

TOLAY LAKE REGIONAL PARK PROPERTY

CONDITION REPORT

Prepared for:

**Sonoma County Agricultural Preservation
& Open Space District**
747 Mendocino Avenue
Santa Rosa, CA 95403

Prepared by:

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July 2006



S O N O M A C O U N T Y

**AGRICULTURAL PRESERVATION
AND OPEN SPACE DISTRICT**

TOLAY LAKE REGIONAL PARK PROPERTY CONDITION REPORT

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TOLAY LAKE REGIONAL PARK PROPERTY CONDITION REPORT

Sonoma County Agricultural Preservation and Open Space District

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ACKNOWLEDGEMENT OF PURPOSE

The Tolay Lake Regional Park Property (the Property), encompassing about 1,737 acres of land owned by Sonoma County, is located within the Tolay Creek Watershed in the San Pablo Bay Hydrologic Unit in southeastern Sonoma County, between the cities of Petaluma and Sonoma. The Conservation Easement Agreement between Sonoma County and the Sonoma County Agricultural Preservation and Open Space District (the District) was approved by the District Board of Directors on September 27, 2005, Resolution No. 05-0840a.

The purpose of this Condition Report is to develop preliminary resource management recommendations to guide land management at the Property for the next 1-2 years, until a Restoration and Management Plan for Tolay Lake and a Master Plan is prepared by Sonoma County Regional Parks ("Regional Parks"). The Master Plan will serve as the 'Tolay Lake Park Management Plan' referenced in the Conservation Easement Agreement. The preliminary natural resource protection and management recommendations outlined herein reflect the conservation values of the Property described in the Conservation Easement Agreement. It is intended that these recommendations will inform the development of the Master Plan.

For Sonoma County Regional Parks:

_____ Date: _____
Mary Burns, Director

For Sonoma County Agricultural Preservation and Open Space District:

_____ Date: _____
Andrea Mackenzie, General Manager

INTRODUCTION

The purpose of this Condition Report is to develop preliminary resource management recommendations to guide land management at the Tolay Lake Regional Park Property (“the Property”) for the next 1-2 years, until a Restoration and Management Plan for Tolay Lake and a Master Plan is prepared by Sonoma County Regional Parks (“Regional Parks”). The Master Plan will serve as the ‘Tolay Lake Park Management Plan’ referenced in the Conservation Easement Deed and Agreement. The preliminary natural resource protection and management recommendations outlined below reflect the conservation values of the Property described in the Conservation Easement Deed and Agreement. It is intended that these recommendations will inform the development of the Master Plan. Prior to granting approval of the Master Plan, the District may ask Regional Parks to account for any discrepancies between these recommendations and the proposed Master Plan.

The 1,737-acre Tolay Lake Regional Park Property is located north of San Pablo Bay in the Tolay Creek watershed southeast of the City of Petaluma and southwest of the City of Sonoma (*see Exhibit 1, Location Map*). The Property is “hydrologically and ecologically connected to a large block of protected lands in the historic Sonoma Baylands wetlands” (Sonoma County 2005a), and provides important open space, recreational use, scenic viewsheds, as well as protection of abundant natural and cultural resources. Approximately 200 acres in area, Tolay Lake was once the largest natural freshwater lake in Sonoma County, providing winter refuge for migratory bird species along the Pacific Flyway. Tolay Lake Regional Park comprises about 20% of the upper watershed of Tolay Creek, including a two-mile stretch of Tolay Creek (*see Exhibit 2, Topographic Map*). The Tolay Creek watershed drains into the San Pablo Bay, a part of the San Francisco Bay Estuary (Sonoma County 2005a). The Estuary is the largest on the Pacific Coasts and consists of many types of upland and wetland habitats, including tidal flats, tidal marsh, salt ponds, dunes, seasonal wetlands, grasslands, oak woodlands, and riparian forest. For a detailed description of the Property, refer to the Tolay Lake Regional Park Property Baseline Document.

In 2005, the State Coastal Conservancy and Sonoma County Agricultural Preservation and Open Space District (“the District”), along with the Wildlife Conservation Board, California State Department of Parks and Recreation’s California Land and Wildlife Conservation Fund, California Department of Fish and Game, California State Coastal Conservancy, the National Oceanic and Atmospheric Administration, Sonoma County Per Capita Proposition 12 Funds, the Park Acquisition Trust Fund, and private donations, purchased the Tolay Lake Ranch for the protection and restoration of natural and cultural resources and to provide public access. Before transferring the fee ownership to Regional Parks, the District developed the Tolay Lake Conservation Easement Deed and Agreement to conserve, enhance, restore and protect the natural resources,

open space and scenic values of the Property and to provide for the Wildlife Conservation Board Conservation Easement.

At the time of preparation of this document, Regional Parks has initiated special studies that will be used to further assist in preparation of the Master Plan and CEQA document. These studies are for biological resources, cultural resources, rangeland management, and lake engineering. The Master Plan will be developed within an extensive public involvement process, including neighborhood meetings, a Technical Advisory Committee, meetings of the Park and Recreation Advisory Commission, and other forums. After the Master Plan is developed, Regional Parks will have an environmental document prepared pursuant to the California Environmental Quality Act (CEQA). The CEQA process will also include a public involvement process, including public meetings and review of the CEQA document.

Information for this report was provided by the Tolay Lake Regional Park Property Baseline Document, (Circuit Rider Productions, Inc., October 2005), appraisal report (Appraisal Associates, January 28, 2003), the Feasibility Analysis for the Restoration of Tolay Lake (Ducks Unlimited, Inc., March 2005), the Phase I Environmental Site Assessment (EBA Engineering, February 2004), Hydrologic Feasibility Analysis for the Tolay Lake Ranch Property (Kamman Hydrology & Engineering, Inc., December 2003), data provided by District staff, and site visits by Circuit Rider Productions (CRP) staff members Rob Evans and Kate Reza on September 1, and Rob Evans on September 2, 7, 12, 22, and 29, 2005, and April 18, 2006. Photographs taken during these visits document the physical appearance of the Property (see *Exhibit 4: Photo Locations*). Aerial imagery (2004) of the Property, developed by Air Photo USA and Resource Strategies, Inc., was utilized to document large scale land features and for map development.

RESOURCE MANAGEMENT RECOMMENDATIONS

Long-term resource management and stewardship at the Tolay Lake Regional Park should utilize an adaptive management approach that includes comprehensive resource inventory, needs assessment, analysis, planning, implementation and monitoring. This on-going science-based process will benefit from the continued input of technical experts, resource agencies and other stakeholders to ensure the protection and enhancement of cultural and natural resources. CRP recommends the development of a detailed planning approach for community participation in the development of Tolay Lake Regional Park. The planning approach will describe community-based restoration elements of a public education program, the involvement of diverse native peoples, and the development of a restoration funding strategy.

The preliminary resource management recommendations outlined in this report include both general and site specific recommendations with a focus on the following natural resource management and protection issues for the Tolay Lake Regional Park Property: habitat restoration, erosion, invasive plant species, rangeland management, and sensitive habitat protection. Recommendations, or items that could be considered, were limited by the uncertainties related to the pending water rights permit applications submitted by the Cardozas and other Tolay Lake basin property owners. Limited natural and cultural resources data exist for the Tolay Lake Regional Park and point to the need for comprehensive resources inventories and resource management plans. The integration of new data within an adaptive management framework will allow for the development of scientifically defensible management criteria and practices for the Property, as well as a more detailed set of plans for natural resource management.

Habitat Restoration Opportunities

The Property has significant habitat restoration potential including wetlands, riparian and upland habitat. Tolay Lake, when restored to a more natural hydrologic regime, will enhance the overall health of the San Francisco Bay Estuary by providing habitat for migratory shorebirds, waterfowl, and other wildlife.

In addition to lake restoration, outlined below are several native plant revegetation opportunities designed to enhance the various habitats on the Property that are independent of the lake restoration and could be implemented in the short term (*see Exhibit 3: Feature Locations*). Habitat restoration will also enhance the ecological function of the Property in providing forage and/or nesting habitat for raptors and other birds of prey, passerines, ground nesters, amphibians, reptiles, and upland game species. It should be noted that the establishment of native plant restoration projects typically are not successful if livestock are not excluded from the restoration areas while the desired habitats become established. This is particularly true in wetland restoration sites and where woody plant establishment is a restoration goal. It is recommended that restoration be incorporated into the long-term vegetation management plan for the Property and is consistent with cultural resources protection. The Bay Institute recently implemented two restoration sites along portions of drainages on the Property that include cattle exclosure fencing and native plant installation (*see Exhibit 3: Feature Locations*).

When implementing a native plant revegetation project, it is important to use locally adapted, site-specific plant material. Maintenance of the restoration planting for at least two years is recommended for the project to be successful. Maintenance should include weed control, irrigation, and monitoring. Irrigation can include a hand-watering program, or temporary irrigation system operating

during the dry season, typically from mid-April through October (*see Attachment A, Native Plant Revegetation – Planning and Implementation*).

Following are preliminary restoration opportunities for critical habitats found on the Property including: Tolay Lake, wetland, riparian and coastal oak woodland habitats.

Tolay Lake Habitat Restoration

The Tolay Lake basin is an elevated depression consisting of a volcanic substrate known as Sonoma Volcanics. Permeable locations in this layer yield water for wells, springs and seeps throughout the Property. The natural hydrology of the lake basin was altered in the late 1800s by removing the natural dam and constructing drainage ditches for the purpose of farming the lakebed, which has continued into the current time.

Historically, the lake was seasonally variable; preliminary analysis showed that the natural drainage divide was located approximately 2820 feet south of the Cardoza ranch and that the lake could have sustained a lake 14 feet deep before spilling over (Kamman Hydrology & Engineering 2003). During most years, Tolay Lake likely functioned as a large seasonal, semi-permanent marsh that existed as a permanent wetland during years with heavy rainfall. Such a hydrologic regime would have supported emergent vegetation like cattails and bulrush that declined when depths exceeded 4 feet for an extended time period (Ducks Unlimited 2005). The lake was probably an important source of freshwater for human populations and wildlife well into the dry summer months.

The feasibility of restoring the lake to some level of its previous hydrologic function has been explored and determined to be possible under a number of different alternative scenarios (Ducks Unlimited 2005, Kamman Hydrology and Engineering, Inc. 2003). Regardless of the alternative pursued, it is likely that the lake will remain highly variable and more closely resemble a system of vernal pools than a perennial reservoir (Kamman Hydrology and Engineering, Inc. 2003).

The restoration of natural hydrologic function and associated vegetation to the ancient Tolay Lake is the highest long-term restoration priority on the Property. This should include restoring the hydrologic function of the drainages east of the Tolay lakebed that are currently controlled by drainage ditches and Tolay Creek, downstream of the lakebed.

Regional Parks has assumed Water Rights Application 30558, which was initiated by the previous property owner. Regional Parks is seeking to obtain water rights for restoration scenarios associated with three existing surface water features on the Property, consisting of Tolay Lake and two upland ponds on an

unnamed tributary to Tolay Creek. The preliminary restoration scenarios would require an additional amount of water than is currently held by the Tolay Lake. Some of the water subject to the water rights permit process is from the upland ponds and is used to irrigate the existing vineyard. Until Regional Parks secures a water rights permit and associated license, water availability for existing lake and upland pond conditions and future restoration use cannot be ensured. The water rights permit process includes a public involvement element, separate from those associated with the Master Plan and CEQA document. Regional Parks will coordinate all of these separate public involvement processes.

Recommendation 1: A detailed fluvial geomorphic analysis is recommended to address possible impacts of restoration activities on surrounding habitat, including the 10-acre vineyard, as well as adjacent properties. A fluvial geomorphic analysis of the drainage that includes the upland ponds on the eastern portion of the Property may be warranted as well, as erosion in this drainage is more severe than in other portions of the Property.

Wetland and Riparian Habitat Restoration

Restoration opportunities in these habitat types could involve excluding livestock from existing wetlands and riparian areas on the Property and implementing an invasive species control program within these habitat types. The treated sites should be assessed for the need of native plant restoration measures, using locally collected seed and/or propagation material. Potential species to include in wetland areas are: native sedges (*Carex* spp.), rushes (*Juncus* spp.) and tules (*Scirpus* spp.) (see Attachment A, *Native Plant Revegetation – Planning and Implementation*).

Due to the presence of the threatened California red-legged frog (*Rana aurora draytonii*) on the Property, provisions in the California Environmental Quality Act (CEQA) and the Federal Endangered Species Act (ESA) require consultation with California Department of Fish and Game, and U.S. Fish and Wildlife Service prior to any activities.

Tolay Creek, downstream of the wood bridge near the outflow of Tolay Lake on the Property has been channelized, with berms built up along portions of the channel banks. Restoration of Tolay Creeks natural hydrologic function downstream of the bridge is recommended, however, a fluvial geomorphic analysis may be warranted to assess future impacts that the restored lake and creek may have on the drainage downstream. The approximate 1,500-foot reach of Tolay Creek immediately downstream of the wood bridge is largely devoid of riparian vegetation and should be considered a high priority for native plant restoration. Long-term monitoring should include annual channel profile and

photo monitoring to document the extent and changes in hydrologic function and riparian canopy over time.

Additional riparian habitat restoration sites include the drainage in the southwestern portion of the Property as well as the drainage that includes the upper and lower pond.

Recommendation 2: It is recommended that the old car bodies, discarded fencing materials, and old crane be removed from the riparian zone (see *Exhibit 3: Feature Locations*).

Potential species to include in riparian restoration on the Property include: willows (*Salix* spp.), California buckeye (*Aesculus californica*), California bay-laurel (*Umbellularia californica*), coast live oak (*Quercus agrifolia*), box elder (*Acer negundo*), hawthorn (*Crataegus douglasii*), California wild rose (*Rosa californica*), California blackberry (*Rubus ursinus*), blue elderberry (*Sambucus mexicana*), coyote brush (*Baccharis pilularis*), and coffeeberry (*Rhamnus californica*) (see *Attachment A, Native Plant Revegetation – Planning and Implementation*).

Coastal Oak Woodland Habitat Restoration

Currently, the Coastal Oak Woodland habitat type is limited to the far northeastern portion of the Property. The extent of oak woodlands historically on the Property is unclear. The limited occurrence of this habitat type on the Property may be due to past clearing of hardwoods for agricultural use, or soil conditions that favor open grasslands.

Recommendation 3: Potential sites for coastal oak woodland restoration could include the slopes of drainages that bisect the upland areas throughout the Property (see *Exhibit 3: Feature Locations*). Cattle exclosure fences are recommended. Potential species for coastal oak woodland restoration include: coast live oak (*Quercus agrifolia*), California buckeye (*Aesculus californica*), California bay-laurel (*Umbellularia californica*), madrone (*Arbutus menziesii*), and coffeeberry (*Rhamnus californica*) (see *Attachment A, Native Plant Revegetation – Planning and Implementation*).

Although no valley oak (*Quercus lobata*) were noted on site, this species, as well as Oregon oak (*Quercus garryana*), may be appropriate as restoration candidates within the relatively level area east of the lakebed. These oaks typically occur at least one ridge away from the coastal zone that receives persistent fog. The close proximity to San Pablo Bay, as well as the heavy clay soils on the Property may be factors that prevent these oak species from becoming established.

Recommendation 4: Before incorporating valley oak or Oregon oak into a restoration plan, soil samples are recommended to determine the appropriateness of these species.

Erosion

Although erosion of upland areas is a natural process, land use practices including grazing, ditching, pond development, road development, discing and tilling have most likely accelerated erosion on the Property. Several deep-seated slumps on the Property were noted. (see *Exhibit 3: Feature Locations*).

Recommendation 5: CRP recommends that a comprehensive road and erosion inventory and plan be developed by qualified professionals for the Property. This survey should consist of a field inventory of existing and potential future sites of road-related erosion and other sediment sources occurring on the Tolay Lake Ranch. This erosion plan should include prescriptions for treatment of all inventoried sites and recommendations for cost-effective erosion prevention and erosion control measures.

Areas of concern include headcuts and bank erosion of gullies draining into Tolay Lake basin, and the drainage associated with the upper and lower ponds in the southeastern portion of the Property (see *Exhibit 3: Feature Locations*).

General Recommendations:

- Conduct roads inventory
- Conduct assessment of slides and unstable soils
- Convert ranch roads to trails where appropriate
- Use the most stable terrain for new trail development
- Revegetate existing slides
- Minimize or modify the number of roads on steep, unstable slopes
- Reroute drainage as necessary to prevent water from draining down the road surface
- Develop range management plan for appropriate placement of livestock (keep cattle away from existing slides, known areas of unstable soils, steep slopes, creek banks, and wetlands)
- Develop comprehensive trail plan (keep bikes and horses away from known areas of unstable soils, steep slopes, and wetlands)
- Develop a comprehensive basin-wide assessment and monitoring program to determine erosion potential and ongoing erosion rates

Invasive/non-native Plants

Invasive plant species are a fairly common occurrence within the rangelands and drainages of southern Sonoma County. The introduction and expansion of

invasive non-native plants in the region threatens biological diversity and may negatively impact sensitive habitats and species.

A variety of control methods for most of the invasive plant species found on the Property are outlined in *Invasive Plants of California's Wildlands* (Bossard, et. al. 2000). For additional information, the California Invasive Plant Council's website (www.cal-ipc.org) contains links to other organizations committed to invasive plant control.

It should be noted that any method used for invasive species control often takes multiple years to be successful. Therefore, frequent monitoring of the Property in subsequent years is recommended. The timing of the treatment method is often critical to the success of controlling invasive plants. Consulting with the Sonoma County Agricultural Commissioner's office before using any pesticide is required. Once invasive plant populations have been targeted for removal, a native plant revegetation plan should be developed for all sites (see *Attachment A, Native Plant Revegetation – Planning and Implementation*). Invasive plant removal and follow-up revegetation should be designed to minimize impacts to natural and cultural resources.

Some of the more common and widespread invasive plants encountered within the rangelands on the Property include: medusahead (*Taeniatherum caput-medusae*), Harding grass (*Phalaris aquatica*), yellow starthistle (*Centaurea solstitialis*), purple starthistle (*Centaurea calcitrapa*), Italian thistle (*Carduus pycnocephalus*), bull thistle (*Cirsium vulgare*), spiny cocklebur (*Xanthium spinosum*), and artichoke thistle (*Cynara cardunculus*). These species are widespread throughout the Property and were not included on the map Exhibit 4, Baseline Site Map: Feature Locations. They tend to occur in higher concentrations where cattle congregate, and in areas disturbed by ranch operations. Control methods include prescribed burning, repeated mowing, rotational grazing, manual removal, and herbicides.

Invasive species found in the Wet Meadow, Fresh Emergent Wetland, and Riparian habitat types include: Himalayan blackberry (*Rubus discolor*), pennyroyal (*Mentha pulegium*), poison hemlock (*Conium maculatum*), Fuller's teasel (*Dipsacus sativus*), and spiny cocklebur (*Xanthium spinosum*). Himalayan blackberry dominates the riparian understory of lower Tolay Creek on the Property (see *Exhibit 3: Feature Locations*). Control methods include annual removal, repeated mowing, and herbicides. If herbicides are used, consultation with the Sonoma County Agricultural Commissioner's office is advised, as herbicides registered for aquatic use may be legally required.

Water primrose (*Ludwigia hexapetala*), an aquatic weed located in the farm pond just south of the ranch compound, poses a serious threat to the restored Tolay Lake, as restored lake conditions are likely to be suitable habitat for this invasive species (see *Exhibit 3: Feature Locations*).

Recommendation 7: CRP recommends the eradication of water primrose prior to lake restoration. Mechanical control can be achieved by digging up the plant by the roots, however, the plant can reestablish by seed and root fragments left in the soil. Chemical control options include herbicides approved for aquatic use. Consultation with the Sonoma County Agricultural Commissioner's office is advised.

There are several planted stands of blue gum eucalyptus (*Eucalyptus globulus*) on the Property, and one acacia (*Acacia* sp.) along the historic road adjacent to Tolay Creek, near the southeast property boundary (see *Exhibit 3: Feature Locations*). These trees are associated with historic features and do not appear to be reproducing to date. Conditions on the Property are most likely not suitable for seed reproduction, however CRP recommends the Property be monitored for these species in future years.

General Recommendations:

- Conduct initial invasive plant assessments during the spring when many plants are flowering in known rare plant and sensitive, vulnerable habitats using protocol that is scale appropriate
- Develop and provide ongoing updates to a GIS database regarding invasive plant location, removal, and restoration sites
- Map individual invasive plant locations using standardized protocols for weed mapping, management and monitoring. Document additional relevant physical and biotic information for each infestation. Use GPS technology where appropriate/available
- Develop prioritized removal and restoration plan
- Conduct analyses/planning in support of invasive plant removal and native habitat restoration
- Engage researchers in performing analyses related to invasive plants and their impacts on biological diversity on the Property
- Incorporate volunteers into invasive plant removal programs
- Under appropriate supervision and following all environmental regulations, remove invasive plants using low-impact techniques
- Consider placing signage in relevant areas informing visitors of the possibility of spreading invasive plant seeds on shoes, horses, or dogs

Rangeland Management

The current land use over most of the rangeland on the Property is cattle operations, controlled by interior cross fencing. Due to seasonal dormancy and the impact of livestock, plant identification was limited largely to perennial species not palatable to cattle. Livestock grazing, if properly managed, can be an effective vegetation management tool. Grazing can reduce fuel loads for potential fires, and also control non-native grasses and herbs, increasing the diversity of habitats available to wildlife. Large herbivores have been part of the

ecosystem in the region for thousands of years. Prior to the introduction of livestock, deer, elk, and antelope freely roamed the area.

If livestock operations are continued on the Property, a comprehensive rangeland management plan is recommended, focusing on fuel reduction, wetland protection, invasive species control, and promoting biodiversity on the Property. It is recommended that this rangeland management plan should include:

- Methods for large-scale vegetation management, including livestock grazing and mowing
- Identify invasive, non-native grassland weeds, and methods for their management and control
- Possible impacts of these management methods on biological, ecological, and cultural resources, and recreational uses

Cattle are often a valuable management tool for native plant restoration efforts where appropriate exclusionary fencing and other tree, shrub and wetland plant protection measures are implemented. Effective vegetation management tools in rangeland settings often include a combination of controlled grazing, mowing, prescribed fire, exclusion fencing, and herbicide use.

General Recommendations:

- Conduct a comprehensive vegetation survey using scale appropriate vegetation assessment protocol
- Develop rangeland management plan
- Develop fire fuel reduction plan
- Consider placing signage in relevant areas informing visitors of the fire safe behavior
- Consider instituting a no-smoking policy
- Restrict vehicular access to grasslands during the dry season

Sensitive Resource Protection

The Property contains the seasonal Tolay Lake, riparian habitat, creeks, springs and seeps, moist grasslands, oak woodland, and annual grassland. Special status herpetofauna that have been observed in the vicinity include California tiger salamander (*Ambystoma californiense*), foothill yellow-legged frog (*Rana boylei*), California red-legged frog (*Rana aurora draytonii*), and western pond turtle (*Clemmys marmorata*). California red-legged frog and western pond turtle have been identified on the Property (California Coastal Conservancy 2005b). Special status bird species likely to occur on the Property include Golden Eagle (*Aquila chrysaetos*), Great Blue Heron (*Ardea herodias*) (protected when nesting), Cooper's Hawk (*Accipiter cooperii*), Sharp-shinned Hawk (*Accipiter striatus*), and Burrowing Owl (*Athene cunicularia*) (Ducks Unlimited 2005, California Coastal Conservancy 2005B).

The intent of the Tolay Lake Ranch Property acquisition is to protect and restore the natural resources, open space and scenic values of the Property and to provide public access in accordance with those goals. Public access and resource management need to be planned and implemented in the context of sensitive resource protection. Data is limited regarding the type, location and number of sensitive resources for the Property, requiring further study to inform the development of a comprehensive management plan for the protection of sensitive resources. Following are general guidelines for the protection of sensitive resources including: springs and wetland complexes, special status plants, critical wildlife habitat and areas of concern, and cultural resources.

Springs and Wetland Complexes

The Tolay Lake basin has been impacted by agricultural operations, including land manipulation and hydrologic alteration, for over 100 years. The Tolay lakebed currently is a managed seasonal wetland, allowed to fill during winter months, and then drained in the spring for crop production. There are several drainage ditches within the lakebed, and several more to the east of the lakebed, primarily south of the vineyard, that remain wet throughout the year. These drainage ditches, considered Freshwater Emergent Wetland habitat type, will most likely be altered when more natural hydrologic conditions for Tolay Lake are restored. There are numerous springs surrounding the basin, some developed as water sources for livestock. Livestock have access to nearly all of the springs and have impacted the associated Wetland Meadow and Freshwater Emergent Wetland habitats.

A rangeland management plan should consider restricting access to livestock from the Wetland Meadow and Freshwater Emergent Wetland habitat types. During spring months, while annual plants are actively growing, a comprehensive biotic survey or current wetland delineation of all wetlands on the Property is recommended to identify sensitive plants and wildlife. The California red-legged frog, a threatened species has been observed within the wetlands on the Property (California Coastal Conservancy 2005b). A vegetation management program that includes removing invasive plant species and native plant restoration is recommended and should include close consultation with California Department of Fish and Game and U.S. Fish and Wildlife Service.

General Recommendations:

- Conduct comprehensive vegetation (using scale appropriate protocol) and habitat surveys (conforming to the California Wildlife Habitat Relations System) and use this information to prioritize terrestrial restoration opportunities
- Develop a comprehensive monitoring plan specific to the Property's wetlands

- Evaluate roads that intersect or are within 100 feet of lake/wetland/riparian areas for removal or relocation (Castelle, A. J., A. W. Johnson, and C. Conolly, 1994)
- Develop a rangeland management plan (remove cattle from wetland areas or place exclusionary fence around wetlands)
- Develop a vegetation management plan to remove invasive plants and restore native plants, in compliance with all relevant environmental regulations
- Develop a visitor use plan including an educational component regarding the importance of the seasonal Tolay Lake marsh complex both locally and regionally
- Engage researchers in performing analyses and conducting studies relevant to restoration effectiveness

Special Status Plants

Site assessment for this report was conducted in September 2005 while many plants were dormant and/or heavily impacted by cattle grazing. No special status plants designated as rare, endangered, or threatened were encountered.

Recommendation 8: Completion of a comprehensive survey during late spring for special status plants, particularly in the wetland areas is recommended, using vegetation assessment protocols.

Critical Wildlife Habitat and Areas of Concern

California red-legged frog and western pond turtle have been identified on the Property (California Coastal Conservancy 2005b). Other special status herpetofauna that have been observed in the vicinity include California tiger salamander (*Ambystoma californiense*), and foothill yellow-legged frog (*Rana boylei*).

Recommendation 9: It is recommended that comprehensive wildlife and biotic surveys be conducted, including GIS mapping of special status species locations and habitat. The protection of these habitats should be a high priority. An evaluation of any proposed management or restoration activity within the Property in the context of these sensitive habitats is recommended, including the consideration of seasonal road closure or access restrictions to protect sensitive resources (such as nesting birds).

Cultural Resources

Tolay Lake is also known as “Charmstone Lake” due to the large number of prehistoric artifacts recovered from the lakebed after it was drained for farming in the 1870s. The Tolay lakebed is considered one of the most prolific locations where charmstones are found in the United States. The charmstones are carved rock objects thought to have served ceremonial and/or practical purposes. The stones may have been used to induce favorable fishing and hunting in various ceremonial activities, they may have served medicinal purposes, they may have been used in slingshots to hunt waterfowl, or they may have served as fishing weights or lures. The presence of thousands of charmstones, three prehistoric village sites, numerous middens and other prehistoric sites indicate short- and long-term occupation of the Tolay Lake basin by humans for at least the past 5000 years (Archaeological Resource Services 2003).

In 1996, a total of 20 prehistoric sites were recorded within Tolay Valley. The plethora of sites, many of which are in relatively undisturbed condition and some of which contain human remains, constitute an area which “would qualify for listing on the National Register of Historic Places” (Archaeological Resource Services 2003 p. 7). Archaeological Resource Services (2003) recommends nomination of the Tolay Lake Ranch Property to the National Register of Historic places as a district. “A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development” (Archaeological Resource Services 2003 p. 12).

Regional Parks has begun building a partnership with Native American tribes that have indicated an interest in the Property. The Federated Indians of Graton Rancheria (FIGR) aboriginal territory includes the area in which the Property is located. Regional Parks and FIGR have been meeting together since October 2005 and have co-hosted a meeting for other tribes to become familiar with the Property and the conceptual Tolay Lake Regional Park project. Regional Parks intends to maintain a partnership with FIGR in sharing the unique cultural history of the Property with the public.

Recommendation 10: It is recommended that a comprehensive professional archaeological survey of the entire Property be conducted including the lakebed, any areas where infrastructure development is considered, and areas considered for high levels of visitor use. Prioritize avoidance or minimization of impacts to cultural resources when management conflicts occur (in accordance with CEQA Section 21084.1).

General Recommendations:

- Preserve known cultural resources and develop a cultural resources assessment plan

- Plan infrastructure development and environmental enhancement efforts to avoid impacts to archaeological and historical resources
- Develop a detailed list of potential cultural themes and a cultural resources interpretive plan
- Consider signage informing visitors of proper behavior with respect to cultural resources
- Request the leadership of local Native American tribal members in developing a cultural interpretation program

REFERENCES

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