, or a combination thereof. All projects would be designed to avoid waters of the United States, to the extent practicable, but if impacts are identified, a Section 404 Clean Water Act permit may be necessary and appropriate mitigation measures will be identified to offset impacts (e.g., payment into a mitigation bank, on-site restoration or enhancement of wetlands). The type of permit will be dependent on the nature and extent of impacts, although most projects are expected to fall under Nationwide Permits.

Mitigation Measure Vegetation-2: Perform protocol level surveys for presence of special-status plants.

When specific construction activities are proposed, site-specific environmental analysis would be conducted that would include a more focused assessment of any potential impact on vegetation resources. If deemed necessary by Reclamation, the local managing partner(s) proposing a

construction activity will perform protocol level surveys for the presence of special-status plants. The surveys will follow protocols as directed by Reclamation, which may elect to use standardized protocols, and may include those developed by CDFW. Focused plant surveys shall be used to propose feasible means of avoiding or minimizing any temporary or permanent losses of special-status plants. Such project-specific measures could include restoration or re-routing of trails to avoid sensitive vegetation (as described below for Mitigation Measure Vegetation-4) where applicable; transplantation; or a combination thereof.

Mitigation Measure Vegetation-3: Incorporate signage along equestrian and bicycle trails to prevent horses and bicycles from leaving trails.

All new or expanded trails proposed under the Expanded Recreation and Facilities Alternative, and any expansion of equestrian or bicycle use on existing trails as proposed under this alternative, shall incorporate signage at reasonable intervals (subject to Reclamation approval) prescribing no equestrian or bicycle use off established trails.

Mitigation Measure Vegetation-4: Route any new trails to avoid sensitive vegetation communities, and provide for an educational leaflet program.

All new trails or trail connectors proposed under the Expanded Recreation and Facilities Alternative shall be routed to provide a minimum 50 foot buffer from wetland and riparian communities, quail restoration areas, and known rare plant communities. Additionally, if new trails, trail connectors, or expanded facilities are proposed within 100 feet of such vegetation communities, an educational leaflet program will be developed to provide information to the public on the sensitive nature of the vegetation communities adjacent to the proposed trail or improvement and to encourage users to limit human disturbance within and adjacent to such sensitive areas. The leaflets will be available at each visitor kiosk at the park entrances and from leaflet stands where trails leave parking areas, and adjacent to wetland and riparian vegetation communities.

4.9 Wildlife

4.9.1 Type of Impacts

A wide variety of reptile, amphibian, mammal and bird species are known to or highly likely to be present in Contra Loma, as described in Section 3.10.1. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to wildlife resources could result from five general types of activities:

- Wildland Fire
- Human Use
- Livestock Grazing
- Construction Activities
- Increased Withdrawal of Reservoir Water

Impacts to wildlife under the RMP can be direct impacts to wildlife populations or individuals resulting from direct mortality or displacement or may be indirect impacts due to habitat removal or alteration, habitat fragmentation, or disruption of wildlife corridors. Impacts can also be temporary or permanent.

4.9.2 Assumptions

The wildlife resources impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations governing protection of special status wildlife and upland and wetland wildlife habitats.
- Reclamation and the managing partner(s) will continue to manage, protect, and restore Contra Loma's wildlife resources consistent with current management trends as articulated in existing management and policy documents and ordinances.

4.9.3 Impacts Common to All Alternatives

Wildland Fire

Wildland fire can have temporary negative impacts on wildlife through initial mortality and by removal or reduction of annual grassland habitat. However, as described in Section 4.8.3, California coastal prairies have adapted to historic occasional fire regimes as commonly employed by Native Americans. Thus occasional grassland fire would not necessarily lead to lasting negative impacts on wildlife from habitat loss.

The risk of catastrophic wildland fire in Contra Loma is low because existing wildland fire management facilities provided by CCCFPD are maintained at high response levels near Contra Loma, with 2 stations located within 1.5 miles. EBRPD also provides backup fire suppression with satellite stations and a wildland fire truck located at the southern park boundary. The managing partners would be expected to continue to provide these services under all management alternatives. Wildland fire risk is further reduced because management actions common to all alternatives would perform periodic mowing and continue livestock grazing of the grassland areas adjacent to trails to reduce fire hazard and implement plans for fire and emergency preparedness. The risk of fire which can be damaging to wildlife within the developed areas of Contra Loma is very low due to the scarcity of dry vegetation and the predominance of landscaped or wetland vegetation types. Thus, under all management alternatives, wildland fire would have minor effects on wildlife resources in Contra Loma.

4.9.4 Impacts Specific to the No Action Alternative

Wildland Fire

Impacts would be the same as those described in Section 4.9.3.

Human Use

As described previously, visitor use of Contra Loma is expected to increase under all of the alternatives. Increased visitation would result in more pedestrian, bicycle, and equestrian traffic on trails, causing an increase of human disturbance to wildlife which relies on adjacent habitats such as annual grasslands, upland riparian, blue oak woodland, and wetlands. Increased traffic on trails may disturb wildlife from noise impacts or simply from human presence. Similar to existing conditions, however, the additional visitors would tend to be concentrated in the developed portions of Contra Loma such as the picnic areas, swim lagoon, fishing access areas, and sports fields. In undeveloped portions of Contra Loma, visitation increases are expected to be more modest. Hikers on trails in the undeveloped areas through grasslands and near wetland or riparian habitats are less likely to cause sustained loud noise more commonly associated with high use recreational amenities such as the swim lagoon, picnic areas, and sports fields. Hence, impacts to wildlife from increased noise or human presence on trails would be minor.

Wildlife can be affected by direct conflict with maintenance equipment, disturbance from equipment noise, and contact with inadvertent hazardous materials spills. Increased visitation would increase the need for operation and maintenance activities by the managing partner(s) over existing conditions. This could incrementally increase the potential for these activities to adversely affect wildlife. Operation and maintenance activities would need to be coordinated with programs implemented to protect special status species. Management actions call for the local managing partners(s) to perform ongoing routine maintenance activities and repairs of the existing facilities that would not involve ground-disturbance or otherwise have the potential to cause significant environmental effects. The incremental increase in the potential for these activities to adversely affect wildlife would result in a minor adverse impact.

Increased trail use could also increase the potential for visitors to leave the trail and investigate sensitive habitats, especially wetland or riparian habitats. Therefore, increased trail use could increase the potential for visitors to affect wildlife through incidental harassment or disturbance, or displacement due to trampling of sensitive habitats, especially wetlands. Impacts could also result from increased introduction of exotic species related to increased human traffic. The expected visitation increase would incrementally increase the potential for wildlife disturbance, resulting in a minor adverse impact.

In developed high activity areas of Contra Loma adjacent to sensitive wetland and riparian wildlife habitats, existing trails have been routed to avoid direct incursion into such areas. Visitors are unlikely to leave trails adjacent to wetlands due to the density of vegetation, soil moisture (i.e., muddy) conditions, and the risk of contact with insects, blackberry prickles, or poison oak. These environmental conditions would continue to reduce the attractiveness of entering these areas, thereby reducing the potential for wildlife disturbance and resulting in a minor adverse impact.

The local managing partner(s) for the Regional Park would continue to perform periodic biological surveys to inventory and assess special-status plant and wildlife species, and would continue to develop and implement programs to protect special-status species likely to occur at the park. Such programs would be coordinated with operation and maintenance programs and would be consistent with the RMP goals of protecting and enhancing natural resources and

maintaining the natural setting of Contra Loma. Thus, increases in human use would cause only minor impacts to wildlife.

Livestock Grazing

Livestock grazing controls the growth of non-native grasses and herbs so that other desirable native grasses can regenerate and coexist with them (East Bay Regional Park District 2012a). This serves to maintain the condition of native wildlife habitat within the annual grasslands. Grazing would likely continue under all management alternatives, subject to a Reclamation-approved grazing management plan prepared by the managing partner(s). Grazing in Contra Loma is currently limited to cattle; however, other species (e.g., sheep, goats) could be permitted subject to the grazing management plan. Potential impacts on wildlife habitat may be less for sheep or goats than cattle due to their smaller weight and size per animal unit, as they have smaller impacts on soils and vegetation, particularly when soils are damp (Oregon State University, 2013). Conversely sheep are able to browse closer to the soil surface, potentially resulting in greater damage to soils and the root zone than cattle. Relative impacts and merits of grazing different livestock species would need to be considered during preparation of the grazing management plan. Although unmanaged grazing can contribute to degradation of grassland wildlife habitat through excessive trampling and soil erosion, a well-managed grazing program within the annual grasslands of Contra Loma would have positive effects on wildlife resources. Under this alternative, no change in the acreage, location, or intensity of grazing would occur. Therefore, the overall effect of livestock grazing on wildlife would be similar to current conditions.

4.9.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Wildland Fire

Impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.9.3.

Human Use

Impacts would be similar to those addressed in Section 4.9.4; however, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma. This alternative would likely attract more visitors and would require more maintenance than the No Action Alternative, thereby increasing the potential for human use to impact wildlife.

Livestock Grazing

The impacts are similar to those addressed in Section 4.9.4; however, this alternative could increase the total grazing area by 0.3 acre. This small change in grazing area would incrementally increase the potential for the positive effects on wildlife resources derived from a well-managed grazing program. This would be a minor beneficial impact that would not occur under the No Action Alternative.

Construction Activities

This alternative would include construction of new, expanded or renovated facilities and supporting infrastructure that would not occur under the No Action Alternative. Most construction proposed by this alternative is on altered or developed sites, within areas where

habitat is either urban in nature and thus of limited value to wildlife or entirely lacking due to replacement by hardscape (i.e., barren). Consequently there would be no impact to wildlife from expanded or renovated facilities in areas of urban or barren habitat.

This alternative may include some new construction on undisturbed or unoccupied sites, including the construction of a new park residence near the park office. Underground utility extensions to provide renovated water and sewer line and communications facilities could also be constructed on undisturbed sites.

New construction and related ground disturbing activity can cause impacts to wildlife from direct mortality or habitat removal due to equipment operations, overcovering by placement of spoils, or erosion. If special status birds such as burrowing owl are nesting within the area of construction impacts, their potential resulting mortality or reproductive failure would be a major impact. Similarly, if special status wildlife such as San Joaquin kit fox occupy the construction site or its margins, their potential mortality or displacement would be considered a major impact. If new construction were to result in take of Federally-listed species, formal consultation with the USFWS would be required. Impacts on other special-status species would require coordination with CDFW to identify appropriate measures to implement to avoid or minimize adverse effects.

In addition to habitat removal associated with new or expanded facilities, the facility improvements could result in habitat fragmentation or the disruption of wildlife corridors (e.g., from exclusionary fencing). The grasslands and oak woodlands at Contra Loma provide expansive open space that supports a diversity of wildlife species, such as mule deer, that move through the area to adjacent habitats. Riparian corridors also provide movement corridors for riparian and aquatic species that stay close to water sources as they move through an area. As new projects or actions are defined, a detailed analysis of impacts associated with habitat fragmentation and disruption of wildlife corridors would be conducted. With the presence of existing facilities, new or expanded facilities under this alternative are likely to be placed in close proximity to the existing facilities, which would avoid the potential for habitat fragmentation and minimize disruptions to wildlife corridors.

Management Action 53 provides that future improvements should be consistent with laws and regulations that govern the protection of natural resources. However, this provision alone would not necessarily prevent impacts, lacking specific knowledge of the risk to nesting birds or other special status wildlife for each construction site. Incorporation of Mitigation Measures Wildlife-1 and Wildlife-2 (Section 4.9.8) into this alternative would reduce impacts to a no impact or minor impact level. These impacts would not occur under the No Action Alternative.

4.9.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Wildland Fire

Impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.9.3.

Human Use

Impacts would be similar to those addressed in Section 4.9.5; however, this alternative would include facility improvements and expansion of trail use that would increase the public's

enjoyment and use of Contra Loma beyond those of the other two alternatives. This alternative would likely attract more visitors than the other alternatives, thereby increasing the potential for human use to impact wildlife.

Livestock Grazing

This alternative may include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma. This reduction would reduce the potential for the positive effects on wildlife resources derived from a well-managed grazing program. This would be a minor adverse impact that would not occur under the No Action Alternative.

Construction Activities

This alternative would include construction of new infrastructure and facility improvements in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Therefore, this alternative would have more potential to adversely affect wildlife resources from construction activities. New facilities under this alternative may include a fishermen's shelter along the south or east reservoir shore, a fitness course along the shoreline trail loop, a disc golf course, and additional multi-use sports fields directly south of the two existing sports fields, including additional parking. This alternative also allows for underground utility extensions to provide new water and sewer line and communications facilities, and new or expanded trails and additional trail connectors to allow trail system looping. These facilities could either be constructed on previously undisturbed sites with annual grassland habitat, or adjacent to sensitive riparian, blue oak woodland or wetland wildlife habitats.

New construction and related ground disturbing activity can cause impacts to wildlife from direct mortality or habitat removal due to equipment operations, overcovering by placement of spoils, or erosion. If special status birds such as burrowing owl are nesting within the area of construction impacts, their potential resulting mortality or reproductive failure would be a major impact. Similarly, if special status wildlife such as San Joaquin kit fox occupy the construction site or its margins, their potential mortality or displacement would be considered a major impact. If new construction were to result in take of Federally-listed species, formal consultation with the USFWS would be required. Impacts on other special-status species would require coordination with CDFW to identify appropriate measures to implement to avoid or minimize adverse effects. Mitigation Measures Wildlife-1 and Wildlife-2 would reduce such adverse impacts to the no impact or minor impact level.

Construction of new trails to allow increased pedestrian, equestrian, and bicycle use may result in increased impacts on adjacent habitats of special status wildlife. Existing trails generally are routed to avoid sensitive habitats, however, new trails and trail connectors could be routed such that unexpected stress on special status species results. New trails routed too close to sensitive habitats could also result in an increased tendency for humans to venture into sensitive habitats.

In addition to habitat removal associated with new or expanded facilities, the facility improvements could result in habitat fragmentation or the disruption of wildlife corridors (e.g., from exclusionary fencing). The grasslands and oak woodlands at Contra Loma provide

expansive open space that supports a diversity of wildlife species, such as mule deer, that move through the area to adjacent habitats. Riparian corridors also provide movement corridors for riparian and aquatic species that stay close to water sources as they move through an area. As new projects or actions are defined, a detailed analysis of impacts associated with habitat fragmentation and disruption of wildlife corridors would be conducted. With the presence of existing facilities, new or expanded facilities under this alternative are likely to be placed in close proximity to the existing facilities, which would avoid the potential for habitat fragmentation and minimize disruptions to wildlife corridors. For larger facilities that may encroach on open habitat used as wildlife corridors, design considerations would reduce potential disruptions to wildlife movement.

Management Action 53 requires future improvements to be consistent with laws and regulations that govern the protection of natural resources. Developing and implementing design and construction BMPS that include minimizing the number of trail crossings of streams, wetlands, and other sensitive habitats; providing clear span bridges, reinforced fords, or other small crossing structures to minimize the direct effect of foot and bicycle traffic passing through the sensitive habitats; revegetating sensitive habitat disturbed during the trail construction process; and following project-specific conditions of any regulatory agency permits and approvals required for the project would further lessen potential impacts on wildlife resources from construction and use of new trails and connectors. This alternative may still result in a major adverse impact on wildlife resources resulting from these activities. With incorporation of Mitigation Measure Wildlife-3 into the Expanded Recreation and Facilities Alternative (Section 4.9.8), impacts to wildlife resources would be minor. These impacts would not occur under the No Action Alternative.

Increased Withdrawal of Reservoir Water

Under this alternative, reservoir water pumping for landscape irrigation within developed areas may be increased from 100 acre-feet per year to 150 acre-feet per year. This increase would not occur under the No Action Alternative. The additional irrigation would have a positive impact on the urban habitat component in developed areas of Contra Loma, and hence may have a small positive impact on wildlife there. The additional irrigation of managed landscaping may also help maintain the hydrology of certain wetland and stream corridor wildlife habitats that receive runoff from the landscaped areas. Conversely, fertilizers and pesticides applied to non-native landscape plantings could be transported to aquatic habitats by the additional landscape irrigation and adversely affect wildlife and aquatic resources. Management actions requiring preparation of non-aquatic pesticide management plans and consistency with laws and regulations protecting natural resources would be implemented; therefore, the additional landscape irrigation would not result in major impacts on wildlife resources.

The increase in irrigation water of 50 acre-feet would represent a net additional reservoir drawdown of approximately one foot, most likely occurring during the hot months of July and August. The additional reservoir drawdown would cause a small decrease in the reservoir's wetted perimeter adjacent to existing wetland vegetation at the reservoir high water mark, resulting in a minor impact to wildlife that benefit from wetland vegetation.

4.9.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, increasing the potential for regional impacts on wildlife habitats.

Wildland Fire

Increased visitation to Contra Loma could increase the potential for accidental wildland fires to start. However, the potential temporary negative impacts of wildland fire on wildlife resources in Contra Loma would be moderated by the potential long term beneficial impacts of isolated or occasional wildland fire. Increased visitation, therefore, would have a minor cumulative effect with respect to wildland fires.

Human Use

Visitation to Contra Loma would increase under all of the alternatives, with more visitation expected under the two action alternatives than the No Action Alternative. Regional population growth would further increase visitation to Contra Loma and the addition of flood lights to sports fields 4 and 5 will increase nighttime visitation to the Community Park. This cumulative increase in visitation would result in greater potential for effects on wildlife caused by disturbance from human presence, maintenance activities, increased introduction of exotic species, and displacement due to trampling of sensitive habitats. Because the Expanded Recreation and Facilities Alternative may include expansion of the trail system and would generate more visitation than the other two alternatives, it would contribute more to this cumulative impact than the other two alternatives. For reasons similar to the RMP-specific impacts discussed above, these cumulative effects are expected to be minor.

Construction Activities

The two action alternatives would include construction of new, enhanced, expanded or renovated facilities and could, therefore, cause impacts to wildlife from direct mortality or habitat removal. The Expanded Recreation and Facilities Alternative would involve the most new construction. The improvements to sports fields 4 and 5 would replace several acres of annual grassland with artificial turf. Development needed to accommodate the projected regional population growth would convert a substantial amount of vacant land to urban uses. Such development would remove a substantial amount of native and non-native vegetation, would increase habitat fragmentation. These actions could have a major adverse cumulative effect on wildlife.

As discussed above, RMP management actions and Mitigation Measures Wildlife-1 through Wildlife-3 would protect Contra Loma's special-status wildlife species and their habitats and

reduce impacts from RMP activities to a no impact or minor impact level. In addition, the City's General Plan includes policies to preserve sensitive habitats and habitats supporting endangered species of animals. The County's General Plan includes policies to preserve and enhance areas important for the maintenance of natural vegetation and wildlife populations. These management actions, mitigation measures, and general plan policies would reduce cumulative impacts on wildlife.

4.9.8 Mitigation Measures

Mitigation Measure Wildlife-1: Perform nest surveys for construction related impacts to special status birds within riparian, wetland, woodland, or grassland wildlife habitats or their margins.

When specific construction activities are proposed, a site-specific environmental analysis would be conducted that includes a more focused assessment of the activity's impact on special status avian wildlife resources. If deemed necessary by Reclamation, the local managing partner(s) proposing a construction activity will perform surveys for special status bird nests or burrows in all areas potentially affected by temporary or permanent construction related activities. The surveys will be conducted at times selected to target all special status bird species potentially affected by a construction activity and shall propose feasible mitigation for any temporary or permanent impacts to special status wildlife or reproductive success. Such project-specific mitigation could include impact avoidance (which could include removal of nest materials prior to the applicable reproductive cycle), minimization (which could include appropriate buffers), compensatory measures, or a combination thereof that does not lead to take of migratory birds. Specific measures will be identified in coordination with USFWS and CDFW on a project-by-project basis depending on the species that could be affected.

Mitigation Measure Wildlife-2: Perform protocol level surveys for presence of special status wildlife species.

When specific construction activities are proposed, a site-specific environmental analysis would be conducted that includes a more focused assessment of the activity's impact on special status wildlife resources. If deemed necessary by Reclamation, the local managing partner(s) proposing a construction activity will perform protocol level surveys for presence of special status wildlife species. The surveys shall propose feasible mitigation for any temporary or permanent losses of special status wildlife species or their habitat. Such project-specific mitigation would require input from USFWS and/or CDFW on specific measures to achieve no or minor impacts.

Mitigation Measure Wildlife-3: Incorporate signage along equestrian and bicycle trails to prevent horses and bicycles from leaving trails.

To protect special status wildlife species, all new or expanded trails and any expansion of equestrian or bicycle use on existing trails shall incorporate signage adjacent to sensitive wildlife habitats at reasonable intervals, subject to Reclamation approval, prescribing no equestrian or bicycle use off established trails.

4.10 Fisheries

4.10.1 Type of Impacts

As described in Section 3.10.1, there are currently 20 known fish species, including eight species of game fish, in Contra Loma Reservoir (Table 8, Chapter 3). Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative. Potential impacts to fishery resources from implementation of the RMP could result from three factors or activities:

- Fishing Pressure
- Invasive or Exotic Species
- Construction Activities

Fishery resource impacts under the RMP can be direct impacts to fish populations due to direct mortality or displacement, or can be indirect impacts due to habitat manipulation such as reservoir drawdown. Impacts can also be temporary or permanent in nature.

4.10.2 Assumptions

The fishery resources impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations pertaining to fishery resources and recreational sport fishing.
- Reclamation and the managing partner(s) would continue to manage, protect, and restore Contra Loma's fishery resources consistent with current management trends as articulated in existing management and policy documents and ordinances.
- The risk of inadvertent introduction of fish species not known to be present in the reservoir has been greatly reduced because of the recent completion of the Rock Slough Fish Screen Project described in Section 3.11.1.

4.10.3 Impacts Specific to the No Action Alternative

Fishing Pressure

As described previously, visitor use of Contra Loma is expected to increase under all of the alternatives. Fishing pressure can be expected to increase at rates similar to the increase in overall visitation, due to the increased popularity of the Regional Park but also due to the increased popularity of and demand for the unique recreational fishing opportunities that Contra Loma provides.

Increased fishing pressure may result in overharvest of existing sport fishing stocks. This is often a self-limiting effect, as fishing pressure tends to decrease in response to decreased angler success. Nonetheless, in the case of put and take fisheries such as the reservoir's trout and catfish

fisheries, overharvest could lead to spikes in populations of prey species such as threadfin shad which can in turn upset fishery population balances. Fishing pressure for these species tends to fluctuate consistent with the chances for success, so a quality put and take trout or catfish fishery depends on meeting demand with adequate stocking rates. Trout and catfish plants at Contra Loma have typically been scheduled to address existing demand, such that the fishery provides a reasonable chance of success and remains popular. Management actions would serve to ensure that planting rates would adequately keep pace with demand; hence the impact of increased trout or catfish fishing pressure on the fishery resources of Contra Loma would have a minor adverse impact.

Overharvest could also cause adverse impacts on the population of largemouth bass and adversely affect the ability of this fishery resource to remain self-sustaining. Current regulations allow anglers to harvest largemouth bass larger than 12 inches. Annual EBRPD monitoring efforts over the last 10 years using electrofishing reveals moderate declines in overall bass populations. Harvest rates of largemouth bass may be a contributing factor in these declines. However, impaired reproductive success may have a much larger impact than harvest rates. A recent increase in average largemouth bass size from under 10 inches to approximately 13 inches (measured in fork length) coupled with the overall decrease in population during the 2007-2011 period indicates significantly fewer young fish are in the population, which suggests there has been less successful reproduction or survival over this period. Low survival could be due to poor conditions for fry survival as well as predation by other fish.

EBRPD encourages anglers to practice catch and release when fishing for bass through its educational and press release literature available on-line, and with signs posted at fishing and boat launching docks and at the lakeshore. EBRPD also requests anglers to report fishing success and harvest rates upon exiting the park, using a “creel census” card issued with each daily fishing permit (Alexander, pers. comm. 2012). These current practices are embodied in the RMP as management actions common to all alternatives. Hence the intensity of increases in fishing pressure over time and resulting potential for overharvesting of largemouth bass would have a minor adverse impact on fishery resources.

Although less popular with most anglers than trout, catfish or bass, several other species of panfish at Contra Loma provide an additional quality recreational fishery, including white and black crappie, bluegill, and redear and green sunfish. Annual population surveys of these species indicate a very viable self-sustaining fishery. Historic and current fishing pressure on these species is relatively light, and there is no indication that overharvest has occurred. Management actions common to all alternatives would insure that this fishery is monitored and remains viable in spite of future increases in fishing pressure and harvest rates. Consequently, increased fishing pressure over time would have a minor adverse impact on panfish populations under all RMP alternatives.

Invasive or Exotic Species

Invasive or exotic species that could be introduced into Contra Loma Reservoir include various species of bait fish or crayfish introduced by fishermen, zebra and quagga mussels potentially introduced by water craft users, and introduction or proliferation of aquatic plants (macrophytes) such as Eurasian milfoil and other pond weed species of the Potamogetonaceae family, and various bulrush and cattail species. As noted in Section 4.10.2 above, the risk of introducing

exotic species into the reservoir from the Contra Costa Canal would be very low due to the completion of the Rock Slough Fish Screen Project. The screen mesh is sufficiently small to reduce the introduction of fish species from the canal.

Bait fish or crayfish when used in a reservoir as live bait can under certain circumstances become established, upsetting population balances of desirable species. Increased use of the reservoir for fishing would increase the potential for introduction of exotic or invasive species. Currently, Ordinance 38 of the EBRPD does not allow the use of wet or live baits in any EBRPD reservoir, except worms or nightcrawlers, whether from commercial sources, imported from other waters or captured in Contra Loma Reservoir. RMP management actions would allow the Regional Park's managing partner(s) to implement similar restrictions, which would continue to reduce the potential for introduction of exotic or invasive species. Additionally, management actions common to all alternatives call for monitoring and annual electrofishing, which can be expected to detect infestation of exotic or invasive species. Hence the increased risk of introduction of exotic species of baitfish or crayfish into the reservoir from increased fishing would be a minor impact.

Introduction of zebra and quagga mussels poses a major threat to the viability of the fisheries resources of Contra Loma Reservoir, although none have been observed in the reservoir. Zebra or quagga mussels have invaded other reservoirs in California and can have very detrimental and disruptive effects on other resources and species (including fish), due to their explosive reproductive capabilities, and their propensity to alter water chemistry and filter out important food chain nutrients (Benson 2012). Currently, all vessels are subject to pre-launch inspections by trained staff and wet boats and gear are prohibited from entering the reservoir (see Section 3.3). Management actions common to all alternatives call for the local managing partners(s) for the Regional Park to continue to support and complement CCWD's programs to prevent introduction of zebra and quagga mussels. Elements of this program may be modified or expanded as necessary to improve the program's effectiveness in preventing mussel infestation. Hence, the risk of introduction of zebra or quagga mussels, although never completely eliminated, would be minor.

The reservoir already contains certain exotic macrophyte species that may pose risks to the reservoir's fishery resources and to angler access, including milfoil and various other submergent macrophytes, and various bulrush or tule (family Cyperaceae) and cattail (family Typhaceae) emergents. Some of the tule and cattail emergents present in the reservoir may be California natives, or may have been introduced. Although current populations of these macrophyte communities provide important positive habitat and cover attributes for many resident fish species, their unchecked proliferation and expansion could cause imbalances in water chemistry and temperature, restrict boat launching and reduce or seriously limit open water fishing opportunities and shoreline angler access. CCWD has an unpublished draft macrophyte management plan for Contra Loma Reservoir calling for periodic treatment of shoreline vegetation including tules and cattails that restrict fishing access, particularly to benefit annual fishing derbies (East Bay Regional Park District 2011d). Macrophyte control activities have been limited to occasional spot herbicide treatments in the littoral zone and to specific tule beds, and have only been necessary several times in the last 6 years (Nakagawa, pers. comm. 2012). The treatments are timed such that the herbicide is absorbed by the root rhizome during the plant's dormant period so that physical removal of dead plant biomass is not generally necessary. No

long-term treatment procedures have been developed or deemed necessary to date. Due to existing management activities of CCWD, as monitored by the Regional Park's managing partner(s), invasive macrophytes represent a minor risk to fishery resources. It may become necessary to employ more aggressive measures to control macrophytes in the future, which could have further impacts on fishery resources. For example, drawdown of the reservoir may be an option for controlling an exotic species that could have more than a minor risk to fishery resources. However, future implementation of such measures would have to be analyzed further for their impacts on fisheries at the time they are proposed. All the RMP alternatives would have similar levels of impact with respect to this issue.

Reservoir Levels

Contra Loma Reservoir levels are managed by CCWD under a separate agreement with Reclamation and are outside the scope of the RMP. The primary purpose of the reservoir is water supply; recreation is a secondary purpose. Therefore, water supply and reservoir operation and management take precedence over management for recreation, including fisheries. Contra Loma Reservoir is not a principal water storage reservoir. Water to meet CCWD customer demands is not drained from the reservoir on a daily basis, but instead the reservoir storage is used to meet periodic peak system demands. Water is pumped into the reservoir from the Contra Costa Canal for storage and returned to the canal when CCWD operational needs dictate. In the spring, in preparation for peak summer demands, water is cycled out of and back into the reservoir to address taste and odor concerns. Hence, the water level in the reservoir fluctuates as operational demands require.

During fall and winter of some years, the reservoir is drawn down as part of CCWD's operations. This drawdown can leave fishing docks out of the water, forcing fishermen to use the boat dock or to fish only from shore. Additionally, winter drawdown can make it harder for anglers to reach open water that is free of macrophyte vegetation from shore. During these seasons, however, fishing pressure is generally lighter than in spring and summer. Opportunities for anglers to reach open water at limited shore locations still exist during fall and winter. Also, as noted elsewhere in this section, CCWD performs a periodic macrophyte control program which typically responds to the need to provide shore access to anglers during fall or winter drawdowns and for fishing derbies. These activities reduce the adverse effect of fall and winter drawdown.

4.10.4 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Fishing Pressure

Impacts would be similar to those addressed in Section 4.10.3; however, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma. This alternative would likely attract more visitors than the No Action Alternative, thereby increasing fishing pressure and resulting in a minor adverse impact.

Invasive or Exotic Species

Impacts would be similar to those addressed in Section 4.10.3; however, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma. This alternative would likely attract more visitors than the No Action Alternative, thereby increasing the potential for introduction or spread of invasive or exotic species.

Reservoir Levels

Impacts would be similar to those addressed in Section 4.10.3; however, this alternative would include improvements that would enhance angler access. These improvements include modification, reconstruction, or replacement of the existing fishing piers to allow safe, continuous fishing during reservoir drawdowns. More fishing piers may also be added if needed to accommodate increased demand. Also, a number of fishing pier and boat ramp improvements may be completed to enhance ADA access, including ADA compliance for rest room facilities, paving of parking areas, and paved trails to the boat launch and fishing pier areas. These improvements would serve to partially compensate for the existing adverse effects on the angler experience during fall and winter low water conditions and would have a beneficial impact that would not occur under the No Action Alternative.

Construction Activities

This alternative would include modification, reconstruction, or replacement of existing fishing piers to allow safe, continuous fishing use during reservoir drawdowns. In addition, more fishing piers may be added if needed to accommodate increased demand. In addition, several improvements may be implemented at the boat launch area to enhance boating and fishing access. The improvements may include reconstruction of the boat ramp and providing for ADA accessibility compliance. Some of the new or rehabilitated docks may require new pilings.

Construction activities of this type may cause temporary impacts on lake water quality, may adversely affect fish resources especially young panfish and bass and may temporarily inconvenience anglers. As discussed in Section 4.7.5, this alternative includes a management action requiring a focused site-specific assessment of any potential impact on water quality when specific construction activities are proposed. If required by Federal regulations, the local managing partner(s) proposing a construction activity would submit a plan that identifies the sources of sediment and other pollutants on site and ensures the reduction of such pollutants. This management action would reduce the effects of in-water construction activities on fisheries. In addition, the construction would of necessity be carried out during lower water level periods in the late fall or winter, thus siltation of reservoir waters could be kept at a minimum. This would reduce the intensity of any effects caused by siltation. No special status aquatic species or fish are known to inhabit the reservoir, so no adverse impacts to special status species would result. Also at these times, fishing pressure would be lower, so inconvenience to anglers would be minimal. Finally, the resident panfish and bass species are known to spawn in the spring, so there would be no impacts to these species due to spawning disruption. Hence, construction activities would cause minor adverse impacts on fishery resources under this alternative that would not occur under the No Action Alternative.

4.10.5 Impacts Specific to the Expanded Recreation and Facilities Alternative

Fishing Pressure

In addition to the impacts expected under the No Action Alternative and addressed in Section 4.10.4, this alternative may include construction of a fishermen's shelter along the south or east shore and may improve fish habitat to increase fish populations. These management actions would result in positive impacts on the sportfishing experience at Contra Loma, and partially compensate for the minor adverse impacts on fishery resources expected from increased fishing pressure.

Invasive or Exotic Species

The impacts would be the same as those addressed in Section 4.10.3.

Reservoir Levels

Impacts would be similar to those addressed in Section 4.10.3; however, this alternative may include creation or modification of fish habitat if desirable to increase fish populations. If implemented, this management action would serve to partially compensate for the existing adverse effects on the angler experience during fall and winter low water conditions and would have a beneficial impact that would not occur under the No Action Alternative or the Enhanced Recreation and Facilities Alternative.

Construction Activities

Additional improvements under this alternative may include construction of a fishermen's shelter along the south or east shore and improvement or creation of additional fish habitat to increase fish populations. Similar to the discussion in Section 4.10.4, in-water construction activities would most likely be undertaken in the fall or winter, while lake levels are drawn down and fishing pressure is somewhat lighter. Also, the management action requiring a focused site-specific assessment of any potential impact on water quality and preparation of a plan that ensures the reduction of such pollutants would reduce the effects of in-water construction activities on fisheries. Consequently, these additional improvements would result in minor temporary adverse impacts on fishery resources that would not occur under the No Action Alternative.

4.10.6 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Fishing Pressure

Visitation to Contra Loma would increase under all of the alternatives, with more visitation expected under the two action alternatives than the No Action Alternative. Regional population growth would further increase visitation to Contra Loma. This cumulative increase in visitation would result in greater pressure on Contra Loma's fisheries. Increased fishing pressure may result in overharvest of existing sport fishing stocks.

The RMP includes management actions requiring the managing partner for the Regional Park to manage recreational fisheries through fish planting (i.e., stocking) programs, continued monitoring of fish populations, and provision of educational information to the public. These actions may also include catch-and-release practices for certain fish species, tracking of stocking rates and angler permit sales, and periodic evaluation and adjustment of stocking rates to maximize angler success and experience. These management actions would ensure that the

cumulative impact of increased fishing pressure from regional population growth would be minor.

Changes to future conditions at other similar nearby lakes and reservoirs could also contribute to a cumulative increase in fishing pressure at Contra Loma. Nearby fresh water fish bearing reservoirs managed by EBRPD include Lake Chabot near Castro Valley, Lake Temescal near Oakland, and Shadow Cliffs near Pleasanton. These water bodies provide similar fishing opportunities, with catchable trout and catfish as well as bass and panfish opportunities. A number of smaller reservoirs add somewhat to the available opportunities. However, Contra Loma provides the highest quality bass fishing of any large water body in the region, and is very popular for put and take trout fishing as well. Other lakes or reservoirs of the region (e.g., Del Valle in Livermore) are likely to be too distant to be considered as providing comparable sport fishing for the local population. Fishery resources in these reservoirs are successfully managed by EBRPD and CDFW in a similar manner as Contra Loma. EBRPD's Master Plan includes a policy to develop aquatic facilities, where appropriate, to create a wide variety of fisheries; to monitor fisheries resources to determine species composition, size, population and growth rates; and to cooperate with CDFW to conserve, enhance and manage EBRPD fisheries resources for ecological and recreational benefit for all fish bearing lakes and reservoirs it manages (East Bay Regional Park District 2013). There are no known projects or changes planned for these other lakes that would adversely affect their fishery resources and result in cumulative impacts to Contra Loma fisheries (Alexander, pers. comm. 2013), nor is there any available information to indicate that fishing pressure impacts on these lakes when combined with Contra Loma would result in additional unmitigated effects.

Invasive or Exotic Species

The cumulative increase in visitation could also increase the potential for the introduction or spread of invasive or exotic species such as bait fish, crayfish, zebra mussels, and quagga mussels. The RMP includes a management action to allow the managing partner for the Regional Park to impose restrictions on the use of certain live baits. Hence the increased risk of introduction of exotic species of baitfish or crayfish into the reservoir from a cumulative increase in fishing would be a minor impact.

RMP management actions call for the local managing partners(s) for the Regional Park to continue to support and complement CCWD's programs to prevent introduction of zebra and quagga mussels. With these management actions, the risk of introduction of zebra or quagga mussels from a cumulative increase in visitation, although never completely eliminated, would be minor.

4.10.7 Mitigation Measures

No need for mitigation has been identified.

4.11 Geologic and Soil Resources

4.11.1 Types of Impacts

This section assesses the potential impacts of the RMP alternatives on the geologic and soil resources found in Contra Loma. Impacts related to soil erosion caused by construction activities

are addressed in Section 4.7 (Water Resources). Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to geology and soils could result from three general types of activities:

- Facility Maintenance
- Fire Suppression
- Facility Improvements

4.11.2 Assumptions

The geology and soils impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable laws and regulations governing geologic hazards, structure stability and erosion protection.
- Negative impacts on geology and soil resources would be greatest from direct, large-scale disturbance activities such as earthquakes or large-scale construction projects which require use of heavy equipment such as bulldozers, scrapers, large excavators or drilling and blasting.
- All buildings and structures at Contra Loma would meet City and/or state building code standards pertaining to geologic hazards and stability.

4.11.3 Impacts Common to All Alternatives

Facility Maintenance

Ongoing routine maintenance activities and repairs of existing facilities by the managing partner(s) at the Regional Park and the Community Park would, in general, not involve ground disturbance or otherwise have the potential to cause significant environmental effects. However, trail maintenance activities in the Regional Park may include annual grading of fire roads and trails using machinery and hand tools in order to maintain the quality of the road or trail surface as well as maintain proper drainage. Vegetation management activities may include mowing of grasslands adjacent to trails to aid in fire suppression, potentially exposing soils to erosion, and use of herbicides to control invasive plants, potentially contaminating soils. However, vegetation would not typically be removed in a manner that exposes bare soil, and removal of dead tree stumps causing soil disturbance would be a rare occurrence. Vegetation management conducted by the use of chemical herbicides would be done using products which have no soil latency or limited soil latency, as prescribed by a qualified Pest Control Advisor and in compliance with the IPM plan. All of the RMP alternatives would have a minor but long-term beneficial impact on soils by managing and reducing the potential for erosion.

Fire Suppression

Wildland fire can have temporary negative impacts on soils due to soil erosion caused by off-road fire equipment use and temporary loss of grasslands. Management actions common to all alternatives would include periodic mowing and livestock grazing of the grassland areas adjacent to certain trails, hence reducing grassland fire hazards and the erosion effects which can result. These maintenance activities would be similar to current practices. Vegetation fire risk within the developed areas of Contra Loma is very low due to the scarcity of dry vegetation and the predominance of landscaped or wetland vegetation types, hence soil erosion resulting from fire would be very unlikely in the developed areas of Contra Loma.

4.11.4 Impacts Specific to the No Action Alternative

Facility Maintenance

The impacts would be the same as those addressed in Section 4.11.3.

Fire Suppression

The impacts would be the same as those described in Section 4.11.3.

4.11.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Facility Maintenance

The impacts would be the same as those expected under the No Action Alternative and described in Section 4.11.3.

Fire Suppression

The impacts would be the same as those expected under the No Action Alternative and described in Section 4.11.3.

Facility Improvements

Improvements to the boat launch area that are proposed in this alternative include the installation of concrete trails from the reservoir shoreline to the boat launch area in order to improve access. This action would also decrease the potential for erosion along the shoreline, resulting in a beneficial impact that would not occur under the No Action Alternative.

This alternative also includes paving of the unpaved portions of the East Shore Trail, the West Shore Trail, and the trail across the dam. Paving these trail sections would create a shoreline loop trail system that could be used year-round without increasing the potential for soil erosion and the subsequent potential for sediment to reach the reservoir, resulting in a beneficial impact that would not occur under the No Action Alternative.

Finally, this alternative would include construction of new or expanded buildings and facilities, such as restrooms, utility lines, offices, the police substation, a park residence, a communication tower, and fishing and boating facilities. All new buildings and facilities at Contra Loma would meet City and/or state building code standards pertaining to geologic hazards and stability. Therefore, these facility improvements would have a minor impact with respect to geology and soil resources that would not occur under the No Action Alternative.

Section 4.7 (Water Resources) assesses impacts related to soil erosion caused by construction activities, and includes mitigation measures to control construction-related erosion and sedimentation.

4.11.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Facility Maintenance

The impacts would be the same as those expected under the No Action Alternative and described in Section 4.11.3.

Fire Suppression

The impacts would be the same as those expected under the No Action Alternative and described in Section 4.11.3.

Facility Improvements

This alternative would include construction of new or expanded buildings and facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Additional buildings and facilities proposed under this alternative include expansion of the swim lagoon, an anglers' shelter, additional sports fields, and solar panels. Similar to the Enhanced Recreation and Facilities Alternative, all new buildings and facilities at Contra Loma would meet City and/or state building code standards pertaining to geologic hazards and stability. Therefore, these facility improvements would have a minor impact with respect to geology and soil resources that would not occur under the No Action Alternative.

The Expanded Recreation and Facilities Alternative may include construction of new trails that would be open to bicycles and/or would allow bicycles on portions of trails that are not currently open to bicycles. This alternative may also include establishment of a new fitness course by installing outdoor exercise stations with stationary equipment and signage along the shoreline trail loop. Construction of new trails or fitness trail equipment and signage would result in soil disturbance. However, newly constructed trails and existing trails opened for bicycle use would be built in a manner that minimizes erosion, resulting in a minor impact that would not occur under the No Action Alternative.

This alternative includes a proposal to build a disc golf course in the Regional Park that would not be built under the No Action Alternative. Potential locations being considered for the disc golf course include areas east of the reservoir and in the southeast part of the Regional Park. Steep, unstable terrain has been mapped in the eastern half of the Regional Park (see Figure 3-15), indicating that there is a potential for landslides to occur in response to changes in water content, earthquakes, or the removal of downslope support. Construction of the disc golf course, including the infrastructure associated with disc golf would involve relatively little earthwork, limited to the construction of tee pads. Tee pads are typically 5-feet to 6-feet wide and 12-feet to 18-feet long and have a level surface of textured cement, asphalt, grass, or earth. Construction of the tee pads would not require any major ground disturbance associated with heavy equipment use; therefore, this impact would be minor.

4.11.7 Cumulative Impacts

Concurrent Improvements and Land Use Changes

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would cause a substantial amount of ground disturbance. The improvements to the boat launch area would cause a small amount of ground disturbance.

Facility Improvements

The proposed construction activities proposed under the two action alternatives could temporarily increase the potential for soil erosion. Construction activities carried out by others in the vicinity of Contra Loma, including the sports field improvements at the Community Park, could also increase the potential for soil erosion, which could cause a cumulative increase in soil erosion and sedimentation in local waterways. However, Section 4.7 (Water Resources) includes mitigation measures to control construction-related erosion and sedimentation attributable to the RMP, thereby reducing the RMP's contribution to a potential cumulative soil erosion impact.

4.11.8 Mitigation Measures

No need for mitigation has been identified.

4.12 Climate and Air Quality

4.12.1 Types of Impacts

This section assesses the potential impacts of the RMP alternatives on climate change and on regional air quality. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative. Any proposed future projects would be required to demonstrate conformity with the BAAQMD Clean Air Plan pursuant to the General Conformity Rule (Title 40 CFR Part 51.853) due to the county's non-attainment status for ozone and PM2.5.

Potential impacts related to air quality and climate change could result from four general types of activities:

- Human Use
- Facility Maintenance
- Facility Improvements
- Increased Vehicular Traffic

4.12.2 Assumptions

The air quality and climate change impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.

4.12.3 Impacts Specific to the No Action Alternative

Human Use

Vehicle emissions of air pollutants generated by park visitation would have minor adverse impacts on air quality in the Contra Loma region. Ozone precursors (i.e., ROG, NO_x), PM₁₀ and PM_{2.5}, and GHGs are currently generated by vehicles traveling to and from Contra Loma. Although increased visitation to Contra Loma would increase the volume of air pollutants generated by visitors' vehicles, this increase is not likely to result in levels of park visitation high enough to cause exceedance of National Ambient Air Quality Standards (NAAQS).

Although the primary access road into the Regional Park is paved, some of the parking areas in the Regional Park as well as the road leading to the east side of the reservoir have gravel surfaces. Use of gravel roads and parking areas may generate a small but insubstantial amount of dust because the gravel provides a protective ground surface and because the speed and number of vehicles driving in unpaved areas within the Regional Park are generally low. The recreational trail system in the Regional Park is closed to privately operated motorized vehicles. Therefore, dust generated by recreational trail use would result from activities such as mountain biking, hiking, and equestrian use. However, these types of recreational transportation activities are not usually fast enough or dense enough to generate a substantial amount of dust. Three of the Community Park's sports fields have baseball diamonds with dirt infields. Use of these fields generates a small, insubstantial amount of dust. Increased visitation to Contra Loma would increase the amount of dust generated by human use but is not expected to substantially increase the amount of dust emissions generated within Contra Loma due to reasons described above resulting in a minor impact on air quality.

Smoke from barbecue grills used by park visitors is a source of PM. However, the amounts of smoke generated by occasional day use activities typically only occur seasonally, primarily on weekends, resulting in temporary minor impacts to air quality. Increased visitation would incrementally increase the amount of PM generated by barbecue grills. However, this incremental increase would not be substantial and would result in a minor impact on air quality.

Facility Maintenance

Ongoing routine maintenance and management activities and repairs of existing facilities at the Regional Park and the Community Park by the managing partner(s) would continue to involve the use of motorized vehicles and equipment such as staff vehicles, mowers, graders, and various landscaping equipment. Increased visitation could incrementally increase the amount of facility maintenance required. These maintenance and repair activities could generate dust and hydrocarbon emissions, including PM, ozone precursors (ROG, NO_x), and GHGs. It is anticipated that equipment would be properly maintained by the managing partner(s) to reduce exhaust emissions. Dust would continue to be generated by mowing and other landscaping activities and by park vehicles traveling on dirt fire roads (see Section 3.13); however, mowing and landscaping activities would be short term and park maintenance vehicles would reduce dust generation by complying with park road speed limits. Annual fire road grading and maintenance activities would likely involve the use of heavy construction equipment that would generate dust. Such activities, however, are temporary and of short duration. It is anticipated that maintenance activities requiring substantial ground disturbance would include use of water trucks to minimize dust emissions and that the managing partner(s) or their contractor would maintain mechanized

equipment in accordance with local and state emissions guidelines; therefore, facility maintenance and repairs would have a minor impact on air quality and climate change.

4.12.4 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

Impacts would be similar to those addressed in Section 4.12.3; however, this alternative would include facility improvements and renovations that would increase the public's enjoyment and use of Contra Loma. This alternative would likely attract more visitors and would, therefore, generate more air pollutants than the No Action Alternative. For the reasons discussed in Section 4.12.3, air quality and climate change impacts from human use would be minor.

Facility Maintenance

The impacts would be similar to those addressed in Section 4.12.3; however, this alternative would include more recreation and infrastructure facilities than the No Action Alternative, which could require more maintenance than the No Action Alternative. In addition, because this alternative would include more enhanced recreation opportunities than the No Action Alternative, it could result in more visitor use and require incrementally more maintenance than the No Action Alternative. For the reasons discussed in Section 4.12.3, air quality and climate change impacts from facility maintenance would be minor.

Facility Improvements

This alternative includes expansion or renovation of existing buildings and structures as well as construction of new facilities within the Regional Park that would occur under the No Action Alternative. These actions may include mechanical ground-disturbing activities that could generate dust and create conditions conducive to wind erosion. With implementation of Mitigation Measure Air Quality-1 and compliance with BAAQMD rules and regulations, construction activities for individual projects or actions would result in minimal air quality impacts.

Construction activities for facility improvements would also temporarily generate air pollutants, including PM, ozone precursors, and GHGs, through fuel combustion and the evaporation of solvents, paints, and fuels. Diesel particulate emitted from heavy equipment is an identified toxic air contaminant. However, construction emissions would be temporary and primarily localized around the construction areas. Project operations would adhere to local and statewide efforts aimed at minimizing GHG emissions, including measures recommended in BAAQMD's 2010 Clean Air Plan (CAP). Efforts Mitigation Measures Air Quality-1 and Air Quality-2 to reduce fugitive dust, tailpipe emissions, and diesel exhaust produced by combustion engines and applicable GHG-reducing measures would be included in all construction activities at Contra Loma (see Mitigation Measures Air Quality-1 and Air Quality-2); therefore, impacts on air quality and climate change would be minor.

Potential expansion of the pumping and filtration facility at the swim lagoon is proposed under this alternative. Operation of the pump(s) and filtration system needed for this expansion would be a permanent source of exhaust emissions. However, this would have a minor impact on air quality since equipment would be operated and maintained at levels consistent with BAAQMD

stationary source measures resulting in minor impacts on air quality and climate change that would not occur under the No Action Alternative.

This alternative may include a new fueling station and fuel storage tank for Regional Park vehicles and equipment as well as for public safety officers. The managing partner(s) would be required to design and operate the facility in a manner that minimizes its impact on air quality and the facility may only be built and operated in compliance with applicable federal and federally-mandated air quality laws, regulations, and permits. Even with these measures, some petroleum vapors (air pollutants) would escape to the atmosphere during equipment fueling and fuel handling. The amount of air pollutants generated by the fueling facility would likely be similar to the amount of pollutants currently emitted when the current managing partner for the Regional Park fuels its vehicles at offsite fueling stations. If the new fueling station were to generate more air pollutants than the current managing partner's fueling practices, the air quality measures described above would ensure that the fueling station would only have a minor adverse impact on air quality. This impact would not occur under the No Action Alternative.

Increased Vehicular Traffic

Vehicle emissions from visitor and boat traffic would have minor adverse impacts on air quality in the Plan Area. Although visitation to Contra Loma is expected to increase, the levels of park visitation are not expected to be high enough to create heavy and sustained traffic patterns that would produce major air quality issues.

4.12.5 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

The impacts would be similar to those addressed in Section 4.12.3; however, this alternative would include facility improvements and expansion of trail use that would increase the public's enjoyment and use of Contra Loma beyond those of the other two alternatives. This alternative would likely attract more visitors and would, therefore, generate more air pollutants than the other two alternatives. For the reasons discussed in Section 4.12.3, air quality and climate change impacts from human use would be minor.

Facility Maintenance

The impacts would be similar to those addressed in Section 4.12.3; however, this alternative would include more facility and trail improvements than the other two alternatives, which could require more maintenance. In addition, because this alternative would include more enhanced recreation opportunities than the other alternatives, it could result in more visitor use and require incrementally more maintenance. For the reasons discussed in Section 4.12.3, air quality and climate change impacts from facility maintenance would be minor.

Facility Improvements

This alternative would include construction of new or expanded buildings and facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. These activities would generate PM through mechanized ground disturbance and wind erosion. Construction activities would comply with guidelines contained in the BAAQMD CAP and the construction contractor would be required to minimize airborne dust to the extent possible, resulting in a minor impact on air quality that would not occur under the No Action Alternative.

The increased construction that would occur under this alternative would also increase the volume of temporary, construction-related vehicle and equipment exhaust emissions. However, construction emissions would be temporary and primarily localized around the construction areas. Project operations would adhere to local and statewide efforts aimed at minimizing GHG emissions, including measures recommended in BAAQMD's CAP. Efforts Mitigation Measures Air Quality-1 and Air Quality-2 to reduce fugitive dust, tailpipe emissions, and diesel exhaust produced by combustion engines would be included in all construction activities at Contra Loma; therefore, impacts on air quality and climate change would be minor. These impacts would not occur under the No Action Alternative.

Expansion of the Regional Park's recreational trail system is included under this alternative. Impacts on air quality resulting from the use of motorized equipment employed for trail creation or road grading would need to be assessed in future project-specific analyses to assure conformity to BAAQMD's CAP. Impacts on air quality as a result of dust generated by low-impact recreational use of the expanded trail system would be similar to those described in Section 4.12.4. There would be no impact on air quality as a result of expanded recreational trail use.

This alternative would also include installation of solar panels to supplement the Regional Park's energy needs. Solar panels would reduce the Regional Park's demand for conventionally generated electricity, thereby slightly reducing air pollutant emissions generated at the power plants that serve Contra Loma. This would be a beneficial impact that would not occur under the No Action Alternative.

Increased Vehicular Traffic

The impacts would be the same as those addressed in Section 4.12.4.

4.12.6 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, increasing the potential for air pollutant emissions.

Discussion

Cumulative air quality impacts typically occur when multiple projects affect the same air basin at the same time, or when sequential projects extend the duration of air quality emissions over a longer period of time. Because attainment of NAAQS for ozone and PM require evaluation of

conditions over a three-year period, air pollution emissions that occurred in the recent past can affect attainment or nonattainment designations.

Cumulative construction-related air quality impacts would occur if projects approved or carried out by other government entities were constructed concurrently with construction being performed under the proposed RMP. The City and the County both expect future population increases, accompanied by new construction on public and private lands. Some of this construction activity is likely to occur concurrently with RMP-related construction activity. PM and ozone precursors generated during RMP construction activities could contribute to the existing violations of PM in the Bay Area and could exceed state ambient air quality standards. Therefore, the construction contractor would be required to minimize airborne dust, PM, ozone precursors, and GHG emissions to the extent required by applicable air quality plans and guidelines.

Cumulative operational air quality impacts would occur if projects approved or carried out by other government entities were to combine with emissions from Contra Loma operations and generate emissions that conflict with applicable air quality plans. Management activities associated with the RMP alternatives could have some minor adverse impacts on air quality and climate change, but the overall contribution of the actions proposed at Contra Loma to air quality and climate change would be minimal. Aside from the motor vehicles used by many park visitors to access Contra Loma, recreational activities at the Regional and Community parks do not generate substantial emissions. Low impact, non-motorized activities that produce minimal amounts of airborne dust typify recreational pursuits at Contra Loma.

The expected regional population growth would increase the number of vehicles traveling regional roads, leading to increased vehicle emissions. Federal vehicle emission control programs could offset the increased emissions from population growth.

Global climate change and GHG emissions are now being considered in environmental documents because of increasing concerns related to climate change. Currently no standard, widely used methodologies or significance criteria exist to address future climate change impacts from GHG emissions. Air districts have generally provided guidance on analysis methodologies and significance criteria for criteria pollutant and toxic air contaminant impacts, but they have not yet established guidelines for GHG emissions and their impacts. CARB has established GHG significance thresholds, which are sector-specific in terms of what types of activities generate the GHG emissions which include industrial sources and commercial/residential sources. Growth models provided for the region surrounding Contra Loma Reservoir estimate the population increasing from 1,049,025 (ca. 2010) to 1,422,840 (35.6%) over the coming two decades. Increasing local population and corresponding increases in visitation are expected to result in cumulative impacts on air quality within Contra Loma.

Because the two action alternatives would include more facilities and would experience more visitation than the No Action Alternative, they would contribute most to cumulative air quality impacts.

4.12.7 Mitigation Measures

Mitigation Measure Air Quality-1: Implement fugitive dust and emission control measures during construction activities.

When specific projects or actions are identified for Alternatives 2 and 3, a site-specific environmental analysis would be conducted to quantify air quality impacts and identify appropriate mitigation measures to comply with the Clean Air Act and BAAQMD rules and regulations. Construction activities for individual projects will comply with the required BAAQMD rules and regulations to mitigate for short-term construction emissions involving earthmoving, regardless of the project size and duration. The following mitigation measures are recommended by BAAQMD and may be implemented on a project-by-project basis:

- Water all active construction sites at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
- Apply water three times daily or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas (previously disturbed areas inactive for 10 days or more).
- Enclose, cover, and water twice daily, or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 20 miles per hour.
- Minimize idling time to 5 minutes or less.
- Maintain properly tuned equipment.

Mitigation Measure Air Quality-2: Implement measures to reduce GHG emissions.

The following lists present some examples of feasible measures that could be implemented to reduce CO₂ emissions from vehicles and related sources. The measures are categorized as passenger vehicles and park maintenance and infrastructure. These measures would be evaluated

for applicability as each project gets funded and planned and could be included as mitigation at the project-level analysis.

Passenger Vehicles

- Limit trailhead access by vehicle
- Limit parking expansion to the existing parking areas
- Prohibit motorized dirt bikes
- Give reservation preference to visitors with hybrid or high fuel economy vehicles
- Improve vehicle access/alleviate congestion near park entrances
- Add dedicated lane for existing campers returning to camp

Park Maintenance and Infrastructure

- High-efficiency lighting
- Tank-less water heaters
- Solar panels for power
- Clean park maintenance fleet vehicles (electric vehicles, golf carts, or CNG)
- Use electric-powered landscaping/maintenance equipment

If funding is available, several energy-saving measures currently in use in “green” buildings and housing could be implemented in the park infrastructure to reduce GHG emissions. High-efficiency lighting could replace incandescent bulbs, tank-less water heaters would reduce energy loss from conventional hot water tanks, and solar panels could be constructed for power needs within the park. In addition, park maintenance vehicles could be electric, use compressed natural gas fuel, or be gas-electric hybrids. No need for mitigation has been identified.

4.13 Noise

4.13.1 Types of Impacts

This section describes potential impacts on existing noise levels as a result of management actions included in the RMP alternatives. The impacts of the RMP alternatives on noise levels are evaluated qualitatively considering the existing noise environment and the duration and anticipated magnitude of noise level changes. Although a number of sensitive noise receptors (i.e., residences) are located within ¼ mile of the north and southeast boundaries of Contra Loma, to date, neither of the current managing partners has received any noise complaints from nearby residents. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Noise impacts could potentially result from three general types of activities:

- Human Use
- Facility Maintenance
- Facility Improvements

4.13.2 Assumptions

The noise impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The proposed management actions would comply with applicable policies and regulations governing noise.
- The public's use of Contra Loma would continue to increase regardless of the selected alternative, and would require an increased level of facilities management to satisfy this demand.

4.13.3 Impacts Common to All Alternatives

Human Use

Visitor use of Contra Loma is expected to increase under all of the RMP alternatives, consistent with the visitation trend over the past few years. As a result, visitor generated noise from sources such as vehicles or human voices is expected to increase incrementally. Although noise levels within Contra Loma would likely increase, the impact would occur over limited time periods and would typically occur in areas of concentrated human use such as the swim lagoon, the south shore of the reservoir, and the Community Park recreational facilities. Most of the noise generated by human use within Contra Loma would occur during daytime hours, although nighttime use of the currently lighted Community Park sports fields would continue. Such noises are generally an accepted part of the ambient noise levels experienced by park visitors and nearby residents. Noise level increases from non-vehicular human use are not expected to be noticeable; therefore, noise impacts resulting from increased non-vehicular human use would be minor.

Increased visitor use would increase vehicle trips to Contra Loma, resulting in a small increase in vehicle noise on roads leading to Contra Loma. Typically, traffic volumes must double before traffic noise increases are noticeable. According to the City's General Plan EIR, traffic volumes on the local roads providing access to Contra Loma (i.e., James Donlon Boulevard, Lone Tree Way, Contra Loma Boulevard) would not double by the year 2020, even with build out of the General Plan (2020 is the study horizon of the General Plan EIR traffic analysis; City of Antioch 2003b). Therefore, the addition of vehicles from Contra Loma visitors is also not expected to cause vehicle traffic to double. For this reason, vehicle noise level increases from increased visitation are not expected to be noticeable and would result in a minor noise impact.

Facility Maintenance

Increased visitation would incrementally increase the need for routine maintenance activities such as waste disposal, facility repairs, vehicle patrols, and emergency response by the managing partner(s) or others. Similar to current practices, most noise generated by maintenance activities within Contra Loma would occur during daytime hours. In addition, such noises are generally an accepted part of the ambient noise levels experienced by park visitors and nearby residents. Noise level increases caused by maintenance activities are not expected to be noticeable; therefore, noise impacts resulting from increased facility maintenance would be minor.

4.13.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.13.3.

Facility Maintenance

The impacts would be the same as those addressed in Section 4.13.3.

4.13.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

In addition to the impacts addressed in Section 4.13.3, this alternative would include more enhanced recreation opportunities than the No Action Alternative, which could incrementally increase visitor use and vehicle trips to Contra Loma. An incremental increase in visitor use would proportionally increase noise from human activity.

Facility Maintenance

In general noise impacts would be the same as those described in Section 4.13.3; however, this alternative would include more enhanced recreation opportunities than the No Action Alternative, which could require more facility maintenance. Unlike the No Action Alternative, this alternative would also include the replacement of existing portable chemical toilets with permanent restrooms, which would reduce or remove the need for periodic waste water pumping, and would therefore minimize or remove this common maintenance activity as a source of noise.

Facility Improvements

This alternative may include new, expanded, or renovated facilities at the Regional Park to enhance recreation and improve operations. Examples include a new park residence, classroom facilities near the swim lagoon, improvements to the park office and police substation, a new fueling station, additional picnic sites, a storm water retention basin, and a “safe swim” area or splash pad at the swim lagoon. Expanded pumping and filtration facilities may also be needed to operate the additional swim facilities. Use of these facilities could increase ambient noise levels within the Regional Park at certain times. However, the impact would occur over limited time periods, would typically occur in areas of concentrated human use such as the swim lagoon and south shore of the reservoir, and would not occur near noise-sensitive land uses located outside Contra Loma. In addition, such noises are generally an accepted part of the ambient noise levels experienced by park visitors; therefore, noise level increases from these improvements are not expected to be noticeable.

Construction of the facility improvements would temporarily increase noise levels within Contra Loma, which could be distracting to some park visitors. Construction noise may also be audible from some offsite areas, depending on the location and the nature of the construction activity. However, construction activities would be short-term. Also, the managing partner(s) can limit construction activities to days and times that reduce noise-related effects on visitors and on sensitive receptors near Contra Loma. For these reasons, noise increases attributable to facility improvements would have a minor adverse impact. This impact would not occur under the No Action Alternative.

4.13.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

In general, noise impacts would be similar to the Enhanced Recreation and Facilities Alternative. Overnight group camping at the Regional Park would increase the potential for noise, particularly nighttime noise. However, overnight camping would be allowed only in the Regional Park, and would most likely occur in the developed picnic area along the south shore of the reservoir. Noise generated in this location is buffered from residential areas by distance and topography. In addition, event-specific authorization, oversight, and regulation by the managing partner(s) would be required, thereby ensuring that group camping would not generate excessive noise; therefore, the noise impact from this activity would be minor. This impact would not occur under the No Action Alternative. Under this alternative, all other types of human use would result in minor adverse impacts similar to those described in Section 4.13.3.

Facility Maintenance

This alternative would include the routine maintenance activities needed for operation of the Regional Park and Community Park that are included in the Enhanced Recreation and Facilities Alternative. In addition, this alternative would include more expanded recreation opportunities than the other two alternatives, which could require more facility maintenance and generate more noise than the other two alternatives.

Facility Improvements

This alternative would include construction of new or expanded facilities in addition to those that would be built or enhanced under the Enhanced Recreation and Facilities Alternative. Except as discussed below, construction and use of new or expanded facilities under this alternative would be the same as described under the Enhanced Recreation and Facilities Alternative.

This alternative may include the addition of two new sports fields and increased parking capacity in the Community Park. The sports fields would have floodlights to allow evening use in addition to those currently used within sports fields 1, 2, and 3. Therefore, this alternative may expand sports field use, including evening league play, at the Community Park. Noise generated by sports league play at the Community Park includes vehicle noise, sports whistles, and human voices such as cheers and shouts. Noise generated at the new sports fields could be noticeable to some residents near the eastern portion of the Community Park, although the closest residence would be approximately 800 feet away on the north side of James Donlon Boulevard. In addition, the homes closest to the Community Park are routinely exposed to vehicle noise from James Donlon Road, and vehicle noise associated with use of the new sports fields would be similar. The magnitude of noise levels experienced at nearby residences from sports field use is

currently buffered and would continue to be buffered by topography and distance. Also, noise generated by the new sports fields would typically be of short duration, lasting no more than a few hours on any given day. Therefore, the intensity of the additional noise generated by the new sports fields is not expected to be substantial. Also, human noise generated by use of the new fields would be similar to noise generated by use of Fields 1, 2, and 3. Therefore, when considering the context and intensity of additional noise generated by new sports fields, the new fields would have a minor noise impact. In addition, the local managing partner(s) for the Community Park would have the ability to adjust the hours of use to accommodate the needs of nearby residents. This minor impact would not occur under the No Action Alternative.

4.13.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, increasing noise within the project region.

Human Use and Facility Maintenance

Increased visitation would cumulatively, though incrementally, increase the volume of noise generated by visitors and maintenance activities. This impact would occur over limited time periods and would typically occur in areas of concentrated human use such as the swim lagoon, the south shore of the reservoir, and the Community Park recreational facilities. Most of the noise generated by human use within Contra Loma would occur during daytime hours, although installation of floodlights at sports fields 4 and 5 would increase nighttime use of the Community Park sports fields. The intensity of the additional noise generated by the new sports fields is not expected to be substantial. Also, such noises are generally an accepted part of the ambient noise levels experienced by park visitors and nearby residents. Therefore, when considering the context and intensity of additional noise generated by a cumulative increase in visitation and nighttime use of sports field 4 and 5, the cumulative noise impact would be minor. Because the two action alternatives would experience more visitation and would include more new facilities than the No Action Alternative, they would result in higher noise levels attributable to human use and facility maintenance than the No Action Alternative.

Increased visitor use would increase vehicle trips to Contra Loma, resulting in a small increase in vehicle noise on roads leading to Contra Loma. Regional population growth would also increase traffic volumes and resulting vehicle noise on roads near Contra Loma. Typically, traffic volumes must double before traffic noise increases are noticeable. According to the City's General Plan EIR, traffic volumes on the local roads providing access to Contra Loma (i.e., James Donlon Boulevard, Lone Tree Way, Contra Loma Boulevard) would not double by the

year 2020, which corresponds with the study horizon of the General Plan EIR traffic analysis (City of Antioch 2003b). The addition of vehicles from Contra Loma visitors is not expected to cause vehicle traffic to double. Therefore, cumulative vehicle noise level increases from increased visitation are not expected to be noticeable and would result in a minor cumulative noise impact.

Facility Improvements

Sports fields 1 through 5 currently generate noise from sporting activities. Sports fields 1, 2, and 3 have floodlights for nighttime use and floodlights have recently been installed at sports fields 4 and 5. The Expanded Recreation and Facilities Alternative would include two new sports fields with floodlighting. When combined, use of these fields would cause a cumulative noise level increase during the daytime and early nighttime hours in the vicinity of the Community Park. The greatest noise increase would be in the eastern portion of the Community Park near Fields 4 and 5 and the two proposed sports fields because Fields 4 and 5 will soon be usable at night and because the new fields would represent new noise sources. The cumulative noise increase at the new sports fields could be noticeable to some residents near the Community Park. The closest residences would be approximately 360 feet away from Fields 1, 2, and 3, 575 feet away from Fields 4 and 5, and 800 feet away from the two new sports fields. All of these residences are on the north side of James Donlon Boulevard. These residences are routinely exposed to vehicle noise from James Donlon Road, and vehicle noise associated with use of the new sports fields would be similar. The magnitude of noise levels experienced at nearby residences from sports field use is currently buffered and would continue to be buffered by topography and distance. Also, noise generated by the new sports fields would typically be of short duration, lasting no more than a few hours on any given day. Therefore, the intensity of the cumulative noise increase generated by the existing sports fields, nighttime use of sports fields 4 and 5, and the proposed new fields is not expected to be substantial. Also, human noise generated by use of the new fields would be similar to noise generated by use of Fields 1, 2, and 3 and daytime use of fields 4 and 5. Therefore, when considering the context and intensity of additional cumulative noise levels, the increase would have a minor noise impact. In addition, the local managing partner(s) for the Community Park would have the ability to adjust the hours of use to accommodate the needs of nearby residents.

4.13.8 Mitigation Measures

No need for mitigation has been identified.

4.14 Visual Resources

4.14.1 Types of Impacts

This section describes potential effects on visual resources from management actions and other resource uses. This analysis focuses on direct and indirect effects from actions that would change the visual resources by introducing intrusions into the landscape. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to visual resources could result from three general types of activities:

- Human Use

- Physical Improvements to the Regional Park
- Physical Improvements to the Community Park

4.14.2 Assumptions

The visual resources impact analysis is based on the following assumptions:

- Reclamation would only provide project-specific authorization for activities, including construction and operation of new facilities that have undergone appropriate environmental review.
- The size and/or severity of surface disturbance proportionally increases the magnitude of the resulting effect on scenic quality.
- Visual quality and opinions about the effect of changes within the visual environment are highly subjective to the viewer.

4.14.3 Impacts Common to All Alternatives

Human Use

As described previously, visitor use of Contra Loma is expected to increase under all of the alternatives, consistent with the visitation trend over the past few years. Increased visitation would increase the potential for littering, trampled vegetation, scarred terrain, vandalism, and facility deterioration, which could impair the visual quality of the landscape. Under all of the alternatives, however, litter and waste reduction programs will continue to be implemented to effectively meet demand, thereby reducing the possibility that litter will impair visual quality. In addition, the local managing partner(s) will continue to be responsible for performing landscape maintenance and management activities that regulate park uses in order to minimize trampling of vegetation, scarring of terrain, and vandalism. The managing partner(s) will also continue to repair and maintain facilities before they deteriorate and can adversely affect Contra Loma's visual character. These maintenance and management activities would ensure that the intensity of any visual change caused by increased human use and the resulting impacts to visual resources would be minor.

4.14.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.14.3.

4.14.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.14.3.

Physical Improvements to the Regional Park

This alternative may include new, expanded, or renovated buildings and structures to improve operations. These improvements would not be built under the No Action Alternative. Examples

include a new park residence, new permanent restrooms to replace existing portable chemical toilets, classroom facilities near the swim lagoon, and a radio communication tower. This alternative may also include new or renovated recreational facilities, such as new or reconstructed fishing docks, improvements at the boat launch area to enhance boating and fishing access, a “safe swim” area or splash pad at the swim lagoon, additional shade structures on the swim lagoon lawn, additional trail signs, and additional picnic sites.

Some of the new or renovated facilities would improve the visual quality within the Regional Park. Examples include new permanent restroom facilities to replace portable chemical toilets and renovated fishing docks to replace deteriorating docks. Such improvements would result in a beneficial impact on localized views in the vicinity of these improvements.

Some of the proposed improvements would represent noticeable changes to the visual environment but would not impair the visual quality or character of the Regional Park because they would be consistent with the existing visual character of the Regional Park. For example, park visitors are accustomed to seeing picnic areas, shade structures, trail signs, and restrooms when visiting the Regional Park, and consider such facilities to be important components of their recreational experience. Similarly, improvements to the swim lagoon area such as a “safe swim” area or splash pad for children would be consistent with views in the vicinity of the swim lagoon. Such improvements, therefore, would have no impact on visual resources within the Regional Park.

Other proposed improvements, however, have the potential to impair visual resources. These include the larger and more prominent improvements such as a new park residence, classroom facilities, and a new radio communication tower. These larger facilities would be visible from various locations within the Regional Park and some facilities, such as a radio communication tower, could be visible from offsite locations. Because the specific designs and locations of these facilities are not yet known, the potential impact on visual resources could vary in intensity. Improvements that are designed to blend well with the visual environment would result in minor adverse impacts. Alternatively, improvements that appear inconsistent with the visual environment could impair the visual character of Contra Loma from viewpoints within the recreation area and from viewpoints outside the recreation area, resulting in major adverse impacts.

When specific facilities are proposed, site-specific environmental analysis would be conducted that includes a more focused assessment of the potential impact on visual resources. When feasible and appropriate, the proposed activity would be modified or mitigation measures would be implemented to reduce impacts on visual resources (see Section 4.14.8, Mitigation Measure Visual-1).

4.14.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.14.4.

Physical Improvements to the Regional Park

This alternative would include new, expanded, or renovated infrastructure or recreational facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. Therefore, this alternative would have more potential to change the visual character of the Regional Park than the other alternatives.

Some of the proposed improvements would represent noticeable changes to the visual environment but would not impair the visual quality or character of the Regional Park because they would be consistent with the existing visual character of the Regional Park. For example, park visitors are accustomed to seeing trails, shade structures, picnic tables, wash basins, electrical outlets, interpretive signage, fitness courses, and playground structures when visiting the Regional Park or other similar recreation areas. Similarly, an expanded swim lagoon would be consistent with existing views of the swim lagoon. Such improvements, therefore, would have no impact on visual resources within the Regional Park.

This alternative may also include installation of shade structures in the parking and picnic areas, and solar panels may be installed on top of the shade structures or on buildings to supplement the Regional Park's energy needs. Shade structures in picnic areas are common in many recreation areas and would be visually consistent with the Regional Park's recreational setting. Therefore, shade structures would have no impact on visual resources. Solar panels and parking area shade structures are widely used within non-recreational land uses, but are less commonly seen in park settings. Therefore, solar panels and parking lot shade structures would likely be more noticeable to park users than many of the other proposed improvements. The intensity of the visual change, however, would not be substantial and, thus, would not impair the visual quality or character of the Regional Park. Such improvements, therefore, would have no impact on visual resources within the Regional Park.

This alternative may also include installation of disc golf course in an undeveloped location that is suitable for disc golf and that minimizes conflicts with other park uses. Potential locations may include the gently rolling land east of the reservoir and west of the Lone Tree Golf Course, gently sloping land near the southwest corner of the reservoir, and the level or gently sloping land in the southeast portion of the Regional Park directly north of Frederickson Lane. These locations are undeveloped and currently support grazed annual grassland.

Disc golf courses typically have a relatively low visual prominence because they require minimal ground disturbance and infrastructure. A typical disc golf course includes either 9 or 18 holes, and consists of a tee pad and a target for each hole and simply-designed signage. Tee pads are typically 5-feet to 6-feet wide and 12-feet to 18-feet long and have a level surface of textured cement, asphalt, grass, or earth. Disc golf targets are approximately 5-feet high and 27-inches in diameter and consist of a metal pole supporting a metal basket and several metal chains. Some areas within a disc golf course may require clearing of grass and herbaceous vegetation. The course would be noticeable to viewers in some locations, but would have no adverse impact on visual resources because the intensity of the visual change from annual grassland to a disc golf course would be relatively minor, and because a disc golf course at the Regional Park would be visually consistent with other recreational land uses within the Regional Park, the Community Park, and the adjacent Lone Tree Golf Course.

This alternative would also include the management actions proposed for the Enhanced Recreation and Facilities Alternative, including some proposed improvements that have the potential to impair visual resources. As discussed for the Enhanced Recreation and Facilities Alternative, when specific facilities are proposed, site-specific environmental analysis would be conducted that includes a more focused assessment of any potential impact on visual resources. When feasible and appropriate, the proposed activity would be modified or mitigation measures would be implemented to reduce impacts on visual resources (see Section 4.14.8, Mitigation Measure Visual-1).

Physical Improvements to the Community Park

This alternative would include new, expanded, or renovated infrastructure or recreational facilities that would not be included in the Enhanced Recreation and Facilities Alternative. Therefore, this alternative would have more potential to change the visual character of the Community Park than the other alternatives.

This alternative may include new trails and a botanical garden within the Community Park. These improvements would represent noticeable changes to the visual environment but would not impair the visual quality or character of the Community Park because they would be consistent with the existing visual character of the Community Park which includes trails and landscaping; therefore, these improvements would have no impact on visual resources.

Additional multi-use sports fields may be built directly south of the two existing sports fields on the east side of the Community Park and additional parking areas may be developed nearby (see Figure 2-1). The new sports fields may include floodlights to allow evening use. These improvements would represent noticeable changes to the visual environment of the Community Park. During the day, the new fields would be visible to Contra Loma visitors. However, they would be consistent with the existing visual character of the Community Park, which currently has five multi-use sports fields and two parking lots.

The new sports fields would be approximately 800 feet away from the nearest residences, located on the north side of James Donlon Boulevard, and would be screened by vegetation and topography. At night, glare or general skyglow from the floodlights may be visible from some residences. However, the additional nighttime lighting would be visually consistent with the lighting used at Fields 1, 2, and 3 and with the street lights along James Donlon Boulevard. Within this context, the new lighting would be less noticeable. Also, the distance between the lighted fields and the residences would reduce their intensity as observed from the residences. In addition, the lights would be shut off each night after their use, and the local managing partner(s) for the Community Park would have the ability to adjust the hours of use to accommodate the needs of nearby residents. For these reasons, the sports field lights would result in a minor adverse impact on visual resources. This impact would not occur under the No Action Alternative.

4.14.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No

Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses, changing the visual appearance of the project region.

Human Use

Increased visitation would increase the potential for littering, trampled vegetation, scarred terrain, vandalism, and facility deterioration, which could impair the visual quality of the landscape. For the reasons presented in Section 4.14.3, the intensity of any visual change caused by the cumulative increase in human use and the resulting impacts to visual resources would be minor.

Physical Improvements

Sports fields 1, 2, and 3 currently have floodlights for nighttime use and floodlights are currently being installed at sports fields 4 and 5. The Expanded Recreation and Facilities Alternative would include two new sports fields with floodlighting. When combined, lighting for these sports fields would cause a cumulative increase in nighttime lighting in the vicinity of the Community Park. However, this nighttime lighting would be visually consistent with the lighting used at Fields 1, 2, and 3 and with the street lights along James Donlon Boulevard. Within this context, the combined lighting would be less noticeable. Also, the distance between Fields 4 and 5 and the residences would reduce their intensity as observed from the residences. In addition, all of the lights would be shut off each night after their use, and the local managing partner(s) for the Community Park would have the ability to adjust the hours of use to accommodate the needs of nearby residents. For these reasons, the sports field lights would result in a minor cumulative impact on visual resources.

Very few land use changes are expected to occur in the vicinity of Contra Loma that could contribute to a cumulative impact on visual resources when considered in combination with the visual changes proposed in the RMP. The land to the north of Contra Loma has largely been built out with suburban land uses. The land directly to the east of Contra Loma is occupied by the Lone Tree Golf Course. The land east of the golf course has also largely been built out with suburban land uses. The residential land directly adjacent to the southeastern boundary of Contra Loma has largely been built out. The land southwest of Contra Loma is owned and managed by EBRPD as the Black Diamond Mines Regional Preserve. Therefore, no land use changes are expected to occur in these areas that would contribute to a cumulative impact on visual resources.

Only the land on the southern portion of the western boundary of Contra Loma has the potential for further development. The City's General Plan designates this land as Estate Residential with a density of two dwelling units per acre. However, most of this area is visually separated from Contra Loma by the ridgeline that runs along the eastern boundary of Contra Loma and is, therefore, not visible from most locations within Contra Loma. Therefore, it is highly unlikely

that buildout of the residential area and the management actions proposed in the RMP would combine to contribute to a cumulative impact on visual resources.

4.14.8 Mitigation Measures

Mitigation Measure Visual-1: Implement design measures to reduce visual impacts from new development.

When a specific project is proposed, a site-specific environmental analysis would be conducted that includes a more focused assessment of the potential impact on visual resources. When feasible and appropriate, the proposed activity would be modified to reduce impacts on visual resources. Such modifications may include, but are not limited to:

- Design all new development to be visually compatible with Contra Loma's visual character and quality.
- Use building materials that are visually compatible with Contra Loma's natural setting.
- Avoid removal of native vegetation to the extent possible.
- Minimize grading of slopes to the extent possible.
- Revegetate cut and fill slopes with native plants.
- Avoid the placement of infrastructure, including communications facilities, on ridges and peaks in order to maintain open viewsheds.

4.15 Hazards

4.15.1 Type of Impacts

This section addresses the potential hazards related to the use of hazardous materials and wildland fire associated with the RMP alternatives. Hazards related to visitor use and safety are described in Section 4.6 (Public Health and Safety) and hazards related to seismic events or other geologic issues are described in Section 4.11 (Geologic and Soil Resources). Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

The RMP does not address hazards related to operation of the dam and reservoir, which is subject to a separate contract agreement between Reclamation and CCWD and, therefore, outside the scope of the Contra Loma RMP. It is important to note, however, that Reclamation has determined that the overall safety classification of the dam is considered satisfactory and the risk from dam failure is low (City of Antioch 2003a).

Four general types of activities involve management actions intended to reduce potentially hazardous situations or that could result in exposure of the public or environment to hazardous situations or materials:

- Facility Maintenance

- Livestock Grazing
- Fire And Emergency Preparedness
- Facility Improvements

4.15.2 Assumptions

The hazards impact analysis is based on the following assumptions:

- The proposed management actions would comply with applicable laws and regulations related to hazards.
- The managing partner(s) would uphold their responsibilities to provide the standard of care necessary to ensure the health and safety of visitors to Contra Loma as well as the natural environment.

4.15.3 Impacts Common to All Alternatives

Facility Maintenance

All of the RMP alternatives include continuation of routine maintenance and repair activities that sometimes require the use of potentially hazardous materials (e.g., cleaning solutions, petroleum products). Increased visitation could incrementally increase the amount of facility maintenance required. The local managing partners(s) will be required to prepare a hazardous waste/spill prevention plan subject to review and approval by Reclamation. Therefore, the potential for accidental release of potentially hazardous materials or for public exposure to such materials in toxic amounts is minimal and would not substantially increase. Continued use of potentially hazardous materials (see Section 3.16), although at a slightly greater level, would result in a minor impact with respect to hazards.

All of the RMP alternatives include continuation of mowing in the Regional and Community parks and grazing in the Regional Park to reduce the potential for ignition and spread of wildland fire. Mowing of grassland areas would continue to reduce fine fuels (e.g., dry grass, small twigs) that ignite readily and are consumed rapidly. Mowing activities in the Regional Park and the Community Park by the managing partner(s) would continue to be an important safety practice (see Section 3.6), but would not reduce hazards below the current conditions and, therefore, would have no impact with respect to hazards.

Livestock Grazing

Livestock grazing would likely continue in the Regional Park under all of the RMP alternatives. Grazing of grasslands in the natural environment unit (i.e., the grasslands and rolling hills that surround the reservoir) of the Regional Park reduces fine fuels (e.g., dry grass, small twigs) that ignite readily and are consumed rapidly. Grazing in the Regional Park would continue to reduce fire hazard, but would not reduce hazards below the current conditions and, therefore, would have no impact with respect to hazards.

Fire and Emergency Preparedness

Included in all RMP alternatives are management actions that require the preparation of fire and emergency preparedness plans for the Regional Park and the Community Park. Fire and

emergency services will continue to be implemented by the managing partner(s) or they may be contracted with other local agencies. Use of existing fire and emergency services, and the development and implementation of fire and emergency preparedness plans, would ensure that the managing partner(s) and/or other local responsible agencies would continue to provide an adequate fire suppression strategy and respond appropriately to accidental hazardous materials spills. The managing partner(s) would continue to provide effective fire and emergency services to Contra Loma (see Section 3.6). These management actions, therefore, would have no impact with respect to hazards.

Continued maintenance of the Regional Park trail system and annual grading of fire roads would ensure that all-weather access is provided for fire trucks and other emergency responders into the Regional Park's natural environment unit. Continuation of these maintenance activities would not increase the potential for impacts from hazards beyond the current conditions.

4.15.4 Impacts Specific to the No Action Alternative

Facility Maintenance

The impacts would be the same as those addressed in Section 4.15.3.

Livestock Grazing

The impacts would be the same as those addressed in Section 4.15.3.

Fire and Emergency Preparedness

The impacts would be the same as those addressed in Section 4.15.3.

4.15.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Facility Maintenance

This alternative would include more recreation and infrastructure facilities than the No Action Alternative, which could require more maintenance than the No Action Alternative. In addition, because this alternative would include more enhanced recreation opportunities than the No Action Alternative, it could result in more visitor use and require incrementally more maintenance than the No Action Alternative. Similar to the No Action Alternative, however, the local managing partners(s) will be required to prepare a hazardous waste/spill prevention plan subject to review and approval by Reclamation. Therefore, the potential for accidental release of potentially hazardous materials or for public exposure to such materials in toxic amounts is minimal. Continued use of potentially hazardous materials for routine facility maintenance and repairs (see Section 3.16), although at an incrementally greater level, would result in a minor impact with respect to hazards.

Livestock Grazing

The impacts would be the same as those addressed in Section 4.15.3; however, this alternative could increase the total grazing area by 0.3 acre. This small change in grazing area would incrementally increase the positive effects of grazing on reducing wild fire hazards as compared to the No Action Alternative. This would be a minor beneficial impact.

Fire and Emergency Preparedness

The impacts would be the same as those expected under the No Action Alternative and as discussed in Section 4.15.3.

Facility Improvements

This alternative may include a new fueling station and fuel storage tank for Regional Park vehicles and equipment as well as for public safety officers. The managing partner(s) would be required to implement substantial design and operational measures to reduce the potential for the station to cause an environmental hazard. Only staff trained to safely use the station would be allowed to operate it, thereby reducing the potential for spills caused by improper use. The managing partner(s) must design the facility with fuel containment devices to prevent any spilled fuel from reaching the natural ground surface (i.e., soil), entering the reservoir, or otherwise causing an environmental hazard. This facility may only be built and operated in compliance with applicable federal and federally-mandated laws, regulations, and permits. As a condition of Reclamation's approval of this facility, the local managing partner(s) will ensure that spill prevention and decommissioning plans are prepared or amended to address operation of this facility. These measures would substantially reduce the likelihood of large spills, would ensure that small spills are cleaned up quickly and effectively, and would ensure that the facility is decommissioned properly. By implementing these measures, this facility would have a minor adverse impact with respect to environmental hazards. This impact would not occur under the No Action Alternative.

4.15.6 Impacts Specific to the Expanded Recreation and Facilities Alternative***Facility Maintenance***

This alternative would include more recreation and infrastructure facilities than the other alternatives, which could require more maintenance than the other alternatives. In addition, because this alternative would include more expanded recreation opportunities than the other alternatives, it could result in more visitor use and require incrementally more maintenance than the other alternatives. Similar to the other alternatives, however, the local managing partners(s) will be required to prepare a hazardous waste/spill prevention plan subject to review and approval by Reclamation. Therefore, the potential for accidental release of potentially hazardous materials or for public exposure to such materials in toxic amounts is minimal. Continued use of potentially hazardous materials for routine facility maintenance and repairs (see Section 3.16), although at an incrementally greater level, would result in a minor impact with respect to hazards.

Livestock Grazing

In addition to the changes in grazing area described in Section 4.15.5, this alternative may also include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma. The new sports fields would either have an artificial turf surface or would be mowed by the managing partner(s) for the Community Park to maintain a playing surface. Therefore, the sports fields would pose a similar risk of fire hazard to grazed annual grassland.

Fire and Emergency Preparedness

The impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.15.3.

Facility Improvements

The impacts would be the same as those addressed in Section 4.15.5.

4.15.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Approximately 38 percent of the land within the City (6,383 acres) and nearly 46 percent of the land within the unincorporated portion of the General Plan study area (2,240 acres) were vacant in 2003. Buildout of the City and County general plans would convert a substantial amount of vacant land to urbanized uses.

Facility Maintenance

Increased visitation could incrementally increase the amount of facility maintenance required. The two action alternatives would require more maintenance than the No Action Alternative. The local managing partners(s) will be required to prepare a hazardous waste/spill prevention plan subject to review and approval by Reclamation. Therefore, the potential for accidental release of hazardous materials or for public exposure to such materials in toxic amounts is minimal and would not substantially increase. Continued use of potentially hazardous materials, although at a slightly greater level, would result in a minor cumulative impact with respect to hazards.

Fire And Emergency Preparedness

Increased visitation would incrementally increase the potential for wildland fires. Also, new housing developments that could be built along the urban/wildland interface could increase the need for immediate fire suppression and increase the potential for wildfires to spread into Contra Loma.

Included in all of the alternatives, however, are management actions that require the preparation of fire and emergency preparedness plans for the Regional Park and the Community Park. Fire and emergency services would be implemented by the managing partner(s) or they may be contracted with other local agencies. Use of existing fire and emergency services, and the development and implementation of fire and emergency preparedness plans, would ensure that the managing partner(s) and/or other local responsible agencies would continue to provide an adequate fire suppression strategy. In addition, the City and other surrounding communities would be expected to maintain adequate service ratios for fire protection, with new staff and facilities funded through developer fees, bond monies, and taxes on new development. For these reasons, increased visitation and additional urban growth in surrounding communities would have a minor cumulative impact with respect to hazards.

4.15.8 Mitigation Measures

No need for mitigation has been identified.

4.16 Cultural Resources

4.16.1 Type of Impacts

Cultural resources include prehistoric, historic-era, architectural, and traditional cultural properties. Cultural resources documented within the APE consist of traces of prehistoric occupation such as lithic debitage and implement deposits and scatters, and the remains of historic-era ranching and agricultural activities such as building foundations. Other historic-era resources found within and near the APE include transportation routes such as the Empire Railroad, and water storage and conveyance facilities including the Contra Costa Canal and the Contra Loma Dam and Reservoir. Similar resources could also be present in areas of the APE not previously subject to archaeological surveys. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Historic properties are defined as prehistoric or historic-era cultural resources that are presently listed or are eligible for listing on the NRHP. Impacts on historic properties occur when a management action causes damage or loss of such resources or important contextual aspects of their character and setting. This section assesses the potential impacts of the RMP alternatives on historic properties. None of the known cultural resources in Contra Loma have been evaluated for NRHP eligibility although the dam may be determined eligible for NRHP listing as a contributing property to the CVP. Also, communication with Native American Tribes did not yield any specific information about traditional cultural properties or other pertinent Native American cultural interests in the immediate area. During recent efforts to relocate previously recorded cultural resource sites, Reclamation's archaeological consultant observed that some of these resources had already been affected by previous management activities, such as construction of the reservoir, the sports fields, and other facilities. However, new impacts in already-developed portions of the APE (including the Contra Loma Dam and Reservoir) are not likely to further affect cultural resources. Potential impacts on presently undocumented cultural resources would be most likely to occur in areas of the APE that have not been subjected to cultural resources surveys and in subsurface contexts for proposed activities that would require excavation.

Potential impacts on historic properties could result from four general types of activities:

- Human Use
- Facility Maintenance
- Livestock Grazing
- Facility Improvements

4.16.2 Assumptions

This impact analysis is based on the following assumptions:

- Cultural resources identified in future investigations would be similar to the types already known to exist within the APE and the immediate surrounding area.
- The proposed management actions would comply with applicable laws and regulations governing historic properties.
- Portions of Contra Loma have been inventoried for historic properties; however, historic properties may be present in unsurveyed areas or may have remained undiscovered by previous-surveys;
- No changes are proposed that would affect Contra Loma Dam.

4.16.3 Impacts Common to All Alternatives

Human Use

Increased visitation would increase the potential for visitors to adversely affect known or unknown cultural resources. However, none of the known cultural resources in Contra Loma have been evaluated for NRHP eligibility and outreach with Native American Tribes did not yield any specific information about traditional cultural properties or other pertinent Native American cultural interests in the immediate area. Therefore, no adverse impacts on historic properties or traditional cultural properties are anticipated because no such resources have been identified within Contra Loma.

If any unidentified historic properties are located within Contra Loma, visitors could affect them through inadvertent trampling or the unauthorized collecting of archaeological materials. The majority of human use is concentrated near the developed recreational facilities located along the south side of the reservoir and within the Community Park. These areas have undergone substantial alteration, and the likelihood that unidentified historic properties exist in these areas is very low. In the more remote parts of the Regional Park, visitors are typically dispersed and practice low-impact activities such as hiking. Therefore, human use in these areas would be less likely to adversely affect unidentified historic properties than in the more developed recreation areas. In summary, human use would have a minor impact on unidentified historic properties.

Facility Maintenance

Ongoing routine maintenance activities and repairs of existing facilities by the managing partner(s) at the Regional Park and the Community Park would, in general, not involve ground disturbance or otherwise have the potential to cause adverse effects on unidentified historic properties. Trail maintenance activities in the Regional Park may include annual grading of fire roads and trails using machinery and hand tools to maintain the quality of the road or trail surface and maintain proper drainage. Soil disturbance and vegetation removal could inadvertently impact unidentified historic properties, if any are present. However, it is unlikely that periodic, routine maintenance activities such as these would have an impact on unidentified historic properties, because there is no indication that past and present maintenance practices have adversely affected historic properties. Therefore, no impacts on unidentified historic properties are anticipated as a result of routine facility maintenance.

4.16.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.16.3.

Facility Maintenance

The impacts would be the same as those addressed in Section 4.16.3.

Livestock Grazing

Livestock grazing would likely continue in the Regional Park under the No Action Alternative. Trampling by livestock and an increased potential for grazing-induced erosion could have an adverse impact on unidentified historic properties, if present. No substantial change in the acreage, location, or intensity of grazing is anticipated under this alternative. Continuation of livestock grazing would not increase the potential for impacts to historic properties beyond the current condition.

4.16.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

The impacts of human use on historic properties are addressed in Section 4.16.3. This alternative would include more enhanced recreation opportunities than the No Action Alternative, which could result in more visitor use, thereby increasing the potential for visitors to adversely affect unidentified historic properties.

Facility Maintenance

The impacts of facility maintenance on historic properties are addressed in Section 4.16.3. This alternative would include more enhanced recreation opportunities than the No Action Alternative, which could require more facility maintenance than the No Action Alternative. However, it is unlikely that periodic routine maintenance activities such as these would have an impact on unidentified historic properties for the reasons described above.

Livestock Grazing

This alternative could increase the total grazing area by 0.3 acre. This small change in grazing area would incrementally increase the potential for impacts to historic properties as compared to the No Action Alternative, resulting in a minor adverse impact.

Facility Improvements

This alternative would include construction of new or expanded buildings and facilities, such as restrooms, utility lines, offices, the police substation, a park residence, a communication tower, and new picnic facilities. While most construction or renovation activities would occur within the footprint of existing buildings or structures where there would be no impacts on historic properties, new construction activities such as expansion of parking areas or installation of a new radio communications tower could affect unidentified historic properties, if any are present.

When specific construction activities are proposed, site-specific environmental analyses would be conducted that include a more focused assessment of any potential impact on historic properties. If impacts are identified, the proposed activities may be modified or other mitigation measures may be implemented to eliminate these impacts when possible (see Section 4.16.8,

Mitigation Measure Cultural-1). These impacts would not occur under the No Action Alternative.

4.16.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

The impacts of human use on historic properties are addressed in Section 4.16.3. This alternative would include more expanded recreation opportunities than the other two alternatives, which could result in more visitor use. This alternative, therefore, could increase the potential for visitors to adversely affect unidentified historic properties beyond what is expected under the other two alternatives, if any are located where a disc golf course or new trails might be built. Please refer to the discussion of Facility Improvements later in this section for an analysis of this issue.

Facility Maintenance

The impacts of facility maintenance on historic properties are addressed in Section 4.16.3. This alternative would include more enhanced recreation opportunities than the other two alternatives, which could require more facility maintenance. However, it is unlikely that periodic routine maintenance activities such as these would have an impact on unidentified historic properties for the reasons described above.

Livestock Grazing

The impacts of grazing on historic properties are addressed in Section 4.16.3. However, this alternative may also include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. Therefore, this alternative could reduce the amount of grazing area within Contra Loma, thereby reducing the potential for grazing to adversely affect unidentified historic properties. The construction of new sports fields, however, could affect unidentified historic properties. This issue is discussed in Facility Improvements section below. These effects would not occur under the No Action Alternative.

Facility Improvements

This alternative would include construction of new or expanded recreation facilities in addition to those that would be built under the Enhanced Recreation and Facilities Alternative. This alternative may include signage and/or kiosks and programs that provide interpretive opportunities focusing on historic areas within Contra Loma and natural resources of importance to local Native American groups.

Other facilities proposed under this alternative include expansion of the swim lagoon in the Regional Park and construction of two additional sports fields in the Community Park. Most expansion activities would occur in previously disturbed areas and would likely have no impact on unidentified historic properties. However, construction of the new sports fields and related parking areas would require substantial grading and other soil disturbance activities in previously undisturbed areas. Construction of these facilities could potentially affect unidentified historic properties, if any are present. Such effects would not occur under the No Action Alternative.

This alternative may also include construction of a disc golf course in an unimproved part of the Regional Park. Potential locations may include the gently rolling land east of the reservoir, gently sloping land near the southwest corner of the reservoir, and the southeast portion of the Regional Park directly north of Frederickson Lane. Construction of the disc golf course would involve a small amount of ground disturbance, and its use would increase visitation in less-frequently used areas of the Regional Park. A known prehistoric site (CA-CCo-572) is located in an area where the disc golf course may be built and it could be affected by construction and use of the disc golf course. This site has not been assessed as to NRHP listing eligibility; however, there is a possibility that presently unidentified components of CA-CCo-572 exist in subsurface contexts that could contribute to the site being eligible for NRHP listing. Construction activities could disturb or destroy such materials and adversely affect the site's NRHP eligibility. Consequently, unnecessary effects to this resource should be avoided if possible. Avoiding unnecessary effects on this site would be consistent with RMP goals.

This alternative may also include construction of new recreational trails for bike, equestrian, and pedestrian use. New trail construction could cause ground disturbance that could adversely affect unidentified historic properties, and could affect the known prehistoric site (CA-CCo-572). Also, construction of a new trail in the vicinity of this prehistoric site could increase public access to this area and increase the potential for unauthorized collecting of or damage to archaeological materials.

When specific construction activities are proposed, site-specific environmental analyses would be conducted that include a more focused assessment of any potential impact on historic properties. If impacts are identified, the proposed activities may be modified or other mitigation measures may be implemented to eliminate these impacts when possible (see Section 4.16.8, Mitigation Measure Cultural-1). These impacts would not occur under the No Action Alternative.

4.16.7 Cumulative Impacts

Cultural resource surveys, data base reviews, and tribal outreach efforts have not identified cultural resources that have been determined or recommended eligible for NRHP listing or traditional cultural properties. Unless unidentified historic properties are present within Contra Loma that would be affected by management actions included in the RMP, none of the alternatives would contribute to a cumulative impact on historic properties.

4.16.8 Mitigation Measures

Mitigation Measure Cultural-1: Implement measures to protect unidentified historic properties during construction activities.

Prior to the implementation of undertakings incorporating potential ground-disturbing activities in un-surveyed areas of Contra Loma, Reclamation and the local managing partner(s) proposing the activity will follow the Section 106 process as outlined in 36 CFR, Part 800. These regulations, which describe implementation of Section 106 of the NHPA, call for consultation with the State Historic Preservation Officer, Indian Tribes, and interested members of the public throughout the Section 106 compliance process. The four principal steps are:

- initiate the Section 106 process (36 CFR, Part 800.3),

- identify historic properties (36 CFR, Part 800.4),
- assess the effects of the undertaking on historic properties within the APE (36 CFR, Part 800.5), and
- resolve adverse effects (36 CFR, Part 800.6).

The identification step would consist of a cultural resources inventory to document any historic properties that could be affected by the proposed activities. Reclamation is responsible for Native American community and public consultation and will modify undertakings if possible to avoid historic properties and make every effort to avoid other cultural resources. In addition, Reclamation, in cooperation with local managing partner(s) will ensure compliance with Section 106 of the NHPA prior to undertaking authorization.

Cultural resources and human remains are also protected according to the provisions of the Archaeological Resources Protection Act of 1979 (ARPA) and the Native American Graves Protection and Repatriation Act (NAGPRA). The ARPA strengthened the permitting procedures required for conducting archeological fieldwork on federal lands, originally mandated by the Antiquities Act of 1906. It also establishes rigorous fines and penalties for unauthorized excavation on or the removal of archaeological materials from federal land.

ARPA is important from the standpoint of managing archeological collections because it:

- acknowledges federal ownership of objects excavated from federal lands;
- calls for the preservation of objects and associated records in a "suitable" institution and,
- prohibits public disclosure of information concerning the nature and location of archeological resources that require a permit or other permission under ARPA for their excavation or removal.

NAGPRA requires federal agencies and institutions that receive federal funding to return Native American "cultural items" to lineal descendants and culturally affiliated Indian tribes and Native organizations. NAGPRA also establishes procedures for the inadvertent discovery or planned excavation of Native American cultural items and human remains on federal or tribal lands. While these provisions do not apply to discoveries or excavations on private or state lands, the collection provisions of NAGPRA may apply to Native American cultural items if they come under the control of an institution that receives federal funding. In addition, NAGPRA makes it a criminal offense to traffic in Native American human remains without right of possession or in Native American cultural items obtained in violation of NAGPRA.

4.17 Socioeconomics

4.17.1 Types of Impacts

This impact analysis includes consideration of the local and regional demographic characteristics and economies that could be affected by existing and proposed land management actions within

Contra Loma. This section assesses the potential impacts of the RMP alternatives on socioeconomics with regard to proposed management actions and resource use. For the purpose of this assessment, socioeconomic impacts were not modeled quantitatively and were not derived using dollar values. Rather, impacts are described in qualitative terms.

Potential impacts on socioeconomics could result from four general types of activities:

- Human Use
- Facility Maintenance
- Livestock Grazing
- Facility Improvements

4.17.2 Assumptions

The socioeconomic impact analysis is based on the following assumptions:

- The managing partner(s) would uphold their responsibilities to provide the standard of care necessary to ensure that public recreation facilities are reasonably available and maintained for the benefit of visitors to Contra Loma. These agencies would provide staff levels commensurate with recreation visitation to ensure implementation of the policies and management actions intended to maintain the level and quality of safety and services expected by visitors to the Regional Park and the Community Park.
- Visitation to Contra Loma would continue to increase regardless of the selected alternative, requiring an increased level of facility management.
- Because Contra Loma is a regional facility, most visitors live within about a one-hour driving radius. Therefore, the effect of visitation to Contra Loma on the local economy is limited to incidental expenditures such as gasoline, occasional meals, and consumable recreational supplies as opposed to tourism involving overnight stays and multiple, successive meals.
- Staffing of Contra Loma creates employment, thereby improving the local and regional economies.
- Facility and recreational improvements create temporary construction-related jobs, thereby improving the local and regional economies.
- Increased population growth would stimulate economic activity and improve local economies.
- None of the RMP alternatives would result in a direct change in population or the demand for housing, schools, public facilities, or public services outside of Contra Loma.

4.17.3 Impacts Common to All Alternatives

Human Use

Visitor use of Contra Loma is expected to increase under all of the RMP alternatives. Management actions included in all the RMP alternatives would be implemented to ensure continued public health and safety as well as continued operation of existing facilities and activities, thereby ensuring a positive recreation experience for park visitors. Positive visitor experiences would encourage continued or increased visitation. Use fees charged for various visitor use activities (e.g., boat launch, swim area, parking, league sports) would continue to be a consistent source of revenue that keeps pace with ever-increasing park use (see Section 3.3). Increased human use of Contra Loma would likely require increased levels of staffing and concessions, thereby creating jobs and stimulating business opportunities within Contra Loma. Increased employment and business revenues would directly and indirectly benefit many sectors of the local and regional economies. Increased human use of Contra Loma would have a net beneficial socioeconomic impact, although increasing use fees could impair the affordability of some uses for members of low-income populations.

Included in all RMP alternatives is a commitment by the managing partner(s) to provide and manage a recreational fishing program at the Regional Park's reservoir. The local managing partner(s) for the Regional Park will continue to provide a recreational fishing program in the reservoir and to manage fish populations through fish planting (i.e., stocking) programs. In 2011 in California, \$2.3 billion was spent on fishing recreation, of which \$1.6 billion was for trip-related expenditures, \$577 million was for equipment purchases, and \$71 million was for the purchase of other items, such as magazines, membership dues, licenses, permits, stamps, and land leasing and ownership. The average expenditure per angler was \$1,333 and the average angler trip expenditure per day was \$68. In California, in 2012, sales generated by sport fishing licenses totaled \$56,959,464 (California Department of Fish and Wildlife 2013b). Fishing at Contra Loma contributes to the local economy through sales of fishing supplies such as bait, tackle, and equipment resulting in a beneficial socioeconomic impact.

Facility Maintenance

In order to maintain existing land uses, all RMP alternatives would include ongoing routine maintenance activities and repairs of existing facilities by the managing partner(s) at the Regional Park and the Community Park. Anticipated increases in visitation would increase the frequency and amount of maintenance that would be required to meet the public's expectations and enjoyment of park facilities and recreational opportunities. Increased facility maintenance and repair could have a minor beneficial socioeconomic impact on the region because the managing partner(s) would need to purchase additional supplies and services.

4.17.4 Impacts Specific to the No Action Alternative

Human Use

The impacts would be the same as those addressed in Section 4.17.3.

Facility Maintenance

The impacts would be the same as those addressed in Section 4.17.3.

Livestock Grazing

Livestock grazing would likely continue in the Regional Park under this alternative. The local managing partner(s) for the Regional Park would likely continue to collect fees to cover administrative costs; however, no increase in grazing acreage or intensity would occur. Consequently, there would be no change from current socioeconomic conditions.

4.17.5 Impacts Specific to the Enhanced Recreation and Facilities Alternative

Human Use

This alternative would include facility improvements and renovations that could increase the public's enjoyment and use of the Regional Park and the Community Park. These improvements would likely attract more visitors than the No Action Alternative. Although there could be an increase in visitor use, the impacts would be the same as those expected under the No Action Alternative and addressed in Section 4.17.3.

Facility Maintenance

This alternative would include facility improvements and renovations that could increase the public's enjoyment and use of the Regional Park and the Community Park. These improvements would likely attract more visitors and require more maintenance than the No Action Alternative. Increased facility maintenance and repair could have a minor beneficial socioeconomic impact on the region because the managing partner(s) would need to purchase additional supplies and services similar to the No Action Alternative.

Livestock Grazing

Under this alternative, adjustment of the boundary lines between the Regional Park and Community Park could result in an overall increase of approximately 0.3 acre of grazing in Contra Loma. This would represent a negligible increase in grazing area of 0.07 percent. Any increase in grazing revenue from this additional grazing area would also be negligible and would not change socioeconomic conditions.

Facility Improvements

This alternative would include construction, expansion, or renovation of recreation and infrastructure facilities for the purpose of improving operation and enjoyment of Contra Loma. These improvements would not be built under the No Action Alternative. Recreational facility improvements may include structures and facilities for classes, such as a low-income youth swim program; improved fishing docks, cleaning stations, and a boat launch that would increase the desirability of fishing opportunities at the reservoir; the addition of picnic sites within the reservoir's recreation cluster; and improvements to the Community Park sports fields. These improvements would increase Contra Loma's attractiveness to a wide variety of visitors, including minority and low-income populations, and may increase the desirability of buying or renting a home in the local area. This, in turn, could increase housing costs in the local area. This effect would not occur under the No Action Alternative.

This alternative also includes a management action to increase the frequency of fish stocking in the reservoir from current levels in order to meet demand. Fishing at the reservoir provides important social benefits for some populations in the region. Increasing fisheries resources would benefit the local economy by increasing the desirability of the reservoir as a fishing destination;

therefore, resulting in a beneficial socioeconomic impact that would not occur under the No Action Alternative.

Facility improvements at the Regional Park and Community Park would create temporary construction-related jobs and increase the amount the services and supplies purchased by the local managing partner(s). Facility improvements would contribute to the local and regional economies, resulting in temporary beneficial socioeconomic impacts that would not occur under the No Action Alternative.

4.17.6 Impacts Specific to the Expanded Recreation and Facilities Alternative

Human Use

This alternative would include facility improvements and renovations beyond those proposed under the Enhanced Recreation and Facilities Alternative, such as a new disc golf course, expansion of the swim lagoon at the Regional Park, and two new sports fields at the Community Park. These improvements would further increase the public's enjoyment and use of the Regional Park and the Community Park and would likely attract more visitors than the other alternatives. Increased human use would have a beneficial socioeconomic impact through increased job creation potential and revenue generation at Contra Loma and in the surrounding communities that would not occur under the No Action Alternative.

Facility Maintenance

This alternative would include facility improvements and renovations beyond those proposed under the Enhanced Recreation and Facilities Alternative. These improvements would likely attract more visitors and require more maintenance than the other alternatives. Increased facility maintenance and repair could have a beneficial socioeconomic impact on the region because the managing partner(s) would need to purchase additional supplies and services that would be needed under the No Action Alternative and as described in Section 4.17.3.

Livestock Grazing

This alternative may include the addition of two new sports fields within the Community Park and expansion of the Community Park boundaries south into the Regional Park. Livestock would be excluded from this area (approximately 15 acres), which is currently grazed. In conjunction with the potential boundary change between the parks, this expansion would result in a net reduction of grazing in Contra Loma by 14.7 acres. This would reduce grazing within Contra Loma by about 3 percent, thus reducing grazing revenues by about 3 percent. This reduction of grazing land would cause a negligible (about 0.01 percent) decrease in the amount of active pasture and range land within the County as compared to the No Action Alternative. This alternative would have a minor adverse socioeconomic effect with respect to livestock grazing.

Facility Improvements

This alternative would include facility improvements and renovations beyond those proposed under the Enhanced Recreation and Facilities Alternative. These improvements would likely attract more visitors and require more maintenance than the other alternatives. Facility improvements would cause beneficial impacts that would not occur under the No Action Alternative for the same reasons discussed in Section 4.17.5.

4.17.7 Cumulative Impacts

Increased Visitation, Concurrent Improvements, and Land Use Changes

As discussed previously, visitation to Contra Loma is expected to continue to increase under all of the alternatives with more visitation expected under the two action alternatives than the No Action Alternative. A substantial portion of the expected future visitor increase would be attributable to the projected population increase expected to occur within the northeastern portion of the County from buildout of the City and County general plans. The improvements to sports fields 4 and 5 and the boat launch area upgrades will increase visitation to Contra Loma.

Human Use

The cumulative increase in visitation would likely require increased levels of staffing and concessions, thereby creating jobs and stimulating business opportunities within Contra Loma. Increased employment and business revenues would benefit many sectors of the local and regional economies. This would result in a beneficial cumulative impact. The Expanded Recreation and Facilities Alternative would have a greater effect than the other alternatives because it would attract more visitors.

Facility Maintenance

Increased visitation would increase the need for facility maintenance and repair, which could have a minor cumulative beneficial socioeconomic impact on the region because the managing partner(s) would need to purchase additional supplies and services. The two action alternatives would have a greater effect than the No Action Alternative because they would require more facility maintenance.

Facility Improvements

The two action alternatives would include construction, expansion, or renovation of recreation and infrastructure facilities. These improvements, along with the improvements to sports fields 4 and 5 and the boat launch area, would increase Contra Loma's attractiveness to a wide variety of visitors, including minority and low-income populations, and may increase the desirability of buying or renting a home in the local area. This, in turn, could increase housing costs in the local area. This cumulative adverse effect would not occur under the No Action Alternative.

The facility improvements included in the two action alternatives, along with the boat launch improvements, would create temporary construction-related jobs and increase the amount the services and supplies purchased by the local managing partner(s). Facility improvements would contribute to the local and regional economies, resulting in temporary beneficial cumulative impacts that would not occur under the No Action Alternative.

4.17.8 Mitigation Measures

No need for mitigation has been identified.

4.18 Environmental Justice

4.18.1 Types of Impacts

This impact analysis considers whether the RMP alternatives could cause disproportionately high and adverse impacts to minority and/or low-income populations. Federal agencies are required to

include analysis of environmental justice in their EISs. Because the RMP neither includes nor defines specific projects, the analysis in this section is qualitative.

Potential impacts to environmental justice populations could result from four general types of activities:

- Human Use
- Facility Improvements
- Facility Maintenance
- Low-Income Recreational Programs

4.18.2 Assumptions

The environmental justice impact analysis is based on the following assumptions:

- “Minority population” is defined as including all non-white racial groups and Hispanics of any racial group. “Low-income” population is defined based on federal poverty thresholds (Council of Environmental Quality 1997).
- The managing partner(s) would uphold their responsibilities to provide the standard of care necessary to ensure that public recreation facilities are reasonably available and maintained for the benefit of visitors to Contra Loma. These agencies would provide staff levels commensurate with recreation visitation to ensure implementation of the policies and management actions intended to maintain the level and quality of safety and services expected by visitors to the Regional Park and the Community Park.
- Visitation to Contra Loma would continue to increase regardless of the selected alternative.
- Facility and recreational improvements create temporary construction-related jobs.

4.18.3 Impacts – All Alternatives

Although some residents in the general vicinity of Contra Loma have incomes below the poverty level, the proportion of low-income households within the community is not high enough to be considered a low-income population. According to the Census Bureau, the proportions of households within the County and the City that have incomes below the poverty level are relatively low at 8.6 and 12.5 percent, respectively, and do not constitute a majority. These percentages are lower than the state average of 13.2 percent (Census Bureau 2009; Fannie Mae 2011). Therefore, none of the alternatives would disproportionately affect low-income populations.

According to the Council on Environmental Quality, minority populations should be identified where either: (a) the minority population of the affected area exceeds 50 percent; or, (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis (Council of Environmental Quality 1997).

The minority population in the City exceeds 50 percent, which is a higher proportion than the County. In 2010, the percentage of non-Hispanic minorities in the City totaled 51.1 percent and people of Hispanic ethnicity comprised 31.7 percent of the City's population. In comparison, the percentage of non-Hispanic minorities in the County totaled 41.4 percent and people of Hispanic ethnicity comprised 24.4 percent of the County's population in 2010. Although the population in the general vicinity of Contra Loma includes a relatively high proportion of minorities, none of the alternatives would cause dislocation, adverse changes in employment, or increase flood, drought, or disease and none would disproportionately impact economically disadvantaged or minority populations in an adverse manner.

No private residences are located within Contra Loma; therefore, none of the alternatives include any land use changes that would directly cause people to move or otherwise be dislocated from their residences. Offsite effects of the RMP alternatives include minor noise increases near Contra Loma and more vehicles using public roads to access Contra Loma. As discussed in Sections 4.4 and 4.13, these offsite impacts would be minor; therefore, they would not be expected to indirectly cause people to move from their residences. None of the census tracts nearest Contra Loma (i.e., those most likely to be affected by these offsite effects) are comprised of more than 50 percent minorities (Census Bureau 2010c). Therefore, these minor impacts would not disproportionately affect minority populations.

As discussed previously, all of the alternatives have the potential to increase employment and business opportunities within Contra Loma and in the surrounding communities. None of the alternatives would reduce or eliminate employment opportunities.

All of the alternatives would include management actions that encourage continued use of Contra Loma's recreational facilities by low-income groups (e.g., low-income youth swimming programs), thereby benefiting low-income individuals.

4.18.4 Cumulative Impacts

None of the alternatives would disproportionately affect low-income populations or cause dislocation, adverse changes in employment, or increase flood, drought, or disease and none would disproportionately impact economically disadvantaged or minority populations in an adverse manner. Therefore, none of the alternatives would contribute to a cumulative adverse impact with respect to environmental justice.

4.18.5 Mitigation Measures

No need for mitigation has been identified.

4.19 Unavoidable Adverse Impacts

NEPA Section 102(2)(c)(ii) requires the environmental analysis in an EIS to identify any unavoidable adverse impacts, defined as those impacts of an action that cannot be avoided, either by changing the nature of the action or through mitigation if the action is undertaken. Based on the analysis presented in EIS Sections 4.2 through 4.17, the RMP would result in several unavoidable adverse impacts, although all adverse impacts would be minor or could be mitigated to a minor level.

Visitor use to Contra Loma is expected to increase under all of the RMP alternatives for the foreseeable future. Increased visitation would result in many types of unavoidable adverse impacts, such as increased risk of conflict between various user groups and between recreational activities and grazing; increased vehicle congestion on internal park roads and public roads leading to Contra Loma; increased demand for parking spaces; increased volumes of air pollutants, including GHGs, generated by visitor vehicles; increased volumes of PM generated by additional use of trails and barbecue grills; increased demand for utilities such as water, wastewater disposal, and electricity; increased risk of littering, trampled vegetation, scarred terrain, vandalism, and facility deterioration, which could impair the visual quality of the landscape; increased risk of accidental releases or inadvertent public contact with potentially hazardous materials used for construction and maintenance activities; increased risk of damage to known or unknown cultural resources; increased risk of water quality impacts from unauthorized human contact with the reservoir; increased risk of water quality and public health impacts from increased volumes of solid, human, and domestic animal (e.g., dogs and horses) waste; increased erosion and sedimentation from trail use; increased risk of damage to sensitive vegetation communities and wildlife habitats; increased risk of introduction or spread of invasive or noxious non-native plant or animal species (e.g., zebra or quagga mussels); increased risk of human disturbance to wildlife caused by noise impacts or simply by human presence; and increased pressure on the recreational fishery resources.

Maintenance activities would continue under all of the alternatives. The two action alternatives would include construction of new or renovated facilities which, in turn, would require additional maintenance. Maintenance and construction activities can cause short-term and long-term unavoidable adverse impacts. New construction can cause impacts to vegetation from vegetation removal within the structure footprint, overcovering for spoils deposition, or erosion. Ground disturbing activity can also affect wildlife through direct mortality, noise, contact with inadvertent chemical spills, and impacts to habitat. Most of the affected vegetation is expected to be non-native annual grassland; however, other sensitive vegetation communities could be affected.

Construction activities could affect water quality through erosion and sedimentation, a temporary increase in reservoir turbidity due to runoff from construction areas, or inadvertent spilling of construction-related chemicals. Increased use of mechanized equipment would generate additional air pollutants, including GHGs and PM. Ground disturbance could also damage known or previously undiscovered cultural resources.

The new or renovated facilities proposed under the two action alternatives could also cause other unavoidable adverse impacts. Some of the facilities would convert vegetation communities to recreational or administrative land uses, thereby reducing the amount of wildlife habitat within the Regional Park. Most of the affected vegetation is expected to be non-native annual grassland; however, other sensitive vegetation communities could be affected. Some of the facility improvements would change Contra Loma's visual setting and possibly impair its visual character in some locations. For example, a new communications tower could be visible from viewpoints in many areas of Contra Loma, and from some offsite locations. Also, floodlights for the proposed sports fields could produce nighttime glare or a general skyglow that may be visible from some nearby residences. The new sports fields would increase ambient noise in the vicinity of the Community Park and would exclude livestock grazing from about 15 acres of land that is

currently grazed. This would permanently reduce the amount of grazing land available within Contra Loma. New or expanded facilities would increase demand for utilities such as water, wastewater disposal, and electricity and would increase energy demand, which could generate increased volumes of air pollutants, including GHGs.

4.20 Irreversible or Irretrievable Commitment of Resources

NEPA Section 102(2)(c)(v) requires the environmental analysis in an EIS to identify any irreversible and irretrievable commitment of resources that would be involved in the proposed action should it be implemented. Reclamation and other Federal agencies have interpreted irreversible and irretrievable commitments to mean the use of nonrenewable resources and the effects this use would have for the future.

An irreversible commitment of resources refers to a loss of future opportunities associated primarily with nonrenewable resources, such as mineral, soils, or cultural resources. The effects of project actions on nonrenewable resources are usually permanent, although in some cases the resource could be restored over a long period of time and possibly at great expense. Mineral extraction, destruction of cultural resources, and species extinction are examples of irreversible commitments.

An irretrievable commitment of resources occurs when there is a loss of opportunity for production, harvest, or use of nonrenewable resources. Typically, these opportunities are forfeited while the proposed action is being implemented. During this period, use of the resource cannot be realized. Land conversion to a use that would prevent extraction of underground minerals and construction of a levee preventing beneficial flooding of flood plains to replenish soil fertility are examples of irretrievable commitments.

The principal nonrenewable resources within Contra Loma include cultural resources and special-status species. Open space and views of undeveloped, natural landscapes may also be considered nonrenewable resources within Contra Loma. Coal and sand mining historically occurred within the adjacent Black Diamond Mines Regional Preserve until unfavorable market conditions caused the mines to cease production. Coal, sand, and other mineral resources could also underlie Contra Loma.

Implementation of the RMP would not result in an irreversible or irretrievable commitment of cultural resources or special-status species because the RMP includes goals and management actions to effectively manage these resources, because none of the alternatives includes actions that would require use or elimination of these resources, and because the EIS includes mitigation measures to protect cultural resources and special-status species.

The RMP would irretrievably commit open space and views of undeveloped, natural landscapes within Contra Loma because many of the RMP management actions would include recreation or facility improvements. Most of the improvements would be visible to varying degrees and depending on their location and setting, some improvements would irreversibly change views of undeveloped, natural landscapes to other uses consistent with the management and operation of a public recreation area. However, the RMP includes management actions requiring certain

improvements (i.e., radio communication facilities) to be sited and designed in a manner that minimizes impacts to the Regional Park's aesthetic character. In addition, the EIS includes mitigation measures requiring the managing partner(s) to implement design measures to reduce visual impacts from new development.

If coal, sand, or other mineral resources underlie Contra Loma, the RMP would cause an irretrievable commitment these resources because the RMP would not allow mining to occur within Contra Loma. Similar to the historic mining that occurred within Black Diamond Mines Regional Preserve, however, market conditions would likely not be favorable for extracting these resources even if they were present and mining were allowed in Contra Loma.

The RMP would not cause any other irreversible or irretrievable commitments of resources.

4.21 Relationship of Short-Term Uses of the Environment to Long-Term Productivity

NEPA Section 102(2)(c)(iv) requires an EIS to discuss the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. In other words, an EIS should include a discussion of long-term effects versus short-term effects, regardless of whether such effects are adverse or beneficial. Short-term effects are expected to occur while various management actions are being implemented (i.e., constructed). Long-term effects are those effects expected to continue for an extended period after implementation of a management action. They may or may not extend beyond the 25-year planning horizon of the RMP.

The previous sections of Chapter 4 evaluated the environmental impacts of implementing each of the alternatives and identified short-term effects and long-term effects, when applicable. Regardless of which alternative is selected, certain management activities would result in various short-term adverse effects from construction activities such as increased localized soil erosion, air pollutant emissions affecting air quality, damage to vegetation and to fish and wildlife habitat, and decreased visual resource quality. These short-term adverse effects from construction activities would lead to long-term beneficial effects such as improved recreational opportunities, replacement of portable chemical toilets with permanent restrooms, improved radio communications for public service personnel, the use of solar panels to decrease dependency on commercial electricity, improved safety from construction of a "safe swim" area or splash pad for small children at the swim lagoon, improved accessibility from ADA upgrades, improved aesthetics from replacement of deteriorating facilities, and socioeconomic benefits from facility improvements, maintenance, and increased visitation. Therefore, the short-term adverse effects from temporary construction activities would improve the productivity of Contra Loma's recreational resources, the ability of the local managing partner(s) to manage Contra Loma, and the economic productivity of the local economy.

Many of the proposed management actions would result in long-term adverse effects. For example, construction of new facilities would convert wildlife habitat and grazing land to recreational or administrative uses, thereby causing a long-term reduction of the productivity of Contra Loma's wildlife habitat and grazing land. Construction of new facilities would also

change Contra Loma's visual setting and possibly impair its visual character in some locations. However, these long-term adverse effects would improve the productivity of Contra Loma's recreational resources, the ability of the local managing partner(s) to manage Contra Loma, and the economic productivity of the local economy.

As discussed in the previous sections of Chapter 4, most of the RMP's long-term adverse effects would be minor and the remainder would be mitigated to a minor level.

Chapter 5. Consultation, Coordination, and Cooperation

This chapter describes the history of relevant public involvement and agency coordination activities that have taken place and that will take place during the planning and preparation of this RMP/EIS.

5.1 Public Involvement

Public involvement is a critical element in developing the RMP. Reclamation's goal is to gain input from a cross section of the user public and stakeholders, including the current local managing partners. A Notice of Intent to prepare the RMP/EIS was published in the *Federal Register* on November 12, 2009. Reclamation conducted public outreach in 2010 and 2011 to explain the scope and objectives of the Contra Loma RMP and to encourage comments from the public and stakeholders, including EBRPD, the City, CCWD, about the issues that should be addressed in the RMP and evaluated in the EIS. Reclamation held a scoping meeting for the Contra Loma RMP/EIS on February 8, 2010, at the Nick Rodriguez Community Center in Antioch. Reclamation also held a public workshop on August 4, 2010, at Sutter Elementary School in Antioch to seek ideas, concerns, and comments to inform development of the RMP/EIS. Written scoping comments were solicited by Reclamation from February 8 through 22, 2010 and from August 4 through 31, 2010. On March 3, 2011, Reclamation held a second public workshop at Prewett Community Center in Antioch to solicit comments on the conceptual draft packages of RMP actions and alternatives.

Attendance at the three public meetings/workshops totaled 59 participants: 20 people attended the scoping meeting, 26 attended the August 4, 2010 workshop, and 13 people attended the March 3, 2011 workshop. Some participants attended more than one meeting or workshop. Some attendees at the scoping meeting and the March 3, 2011 workshop provided verbal comments, which were recorded by hand and are summarized in Appendix D. Written comments were received from the following public agencies and elected officials:

- The Office of U.S. Congressman John Garamendi
- The Office of County Supervisor Federal D. Glover
- East Bay Regional Park District
- Contra Costa Water District
- Antioch City Council
- Antioch Parks and Recreation Commission
- City of Antioch Recreation Department

Comments were received from the following nongovernmental organizations or representatives of such organizations:

- Delta Youth Soccer League
- Turf and Track Group
- St. Anthony Church
- Village Community Resource Center

In addition, Reclamation developed a mailing list (and accompanying database), produced and distributed flyers and public notices, and posted project updates and information on Reclamation's Contra Loma RMP/EIS website and the EBRPD website listed below.

- www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=6396
- www.ebparks.org/

Based on the comments received and its own review of the issues, Reclamation identified the following primary issue areas to be addressed in the RMP:

- recreational facilities and opportunities at Contra Loma Regional Park,
- infrastructure and administrative facilities at Contra Loma Regional Park,
- facility management at Contra Loma Regional Park,
- recreational facilities and opportunities at Antioch Community Park,
- facility management at Antioch Community Park,
- reservoir management and reservoir water quality, and
- pasture vegetation management at Contra Loma Regional Park.

Reclamation also identified the following sub-issue areas within the primary issue areas:

- swim lagoon;
- fishing;
- reservoir recreation (non-fishing);
- trail system;
- sports fields;
- other recreation;
- restrooms;
- buildings, structures, and other infrastructure;

- litter, animal feces, and graffiti;
- staffing and security;
- reservoir level fluctuation;
- reservoir water quality; and
- aquatic invasive species.

In December 2010, Reclamation prepared an Issues and Opportunities Report that provided a summary of public comments and the issues that were raised during the scoping meeting and the first public workshop in August 2010.

Reclamation prepared an Issues and Opportunities Report summarizing the public comments and issues raised during the scoping meeting and the first public workshop in August 2010. The report is included as Appendix A and provides a summary of written and verbal comments provided by agencies, organizations, and individuals (Bureau of Reclamation 2010).

Summaries of the public meetings and workshops and copies of the public notices are provided in Appendix D.

Reclamation posted the Draft RMP/EIS for a 60-day public review period to solicit written comments, beginning on May 2 and ending on July 2, 2014. Reclamation also held a public meeting on May 19, 2014, to receive public comments on the Draft RMP/EIS. Comments received and responses to public comments are included in Appendix G.

5.2 Cooperating Agencies

No cooperating agencies were invited to formally participate in preparation of this EIS. However, Reclamation coordinated extensively with the EBRPD, the City, and CCWD throughout the course of the RMP planning process. These agencies contributed to the RMP/EIS by providing data, planning documents, technical expertise, and anecdotal information based on many years of experience managing natural and cultural resources at Contra Loma. In addition, all of these agencies attended the scoping meeting and participated in the RMP workshops. In addition, federally-recognized Indian Tribes were consulted during preparation of the Contra Loma Recreation Area Cultural Resources Technical Report.

5.3 Other Environmental Compliance

The RMP includes recommendations for various resource management actions and facility improvement projects. These are specific actions that may be implemented at Contra Loma to meet the RMP goals. These management actions and projects are defined at a conceptual or programmatic level in the RMP. More detailed descriptions of the actions and projects will be developed during the planning horizon of the RMP. The responsibility for funding, designing,

and implementing (or constructing) the management actions and improvement projects will be specified in financial assistance agreements with the local managing partner(s).

Should the local managing partner(s) choose to implement management actions that involve new or expanded recreational activities or facilities identified in the RMP, such as new fishing docks in the reservoir or new sewer lines to connect the Regional Park sanitary facilities to the City's wastewater treatment system, they would be required to conduct an appropriate site specific environmental review. The local managing partner(s) would need to receive Reclamation approval and project-specific environmental documentation would be prepared to meet NEPA and other Federal environmental requirements. In addition, local managing partner(s) will need to satisfy CEQA requirements.

The actions described in this RMP/EIS have been analyzed at a programmatic level. Given this level of specificity additional environmental compliance maybe required when specific projects described in this document are implemented. Consultations with the State Historic Preservation Office and affected Indian Tribes pursuant to the NHPA could be required during implementation of individual projects. Consultation with the USFWS would be initiated if Reclamation determines that any proposed projects, when identified, may affect listed species.

Chapter 6. List of Preparers

6.1 Bureau of Reclamation

Name	Position/Title	Role
Sheryl Carter	Chief of Lands Division	Contracting Officer Representative
David Woolley	Land Resource Specialist	Overall Project Management
Rain Emerson	Supervisory Natural Resources Specialist	NEPA Review
Michael Inthavong	Natural Resources Specialist	NEPA Review
Elizabeth Vasquez	Natural Resources Specialist	NEPA Review
Laureen Perry	Regional Archaeologist	Cultural Resources Review
Amy Barnes	Archaeologist	Cultural Resources Review
Ned Gruenhagen	Wildlife Biologist	Biological Resources
Jennifer Lewis	Wildlife Biologist	Biological Resources

6.2 North State Resources, Inc.

Name	Position/Title	Area of Expertise Addressed In RMP/EIS
Leslie Perry	Environmental Analyst	Deputy Project Manager
Scott Goebel	Senior Environmental Manager	Overall Project Management, Visual Resources, Cumulative
Wirt Lanning	NEPA Program Manager	Overall Project Direction
Scott Lorenzen	Environmental Analyst	Comment Responses
Connie Carpenter	Environmental Analyst	Land Use and Management, Recreation, Visitor Access and Circulation, Utilities, Public Health and Safety, Geology and Soils, Climate and Air Quality, Noise, Hazards, Socioeconomics and Environmental Justice
Brian Ludwig, Ph.D.	Senior Archaeologist	Cultural Resources
Kristina Crawford	Archaeologist	Cultural Resources
Paul Kirk	Botanist	Vegetation
Brandon Amrhein	Wildlife Biologist	Wildlife
Bruce Webb	Senior Environmental Analyst	Fisheries, Vegetation, Wildlife
Duncan Drummond	Registered Geologist	Geology and Soils, Water Quality
Mike Gorman	Fisheries Biologist	Fisheries
Andy Lindeman	Water Quality Analyst	Water Resources
Teri Mooney	GIS Specialist	GIS

Contra Loma Reservoir and Recreation Area
Resource Management Plan/Environmental Impact Statement

Name	Position/Title	Area of Expertise Addressed In RMP/EIS
Sylvia Cantu	Document Production Specialist	Document Production
Andrew Minks	Environmental Analyst	Technical Editing
Brooke McDonald	Editor	Technical Editing

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APPENDIX A

Issues and Opportunities Report

RECLAMATION

Managing Water in the West

**Contra Loma Reservoir and Recreation Area
Resource Management Plan Project**

Issues and Opportunities Report

California, Mid-Pacific Region



**U.S. Department of the Interior
Bureau of Reclamation**

December 2010

**Contra Loma Reservoir and Recreation Area
Resource Management Plan Project**

Issues and Opportunities Report

California, Mid-Pacific Region

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Redding, CA 96002

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Introduction

The U.S. Bureau of Reclamation (Reclamation) is developing a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma) in Antioch, Contra Costa County, California. The Contra Loma RMP will be a long-term plan to guide management of the reservoir, the recreation areas, and surrounding lands owned by Reclamation. The RMP is being developed based on a comprehensive inventory of environmental resources and facilities; input from the current local managing partners (i.e., the East Bay Regional Park District [EBRPD], the City of Antioch [the City], and the Contra Costa Water District [CCWD]); and input from the public. The primary emphasis of the RMP is to protect water supply, water quality, and natural resources, while enhancing recreational uses.

The overall objective of this RMP is to establish a set of management objectives, goals, and actions to be implemented by Reclamation, either directly or through its management agreement(s) that will:

- establish uniform policy and land management guidelines that promote organized use, development, and management of the Contra Loma Reservoir and the surrounding recreation area lands compatible with applicable federal and state laws;
- protect the water supply and water-quality functions of Contra Loma Reservoir;
- protect and enhance natural and cultural resources in and around the reservoir, consistent with federal law and Reclamation policies;
- provide recreational opportunities and facilities to enhance and develop management strategies, consistent with Reclamation policies, and state water policies; and
- provide guidance for future decision making.

Contra Loma Reservoir was constructed as part of the Central Valley Project and is managed by Reclamation's Mid-Pacific Region through its South-Central California Area Office. The reservoir receives water from the Contra Costa Canal and stores it until it is released back to the canal via gravity flow. The reservoir is primarily used as a regulating reservoir for peak or short-term municipal water supplies for CCWD customers, for emergency storage, and as a backup water supply during maintenance of upstream facilities. The CCWD operates and maintains the reservoir and manages its water level. EBRPD is responsible for managing the surrounding recreational lands as provided for

under a management agreement between Reclamation and EBRPD. On September 19, 1972, Reclamation transferred responsibility of land use management and development, construction, and maintenance of public recreational facilities to EBRPD. The City operates and manages the Antioch Community Park in the northwestern portion of Contra Loma under a license agreement with EBRPD, granted in January 1990. EBRPD, CCWD, and the City are the current managing partners for Contra Loma.

The management agreement between Reclamation and EBRPD expires on December 31, 2010. Reclamation issued an extension on December 6, 2010 to extend the agreement with EBRPD through completion of the RMP process, which is scheduled for early 2013. After completion of the RMP process, Reclamation will negotiate a new long-term management agreement with one or more local managing partner(s). The managing partner(s) may include EBRPD, the City, and/or other local partner(s). The RMP will provide the overall resource and recreation management direction and framework for Contra Loma and will serve as a guidance document for the local managing partner(s) for day-to-day operations and long-range planning.

The purpose of this issues and opportunities report is to provide an overview of the facilities and the natural and cultural resources that will be addressed in the RMP and to identify potential issues, constraints, and opportunities relating to management of the resources. Under each resource topic, the discussion includes a brief description or overview of the resource, identification of any gaps in information currently available, an approach to collecting the additional information, and the potential issues and opportunities that should be considered during development of the RMP. If it is anticipated that specific technical studies will be required, these are identified under the appropriate resource topic. The information presented in this report will be used to help identify issues and opportunities in developing alternatives and will become the basis for the existing conditions/affected environment chapter of the RMP and Environmental Impact Statement (EIS).

Summary of Topics and Issues Identified Through Scoping and Public Workshops

Reclamation held the first scoping meeting for the RMP/EIS on February 8, 2010, at the Nick Rodriguez Community Center in Antioch. Reclamation held a public workshop on August 4, 2010, at Sutter Elementary School in Antioch to seek ideas, concerns, and comments that will inform the development of the RMP/EIS. Reclamation also solicited written scoping comments between February 8 and 22, 2010, and solicited written comments to inform the RMP between August 4 and 31, 2010.

Topics Identified During Public Outreach

These public-outreach opportunities resulted in many written and verbal comments about management of the reservoir and recreation area and issues to consider during development of the RMP. Specific topics identified during the initial scoping period are:

- Soccer fields at Antioch Community Park
- Recreational opportunities and facilities at Contra Loma Reservoir
- General improvement and maintenance of the park
- Management agreement with EBRPD
- Water quality of the reservoir
- Fluctuations in the level of the reservoir
- Largemouth bass populations
- Invasive aquatic species
- Wildlife habitat restoration
- Wildlife habitat and movement
- East County Parks Habitat Conservation Plan

Specific additional topics identified during the August 2010 comment period are:

- Enjoyment of Contra Loma
- Water quality of the reservoir
- Dead clams and fish carcasses along the shoreline
- Relative abundance of insects and small fish along the shoreline
- Fish populations (largemouth bass and crappie)
- Fish stocking
- Algae blooms in the reservoir
- Illegal fishing (poaching)

- Fishing docks
- Weeds and tules that may hinder fishing
- Animal feces (geese, horses, dogs) near the reservoir
- Job opportunities for lifeguards and swimming instructors
- Swimming/lifeguard lessons and programs at the lagoon
- Picnic areas
- Swim lagoon size, capacity, and facilities
- Public safety services (police/fire)
- Community enrichment
- Bird and wildlife habitat
- Naturalist programs
- Educational opportunities for children
- Trail quality, condition, shade, connections
- Dog use
- Parking supply
- Expansion or renovation of facilities
- Addition of a park residence
- Restroom facilities
- Kayaking restrictions
- Mountain bike loop-trail opportunities
- Litter and clean-up
- Communications among park staff
- Swimming events in the reservoir
- Running and other community events

- Disc golf course
- Integrated pest management program
- Water infrastructure for grazing
- Team sports at Antioch Community Park
- Mix of baseball and soccer fields at Antioch Community Park
- Staffing and security at Antioch Community Park
- Cleanliness at Antioch Community Park
- Trail and grass conditions at Antioch Community Park
- Trail connections at Antioch Community Park
- Operating hours of Antioch Community Park
- Pathway lighting improvement at Antioch Community Park
- A botanical garden at Antioch Community Park

Issues Raised During Public Outreach

The following is a list of resource management issues raised by the public and the current managing partner agencies during the public outreach process. These issues should be considered during development of the RMP.

Recreational Facilities and Opportunities at Contra Loma Regional Park

Swim lagoon

- Increase the size of the swim lagoon to accommodate demand.
- Provide a safe swim area or splash pad for small children.
- Provide more shade around the swim lagoon lawn.
- Add benches in the swim lagoon area.
- Increase parking at the swim lagoon.
- Consider the effects of the swim lagoon on the visual character and peacefulness of the recreation area.

- Prohibit smoking at the lagoon and designate smoking areas down-wind from swimmers.

Fishing

- Improve shoreline access for fishing by controlling vegetation along the shoreline.
- Replace aging fishing docks.
- Modify fishing docks to allow safe, continuous fishing during reservoir drawdowns.
- Add more fishing docks, possibly on the east shore.
- Enforce poaching regulations.
- Increase fish stocking.
- Control vegetation in the reservoir.
- Repair the fish-cleaning facility.

Reservoir recreation (non-fishing)

- Ease restrictions on kayaking intended to reduce body contact with the reservoir.
- Reintroduce swimming in the reservoir.
- Reintroduce swimming events in the reservoir.

Trail system

- Improve the existing East Shore–West Shore trails loop with an all-season surface.
- Provide more shade along the trails.
- Increase availability of trails for mountain biking.
- Increase loop-trail opportunities for mountain biking.
- Create multi-use trail connectors in several locations.

Other recreation

- Install shade structures to support recreational uses and to provide shade in parking areas.
- Construct more picnic sites where useful and appropriate.

- Provide a playground structure.
- Continue or increase running events in Contra Loma.
- Continue to provide outdoor educational experiences for children.
- Consider overnight group camping as part of the current day-camp programs or for special events.
- Consider building a disc golf course.
- Consider the effects of additional improvements on the character of the recreation area.
- Ensure that improvements are consistent with EBRPD's future habitat-restoration projects and its future Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP).
- Construct a fishermen's shelter.
- Increase off-leash dog areas.

Infrastructure and Administrative Facilities at Contra Loma Regional Park

Restrooms

- Provide more and better restroom facilities to accommodate existing user needs.
- Replace the existing chemical toilets with modern vault restrooms.
- Provide a restroom facility near the northwest-shore fishing dock.
- Consider installing sewer lines that connect the regional park to the City's wastewater system.

Buildings and structures

- Expand or renovate existing park offices, the EBRPD police substation, the secondary storage yard, and the buildings near the swim lagoon to better provide for public service and safety.
- Add structures and facilities for classes, including swimming and safety lessons.
- Build a new park residence.
- Expand the gravel/overflow parking areas.
- Consider paving the existing gravel parking areas.

- Consider a fueling station and storage tank at or near the maintenance yard for park staff and public safety officers.

Other infrastructure

- Consider adding a radio communication tower and other needed facilities to improve communications for EBRPD and public service providers.
- Install water infrastructure to support grazing.

Facility Management at Contra Loma Regional Park

Litter and animal feces (dogs, horses, geese)

- Increase litter cans on the east and northwest shores and the dam and along trails.
- Provide signage with telephone contact information to report litter and feces problems.
- Increase the education of park users about keeping the park clean with signage and rangers, especially in the picnic areas.
- Issue littering tickets.
- Provide stations for dog-feces bags throughout the park.
- Reduce occurrence of horse feces near the reservoir.
- Patrol and clean up trails more frequently to remove litter and feces.

Other facility management

- Continue and expand programs to manage zebra and quagga mussels, New Zealand mud snails, and carp.
- Continue to implement an integrated pest management plan (weeds, rodents, wasps).
- Clarify law enforcement and public safety roles for each managing partner agency.
- Consider a donation box for walk-in users.
- Consider increasing EBRPD's irrigation allotment of 100 acre-feet per year by 50 percent.

Recreational Facilities and Opportunities at Antioch Community Park

Soccer and baseball fields

- Increase ball fields and/or modify ball field use to meet the demand for particular sports (e.g., baseball, soccer).
- Expand soccer and multi-use areas by adding fields south of the existing fields.
- Increase the size of some soccer fields to accommodate older youths and adults (i.e., 70 yards x 110 yards).
- Reduce the focus on baseball fields and increase opportunities for mixed-use fields.
- Improve maintenance of the soccer fields to reduce drainage problems, eliminate gopher holes and uneven surfaces, and improve turf quality.
- Improve soccer fields to allow use in wet weather.
- Replace natural turf with artificial turf or a more robust grass.
- Install lighting for the soccer and multi-use fields to enable evening use throughout the year.
- Improve drainage on the south side of the southern baseball field.
- Increase parking if additional ball fields are built.

Other recreation

- Increase opportunities for community involvement through special event notices.
- Increase public input regarding marketing of recreation programs on the site.
- Increase the number of trails along the creek and riparian area and improve the interconnection between trail systems.
- Create a botanical garden in the open space adjacent to the soccer fields.
- Reduce erosion and muddy conditions in the area between the parking lot and the trail on the west side of the park.
- Improve pathway lighting.

Facility Management at Antioch Community Park

Litter, feces, and graffiti

- Take measures to reduce litter and graffiti.
- Provide bags for dog feces at stations throughout the park.

Staffing

- Increase ranger or security presence.
- Improve parking lot security to reduce car break-ins.

Other facility management

- Specify gate closure times.
- Improve the cleanliness of play structures.
- Clear the firs from the play area more regularly.

Reservoir Management and Reservoir Water Quality

Reservoir level fluctuation

- Manage reservoir levels to avoid conflict with the reproductive cycles of largemouth bass, crappie, and other fish.
- Manage reservoir levels to avoid conflict with the reproductive cycles of birds, waterfowl, and other aquatic life along the shoreline.
- Operate the reservoir in a manner that reduces occurrence of algae blooms and clam mortality along the shoreline.
- Operate the reservoir to improve recreational fishing and to increase catches.

Reservoir water quality

- Distribute water-quality sampling locations more widely around the reservoir and at varying depths.
- Reduce occurrence of animal feces (e.g., geese, horses, dogs) around the reservoir.
- Reduce occurrence or duration of fish carcasses, whether left by birds, fishermen, or nature, along the shore.
- Remove fish carcasses daily.
- Remove trash and dead tules from the reservoir when water levels are low.

Overview of Affected Environment

Contra Loma is part of the Central Valley Project and is one of EBRPD's regional parks that they currently manage on behalf of Reclamation. It encompasses approximately 776 acres of grasslands, scattered woodlands, and park facilities and includes an 80-acre reservoir on the northern edge of the Diablo mountain range in the north-central portion of Contra Costa County. Land uses in the vicinity of Contra Loma include development associated with the City of Antioch to the north and east; the City's Lone Tree Golf Course to the east; and undeveloped, rolling hills associated with the Black Diamond Mines Regional Preserve to the south and west. The Sacramento–San Joaquin Delta is less than 5 miles north of Contra Loma, and the San Francisco Bay is 30 miles west. The Contra Costa Canal forms the northern boundary.

This section of the report contains an overview of the resources and facilities at Contra Loma and identifies resource management constraints and potential opportunities for resolving the resource management issues listed in Section 2.2 above. This section is not intended to provide a detailed description of each resource topic, but to present a summary of available information on each topic. Additional details on each resource and additional discussion of potential issues, constraints, or opportunities identified through the public involvement process will be available in the resource inventory report and the RMP/EIS. Resources that are not present at Contra Loma are described below and will not be discussed in detail in subsequent documents.

Operational Conditions

Operational conditions include recreational uses, recreational and operational facilities, utilities, and public health and safety. Fishing is a primary recreational activity at Contra Loma and will be discussed in this section. The primary use of the reservoir is to meet customer water demands during shortages as discussed further below.

Summary of Current Conditions

EBRPD operates the recreational component of Contra Loma Regional Park, including reservoir recreation, and the City manages the community park. Common recreational activities at the regional park include fishing, hiking, swimming (only at the swim lagoon), windsurfing, kayaking, canoeing, picnicking, and horseback and bicycle riding. Visitation is about 160,000 annually. The regional park contains various facilities that support the recreational uses offered at the park (e.g., trails, picnic tables, food concession, parking areas, fishing docks, boat launch) and provide means to manage the land (e.g., fencing, access gate, roads). Many, but not all, of the recreational facilities are in compliance with the Americans with Disabilities Act (ADA). EBRPD has offices, maintenance equipment and facilities, and law enforcement

vehicles onsite. The regional park has potable (drinking) water, restrooms and showers with a septic tank, portable chemical toilets, electricity, telephones, and a radio communication system.

Fishing is a very popular activity at Contra Loma. The reservoir supports 14 species of fish including 8 species of game fish. EBRPD and California Department of Fish and Game plant (i.e., stock) rainbow trout and channel catfish in the reservoir. The reservoir also supports self-sustaining populations of largemouth bass, crappie, redear sunfish, and bluegill, which are also popular with anglers. A state fishing license and an EBRPD Fishing Access Permit are required for all anglers 16 years and older.

Some regional park users have expressed specific concerns related to recreational fishing. Some believe fluctuations in the reservoir level in April and May conflict with the reproductive cycles for largemouth bass, crappie, and other fish, thereby inhibiting reproduction and reducing fish populations and catches. Fish population data for the past several years would be needed to understand population trends for these species. Even with accurate trend information, it may be difficult to precisely identify the causes of population changes. Fluctuations in water level during the spawning season, water temperature, and excessive legal and illegal harvesting can all contribute to reduced fish populations.

The primary uses of the community park are baseball, softball, soccer, picnicking, group activities, and hiking. Because of the community park's proximity to the regional park, its trails serve as pathways into the regional park. The community park has two parking lots.

CCWD manages and operates the Contra Loma Reservoir for water supply and emergency storage. The Contra Loma Dam is on the northern side of the reservoir and contains a pumping system to collect water from the Contra Costa Canal. Water returns to the canal via gravity flow. Operation of the reservoir entails periodic pumping from and releases to the canal, which can cause reservoir levels to fluctuate substantially.

Potential Constraints and Opportunities

The following operational constraint must be considered when developing the RMP. Its relative level of sensitivity is shown in parentheses.

- Compliance with applicable laws, regulations, and policies (high sensitivity)

The following list describes opportunities for resolving the operational issues that should be considered when developing the RMP:

- Available space could be used to expand recreational and administrative facilities in the vicinity of the reservoir.

- Flat, disturbed grazing land east of the reservoir could be used for additional ball fields
- Existing ball fields could be reconfigured to accommodate a variety of sports.
- Underused shoreline could accommodate additional fishing docks.
- Additional fish stocking could be done.
- Fish habitat could be created or modified to increase the numbers of desired fish.
- Sewer trunk lines serving nearby City neighborhoods might accommodate park wastewater.

Approach to Resolving Issues

In addition, general information gathering via websites, agency contacts, and literature reviews will be ongoing as the RMP/EIS is developed to obtain background information on various topics relating to operational conditions. The agencies responsible for managing Contra Loma have provided documentation from previous studies and analyses, and they will continue to provide valuable information to describe and characterize the environment at Contra Loma.

With respect to the relationship between fish populations and water level fluctuations, Reclamation will review available EBRPD data to better understand population trends of potentially affected species. Even with accurate trend information, it may be difficult to precisely identify the causes of population changes without additional investigation. The time and expense of performing such investigations are likely not warranted for the purposes of the RMP. Instead, the RMP will identify cost-effective opportunities for improving the reservoir's recreational fishery, if desirable.

Natural Resources

Natural resources include climate, air quality, hydrology, water quality, geology, soils, vegetation, and wildlife. Fisheries are discussed in Section 3.1.

Summary of Current Conditions

The climate of the region is hot and dry during the summer and mild and wet during the winter. The strong predominance of westerly winds blowing through the Carquinez Strait disperses air pollutants, reducing the atmospheric potential for air pollution in the vicinity of Antioch. Federal and state air quality standards occur primarily are exceeded during meteorological conditions

conductive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons (Antioch 2003).

Although most of Contra Loma is relatively flat, the surrounding hills to the west create a barrier between San Francisco and the reservoir and recreation area. Some hills in Contra Loma have fairly steep slopes (greater than 10 percent grade) and, when combined with the high clay content of the soils, create unstable building conditions. The drainage pattern of the area is to the north toward the Sacramento–San Joaquin Delta. The western half of Contra Loma drains into the reservoir, while the eastern half follows the former drainage pattern of the area and flows north away from the reservoir and through the community park. Maintaining reservoir water quality is very important because of its use for water supply. Sediment and pollutants draining from the surrounding uplands have the potential to affect water quality. Litter, animal feces (e.g., cattle, dogs, wildlife), and human contact with the reservoir can also affect water quality.

Contra Loma is dominated by grasslands and the reservoir, while also supporting scattered woodlands, riparian habitat, wetlands, and landscaped areas. The less-developed areas of Contra Loma support a variety of plant and wildlife species, which may include several special-status species. Some of the special-status species that are known or suspected to occur at Contra Loma are Alameda whipsnake, California tiger salamander, burrowing owl, and San Joaquin kit fox. California quail are also present.

Potential Constraints and Opportunities

The following list describes natural resources constraints that must be considered when developing the RMP. The relative level of sensitivity is shown in parentheses.

- Comply with existing contracts/agreements with CCWD about reservoir operations (high sensitivity)
- Protect and maintain the water quality of the reservoir (high sensitivity).
- Protect the water supply function of the reservoir (high sensitivity).
- Enforce body contact restrictions for the reservoir (high sensitivity).
- Avoid conflict with EBRPD's future HCP/NCCP (high sensitivity).
- Avoid/protect wetland and riparian habitat (high sensitivity).
- Avoid/protect special-status plant and wildlife species (high sensitivity if present).

- Avoid/protect California quail habitat and EBRPD's quail habitat enhancement programs (high sensitivity).
- Avoid conflict with EBRPD's barn owl project to control pocket gophers (medium sensitivity).
- Steep slopes across much of the recreation area constrain development (high sensitivity).
- Clay soils have high degrees of shrink-swell, which make them susceptible to erosion and slumping (medium sensitivity).
- Clay soils have high runoff potential (low sensitivity).

The following list describes opportunities for resolving the natural resources management issues that should be considered when developing the RMP:

- The expansive natural areas are suitable for habitat restoration.
- EBRPD's planned HCP/NCCP may represent an opportunity to expand resource stewardship.

Approach to Resolving Issues

The primary approach to resolving issues about natural resources at Contra Loma is to compile and review available information on the resources. Existing data and reports from the agencies, personal communications with agency specialists, and literature reviews will provide the majority of the information for the RMP/EIS. To supplement this information, reconnaissance-level field surveys of Contra Loma will describe current habitat conditions, identify suitable habitat for special-status species, and identify areas in the park that might be restored or enhanced to improve habitat conditions, if needed. Focused surveys are not anticipated at this level, but may be a component of the alternatives or a requirement for subsequent plans or projects.

The information review and surveys will guide alternatives development by identifying plant and wildlife species that should be more actively managed or protected, identifying soils or geologic constraints, providing information on water-quality goals and ways to protect water quality, and providing other useful information to set the framework for overall management of Contra Loma. Public input regarding natural resources from the scoping process will also be considered, and input from technical experts will be valuable.

Socioeconomic Conditions

Socioeconomic conditions include population, demographics, socioeconomics, and environmental justice.

The purpose of the RMP is not to encourage or induce growth in nearby communities, but to manage natural, cultural, and other resources at Contra Loma. The RMP would not remove obstacles to growth in the nearby communities. By its nature, the RMP would not induce growth; therefore, growth-inducing effects will not be discussed further.

Summary of Current Conditions

Contra Costa County, one of nine counties in the San Francisco–Oakland bay area, is a fairly populous county with more than 1 million residents. The City of Antioch is located in eastern Contra Costa County and has more than 100,000 residents. The City offers a variety of employment opportunities, affordable housing, shopping, and recreational activities.

Contra Loma is entirely in the City boundary. Residential developments around Contra Loma are primarily single-family homes with some multi-family homes. Visitors to the reservoir and recreation area include local residents, Bay Area residents, and, to a lesser extent, people traveling from more than 100 miles away. Contra Loma attracts visitors of all ethnicities and backgrounds and often receives non–English-speaking visitors.

Management of the regional park is funded by EBRPD, with partial funding from Reclamation in accordance with the management agreement, and the City of Antioch funds operation of the community park. CCWD funds operation of the reservoir to maintain water quality and use it for water supply and has provided funding for some improvements at the regional park (e.g., the swim lagoon).

Potential Constraints and Opportunities

The following socioeconomic constraint must be considered when developing the RMP. Its relative level of sensitivity is shown in parentheses.

- Some park users may not be able to communicate effectively in English (medium constraint).

The following opportunity for resolving socioeconomic issues should be considered when developing the RMP:

- Increase the use of multi-lingual written and verbal communications techniques.

Approach to Resolving Issues

Few socioeconomic issues are anticipated, but those listed above will be addressed similarly to operational conditions (Section 3.1.3). Reclamation will develop a reasonable range of alternatives that considers the issues and opportunities of each resource topic and takes into account public and agency input.

Existing Land Uses and Management

Existing land uses and management topics include land use, ownership, transportation, parking access, noise, special uses, and visual resources.

No hazardous materials or cleanup sites have been reported at Contra Loma, although several sites are in various stages of cleanup throughout the City of Antioch (Department of Toxic Substances Control 2010). These sites would not be expected to affect management of Contra Loma, and the RMP would not need to address cleanup of hazardous material sites. This topic will not be discussed further.

State Routes 680 and 24 in southeastern Contra Costa County have been officially designated by the State as scenic highways. Both of these routes are on the opposite side of Mount Diablo from Contra Loma and do not offer views of Contra Loma. A segment of State Route 4 in eastern Contra Costa County is eligible for designation, but it is also distant from Contra Loma and does not offer views of the park. The RMP will not need to address management of scenic highways; therefore, this topic will not be discussed further.

Summary of Current Conditions

Contra Loma is owned by Reclamation but is managed by EBRPD, CCWD, and the City of Antioch via a subcontract from EBRPD. It is designated as open space by the City's general plan (City of Antioch 2004). Surrounding uses include residential and open space (Black Diamond Mines Regional Preserve and Lone Tree Golf Course). EBRPD adopted a land use development plan for the regional park in the mid-1970s (East Bay Regional Park District 1977). The land use plan established a natural environment unit, recreation cluster, and reclamation zone for purposes of managing the recreation area. Certain special uses, such as group or community events, are allowed with a permit.

Access to Contra Loma is via State Route 4 and surface streets in the City. Contra Loma Boulevard provides the only vehicle entrance to the regional park, and James Donlon Boulevard provides vehicle access to the community park. Multi-use trails in the vicinity connect the reservoir and recreation area to other parks and locales in the City and County. Portions of Contra Loma are fenced, the recreation area and reservoir are open to the public during daylight hours. The area immediately below (north of) the dam is restricted to authorized personnel only. Sources of noise at Contra Loma are primarily visitors, traffic, and occasional airplanes. Natural sounds, such as water, wind, and wildlife, also occur in the area.

The rolling hills and grasslands of the region create scenic views around the reservoir. The reservoir at normal water levels and riparian and woodland vegetation also contribute to the aesthetic values of the area.

Potential Constraints and Opportunities

The following land use constraints should be considered during development of the RMP. The relative level of sensitivity is shown in parentheses.

- Ensure that lighting, noise, traffic, and parking are compatible with nearby land uses (low sensitivity).
- Consider the rural open space character of a regional park (high sensitivity).

The following opportunity for resolving land use issues should be considered when developing the RMP:

- Locating additional ball fields in the land east of the reservoir and south of the existing soccer fields would reduce land use compatibility impacts for nearby residences.

Approach to Resolving Issues

Primary land use and management issues revolve around the agreements between Reclamation and the other agencies. These agreements will be a subject of discussion during development of the RMP/EIS and will need to be renewed or rewritten to meet the needs of the agencies and management strategies and objectives identified in the RMP. Other issues will be addressed similarly to operational conditions (Section 3.1.3). Reclamation will develop a reasonable range of alternatives that considers the issues and opportunities of each resource topic and takes into account public and agency input.

Cultural Resources

Cultural resources are the tangible and intangible elements of past and present human socio-cultural systems and can include sites, structures, landscapes, objects, districts, and artifacts of importance to a culture or community for traditional, religious, historical, and scientific reasons.

Indian Trust Assets are legal interests in property held in trust by the United States for Indian tribes or individuals. Examples of such assets are land, mineral rights, hunting and fishing rights, and water rights. No Indian Trust Assets are known to exist at Contra Loma; therefore, this topic will not be discussed further.

Summary of Current Conditions

Prehistoric human occupation of California dates back more than 10,000 years during the late Pleistocene Era. The earliest known occupation of the Bay Area region dates from approximately 8,000 BC to circa AD 1800 (the Historic era) and was recorded in the Los Vaqueros reservoir area approximately 11 miles southeast of Contra Loma (Milliken et al. 2007). The Karkin Costanoan (Ohlone) and Bay Miwok occupied the Contra Loma region during this period,

until the Spanish Empire expanded into the region as early as the 1760s to establish missions and convert the local people to Christianity. Several land grants were established by the Spanish during the expansion of the Spanish Empire, and these were maintained by Mexico after the missions were disbanded in the 1820s. Two land grants are in the vicinity of Contra Loma: the Rancho de los Medanos north of Contra Loma in the Antioch and Pittsburg area and the Rancho los Mejanos southeast of Contra Loma (Hulaniski 1917). The ranchos focused primarily on the hide-and-tallow trade and cattle ranching.

With the discovery of gold in the region, the 1850s were a period of rapid settlement of agricultural and industrially important lands in the Bay Area. Towns such as Antioch grew quickly, and the hinterlands around the towns became dominated by ranches and farms. In the last half of the 19th century, the main industries and economic focus of the region in and around Contra Loma were farming, ranching, and dairying (Hulaniski 1917). Several homestead patents in the park were awarded in the 1870s, and evidence of occupation may still exist. Coal mining was an important local industry between the 1860s and the 1890s. Although mining did not occur in the park boundaries, trails and roads through Contra Loma were used for travel between Antioch and the mines (e.g., wagon road, railroad).

Several cultural resource surveys and studies were conducted at Contra Loma between 1983 and 2008. The surveys covered the entire recreation area, but the most recent surveys were completed in the 1980s. Two formally recorded and archived archaeological resources (a prehistoric use site and the Contra Costa Canal) relate to Contra Loma.

The previous surveys were conducted more than 20 years ago, and site conditions since then may have changed to expose more resources or modify the conditions of the recorded sites. If cultural resources have become exposed, the proximity of recreational activities near archaeological deposits can create an atmosphere of casual souvenir taking in which people remove small artifacts (e.g., projectile points, unusual colored rocks or glass, etc.). Also, some of these resources may be in locations where future recreation and infrastructure improvements may be considered. In addition, changes in archaeological techniques and research interests, coupled with the passage of time, might bring academic and public interest to archaeological deposits that were previously overlooked.

Potential Constraints and Opportunities

The following issues and constraints regarding cultural resources should be considered during development of the RMP:

- Protect and enhance cultural resources (sensitivity to be determined).

The following opportunity for resolving cultural resource issues should be considered when developing the RMP:

- Contra Loma's history offers opportunities for interpretation and education related to cultural resources, such as through interpretive signs or kiosks.
- Interpretive opportunities could be designed around known sites to incorporate information about them while protecting them from the public.
- Natural resources such as plants of importance to local Native American groups could be promoted as areas of interest to the general public through the use of signs, or could be protected and made available for practitioners of traditional tribal practices.

Approach to Resolving Issues

Similar to natural resources, the approach for resolving issues about cultural resources at Contra Loma is to compile and review information on the resources. Because of the age of the most recent surveys, at a minimum, known archaeological sites should be revisited to monitor and record current conditions.

Conclusions and Next Steps

Conclusions

Some of the key issues and opportunities to consider regarding operational conditions are improvements to recreational facilities, expansion of recreational opportunities, and modification of park utility systems. Bilingual communications is an important key issue to consider under socioeconomic conditions, and Contra Loma's location near the City of Antioch provides an excellent opportunity to attract local and regional residents to the park. Land use and management of Contra Loma will be a primary topic for the RMP/EIS and will focus on the best ways for each agency to manage the resources and benefit the public. Coordination between the agencies will be important during development of the alternatives. Additional public involvement and outreach and collection of additional background information will provide the means necessary to develop alternatives that reflect the various options for management of operational and socioeconomic conditions and land use.

Sensitive habitats, special-status plant and wildlife species, steep slopes, and water quality are key issues to consider for management of the natural resources of Contra Loma. The Contra Loma area has a rich history with potential for the presence of resources dating from 8,000 BC to the Historic Era, and cultural resources have also been documented at Contra Loma. Much information is available about these resources, and known archaeological sites should be revisited to monitor and record current conditions.

Potential Goal Statements

Based on the preliminary issues identified through the public involvement process and this report, the following goal statements might be considered to guide development of the alternatives:

1. Promote responsible stewardship of federal land and water resources for the public benefit.
2. Protect and maintain water quality.
3. Protect and enhance the natural and cultural resources at Contra Loma.
4. Protect and maintain existing recreational uses and educational opportunities.
5. Provide for enhanced or new recreational uses and facilities that are compatible with other RMP goals.
6. Maintain the character and ambience of Contra Loma's setting.
7. Promote continued compatibility with nearby land uses.

Next Steps

On December 8, 2010, Reclamation conducted a conference call with the current managing partners to present conceptual draft alternatives packages for the RMP and solicit comments from these agencies. Written comments from these agencies are due January 7, 2011. Reclamation will consider these comments and then refine the conceptual draft alternatives packages and present them at a public workshop that will take place in February 2011. After the February public workshop, Reclamation and North State Resources will further refine the alternatives and flesh out details and descriptions for inclusion in the Draft RMP. The RMP alternatives will include different strategies and objectives to achieve the management goals and will provide a reasonable range of management opportunities to reflect public and agency input. These alternatives will then be evaluated in the EIS.

Prior to preparation of the Draft RMP, Reclamation will prepare a resource inventory report (RIR). The RIR will provide a detailed description of the resources at Contra Loma and will serve as the affected environment section of the RMP/EIS. While the RIR is being prepared, Reclamation will develop alternatives to evaluate in the RMP/EIS. In addition to the alternatives and affected environment sections, the RMP/EIS will include sections required by Reclamation and the Council on Environmental Quality for compliance with the RMP Guidebook and National Environmental Policy Act. The issues and opportunities presented in this report and identified through additional public

outreach will feed directly into the alternatives and will be summarized in the RMP/EIS. Additional opportunity for public involvement will occur when the Draft RMP/EIS is released for public review and when the RMP/EIS is finalized.

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APPENDIX B

Operations and Maintenance

Operations and Maintenance Activities

Contra Loma Regional Park

January 2014

Park-related operations and maintenance activities currently performed by the East Bay Regional Park District at Contra Loma Regional Park include the following.

- Mow annual grassland for 2-3 weeks each year for fire hazard reduction
- Mow and line trim landscaped areas
 - Mow on a weekly basis from spring to fall
 - Line trim 1-2 weeks a month from spring to summer
 - Line trim during every summer month based on noxious weed growth
- Irrigation maintenance
 - Repair pipes, valves, and sprinkler heads
 - Maintain irrigation clocks that operate the pumps in the reservoir
 - Service pumps every 4-7 years
- Remove floating debris from the reservoir daily during staff operating hours
- Pest management
 - Contract out on a monthly basis for mice, rat, and ant control
 - Ground squirrels are bated from June through September to control the population at a rate of 3-5 lbs. a month at 16 bait stations.
- Vegetation management
 - Graze 25-45 head of cattle throughout the year for fuel and noxious/invasive weed control
- Aquatic pest management
 - Perform quagga mussel inspections of all aquatic vessels and wetsuits on a daily basis throughout the year
- Infrastructure (road, utility) and facility maintenance (as needed)
 - Patch asphalt on paths, roads, and parking lots
 - Strip roadway lines
 - Add gravel to overflow lots
 - Maintain vegetation on traffic islands
 - Maintain underground potable water supply
 - Maintain flush toilets, urinals and sinks
- Trail maintenance
 - Grade trails as needed annually
 - Repair trails as needed for water diversion seasonally
 - Prune and periodically mow vegetation along trails in the spring
- Maintenance of swim lagoon infrastructure

- Maintain recirculation pump annually or bi-annually
 - Fill cracks in deck area annually
 - Resurface the pool plaster every five year or less
 - Resurface the drainage grates every ten years or less
 - Repair the coping and tile annually
 - Service the metering pumps for pool chemicals (i.e., chlorine and acid pumps) annually
 - Replace the sand in the sand filters as necessary
 - Repair fencing surrounding the swim lagoon
 - Repair asphalt surrounding the swim lagoon
 - Repair concrete surrounding the swim lagoon
 - Replace safety mechanisms in pool area (protective devices and ADA lifts)
 - Replacement of chemtrol device as necessary
 - Replace probes for water sanitation and chemistry balance annually
 - Maintain chlorine injectors annually
- Litter and waste management
 - Remove trash from all receptacles daily (dumped into a 30-yard container that is dumped on a monthly or as-needed basis)
 - Collect recycling on a bi-weekly basis (dumped into a 20-yard container and hauled away as needed)
- Human waste management
 - Fourteen portable wooden/plastic toilets are pumped bi-weekly in the summer and weekly in the winter.
- Invasive species management and native species promotion
 - Cattle grazing is used as a management tool for invasive plant species
 - Promote native species through timely and monitored grazing

Operations and Maintenance Activities

Antioch Community Park

January 2014

Park-related operations and maintenance activities currently performed by the City of Antioch at the Antioch Community Park generally fall into four categories: maintenance of amenities/general facilities, vegetation management and upkeep, irrigation systems maintenance, and pest control.

Maintenance of Amenities/General Facilities

- Cleaning, painting and repairs of picnic tables, benches, backstops, horseshoe pits, and barbecues
- Playground maintenance (remove trash, repair equipment, sand box cleaning and sweeping)
- Renovate all baseball diamonds in preparation for baseball/softball seasons by loosening, leveling, and grading compacted diamond cinder fines and clay.
- Vacuuming of artificial turf on sports fields annually
- Sweeping of the artificial turf on sports fields periodically
- Installation of decorative bark at park name sign annually
- Draining and clearing concrete lined ditches and gutters
- Sidewalk cleansing, sweeping, blowing
- Parking lot cleansing, sweeping, blowing, vacuuming
- Trash
 - Inspect and empty trash containers
 - Remove and dispose of trash/litter
 - Inspect and empty recyclables containers
- Repair of fence line and debris clearance
- Restroom maintenance
 - clean and sanitize using detergents; remove dirt, cobwebs, standing water; inspect and refill soap, tissue, and paper product dispensers; inspect and maintain toilet and sink flow; air freshening
 - Open and close restroom facilities at City-designated hours
- Remove/repair vandalized property
 - Graffiti abatement (e.g., surface removal, painting)

Vegetation Management and Upkeep

- Tree, shrub, and vine pruning
- Seasonal building and removal of water basins around plants

- Add/remove stakes and ties for trees as needed
- Replace decaying or dead vegetation
- Mow, edge, fertilize, and aerate grass lawns
- Mow, trim, replant ground cover (ivy, hypericum)
- Weed control and abatement: especially *Digitaria* (crab grass), *Poa annua* (annual bluegrass), and broadleaf weeds
- Application of fertilizers, herbicides
- Prune vegetation from line of sight obstruction at street intersections
- Disposal of grass clippings, pruned vegetation
- Blowing and raking of leaves from park premises
- Storm damage maintenance pruning and removal of vegetation

Irrigation Systems Maintenance

- Monitor and repair irrigation leaks or damage to hardware
- Seasonal irrigation frequency scheduling
- Flush irrigation systems
- Adjust sprinkler head heights to maximize irrigation efficiency
- Maintenance of automatic controllers
- Inspection and replacement of batteries in battery powered light and irrigation controllers

Animal, Insect, and other Pest Control

- Rodent (gopher, ground squirrel, tree squirrel) control
- Pest control: slugs, snails
- Maintain familiarity with Integrated Pest Management programs

APPENDIX C

Applicable Regulations

Appendix C: Applicable Regulations

Air Quality

- **The Clean Air Act of 1970, (42 US Code [USC], Sections 7401 et seq.)** regulates air emissions from area, stationary, and mobile sources. Under this law, National Ambient Air Quality Standards are established for each state by the Environmental Protection Agency (EPA) in order to protect public health and the environment (EPA 2003).
- **The General Conformity Rule (GCR) (Title 40 CFR Part 51.853)** requires that the responsible federal agency of an undertaking make a determination of conformity with the State Implementation Plan of the regional air basin. Each action must be reviewed to determine whether it (1) qualifies for an exemption listed in the GCR, (2) results in emissions that are below GCR *de minimis* emissions thresholds, or (3) would produce emissions above the GCR *de minimis* thresholds applicable to the specific area, requiring a detailed air quality conformity analysis.
- **The Bay Area Air Quality Management District (BAAQMD) Clean Air Plan (CAP)** is the applicable State Implementation Plan for Contra Costa County and the rest of the Bay Area. It is the most recent BAAQMD CAP approved by the EPA. The purpose of the CAP is to update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the California Clean Air Act to implement “all feasible measures” to reduce ozone and to provide a control strategy to reduce ozone, particulate matter, air toxics, and greenhouse gases in a single, integrated plan.

Noise

- **43 Code of Federal Regulations (CFR Part 423.22[e][3])** prohibits disorderly conduct on Reclamation land, unreasonable noise, considering the nature of the purpose of the persons conduct, location, time of day or night, and other factors that would govern the conduct of a reasonably prudent person under the circumstances.

Water Resources

Federal Laws and Statutes

- **The Clean Water Act of 1987, as amended (33 USC, Section 1251)** establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation’s water;
- **The Federal Water Pollution Control Act (33 USC, Section 1 1323)** requires the Federal land manager to comply with all Federal, state, and local requirements, administrative

authority, processes, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity;

- **The Safe Drinking Water Act (42 USC, Section 201)** is designed to make the nation's waters drinkable and swimmable. Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management;
- **The Watershed Protection and Flood Control Act of 1954**, as amended, directs the Federal government to cooperate with states and their political subdivisions, soil or water conservation districts, flood prevention or control districts, and other local public agencies to prevent erosion or flood water and sediment damage;
- **The Water Resources Research Act of 1954**, as amended, permits the Secretary of the Interior to give grants to, and cooperate with, Federal, state, and local agencies to undertake research into any water problems related to the mission of the department;
- **Executive Order 11288** requires heads of agencies to provide leadership in the field of water quality management and requires Federal facilities to develop pollution abatement plans;
- **Executive Order 11507** directs the Federal government in the design, operation, and maintenance of its facilities to provide leadership in the nationwide effort to protect and enhance the quality of air and water resources. It provides for action necessary to correct air and water pollution at existing facilities to be completed or underway by December 31, 1972, and requires surveillance to ensure that water quality standards are met;
- **Executive Order 11514, as amended by Executive Order 11991**, directs Federal agencies to provide leadership in protecting and enhancing the quality of the nation's environment to sustain and enrich human life. It provides for continued monitoring, evaluation, and control of the activities of each Federal agency, as well as development of programs and measures to protect and enhance environmental quality and to exchange data and research results and cooperate with other agencies to accomplish the goals of the National Environmental Policy Act (NEPA);
- **Executive Order 11738** directs each Federal agency to enforce the Clean Air Act and the Clean Water Act in the procurement of goods, materials, and services;
- **Executive Order 11752** mandates that Federal agencies provide national leadership to protect and enhance the quality of air, water, and land resources by complying with applicable Federal, state, interstate, and local pollution standards. This order mentions the Clean Air Act, Federal Water Pollution Control Act, Solid Waste Act, Noise Control Act, insecticide and pesticide acts, and NEPA;
- **Executive Order 11990, Protection of Wetlands**, directs Federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial value of wetlands in carrying out programs affecting land use;

- **Executive Order 12088, Federal Compliance with Pollution Control Standards**, requires all Federal agencies to comply with local standards and limitations relating to water quality. As a wastewater management agency, each Federal agency is bound to recognize and adopt the policies, goals, and standards of approved Section 208 area-wide water quality management plans in regard to those Federal lands under its jurisdiction. Each agency also must implement plan standards to the maximum extent feasible in its own planning process and management activities;

Bureau of Reclamation (Reclamation) Policies and Regulations

- **Floodplain Management Policy (CMP P01)** was established to (1) reduce the vulnerability of the nation to loss of life and property and the disruption of societal and economic pursuits caused by flooding or facility operations; and (2) sustain, restore, or enhance the natural resources, ecosystems, and other functions of the floodplain; and
- **Floodplain Management Directive and Standard (CMP 01-01)** was established to (1) reduce the vulnerability of the nation to loss of life and property and the disruption of societal and economic pursuits caused by flooding or facility operations; and (2) sustain, restore, or enhance the natural resources, ecosystems, and other functions of the floodplain.

Cultural Resources

Federal Laws and Statutes

- **An Act for the Preservation of American Antiquities [Antiquities Act of 1906] (PL 59-209; 34 Stat. 225; 16 USC, Sections 432 and 433)** made it unlawful for any person to appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States (U.S.).
- **Historic Sites Act of 1935 (PL 74-292; 49 Stat. 666; 16 USC, Section 461)** declares a national policy to identify and preserve nationally significant “historic sites, buildings, objects and antiquities.” It authorizes the National Historic Landmarks program and provides the foundation for the National Register of Historic Places (National Register) authorized in the National Historic Preservation Act of 1966. Regulations implementing the National Historic Landmarks Program are at 36 CFR Part 65.
- **National Historic Preservation Act of 1966 and amendments (PL 89-665; 80 Stat. 915; 16 USC, Section 470)** creates the National Register and extends protection to historic places of state and local as well as national significance. It establishes the Advisory Council on Historic Preservation, State Historic Preservation Officers, Tribal Preservation Officers, and a preservation grants-in-aid program. Section 106 directs Federal agencies to take into account effects of their actions (“undertakings”) on properties in or eligible for the National Register.
- **National Environmental Policy Act of 1969 (PL 91-190; 83 Stat. 852; 42 USC, Section 4321)** states that it is the Federal government’s continuing responsibility to use all practicable means to preserve important historic, cultural, and natural aspects of our national heritage. It

instructs Federal agencies to prepare environmental impact statements for each major Federal action having an effect on the environment.

- **Historical and Archaeological Data Preservation Act of 1974 (16 USC 469 et seq.)**, also called the Moss-Bennett Act, provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance and the preservation of historical and archaeological data (including relics and specimens) that may otherwise be irreparably lost or destroyed as a result of any alteration of the terrain caused by any federal construction projects of federally licensed activity or program. The act requires a federal agency to notify the Secretary of the Interior if a project threatens the loss of destruction of significant historic or archaeological data. The NEPA lead federal agency's Section 106 compliance process provides substantially the same protection.
- **American Indian Religious Freedom Act of 1978 (PL 95-341; 92 Stat. 469; 42 USC, Section 1996)** states that "it shall be the policy of the U.S. to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites".
- **Archaeological Resources Protection Act (ARPA) of 1979 [PL 96-95; 93 Stat. 721; 16 USC, Sections 470(aa)-470(mm)]**, as amended (PL 100-555; PL 100-588) expands the protections provided by the Antiquities Act of 1906 in protecting archaeological resources and sites located on public and Indian lands. ARPA has felony-level penalties for excavating, removing, damaging, altering, or defacing any archaeological resource more than 100 years of age, on public or Indian lands, unless authorized by a permit.
- **Native American Graves Protection and Repatriation Act of 1990 (PL 101-601; 25 USC, Sections 3000-3013; 104 Stat. 3048-3058)** provides for disposition of cultural items from Federal or tribal lands. The ownership or control of Native American cultural items that are excavated or discovered on Federal or tribal lands after 1990 is determined by a custody hierarchy set out in the statute.
- **Reservoir Salvage Act of 1960, as amended [16 USC, Sections 469-469(c)]** extended the Historic Sites Act of 1935. It gave the Department of the Interior, through the National Park Service, major responsibility for preserving archaeological data that might be lost specifically through dam construction.
- **Curation of Federally-Owned and Administered Archeological Collections (36 CFR, Part 79)** establishes definitions, standards, procedures, and guidelines to be followed by Federal agencies to preserve collections of prehistoric and historic material remains and associated records.
- **Determinations of Eligibility for Inclusion in the National Register (36 CFR, Part 63)** was developed to assist Federal agencies in identifying and evaluating the eligibility of properties for inclusion in the National Register.

- **National Register of Historic Places (36 CFR, Part 60)** describes the criteria for eligibility for inclusion of properties in the National Register.
- **Protection of Historic Properties (36 CFR, Part 800)** describes the Section 106 Process.
- **Public Conduct on Bureau of Reclamation Facilities, Lands, and Waterbodies (43 CFR, Part 423)** intends to maintain law and order and protect persons and property within Reclamation projects and on Reclamation facilities, lands, and waterbodies by specifying areas open and closed to public use.
- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249)** was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for Federal standards and any alternatives that limit their scope or otherwise preserve the prerogatives and authority of Indian tribes.
- **Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994) (61 FR 42255)** directs Federal agencies to consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect Federally recognized tribal governments. Federal agencies must assess the impact of Federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during such development.
- **Executive Order 11593, Protection and Enhancement of the Cultural Environment (36 FR 8921)**, directs Federal agencies to inventory cultural properties under their jurisdiction, to nominate to the National Register all Federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed, and to assure that Federal plans and programs contribute to preservation and enhancement of non-Federal properties.
- **Executive Order 13007, Indian Sacred Sites (61 FR 26771)** directs Federal agencies in managing Federal lands to 1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and 2) avoid adversely affecting the physical integrity of such sacred sites.
- **Executive Order 13287, Preserve America 2003 (68 FR 10635)**, directs Federal agencies to improve their management of historic properties and to foster heritage tourism in partnership with local communities.

Reclamation Policies and Regulations

- **Cultural Resources Management Policy (LND-P01)** states that cultural resources are recognized as fragile, irreplaceable resources with potential public and scientific uses, and represent an important and integral part of our Nation's heritage. It is Reclamation's practice to:

1. Manage cultural resources under Reclamation jurisdiction or control according to their relative importance, to protect against impairment, destruction, and inadvertent loss, and to encourage and accommodate the uses determined appropriate through planning and public participation.
2. Manage cultural resources under cultural resource statutes and the planning and decision making processes as are followed in managing other public land resources.
3. Ensure that tribal issues and concerns are given consideration during planning and decision making, including fire management planning and decision making for specific fire management projects.

This policy is not limited to Reclamation's activities that affect Federal lands. It is the responsibility of Reclamation to assure that its actions and authorizations are considered in terms of effects on cultural resources located on non-Federal lands. Fire management planning and activities on site-specific projects that involve non-Federal land shall consider this responsibility.

- **Cultural Resources Management Directive and Standard (LND 02-01)** ensures that Reclamation manages its cultural resources according to Federal legislative mandates and in a spirit of stewardship; clarifies Reclamation's roles and responsibilities related to cultural resources; and provides direction for consistent implementation of Reclamation's cultural resources management responsibilities.
- **Inadvertent Discovery of Human Remains on Reclamation Lands (LND 07-01)** establishes procedures for compliance with federal statutes when inadvertent (i.e., unplanned) discoveries of human remains occur on Reclamation lands.

Biological Resources

Federal Laws and Statutes

- **Fish and Wildlife Coordination Act of 1934** requires consultation with fish and wildlife agencies (federal and state) whenever the waters or channels of a body of water are modified by a department or agency of the U.S, with a view to the conservation of wildlife resources. It provides that land, water and interests may be acquired by Federal construction agencies for wildlife conservation and development.
- **Sikes Act of 1974** directs the Secretaries of Interior and Agriculture to, in cooperation with the State agencies, develop, maintain, and coordinate programs for the conservation and rehabilitation of wildlife, fish, and game. Such conservation and rehabilitation programs shall include, but are not limited to, specific habitat improvement projects and related activities and adequate protection for species considered threatened or endangered.
- **North American Waterfowl Management Plan of 1986** was signed between Canada and the U.S. and aims to conserve migratory birds throughout the continent. Further, it sets population goals for waterfowl and provides guidance as to how these goals can be achieved.

- **Federal Endangered Species Act of 1973** provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. It is designed to protect critically imperiled species from extinction due to "the consequences of economic growth and development untempered by adequate concern and conservation".
- **Migratory Bird Treaty Act of 1918 and amendments** establishes a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, ... any migratory bird . . . or any part, nest, or egg of any such bird." An amendment was passed in 1972 to include owls, hawks, and other birds of prey.
- **Bald Eagle Protection Act of 1940** provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds.
- **Federal Noxious Weed Act of 1974** provides for the control and management of nonindigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health. Under this Act, the Secretary of Agriculture was given the authority to designate plants as noxious weeds, and inspect, seize and destroy products, and to quarantine areas, if necessary to prevent the spread of such weeds.
- **Executive Order 13112 Invasive Species (64 FR 2793)**, signed in 1999, directs Federal agencies to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. To do this, the Executive Order established the National Invasive Species Council; currently there are 13 Departments and Agencies on the Council.

Reclamation Policies and Regulations

- **Implementation of the Cost-Sharing Authorities for Recreation and Fish and Wildlife Enhancement Directive and Standard (LND 01-01)** establishes Reclamation's approach to implementing the cost sharing authorities for recreation and fish and wildlife enhancement facilities. This cost sharing may include planning, developing, operating, maintaining, and replacing recreation and fish and wildlife enhancement facilities on lands and waterbodies under Reclamation jurisdiction.
- **Reclamation Policy for Consultation under the Endangered Species Act of 1973, as amended (ENV P04)** describes Reclamation's role in consultations required by the Endangered Species Act.
- **Wetlands Mitigation and Enhancement Policy (LND P03)** establishes policy for Reclamation to use in determining appropriate mitigation for all actions affecting wetlands. Encourage activities protecting, preserving, and enhancing wetlands.

Indian Trust Assets

Federal Laws and Statutes

- **Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (65 FR 67249)**, was issued to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications. When implementing such policies, agencies shall consult with tribal officials as to the need for Federal standards and any alternatives that limits their scope or otherwise preserves the prerogatives and authority of Indian tribes.
- **Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994) (61 FR 42255)** directs Federal agencies to consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect Federally recognized tribal governments. Federal agencies must assess the impact of Federal government plans, projects, programs, and activities on tribal trust resources and assure that tribal government rights and concerns are considered during such development.

Department of Interior Directives

- **Secretarial Order No. 3175, Departmental Responsibilities for Indian Trust Resources**, requires Interior bureaus and offices to consult with the recognized tribal government with jurisdiction over the trust property that a proposal may affect.
- **Secretarial Order No. 3206, American Indian Tribal Rights, Federal – Tribal Trust Responsibilities, and the Endangered Species Act**, clarifies the responsibilities of the Interior agencies with regard to the effects of Endangered Species Act compliance actions that affect, or may affect, Indian lands, tribal trust resources, or the exercise of American Indian tribal rights. Interior agencies will carry out their responsibilities in a manner that harmonizes the Federal trust responsibility to tribes, tribal sovereignty, and statutory missions of the departments, and that strives to ensure that Indian tribes do not bear a disproportionate burden for the conservation of listed species.
- **Secretarial Order No. 3215, Principles for the Discharge of the Secretary's Trust Responsibility**, provides guidance to the employees of the Department of the Interior who are responsible for carrying out the Secretary's trust responsibility as it pertains to Indian Trust Assets.
- **Departmental Manual 512 DM Chapter 2, Departmental Responsibilities for Indian Trust Resources**, establishes the policies, responsibilities, and procedures for operating on a government-to-government basis with Federally-recognized Indian tribes for the identification, conservation, and protection of American Indian and Alaska Native trust resources to ensure the fulfillment of the Federal Indian Trust Responsibility.

Reclamation Policies and Regulations

- **Indian Policy of the Bureau of Reclamation** affirms that Reclamation will comply with both the letter and the spirit of Federal laws and policies relating to Indians; acknowledge

and affirm the special relationship between the United States and Federally recognized Indian tribes; and actively seek partnerships with Indian tribes to ensure that tribes have the opportunity to participate fully in the Reclamation program as they develop and manage their water and related resources.

- **Bureau of Reclamation Protocol Guidelines: Consulting with Indian Tribal Governments** provides guidance on the protocol for conducting consultation and maintaining government to government relationships with Indian tribes.
- **Bureau of Reclamation Indian Trust Asset Policy and Guidance** is described in a 1993 Memorandum outlining NEPA Handbook Procedures to Implement Indian Trust Asset Policy.

Land Management

Land Use

Federal Laws and Statutes

- **The Recreation and Public Purposes Act of 1926, as amended**, authorizes the sale or lease of public lands for recreational or public purposes to State and local governments and to qualified nonprofit organizations. Examples of typical uses under the act are historic monument sites, campgrounds, schools, fire houses, law enforcement facilities, municipal facilities, landfills, hospitals, parks, and fairgrounds;
- **The Reclamation Project Act of 1939; as amended**, provides a feasible and comprehensive plan for the variable payment of construction charges on U.S. reclamation projects, to protect the investment of the U.S. in such projects, and for other purposes;
- **Land and Water Conservation Fund Act of 1965, as amended**, purposes are to assist in preserving, developing, and assuring accessibility to all citizens of the U.S. of present and future generations and visitors who are lawfully present within the boundaries of the U.S. such quality and quantity of outdoor recreation resources as may be available and are necessary and desirable for individual active participation in such recreation and to strengthen the health and vitality of the citizens of the U.S. by (1) providing funds for and authorizing Federal assistance to the States in planning, acquisition, and development of needed land and water areas and facilities and (2) providing funds for the Federal acquisition and development of certain lands and other areas.
- **Federal Land Transaction Facilitation Act of 2000 (FLTFA)** allows the Department of the Interior agencies and the U.S. Forest Service to use the proceeds from sales of Bureau of Land Management (BLM) lands to acquire inholdings in national parks, national wildlife refuges, national forests and BLM and designated areas, including the National Landscape Conservation System. FLTFA provides federal agencies with an important funding source to complement the Land and Water Conservation Fund, land exchanges, and other federal programs. It is a self-funded program requiring no additional appropriations;
- **The Condemnation Act of 1888, as amended**, authorized the condemnation of lands for sites for public buildings, and other purposes;

- **The Engle Act of 1958** provides that withdrawals, reservations, or restrictions of more than five thousand acres of public lands of the United States for certain purposes shall not become effective until approved by Act of Congress, and for other purposes;
- **The Federal Power Act of 1920, as amended**, provides for cooperation between the Federal Energy Regulatory Commission and other Federal agencies, including resource agencies, in licensing and relicensing power projects;
- **The Carey Act of 1894, as amended**, provided for the transfer to Western states of U.S.-owned desert lands on the condition that they be irrigated. It allowed private companies in the U.S. to erect irrigation systems in the western semi-arid states, and profit from the sales of water;
- **43 CFR, Part 402: Sale of Lands in Federal Reclamation Projects** regulates the sale of certain classes of lands that are subject to the reclamation laws and that may be sold under The Act of May 20, 1920, The Act of May 16, 1930, and The Act of March 31, 1950;
- **43 CFR, Part 420: Off-road vehicle use** establishes regulations for off-road vehicle use on reclamation lands to protect the land resources, to promote the safety of all users, to minimize conflict among the various users, and to ensure that any permitted use will not result in significant adverse environmental impact or cause irreversible damage to existing ecological balances; and
- **43 CFR, Part 429: Procedure to process and recover the value of rights-of-use and administrative costs incurred in permitting such use** purpose is to set forth procedures for Reclamation to recover the value of rights-of-use interests granted to applicants, and for the collection of administrative costs associated with the issuing of rights-of-use over land administered by Reclamation.

Reclamation Policies and Regulations

- **Land Withdrawals, Withdrawal Reviews and Withdrawal Revocations Directive and Standard (LND 03-01)** was established to provide direction for the management of various aspects of land withdrawals in conjunction with the needs of an authorized Bureau of Reclamation project. This Directive and Standard sets basic standards and provides information on current applicable Federal laws, regulations, and policies for land withdrawals, withdrawal management including modifications and extensions, and withdrawal revocations;
- **Real Estate Appraisal Directive and Standard (LND 05-01)** sets forth procedures and provides information to ensure compliance with appropriate authorities and regulations. This Directive and Standard clearly articulates the real property appraisal processes, specifically as they relate to Reclamation's program needs;
- **Land Acquisition Directive and Standard (LND 06-01)** provides direction for the acquisition of land or interests in land by Reclamation and the management of those acquisitions in compliance with existing law and Department of the Interior requirements;

- **Land Use Authorizations Directive and Standard (LND 08-01)** provides standard procedures for issuing use authorization documents such as easements, leases, licenses, and permits which allow others to use Reclamation lands and interests in its lands, facilities, and water surfaces;
- **Land Disposal Directive and Standard (LND 08-02)** prescribes the procedures, methods, and criteria for disposing of Reclamation lands excluding title transfer of project facilities under specific authorizing legislation;
- **Real Property Management Records Directive and Standard (LND 09-01)** establishes the requirements for maintenance of records for Federal land and interests in land under Reclamation's jurisdiction; and
- **Payments in Lieu of Taxes (PILT) Directive and Standard (LND 09-02)** purpose is threefold: (a) to define the responsibility of Reclamation for reporting those PILT entitlement acres located within Reclamation's project boundaries, where appropriate; (b) to ensure there is no multiple reporting or lack of reporting of PILT entitlement acres by Reclamation or between Reclamation and other Federal agencies; and (c) to outline how various land categories must be coded in Foundation Information for Real Property Management to meet Reclamation's reporting requirements under the PILT Act and its regulations.

Concessions

Reclamation Policies and Regulations

- **Concessions Management Policy (LND P02)** defines the Bureau of Reclamation's responsibility for the museum property it owns, controls, or administers on behalf of the U.S. Government in accordance with Federal laws, regulations, and Department of the Interior policies. The benefit of this Policy is improved accountability through accuracy and consistency in managing Reclamation's museum property, and completion of required administrative actions in Reclamation's Museum Property Program. It also provides increased opportunities for public access to, and use of, Reclamation's museum property;
- **Concessions Management by Reclamation Directive and Standard (LND 04-01)** sets forth the directives and standards for planning, development, and management of concessions at Reclamation projects; and
- **Concessions Management by Non-Federal Partners Directive and Standard (LND 04-02)** establishes minimum approval standards for all new, modified, or renewed non-Federal concession contracts.

Facilities Management

Reclamation Policies and Regulations

- **Environmental Management Systems Policy (LND P05)** defines Reclamation's responsibility for the museum property it owns, controls, or administers on behalf of the U.S. Government in accordance with Federal laws, regulations, and Department of the Interior policies. This improves accountability through accuracy and consistency in managing Reclamation's museum property, and completion of required administrative actions in

Reclamation's Museum Property Program. It also provides increased opportunities for public access to, and use of, Reclamation's museum property;

- **Emergency Management Policy (FAC P01)** provides for the safety of the public and protect environmental resources from incidents at Reclamation facilities by (1) taking reasonable and prudent actions necessary to ensure timely notification to potentially affected jurisdictions of such incidents so that warning and evacuation of the public can be accomplished; and (2) defining program needs and requirements essential to maintain self-regulation by line managers, be responsive to public safety, and satisfy legal requirements during operations or emergency incidents at our facilities;
- **Hazardous Waste and Materials Management Policy (ENV P01)** establishes the requirements and responsibilities for the management of hazardous waste generated by Reclamation at Reclamation facilities and the remediation of hazardous waste sites on Reclamation lands. This policy deals with hazardous materials only where required by related hazardous waste management regulations;
- **Pollution Prevention-Hazardous and Solid Waste Minimization Directive and Standard (ENV 02-03)** establishes methods to minimize hazardous and solid waste produced at Reclamation facilities; and
- **Emergency Management Directive and Standard (FAC 01-01)** provides for the safety of the public and protect environmental resources from incidents at our facilities by (1) taking reasonable and prudent actions necessary to ensure timely notification to potentially affected jurisdictions of such incidents so that warning and evacuation of the public can be accomplished; and (2) defining program needs and requirements essential to maintain self-regulation by line managers, be responsive to public safety, and satisfy legal requirements during operations or emergency incidents at Reclamation facilities.

Fire Management

Federal Laws and Statutes

- **Timber Protection Act of September 20, 1922 (42 Stat. 857; 16 USC, Section 594)** authorizes the Secretary of the Interior is authorized to protect and preserve, from fire, disease, or the ravages of beetles, or other insects, timber owned by the U.S. upon the public lands, national parks, national monuments, Indian reservations, or other lands under the jurisdiction of the Department of the Interior owned by the U.S., either directly or in cooperation with other departments of the Federal Government, with States, or with owners of timber; and appropriations are authorized to be made for such purposes;
- **Reciprocal Fire Protection Act of May 27, 1955 [69 Stat. 66; 42 USC, Sections 1856 and 1856(a)]** charges each agency head with the duty of providing fire protection for any property of the U.S. and is authorized to enter into a reciprocal agreement, with any fire organization maintaining fire protection facilities in the vicinity of such property, for mutual aid in furnishing fire protection for such property and for other property for which such organization normally provides fire protection;

- **Economy Act of June 30, 1932 (47 Stat. 417; 31 USC, Section 686)** allows the head of an agency or major organizational unit within an agency to place an order with a major organizational unit within the same agency or another agency for goods or services if: (a) amounts are available; (b) the head of the ordering agency or unit decides the order is in the best interest of the U.S. Government; (c) the agency or unit to fill the order is able to provide or get by contract the ordered goods or services; and (d) the head of the agency decides ordered goods or services cannot be provided by contract as conveniently or cheaply by a commercial enterprise;
- **Disaster Relief Act, Section 417 (PL 93-288)** provides an orderly and continuing means of assistance by the Federal Government to State and local governments in carrying out their responsibilities to alleviate the suffering and damage which result from such disasters by: (1) revising and broadening the scope of existing disaster relief programs; (2) encouraging the development of comprehensive disaster preparedness and assistance plans, programs, capabilities, and organizations by the States and by local governments; (3) achieving greater coordination and responsiveness of disaster preparedness and relief programs; (4) encouraging individuals, States, and local governments to protect themselves by obtaining insurance coverage to supplement or replace governmental assistance; (5) encouraging hazard mitigation measures to reduce losses from disasters, including development of land use and construction regulations; and (6) providing Federal assistance programs for both public and private losses sustained in disasters;
- **The Multiple-Use Sustained-Yield Act of June 12, 1960** authorizes and directs that the national forests be managed under principles of multiple use and to produce a sustained yield of products and services;
- **The Forest and Rangeland Renewable Resources Planning Act of August 17, 1974** provides for the Forest Service, Department of Agriculture, to protect, develop, and enhance the productivity and other values of certain of the Nation's lands and resources, and for other purposes;

Department of Interior Directives

- **1998 Departmental Manual 620 Chapter 1, Wildland Fire Management General Policy and Procedures.**

Transportation

Federal Laws and Statutes

- **Highway Safety Act of 1966, as amended**, provides for a coordinated national highway safety program through financial assistance to the States to accelerate highway traffic safety programs and for other purposes; and
- **Surface Transportation Act of 1978 and 1982, as amended**, authorizes appropriations for construction of certain highways in accordance with title 23, USC, for highway safety, for mass transportation in urban and rural areas, and for other purposes.

Range Management

Federal Laws and Statutes

- **The Taylor Grazing Act of 1934 (43 USC, Section 315)** states “[T]he Secretary of the Interior is authorized, in his discretion, by order to establish grazing districts or additions thereto...of vacant inappropriate and unreserved lands from any part of the public domain...which in his opinion are chiefly valuable for grazing and raising forage crops[.]...” The act also provides for the classification of lands for particular uses;
- **The Public Rangelands Improvement Act of 1978 (43 USC, Section 1901)** provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 USC, Section 1712; and
- **43 CFR, Part 4100 (Grazing Regulations)** provides uniform guidance for administration of grazing on the public lands exclusive of Alaska.

Public Safety

Federal Laws and Statutes

- **The Federal Water Pollution Control Act of 1977 (33 USC, Section 1323)** requires Federal land managers to comply with all Federal, state, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any nongovernmental entity;
- **The Clean Water Act of 1972, as amended (33 USC, Section 1251)** establishes objectives to restore and maintain the chemical, physical, and biological integrity of the nation’s water;
- **The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended (42 USC, Sections 9601 et seq.),** also known as Superfund, is primarily intended to address risks posed to human health and welfare or the environment resulting from releases or potential releases of hazardous substances. Other key acts related to CERCLA include the following:
 - **Emergency Planning and Community Right-to-Know Act of 1986** amends CERCLA (42 USC, Section 11001) and adds sections 120 and 121 dealing with Federal facilities
 - **Community Environmental Response Facilitation Act of 1992** amends CERCLA Section 120(h) (42 USC, Section 9620);
 - **Pollution Prevention Act of 1990 (42 USC, Section 13101)** sets a national policy that pollution should be prevented or reduced at the source whenever feasible; pollution that cannot be prevented should be recycled in an environmentally safe manner, whenever feasible; pollution that cannot be prevented or recycled should be treated in an environmentally safe manner whenever feasible; and disposal or other release into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner;

- **Resource Conservation and Recovery Act of 1976 (RCRA), as amended (42 USC, Sections 5 6901 et seq.)** purposes are to protect human health and the environment from the potential hazards of waste disposal, to conserve energy and natural resources, to reduce the amount of waste generated, and to ensure that wastes are managed in an environmentally sound manner. RCRA regulates the management of solid waste (e.g., garbage), hazardous waste, and underground storage tanks holding petroleum products or certain chemicals;
- **Toxic Substances Control Act of 1976 (15 USC, Sections 2601 et seq.)** allows EPA to regulate new commercial chemicals before they enter the market, to regulate existing chemicals (1976) when they pose an unreasonable risk to health or to the environment, and to regulate their distribution and use;
- **Federal Insecticide, Fungicide, and Rodenticide Act of 1975 (7 USC, Sections 136 et seq.)** sets up the basic U.S. system of pesticide regulation to protect applicators, consumers, and the environment;
- **Clean Air Act of 1970, as amended (42 USC, Sections 7401 et seq.)** purposes are: (1) to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population; (2) to initiate and accelerate a national research and development program to achieve the prevention and control of air pollution; (3) to provide technical and financial assistance to State and local governments in connection with the development and execution of their air pollution prevention and control programs; and (4) to encourage and assist the development and operation of regional air pollution prevention and control programs;
- **Safe Drinking Water Act of 1974, as amended (42 USC, Sections 300 et seq.)** ensures the quality of Americans' drinking water. Under this Act, EPA sets standards for drinking water quality and oversees the states, localities, and water suppliers who implement those standards;
- **Hazardous Materials Transportation Act amendments of 1976 and 1990 (49 USC, Sections 1801 et seq.)** purpose is to provide adequate protection against the risks to life and property inherent in the transportation of hazardous material in commerce;
- **Executive Order 11514, Protection and Enhancement of Environmental Quality, 18 March 5, 1970**, sets a national policy to provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life. Federal agencies shall initiate measures needed to direct their policies, plans and programs so as to meet national environmental goals;
- **National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR, Part 20 300)** purpose is to provide the organizational structure and procedures for preparing for and responding to discharges of oil and releases of hazardous substances, pollutants, and contaminants;

- **Occupational Safety and Health Act of 1970, as amended**, assures safe and healthful working conditions for working men and women; by authorizing enforcement of the standards developed under the Act; by assisting and encouraging the States in their efforts to assure safe and healthful working conditions; by providing for research, information, education, and training in the field of occupational safety and health; and for other purposes; and
- **Lead-based Paint Poisoning Prevention Act, as amended**, purposes are: (1) to develop a national strategy to build the infrastructure necessary to eliminate lead-based paint hazards in all housing as expeditiously as possible; (2) to reorient the national approach to the presence of lead-based paint in housing to implement, on a priority basis, a broad program to evaluate and reduce lead-based paint hazards in the Nation's housing stock; (3) to encourage effective action to prevent childhood lead poisoning by establishing a workable framework for lead-based paint hazard evaluation and reduction and by ending the current confusion over reasonable standards of care; (4) to ensure that the existence of lead-based paint hazards is taken into account in the development of Government housing policies and in the sale, rental, and renovation of homes and apartments; (5) to mobilize national resources expeditiously, through a partnership among all levels of government and the private sector, to develop the most promising, cost-effective methods for evaluating and reducing lead-based paint hazards; (6) to reduce the threat of childhood lead poisoning in housing owned, assisted, or transferred by the Federal Government; and (7) to educate the public concerning the hazards and sources of lead-based paint poisoning and steps to reduce and eliminate such hazards.

Reclamation Policies and Regulations

- **Hazardous Waste and Materials Management Policy (ENV P01)** establishes the requirements and responsibilities for the management of hazardous waste generated by Reclamation at Reclamation facilities and the remediation of hazardous waste sites on Reclamation lands. This policy deals with hazardous materials only where required by related hazardous waste management regulations;
- **Pest Management Policy (ENV P02)** establishes policy for the management of pests on Reclamation lands. Reclamation is responsible for the identification and proper management of pests on Reclamation lands and at Reclamation-owned facilities in accordance with the national policies set out in the Federal Insecticide, Fungicide, and Rodenticide Act, Federal Noxious Weed Act, Carlson-Foley Act, and applicable State and local laws and standards;
- **Occupational Safety and Health Program Policy (SAF P01)** sets forth Reclamation-specific policy for the implementation and administration of an effective safety and health program. This includes safe and healthful working conditions and facilities to protect persons from injury/illness, to prevent accidental damage to facilities, and to prevent public exposure to unsafe conditions;
- **Pest Management/Resource Protection (Integrated Pest Management) Program Directive and Standard (ENV 01-01)** provides directives and standards for Reclamation personnel involved with the implementation of Pest Management/Resource Protection plans for the operation and maintenance of Reclamation lands and facilities;

- **Public Notification of Aerial Pesticide Applications on Lands Managed Directly by Reclamation Directive and Standard (ENV 01-02)** provides directives and standards for Reclamation personnel involved in aerial applications of pesticides to lands managed directly by Reclamation;
- **Pollution Prevention-Hazardous and Solid Waste Minimization Directive and Standard (ENV 02-03)** establishes methods to minimize hazardous and solid waste produced at Reclamation facilities;
- **Emergency Management Directive and Standard (FAC 01-01)** provides for the safety of the public and protect environmental resources from incidents at our facilities by (1) taking reasonable and prudent actions necessary to ensure timely notification to potentially affected jurisdictions of such incidents so that warning and evacuation of the public can be accomplished; and (2) defining program needs and requirements essential to maintain self-regulation by line managers, be responsive to public safety, and satisfy legal requirements during operations or emergency incidents at Reclamation facilities; and
- **Hazardous Materials Directive and Standard (FAC 01-03)** provides for the safety of the public and protect environmental resources from incidents at our facilities by defining program needs and requirements essential to maintain self-regulation by line managers, be responsive to public safety, and satisfy legal requirements during operations or emergency incidents at Reclamation facilities.

Visitor Use and Recreation

Federal Laws and Statutes

- **Procedure to process and recover the value of rights-of-use and administrative costs incurred in permitting such use (43 CFR, Part 429)** intends to meet the requirements of the Independent Offices Appropriation Act [31 USC, Section 483(a)] and Departmental Manual Part 346, Chapters 1.6 and 4.10, to set forth procedures for Reclamation to recover the value of rights-of-use interests granted to applicants, and for the collection of administrative costs associated with the issuing of rights-of-use over lands administered by Reclamation;
- **Reclamation Recreation Management Act of 1992** is an amendment to the Federal Project Recreation Act of 1965, PL 89-72, that provides up to 50 percent Federal cost sharing for the planning, construction, and operation and maintenance of recreation facilities with non-Federal public entities. It also provides 75 percent Federal cost sharing with non-Federal partners for fish and wildlife enhancement and up to 50 percent of the operation and maintenance of such facilities. Non-Federal public entities that have agreed to manage developed facilities and lands at Reclamation projects are to work with local Reclamation offices to identify proposed projects for funding. Congressional funds are appropriated annually and distributed for selected sites;
- **Public conduct on Reclamation lands and projects (43 CFR, Part 423)**, established on April 17, 2002, is meant to maintain law and order and protect persons and property on

Reclamation lands and at Reclamation projects. This statute at the time of authorization honored all designated closures and special use areas on Reclamation property.

- **The Reclamation Act of 1902, as amended** set aside Federal money to irrigate lands in the West to promote farming and vested Reclamation with the authority to operate water projects;
- **36 CFR, Part 71, Recreation Fees**, specifies the criteria under which recreation fees may be charged on Federal lands. Fees must be entrance fees, daily recreation use fees, or special use permit fees. Areas with recreational facilities provided at Federal government expense are eligible to charge use fees;
- **43 CFR, Part 24, Department of the Interior Fish and Wildlife Policy: State- Federal Relationships**, establishes policy on intergovernmental cooperation for the management, use, and preservation of fish and wildlife resources;
- **The Federal Water Project Recreation Act of 1965, as amended**, mandates that planning for any Federal water resource project must address opportunities for recreation and fish and wildlife enhancement;
- **The Land and Water Conservation Fund Act of 1964** directed the Secretary of the Interior to inventory, evaluate and classify outdoor recreation facilities, and formulate and maintain a comprehensive nationwide outdoor recreation plan;
- **PL 106-206, Commercial Filming**, established the requirement of a permit and reasonable fee for filming on lands under the supervision of the Secretary of Interior or Secretary of Agriculture;
- **Americans with Disabilities Act of 1990** prohibits private employers, state and local governments, employment agencies and labor unions from discriminating against persons with physical disabilities; and
- **Office of Management and Budget Circular A-025, Revised 1993** establishes Federal policy regarding fees assessed for Government services and for sale or use of Government goods or resources. It provides information on the scope and types of activities subject to user charges and on the basis upon which user charges are to be set. Finally, it provides guidance for agency implementation of charges and the disposition of collections.

Socioeconomics and Environmental Justice

Federal Laws and Statutes

- **Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations** requires that Federal Agencies make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations;

Reclamation Policies and Regulations

- **Compliance with Civil Rights Laws and Regulations Directive and Standard (PEC 10-25)** states that the contractor must comply with Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and any other applicable civil rights laws. Contractors must also comply with any implementing regulations or guidelines imposed by the U.S. Department of the Interior and/or Reclamation. Any complaints of discrimination against the contractor will be investigated by the Contracting Officer's Office of Civil Rights;
- **Public Civil Rights Policy (CRM P01)** establishes and conveys the policy of Reclamation's prohibition against discrimination in its programs, services and activities: (a) receiving Federal financial assistance; or (b) conducted by, or on behalf of, Reclamation. The benefits of this Policy are ensuring compliance, operational effectiveness, and consistency in implementing Federal Public Civil Rights laws and regulations of the Department of the Interior, Department of Justice, and Reclamation; and
- **The Accessibility Program, or Nondiscrimination on the Basis of Disability in Federally Conducted Programs, Activities, and Services (CRM 03-01)** standardizes and clarifies requirements to ensure compliance with nondiscrimination laws covering persons who have disabilities for consistent implementation throughout Reclamation. The benefits of this Directive and Standard are twofold: (1) public access to, and benefit from, programs, activities and services; and (2) clarification of roles and responsibilities.

Paleontological Resources

Federal Laws and Statutes

- **PL 111-011, Omnibus Public Land Management Act of 2009** requires the Department of the Interior to manage and protect paleontological resources on Federal land using scientific principles and expertise.

APPENDIX D

Public Meeting Notices, Materials, and Summaries

**Mid-Pacific Region
Sacramento, CA**

MP-10-015

Media Contact: Pete Lucero, 916-978-5100, plucero@usbr.gov

For Release On: January 25, 2010

Reclamation to Hold Public Scoping Meeting on a Proposed RMP/EIS for Contra Loma Reservoir and Recreation Area

The Bureau of Reclamation will hold a Public Scoping Meeting on Monday, February 8, 2010, to solicit comments on the preparation of a Resource Management Plan (RMP) and Environmental Impact Statement (EIS) for the Contra Loma Reservoir and Recreation Area (CLRRA). The EIS will be developed consistent with requirements of the National Environmental Policy Act. A Notice of Intent to prepare the RMP/EIS was published in the Federal Register on November 12, 2009.

Located in Antioch, California, Contra Costa County, Contra Loma Reservoir is part of the Central Valley Project and is managed by the Mid-Pacific Region's South-Central California Area Office. The CLRRA is operated and maintained by the East Bay Regional Park District (EBRPD) under a Management Agreement with Reclamation. The Management Agreement includes multiple subleases issued by EBRPD that will expire on December 31, 2010. The EBRPD is interested in renewing the CLRRA Management Agreement with Reclamation.

The RMP/EIS would establish uniform policy and land management guidelines that promote an organized use, development, and management of the Contra Loma Reservoir and the surrounding recreational area lands compatible with applicable Federal and State laws. The RMP would incorporate all information pertinent to the future guidance of the CLRRA and would serve as the basis for future decisionmaking for the area. Through the scoping meeting, Reclamation will solicit public input on concerns, issues, and alternatives to be addressed in the RMP/EIS. The meeting will be held:

Monday, February 8, 2010, 6:30-8:30 p.m.

Nick Rodriguez Community Center
City of Antioch Recreation Department
213 F Street, Antioch, CA 94509

For additional information, please contact Ms. Sheryl Carter at Reclamation's South-Central California Area Office at 559-487-5299 (TTY 1-800-735-2929) or e-mail scarter@usbr.gov, or Mr. Scott Goebel, North State Resources, at 916-446-2566, extension 202.

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Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits. Visit our website at <http://www.usbr.gov>.

Minutes Public Scoping Meeting

Contra Loma Reservoir and Recreation Area RMP/EIS
@ Nick Rodriguez Community Center
February 8, 2010
630 pm – 830 pm

Attendees

Project Team:

Sheryl Carter, Reclamation

Rain Healer, Reclamation

Scott Goebel, North State Resources (NSR)

Leslie Wagner, NSR

See sign-in sheet for public attendees.

Format of Meeting

NSR (Scott Goebel) introduced the project team and welcomed the attendees to the meeting. He provided a presentation on the project and purpose of the RMP/EIS and explained the intent of the scoping meeting. Following the presentation, the public was invited to ask questions and provide verbal comments. Comment forms were available for people wishing to submit written comments.

Verbal Comments

Most of the comments received at the meeting were focused on the need for improved and additional soccer fields at the Antioch Community Park. Several comments were also received on improving recreational opportunities at Contra Loma Reservoir. The comments from individuals are summarized in the following table.

Commenter	Comment Summary
Roy Immekus, DYSL	<ul style="list-style-type: none">▪ Community growth needs to be considered to ensure enough ball fields are available for youth into the future.▪ The City does not currently have enough ball fields for youth soccer.▪ The area south of the existing fields at the community park should be considered for expansion of the soccer fields at the park.▪ Ball fields require little to establish—just a flat area and grass.

Commenter	Comment Summary
Paul Adler, Supervisor Glover's Office (Contra Costa County)	<ul style="list-style-type: none"> ▪ Current use of the soccer fields at the park includes 60-150 children each weekday and approximately 400 children on Saturdays. ▪ Some children must travel to Pittsburg to play because of fields in Antioch being unavailable. ▪ DYSL wants all children to have the opportunity to play, but does not want them to have to travel outside the community to play. ▪ Youth baseball is also sometimes restricted at the park because there are not enough fields. ▪ The City wants the opportunity to expand the fields and extend its agreement to continue maintaining the park. ▪ The County recommends renewing the agreement with the City. ▪ Soccer fields should be expanded and have turf instead of grass. ▪ Increased youth sport opportunities would benefit the community. ▪ The park improvements would be consistent with ongoing infrastructure and Highway 4 improvements being implemented by the County.
Tom Menell	<ul style="list-style-type: none"> ▪ Fields in Antioch close when it rains, and youth must drive to Danville or other communities to play. ▪ Turf surface is preferred to allow all-weather play, and it has low water needs. ▪ Fields in Brentville are also used on occasion if the fields in Antioch are not available. ▪ Fields are not always watered due to water supply shortages, which poses a hazard to players because of dry or barren patches and uneven surfaces.
Dee Vieira	<ul style="list-style-type: none"> ▪ Teams are not able to practice enough because local fields are not always available. ▪ Fields in poor condition create safety concerns. ▪ No current turf fields exist in Antioch; turf fields would expand opportunities for youth practice.
Allen Payton, Turf and Track Group	<ul style="list-style-type: none"> ▪ Turf surface should be considered for safety reasons. It requires little maintenance and provides year-round opportunities.

Commenter	Comment Summary
Manny Flores, Antioch Parks and Recreation Commission	<ul style="list-style-type: none"> Existing fields pose safety concerns—potholes, gopher holes, uneven surfaces, slopes, dry grass. Opportunities appear to be available at the regional park to provide more fields for the community park. Use of turf could alleviate safety concerns.
Will Linville, DYSL	<ul style="list-style-type: none"> Turf fields are recommended to alleviate safety concerns. As a soccer coach, Will would like to see turf fields at the park to expand opportunities for youth sports. Lights on fields would also provide more opportunities for playing. Available land near the community park should not be used for another purpose that could permanently convert it into a non-compatible use, resulting in the lost opportunity to expand soccer fields. DYSL's goal is to provide opportunities for more children to play soccer. Existing fields could be replaced with turf, but expansion on available land should also be considered. Youth are not currently able to practice in evenings (after dark) or if it rains because the fields at the community park are shut down. This forces kids to leave the area in order to get more playing opportunities.
Dave Sanderson, City of Antioch	<ul style="list-style-type: none"> Turf would expand opportunities for soccer, softball, and football and provide year-round opportunities. The City is currently applying to put turf and lights at the existing soccer fields at the community park. The City is working with EBRPD to implement the upgrades. These field improvements would help, but they would not expand opportunities, which are needed to provide more children with the opportunity to play locally.
Shari Gayle	<ul style="list-style-type: none"> Water quality is a concern in the reservoir. Invasive species, such as carp and mussels, are also a concern. CCWD is aware of the issues with zebra and quagga mussels and New Zealand mud snails.

Commenter	Comment Summary
Douglas Young	<ul style="list-style-type: none"> ▪ Carp are currently removed annually when biologists survey the reservoir during draw downs. ▪ The current economy increases the potential for pests to be introduced to the reservoir. ▪ Carp is a concern, but not necessarily a major issue. ▪ Mussels may clog the outlet pipes. ▪ Reclamation programs to manage mussels will need to be considered. ▪ Largemouth bass may be affected by reservoir draw downs, resulting in a reduced bass population, which affects the recreational fishery. ▪ The timing of the draw downs may coincide with bass spawning and may prevent bass from spawning. ▪ A study should be done to evaluate these effects.
Janet Gomes, EBRPD	<ul style="list-style-type: none"> ▪ Additional fishing docks are needed to support the fishermen. ▪ Opportunities should be provided for children to fish and use the reservoir. ▪ Organized group camps would be beneficial for scouts and other children's groups. ▪ A year-round surface should be considered for the lake trail because of inaccessibility during wet weather (muddy conditions).

RECLAMATION

Managing Water in the West



The U.S. Bureau of Reclamation invites you to a

Public Workshop for the Contra Loma Reservoir and Recreation Area Resource Management Plan

Wednesday, August 4, 2010
6:00 – 9:00 pm

Sutter Elementary School • 3410 Longview Road • Antioch, CA 94509

The U.S. Bureau of Reclamation is preparing a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma), which includes the Contra Loma Regional Park and the Antioch Community Park. This is your chance to help guide the future management of recreational uses and natural, cultural, and water resources at Contra Loma.

As public participants, you will have the opportunity to:

- **Learn** about the planning and environmental review process
- **Identify** key resource or land use issues at Contra Loma
- **Provide opinions** about the recreational uses and facilities now at Contra Loma Regional Park and the Antioch Community Park
- **Identify** opportunities for improving resource management and recreational experiences

The success of the Contra Loma Resource Management Plan depends on public involvement. Attend the workshop to share your thoughts and ideas!

Beverages and light snacks will be provided.

For more information about the public workshop, please contact Ben Gettleman at 415-391-7900, bgettleman@kearnswest.com or visit www.ebparks.org/planning. For more information about the RMP process, please contact Sheryl Carter at 559-487-5299, scarter@usbr.gov.



U. S. Department of the Interior
Bureau of Reclamation

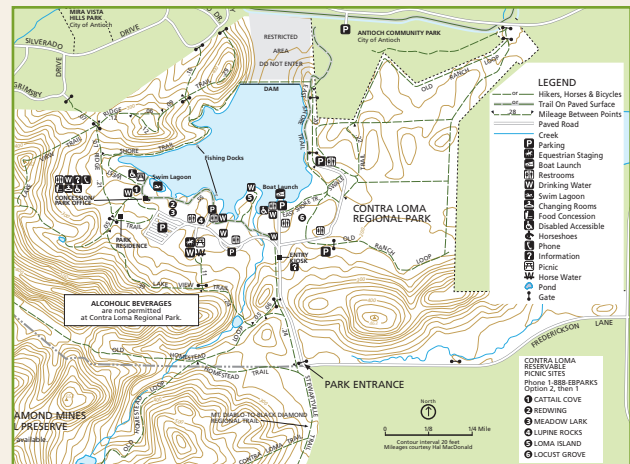
What is the Contra Loma Reservoir and Recreation Area?

The Contra Loma Reservoir and Recreation Area encompasses an 80-acre reservoir, the 780-acre Contra Loma Regional Park and the Antioch Community Park. The area is owned by the U.S. Bureau of Reclamation (Reclamation) and managed by the East Bay Regional Park District (EBRPD), the Contra Costa Water District (CCWD) and the City of Antioch.

The reservoir regulates peak and short-term water supplies and provides emergency storage for CCWD customers throughout central and eastern Contra Costa County. The reservoir is managed and operated by CCWD. The facilities at the regional park, managed by the EBRPD, offer a variety of recreational uses, such as fishing, picnicking, hiking, wildlife observation, and swimming, and local residents use the Community Park for soccer, baseball or softball, walking, and picnicking.

What plan is being developed for Contra Loma?

Reclamation is preparing a Resource Management Plan (RMP) for Contra Loma. The RMP will be the guide for future land and water resources management decisions at Contra Loma. The RMP is intended to establish uniform policy and land management guidelines that promote organized use, development, and management of Contra Loma while protecting water quality, water supply, and natural and cultural resources. Reclamation will also prepare an Environmental Impact Statement (EIS) to evaluate the environmental effects of implementing the RMP. The RMP and EIS will be prepared as a single document. A draft of the RMP/EIS will be available for public review by the fall of 2012.



What is the format of the August 4th workshop?

The workshop will begin with an overview presentation by the project team, followed by an opportunity for participants to visit topic stations (including current and future uses, natural resources, and others), learn more about the process, and submit comments on those topics.

Why should I attend?

Engaged participation by the public, user organizations, and agencies is critical to the success of this planning effort. Your ideas, concerns, and comments will inform the development of the RMP/EIS for management of Contra Loma's valuable resources.

What if I can't attend the workshop in person?

If you are not able to attend the workshop, the presentation and meeting materials will be available at www.ebparks.org/planning. You may provide your comments, questions and concerns on these issues to Ben Gettleman at: (415) 391-7900, bgettleman@kearnswest.com.

A second public workshop will take place in the winter of 2010 to summarize the results of the public involvement process, to present possible alternatives for the RMP, and seek comments about those alternatives. Visit the program website for more details as they become available: www.ebparks.org/planning.

RECLAMATION

Managing Water in the West



Notice of Public Workshop

Wednesday, August 4, 2010

6:00 – 9:00 pm

Sutter Elementary School • 3410 Longview Road • Antioch, CA 94509

The U.S. Bureau of Reclamation (Reclamation) invites you to attend a public workshop to inform the development a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma), which includes Contra Loma Regional Park and Antioch Community Park.

As public participants, you will have the opportunity to:

- **Learn** about the planning and environmental review process
- **Identify** key resource or land use issues at Contra Loma
- **Provide opinions** about the recreational uses and facilities now at Contra Loma Regional Park and Antioch Community Park
- **Identify** opportunities for improving resource management and recreational experiences

This is your chance to help guide the future management of recreational uses and natural, cultural, and water resources at Contra Loma. Attend the workshop to share your thoughts and ideas!

For more information about the public workshop, please contact Ben Gettleman at 415-391-7900, bgettleman@kearnswest.com or visit www.ebparks.org/planning. For more information about the RMP process, please contact Sheryl Carter at 559-487-5299, scarter@usbr.gov.

RECLAMATION

Managing Water in the West



Contra Loma Reservoir and Recreation Area Resource Management Plan Public Workshop

Wednesday, August 4, 2010

Sutter Elementary School • Antioch, CA

FINAL MEETING SUMMARY

I. Workshop Purpose

A public workshop was convened by the U.S. Bureau of Reclamation (Reclamation) on August 4, 2010 in Antioch, California to solicit input for development of a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma). The purpose of the public workshop was to provide an overview of the planning and environmental review process, identify key resource and land use issues, solicit input (i.e., comments and information) about Contra Loma, and identify opportunities, and constraints to manage the resources at Contra Loma. The workshop agenda is attached as Appendix A.

II. Welcome and Project Overview

Sheryl Carter, Reclamation, welcomed participants and provided an overview of Reclamation and the RMP process. Ms. Carter noted the following key points: Reclamation owns Contra Loma and manages it in partnership with the City of Antioch, East Bay Regional Park District (EBRPD), and Contra Costa Water District (CCWD); the current management agreement with EBRPD will expire in December 2010, and a new agreement will be needed that incorporates decisions in the RMP; and the goal of the workshop is to solicit comments on how the public would like to see Contra Loma and its resources managed in the future.

Scott Goebel, NSR, further described Contra Loma, its managing partners, and the RMP process. Mr. Goebel clarified that Contra Loma includes three main areas: Antioch Community Park, Contra Loma Reservoir, and Contra Loma Regional Park. He also noted the following key points regarding the current management and use of Contra Loma: Antioch Community Park is managed by the City of Antioch, and it includes many recreational opportunities including softball fields, picnic areas, and trails; the reservoir is operated by CCWD and its main purpose is to supply drinking water (and therefore water quality is the highest priority); and Contra Loma Regional Park is managed by EBRPD and provides recreational activities including a swim lagoon, fishing, and hiking.

Mr. Goebel clarified that the RMP is a land use management plan that will guide the future management of resources of this area for at least the next 10 years and that the input received at this workshop would inform the development of RMP alternatives. He added that these alternatives would be available for review at a second public workshop planned for January 2011, and that based on public comments received at that time, the alternatives are expected to be refined to three alternative management scenarios.

¹ This summary represents Kearns & West's efforts to synthesize the input received by workshop participants as well as the responses provided by project staff. This report focuses on summarizing the public's input on key issues; it is not intended to serve as a transcript of all issues discussed or points made.



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III. Workshop Topic Stations

Ben Gettleman, Kearns & West, explained the structure and flow of the four topic stations. He noted that at each station, participants would be asked to provide feedback on what is working (priorities), what is not working (concerns), and how it could be improved (opportunities). Each topic station was staffed by a lead and at least one representative from the managing partner agency to answer questions about the RMP process or the area being managed.

Topic Station	Topic	Station Lead	Partner Representative
1	RMP/EIS Process	Scott Goebel (NSR)	
2	Contra Loma Regional Park	Leslie Wagner (NSR)	Anne Rivoire (EBRPD) and other EBRPD staff
3	Contra Loma Reservoir	Sheryl Carter (Reclamation)	Fran Garland (CCWD)
4	Antioch Community Park	Rebecca Gaertner (NSR)	Lonnie Karste (City of Antioch)

The public comments received at each topic station are summarized below:

1. RMP/EIS Process

A. What is working (priorities)?

- Sincere appreciation and enjoyment of the park.

B. What is not working (concerns)?

- One commentor recently observed an abundance of dead clams around the reservoir shoreline. The commentor is concerned that the dead clams are an indication of poor water quality.
- Over the past 2 years, fewer dragonflies and small fish have been observed along the shoreline
- Fish catches appear to be down recently.
- Water levels appear to be lower recently.
- Black bass and crappie populations appear to be decreasing. Water level fluctuations may be inhibiting regeneration. These fish lay eggs on the reservoir bottom in April/May. Lowering the reservoir level below the level of the eggs causes egg mortality.
- Algae blooms appear in backwater areas. They are unsightly and promote neglect.
- Apparent abundance of animal feces (geese, horses, dogs) is noticeable around the reservoir, which could reduce reservoir water quality. The feces is unsightly and promotes neglect of reservoir and recreational area.

C. How could it be improved (opportunities)?

- Water quality sampling locations should be distributed more widely around the reservoir.
- Maintain water level at a constant elevation in April/May to allow black bass and crappie eggs to hatch. After April/May water level fluctuations would not affect these fish
- One solution to the feces issue would include abundant signage with telephone contact information to report problems. Suggest placing at least 10 dog feces bag stations throughout the park and adding more garbage cans on NW shore, east shore and dam.

2. Contra Loma Regional Park

A. What is working (priorities)?

- Job opportunities – L.G./swim instructors (EBRPD)
- Swimming lessons
- Jr. lifeguard program
- Swimming test – maintains safety
- Swim instructors – very helpful
- Picnic areas – kept clean
- Management of capacity in lagoon area
- Swim program
 - o Keeping children safe/life skills
 - o A place for families to bond
 - o Job placement (JG's)
- Public safety (police/fire) coverage
- Jr. lifeguard program builds self worth and confidence for children

- Community enrichment
- Friday naturalist programs
- Trail quality (much improved)
- Great park for dogs

B. What is not working (concerns)?

- The trails around the west shore get muddy.
- More shade is needed around the lawn at the swim lagoon.
- There is not enough parking at lagoon.
- The swim lagoon is too small.
- There are not enough restroom facilities.
- Children ages 0-5 need a separate safe pool for improved safety (or a portion of existing lagoon should be roped off for toddlers ages 0-5).
- Animal (dog/horse) feces is noticeable along trails around the reservoir.
- There is not enough shade along the trails.
- There is not enough defined off-leash dog areas.
- Horses near the reservoir may pose water quality concerns (feces)
- Restrictions on kayaking to reduce human contact are too severe.
- There are limited mountain bike loop trail opportunities.

C. How could it be improved (opportunities)?

- Placing gravel along the west shore trails could keep them from getting muddy.
- More trees around the park, and especially on the west shore would increase shade.
- Add building/facilities for classes and better bathrooms.
- Expand gravel/overflow parking
- Have more public clean-up days.
- Issue more littering tickets.
- Add a secure locked "donation box" for walk-ins.
- Expand lagoon or add additional swim areas.
- Improve communication between kiosk attendants/lagoon kiosk attendant/lifeguards/rangers and naturalist programs.
- Create multi-use trail connectors in the following locations:
 - o Between the bulletin board at the stop sign area and the gravel road
 - o Between the boat ramp and the creek side bridge along the water
 - o A full circle around the island (should be gravel)
 - o Between the boat ramp and the east shore trail
 - o At the entrance road
- Make lagoon "non-smoking only" and designate smoking area down-wind from swimmers.
- Patrol and clean up trails at least daily to remove feces/garbage.
- Place more garbage cans along trails.
- Place at least 10 dog feces bag stations at garbage cans and along trails.
- Improve signs about cleaning up feces, using large text that is easy to understand.
- Plant trees along trails for shade.
- Designate more off-leash dog areas, perhaps including:
 - o A dog park within the park
 - o An off-leash area SE of the reservoir in the grassy area (#1 or #2)²
- Educate users about keeping the park clean, especially the picnic areas.
- Use rangers to patrol and talk to users about keeping the park clean. Consider using bilingual rangers.
- Add more signs to clean up picnic areas. These signs should:
 - o Be at each table
 - o Be bilingual
 - o Notify park users about about fines/non-compliance
- Expand trails available to mountain bikes,

² See Appendix B: Map of Contra Loma Regional Park. Participants were able to number areas of the map to comment on.

3. Contra Loma Reservoir

A. *What is working (priorities)?*

- Water and open space matter to:
 - People: health, fitness, spiritualit , fun
 - Flora & fauna: habitats, ecosystems
- The lagoon's separation from the reservoir maintains the primary objective of maintaining water quality.

B. *What is not working (concerns)?*

- Lake levels are inconsistent and no warning or notification is provided about fluctuation
- Trash is exposed or trapped during low water levels.
- Algae is observed on the lake and the shore.
- Fish carcasses are observed along shore, possibly left by birds, fishermen, or nature
- Restrictions on kayaking to reduce human contact are too severe.

C. *How could it be improved (opportunities)?*

- Consider removing trash and dead tules from the reservoir when water levels are low.
- Remove fish carcasses dail .
- Explain the source of the algae and whether it is caused by neglect.
- Clean up will prevent bad odors from algae and reduce the appearance of neglect.
- Relax restrictions on kayaking.

4. Antioch Community Park

A. *What is working (priorities)?*

- The park is clean and well-maintained in general. Some exceptions include garbage, excrement, and graffiti
- The park offers abundant team sports with good schedules.
- The facilities are effectively used.
- There is great shade at picnic and play areas.

B. *What is not working (concerns)?*

- There should be less focus on baseball fields and more focus on mixed-use fields. The third baseball diamond should be converted to a multi-use field
- There is a lack of community presence (e.g., not enough sign-up sheets for special events)
- There is a lack of ranger presence.
- There are not enough garbage bins along the dam.
- There is a lack of dog-waste bags.
- There should be more public input regarding marketing of recreation programs on the site.
- Play structure cleanliness could be improved.
- Car break-ins have increased recently.
- The area between the parking lot and the trail on the west side of the park is unfinished and suffers from erosion.
- The grass area on the west side of the park is not complete and becomes muddy.
- Gate closure times should be specific
- The gate attendant can be grumpy.
- The soccer fields should be better maintained to address drainage, gophers, and turf qualit .
- The soccer fields are not usable in wet weathe
- The soccer and multi-use fields are not lighted, which limits use in the winte .

C. *How could it be improved (opportunities)?*

- Reduce flooding at map location # ³.
- Increase police patrols in parking lots.
- Increase trails along the creek and riparian area and improve interconnection between trail systems.
- Improve playground cleanliness, possibly with power washing.
- Eliminate the playground sand or replace the sand with clean sand
- Increase police presence.
- Improve muddy areas with grass or gravel.
- Clear figs on the play area more regularl .

³ See Appendix C: Map of Antioch Community Park.

- Improve pathway lighting.
- Create a botanical garden in the open space adjacent to the soccer fields
- Expand the area for soccer and multi-use fields by adding fields to the south
- Install lighting on the soccer/multi-use fields
- Install synthetic fields for all-weather use
- Improve maintenance of existing soccer fields
- Replace the existing natural turf on soccer fields with Bermuda or other more robust turf

IV. Workshop Recap and Next Steps

Following the topic station session, the leads for each station reported back to the group on key themes.

1. **RMP/EIS:** There were general concerns about water quality issues, citing increased sightings of dead clams on the shoreline and fewer sightings of insects and small fish. The suggestion to keep the reservoir's water level steady in April/May was also noted.
2. **Contra Loma Regional Park:** Participants enjoy the park in general, particularly the swimming area and job opportunities. This park could benefit from improved trails, picnic areas, and additional signage
3. **Contra Loma Reservoir:** This area is used a lot and is important. People wanted to know more about when water levels will change and whether this reservoir is regularly patrolled or cleaned.
4. **Antioch Community Park:** This park is well maintained and enjoyed by users. Participants would like to see the trails better connected, the multi-use facilities and areas increased, and police presence increased.

Comments during this round will be received until August 31, 2010. To receive a Comment Form or additional information, please email or call Ben Gettleman: bgettleman@kearnswest.com, (415) 391-7900. A second public workshop is planned for January 2011, where Reclamation will solicit feedback on the alternative RMP packages.

Public Workshop Agenda

Wednesday, August 4, 2010 • 6:00 – 9:00 pm

Sutter Elementary School • 3410 Longview Road • Antioch, CA 94509

Workshop Goals

During the workshop, public participants will:

- **Learn** about the planning and environmental review process
- **Identify** key resource or land use issues at Contra Loma
- **Provide opinions** about the recreational uses and facilities now at Contra Loma Regional Park and the Antioch Community Park
- **Identify** opportunities for improving resource management and recreational experiences

Workshop Agenda

5:30 pm – 6:00 pm: Registration

6:00 pm – 6:15 pm: Welcome and Project Overview

The project team will provide an overview of the management plan and environmental review processes. They will also outline the flow of the workshop.

6:15 pm – 8:30 pm: Workshop Topic Stations

Workshop attendees will visit the topic stations and provide comments. The project team and managing partner agency staff will be available at each station to discuss specific aspects of Contra Loma, to answer questions and to receive your feedback.

Topic Stations:

- Station 1: Contra Loma RMP/EIS Process
- Station 2: Contra Loma Regional Park
- Station 3: Contra Loma Reservoir
- Station 4: Antioch Community Park

8:30 pm – 9:00 pm: Report Back and Next Steps

Key themes and issues from each topic station will be shared with the larger group. The project team will also discuss next steps and future opportunities for public involvement.

Background

The U.S. Bureau of Reclamation (Reclamation) is preparing a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma), which includes the Contra Loma Regional Park and the Antioch Community Park. The RMP is intended to establish uniform policy and land management guidelines that promote organized use, development, and management of Contra Loma while protecting water quality, water supply, and natural and cultural resources.

Appendix B: Map of Contra Loma Regional Park

Contra Loma Regional Park



Antioch Community Park



Workshop Attendees

Name	Organization/Affiliation
Martha Parsons	Antioch City Council
Lonnie Karste	City of Antioch
Brian Hooker	Congressman Garamendi
Fran Garland	Contra Costa Water District
Scott Bartlebaum	Delta Youth Soccer League
Neal Fujita	East Bay Regional Park District
Nancy Kalser	East Bay Regional Park District
Matt Medison	East Bay Regional Park District
Dan McCormick	East Bay Regional Park District
Paul Miller	East Bay Regional Park District
Anne Rivoire	East Bay Regional Park District
Anne Scheer	East Bay Regional Park District
Dania Stoneham	East Bay Regional Park District
Jeff Wilson	East Bay Regional Park District
Ben Gettleman	Kearns & West (Facilitation support)
Christine Lim	Kearns & West
Rebecca Gaertner	North State Resources
Scott Goebel	North State Resources
Leslie Wagner	North State Resources
Rich Brownley	Participant
Daniel Herzberg	Participant
Steve Lucky	Participant
Janet Ray	Participant
Cort Wilcox	Participant
Christina Wilcoy	Participant
Cuiqui Hernandez	St. Anthony Church
Nely Rubio	St. Anthony Church
Maricelo Reynoso	St. Anthony Church
Sheryl Carter	U.S. Bureau of Reclamation
Dan Broin	Village Community Resource Center
Eric Hoffman	Village Community Resource Center
Anthony Murillo	Village Community Resource Center

**Mid-Pacific Region
Sacramento, CA**

MP-11-022

Media Contact: Pete Lucero, 916-978-5100, plucero@usbr.gov

For Release On: February 24, 2011

Reclamation Announces Scoping Meeting on Management Plan for Contra Loma Reservoir and Recreation Area

The Bureau of Reclamation will hold a public meeting on the scope of issues related to a Resource Management Plan and Environmental Impact Statement for the Contra Loma Reservoir and Recreation Area.

The East Bay Regional Park District operates the area in Contra Costa County for Reclamation under an interim agreement and has requested a renewal of that plan. A Resources Management Plan (RMP) addresses the resources of an area and provides future objectives, goals and management direction on recreational lands. An environmental impact statement must be prepared on an RMP.

The public meeting will be in:

Antioch
Thursday, March 3, 2011
6 p.m.-8 p.m.
Prewett Family Park and Community Center
4701 Lone Tree Way, Antioch, CA 94531

For additional information, please call Sheryl Carter at Reclamation's South-Central California Area Office at 559-487-5299 (TDD 1-800-735-2929).

###

Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation, and fish and wildlife benefits. Visit our website at <http://www.usbr.gov>.

RECLAMATION

Managing Water in the West



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6:00 – 8:00 pm

Prewett Family Park & Community Center • 4701 Lone Tree Way • Antioch, CA 94531

The U.S. Bureau of Reclamation is preparing a Resource Management Plan (RMP) to guide future management of the Contra Loma Reservoir and Recreation Area (Contra Loma), which includes Contra Loma Regional Park and Antioch Community Park. The March 3 workshop is another chance to help guide the future management of recreational uses and natural, cultural, and water resources at Contra Loma.

As workshop participants, you will have the opportunity to:

- **Learn** about the process and timeline for Contra Loma planning and environmental review
- **Understand** how community input has helped inform the process to date
- **Provide input** on possible future actions and how they relate to uses, including recreation
- **Identify** additional opportunities for improving resource management and recreational experiences at Contra Loma

The continued success of Contra Loma management depends on your involvement.

Attend the workshop to share your thoughts and ideas!

If you plan on attending, please **RSVP** by
Monday, February 28th to
Christine Lim at 415-391-7900,
clim@kearnswest.com

Beverages and light snacks will be provided.

Workshop Location



For more information about the public workshop, please contact Christine Lim at 415-391-7900, clim@kearnswest.com or visit www.ebparks.org/planning#contraloma. For more information about the RMP process, please contact Sheryl Carter at 559-487-5299, scarter@usbr.gov.

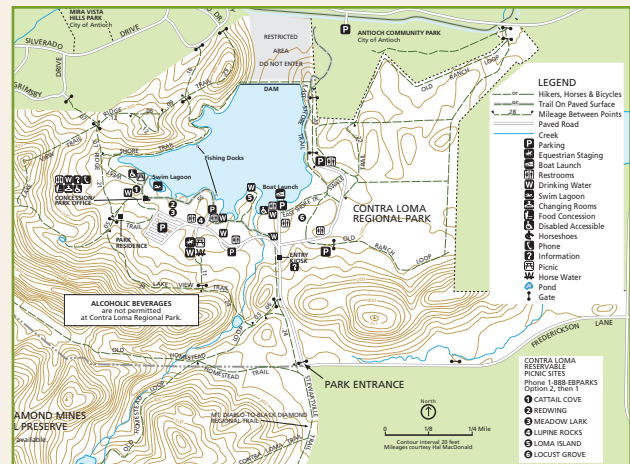


U. S. Department of the Interior
Bureau of Reclamation

What is the Contra Loma Reservoir and Recreation Area?

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The reservoir regulates peak and short-term water supplies and provides emergency storage for CCWD customers throughout central and eastern Contra Costa County. The reservoir is managed and operated by CCWD. The facilities at the regional park, managed by the EBRPD, offer a variety of recreational uses, such as **fishing, picnicking, hiking, wildlife observation, and swimming**, and local residents use the Community Park for **soccer, baseball or softball, walking, and picnicking**.



What plan is being developed for Contra Loma?

Reclamation is preparing a Resource Management Plan (RMP) for Contra Loma. The RMP will be the guide for future land and water resources management decisions at Contra Loma. The RMP is intended to establish uniform policy and land management guidelines that promote organized use, development, and management of Contra Loma while protecting water quality, water supply, and natural and cultural resources. Reclamation will also prepare an Environmental Impact Statement (EIS) to evaluate the environmental effects of implementing the RMP. The RMP and EIS will be prepared as a single document.



What is the purpose of the March 3 workshop?

Over the past year, members of the public and managing partner agencies have provided Reclamation with ideas, concerns, and comments that have helped inform the development of the RMP. Based on this information, Reclamation has developed conceptual draft packages of future actions, or alternatives, to be included in the RMP. This workshop provides an opportunity to learn about the conceptual draft alternatives and to provide additional input. Following the workshop, Reclamation will further refine and flesh out the details and descriptions of the alternatives, and prepare the full draft RMP which will be circulated for public review and comment by the fall of 2012.

What is the format of the March 3 workshop?

The workshop will begin with an overview presentation of the RMP development process, including public comments to date. This will be followed by break-out stations where members of the public can provide input on the draft actions and alternatives being considered for inclusion in the draft RMP.

Why should I attend?

Engaged participation by the public, user organizations, and agencies is critical to the success of this planning effort. Your ideas, concerns, and opinions will continue to inform the development of the RMP/EIS for management of Contra Loma's valuable resources.

What if I can't attend the workshop in person?

If you are not able to attend, materials from the workshop will be available at www.ebparks.org/planning#contraloma. You are encouraged to provide your ideas, questions and concerns on these issues to Christine Lim at: (415) 391-7900, clim@kearnswest.com.

Contra Loma Reservoir and Recreation Area Resource Management Plan Public Workshop

Thursday, March 3, 2011
Prewett Family Park and Community Center
Antioch, CA

MEETING SUMMARY¹

Summary

I. Workshop Purpose

A public workshop was convened by the U.S. Bureau of Reclamation (Reclamation) on March 3, 2011 in Antioch, California to solicit input for the development of a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma). The purpose of the workshop was to provide an overview of the planning and environmental review process, share how community input has informed the process to date, solicit input (i.e., comments and information) on possible future management actions, and identify additional opportunities to improve the management of resources at Contra Loma. The workshop agenda is attached as Appendix A.

II. Welcome and Project Overview

Sheryl Carter, Reclamation, welcomed participants and provided an overview of Reclamation and the RMP process. Ms. Carter noted that Reclamation owns Contra Loma and manages it in partnership with the City of Antioch, East Bay Regional Park District (EBRPD), and the Contra Costa Water District (CCWD), and that new agreements will be established that incorporate recommendations from the RMP.

Scott Goebel, NSR, further described Contra Loma, its managing partners, and the RMP process. Mr. Goebel clarified that Contra Loma includes three main areas: Antioch Community Park, Contra Loma Reservoir, and Contra Loma Regional Park. He also noted the following key points regarding the current management and use of Contra Loma: Antioch Community Park is managed by the City of Antioch, and it includes many recreational opportunities including softball fields, picnic areas, and trails; the reservoir is operated by CCWD and its main purpose is to supply drinking water (and therefore water quality is the highest priority); and Contra Loma Regional Park is managed by EBRPD and provides recreational activities including a swim lagoon, fishing, and hiking.

Mr. Goebel clarified that the RMP will provide guidance for the future management of resources to achieve the desired future condition of the project area. He added that the RMP primarily focuses on protecting water supply, water quality and natural resources, and that enhancing recreational uses is a secondary emphasis.

¹ This summary represents Kearns & West's efforts to synthesize the input received by workshop participants. This report focuses on summarizing the public's input on key issues; it is not intended to serve as a transcript of all issues discussed or points made.

Mr. Goebl noted that, to date, the RMP has been informed by feedback from two public workshops, input from managing partner agencies, and additional research on existing environmental resources and facilities. This information has been considered against a set of planning criteria to develop conceptual, draft management actions which can be implemented to meet the goals of the RMP.

The 71 conceptual, draft management actions are packaged into three conceptual draft alternatives:

1. “No Action” Alternative: Continues current management practices with no substantive changes.
2. Enhanced Alternative: Enhances current recreation, with minimal changes to Contra Loma’s aesthetic character.
3. Expanded Alternative: Expands recreation substantially with new infrastructure; this alternative would include management actions from the Enhanced Alternative as well.

Mr. Goebl shared that the RMP will have a preferred alternative, which could be one of the alternatives listed above or a combination of alternatives. The outcome will depend on the findings of the related environmental processes, public comments and input from managing partners. He added that the RMP is a planning level document, not a project level document, and that specific descriptions and improvements will not be defined at this stage.

Mr. Goebl stated that the purpose of this workshop was to receive comments on the draft alternatives before they are further developed. Regarding the project timeline, Mr. Goebl shared that the next revision of the draft RMP alternatives will be available for public comment in December 2012, and that the draft Environmental Impact Statement (EIS) for these alternatives will be available for public comment in January 2013. Based on this feedback, a preferred RMP alternative will be identified in January 2013, leading to the development of a final RMP and EIS.

III. Workshop Comment Stations

Ben Gettleman, Kearns & West, explained the structure and flow of the comment stations.

Station 1: Review Input Receive to Date

Participants were asked to review comments provided to date and provide input on whether the management action adequately addresses the corresponding comment, and whether the management action could be revised to better address the comment.

Station 2: Provide Input on Draft Management Actions

Participants reviewed the management actions under the three different management alternatives. They were asked to provide feedback on whether they supported the management action, how the management action could be improved, and what additional management actions should be considered.

The public comments received are summarized below:

Station 1 Comments

- Trail safety should be increased through bicycle patrols or call boxes.
- A disc golf course should be considered because people would use it.

Station 2: Common Alternative Comments

- Advertisement of the different events taking place at Contra Loma should be better coordinated.
- **MA 6:** One central phone number for the Contra Loma area should be established; it is currently unclear which agency should be called to report an issue.
- **MA 7:** Enforce self-pay entrance fees.
- **MA 8:** Work with city volunteers to address litter, waste and graffiti.

Station 2: Enhanced Alternative Comments

- **MA 35:** Provide a separate, small child area during high volume days.

Station 2: Expanded Alternative Comments

- Additional signage of trails, distances, and locations are needed.
- Spanish speaking staff should always be present during the summer months to assist guests.
- The snack bar should also supply pampers, a first aid kit, etc.
- Security cameras should be installed throughout Contra Loma, but particularly in the most heavily trafficked areas.
- **MA 54:** Additional docks are needed, and not just for fishermen's use.

IV. Next Steps

Workshop participants were encouraged to contact Scott Goebel with additional comments and questions (Goebel@nsrnet.com, (916) 717-9069). Project information and materials will be available on the project website: www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=639.

Appendix A: Public Workshop Agenda

Public Workshop Agenda

Thursday, March 3, 2011 • 6:00 – 8:00 pm

Prewett Family Park and Community Center • 4701 Lone Tree Way • Antioch, CA 94531

Workshop Goals

During the workshop, public participants will:

- **Learn** about the process and timeline for Contra Loma planning and environmental review
- **Understand** how community input has helped inform the process to date
- **Provide input** on possible future actions and how they relate to uses, including recreation
- **Identify** additional opportunities for improving resource management and recreational experiences at Contra Loma

Workshop Agenda

5:30 pm – 6:00 pm: Registration

6:00 pm – 6:15 pm: Welcome and Project Overview

The project team will provide an overview of the Resource Management Plan development process and the purpose of the workshop. They will also outline the flow of the workshop.

6:15 pm – 8:00 pm: Workshop Stations

Workshop attendees will visit comment stations and provide input on the draft management actions. The project team will be available to provide additional detail, to answer questions and to receive feedback.

Comment Stations:

- Station 1: Summary of Input Received
 - Attendees will review comments provided to date and how they were addressed.
- Station 2: Input on Draft Management Actions
 - Attendees will review draft management actions and provide input on how they could potentially be revised or improved.

Workshop Agenda

The U.S. Bureau of Reclamation (Reclamation) is preparing a Resource Management Plan (RMP) for the Contra Loma Reservoir and Recreation Area (Contra Loma), which includes the Contra Loma Regional Park and the Antioch Community Park. The RMP is intended to establish uniform policy and land management guidelines that promote organized use, development, and management of Contra Loma while protecting water quality, water supply, and natural and cultural resources.

Appendix B: Workshop Attendees

<u>Name</u>	<u>Organization/Affiliation</u>
Tina Wehrmeister	City of Antioch
Vincent Manuel	City of Antioch Planning Commission
Fran Garland	Contra Costa Water District
Scott Bartlebaum	Delta Youth Soccer League
Julie Bondurant	East Bay Regional Park District
Paul Miller	East Bay Regional Park District
Dania Stoneham	East Bay Regional Park District
Jeff Wilson	East Bay Regional Park District
Ben Gettleman	Kearns & West
Christine Lim	Kearns & West
Brandon Amrhein	North State Resources
Scott Goebel	North State Resources
Satinder Malhi	Office of Senator Mark DeSaulnier
Paul Adler	Office of Supervisor Federal Glover
Eloine Chapman	Resident
Christina Wilcox	Resident
Cort Wilcox	Resident
Sheryl Carter	U.S. Bureau of Reclamation