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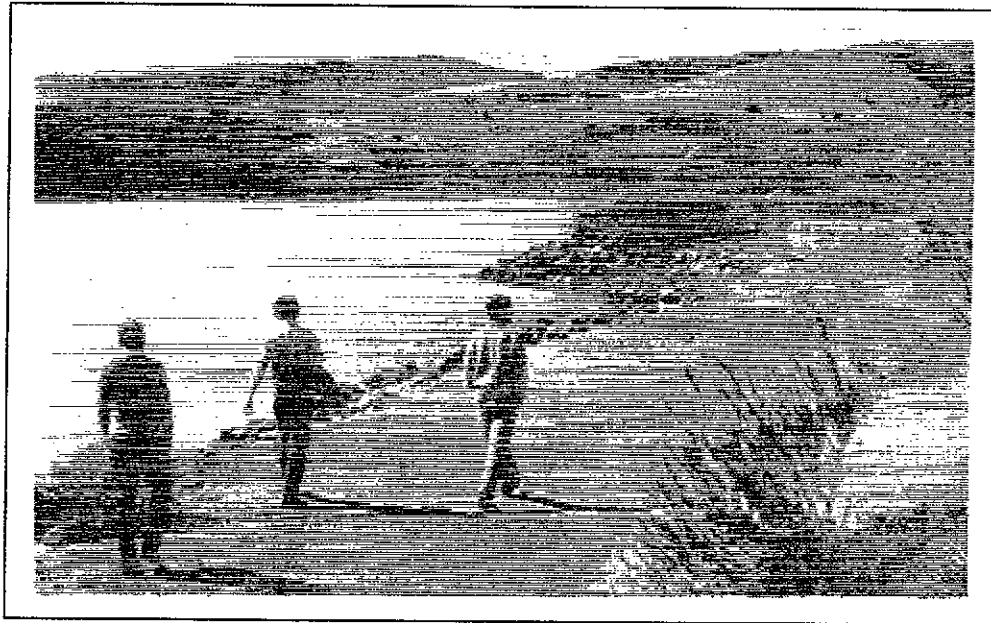
BENICIA STATE RECREATION AREA

GENERAL PLAN

June 1991

B e n i c i a S t a t e
R e c r e a t i o n A r e a

G e n e r a l P l a n



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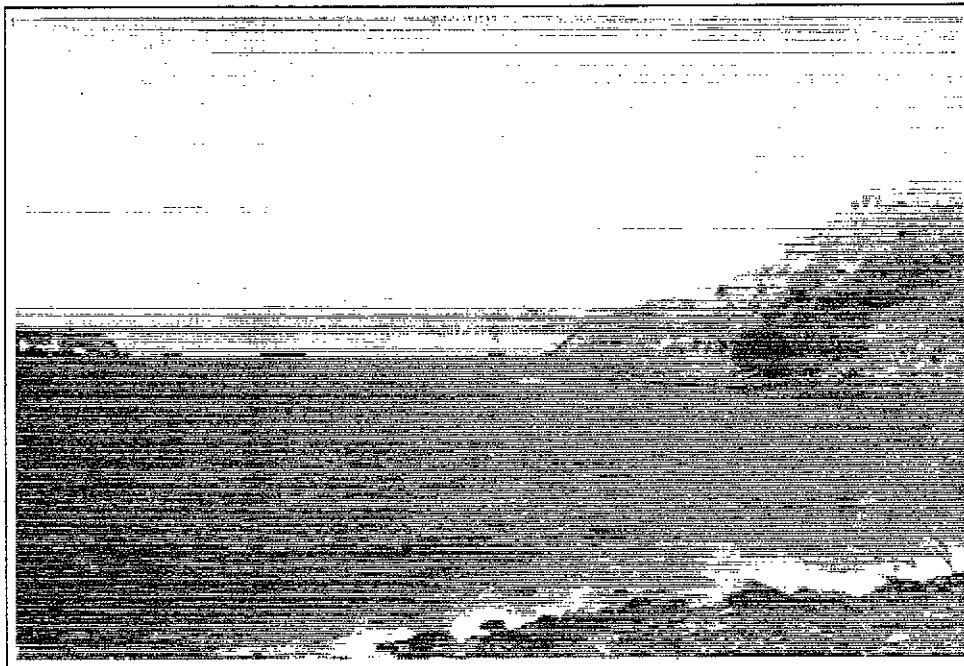
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Summary



Most of the wetland resources of the San Francisco Bay-Delta System have been lost, making wetlands an endangered biotic community. Although Benicia SRA is only 469 acres, it provides a significant, natural wetland resource.



Benicia SRA offers opportunities to observe the scenic panoramic views of the Carquinez Strait region.

SUMMARY

For quick reference, this summary highlights the major resource management directives, facility and site improvements, and interpretive programs proposed for Benicia State Recreation Area, located in the southwest portion of Solano County north of San Francisco.

Overview of Resource Management Directives

The resource management directives are intended to protect and perpetuate the unit's cultural and natural resources, and to provide direction for future development efforts. They will:

- o Protect the unit's water features and the ecosystems they support.
- o Reduce or eliminate pollutants from the waters entering the unit.
- o Avoid proposed development in areas exhibiting instability or landslide susceptibility.
- o Preserve and protect archeological sites.
- o Provide for soil investigation prior to any development, with mitigating measures as needed.
- o Minimize unnatural erosion, and mitigate where necessary.
- o Restore natural processes by minimizing negative human impacts.
- o Restore native grasses on the uplands of Dillon Point.
- o Protect and manage rare and endangered plants for their perpetuation.
- o Control and eradicate undesirable exotic plants.
- o Restore natural wildlife habitats in the wetlands.
- o Manage and protect habitat for animal species that are rare, threatened, or endangered.
- o Control feral animals or uncontrolled domestic animals.
- o Develop and implement a management plan for the wetlands in the unit.
- o Use fire as an ecological restoration tool.
- o Improve the natural scenic quality of the unit by reducing artificial features.

Overview of Proposed Uses and Facilities

The following is a summary of the facilities that are proposed to be added, removed, or improved at Benicia State Recreation Area.

Northeast Area of the Unit

- o Improve the existing paved pedestrian trail by repaving the surface.
- o Maintain the existing paved bicycle trail.
- o Landscape the median strip between the pedestrian and bicycle trail to help maintain separated use.
- o Repave and reorganize the parking lot.
- o Develop a restroom and contact station in the parking lot.
- o Develop interpretive overlooks along the unpaved trails.

Main Entrance Area

- o Rehabilitate the existing contact station.
- o Provide needed additional equipment storage and maintenance office space.
- o Rehabilitate the paved roads to safely accommodate both bicyclists and motor vehicles.
- o Develop a new 50-100 vehicle parking lot between the contact station and the maintenance yard.
- o Develop a restroom and interpretive panel in the new parking lot.
- o Develop a new pedestrian-only trail on the land side of Dillon Point Road.

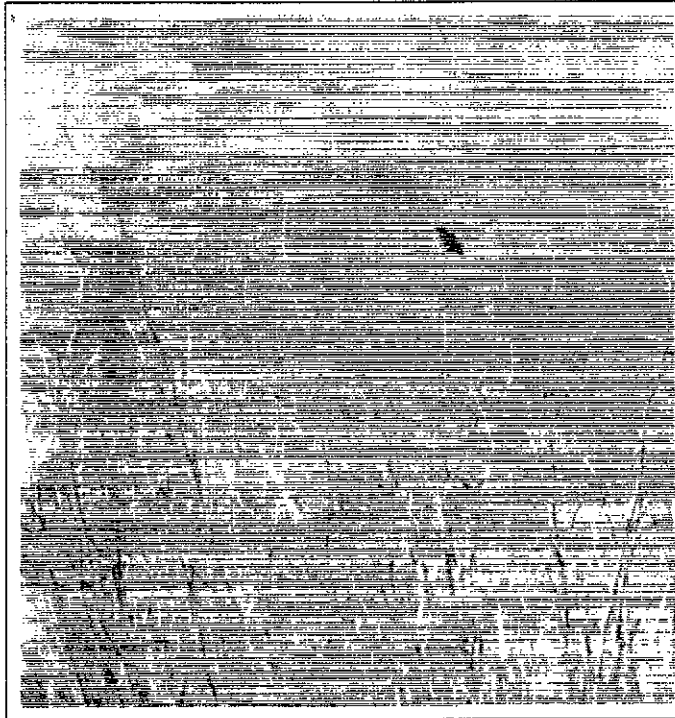
Northwest Section Area

- o Rehabilitate the paved roads to safely accommodate both bicyclists and motor vehicles.
- o Restore 9.5 acres of former dump site and tidal wetland, and fill and cap the remaining 16.5 acres. When appropriate, develop day-use facilities on the capped area.
- o Continue the pedestrian-only trail which originates from the main entrance parking lot.
- o Develop interpretive overlooks off pedestrian trails.

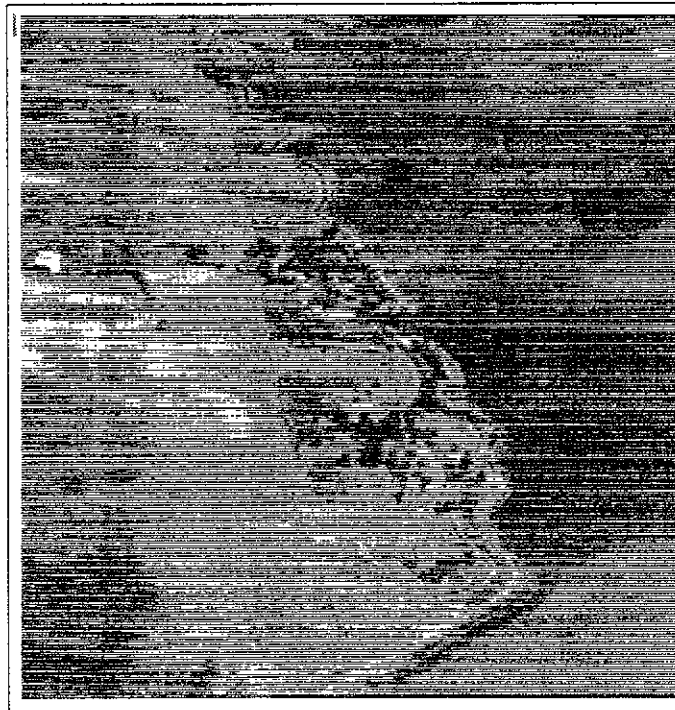
Southern End of Dillon Point Road Area, Including Dillon Point

- o Continue the pedestrian-only trail which originates from the main entrance parking lot.
- o Develop a pedestrian/bicycle trail off the day-use/PG&E service road, and connect Glen Cove Regional Park and the regional bicycle trail off South Regatta Drive.
- o Provide interpretive overlooks along pedestrian trails, and an overlook off the parking lot.
- o Provide footbridges over natural drainage areas to connect the pedestrian-only trail.
- o Provide a landscape screening buffer around the unsightly PG&E station.

Introduction



The unit is located on the Pacific Flyway, and provides an important stopover for migrating birds.



The SRA includes several different biotic communities, each offering different habitat opportunities to wildlife.

INTRODUCTION

Purpose of Plan

This General Plan provides for long-term management and development of Benicia State Recreation Area. Prepared by the California Department of Parks and Recreation to satisfy requirements of Public Resources Code Section 5002.2, its approval by the California State Park and Recreation Commission is required prior to any new development that would constitute a permanent commitment of natural or cultural resources.

The plan summarizes the available information about the unit, documenting the planning process and the relevant data used in making land use decisions and specific management and development proposals. As conditions change, the plan may be reviewed and updated as necessary to responsibly guide departmental actions at the unit. The plan, however, is not meant to provide detailed plans for site development, resource management, or unit operation and maintenance. Day-use, and parking capacities indicated by the plan are approximate only, and may be less when specific site plans are prepared for funding and implementation. Details of resource management are left for inclusion in specific resource management programs that will be prepared at a later date.

Discussions about land not owned by the Department of Parks and Recreation have been included. These lands represent potential acquisition opportunities, based on available data. However, the discussions are intended for planning purposes only, and do not represent an intention or commitment for acquisition.

General Plan Outline

The plan is made up of the following elements which reflect the department's responsibility to fulfill certain goals:

The **Resource Element** evaluates the natural and cultural resources of the park, and sets management directives for protection, restoration, and use of these resources.

The **Land Use Element** describes current land uses and relevant planning issues, determines proposed land uses consistent with the resources and unit classification, and outlines land use objectives and recommendations.

The **Facilities Element** describes current facilities, proposed development to enhance public recreational experiences and enjoyment of the park resources and values, and establishes priorities for park development.

The **Interpretive Element** proposes programs and facilities for public information and interpretation of the park's natural and cultural resource values.

The **Concessions Element** summarizes opportunities to provide appropriate goods or services to the public through concessions in existing or proposed facilities.

The **Operations Element** describes specific operation and maintenance requirements and guidelines unique to the park.

The **Environmental Impact Element** serves as the Environmental Impact Report required by the California Environmental Quality Act. It assesses environmental effects, and proposes mitigation measures and alternatives.

Unit Identification

Benicia State Recreation Area is located in the Coast Ranges of California, in the San Francisco Bay region. More specifically, it is located in the southwest portion of Solano County, on the north shore of the Carquinez Strait at Southampton Bay, between the cities of Benicia and Vallejo.

Access to the unit is from Interstate Highway 780. The main entrance, located in the northeast section of the unit, can be reached by taking the Columbus Parkway exit off Interstate Highway 780. A second entrance, located in the southeast section of the unit, can be reached by taking the Military West exit off the interstate.

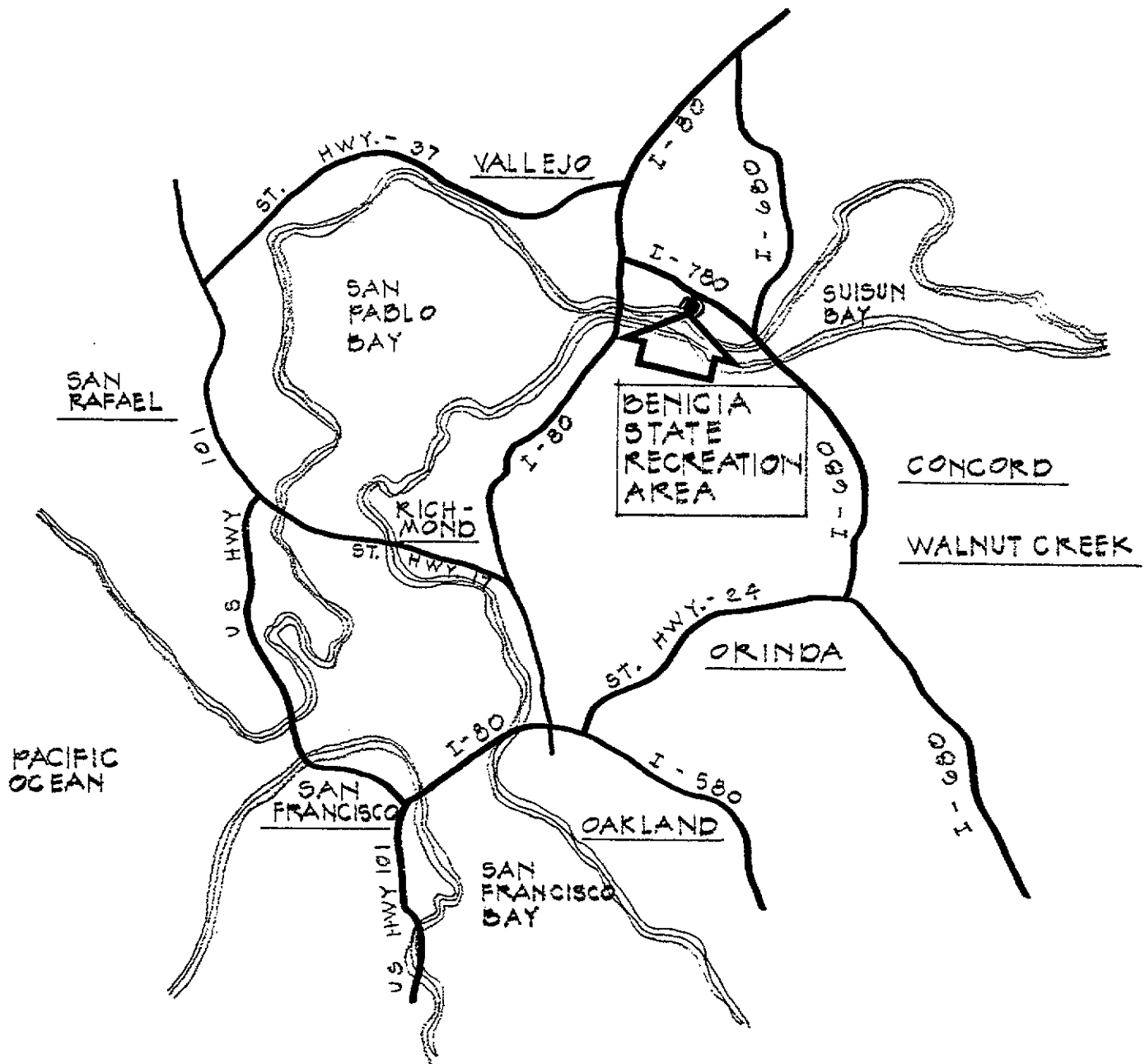
The unit is approximately 469 acres in size. It includes portions of Southampton Bay and Dillon Point. Its southern boundary includes the shoreline of Dillon Point, and stretches across the water and mudflats of Southampton Bay. The northern portion of the unit encompasses a wetland, which makes up more than two-thirds of the total area of the unit (Map 3).

Benicia Capitol State Historic Park, located in the City of Benicia approximately 1.5 miles southeast of Benicia State Recreation Area, is the only other State Park System unit in the vicinity. Suisun Marsh, a large wetland of statewide significance, is located about 12 miles east of Benicia State Recreation Area. San Pablo Bay wetland, also of statewide significance, is located about 9 miles northwest of the state recreation area.

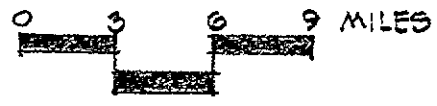
The Planning Process

The planning process included a comprehensive evaluation of the roles various agencies are playing in providing recreational opportunities and in preserving significant natural and cultural values in this area of the state. Current recreational patterns of the many varied segments of the state's population were also examined in order to identify specific needs to be met by the unit.

This information, coupled with detailed resource inventories and public comments, provided the foundation for the various development and management proposals contained in this document.



LOCATION MAP



Regional Recreation Profile

Benicia State Recreation Area is in an area with great recreational appeal that draws visitors from across the nation. The area offers a diversity of recreational opportunities, with just about something for everyone...coastal beaches, bays, lakes, reservoirs, mountains, historic interest, and a moderate climate.

This regional recreation area is located in the California Outdoor Recreation Resource Plan's (CORRP) District 4, which includes nine counties: Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, San Mateo, and San Francisco. The region contains the second largest metropolitan area in the state. Overall, Planning District 4 covers 4.7 million acres, or about five percent of the state.

Eighty percent of the 4.7 million acres is in private ownership, with the remaining 20 percent divided under state (3.3%), local (8.2%), and federal (8.2%) ownership.

The flatlands of the Bay Area have been urbanized, but most of these grass-covered rolling hills have survived largely unspoiled, providing a scenic counterpoint to the urban area. In recent years, however, pressures and proposals for development in the Ridglands have increased significantly, presenting the threat of loss or serious degradation of this important open space resource. A need exists for public and private actions to preserve these areas.

Recreation Participation at the Unit

Benicia State Recreation Area reported an annual attendance of 400,000 visitors in 1989-90; mostly residents of Solano County or the greater San Francisco Bay area. The most popular recreation activities at the unit include sightseeing, nature study/observation, walking/hiking, picnicking, and bicycling. Visitation has doubled since 1981.

How many people will come to Benicia State Recreation Area next year, or 20 years from now? Although a specific answer to this question is impossible to determine, there are a number of factors which indicate that there will be an increasing demand for public recreation lands and facilities.

During the last 30 years, the state has grown tremendously. Between 1955 and 1985, California's population doubled, while attendance in the State Park System has grown ten-fold, from 7 million to almost 70 million visitors annually. In 1985-86, visitor attendance at state park units in Planning District 4 was about 9 million. Increased leisure time, higher family incomes, automobiles, greater urban populations, and a younger population have contributed to a higher general recreation participation rate.

The 20-year population growth of Solano County is projected to be above the statewide average. By the year 2010, the county population will grow from 314,000 to 458,000, an increase of 46 percent. Population increase in the entire Planning District 4 is projected at 15-20 percent. Because of these factors, there will be continued growth in recreation use at Benicia State Recreation Area.

Public Involvement

The public actively participated in creating this plan. From the outset, the planning team attempted to identify all parties interested in or affected by the plan, and to encourage their participation in the decision-making process. The team began planning before important land use decisions were made, and they evolved a final plan step-by-step, with active public involvement. Attendance at our three public meetings ranged from 25 to 75. Participation was spirited and particularly helpful.

The first step was to reach as many interested people as possible, through direct mail. The team developed an active mailing list of more than 1,000 names. The user surveys, distributed at the public meetings, allowed targeting of the broad areas of visitors' concerns, and gave people's general philosophies about what kind of place the unit should be.

During this initial period, the team gathered information on the unit itself, developing an information base on the cultural and natural resources of the area, the character of the communities and people who live in them, the constraints of the land and of the law, and projections of future changes. This information base provided the knowledge to make the assumptions on which the plan is based.

The planning team held public meetings at three critical stages of the plan's evolution:

- o February 23, 1988 - Issue Identification

The purpose of the first meeting was to discuss and document the public's concerns with the unit, and present summaries of the draft Resource Element and Interpretive Element.

- o February 28, 1989 - Meeting #2

Discussion of alternate plans for the unit. Land use alternatives workbooks were passed out to the people who attended the meeting. People were broken up into groups, and presented their groups' findings. Newsletter #3 highlighted the land use alternatives for the SRA.

- o November 8, 1990 - Meeting #3

Presentation of a single land use plan and highlights of the draft Land Use and Facilities Element. Newsletter #3 summarized what we heard at the February 28 meeting; Newsletter #4 summarized highlights of the single plan.

The plans were reevaluated, appropriate changes were made, and the preliminary plan and environmental impact report were issued in compliance with CEQA (the California Environmental Quality Act) for review and comment.

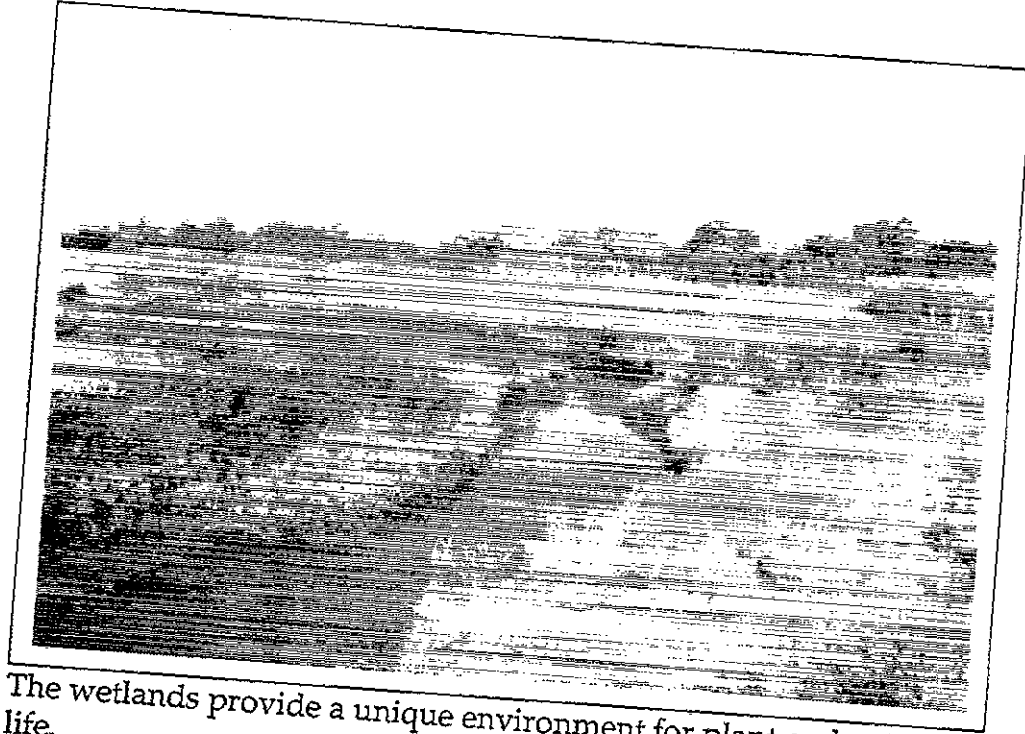
Final action on approval of the plan will be taken by the State Park and Recreation Commission in public hearing, after completion of the environmental review process.

Involvement of Other Agencies

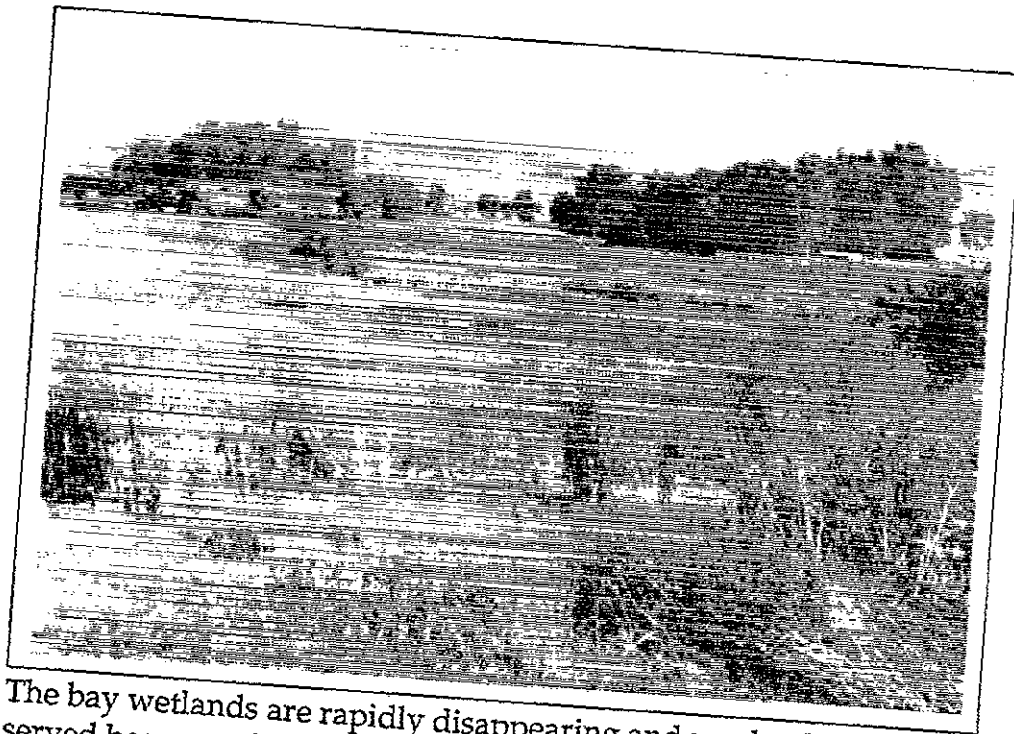
Numerous contacts were made with the following agencies that have an interest in the General Plan:

California Department of Transportation
California State University at San Francisco
City of Benicia
City of Vallejo
Greater Vallejo Recreation District
Solano County Mosquito Abatement District

Resource Element



The wetlands provide a unique environment for plant and animal life.



The bay wetlands are rapidly disappearing and need to be preserved because of their significant natural values.

RESOURCE ELEMENT

Purpose

This Resource Element was prepared to meet requirements set forth in Section 5002.2, Subsection (b) of Division 5, Chapter 1 of the Public Resources Code, and Chapter 1, Section 4332, Title 14 of the California Administrative Code. In compliance with this section of the Public Resources Code, the Resource Element sets forth long-range management objectives for the scenic, natural, and cultural resources of the unit, and specific actions or limitations required to achieve these objectives. Details of resource management are left for inclusion in specific resource management programs that will be prepared at a later date and are not part of this General Plan.

This element also identifies specific resources and their sensitivities and physical constraints, and establishes department guidelines for acceptable levels of use and development with respect to these values.

The Resource Element has two main parts. The first is a brief summary of the unit's resources. More detailed information on these subjects is on file with the Department of Parks and Recreation. The second part deals with policy formulation, which includes unit classification, declaration of purpose, specific resource management objectives and directives, and analysis of allowable uses consistent with resource protection and preservation.

Resource Summary

The following resource information is a summary and evaluation of data contained in the Resource Inventory for the unit. More detailed information is available from the Resource Protection Division office in Sacramento.

Natural Resources

Topography

Benicia State Recreation Area is located in the foothills of the Coast Ranges on the Carquinez Strait, in the San Francisco Bay region. Carquinez Strait is a narrow channel connecting San Pablo Bay with Suisun Bay, bodies of water that are part of the greater San Francisco Bay-Delta Area. The topography of the region consists of rolling hills and valleys.

The state recreation area is approximately 469 acres in size. In the unit, there are uplands, shorelines, and wetlands. The dominant feature is the wetland, a large, flat area that makes up more than two-thirds of the total area of the unit. The other major topographic feature in the unit is Dillon Point, extending into the Carquinez Strait.

Elevations in the unit range from sea level along the southern boundary to 160 feet on top of Dillon Point. Slopes in the unit range from flat in the wetland to moderate in the uplands, to steep and very steep along the shoreline of Dillon Point. More than 70 percent of the unit is within the 0-8% slope class.

Approximately 15 percent of the unit has an east-facing aspect; approximately 8 percent has a west-facing aspect.

Major residential development is occurring on uplands above Dillon Point, on lands adjacent to the state recreation area. Construction work for the development has involved altering the topography of the area, including some portions on an easement in the state recreation area.

Meteorology

The primary influence on the weather at Benicia State Recreation Area is the proximity of the Pacific Ocean to the west. The marine influence of the Pacific Ocean results in a Mediterranean-type climate, which is mild and temperate, with dry summers and wet winters.

No climatological data are recorded at the state recreation area. However, there are weather stations in the vicinity of the unit, where climatological data is officially reported.

The mean annual temperature for the Benicia area is between 58° and 60° Fahrenheit (F). July is the month with the highest monthly average temperature of about 72° F, and January is the month with the lowest monthly average of about 46° F.

The annual average precipitation total for the Benicia area is about 20 inches. The month of June typically has the lowest average monthly precipitation total, while January has the highest. On the average, 85 percent of the annual precipitation comes in the months of January, February, March, November, and December.

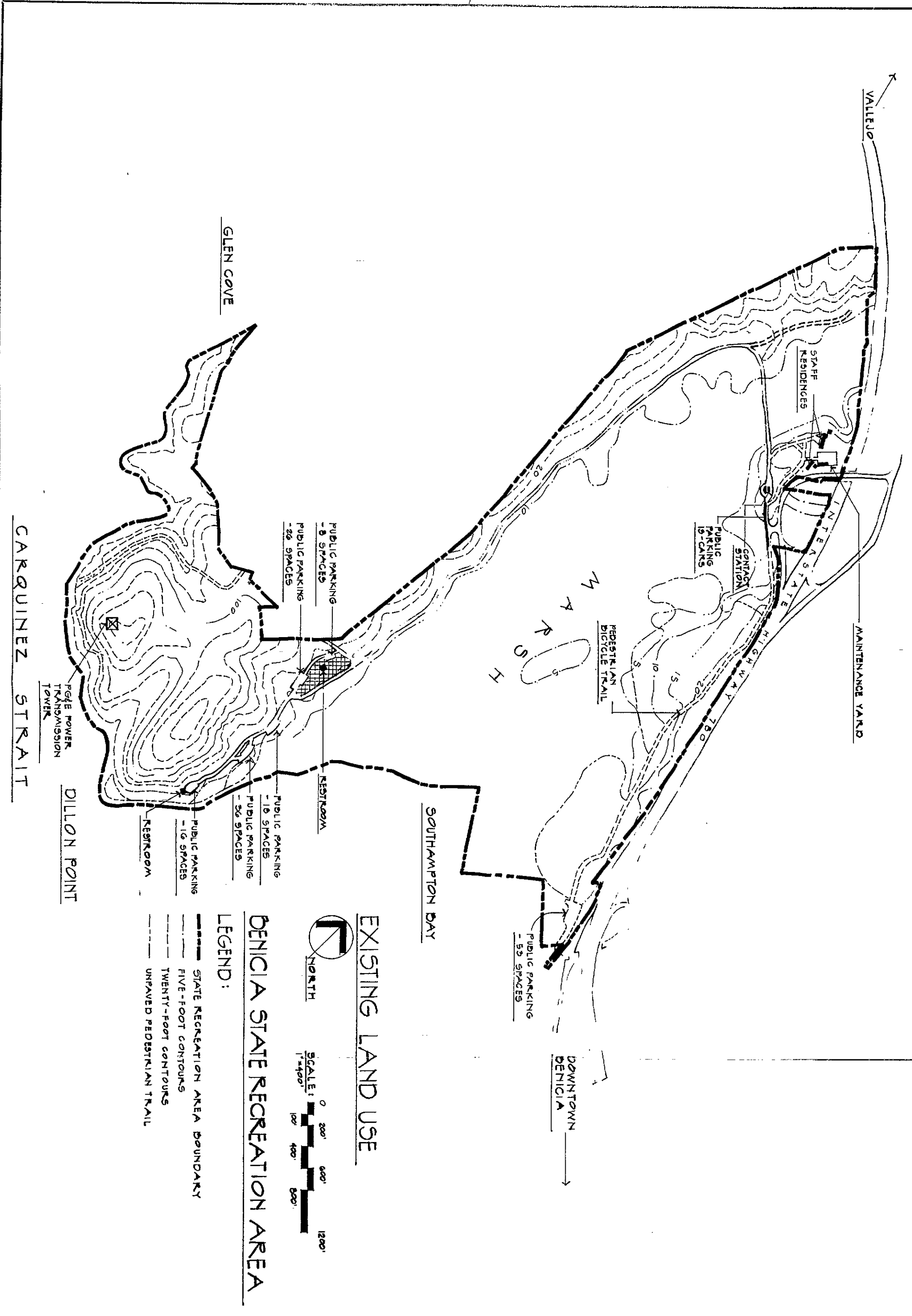
The unit is subject to relatively strong winds that come from the west and southwest off San Pablo Bay, and are funneled through the Carquinez Strait. During December and January, the prevailing wind is out of the east.

Fog occurs at the unit about 30 times a year. The early spring season is when fog is most common. Typically, fog will arrive late in the evening, remain overnight, and then burn off by late morning.

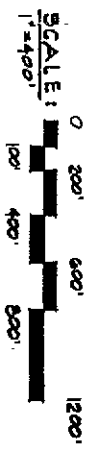
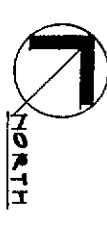
Air quality in the Benicia-Vallejo area is significantly affected by automobile emissions and industrial development in the region. State and national carbon monoxide standards have been exceeded 15 times during the period from 1980 to 1986. State and national ozone standards have been exceeded 26 and 6 times, respectively, during the same period. Occasionally, when winds blow in from the east and southeast, odors from nearby oil refineries affect the air quality at the state recreation area.

Hydrology

Benicia State Recreation Area is in the Benicia Hydrologic Subarea of the Fairfield Hydrologic Area, as defined by the California Department of Water Resources. The state recreation area, consisting primarily of a wetland and very little of the surrounding hills, is the outlet of a fairly small drainage basin (approximately 4.0 square miles), drained by nine small, unnamed creeks. Only the lower portions and mouths of these creeks lie within unit boundaries.



EXISTING LAND USE



BENICIA STATE RECREATION AREA

LEGEND:

- STATE RECREATION AREA BOUNDARY
- FIVE-FOOT CONTOURS
- TWENTY-FOOT CONTOURS
- UNPAVED PEDESTRIAN TRAIL

CARQUINEZ STRAIT

DILLON POINT

GLEN COVE

SOUTHAMPTON BAY

DOWNTOWN BENICIA

VALLEJO

MAINTENANCE YARD

STAFF RESIDENCES

CONTACT STATION

PUBLIC PARKING 19-CARS

PEDESTRIAN BICYCLE TRAIL

PUBLIC PARKING - 8 SPACES
PUBLIC PARKING - 26 SPACES

RESTROOM

PUBLIC PARKING - 10 SPACES
PUBLIC PARKING - 36 SPACES

PUBLIC PARKING - 16 SPACES
RESTROOM

PUBLIC PARKING - 53 SPACES

Benicia State Recreation Area
Existing Land Use
General Plan

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Although originally ephemeral watercourses, several of these streams have recently experienced dramatically increased flow, in not only the peak flows but also in base flows. This is due to subdivision and urban development in the watershed, paving over of the natural absorption surfaces of the hillsides, and increased unnatural water use, such as lawn irrigation.

Watersheds are numbered starting from Dillon Point, and going around the Southampton Bay wetland, from west to east (Map 3). Watershed 1 drains the hillside above and the Glen Cove subdivision down into the wetland. Its main drainage channel has been equipped with underground drains and a structure to reduce flow velocity (an energy dissipator). Watersheds 2 and 3 also carry runoff from the Glen Cove subdivision. Their main drainage channels have debris basins located at their bases before they enter the unit. These are meant to slow flow and catch sediments before they reach the wetland. Watershed 4 drains a newly subdivided area. Its main drainage has had part of its flow diverted into another drainage, and has no debris basin, while watershed 5, draining a previously developed area, does have a debris basin in its main drainage channel. Watershed 6 is small, and supports a growth of riparian vegetation which is not currently within the unit boundaries. Watershed 7, entering the apex of the Southampton Bay wetland, drains the largest watershed area, extending north of Interstate Highway 780, and includes suburbs of the City of Vallejo. Its main drainage flow has been channeled down to Interstate Highway 780. Any development in this area may affect flows into Benicia State Recreation Area.

Watershed 8 drains another large area to the northeast of the unit that encompasses the Southampton subdivision and two landfills, including the Braito or Solano County Landfill. The main channel in watershed 9 has been modified, and has experienced definite increased flows. It has flooded the trail near its outlet on the eastern side of the unit, and has created a wetland area supporting freshwater riparian vegetation.

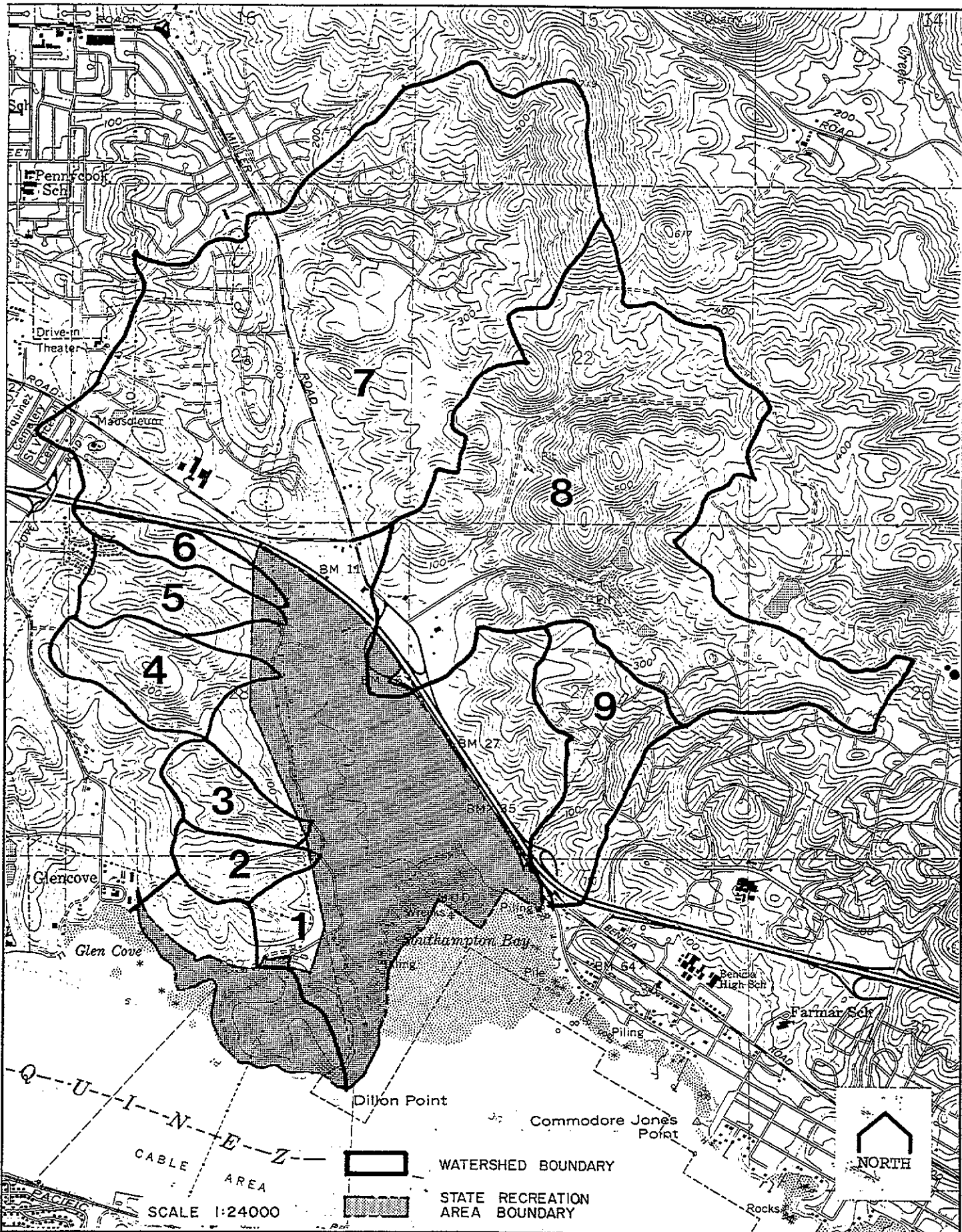
The remainder of the watershed area not identified or mapped drains directly into Carquinez Strait, or into the wetland.

Of concern is the increase in the amount of fresh water entering the wetland, which has changed the saltmarsh ecology. Correct operation and maintenance of the energy dissipators/debris basins is also a hydrologic concern of primary importance.

No groundwater resources have been identified in the area of the unit, although subsurface water may occur in the deep alluvial deposits of the wetland. Proximity to Carquinez Strait makes saltwater intrusion into the groundwater basin a possibility, but there has been no groundwater quality testing in the area of the unit.

There are two freshwater springs in the unit, one on the west side of Dillon Point, and the other located on the west side of the wetland, near watersheds 2 and 3. A well located near the administrative facilities was capped more than 30 years ago.

The wetland itself presents a complex hydrological situation that includes the interaction of freshwater inflow from the surrounding watersheds, the saltwater from Carquinez Strait, the tidal influence, and the dynamics of



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Watershed Boundaries

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water exchange through the system of wetland drainage channels. In addition, the unit is located at the point of mixing in Carquinez Strait where the more saline water from San Francisco Bay combines with inland freshwater flows. Here, the flow through Carquinez Strait changes direction with every change in tide. The wetland may be flooded to a deeper depth by an extreme high tide, but it is somewhat removed from the coastline, and the most pronounced tidal effect.

Surface water quality in the unit is primarily affected by the sediments and toxics contained in the increased runoff from the surrounding watersheds that are being rapidly developed. Runoff from road surfaces, herbicides and pesticides from suburban lawns, and household wastes and toxic compounds discarded in gutters will eventually reach the wetland. Wetland vegetation does have the capacity for filtering some substances from the water, but how this mechanism will operate in Southampton Marsh and its efficiency is not known. There are two landfills in watershed 8, one of which, the Braito or Solano County Landfill, was found two years ago to be leaking toxic substances, according to the California Waste Management Board. The problem has been dealt with to the satisfaction of the Regional Water Quality Control Board, and the outflow from the landfill is now monitored. However, the issue of gas escaping from the landfill and possibly affecting the groundwater is now being investigated.

Water quality in Carquinez Strait is also an important hydrologic issue at the unit. Industrial development lines Carquinez Strait in the vicinity of the unit, with Exxon Oil Company and Shell Oil Company refineries east of the unit, and the Mare Island Naval Shipyard to the west. Although most of the industries' discharge goes into San Francisco Bay after having been treated at publicly-owned water treatment plants, there is a potential for accidental spills and resultant impact to the wetland at Benicia State Recreation Area.

In April 1988, an oil spill occurred at the Shell oil refinery in Martinez. At least 432,000 gallons of crude oil were spilled, inundating nearby Shell Marsh and Peyton Slough, and entering the Carquinez Strait and Suisun Bay. Tidal and wave action spread the oil to Benicia State Recreation Area. Oil was deposited along the marsh fringe and the rocky intertidal area. The oil spill required extensive clean-up activities. The clean-up was completed in June 1989. The rocky intertidal areas near Dillon's Point were most heavily affected area in the SRA. The clean-up activities were not successful in removing all the oil deposits; residual deposits persist, and will probably continue to negatively affect the unit's natural values for many years.

Water for the unit is supplied by the City of Benicia Water Treatment Plant. The source of this water is from Lake Berryessa, but soon, the water will come from the North Bay Aqueduct. The water is metered, and the water quality, which has been generally good, is monitored once a month by the City of Benicia.

Waste disposal for the unit is through four septic tanks and their nearby leach fields: one near each of the ranger residences, one at the picnic area, and one at Dillon Point. The heavy clay soil of the upland area leads to problems with slow absorption, and landslide movement of the hillside on which the Dillon Point parking lot is built has resulted in separation of the water and sewer pipes in the past.

Geology

Benicia State Recreation Area lies along the eastern flank of the Coast Ranges geomorphic province. The Coast Ranges geomorphic province is about 400 miles long, extending from the Transverse Ranges in southern California north into Oregon. The Coast Ranges are bounded by the Pacific Ocean on the west, and by the Great Valley geomorphic province to the east. San Francisco Bay separates the northern Coast Ranges from the southern Coast Ranges. Benicia SRA's position north of Carquinez Strait places it in almost a "no person's land" -- most geologic mapping to the south stops at the strait, and geologic mapping in the north focuses to the west.

Carquinez Strait is an erosional and submerged channel cut directly through the Coast Ranges by the ancestral Sacramento and San Joaquin River drainages. The strait is a narrow, deep channel that was cut contemporaneously with the elevation and folding of the adjacent hills.

Rock outcroppings at Benicia SRA are confined to the seacliffs and roadcuts in the vicinity of Dillon Point. Thinly-bedded shale and sandstone are overlain by massive sandstone beds. Where exposed, the beds dip steeply to the west. The clay shale is thinly laminated and crumbly; the sandstone interbeds tend to be more resistant, and much thicker than shale. A massive, blocky sandstone unit overlies the sandstone-shale interbeds. This unit is subject to blockfalls along the unsurfaced road to the Coast Guard light at Dillon Point.

The uplands of the unit are gently rounded, with deeply weathered soils. Colluvial deposits accumulate at the heads of drainages. Runoff from upland development accumulates in drainage basins, and flows down lined drainage channels. Erosion and severe gullying is occurring downhill from at least one of these channels. Landslides occur in the uplands, at the head of colluvial-filled drainages, along the seacliffs, and at the parking lot at Dillon Point.

The lowlands and wetland area are made up of Holocene bay mud, which consists of intertidal deposits of soft mud and peat deposited in marshes, swamps, and adjacent waterways.

Two or three "mud wave" structures occur in the waste disposal site in the northwest portion of the wetland. A "mud wave" is formed from a "plastic" flow of underlying soft bay mud away from an area of differential vertical loading. The weight of the refuse and associated fill materials placed over bay mud has apparently caused the "mud waves."

The Southampton fault, a branch of the Franklin fault about 2 miles to the west, cuts through the axis of the wetland at Benicia SRA. The Southampton fault is probably part of the Calaveras and Green Valley fault systems. Both the Calaveras fault to the southwest and the Green Valley fault to the west are considered active, and have been mapped under the Alquist-Priolo Special Studies Zone program.

Fossil resources may be contained in the sandstone beds in the Dillon Point vicinity. No systematic survey for fossils was performed during preparation of the Benicia SRA General Plan.

Soils

Benicia State Recreation Area is located in Soil Region V, Central Coast Range and Valleys Soil Region. The dominant parent materials described in Soil Region V are sedimentary rock and sedimentary rock alluvium.

Three soil series, composed of five soil mapping units, and one artificial soil, are mapped at Benicia State Recreation Area.

The Dibble-Los Osos Complex derives from weathered sandstone and shale, and occurs on uplands. The complex is approximately 60 percent Dibble-Clay loam, and 30 percent Los Osos clay loam. This complex occurs on 2 to 50 percent slopes, and is well-drained, with medium to rapid runoff and slow permeability. The high percentage of montmorillonite and vermiculite clay minerals in the soil profile results in a high shrink-swell potential, and contributes to instability of these soils in hilly terrain. This complex occurs on slopes in the northern and western portions of the unit, and supports grassland and forbs.

The Joice series consists of nearly level, very poorly drained organic soils that have a high mineral content. These soils underlie the wetland at the unit, and derive from decomposed plant tissues mixed with fine mineral sediments. Permeability is moderately rapid, and erosion hazard is slight.

The Rincon series is formed in alluvium derived from sedimentary rock. The series consists of well-drained soils on alluvial fans. Rincon clay loam occurs in the eastern portion of Benicia State Recreation Area, adjacent to the entrance station. Runoff is slow to medium, and erosion hazard is slight.

"Made land" is an artificial soil, and consists of areas that have been filled in with mixed minerals. Eighty percent of "made land" is sandstone, shale, concrete, and asphalt fragments. It is well-drained, but commonly underlain by wetland soils. "Made land" occurs at the former dump site in the northwestern portion of the wetland, and adjacent to the mudflats in the southeastern portion of the unit.

The character of the waste disposal site in the northwest portion of the wetland has been investigated. Generally, the landfill consists of heterogeneous mixtures of glass bottles and fragments, plastic, metal machine and automobile parts, old tires, newspaper and cardboard, rubble, bricks, a few crushed oil drums, fill soils, ceramic insulators, lumber, sheet metal, rubber belts, wire, shoes and other household discards, old cans, copper tubing and brass fittings, plastic sheeting, automobile oil filters, and other miscellaneous refuse. One zone of oil-saturated soil has been identified on the site, with an estimated volume of 4,000 cubic yards over a 1-2 acre area. The total volume of the refuse on the site is estimated at 200,000 cubic yards.

The soils of Benicia State Recreation Area have been interpreted by the Soil Conservation Service for several land uses such as septic tank absorption fields, roads and streets, and shallow excavations. All have one or more severe constraints that would affect recreational use. Principal limiting factors are high shrink-swell potential, depth to bedrock, low strength, and slope. In addition to engineering constraints, soils can also be defined by high runoff potential. Based on hydrologic constraints, more than 90 percent of the soils in the unit have high runoff potential.

Several areas in and adjacent to Benicia State Recreation Area have landslides and developments that contribute to, and increase the potential for, erosion and sedimentation. Road and culvert placement, parking lots, adjacent subdivisions, and illegal vehicular trespass affect the ability of soils to absorb or channel rainfall and runoff in a nonerosive manner. Grading by the use of heavy equipment causes soil compaction, and reduces the infiltration rate of soils.

To mitigate some of the effects of urban pollutants on the wetland ecosystem, two sediment retention basins have been installed, just outside the western boundary of the unit. It is assumed that these retention basins will remove approximately 50 percent of suspended solids carried into the basins. Most urban pollutants such as heavy metals, herbicides, and pesticides, however, are carried on small soil particles that would not be trapped in a retention basin. It is estimated that 50 to 75 percent of these pollutants will be transported by runoff flows into the wetland.

Lead contamination of surface soils in the unit was documented by the State Department of Health Services during the 1970s. The source of contamination was a large lead smelter, operated by the American Smelting and Refining Company. Following closure of the smelter in 1971, lead concentrations in plant material decreased drastically. In 1978, the Department of Health Services retested soils at the unit, and at Glen Cove. The highest levels of lead (greater than 1,000 micrograms/gram) were reported along the shoreline of Carquinez Strait, possibly due to downslope erosion and boat and ship traffic. No recent testing of soils in the unit has occurred.

Plant Life

Benicia State Recreation Area is situated in the Central Coast Floristic Region of the California Floristic Province. The relative stability of the climate, as well as habitat diversity, makes the Central Coast Floristic Region one of the richer areas of endemic taxa in California.

Several diverse types of plant communities are represented at Benicia State Recreation Area:

<u>Vegetation Type</u>	<u>Plant Community</u>
Valley and Foothill Grasslands	Nonnative Grassland
	Cismontane Native Grassland
	Valley Needlegrass Grassland Valley Wildrye Grassland
Wetlands	Northern Coastal Salt Marsh
	Coastal Brackish Marsh
	Coastal and Valley Freshwater Marsh
Coastal Scrub	Central Coastal Scrub

Nonnative grassland is found on the uplands on the southwest side of the unit, and on fill east of the wetland. Dominant species include wild oat (Avena fatua), slender wild oat (Avena barbata), soft chess (Bromus mollis), and

ripgut (Bromus diandrus)... These exotic species intergrade with native grasses on the slopes above Glen Cove, and those below Dillon Point. Although extensive areas of native grassland do not occur at Benicia State Recreation Area, stands of native grasses occur in the wetland ("grass islands"), on the bluffs above Glen Cove, and in drainages and slopes surrounding Dillon Point. Purple needlegrass (Stipa pulchra) dominates the "grass islands" and occurs in tussocks near Glen Cove. It is scattered in grassland elsewhere in the uplands of the unit. Valley wildrye (Elymus triticoides) and many-flowered valley wildrye (Elymus triticoides var. multiflorus) occur respectively near the wetland, in drainages, and on slopes near Dillon Point.

Central coastal scrub is common along the coast of California from Marin County and the San Francisco Bay area to Point Conception. This plant community, however, is not well represented at Benicia State Recreation Area. Typical central coastal scrub species include coyote brush (Baccharis pilularis var. consanguinea), sticky bush monkeyflower (Mimulus aurantiacus), California sagebrush (Artemisia californica), and poison-oak (Toxicodendron diversilobum). At the unit, these species are dominant only on bluffs facing Carquinez Strait; coyote brush also occurs on northeast-facing slopes above the wetland. Where it occurs, coyote brush is slowly invading nonnative grassland.

The wetland at Benicia State Recreation Area is located in Southampton Bay, and is composed of three major plant communities: salt marsh, brackish marsh, and freshwater marsh. Sedimentation, local topography, levels of soil salinity, and nutrient availability affect the distribution of wetland species. Occurring in areas of periodic tidal inundation and relatively high levels of soil salinity, coastal salt marsh is the principal plant community. The Southampton Bay salt marsh is dominated by herbaceous or shrubby perennials, including pickleweed (Salicornia virginica), jaumea (Jaumea carnosa), frankenia (Frankenia grandifolia), and salt grass (Distichlis spicata). Soft bird's beak (Cordylanthus mollis var. mollis) also occurs in the wetland, at a narrow ecotone between the salt marsh and higher marsh areas.

Coastal brackish marsh intergrades with salt marsh near the mudflats of Southampton Bay. It is characterized by variable salinity levels that can increase at high tides, and decrease during periods of freshwater inflow. Species composition is intermediate between salt marsh and freshwater marsh; dominant species include jaumea, pickleweed, salt grass, common reed (Phragmites communis), tule (Scirpus acutus), and cord grass (Spartina foliosa).

Freshwater marsh occurs along the drainage adjacent to the entrance station, at the east parking lot, along drainages north of the entrance road, and at sediment basin outfalls on the west side of the wetland. In these areas, freshwater influx exceeds tidal influence or soil salinity, and freshwater wetland species have become established. The freshwater marshes adjacent to the entrance station and near the east parking lot are dominated by common cattail (Typha latifolia) and alkali bulrush (Scirpus robustus); red willow (Salix laevigata) is also becoming established in these areas. Freshwater outflows from the sediment basins, and from uplands northeast of the unit, have also contributed to formation of freshwater marsh in the wetland. Baltic rush (Juncus balticus), coast willow-weed (Epilobium watsonii var. franciscanum), and Olney bulrush (Scirpus olneyi) are common in these areas.

Stands of exotic trees and shrubs, as well as weedy, herbaceous annuals and perennials, dominate several areas in the unit. Arizona cypress hybrids and eucalyptus occur as a hedgerow along Interstate Highway 780, and Monterey pine (Pinus radiata) has been planted on the fill at the east side of the wetland. Numerous nonnative trees are established in the picnic area, the former site of a ranch house. The most widespread herbaceous exotic in the unit is fennel (Foeniculum vulgare), which is well established on the slopes above the wetland, on the wetland periphery, and in upland areas. Fuller's teasel (Dipsacus fullonum), lens-podded hoary cress (Cardaria chalapensis), and yellow star thistle (Centaurea solstitialis) have also displaced large areas of native vegetation at the unit. Where the herbaceous exotics occur, they are typically dense, and form impenetrable stands.

One state-listed rare plant species is known at Benicia State Recreation Area. Three other species are recognized by the California Native Plant Society as "rare and endangered in California and elsewhere" (List 1b), or as a plant of limited distribution (List 4). List 1b plants meet the criteria for listing by the state, and are considered sensitive under the guidelines of the California Environmental Quality Act. All species are associated with the wetland.

Soft bird's beak (Cordylanthus mollis ssp. mollis): State-listed rare
 Delta tule pea (Lathyrus jepsonii ssp. jepsonii): List 1b
 Suisun marsh aster (Aster chilensis var. lentus): List 1b
 Marsh gumplant (Grindelia humilis): List 4

Suisun thistle (Cirsium hydrophilum var. hydrophilum: List 1b) has been reported in the wetland. To date, the occurrence of this species at Benicia State Recreation Area has not been verified.

Several species of special interest are found at Benicia State Recreation Area. All are native perennial grasses:

Purple needlegrass	<u>Stipa pulchra</u>
Valley wildrye	<u>Elymus triticoides</u>
Many-flowered valley wildrye	<u>Elymus triticoides</u> var. <u>multiflorus</u>
Blue wildrye	<u>Elymus glaucus</u>
San Francisco blue-grass	<u>Poa unilateralis</u>

Although none of these species is rare on a statewide level, occurrence of native grasses is not widespread in the vicinity of the unit. Urbanization, grazing pressure, and competition from introduced grasses have altered the habitat that previously supported native perennial grasses.

A number of exotic species are established in Benicia State Recreation Area. The species listed below are highly invasive, and are capable of naturalizing.

Black acacia	<u>Acacia melanoxylon</u>
Lens-podded hoary cress	<u>Cardaria chalapensis</u>
Iberian star thistle	<u>Centaurea iberica</u>
Yellow star thistle	<u>Centaurea solstitialis</u>
Pampas grass	<u>Cortaderia selloana</u>
Artichoke thistle	<u>Cynara cardunculus</u>
Scotch broom	<u>Cytisus monspessulanus</u>

Fuller's teasel
Blue gum
Fennel

Dipsacus fullonum
Eucalyptus globulus
Foeniculum vulgare

Other exotic species that are naturalized and widespread include annual nonnative grasses (Avena, Bromus, Hordeum) and black mustard (Brassica nigra).

Animal Life

Benicia State Recreation Area is relatively small, but it includes several different biotic communities, each offering different habitat opportunities to wildlife. In an area where the natural environment and particularly the coastal wetland biotic community is rapidly being replaced by human development, the habitat opportunities offered by Benicia State Recreation Area become even more important. The unit is located on the Pacific Flyway, and provides an important stopover for migrating waterfowl and shorebirds.

The biotic communities occurring within the boundaries of the state recreation area are the mudflats, coastal saltmarsh, brackish/freshwater coastal wetland, central coastal scrub, grassland, and human development. In addition, there are the aquatic biotic communities, the channels and open water of the wetland, and the marine community of the shores of Carquinez Strait.

The mudflats of Benicia State Recreation Area receive nutrients from both the land and the sea, brought by stream flow, rain runoff, and with each high tide. This productive area is inhabited by algae, diatoms, small aquatic annelid, molluscan, and arthropod invertebrate organisms, living on the surface of the mud or burrowed underneath. These mudflat dwellers provide an abundant source of food to several species of fish during high tide, and many species of shorebirds during low tide.

The coastal saltmarsh is also a very productive biotic community, and lower and higher saltmarsh vegetation are found at Benicia State Recreation Area. The higher saltmarsh vegetation is very important, for it is particularly depleted in the Bay-Delta area. Providing necessary cover for saltmarsh inhabitants during high tides, the upper marsh vegetation is a habitat requirement for the endangered salt marsh harvest mouse, Suisun shrew, and salt marsh yellow throat, as well as other animals restricted to the marsh. The marsh also provides food for shorebirds, wading birds, and waterfowl through its vegetation, and its invertebrate and vertebrate organisms.

The brackish/freshwater wetland biotic community is vegetated by dense stands of perennial herbaceous vegetation, such as cattails, tule, and bulrushes. As in the saltmarsh biotic community, several of the brackish/freshwater wetland plants are important sources of wildlife food, particularly for waterfowl such as green-winged teals, canvas-backs, and geese, and the thick cover provides breeding, nesting, and resting habitat for wildlife. The tule vegetation may also be used as spawning, nursery, resting, and feeding habitat for native and introduced fishes.

Birds such as the California clapper rail and long-billed marsh wren are closely associated with both the saltmarsh and brackish/freshwater wetland communities. The open water, too, supplies resting and feeding habitat for

waterfowl, and even the air above the wetland communities is important foraging habitat for swallows searching for flying insects, many of which spent early life stages as aquatic larvae in the waters of the wetland.

The central coastal scrub, although not extensive in the unit, offers different habitat opportunities, with its perennial herbs and taller semiwoody, primarily evergreen shrubs. The flowers, fruits, and seeds of the shrubs and ground cover plants provide forage opportunities, and the canopy of the shrubs offers resting and nesting cover. Insects provide forage for fly-catching birds and bats, and these in turn provide prey for raptors. Mammals, such as the deer mouse and black-tailed hare, use the resources of the central coastal scrub, and serve as prey to predators that include the long-tailed weasel and gray fox.

The grassland, vegetated by native and nonnative grasses, offers an abundance of food, particularly of seeds and grains. However, it is a hot, dry environment for much of the year, and provides very little cover for protection from predators and the elements. Consequently, many of the creatures associated with this biotic community tend to forage in the grassland and find shelter elsewhere, or retreat to cooler, moister burrows. Grassland areas are full of insect life, and this makes them also good for reptiles such as the western fence lizard and southern alligator lizard. Grains provide optimum forage for small rodents such as the deer mouse and western harvest mouse, which in turn provide food for the loggerhead shrike and black-shouldered kite.

There are several areas of human development in the unit, including stands of exotic trees, roads, parking lots, and picnic areas. There are wildlife habitat resources to be found here: the trees offer birds forage, resting, and nesting areas that would otherwise be missing at Benicia State Recreation Area; landscaping plants may offer food and cover opportunities (lawns offer a prime foraging area for the American robin); and picnic areas are favored foraging sites for scavengers. Human alterations also destroy the natural environment, and disrupt wildlife habitat. Introduced species such as the starling, house mouse, and black rat are favored by disturbance, and compete with native species for habitat resources.

In addition to terrestrial environments, Benicia State Recreation Area includes aquatic environments. The unit is uniquely situated between the saline San Pablo Bay on the west and the fresher Suisun Bay on the east. In addition, Southampton Bay does not face onto a large, fairly calm, and uniform body of water like San Pablo and Suisun bays, but rather onto Carquinez Strait. Here, where the water is constricted to a narrow passageway, the environment is in a constant state of flux, with the tide moving in or out, and the salinity always varying. Due to its environmental variability, the Southampton Bay area is of great importance to fish life, providing habitat for different fish species, and different stages of their life cycles. It supports a rich and diverse fishery, and provides spawning or nursery grounds for several species of oceanic fish, in addition to estuarine species. The Southampton Bay area also provides an area for anadromous fish to acclimate to changed water salinity, on their migrations upstream or downstream.

There have been many historical influences on the animal life in the region. The Gold Rush brought many settlers, and hunting depleted a number of fish and wildlife species. The king salmon, pronghorn, tule elk, grizzly bear, and several other species disappeared. Vast alterations of the Bay-Delta area occurred with reclamation of the marshes for agricultural land, increased sedimentation due to upstream hydraulic mining activities, and filling and diking of coastal marshes for municipal or industrial uses, including garbage dumps. The landform changes had an effect on the natural flow of water in the system, as did development of water control and storage facilities upstream. All these changes have altered the natural system, affecting wildlife habitat, and the species that depend on it.

Three federally listed endangered (FE) and state-listed endangered (SE) wildlife species, the saltmarsh harvest mouse, California clapper rail, and California brown pelican, have been observed at Benicia State Recreation Area. One state-listed threatened (ST) species and a candidate for federal listing (FC), the California black rail, has also been observed at the unit. The harvest mouse, clapper rail, and black rail are resident animals dependent on the saltmarsh habitat. The American peregrine falcon, federally and state-listed as endangered, and the greater sandhill crane, state-listed as threatened, could possibly be observed at the unit. Other candidate species for federal listing, the salt marsh yellowthroat, delta smelt, and Sacramento splittail, which have been observed in the unit, and the Suisun shrew and Suisun song sparrow, which could possibly occur in the unit, are also species of special concern.

Saltmarsh harvest mouse	FE, SE
Suisun shrew	FC
California black rail	FC, ST
California clapper rail	FE, SE
California brown pelican	FE, SE
Greater sandhill crane	ST
American peregrine falcon	FE, SE
Saltmarsh yellowthroat	FC
Suisun song sparrow	FC
Delta smelt	FC
Sacramento splittail	FC

Since the mid-1800s, nearly 95% of the original tidal wetlands of the Bay-Delta area has been eliminated. As a remnant of a severely depleted natural environment, Benicia State Recreation Area, with its coastal wetlands, is of significant ecological value, and has very important wildlife habitat resources to offer.

Ecology

For its small size, Benicia State Recreation Area, with its terrestrial, aquatic, and wetland ecosystems, has a diverse and complex ecology. It is an area currently undergoing ecological change, and it is this change that constitutes an important aspect of the unit.

The unit is located in an area of great natural variability and change. Here, where strong winds and water currents are funneled through narrow Carquinez Strait, is an area of mixing, where saltwater from the San Francisco Bay meets

fresh water from the Sacramento and San Joaquin rivers, in a dynamic union changing with every tidal cycle. In an intermediate position between the saline San Pablo Bay wetland and the fresher Suisun Marsh, Benicia State Recreation Area exhibits elements of both distinctly different ecosystems. The diversity of abiotic and biotic conditions is reflected in the diversity of aquatic life in this area. Although the natural change results in an environment in a constant state of flux, it is the human-created change that plays a major role in this unit.

Suburban and urban development that will soon surround the terrestrial portion of the unit will create significant changes. Besides isolating the unit from other natural areas and decreasing the number of species that could inhabit the area, the development affects functioning of the ecosystem. Land use in the surrounding watersheds has changed, altering the hydrology of the area. A growing portion of the land surface is being covered, creating an impenetrable seal that shunts freshwater runoff quickly to the drainages, affecting salinity levels in the water of the wetland. Use of imported water has increased, and has added even more fresh water to the drainages, water that may contain sediments, herbicides, pesticides, household chemicals, and toxic wastes discarded in suburban gutters. It has been estimated that 50 to 75% of water-borne contaminants will adhere to soil particles in suspension not trapped in sediment basins, and, therefore, will appear in the waters of the wetland.

Drainage from the watersheds has also been altered with construction of the freeway, channelization of waterways, and installation of culverts. The land itself has changed, a prime example being the mudflats created by accumulation of sediments, originating primarily from past hydraulic mining activities far inland.

Increased sediments from current subdivision construction activities threaten to fill tidal channels, and have already created a small freshwater wetland in the southeast corner of the unit that is of greater extent than had previously existed.

With changes due to land uses, a different water regime, and increased land elevation come changes in vegetation. Increased fresh water has allowed less salt-tolerant plant species to proliferate, and increased elevation has encouraged growth of less moisture-tolerant species, both having visible effects on the wetland ecosystem. Similarly, past grazing practices and introduction of exotic annual grasses have changed the grassland plant community to more introduced annual grasses and less native grass species.

The environmental quality of the ecosystem has been another human-created change. In addition to polluted runoff from the surrounding subdivisions, toxic substances are included in the landfill material, and may leach out into the wetland. Two landfills are located in the watershed above the unit, one of which, the Braito or Solano County landfill, was found to be emitting toxic leachate in the past. The air quality of the unit has been degraded by surrounding development, industrial emissions, and automobile emissions from the nearby freeways. There may still be evidences in the soil of the unit of past lead contamination by an upwind lead smelting plant. Neighboring industries such as the oil companies and the Mare Island Naval Shipyard pose a potential threat of toxic chemical spills that could devastate the wetland resources of the unit.

Wetlands are essential to fish as spawning and nursery areas, and to migratory waterfowl and shorebirds as resting, feeding, and nesting sites. From a human standpoint, wetlands may help to minimize the effects of flooding, erosion, and pollution. With their diversity of animal and plant life, wetlands are also important esthetic and recreational resources.

The existing wetland at Benicia State Recreation Area encompasses coastal salt marsh, coastal freshwater marsh, coastal brackish marsh, and mudflats. The major drainage into the wetland creates a complex network of channels. The wetland provides habitat for several sensitive species including the soft bird's beak (*Cordylanthus mollis* ssp. *mollis*), California black rail, California clapper rail, and salt marsh harvest mouse.

Most of the wetland resources of the Bay-Delta System have been lost, making wetlands an endangered biotic community. Although Benicia State Recreation Area is a small unit, it provides important natural resources, an example of the wetland biotic community that has been seriously decreased in extent.

The 27-acre waste disposal site at the northwest corner of the wetland has contributed to the loss of wetland habitat. The department has been investigating this site for several years. A project is being planned to consolidate the waste, and restore approximately 10 acres of wetland habitat on the site.

Cultural Resources

Nearly the entire unit was intensively surveyed for cultural resources for this general plan, except for the mudflats and a small portion of the wetlands, which are inaccessible to pedestrian reconnaissance.

Archeology

Six previously unknown prehistoric archeological sites were discovered and recorded in 1988 at Benicia State Recreation Area. One site consists of less than a dozen obsidian flakes scattered on the surface, the remains of stone tool making or reworking. Besides documenting the presence of prehistoric hunters in the wetlands of Southamptton Bay, the obsidian is significant because it can be sourced and dated.

Four of the prehistoric sites consist solely of bedrock mortars -- circular holes in sandstone that were probably used for grinding seeds and pounding acorns in the last two thousand years of prehistory. Three of these sites are located on sandstone boulders along the Carquinez Strait shoreline, and the other is on a natural rock outcrop, midslope above Dillon Point. The small number of mortars at these sites indicates use by small family groups or individuals, probably on a temporary or seasonal basis. No ground stone tools, such as pestles and manos, or other artifacts were found at these sites. Additionally, these sites did not have midden -- dark soil with charcoal, ash, shell, and bone that remain from intensive occupation and habitation in an area.

One Benicia site along Glen Cove, was found to have more than 30 bedrock mortars located on a sandstone bench of bedrock, just above the high tide line. The site also includes possible simple petroglyphs (rock art),

consisting of clusters of small pits and linear grooves, though they may also have been formed entirely or in part by natural erosion patterns in the soft rock. This site is clearly associated with a major Native American village site, Sol-236, at the head of Glen Cove -- a large and deep but disturbed midden site, where numerous artifacts and burials have been discovered. (Sol-236 is on land now owned by the Greater Vallejo Recreation District.) Additional bedrock mortar sites are located on the west side of Glen Cove.

Adjacent to the bedrock mortars on the east side of Glen Cove, and exposed at low tide, is a series of three fish traps, in an area about 100 m (310 feet) long and 20 m (62 feet) wide. These traps are defined primarily by the shoreline and parallel low ridges of sandstone offshore that rise above the mudflats. Two rather inconspicuous alignments of rocks connect the offshore ridges to the shoreline, forming the central fish trap basin. The northern basin is poorly defined by a few large rocks on a low ridge, and a curving, sandy shoreline. These low rock walls and natural ridges are completely inundated during normal high tides. The large southern fish trap basin is open to Carquinez Strait to the south, though it could have been closed in by a low rock wall or nets. The basin is littered with rocks sufficient to have made such a wall, and that wall could have been torn apart by storm waves.

These simple traps could have been effective in catching sturgeon and other fish that feed along the mudflats at slack tides. No other fish traps have been reported archeologically in the San Francisco Bay or delta area. Prehistoric Native American fish traps have been found along the receding shoreline of ancient Lake Cahuilla in southern California, and in northeastern California, in Ahjumawi Lava Springs State Park, along the shoreline of Big Lake, used historically by Ahjumawi Indians. It is also possible that these rock wall fish traps at Benicia were constructed in the late 19th century by Chinese, who may have had a fishing village in Glen Cove. One piece of historic Chinese ceramic has been found in Glen Cove, and the Chinese are often noted for their skill and effort in dry laid rock construction.

Ethnography

This area of Solano County was formerly occupied by the Patwin, speakers of the Southern Wintuan language, and the Suisun dialect in particular. The Patwin occupied most of the southern Sacramento Valley on the west side, south to Suisun Bay and Carquinez Strait, and west to the lower Napa Valley. The Costanoan, or Ohlone, lived on the south shore of Carquinez Strait, and around San Francisco Bay.

The largest political unit for the Patwin was the tribelet, which was composed of a primary village, and several satellite villages. Four kinds of structures were built in the village. The family house could be placed anywhere, but the others each had a prescribed location: the ceremonial dance house was near the north or south end of the village, the sweathouse was placed east or west of the dance house, and the menstrual hut was placed at the end of the village, farthest from the dance house. Each village was administered by a chief who mainly regulated economic and ceremonial activities. The site of Sol-236 above Glen Cove at the mouth of a wide canyon is probably the named ethnographic village of Sugoreate.

As with many California Native Americans, the acorn was the primary dietary staple, which was supplemented by seasonal supplies of fish, shellfish, tule elk, deer, antelope, bear, waterfowl, other birds, turtles, and other small animals. Trade items included bows, flicker head bands, beads of shell and magnesite, and salt, but little is known about contacts between the Patwin and Ohlone.

By 1800 and through the 1820s, the Spanish missions (Dolores, San Jose, and Sonoma) began to proselytize the Southern Patwin. During Mexican rule, Mariano G. Vallejo relied heavily on the neophytes as a labor force. Population began to decline sharply during the mission period, and the decline accelerated during Euroamerican settlement of Solano County. The total population in precontact times for the Southern Patwin has been estimated at 3,300. Kroeber gives a total in 1923 of 200 for all the Patwin.

History

The Benicia area was first settled by Euroamericans in early 1847. The City of Benicia was established by Dr. Robert Semple, Mariano Guadalupe Vallejo, and Thomas O. Larkin. This area was part of Vallejo's disputed "Socol" grant. Benicia became the first deepwater harbor to receive large ships. This city was named "Francisca" in honor of Vallejo's wife, Francisca Benicia Carrillo. The founders changed the name to Benicia on June 12, 1847, when Yerba Buena became San Francisco. Semple, Larkin, and Vallejo divided up the city lots after the town was surveyed by Jaspas O'Farrell. Semple also established a ferry across the strait.

Southampton Bay was named by the U.S. Coast Survey sometime in 1850, in honor of the U.S.S. Southampton, the ship that led Commodore Jones' fleet to its anchorage at Benicia in 1849.

In November 1851, M. G. Vallejo leased the tidal flats of Southampton Bay and the peninsula known as "Rocky Point" to Patrick W. Dillon, John Dobson, and Francis Tracey. This lease was for the purpose of quarrying the sandstone of "Rocky Point." The lease also provided for construction of a wharf, as well as any necessary buildings needed to carry out the quarrying business. Patrick Dillon purchased the property in 1858.

Patrick W. Dillon, born in Tipperary, Ireland in 1810, came to California during the Gold Rush of 1849. He came to Benicia in 1851, and plied his trade as a stonecutter. His wharf projects at Vallejo and Benicia used the quarried sandstone from "Rocky Point," which became known as Quarry Point. In addition to the waterfront projects, Dillon's sandstone was used for many buildings in the San Francisco Bay area. Dillon eventually established a red-brick kiln on the tip of Quarry Point. When the sandstone quarry and the red-brick business ran out of raw material, Dillon went into the sheep ranching and vineyard business.

In January 1856, Dillon married German-born Bertha G. Jordon, a former nun of the Convent of St. Catherine's in Benicia. They lived in the ranch house built by Patrick in 1856. The basement and main floor were constructed of the local sandstone. Later, a wood-frame second story and attic were added. In 1893, Patrick and Bertha moved into Benicia. Patrick died there on April 19, 1896. The Dillon ranch house was demolished in 1969.

There were several other former landowners within the unit's boundary. Elisha L. Rose, a farmer, owned a parcel in the northeastern portion of the unit, from about April 1861. The Thompson and West map shows the Rose parcel still there in 1878. This same map indicates that Gray and Peabody owned the lower portion of the marsh on the east side, and that a Mrs. F. Ryerson owned the northwest corner of the unit. The Peabody of Gray and Peabody is probably W. F. Peabody, who purchased that property in December 1855. So far, the identity of Gray has not been confirmed. There was an A. P. Ryerson who was known to have a house halfway between Benicia and Vallejo in 1856. He purchased a parcel of land in January 1860, adjacent to Dillon, on the north and west.

According to a local historian, when the Dillons moved into Benicia in 1893, the ranch was taken over by Mr. and Mrs. Michael White. They may have leased the property. Later, the Mini family occupied the ranch.

Noxious fumes from the Selby smelter smokestack, across Carquinez Strait in Crockett, killed grapevines, and caused sickness to animals that grazed in the grasslands. The smelting company bought the farmland and ranches on the Benicia side to quiet the complaints. The farmers could get their property on a lease if they did not complain about the fumes.

On April 27, 1901, Pacific Gas and Electric Co. dedicated the power transmission tower on Dillon Point. The 4,427-foot span across Carquinez Strait was part of the transmission line from the Yuba River to Oakland. These towers were designed by John Martin, and have been designated as California Historic Civil Engineering Landmarks by the American Society of Civil Engineers. The north (leaning) tower is immediately outside the unit. The tall, middle tower above Dillon Point is on land recently added to the unit, though the tower is owned and maintained by PG&E. The electric company bought some of the Dillon property, and tore down Dillon's large barn for its towers and transmission lines.

About 1922, Dillon Point was considered as the site for the Solano County end of the Carquinez Bridge for the Lincoln Highway, now Interstate 80. The final decision was to construct the bridgehead 1-1/2 miles to the west, at Semple Point. A dam across Carquinez Strait at Dillon Point that would hold back the high tide waters and then release them at low tide to generate power was proposed in the 1960s. The proposal was abandoned for engineering, economic, and environmental reasons.

The state acquired Dillon Point in 1967 to develop Benicia State Recreation Area. In 1969, the state demolished, by burning and bulldozing, the Dillon ranch house, now the site of the picnic area. At the same time, the state salvaged and burned the ferry boat Encinal, which had been drawn up into the mudflats. The flat-bottomed ferry boat had served as a very popular restaurant (Spenger's) since 1943. Paul Spenger had moored the Encinal near the present location of the east end parking lot.

Historic Structures and Sites

The historic power transmission tower on Dillon Point is the only significant historic resource in the unit. This tower, owned and maintained by PG&E, is a monumental engineering and construction achievement, supporting almost a mile

of cables across Carquinez Strait. The heavily reinforced iron PG&E tower was built to withstand the strong and gusty winds at the site. The numerous power and telephone lines throughout the unit are negative esthetic features, but one's esthetic judgment of the massive black Dillon Point tower can be affected by an awareness of its history. A small brass plaque for this Historic Civil Engineering Landmark is located inconspicuously behind the picnic area, along the road to the PG&E substation.

There are many small features on the landscape from historic land use and development. All existing structures and facilities were photographed for inclusion in the unit's history inventory. Nearly all the trees have been planted, usually aided with irrigation; only the willows in the unit are native and natural. Old barbed wire fence posts occur in many places in the hills and wetlands, but were not recorded as historic resources.

Only a pile of sandstone foundation piers remains from the Dillon ranch, moved from their original location nearby. These were probably from an addition to the ranch house, or an associated outbuilding. Only a few bricks and hillside quarry scars remain at the southern tip of Dillon Point, where Patrick Dillon had his sandstone quarry and red-brick kiln in the late 19th century.

Three old dirt roadbeds parallel Dillon Point Road, and are nearly continuous, except where they cross drainages or the edge of the wetland. These are not considered significant historic resources.

About 20 acres of wetland were used for many years as the Benicia town dump, in an area north of the bay, west of the main entrance, and adjacent to Dillon Point Road. A cratered landscape is evidence of past garbage fires that smoldered and burned underground for days and weeks, followed by cave-ins.

A 1,300-foot dirt airstrip was located on the grassy terrace on the east side of the wetlands, and was used in the 1960s, until state acquisition of the area. The faint changes in topography from grading for the airstrip are still visible on the ground, and in aerial photos.

The Encinal shipwreck on the shoreline near the east end parking lot was recorded and documented, though it is not considered to be a significant historic resource. There are four other wooden ship skeletons in the mudflats of Southampton Bay that are regularly exposed at low tides. All appear to have been salvaged, and burned to the water line. Very little information is available on these ships. They were probably flat-bottomed commercial barges, abandoned 30 to 40 years ago. Only the western shipwreck is in the state recreation area; the others are on lands managed by the State Lands Commission. There is no indication of historical significance for these shipwrecks. Two historic pilings are located in the mudflats near the high tide shoreline, east of the picnic area. The wood posts serve as resting sites for large birds.

The mudflat in Southampton Bay, more than 1,000 feet thick, is a historic feature resulting from hydraulic gold mining and other earth-disturbing activities such as lumbering and grazing in the Sierra Nevada. Hillsides were washed away with streams of water under high pressure, until the U.S. Supreme Court made the practice illegal in 1884. Gravels and sand were deposited near the mining sites downstream, but clay and silt particles were carried along in suspension to the delta, and beyond. The electrical charge on these fine

particles was changed where freshwater meets saltwater, in a process called flocculation, causing deposition of silt and clay particles, resulting in extensive mudflats from Suisun Bay to San Pablo Bay.

Esthetic Resources

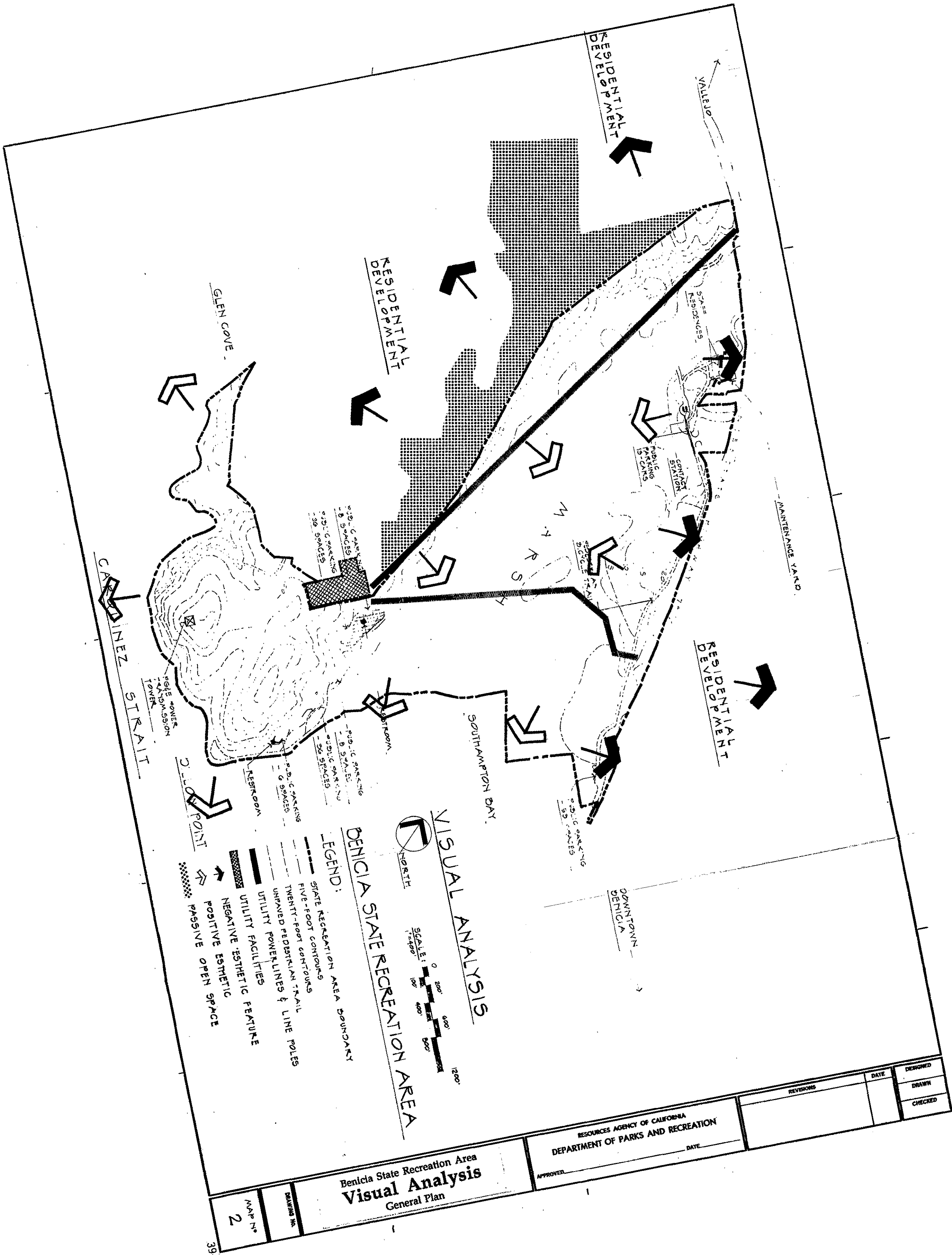
Benicia State Recreation Area, with its rare and threatened wetland ecosystem, offers opportunities to observe this interesting environment at close range, as well as scenic panoramic views of the Carquinez Strait region.

The primary positive esthetic resource is the wetland. From a distance the patterns of marsh vegetation and the flat, open expanse of the wetland are important focal features. The fragile salt marsh ecosystem provides close-range scenic opportunities in its uniquely adapted marsh plants and the wildlife species that use its resources. Herons and egrets can be seen fishing, while red-winged blackbirds and long-billed marsh wrens are often seen and heard.

The shoreline of the unit is another zone of scenic importance. The shore provides an opportunity to get close to the waters of Carquinez Strait, and to observe the varied boat traffic. Both humans and birds can be seen fishing in the unit. While human anglers fish from shore and from boats, several species of shorebirds probe in the mudflats, and agile terns and ponderous pelicans dive from the sky. Located along the Pacific Flyway, the unit is also an excellent place from which to observe migrating waterfowl. Ducks and geese rest in Southampton Bay during the fall and winter.

The upland area consists of the grassland community, with its characteristic plant and animal life. The sound of insects and bird song may often be heard, particularly in the trees around the picnic area, with the songs of mockingbirds and house sparrows, and the calls of mourning doves and starlings. The upland area in the unit provides a panoramic vista of the Carquinez Strait region, including the town of Benicia, and an urbanized skyline to the east beneath the Coast Ranges, the industrialized shoreline and the town of Crockett to the south across Carquinez Strait, and the Carquinez Bridge.

The esthetics of this unit also include ephemeral features. The natural sulfur smell of the salt marsh and the odor of the wet mudflats lend a different quality to the surroundings. The spicy fragrances of the gumplant and milfoil, and the licorice aroma of the fennel plants, also noticeably perfume the air. Fog creates a different lighting effect, as well as a moist feeling in the air, and the smell of wet vegetation produces a different sensory experience. Perhaps the most significant ephemeral esthetic feature is the nearly constant breeze, and the sound of wind through the grass. The wind can be sensed not only in a tactile manner, on the skin and in the hair, but also in a secondary way, through the shifting scene of the sailboats in Carquinez Strait leaning over in the stiff breeze, and the terns, gulls, and pelicans gliding and wheeling in the wind. Also an ephemeral esthetic feature is the occasional sound of foghorns from passing ships in Carquinez Strait, reminding visitors of the continual commercial importance of this historic waterway.



**Benicia State Recreation Area
Visual Analysis
General Plan**

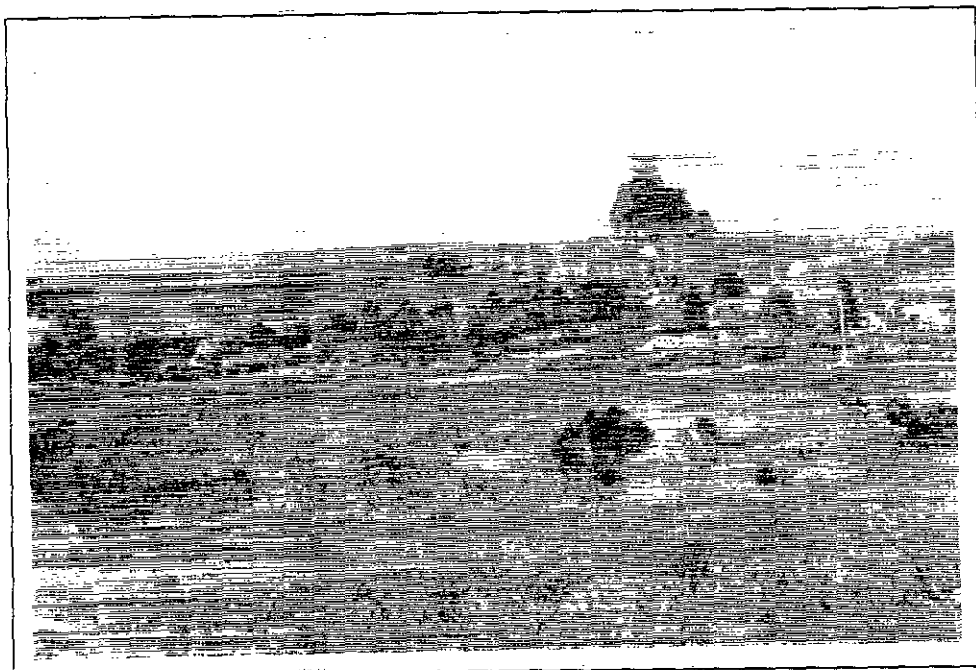
MAP NO. 2
DRAWING NO.

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

APPROVED	DATE	DESIGNED
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Looking west across the wetlands up to the ridge line development.



The PG&E utility station is a negative visual feature in the unit.

Several negative esthetic features in the unit or visible from the unit compromise its scenic values. Urban development encroaching on the unit from all sides constitutes the major negative feature. Housing developments are covering the surrounding hills, destroying the natural profile of the hills, and giving visitors a feeling of being in someone's backyard, rather than in a natural area. Highly developed and industrialized areas dominate the panoramic views of the Carquinez Strait region.

Structures in or visible from the unit are also esthetically unattractive. Powerlines and telephone cables criss-cross the wetland, compromising its natural and scenic values. Coast Guard navigational lights, a PG&E facility and powerlines, and a Pacific Bell telephone cable crossing and its two large warning signs are other conspicuous features. Two former dumpsites on the sides of the wetland, an abandoned dirt airstrip airport runway, and scars from illegal off-highway vehicle use near Dillon Point are additional negative visual features. The proximity of Interstate Highway 780 to the eastern side of the unit near the entrance and along the bike trail produces a major negative esthetic impact from the sight of the speeding cars and their high noise level, factors that seriously degrade the natural values of the area. With certain wind conditions, odors from nearby oil refineries create an ephemeral negative esthetic feature at the unit.

Recreation Resources

Benicia State Recreation Area provides excellent recreational opportunities for visitors, primarily associated with the complex natural resources of the wetlands and mudflats, and with the developed access road/fitness course. Major recreational activities include jogging, hiking, bicycling, fishing, and nature study. Visitor use is often concentrated in the hours before 8:00 a.m. and the period between 3:30 p.m. and sunset. Due to the location of the unit, most recreation uses are destination activities.

Opportunities exist for study and interpretation of the natural and cultural heritage of Southamptton Bay and adjacent Carquinez Strait. The natural resources of the wetland and mudflats at Benicia State Recreation Area provide excellent opportunities for study of natural history and related sciences, as well as a pleasing backdrop for walking, bicycling, and jogging.

Since its classification in 1963, visitation at Benicia State Recreation Area has grown steadily. Yearly visitation for fiscal years 1984-85 and 1985-86 was greater than 400,000. Visitor use is concentrated primarily along the developed roads and trails in the unit, where the majority of visitors walk, jog, and ride bicycles.

The principal recreational facilities at Benicia State Recreation Area, 79 picnic sites, two fire rings, and two restrooms, are located at the picnic area. The picnic area is located on the west side of the unit, and faces east and northeast, affording visitors views of the wetland. The site of a former ranch house, the picnic area has orchard and landscape trees underplanted with lawn.

Two miles of trails for hiking or riding have been developed in the unit. Visitors can hike to Dillon Point or Sandy Cove. An unpaved footpath parallels the eastern perimeter of the wetland, and is used for nature study,

bicycling, and fishing access. A three-mile paved road borders the wetland, and is used as a service road and for public access. On a part of this road closed to public vehicles is an 18-station par course, on the eastern periphery of the unit. There are 170 paved and approximately 40 to 50 unpaved day-use parking sites available.

The paved access road is used by visitors as well as department personnel. The multiple-use aspect of this road has been identified as a safety problem, with motor vehicles and pedestrians sharing the roadway. Conflicts also often arise between bicyclists and walkers or joggers. Collisions between pedestrians and bicyclists have occurred.

Benicia State Recreation Area is subject to seasonal strong winds that can result in uncomfortable hiking, jogging, and bicycle riding experiences. Gusty winds also cause wind-whipped waves and a decrease in temperature as a result of a "chill factor," thereby limiting water-oriented activities.

Stands of exotic plant species occurring at several areas in the unit are dense and often spiny, and limit access to hiking areas.

Benicia State Recreation Area is located in a rapidly expanding urban area, and is in reasonable travel distance of the Central Valley. These two factors added to the adjacent residential development will result in increased recreational use.

Resource Management Directives

Classification

Classification of a State Park System unit forms the foundation on which all management and development objectives are based. Classification statutes contained in Article 1.7 of the Public Resources Code specify broad management objectives and improvements appropriate in units of the State Park System.

Acquisition of land that now makes up Benicia State Recreation Area began in 1957. The unit was first named Benicia Beach State Park, as all units of the State Park System at that time were named either state park or state historic monument.

In the 1960s, the present State Park System classification system was established, and on May 20, 1963, the director of the department signed an order that classified the unit as a state recreation area and officially named it Benicia State Recreation Area. The word "Beach" was dropped from the name because its retention would give an unbalanced impression of the values contained in the unit. The size of the unit at this time was approximately 140 acres; acreage included much of the current eastern portion of the unit. Over the years, additional lands have been acquired, bringing the total size of the unit to approximately 469 acres.

Classification of a unit in the State Park System establishes management and public use direction, and affords protections under the California Public Resources Code (PRC 5019.56). The code defines a state recreation area classification as follows:

5019.56. State recreation units consist of areas selected, developed, and operated to provide outdoor recreational opportunities. The units shall be designated by the commission by naming, in accordance with the provisions of Article I (commencing with Section 5001) and this article relating to classification.

In the planning of improvements to be undertaken within state recreation units, consideration shall be given to compatibility of design with the surrounding scenic and environmental characteristics.

State recreation units may be established in the terrestrial or underwater environments of the state and shall be further classified as (one of the following types):

- (a) State recreation areas, consisting of areas selected and developed to provide multiple recreational opportunities to meet other than purely local needs. The areas shall be selected for their having terrain capable of withstanding extensive human impact and for their proximity to large population centers, major routes of travel, or proven recreational resources such as manmade or natural bodies of water. Areas containing ecological, geological, scenic, or cultural resources of significant value shall be preserved within state wildernesses, state reserves, state parks, or natural or cultural preserves.

Improvements may be undertaken to provide for recreational activities, including, but not limited to, camping, picnicking, swimming, hiking, bicycling, horseback riding, boating, waterskiing, diving, winter sports, fishing, and hunting.

Improvements to provide for urban or indoor formalized recreational activities shall not be undertaken within state recreation areas...

Subclassification

Article 1.7 of the Public Resources Code specifies several classifications that may be established within the boundaries of other State Park System units. These include the natural preserve, cultural preserve, and state wilderness classifications.

As part of the general plan for Benicia State Recreation Area, a 210-acre natural preserve subclassification is recommended. The natural preserve boundary encompasses the Southampton Bay wetland (Map 3). This subclassification acknowledges the importance of the wetland, and establishes certain protection for the resources. The California Public Resources Code for the natural preserve classification (PRC 5019.71) is quoted below in its entirety:

5019.71. Natural preserves consist of distinct areas of outstanding natural or scientific significance established within the boundaries of other state park system units. The purpose of natural preserves shall be to preserve such features as rare or endangered plant and animal species and their supporting ecosystems, representative examples of plant or animal communities existing in California prior to the impact of civilization, geological features illustrative of geological processes, significant fossil occurrences or geological features of cultural or economic interest, or topographic features illustrative of representative or unique biogeographical patterns. Areas set aside as natural preserves shall be of sufficient size to allow, where possible, the natural dynamics of ecological interaction to continue without interference, and to provide, in all cases, a practicable management unit. Habitat manipulation shall be permitted only in those areas found by scientific analysis to require manipulation to preserve the species or associations which constitute the basis for the establishment of the natural preserve.

(Added by Stats. 1978, Ch. 615).

Declaration of Purpose

A declaration of purpose describes the purpose of the unit, and identifies the prime resources, long-range management objectives, and the relationship between the unit's resources and recreational uses. A declaration of purpose was written for Benicia State Recreation Area and approved by the State Park and Recreation Commission on October 23, 1964.

Changes in the declaration are proposed to clarify the department's management goals and objectives. The original and proposed declarations of purpose for the unit are as follows:

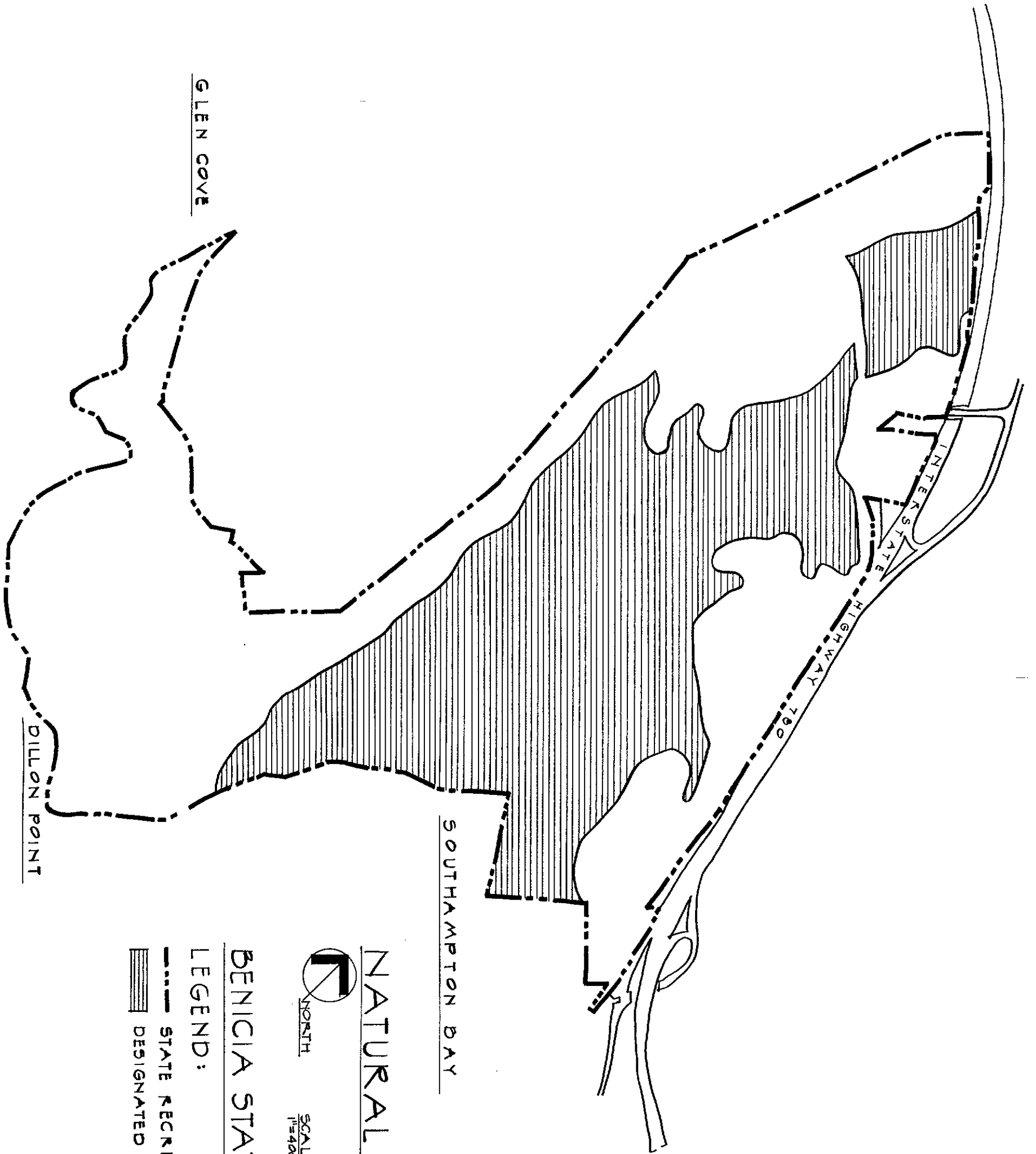
Original:

The purpose of Benicia State Recreation Area is to make available to the people forever, for non-urban water oriented outdoor recreation on California's great inland waterways, a scenic area surrounding and including Southampton Bay on the north shore of Carquinez Strait.

The function of the Division of Beaches and Parks at Benicia State Recreation Area is to provide for recreational opportunities oriented to California's inland waterways; to preserve and protect the scenic values of the Area; and to provide such facilities and public services consistent with the purpose of the unit as may be necessary for the full enjoyment of the Area by visitors.

Proposed:

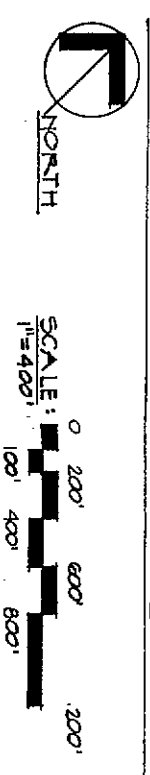
The purpose of Benicia State Recreation Area is to make available to the people for their enjoyment the scenic area surrounding and including Southampton Bay and Dillon Point on the north shore of Carquinez Strait, and the outstanding natural values of the wetland area of Southampton Bay.



NATURAL PRESERVE

BENICIA STATE RECREATION AREA

- LEGEND:**
- STATE RECREATION AREA BOUNDARY
 - ▨ DESIGNATED NATURAL PRESERVE



CARQUINEZ STRAIT

GLEN COVE

DILLON POINT

SOUTHAMPTON BAY

INTERSTATE HIGHWAY

HIGHWAY 780

Benicia State Recreation Area
Natural Preserve
General Plan

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

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MAP No
3

The function of the Department of Parks and Recreation at Benicia State Recreation Area is to provide for a variety of outdoor recreational opportunities consistent with its classification, and to perpetuate inherent natural, cultural, and scenic values to enhance the quality of visitor experiences. The wetland area in the unit has statewide significance, and is to be managed for protection and perpetuation of ecological values.

Zone of Primary Interest

The zone of primary interest is that area outside the unit where land uses could adversely affect the resources of Benicia State Recreation Area. This area includes the cities of Benicia and Vallejo, the recent development areas adjacent to the unit, including the Southampton, Kaufman and Broad, Homestead, Lighthouse, Glen Cove, and Carquinez Highlands subdivisions, the tidal and submerged lands of Southampton Bay and Carquinez Strait, and the upper extension of the wetland, north of Interstate Highway 780.

In addition, the department is concerned about activities on all lands, no matter how far from the unit, that can, through their development and use, adversely affect the resources and features of the unit. Increased air pollution from automobile emissions and oil refinery emissions, oil spills in Southampton Bay or Carquinez Strait, and pollution from other sources all could potentially affect Benicia State Recreation Area. Inland developments that affect freshwater surface water flow can also have negative effects on the unit's resources. Erosion of upland areas and subsequent deposition of sediment in the lowlands could affect the tidal exchange of seawater in the bay. Additional development in the viewshed, which includes the shorelands and ridges on the south shore of Carquinez Strait, could significantly affect the unit's scenic resources. Department officials will continue to be cognizant of these potential threats, and take appropriate action when possible so they are avoided or minimized.

Resource Management Directives

Resource management in the State Park System is governed by laws contained in the Public Resources Code, by regulations in the California Administrative Code, by policies approved by the State Park and Recreation Commission, and by departmental directives on resource management approved by the department's director. General policies related to unit classification and the Declaration of Purpose have been addressed in previous sections.

Resource Management Directives help clarify the various legal codes and provide the department with clear management guidelines. Specific directives pertinent to existing or potential problems related to management of the resources of Benicia State Recreation Area are:

- #9 Natural Preserve - Boundaries and Appropriate Development
- #13 and #15 Recreation Units - Resource Protection
- #27 Resources -- Resource Protection by Establishing Natural Preserves
- #28 Resources - Protection from Overuse
- #33 Exotic Plants - Non-Use in Landscaping
- #34 Exotic Plants - Elimination
- #42 Water Features - Values and Allowable Uses
- #43 Water Features - Protection

In addition to policies, directives, and laws that apply statewide, the following are specific resource management objectives and directives for Benicia State Recreation Area:

Natural Resources

Hydrology

Hydrologic Resources

The water features in Benicia State Recreation Area are of primary importance to perpetuation of its natural and esthetic values. Any alteration of the hydrologic systems supporting these water features, either inside or outside the unit, may affect them significantly. It is the objective that these existing impacts be identified, monitored, and prevented or corrected before major State Park System values of the unit are lost. In so doing, the department will continue to be actively involved in local activities and land use decisions that may have an adverse impact on the unit's water features, such as stream channelization, diversion, or pollution sources, to ensure that appropriate measures are taken to maintain water quality, channel flow, and sediment rates shall be recommended and supported.

Directive: No water shall be diverted within the unit's boundaries that will adversely affect the water features and the ecosystems they support.

Water Quality

The quality of the water resources of Benicia State Recreation Area has been affected by several different factors. Pollutants, such as heavy metals, fertilizers, herbicides, pesticides, and detergents, can be carried by water, or on small soil particles, and, thus, be transported with sediment. Sediment can include dust, soil, clays, sand, or organic matter. Increased sediment loads in streams and tidal channels can reduce light penetration, and, consequently, affect the diversity and distribution of aquatic organisms and plants. Sedimentation in the wetland has increased as a result of subdivisions adjacent to Benicia State Recreation Area. To mitigate some of the effects of urban pollutants on the wetland ecosystem, two sediment retention basins have been installed by developers just outside the western perimeter of Benicia State Recreation Area.

The Braito dumpsite outside the unit boundary has been known to leach toxic wastes in the past, adversely affecting water quality in the unit.

The objective is to reduce or eliminate pollutants from the waters entering the unit, and to generally improve the water quality in the area.

Directive: The department shall work with appropriate agencies to ensure that water quality monitoring is conducted to identify potential degradation of ecological values in Benicia State Recreation Area. Monitoring efforts should consider sediment levels, bacteria, pesticides, and herbicides in water flowing into the unit, and other important factors. Biological (e.g., cattails) or mechanical filtration of toxics should be employed in lieu of chemical means wherever possible. To maintain operating efficiency of the retention basins, sediment needs to

be removed in a timely manner by the responsible agency (developer or county). Sediments removed from the basins shall not be disposed of on State Park System land, except where approved for specific department management purposes.

If water contaminant levels exceed safe health standards, the department shall work with the California Regional Water Quality Control Board, appropriate agencies in Solano County, and upstream landowners to develop water management plans to bring the water quality to within state-accepted guidelines.

Geology

Landslides and Slope Stability

Benicia SRA is subject to landslides and ground shaking associated with earthquakes. Landslides and blockfalls (or structural collapse) may be triggered by earthquakes, wave erosion, severe storms that saturate permeable formations, or human alterations to the natural system. Symptoms of instability include, but are not limited to, ground cracks, scarps, closed depressions, and broken or disrupted ground.

The objective is to avoid structural damage or personal injury caused by unstable soils.

Directive: The department shall monitor landslides, blockfalls, structural collapse, and severe erosion in the unit. New development should avoid areas exhibiting instability or landslide susceptibility.

Fossil Resources

Fossils may be found contained in the sandstone and shale beds in the Dillon Point area. Fossil resources are fragile and rare. Careful surveying and management is necessary to assure preservation of these nonrenewable resources.

Directive: If fossil resources are identified in the unit, the department shall determine the significance of the discovery, and take appropriate protective or stabilization action. Fossil discoveries shall be coordinated with the U.S. Geological Survey and the University of California Museum of Paleontology.

Soils

Soil Constraints

Some of the soils at Benicia State Recreation Area are cited by the Soil Conservation Service as poorly suited to development of recreation facilities, structures, and septic systems. Constraints cited by the Soil Conservation Service for the soils present in the unit include slope, shallow depth of rock, high shrink/swell potential, and slow permeability.

Directive: Prior to the development of facilities, site-specific soil investigations shall be made and appropriate mitigation measures taken.

Soil Erosion

Dirt roads and hillsides in Benicia State Recreation Area are experiencing unnaturally high erosion. Vehicular trespass, increased run-off from adjacent subdivisions, the temporary construction easement in the Glen Cove area, and the lack of defined utility maintenance roads are four causes of erosion. Recreational facility development and increased visitor use could also contribute to further accelerated erosion.

The objective is to minimize unnatural erosion and to mitigate where necessary.

Directive: The department will continue to mitigate or correct unnatural erosion within the unit. In correcting erosion, the department shall use measures that are designed to fit into the unit's natural environment. Where appropriate, areas of severe erosion shall be restored using native plant species. The department will work with utility companies to designate specific easement access routes and to restore to a natural condition routes no longer in use.

Plant Life

General Vegetation Management

One of the missions of the department is to acquire and perpetuate outstanding and representative examples of natural plant communities in California. At Benicia State Recreation Area, the opportunity exists to restore and protect an important wetland and a native grassland ecosystem, in addition to providing for a variety of outdoor recreation opportunities.

The wetland in Southampton Bay is recognized as one of statewide significance because of its biological importance, and due to the fact that more than 90 percent of such habitat has been lost in California.

The uplands at Dillon Point contain a variety of native perennial grasses representative of species that once flourished throughout this region. Although the biotic integrity of the Dillon Point area has been greatly affected, a good opportunity exists to restore much of its native grassland value.

Restoration of both the wetland and grassland area would enhance educational opportunities in this highly urban region.

The department will work toward restoration and preservation of the Southampton Bay wetland and the Dillon Point grassland area.

The principal objective of this effort shall be to manage toward restoration of natural processes by minimizing disruptive or deleterious human impacts. The secondary management objective shall be to restore and perpetuate the native plant communities that prevailed in the unit prior to Euroamerican influence. Natural and dynamic establishment and re-establishment of native vegetation shall be allowed to occur.

Native Grassland Management

Extensive changes in the native grassland have occurred as a result of long-term grazing, fire suppression, and introduction of nonnative species. Native grassland occurs at Benicia State Recreation Area on "islands" in the wetland, on the wetland periphery, and on upland slopes. Species that characterize native grassland, purple needlegrass, blue wild rye, valley wildrye, many-flowered wildrye, and San Francisco bluegrass, are not widespread. In areas where they occur, native grass cover is high. Native grasses at Benicia State Recreation Area include rhizome-forming and tussock-forming species. Rhizome-forming species can be valuable in restoration projects for erosion control and slope stabilization. Under natural conditions, the density of native grasses is variable when in association with numerous annual species. The Dillon Point area provides a good opportunity for restoring a native grassland ecosystem.

Directive: The department shall develop and implement a management plan for restoring and maintaining native grasses on the uplands of Dillon Point. Management actions will likely involve field surveys to identify and assess existing populations of native grasses, establishment of specific restoration boundaries, and control of exotic species.

Rare and Endangered Plants

Several species of rare or sensitive plants occur in the unit. These species require special management considerations and protection.

Directive: Rare and endangered plants found at Benicia State Recreation Area shall be protected and managed for their perpetuation. The department shall conduct systematic surveys for rare, endangered, and sensitive (California Native Plant Society Lists 1 and 2) plants, to identify populations, and continue monitoring their status. Until these surveys are made, site-specific investigations may be needed before new development, heavy use activities, or prescribed burning activities.

Exotic Plants and Landscaping

Exotic species have become established at Benicia State Recreation Area in the Southampton Bay wetland, in upland areas, and on landfill sites. Exotic species have also been planted in the picnic area, adjacent to the entrance station, around employee residences, along Interstate Highway 780, and on fill on the eastern edge of the wetland. Exotic species can detract from the natural appearance of the wetland, can result in a lower habitat value for native wildlife, and interfere with the perpetuation of native vegetation and the natural character of Benicia State Recreation Area. Restoration of the native grassland at Dillon Point and the wetland area around Southampton Bay will require control of exotic species.

Directive: The department shall pursue a long-range objective of controlling and eradicating, in specific areas, exotic plants. The highest priority for removal efforts shall be given to those species occurring in or capable of becoming established in the wetland. Control efforts elsewhere in the unit shall concentrate on species most invasive and artificially conspicuous in the landscape, such as pampas grass,

scotch broom, and eucalyptus. Exception shall be made for existing plantings along Interstate Highway 780, and noninvasive vegetation used in landscaping recreational facilities and employee residences.

Animal Life

Wildlife Management

Animal life is an important part of natural ecosystems, and adds interest and variety to visitor experiences. Because so much of the wetland ecosystem in the Bay-Delta area has been lost due to human alteration, the remaining marshes such as at Benicia State Recreation Area are even more important as wildlife habitat. Protection and perpetuation of natural wildlife populations within and adjacent to the wetland is an important management objective at Benicia State Recreation Area, particularly in and around the wetlands.

Directive: Altered natural wildlife habitats in the wetland shall be restored as nearly as possible to conditions that would exist had natural ecological processes not been disrupted. If it is necessary to regulate animal populations because of imbalances caused by human influences, the methods used shall be based on sound principles of ecosystem management, and shall avoid disturbance to other natural values of the unit.

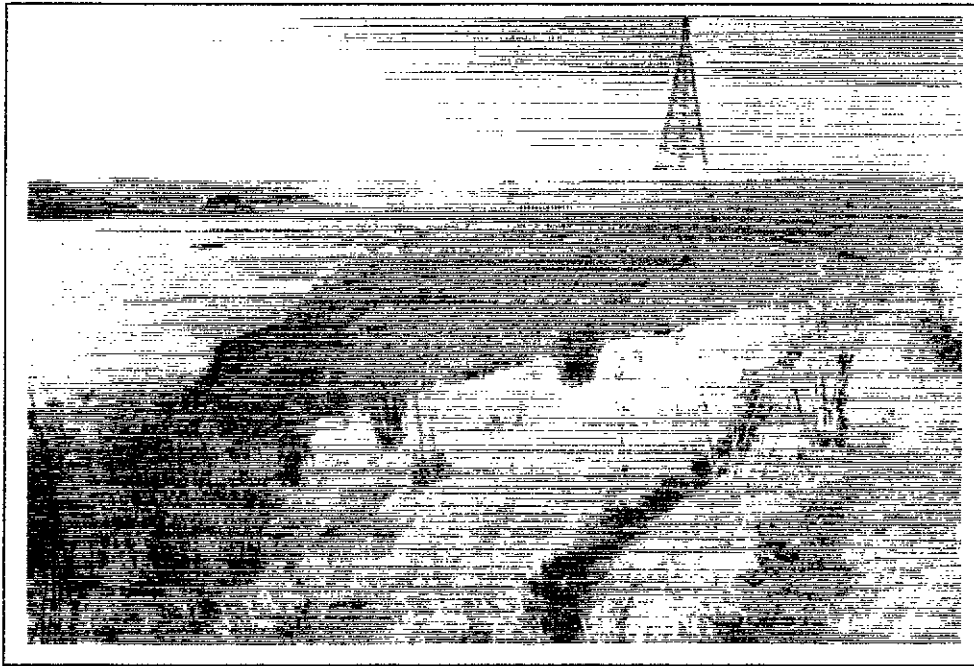
Wildlife Requiring Special Management Consideration

Four federally or state-listed threatened or endangered animal species are known to occur or are expected to occur at Benicia State Recreation Area. These species are salt marsh harvest mice, Suisun shrews, California black rails, and California clapper rails. Two additional listed species may be observed from the unit, California brown pelicans and American peregrine falcons. Species that may occur in or near the unit that are candidates for listing include Delta smelt, California splittails, and salt marsh yellow throats. Additional animal species of special concern to the State Department of Fish and Game due to a statewide reduction in breeding status and suitable habitat, or other threats to the populations, also occur at Benicia State Recreation Area. These species are California gulls, northern harriers, and long-tailed weasels.

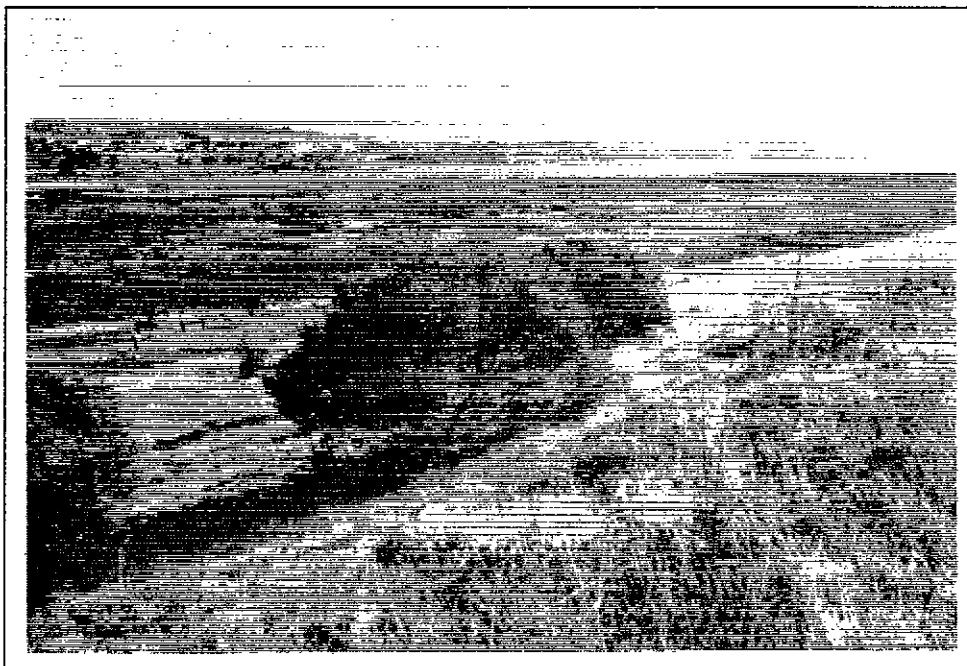
Directive: Management programs shall be developed for animal species that are rare, threatened, endangered, or of special concern when necessary to provide for management and protection of their habitat and populations. Other departmental programs or projects shall be planned and designed so animal life requiring special management consideration will not be adversely affected. Resource management actions will focus on natural processes, in recognition that they are mutually beneficial to all important resources.

Feral Animal Control

Feral animals or uncontrolled domestic animals (cats and dogs) can seriously threaten natural wildlife populations. Cats, in particular, can place undue predation pressure on sensitive salt marsh wildlife species.



A view of the Carquinez Bridge from Dillon Point.



Southampton Bay provides a significant visual feature for the unit visitor and surrounding neighbors.

Directive: Feral animals or uncontrolled domestic animals shall be controlled, particularly in the wetland. A specific management program shall be developed and implemented when necessary to maintain a high level of feral animal control in and around the wetlands.

Ecology

Southampton Bay Wetland

The wetland at Benicia State Recreation Area (Southampton Bay Wetland) is an important ecological resource that provides habitat for several rare, threatened, endangered, and sensitive animal and plant species, as well as having important esthetic and recreational values.

Early topographic surveys in the 1850s portray tidal marshes and open water in the San Francisco estuary as covering about 850,000 acres. The marshes of San Francisco, San Pablo, and Suisun bays accounted for about 200,000 acres. Since that date, 95 percent of wetland acreage has been lost, with the greatest loss occurring during periods of rapid population growth in the 20th century. Because such a large proportion of wetland habitat has been lost, the California Coastal Act requires that the "biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes...be maintained and, where feasible, restored..." (Article 4, Section 30231).

To acknowledge these natural values and to provide further protection, the Southampton Bay wetland is recommended for classification as a natural preserve. A portion of the wetland used as landfill before acquisition is excluded from this sub-classification until the site or portions of the site are restored.

In the past, portions of the Southampton Bay wetland were dredged, filled, and farmed. Although some exotic plant species occur in the various areas in the wetland, a large portion of the wetland essentially supports pristine coastal salt marsh and coastal brackish marsh plant communities. If left unmanaged, however, existing and future actions in the watershed above the unit, such as continued urbanization and modification of drainage systems, will continue to destroy remaining natural values.

Directive: A management plan for the wetlands shall be developed and implemented. The primary objective of this plan shall direct management of the area toward restoration of natural conditions. The management plan will need to address such factors as historic hydrology and sedimentation, increased freshwater flows into the wetland, removal of fill material and rip-rap, exotic species control, prescribed fire management, sensitive species management, flood control and surface drainage management techniques, pollution abatement, lead monitoring, controlling visitor use, and providing interpretive opportunities.

Waste Disposal Site

The 27-acre waste disposal site in the northwest corner of the wetland is displacing valuable plant life and wildlife habitat, may be contributing pollutants to the adjacent wetlands and surface waters, and may pose a public health and safety hazard. In recognition of these concerns, the department

has been investigating the possibility of restoring the natural character of the site. Several management alternatives have been evaluated, including no action, capping the fill, and removal of all or a portion of the landfill.

Based on a thorough analysis, a preliminary plan has been developed to restore 9.5 acres of the wetland, and to consolidate the underlying refuse on the remainder of the site.

Directive: The department shall continue to pursue a wetland restoration project on the waste disposal site in Benicia State Recreation Area.

Prescribed Fire

Prior to the 1800s, fires are thought to have burned regularly throughout the Bay Area. The fires were most often ignited by lightning in the late summer and early fall, and by the intentional or accidental activities of Native Americans. Wildfires began to be effectively suppressed in the early 1920s, and since that time, fire has only infrequently burned throughout Benicia SRA. Disruption of natural fire processes has resulted in ecological imbalances. Reintroducing fire through a carefully controlled prescribed fire program may be important in restoring and maintaining native grassland and certain wetland areas.

Directive: When fire is used as part of ecological restoration anywhere in the unit, it shall be in accordance with departmental prescribed fire management policies, including protection of sensitive resources, unit facilities, adjacent property, and human safety.

Fire Prevention and Suppression

Wildfire can be a threat to natural and cultural resources, facilities, and human life. For these reasons, the department requires that a wildfire management plan be developed for all units that experience wildland fires.

Directive: The department shall maintain a wildfire management plan for Benicia State Recreation Area. This plan will be coordinated with appropriate state and local agencies, and should address important aspects of wildfire planning, including prevention, presuppression, and suppression. Since conventional procedures and fire control facilities such as firebreaks can result in more serious and long-lasting impacts on State Park System resources than the wildfires themselves, the plan shall identify modified fire suppression methods designed to protect sensitive unit resources while protecting human lives and facilities.

Cultural Resources

Fish Traps

The bedrock mortar and lithic scatter prehistoric sites are well protected by existing conditions and policies. The fish traps along and in Glen Cove are a significant scientific and interpretive resource that could be further affected by storm waves or vandalism. Whether they were built by the Native American Patwin, historic Chinese fisherman, or others has yet to be determined. Their origin will be determined and their locations mapped prior to development of recreational facilities in Glen Cove.

Dump Site Artifacts

Very little information is available on the contents, antiquity, and history of the former city dump site, though surface surveys indicate a preponderance of relatively recent building materials and debris. Some artifacts of cultural significance could be found. If artifacts are discovered, their significance shall be determined, and the appropriate protective actions taken.

Esthetic Resources

Scenic Quality

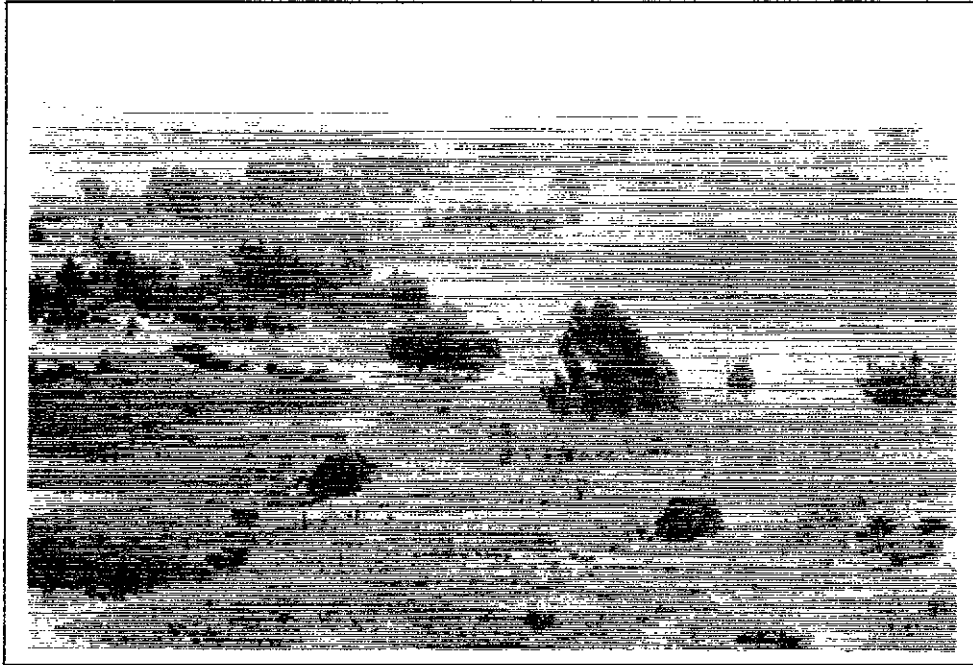
Benicia State Recreation Area is a popular destination point because it provides a special outdoor environment differing from visitors' usual urban surroundings, and offers a background of natural surroundings for recreational activity. The open expanse of the wetlands and the zonation of its vegetation provide scenic opportunities that contrast with the rolling upland hills. Panoramic vistas of the Carquinez Strait area also attract visitors to the unit.

The unit is subject to manmade features that contrast with natural values, including urban development, transmission towers and lines, a telephone cable crossing and its two large warning signs, former dumpsites, an abandoned dirt airstrip, evidence of off-highway vehicle trespass, and the proximity of Interstate Highway 780. Invasive exotic plant species not native to the area, such as Monterey pine, eucalyptus, and fennel, can also appear conspicuously unnatural, and block vistas.

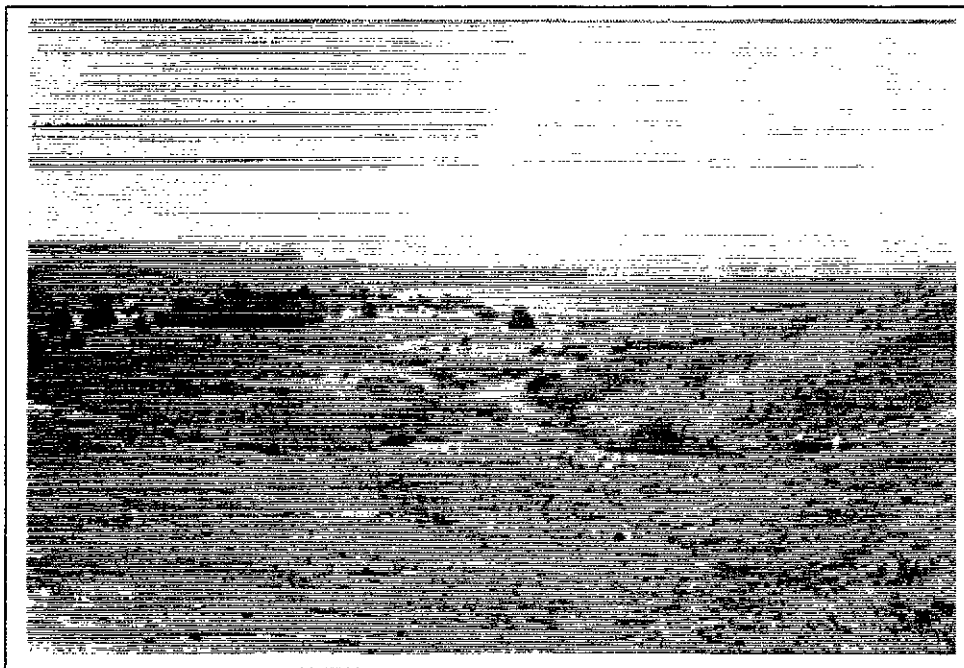
Public utility power and transmission lines located along uplands and also across the wetland in several locations are conspicuous as well as posing a hazard to raptors and other large birds flying in search of prey. Birds can collide with wires, and large birds can be electrocuted when wires are less than 6 feet apart.

Directive: The department shall work to maintain and improve the natural scenic quality of the unit by reducing, where possible, urban or conspicuously artificial features.

The department shall work with appropriate entities to encourage modification or removal of these facilities, to reduce their visual impact and dangers to wildlife.



The unit with its open quality provides significant, panoramic views.

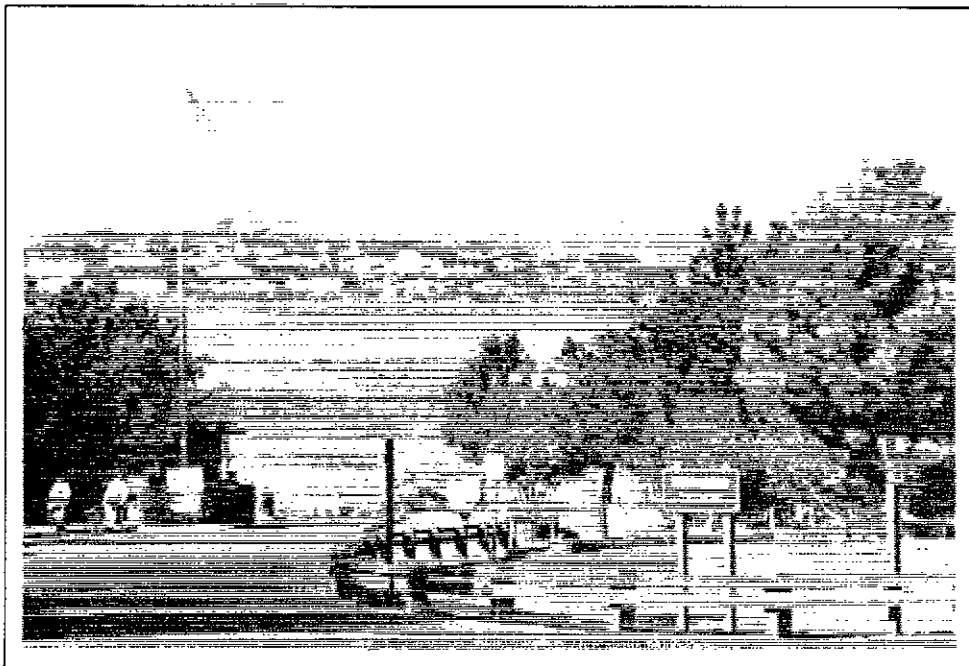


This view of the unit is similar to what motorists see while traveling east on I-780.

Interpretive Element



The southernmost parking lot is located on Dillon Point. Most fisherman park their vehicles in this lot.



This is the main entrance to the unit.

INTERPRETIVE ELEMENT

Interpretation aims at enhancing public enjoyment and benefit in the State Park System through increasing understanding of significant natural, cultural, and recreational resources, and encouraging appreciation of their value. It is founded on the premise that knowledge deepens the park experience, providing lasting benefits not only to individuals but to society in general. The Interpretive Element works toward this goal by identifying park themes and a variety of facilities and programs appropriate for their presentation.

Interpretive Considerations

Environmental Influences

A. Positive Influences

Open space is the most important positive environmental influence at Benicia SRA. Panoramic views of the wetlands, Southampton Bay, and Carquinez Strait contrast pleasingly with surrounding suburban and industrial areas. The unit's high use attests to the public value of such islands of nature. Feeding, resting, and flying birds in the marsh, grassland, and open water areas are positive environmental resources. The boat traffic on the strait can be seen as an interesting and positive interpretive influence. Some of the more subtle positive influences include atmospheric changes of fog and storms, the aroma of the vegetation, and sounds of the wind, insects, and birds.

B. Negative Influences

Surrounding development is the most important negative environmental influence. The mushrooming housing developments on the ridges overlooking the unit greatly detract from the unit's feeling of openness. Interstate 780 interferes with the natural beauty and peace of the unit. The PG&E substation and the cables that cross the marsh detract from the unit's natural appearance.

Visitors: Their Needs and Expectations

The majority of visitors come specifically to fish, jog, bicycle, or exercise in some way. Most of these visitors are not seeking interpretive experiences, and may not be in the frame of mind to take advantage of interpretation if made available. Visitors most likely to benefit from interpretation are casual walkers, picnickers, and people coming specifically to study nature, either on their own, or on organized natural history walks.

Existing Interpretive Media and Facilities

Facilities

Currently, there is an anadromous fish interpretive panel by the Dillon Point restroom. A marshlife panel is being developed.

Media and Programs

The only existing interpretive programs are the Audubon Society birdwatching walks.

Interpretive Periods

There is no emphasized interpretive period for Benicia SRA. Interpretation will address prehistoric, historic, and current periods.

Interpretive Themes

Thematic Outline

The following themes and subthemes are proposed for Benicia SRA. Following this listing, the themes and subthemes are explained in the Expanded Themes section in greater detail.

Unifying Theme: Enjoy, learn about, and protect Benicia SRA's natural, recreational, and historic resources.

Primary Theme A: Wetlands are rare, valuable, and complex natural systems.

Subthemes

- a. The physical conditions of the open water, mudflat, brackish marsh, saltwater marsh, and freshwater marsh determine what species live in these habitats.
- b. Salt marsh plants are specialists in surviving in a salty and wet world.
- c. The high productivity of salt marshes results from availability of nutrients from land and sea, a temperate climate, abundant sunshine, and tidal flows.
- d. Materials cycle and energy flows quickly through efficient food chains, based largely on rotting vegetation and circulation of nutrients by tidal flows.
- e. Wetlands are reservoirs of wildlife, clean air, and water.
- f. Wetlands have become rare resources, which must be carefully protected.

Primary Theme B: Benicia State Recreation Area helps us rejuvenate our bodies, our spirits, and our relation with nature.

Subthemes

- a. Orientation: this is what Benicia SRA has to offer, and where you'll find it.
- b. These fishes are commonly caught off Dillon Point.
- c. You can watch the birds and enjoy the marsh without getting your feet wet.
- d. Take a hike in the uplands, and enjoy the views, wildlife, and plants of the grassland and coastal scrub.

Secondary Theme: Carquinez Strait has been home, passageway, and barrier from prehistoric times to the present.

Subthemes

- a. The Patwin and Ohlone Indians were separated by the swift waters of Carquinez Strait.
- b. Southampton Bay was named by the 1850 U.S. Coast Survey.
- c. Irish immigrant Patrick Dillon quarried stones and baked bricks at today's Dillon Point.
- d. The 1901 black transmission towers were built by PG&E to carry the first Sierra Nevada hydroelectric power across Carquinez Strait to Oakland.
- e. Carquinez Strait is an important traffic carrier.

Expanded Themes

Unifying Interpretive Theme: Enjoy, learn about, and protect Benicia SRA's natural, recreational, and historic resources.

The primary goal of interpretation at Benicia SRA is to help visitors understand, enjoy, and conserve the unit's natural, recreational, and historical resources.

Primary Theme A: Wetlands are rare, valuable, and complex natural systems.

The purpose of this theme is to help visitors appreciate the complexity, scarcity, and intrinsic value of wetlands in general, and this salt marsh in particular. As Freeman Tilden pointed out, it is through understanding and appreciation that we learn to protect places.

Subthemes

- a. The physical conditions of the open water, mudflat, brackish marsh, saltwater marsh, and freshwater marsh determine what species live in these habitats.

The aim of this subtheme is to demonstrate how the different physical conditions between the open waters of Carquinez Strait and the upper salt and freshwater marshes create the different plant and animal associations we find there, with their different survival adaptations. Characteristic plant and animal species of each of the five wetland habitats should be presented.

Carquinez Strait and Southampton Bay are areas of tidal mixing between the fresher waters of Suisun Bay and the saltier San Pablo Bay. Wind, weather, tides, and migrating fishes move up and down this narrow channel of the San Francisco Bay. Carquinez Strait and Southampton Bay are rich spawning and nursery areas for some fishes. Gulls, terns, pelicans, geese, and ducks often feed and rest in this open water.

The mudflats are submerged too often to support flowering plants, but they do support rich mats of algae, which are grazed by snails and crabs. The millions of worms, crustaceans, and mollusks which live on and below the mud are eaten by fish and diving ducks when the tide is in, and by shorebirds and wading birds when it is out.

The next highest area, the brackish marsh, has a higher salinity at high tide, and a lower salinity at peak freshwater flows. Common plants include jaumea, pickleweed, salt grass, common reed, tule, and cord grass. Shorebirds, wading birds, and waterfowl are also common here.

The true salt marsh is not flushed as often by the tides as is the brackish marsh, so its salt content is raised by evaporation. Herbaceous and shrubby perennials like soft bird's beak, jaumea, pickleweed, salt grass, and frankenia are found here. Salt marsh wildlife includes salt marsh harvest mice, Suisun shrews, salt marsh yellowthroats, and many kinds of waterfowl, wading birds, and shorebirds.

A small freshwater marsh of cattails, alkali bulrush, and red willows is located near the east parking lot.

- b. Salt marsh plants are specialists in surviving in a salty and wet world.

This theme will illustrate how salt marsh plants are adapted to the stresses of tides, winds, and salinity. Saline soils stress plants by drying and stunting them. Soggy and submerged soils limit oxygen supplies to roots. One-celled diatoms would be swept out of the marsh by the tides if they didn't migrate into the soil during peak flows. Cord grass has straw-like air spaces in stems and roots to permit air exchange, even when the plant is mostly submerged. Both cord grass and salt grass excrete salt through glands in their leaves. Pickleweed's succulent stems store water, slow evaporation, and reduce damage from wind buffeting.

- c. The high productivity of salt marshes results from availability of nutrients from land and sea, a temperate climate, abundant sunshine, and tidal flows.

Though stressed by changing winds, tides, and salinity, a salt marsh is one of the world's most productive natural systems. With their special survival adaptations, algae and salt marsh flowering plants flourish in this sunny, temperate environment, with a twice-daily watering system that distributes nutrients and oxygen.

- d. Materials cycle and energy flows quickly through efficient food chains, based largely on rotting vegetation and circulation of nutrients by tidal flows.

Salt marshes are natural systems which run on energy flows and recycled materials. The energy of sunlight that is "fixed" by the photosynthetic plants is mostly transferred to consuming animals by

way of decaying plant matter, called detritus. The dead plants that fall into the water are quickly consumed by bacteria and fungi, which are then eaten by small invertebrates like protozoans, worms, crabs, and mollusks. These invertebrates feed small fish, larger fish, and finally, birds and people. The energy produced by the marsh plants is used up when the final consumers are themselves decayed. Marsh nutrients are recycled and redistributed by the twice daily tides to feed further plant growth.

- e. Wetlands are reservoirs of wildlife, clean air, and water.

Wetlands provide critical feeding, resting, nesting, and wintering habitats for many kinds of birds, including migratory waterfowl and shorebirds. Many birds have special beaks, feet, and legs which enable them to find food in the open waters, mudflats, channels, and vegetation of the bay and marsh. Different parts of the wetlands at Benicia SRA are critical habitat for rare, endangered, or threatened plants and animals such as: soft bird's beak, delta tule pea, Suisun marsh aster, marsh gumplant, salt marsh harvest mice, California brown pelicans, salt marsh yellowthroats, California black rails, delta smelt, and splittails. Wetlands are also important nurseries for invertebrates and fishes.

Marshes are important producers of oxygen, and absorbers of carbon monoxide and various chemicals associated with water pollution. Wetlands act as reservoirs of water, helping recharge freshwater basins, minimizing erosion, and mitigating floods.

- f. Wetlands have become rare resources, which must be carefully protected.

Unlike the more dramatic natural landscapes of seashore and mountains, the beauty and value of wetlands is not evident to most untrained eyes. Historically, wetlands have been seen as wastelands to be "reclaimed" by draining, diking, and filling for agricultural, industrial, and municipal uses. The wetlands of Benicia SRA have been partially filled by construction of a now-abandoned dirt airstrip, and dumping of garbage. Because of such activities, only a small percentage of salt marshes remain of this once extensive habitat around San Francisco Bay. Their scarcity makes salt marshes even more valuable and deserving of special care.

Wetland vegetation and rare plants can be damaged when people walk into the marsh. Nesting, feeding, and resting wildlife can be disturbed if we intrude into their habitat. Rare species are particularly vulnerable to disturbance. Fortunately, with binoculars, we can view wetland birds, and enjoy the marsh without walking into it. Some of the best views of the marsh are from the upland grassy areas.

Primary Theme B: Benicia State Recreation Area helps us rejuvenate our bodies, our spirits, and our relation with nature.

Subthemes

- a. Orientation: this is what Benicia SRA has to offer, and where you'll find it.

The aim of this subtheme is to orient visitors to interpretive and recreational facilities, programs, and opportunities.

- b. These fishes are commonly caught off Dillon Point.

Fishermen may or may not know the names of the commonly-caught fishes of Dillon Point. Interpretation of these species will help them and non-fishing visitors alike. The life cycles of anadromous fishes is an important aspect of this subtheme.

- c. Take a hike in the uplands, and enjoy the views, wildlife, and plants of the grassland and coastal scrub.

The aim of this subtheme is to encourage use of the grassy, shrub-studded uplands, which offer panoramic views of the marsh, the bay, and the strait. The wildlife and plants of this seasonally dry area contrast with those of the marsh below.

Secondary Theme: Carquinez Strait has been home, passageway, and barrier from prehistoric times to now.

Subthemes

- a. The Patwin and Ohlone Indians were separated by the swift waters of Carquinez Strait.

The aim of this theme is to introduce the Patwin Indians, who lived in this area, and to point out that Carquinez Strait formed a natural boundary with their southern neighbors, the Ohlone. Because there is no evidence of any permanent villages in what is now Benicia SRA, extensive interpretation of the Patwin is not justified. Interpretation could include that Patwin from the village of Sugoreate, above what is now Glen Cove (outside the unit), probably hunted and gathered food in the salt marsh of Benicia SRA. The three bedrock mortars along the Carquinez Strait shoreline and the one above Dillon Point could be used to discuss Patwin life.

- b. Southampton Bay was named by the 1850 U.S. Coast Survey.

The aim of this minor subtheme is to point out that Southampton Bay was named after the U.S.S. Southampton, which led Commodore Jones' fleet to Benicia in 1849.

- c. Irish immigrant Patrick Dillon quarried stones and baked bricks at today's Dillon Point.

Patrick Dillon was probably the most significant historical figure to have lived in what is now Benicia SRA. Dillon immigrated from Ireland in 1849, and worked in Benicia in 1851 as a stonecutter. He leased "Rocky Point" to quarry sandstone in 1851, and then purchased it in 1858. His sandstone blocks were used in Bay Area buildings. He later built a red-brick kiln on top of Quarry Point. When he ran out of material, he started a sheep ranch and a vineyard. The house he built for himself and his wife was torn down in 1969. All that remains of his ranch is a pile of Dillon's beautifully dressed sandstone blocks, lying in the weeds near the PG&E substation.

- d. The black transmission towers were built by PG&E in 1901 to carry the first Sierra Nevada hydroelectric power across Carquinez Strait to Oakland.

PG&E's ambitious 1901 project to bring hydroelectric power 142 miles from the Yuba River to Oakland had a major barrier to cross: the deep waters of Carquinez Strait. The solution was to build high towers on both sides of the river, to span the 4,427-foot crossing. Two of these towers can be seen at Benicia SRA (the taller one is in the unit, and the leaning one is in PG&E's substation). A historical plaque near the substation interprets these towers.

- e. Carquinez Strait is an important traffic carrier and bridged barrier today.

Carquinez Strait no longer separates the Patwin from the Ohlone -- it now divides Solano County from Contra Costa County. New houses are going up near the site of Sugoreate, and joggers now run around the marsh where the Patwin once gathered food. Over the backs of migrating sturgeon turn the propellers of seagoing vessels, and the incessant traffic crossing the Carquinez and Benicia bridges. The main idea of this theme is that people have been living on the shores of Carquinez Strait for a long time, and it continues to be both barrier and carrier to commerce.

Proposed Interpretation

Facilities and Fixed Media

Facilities and media should be chosen which best serve visitors' needs, match how they use the unit, work well with projected staffing levels, and are environmentally and aesthetically appropriate.

Given the unit's dispersed and varied use patterns and the predominance of recreational users who have little interest in interpretation, a large visitor center does not seem justified. Use of a mobile "wetlands" interpretive trailer shared with other regional wetland units is appropriate.

Outdoor interpretive panels, formalized marsh overlooks, and self-guiding trails would be appropriate and effective permanent interpretive developments for Benicia SRA.

Interpretive Programs

Activities offer the greatest interpretive potential at Benicia SRA because they bring together interested visitors and knowledgeable interpreters with the unit's resources. Being flexible, activities and programs can match visitor interests and knowledge levels with what is actually happening at the moment, whether it's a blossoming plant or a diving tern. Docents make such valuable person-to-person interpretation available at little or no cost to the taxpayer. The present Audubon Society birdwatching walks fit all these criteria, and they should be encouraged and supported.

New interpretive activities should be initiated. Program ideas include (but are not limited to): fishing demonstrations, fishing derbies, "fun runs," and environmental education day programs for school groups (which must stay on the edge of the marsh due to rare species concerns).

Interpretive Associations

Cooperative associations can contribute greatly to a unit's interpretive program by conducting and coordinating interpretive activities, helping to finance interpretive developments, conducting interpretive research, and creating interpretive collections of photographs and objects. Office, work, and collections space in the unit would be helpful for operating an interpretive association.

The recreation area is served by the Benicia State Parks Interpretive Volunteers (BSPIV), which has about forty members. To date, most of the BSPIV's efforts have focused on the Fischer-Hanlon House. Docents with specific interest in interpreting the resources of Benicia State Recreation Area should be recruited.

Interpretive Concessions

There is no interpretive concession at Benicia SRA nor is there a present or anticipated need for one.

Interpretive Collections

No interpretive collections exist at present. Photographic collections of historic and natural subjects and interpretive object collections could be very useful for demonstrations and interpretive programs. Storage and curatorial space could be provided for in the office space of maintenance yard. A scope of collections statement should be prepared to identify what is appropriate to acquire, and how objects will be used.

Recommendations

Research Needs

Additional in-depth and site-specific research into Patwin and historic uses at this site would be useful. Further study is needed about the petroglyphs, the rock fish traps, the quarry, the brick kiln, Dillon's ranch, his vineyard and house, and the barge hulks in the bay. Specific ecological and conservation information about the marsh and its inhabitants would be helpful.

Future Acquisitions and Interpretation

No acquisitions are recommended specifically for interpretive reasons.

Interpretive Recommendations

The section entitled "Proposed Interpretation," above, provides more detailed explanations for the following interpretive recommendations. No order of priorities is implied in the following listings.

- A. Short-Term Development (lower cost)
 - Develop new interpretive programs and activities.
 - Develop interpretive marsh, bay, and strait overlooks with panels.
 - Develop self-guided interpretive trails for the marsh perimeter and the grassy upland area.
 - Conduct historical and natural history research.
 - Develop a collections statement, and begin collecting appropriate interpretive photographs, research books, and objects.
- B. Long-Term Development (higher cost)
 - Organize an interpretive association.

Concessions Element

CONCESSIONS ELEMENT

Definition

A concession is defined as authority to permit uses of State Park System lands and/or facilities for a specified period of time. The intent is to provide the public with goods, services, or facilities that the department cannot provide as conveniently or efficiently, or to permit limited uses of State Park System lands for other purposes, compatible with the public interest and consistent with the Public Resources Code.

Purpose

It is the department's policy to enter into concession contracts for provision of services, products, facilities, programs, and management and/or visitor services that will enhance visitor recreational and educational experiences, as well as safety and convenience. Such concessions should not create added financial burden on the state, and, wherever possible, shall reduce costs and/or generate revenues to aid in maintaining and expanding the State Park System. In carrying out this policy, the department must adhere to the provisions of the Public Resources Code that forbid commercial exploitation of resources, and that limit the kinds of improvements and activities that are allowed in certain types of units.

General Concession Directives

The following are general statements of concession directives for the State Park System:

Directive: Concession developments must be consistent with the unit's purpose and classification, in conformance with the unit's General Plan and the Public Resources Code.

Directive: Concessions shall provide needed and appropriate visitor services at a fair and reasonable price to users, competitive with similar businesses outside park units, and shall ensure the State Park System an adequate return.

Directive: Concessions shall avoid duplicating visitor facilities or services that are adequately provided a short distance outside the unit.

Directive: The department encourages nonprofit corporations and small, ethnic, and racial minority-owned/operated businesses as concessionaires.

Directive: Concession proposals shall be evaluated on a case-by-case basis as submitted to the department, to determine whether such services are appropriate and will expand visitor enjoyment.

Existing and Recommended Concessions

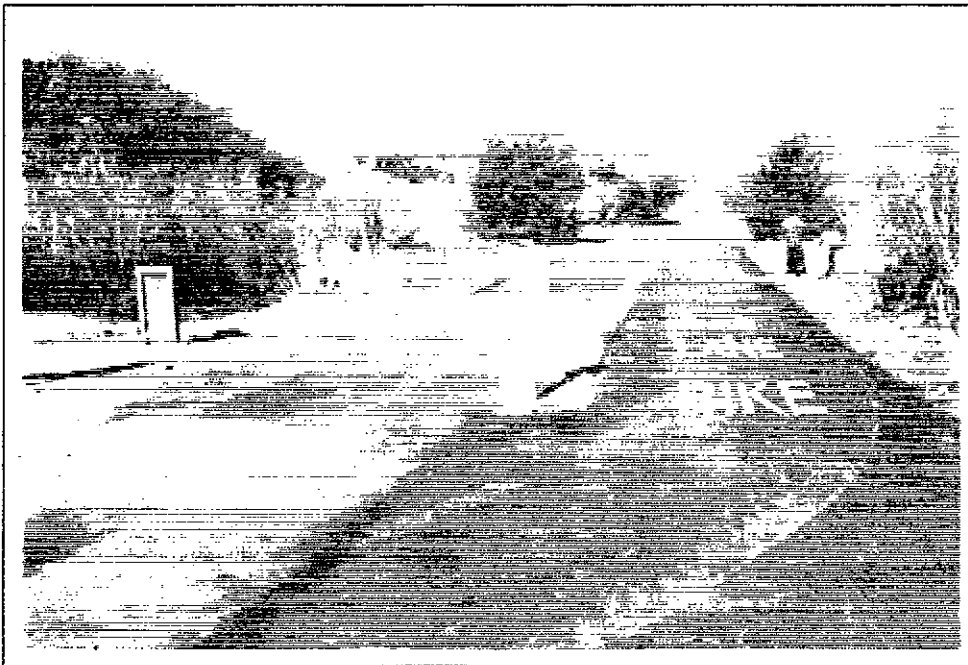
No concessions currently exist in Benicia SRA.

Given the type of activities people pursue in the SRA and the readily available services within a very short distance from the unit, no concessions are needed or recommended.

Operations Element



The east parking lot is typically well used during morning and early evening hours.



The separate pedestrian and bicycle trail that parallels I-780 is one of the most used facilities in the unit.

OPERATIONS ELEMENT

The Operations Element is intended to define broad operational goals for Benicia State Recreation Area, and outline objectives for implementation of the General Plan. This element also identifies existing or potential operations problems and strategies for dealing with them, consistent with all elements of the General Plan.

The operational staff at Benicia State Recreation Area is composed of full-time and seasonal employees. They are organized into three functions: administrative, maintenance, and visitor services. The unit is managed as part of the Diablo District (headquarters office located in Concord), and receives support from the Central Coast Region Office in Monterey, and the department's headquarters office in Sacramento.

Existing Operations Summary

Currently, most of the operational effort is spent for the developed areas of the unit. A ranger patrol of the unit is done when the ranger comes on duty, and another patrol when the unit closes. Rangers are not generally in the unit throughout most of the day. Almost all responses to enforcement or medical emergencies are handled by the City of Benicia. The maintenance program includes maintenance of three picnic areas with 79 tables, two restrooms, lawn and landscaped areas, paved walking and bicycle trails, an 18-station par course, roads and four parking lots with 301 spaces, two residence areas, one shop complex, four septic tanks, unpaved trails and road shoulders used as trail, a water system, and an electrical system.

Solano and Contra Costa Counties have been among the fastest-growing areas in California over the past several years. This growth has seen the unit's visitation increase more than 200% in the last ten years. In addition, acquisition has increased the size of the unit from approximately 360 acres to 469 acres.

When staffing was originally justified for Benicia State Recreation Area, it was a small, little-known, out of the way unit, used mostly by fishermen. Due to urban growth of the north and east bay areas, it is now a heavily used unit in an urban setting. The unit now has a major freeway, I-780, separating it from the city of Benicia on its east boundary, and housing developments in the city of Vallejo on its north and west boundaries. These housing and commercial developments are constantly changing, and increasing the use patterns in this unit.

Health and Safety

The water system at Benicia State Recreation Area consists of approximately three miles of piping systems. Water is supplied at the east end of the unit by the Benicia city water department.

The road and trail systems in the unit both use the paved roadway for approximately 1-1/2 miles. The increased use and heavy concentration of pedestrians, bicyclists, and motorists on the roadway is creating a very definite safety hazard. There have been several vehicle/pedestrian collisions in the last three years.

Unstable geologic formations on Dillon Point have resulted in soil and pavement slippages almost yearly at the upper Dillon Point parking lot. This soil movement has twice resulted in separation of sewage drain pipes leading to the septic tank that serves this area. There are four septic tank leach field systems serving the unit.

The main unit entrance is located on a freeway off-ramp, with limited visibility, and a limited parking area. Visitors park on both sides of the off-ramp, and walk across the roadway to reach the entrance. There is ample parking inside the gate; however, the free parking outside the gate is used beyond its capacity. The east parking lot also receives intense use, and because vehicle parking is currently free, regularly exceeds its designed capacity. Both lots receive the heaviest use from 1600-2000 hours daily, with slightly less crowded conditions from 0700-1000 daily. Pedestrian/vehicle traffic problems create higher risks during these times.

Easements

Benicia State Recreation Area is criss-crossed by utility and governmental easements. The U.S. Coast Guard has an access easement to a navigational light located on an easement on Dillon Point; Pacific Gas and Electric has two underground power line easements, easements for two pole lines across Southampton Marsh, easements for one pole line adjacent to the unit roadway, and easements for a steel tower high-tension transmission line through the unit, from north to south. PG&E also has an access easement to the large black transmission tower on Dillon Point. Pacific Bell and AT&T have three easements for lines in the unit -- crossing it in both a north/south and east/west direction.

Housing Developments

Several housing developments have been constructed adjacent to the unit boundaries. These have generated several operational problems. The major resource problem is the increased freshwater flow from the developments. During the rainy season, the unit's culverts and drainage system are unable to effectively handle this increased flow, causing flooding of the park road. This increased flow is also causing siltation in the unit from out-of-park sources, as well as changing the complexion of the saltwater marsh. Introduction of approximately 4,000 homes near the unit's boundaries has increased dramatically the number of domestic dogs and cats running loose in the unit. Homeowners adjacent to the unit have started making their private trails into the unit. These footpaths are subject to erosion, since almost all of them come down steep hillsides. A six-foot-tall fence has been erected on the unit boundary; this should help alleviate some of these problems, but the present staffing level allows us to do little more.

Volunteer Groups

There are two volunteer groups now active at Benicia State Recreation Area. The Napa-Solano Audubon Society leads guided walks on the first Saturday of every month. Benicia State Park Interpretive Volunteers is a nonprofit organization that supports and augments the staff in operation of Benicia State Recreation Area and Benicia Capitol State Historic Park. At this time, their efforts are mostly centered on Benicia Capitol State Historic Park.

However, they are purchasing interpretive panels to be installed at Benicia State Recreation Area. In the past, the Benicia Lions Club has assisted the unit staff in planting native species throughout the unit. Better coordination of the efforts of these volunteer groups is needed, but present staffing levels do not allow sufficient staff time to more effectively use these volunteer resources.

Resource Management

There are several species of plants that have been introduced into the area through agricultural and land use patterns of the past. Of particular management concern, fennel, Foeniculum vulgare, was introduced from Europe. It is found in almost all the non-marsh areas of the unit. It impedes foot traffic on the uplands, blocks many scenic views, and competes with native vegetation. The Resource Element calls for eradication of non-native species that pose a problem. Removal of existing plants can be accomplished through controlled burns and mechanical and hand cutting. The resulting new growth from the root crown would then be treated with the correct chemical treatment to kill the root.

On the north side of the marsh, the old airport site, there are large areas of star thistle, both Centaurea iberica and Centaurea solstitialis. These plants are a significant hazard to unit users. The resource plan for control of these plants calls for mechanical cutting of the plant, and treating the green growth with the proper control chemicals.

Other plants found in the unit that would fall under the guidelines of State Park and Recreation Commission Policy #34, Exotic Plants - Elimination, are: black acacia, lens-podded hoary cress, pampas grass, artichoke thistle, Scotch broom, Fuller's teasel, and bluegum. These species are highly invasive, and capable of naturalizing.

Another problem introduced by humans is a large feral cat population near Dillon Point. A trapping program by staff has not been able to control this growing population. An aggressive trapping or chemical control program is needed to remove this hazard to the native wildlife.

Law Enforcement

At the present time, due to staffing limitations, the law enforcement program at Benicia State Recreation Area is minimal. With no peace officer on duty in the unit, there is no information on the extent of code violations taking place at Benicia State Recreation Area. Most requests for assistance are made to the Benicia Police Department by unit users. The Benicia Police Department will respond to incidents in the unit.

In the past, the staff at Benicia State Recreation Area has assisted in the investigation of various minor and serious crimes. With the continued increase in visitation, increase in violations can be expected.

Employee Housing

The General Plan has evaluated the issue of employee housing in the unit, consistent with department policy. Two mobile homes are now being used as housing; the trailers are owned by the employees. They are located near the unit entrance, adjacent to Highway 780.

There is a need to have an adequate number of law enforcement and maintenance staff in the unit at all times, to be available for emergencies or after-hours problems. Staff is responsible for law enforcement calls, receiving assistance from local law enforcement personnel when staff is not available for call-out, and for all major criminal activities or death cases.

Through the department's final Employee Housing Assessment report, it was determined that one residence (a mobile home) is essential to protect unit resources and facilities, and to provide for the health and safety of visitors.

The General Plan does not recommend any new housing.

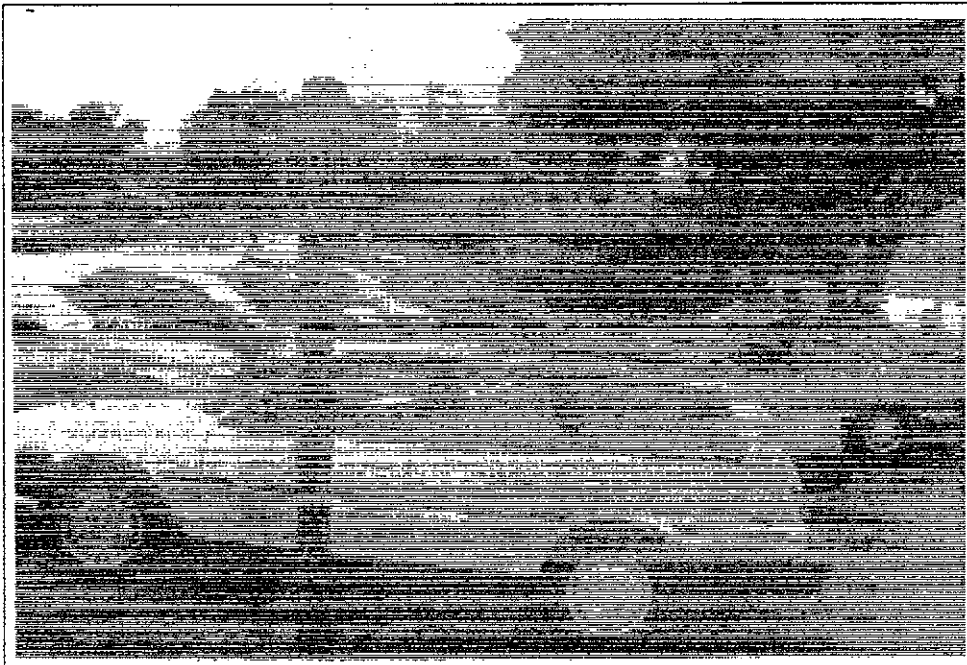
Staffing

Implementation of the General Plan with facilities development, resource management and protection programs, and interpretive programs and events will correspondingly result in greater visitation and a heavier demand on staff workload. To meet the needs of the unit, staff increases to the unit may be necessary. The District Superintendent shall recommend to the department appropriate increases in staffing, equipment, and operational expenses as may be required to fulfill operational responsibilities at Benicia State Recreation Area through the budget change proposal process.

Land Use Element



There is intense residential development to the west of the unit.



At the main entrance, parking along the I-780 easements will be eliminated because of safety concerns. To replace these lost parking spaces, a 75-100 car parking lot is proposed to the west of the main entrance.

LAND USE ELEMENT

The Department of Parks and Recreation carries the dual mission of protecting and preserving the resources of the State Park System, and of providing recreation opportunities and facilities for the public through use of the State Park System. The resources at Benicia State Recreation Area present diverse and high-quality recreational, interpretive, and educational opportunities for the public's enjoyment of the unit. The Land Use Element prescribes the best use of the land at Benicia State Recreation Area for providing these opportunities, consistent with the programs and policies identified in the Resource Element for resource protection and perpetuation.

A land use plan defines the pattern for human activity in a given area. It establishes the character of a place by determining what happens, where it happens, and to what degree it happens. It defines routes of travel and use areas. It controls use and development, and arranges park activities and facilities so an optimum balance is obtained between visitor enjoyment of the unit and protection of unit resources.

During the course of its development, the Land Use Element takes into consideration the activities and facility needs identified by the various General Plan elements. For example, the Resource Element proposes that the department be involved in local land use decisions that may have an adverse impact on the unit's water features; the Interpretive Element speaks to facilities needed to implement and present interpretive themes and programs; the Operations Element identifies the need to develop certain administrative and maintenance facilities for adequately operating the unit for public use; the Facilities Element recommends recreation facilities and activities based on existing needs and projected demands that were identified through the public involvement process, and from regional and statewide recreation planning information. How and where can these activities and facilities be accommodated? How can land uses be designated so as to protect resource values? The Land Use Element considers desirable and necessary land uses -- undeveloped (natural and open space) and developed (interpretive, operations, recreation, and concession facilities) -- and determines what uses are appropriate, and where. The Facilities Element then more specifically locates these facilities and activities in the appropriate land use zone or area.

General Land Use Goals

In setting land uses for the SRA, the following three general goals are important considerations which affect visitor experiences:

1. Ecological continuity
2. Quality experiences
3. Diversified experiences

Ecological Continuity

Ecological continuity is set to guide appropriate land use decisions when altering the natural state. Ecological continuity means finding a harmony in which human activity is a part of the whole, in which natural ecosystems will continue to renew themselves.

Quality Experiences

In the goals of the plan, "quality experiences" are an important consideration for visitors. For individual visitors, enjoyment of their own chosen interests will determine their satisfaction with the unit as a whole. For this reason, selection, location, density, and intensity of recreation activities and visitor-serving facilities are critical.

Opportunities should be made available for people to enjoy individual outdoor experiences in the types of environment best suited to individual needs and values -- or, "the right thing in the right place," without the negative influences of undesirable activities.

Land use concepts directed toward attainment of quality experiences and protection of individual values include:

1. Separation of conflicting uses.
2. Preservation of significant natural, cultural, and esthetic resources.
3. Maintaining the unit's open quality and scenic vistas.
4. Minimizing negative visual impacts.

Diversified Experiences

Diversified experiences are a major goal. Opportunities for recreation experiences need to be diverse, because people's values and needs vary greatly. A pleasant experience for one person may be something entirely different for another. Benicia State Recreation Area should provide for the different needs and interests of people, to allow people to act freely in the park, as long as uses of the land remain compatible with each other, the resources, the environment, and the purposes of the SRA and the State Park System.

Land Use Limitations

Providing for human activity in the SRA in a manner that allows for perpetuation of resource values and the integrity of ecosystems involves setting limitations on how humans use the land; how many people can use an area (carrying capacity), and for what purpose (allowable use intensity). These two concepts are vital to preparation of the final Land Use Plan.

Park planners often use the concept of "carrying capacity" to refer to the number of people or the intensity of activities (allowable use intensity) that an area of land can support without losing its ability to renew itself. Managers and planners of park lands have come to realize that park lands and their associated resources also have inherent limitations with regard to the type and amount of public use they can endure without experiencing irreparable damage to resources.

How many people and what uses can be allowed at Benicia State Recreation Area without compromising the integrity of the resources and the quality of visitor experiences? This was one of the most complex questions asked in preparation of the General Plan. Essentially, the decision about carrying capacity, or number of visitors, is made by park planners, based on professional experience, an analysis of existing activities, user characteristics, the regional recreation profile, and the determination of goals, management objectives, and allowable use intensity.

Allowable Use Intensity

The California Public Resources Code, Section 5019.5, requires that a land carrying capacity survey be made prior to preparation of any development plan for any state park or state recreation area. Section 5001.96 further requires that attendance be held within limits so established. Allowable use intensity is a refinement of the land carrying capacity concept, and is prepared as part of the General Plan in fulfillment of the above code sections.

Allowable use intensity is used as a major component in preparation of the Land Use Element. Factors that are considered in developing allowable use intensity are unit classification and purpose, and resource values and sensitivities.

Allowable use intensity determinations establish the limits of development and use an area can sustain without an unacceptable degree of deterioration in the character and value of the natural, cultural, and scenic resources. Determinations are based on analysis and integration of resource management and protection objectives, resource constraints, and resource sensitivities information.

Resource management objectives are defined by the Public Resources Code and other law, unit classifications and declarations of purpose, and by specific resource management directives presented in the Resource Element of this General Plan.

Resource constraints are factors which may make facilities unsafe or economically impractical to develop and maintain. They are determined by evaluating such factors as soil erodibility and compaction potential, geologic hazards, slope stability and relief, hydrologic flooding conditions, and the potential for pollution of surface waters.

Sensitivities are values of resources that warrant protection or restricted use. Sensitivities are evaluated by considering such factors as the ability of the ecosystem to withstand human impact, not only in the short term but also over a more extended time span; vegetation characteristics such as fragility and regeneration rates; and wildlife considerations such as tolerance to human activity, population levels, and population stability. Sensitivities may also include rare, threatened, or endangered plants and animals, and their habitats; unique or scientifically important botanic or geologic features; cultural resources such as archeological sites and historic structures; scenic resources; and other resources of regional or statewide significance.

Based on the preceding factors, allowable use intensities for lands in Benicia State Recreation Area were determined, and are shown on the Allowable Use Intensity Map (page 89). Four use intensity categories have been identified:

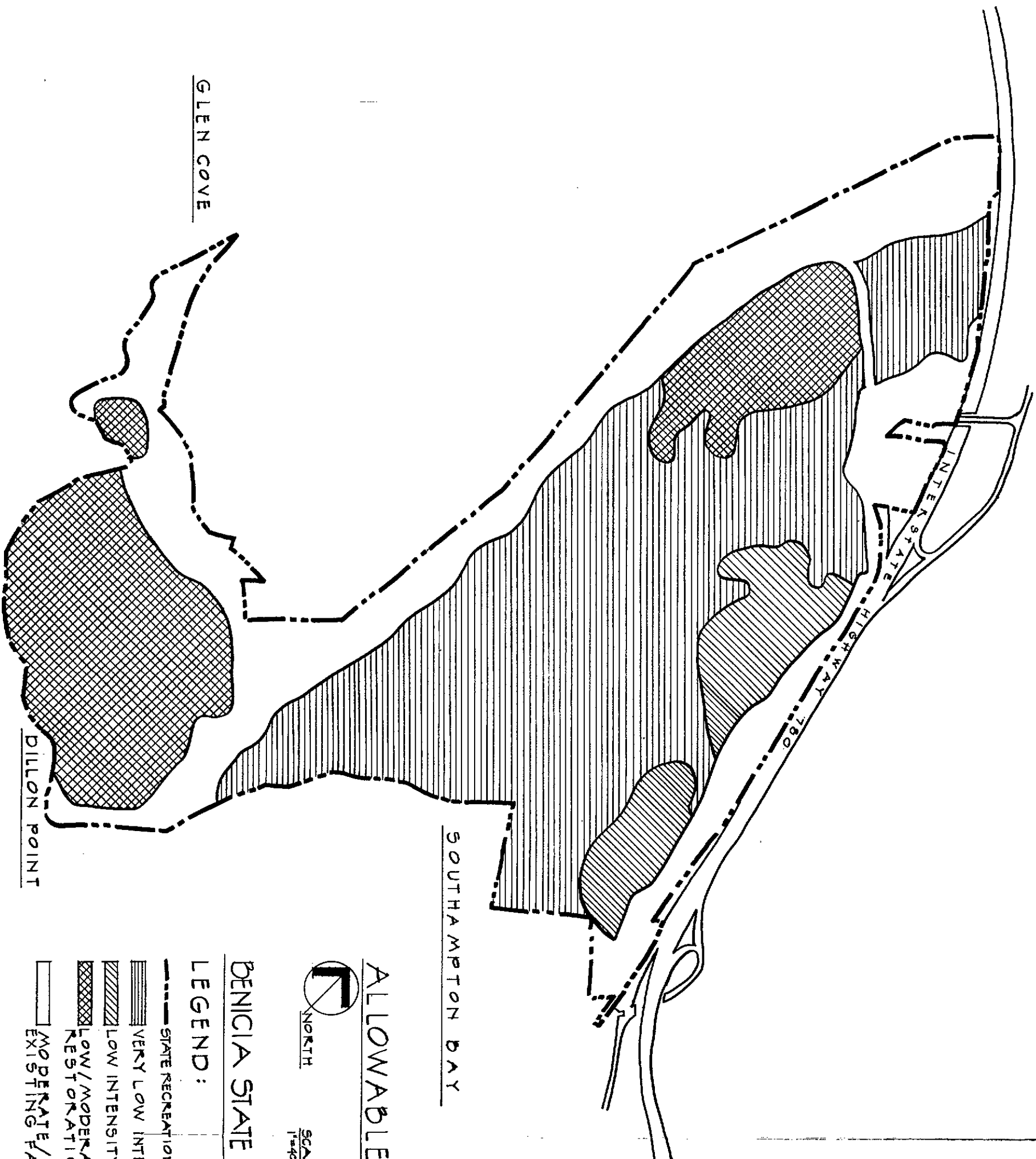
very low, low, low/moderate, and moderate/high. The very low intensity use category includes the wetland and mudflats of Southampton Bay. The low intensity use category includes the wetland buffer zone. The low/moderate intensity use category includes the proposed wetland preserve, areas of native grassland, areas of steep slopes, and areas of unstable soils. The moderate/high intensity use category includes sites of existing facilities and areas of gentle slopes.

<u>CATEGORY</u>	<u>SITE CHARACTERISTICS</u>	<u>REPRESENTATIVE ACTIVITIES</u>
Very Low	Natural Preserve - California Black Rail, California Clapper Rail, Salt Marsh Harvest Mouse, Soft Bird's Beak Habitat	Scientific research coordinated through appropriate state and federal agencies Access restricted to prevent adverse impacts to sensitive wildlife and plant species
Low	Natural Preserve Buffer Zone	Nature observation and study Public access along designated trails and boardwalks Informal picnicking
Low/Moderate	Wetland Restoration Zone, Areas of Native Grassland, Areas of Steep Slope, Areas of Unstable Soils	Access corridors... authorized motor vehicles restricted to designated rights-of-way or service roads; public bicycle use on designated trails Picnicking
Moderate/High	Sites of Existing Facilities, Areas of Gentle Slopes	Moderate to high concentration of visitors Fishing access and facilities Public vehicle access on designated paved roads

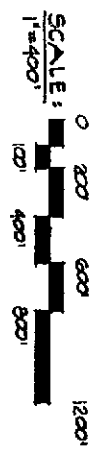
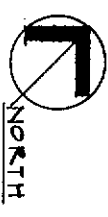
NOTE:

Activities permitted in lower categories are also appropriate.

These examples serve as a general guide to appropriate uses. Detailed field investigations shall be made prior to approval of any site-specific development.



ALLOWABLE USE INTENSITY



BENICIA STATE RECREATION AREA

LEGEND:

- STATE RECREATION AREA BOUNDARY
- VERY LOW INTENSITY - NATURAL PRESERVE
- LOW INTENSITY - NAT. PRESERVE BUFFER ZONE
- LOW/MODERATE INTENSITY - WETLAND RESTORATION ZONE
- MODERATE/HIGH INTENSITY - SITES OF EXISTING FACILITIES

CARQUINEZ STRAIT

GLEN COVE

SOUTHAMPTON BAY

DILLON POINT

REVISIONS	DATE	DESIGNED
		DRAWN
		CHECKED

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION
APPROVED: _____ DATE: _____

Benicia State Recreation Area
Allowable Use Intensity
General Plan

DRAWING NO. _____
MAP No 4

Land Carrying Capacity

Based on allowable use intensities, the land carrying capacity for the SRA is set by surveying such features as soils, moisture, and natural cover, and examining the amount of existing visitor use, the capacity of existing facilities, and the desirable capacity of proposed new or improved facilities to provide additional use.

The location of access, parking, and facilities may be used to control the density and distribution of users. However, the number of parking spaces provided for vehicles is a major factor that determines carrying capacity and density of use. Since the carrying capacity must remain within the limits of allowable use intensity, it may need to be adjusted if allowable use intensities are adjusted. Also, cumulative and periodic effects on sensitive resources by people using lands in the vicinity of parking areas, other facilities, or natural attractions may require limitations on public use in some areas during some seasons.

Existing facilities and activities at Benicia State Recreation Area provided recreation opportunities for about 400,000 visitors in 1988-89. The term "instantaneous capacity" is used to indicate the maximum capacity of all facilities at the moment of peak use. Most visitors gain access to the unit by motor vehicle. About 20 percent come by other means (foot or bicycle), with a projected increase to 30 percent by the year 2000. In terms of vehicles or people, estimates are that each vehicle accounts for 2.00 visitors. Taking into consideration turnover rates (each parking space is used an average of 2.9 times daily), seasonal use patterns, and the number of full capacity days, the average daily and annual visitor attendance can be projected from the instantaneous capacity.

The present instantaneous capacity at the unit is about 400 (150 vehicles or 300 visitors, and 60 visitors who come to the SRA by foot or bicycle). The proposed instantaneous capacity is about 650 (250 vehicles or 500 visitors, and 150 visitors who come to the SRA by foot or bicycle). Existing and proposed vehicle capacities represent the existing and proposed parking spaces to be available at the unit (see "Summary of Existing and Proposed Facilities" in the Facilities Element). Totals of existing and proposed parking spaces include all three of the following:

1. Parking in paved parking spaces.
2. Parking in established unpaved areas on a regular basis.
3. Overflow parking on an infrequent basis. During special events, overflow parking is permitted in a designated area, to the extent that the health and safety of visitors and unit resource values are not jeopardized.

Existing Land Use Conditions and Assumptions

The following land use considerations are essential in outlining the process by which land use decisions were made. The logic of planning decisions can be traced from initial assumptions and planning issues, through the objectives that were discussed and debated, to the appropriate alternatives and recommendations for actual use and development.

Esthetic Values

- o Benicia State Recreation Area has significant open space and panoramic views of the wetlands, Southampton Bay, and Carquinez Strait region.
- o The marsh, mudflats, uplands, and open water areas provide important habitat for a variety of wildlife and plant life.
- o The salt marsh provides close-up viewing opportunities of adapted marsh plants and wildlife species.
- o With the unit located along the Pacific Flyway, migrating waterfowl can be observed.
- o The shore provides an opportunity to get close to the waters of the Carquinez Strait, and to observe the numerous and varied boats.
- o The extensive trails, open space, and natural scenic qualities of the state recreation area offer solitude in the urban area.
- o Significant negative visual features which detract from the scenic qualities of the unit include housing development which covers the surrounding hills, highly developed and industrial areas that dominate the panoramic views of the Carquinez Strait region, and power lines and telephone cables that criss-cross the wetland.
- o Other negative features which take away from the unit's natural character are Coast Guard navigational lights, a PG&E facility and power lines, former dump sites on the sides of the wetland, an abandoned airstrip, and erosion scars from illegal off-highway vehicle use near Dillon Point.
- o Interstate Highway 780 to the east of the unit produces a major negative esthetic impact from the sight of speeding cars and their high noise level.
- o Odors from nearby oil refineries create an ephemeral negative esthetic feature at the unit.

Recreation Use

- o Visitation is about 400,000 persons a year, with a projected annual increase of 5%.
- o The projected population growth of Solano County in 2010 is about 458,000, or a 46% increase over present levels (314,000). Contra Costa County is expected to increase to 950,000 in 2010, or a 24% increase over present levels (768,800).
- o The majority of SRA users are from the cities of Vallejo and Benicia, although other Solano County and Contra Costa County residents make use of the SRA.
- o With the year-round mild temperatures and close proximity to residential development, monthly attendance is consistent throughout the year.

- o Walking and jogging are the most popular activities in the state recreation area.
- o Principal recreation activities include:

Hiking	Birdwatching
Bicycling	Jogging
Picnicking	Photography
Nature study (including plant and animal study)	Fishing
	Walking
	Par course
- o Due to the fast growth of the county, there is increasing pressure to provide more or improved day-use facilities, pedestrian and bicycle trails, and parking areas in the unit.
- o Bicycling is a popular and growing recreational activity. Advocates want additional trails to connect with local existing and planned hiking and bicycle trails outside of the unit.

Recreation Resources

- o The minimally developed and quiet character of most areas of the unit is a significant value, particularly when found next to an urban area.
- o The natural resources of the wetland and mudflats of the unit provide excellent opportunities for study of natural history and related sciences.
- o Opportunities exist for study and interpretation of the natural and cultural heritage of Southampton Bay and the adjacent Carquinez Strait.
- o The wetlands, bay, and strait provide a scenic backdrop for walking, bicycling, and jogging.

Physical Factors

- o The unit is located in the southwest portion of Solano County, between the cities of Benicia and Vallejo.
- o More than 250,000 people live within a 15-minute drive of Benicia State Recreation Area.
- o The total acreage of the SRA is about 469 acres.
- o Summers are warm and dry; winters are cool and moist.
- o Coldest temperatures occur from December through March. Warmest temperatures are from June through September.
- o The dominant feature is the wetland, a large, flat area that makes up more than two-thirds of the total area of the unit.
- o Slopes in the unit range from flat in the wetland, to moderate in the uplands, to steep and very steep along the Dillon Point shoreline.

- o More than 70% of the unit is within a 0-8% slope.
- o The unit is the outlet of a small drainage basin drained by nine small creeks.
- o The interaction between freshwater inflow from the surrounding watersheds, the salt water from Carquinez Strait, the tidal influence, and the dynamics of water exchange through the system of wetland drainage channels presents a complex hydrological situation.
- o The unit has several small stands of native grassland.
- o The most widespread herbaceous exotic in the unit is fennel; other exotic species include annual nonnative grasses and black mustard.
- o The historic power transmission tower on Dillon Point is the only significant historic resource in the unit.
- o About 20 acres of wetland, west of the main entrance and adjacent to Dillon Point Road, were used as a city dump.
- o A 1,300-foot dirt airstrip was located on the east side of the wetlands, and was used in the 1960s.
- o There are five wooden ship skeletons in the mudflats of Southampton Bay that are exposed at low tides.

Transportation and Circulation

- o Origin of Benicia State Recreation Area Visitors
 - About 80% of the state recreation area visitors come from Solano County, and most other visitors come from other parts of the Bay Area.
 - Benicia State Recreation Area is within a one-hour travel time of the San Francisco metropolitan area.
- o Means of travel to Benicia State Recreation Area
 - Most people arrive by motor vehicle.
 - Many people walk, jog, or bicycle to the state recreation area.
 - There is a proposed coastal perimeter trail that will connect the state recreation area to Napa County.
- o Routes of Vehicle Access to Benicia State Recreation Area
 - The major vehicle access to Benicia State Recreation Area is via Interstate 780, taking the Columbus Parkway exit, and left on Rose Drive.
 - Vehicular access to the southeast section of the unit is by taking the Military West exit off Interstate 780.

- o Means of travel at Benicia State Recreation Area
 - For many visitors, walking, jogging, or bicycling in the unit is the most valued part of their recreation experience.

Planning Issues and Alternatives

An analysis of existing conditions and the results of a user survey distributed at the public meeting allowed us to identify many problems and recreation planning issues at Benicia State Recreation Area. The diverse concerns expressed in letters, interviews, user surveys, and the first two public workshops resulted in development of a series of recreation alternatives.

The alternatives were presented and discussed at our second public workshop. Participants were divided into small groups, and were instructed to evaluate alternative proposals. They were asked to select alternatives in specific categories (on which the group could agree) that resolved the issues concerning them. This group effort was later presented to the entire workshop audience. The many group plans served as important tools in helping the planning team assess the major issues, the areas of consensus, and the various trade-offs that would have to be reconciled in development of a final plan.

Individuals who were unable to attend were asked to send their comments by mail. All comments were reviewed carefully, with special attention to the modified plans prepared and negotiated by work groups at the public workshop, in order to develop a single plan that the planning team considered to be the best one for providing for public use of the SRA, while protecting the resources.

For update of what occurred at the second workshop, see Newsletter #3 (see Appendix, p. 157). Highlights of the single plan developed from the Land Use Element and Facilities Element were summarized in Newsletter #4 (see Appendix, p. 162).

Public evaluation of the alternatives identified the following significant issues and areas of general agreement:

Significant Public Issues

Trails and Access

- o With the paved roads used as the primary trail system in Benicia State Recreation Area, vehicles, joggers, walkers, and bicyclists can converge on the roadways at the same time. This situation can develop conflicting use, and create public safety problems.
- o Local planners have recommended that existing and future trails of Benicia State Recreation Area tie in and connect with the proposed regional trails from the Vallejo Trails Master Plan (1988, City of Vallejo, Greater Vallejo Recreation District), the Greater Vallejo Recreation District Five-Year Master Plan (1986), the Bay Area Trails Plan, and the San Francisco Bay Ridge Trail Plan.
- o Trails are inadequately maintained.
- o Trails are not clearly marked as to distance and destination.

Day Use Facilities

- Facilities are outdated and inadequate to meet current and future needs.
- Interpretive facilities are inadequate to serve visitor needs. The existing facilities, signs, etc. are in need of updating and rehabilitation.

Camping Facilities

- With residential development nearly surrounding the unit, development of camping facilities may cause a conflict or an unwanted presence to nearby residents.

Operations

- Solano County is one of the fastest-growing areas in California. This is putting growing demand on the SRA, its resources, and its facilities.
- The former dump site/land fill area, located near the northern end of Dillon Point Road, is a public hazard because of potential toxics, unstable soils, and ground cavities.
- There are two SRA residences and maintenance facilities that may conflict with public use.
- At the main gate entrance, road easements along Rose Drive (and the onramp to Interstate 780) have become informal parking areas. These parking areas are popular because state recreation area visitors can avoid paying day-use entry fees. This situation has created a public safety problem, with people crossing or walking alongside high-speed traffic from these parking areas to the SRA.

Interpretation

- Existing interpretive programs reach only a small portion of SRA visitors.

Appropriate Future Additions

- There is undeveloped land immediately to the northwest of the state recreation area that could be developed. Such development would affect the salt marsh with freshwater intrusion.

Areas of General Agreement

- Benicia State Recreation Area is environmentally sensitive, and should not be damaged by overdevelopment and overuse.
- The natural and quiet character of the landscape is an important recreation value.
- Recreation uses and facilities that are not damaging to existing environmental values are appropriate, such as hiking trails, interpretive facilities, and overlooks.

- o Certain uses and activities (picnicking, bicycle trails) can be appropriate with adequate location, design, and control.
- o The existing trail system needs improvement.
- o Adequate staffing will be needed to accompany new development in order to ensure public safety and cleanliness, proper management and maintenance, and interpretation and protection of resources.
- o Cooperation is needed with the cities of Benicia, Vallejo, and the Greater Vallejo Recreation District to develop a trail connection with the proposed trail.
- o Existing facilities should be rehabilitated and restored where needed.
- o Interpretive programs and resources should be coordinated with surrounding local agencies.
- o A natural preserve should be established in the unit for wetland resources protection.
- o The main gate entrance should be redesigned to improve the traffic circulation pattern.

Land Use Objectives

Land use objectives were set following the first two public meetings, in which public issues and concerns were identified, and alternative plans discussed. Based on existing conditions, assumptions, and resource protection laws and guidelines, the land use objectives outline measurable ways of reaching the land use goals previously identified; i.e., ecological integrity, quality, and diversified park experiences.

Recreation

- o Provide opportunities for SRA visitors to learn about and enjoy Benicia State Recreation Area's unique natural, cultural, and scenic resources.
- o Spread the recreational development and activities, in accordance with the allowable use intensity, throughout the SRA to avoid adversely affecting any one area, and to provide increased visitor capacity.
- o Meet appropriate and diverse recreational needs.
 - a. Minimize conflicts between recreational users.
 - b. Promote safety through facility design.
 - c. Promote day-use activities.
 - d. Provide handicap access and facilities, where practical.
- o Encourage "non-automobile" circulation in the SRA.
- o Plan facilities and programs to tie into nearby local recreation trails.

- o Develop a comprehensive trail plan to include recommendations for standards, reconstruction, relocation, establishment of new trails, and abandonment of duplicate trails or trails through environmentally sensitive areas. Abandoned trails will revert back to a natural state.

Interpretation

- o Develop facilities, programs, and appropriate media consistent with the unit's purpose, public's interests, and the relative importance of the resources.
- o Make programs and facilities accessible by handicapped individuals, where appropriate and practical.

Transportation

- o Balance the transportation requirements with the need to preserve the resources visitors have come to see and enjoy.
- o Provide a balance between the number of SRA accesses and the ability of staff to monitor and properly operate them.
- o Limit road facilities to those which serve the SRA.
- o Develop no significant new SRA roads, and reduce motor vehicle traffic speed to 15 miles per hour throughout the paved SRA roads.

Operations

- o Provide needed and appropriate public and operational utilities and facilities, while minimizing their impacts on the resources and on public use.

Design

For existing on-site management:

- o Preserve significant natural, cultural, and esthetic resources.
- o Maintain the unit's open quality and scenic vistas across the wetlands and San Pablo Bay.
- o Minimize the visual impacts for users of negative features, such as unit facilities and structures, utility lines and structures, surrounding residential development, and freeway traffic of Interstate Highway 780.

For new on-site development:

- o Native and native-form exotic vegetation, berming, and grading should be used to help screen negative features.
- o Any selected screening method or type should not be unnatural in appearance, or conflict with the unit's inherent positive qualities.

- o Screening should not impede the scenic vistas for surrounding homeowners and I-780 motorists.
- o The visibility of hillside trails should be minimized from visitors and surrounding ridge line residences.
- o "Windows" or open vistas should be provided for I-780 motorists to view the wetlands and bay.
- o If exotic species are used, they should be compatible with the unit's plant communities.

For existing off-site development:

- o Provide selected views of the wetlands and bay for Interstate Highway 780 motorists.
- o Do not screen the homeowners' view of the wetlands and bay.

For proposed off-site use or development:

- o Work with the Department of Transportation on the proposed realignment project of I-780 (see Facility Element, page 114) so the project adheres to the landscape design objectives and recommendations of this General Plan.
- o The department should actively participate in design review of any proposed development that may affect the unit's natural, scenic, and recreational resources.

Plan Concepts and Recommendations

General Land Use

Increase recreation opportunities and enhance visitor experiences:

- o Recreation activities are to continue to be low-to-medium-intensity in use areas.
- o Existing facilities and areas are to be rehabilitated or restored, made more efficient, and upgraded to better accommodate and encourage recreation use.
- o Day-use facilities, including trails, will be moderately increased.

Disperse recreation use and development around the unit:

- o Attract visitors to appropriate low-use areas by improving the areas and providing needed facilities.
- o Develop new recreation use areas along the wetland frontage that will provide recreational and interpretive opportunities, as well as resource protection.

Preserve the character and natural beauty of the Benicia State Recreation Area landscape and wetlands:

- o Maximize open space.
 - Designate a natural preserve where the area can be perpetuated in a natural state.
 - Maintain hillsides as generally undeveloped.
 - Restrict new development to appropriate areas near existing roads (except for trail access only).
 - Locate new development adjacent to existing development, or along margins of scenic or open areas where existing vegetation, landforms, or screening will minimize visual impacts.

Transportation and Circulation

Encourage non-automobile transportation to and in the SRA:

- o Improve, add to, maintain, and sign the hiking and bicycling trail system.
- o Encourage local transit systems to provide scheduling to the SRA when economically feasible.
- o Encourage local government agencies to continue to plan and implement hiking and bicycle trail systems connecting to the SRA.
- o Develop new park trails where possible to connect SRA use areas, and make trails accessible to handicapped individuals, where feasible.
- o Modify the paved PG&E utility easement road off South Regatta Drive as a trailhead for pedestrians and bicyclists.
- o Enhance visitor use of trails through separation of conflicting trail use by designating hiking and biking trails.
- o No motorized off-highway vehicle use will be permitted in the SRA.
- o Eliminate unnecessary unpaved roads. Consolidate duplicate roads where feasible.

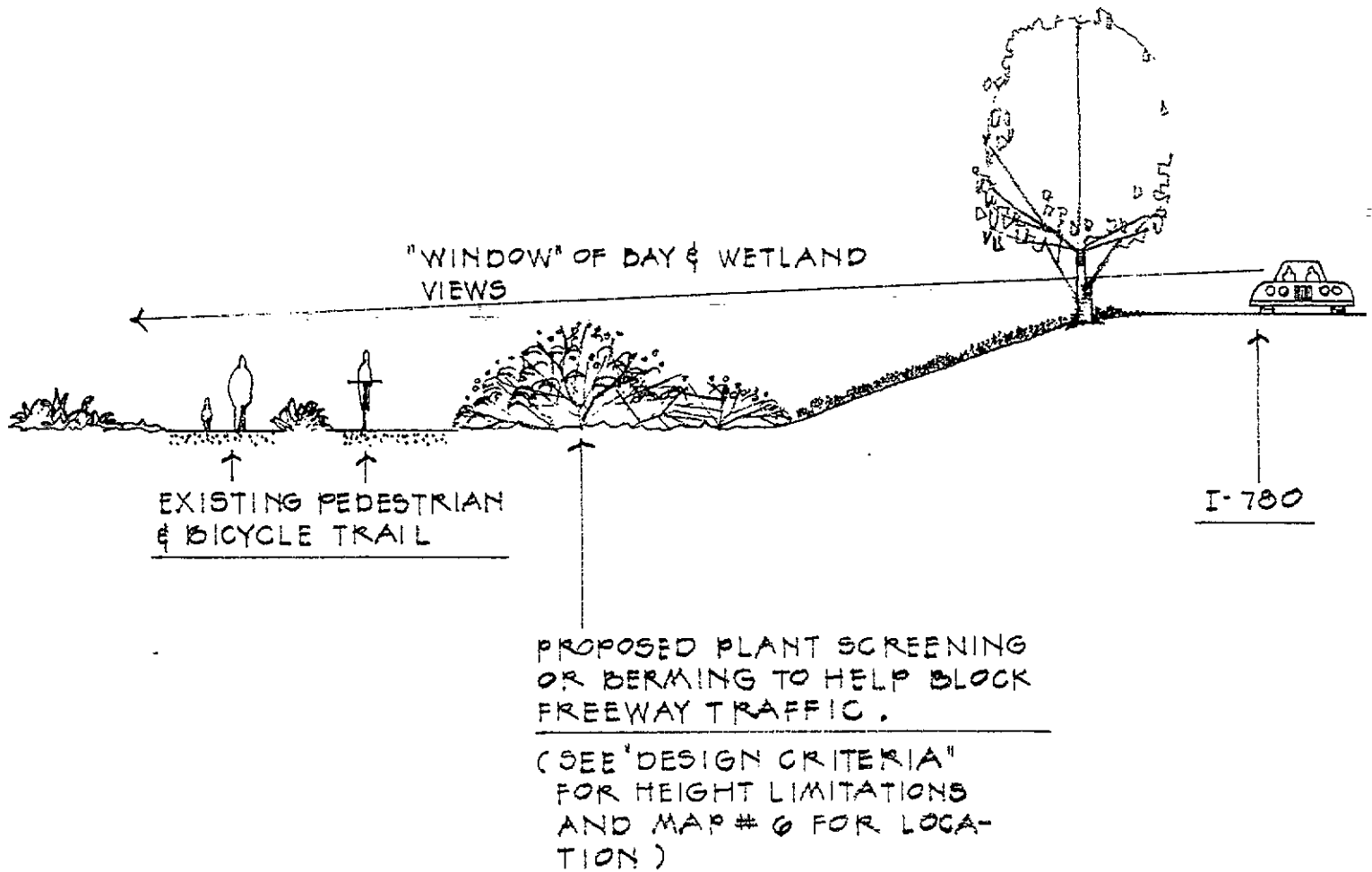
Emphasize low-impact/esthetic design criteria for new hiking and bicycling trails and utilities:

- o Design and site trails and pedestrian bridges for minimum environmental impact and visibility.
- o Hiking trails should be a minimum of two feet wide, with an optimum width of three to four feet in areas of steep slide slopes or high erosion.
- o Hiking and bicycling trails should follow the contours of the land. Long, straight stretches should be avoided, as well as excessive switchbacks.

- o All trail alignment should angle across the natural slope of the hillside for proper drainage and erosion control. Avoid areas with high soil erosion.
- o All trails that approach major roads, including SRA roads, should be at right angles, for a minimum of 10 feet. This allows users to survey road conditions in both directions.
- o Hiking trails should be an average maximum grade of five percent, although 10 percent grades will be allowed for short lengths, where necessary.
- o Rest stop benches on hiking trails should be provided every 500-1,000 feet, and at the tops of steep grades. They should be sited to take advantage of scenic views.
- o Design bikeways to conform to California Department of Transportation (Caltrans) classifications and design standards.
- o New trails that serve both hikers and bicyclists should be designed as a Class I bikeway. Class I bikeways provide for bicycle travel on a right-of-way completely separated from any street or highway. Standards are: eight-foot minimum paved width for bicyclists, and minimum two- to three-foot wide graded shoulders for hikers and joggers. A four-inch painted centerline stripe should be used to separate opposing directions of travel.
- o At intersections where hikers, bicyclists, and motor vehicles converge; require bicyclists and motor vehicles to stop, warn hikers, using standard Caltrans signs and/or painted pavement warnings. Provide adequate sight lines, and widen or improve the road section where necessary.
- o On unpaved medians between roads and trails or separate paved trails, use low native plantings, with a maximum height of three feet, to help provide a natural visual barrier.
- o Establish a Class III bike lane along the main SRA road. Place "bikeway" signs along the route, to inform motor vehicle drivers that bicyclists use the roadway.
- o Provide two- to three-foot level graded shoulders along paved roads for hikers and joggers. Realign paved roads, where feasible, to provide suitable shoulder trails, particularly along the marsh.
- o All trails should use Caltrans approved signs and markers to clearly define use and provide warnings.

Balance recreational use with resource and facility capacities:

- o Any new facility development should not adversely affect the unit's resources, particularly the sensitive wetlands.



CROSS-SECTION OF EXISTING PEDESTRIAN & BIKE TRAIL AND INTERSTATE 780.

Protect the safety of automobile users and other road users:

- o Rehabilitate all paved SRA roads.
- o Limit vehicular traffic speed to 15 miles per hour.
- o Provide general signage at the SRA entrances to notify motorists of recreational activities and facilities, speed limits, bicyclists, and other appropriate information.

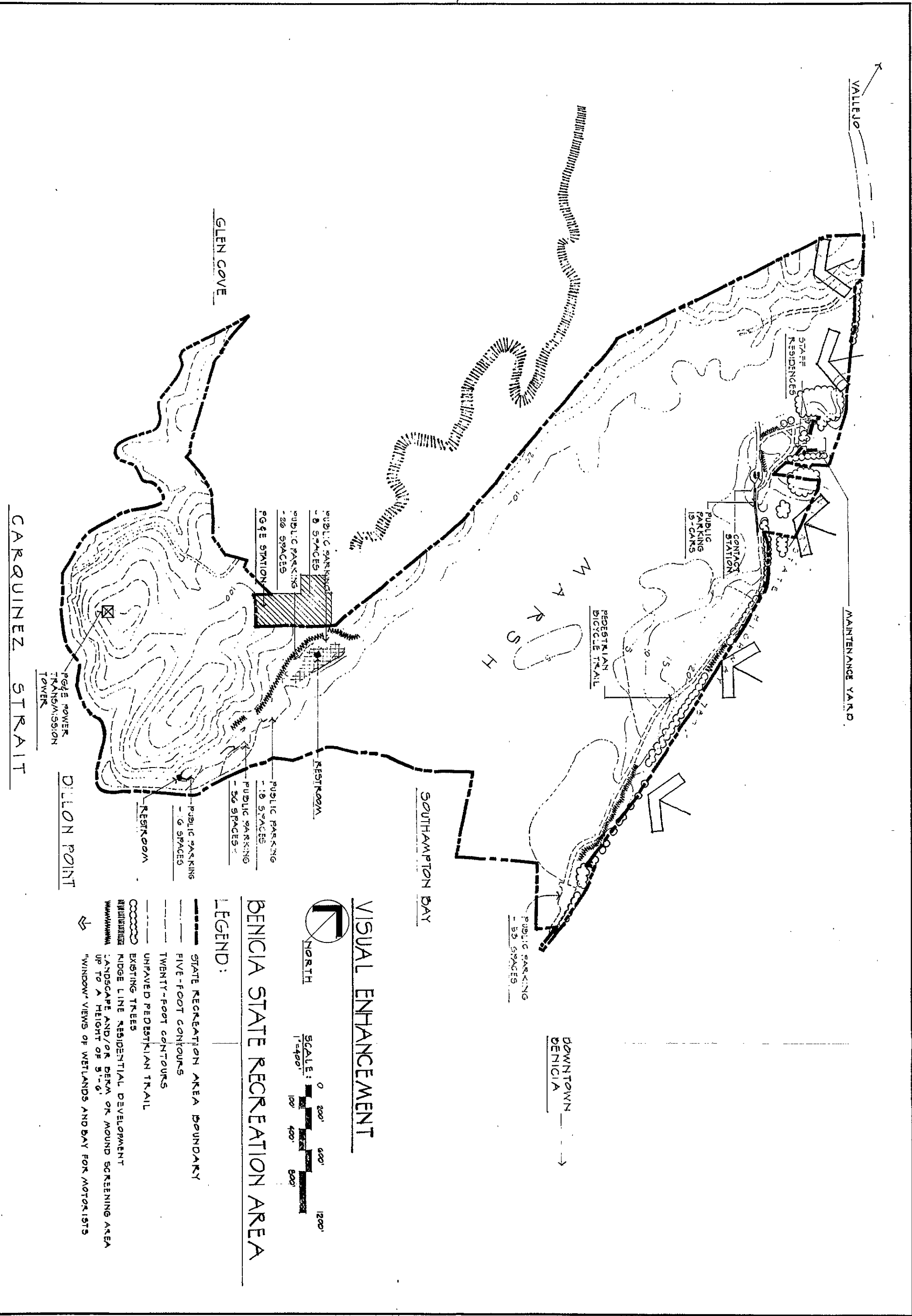
Design Criteria

Landscape Design

- o Provide appropriate and properly scaled screening, such as tree and shrub massing, berming, and grading, of nearby ridge line residential development and Interstate Highway 780, to help focus visitor attention on the unit's resources (see Visual Enhancement Map, page 105).
- o Plant species can be native, non-native, or a combination of both, depending on site-specific factors such as the existing plant matrix, soil conditions, water requirements, visual and/or screening needs that include height requirements and color and texture compatibility with existing vegetation, and resource management goals. Priority will be given to natives of the site, the surrounding area, or the region.
- o The visibility of the proposed hillside trails should be minimized from both visitors and surrounding ridge line residences, by aligning the trail, where feasible, behind existing trees and shrubs, knolls, mounds, and other topographic highpoints, or in depressions or saddles.
- o The scenic vista of the wetlands and bay, for motorists traveling in an easterly direction along I-780, should be maintained and enhanced by removing sections of eucalyptus trees along the I-780 frontage. Removal of these trees will prevent them from proliferating and developing into a landscape screen that will further reduce views of the wetlands and the bay. Eucalyptus trees within rows or masses will be retained, and not allowed to expand (see Visual Enhancement Map, page 105).
- o If berming or mounding is to be used to screen negative features, adequate space must be allowed for a gradual, natural-appearing grade, with a maximum 3:1 slope.

Architectural Design

- o Design structures along a horizontal plane in order to work with the unit's open quality, the relative flatness of the area, and its relationship to the bay.
- o Design buildings so roof lines will be compatible with the open, horizontal nature of the unit, and to minimize blockage of bay views.
- o Structures shall not obstruct scenic bay vistas, and, if feasible, shall be located in areas that provide existing screening, such as trees or shrubs, for the structures.



CARQUINEZ STRAIT

VALLEJO

GLEN COVE

STAFF RESIDENCES

CONTACT STATION

PUBLIC PARKING 15-CARS

PEDESTRIAN BICYCLE TRAIL

MAINTENANCE YARD

SOUTHAMPTON BAY

PUBLIC PARKING 8 SPACES

PUBLIC PARKING 20 SPACES

PG&E STATION

RESTROOM

PUBLIC PARKING 10 SPACES

PUBLIC PARKING 50 SPACES

PUBLIC PARKING 10 SPACES

RESTROOM

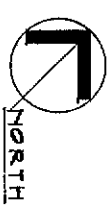
DILLON POINT

PG&E POWER TRANSMISSION TOWER

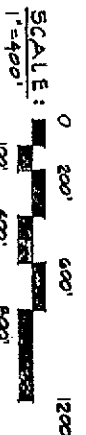
PUBLIC PARKING 50 SPACES

DOWNTOWN BENICIA

VISUAL ENHANCEMENT



NORTH



BENICIA STATE RECREATION AREA

LEGEND:

- STATE RECREATION AREA BOUNDARY
- FIVE-FOOT CONTOURS
- TWENTY-FOOT CONTOURS
- UNPAVED PEDESTRIAN TRAIL
- EXISTING TREES
- RIDGE LINE RESIDENTIAL DEVELOPMENT
- LANDSCAPE AND/OR BERM OR MOUND SCREENING AREA UP TO A HEIGHT OF 5'-6"
- "WINDOW" VIEWS OF WETLANDS AND BAY FOR MOTORISTS

MAP No. 	Benicia State Recreation Area Visual Enhancement General Plan		RESOURCES AGENCY OF CALIFORNIA DEPARTMENT OF PARKS AND RECREATION		REVISIONS	DATE	DESIGNED
			APPROVED _____ DATE _____				DRAWN
							CHECKED

- o The exterior finish of new structures should be of wood, which is compatible with the unit's marine influence. If possible, allow exterior wood finishes to weather naturally.
- o Where existing structures must be painted, select earth-tone colors to blend in with the natural surrounding.
- o Design new facilities to be accessible and usable by disabled persons.
- o Design structures that conserve energy and other resources. For example, solar water heating and skylights will be used, where feasible.
- o Use signs sparingly. Design signs to blend with the surrounding environment by using wood, stone, etc. Signs should not block scenic views, and should be appropriately scaled (such as interpretive displays along trails being a maximum of 36 inches high).

Appropriate Future Additions

The following discussion and any other comments regarding land acquisition are intended for long-range planning purposes only and are not a commitment to acquire.

The lands mentioned in this discussion and shown on the Appropriate Future Additions Map (see page 109) are currently outside state ownership, and represent potential long-range additions to the SRA. Most of these properties are currently being used to preserve open space, which is a compatible adjacent use. If conditions change which would seriously threaten SRA values, and property in these areas becomes available for purchase, management or acquisition by the state should be considered for viewshed protection and potential recreation development.

Further investigations and/or studies may be required to fully examine all site constraints.

These recommendations were prepared for long-range planning purposes only, and do not imply a land acquisition commitment.

o Northwest Parcels

Addition of these remaining parcels of undeveloped open space to the northwest of the SRA would serve the following purposes:

- Completion of viewsheds.
- Protection of a watershed and viewshed.
- Potential day use facility development.
- Potential trail corridors.
- Prevention of the occurrence of non-compatible adjacent use, i.e., housing, that may change the resource and recreation values on this side of the SRA.

o Open Space Dedications

Work with Solano County and other local agencies to evaluate and study the feasibility of acquiring future open space dedications in appropriate areas. Examine dedications from future developments in Benicia and Vallejo as suitable additions to the county or the SRA.

By working with these organizations, dedications would provide for:

- Acquisition of compatible open space.
- Resource protection.
- Appropriate developed facilities such as picnic sites, trails, and interpretive overlooks.

Proposed Land Use Zones

The Land Use Zoning Plan (page 111) shows the proposed uses for various areas. In designating uses for particular areas, planners worked within the limitations imposed by allowable use intensities and normal cost factors, as well as with the need to consider existing land uses and activities.

Benicia State Recreation Area can provide the following basic land uses: day-use area, trail development, roads and parking, operations uses, and undeveloped open space.

The following are the identified land use areas:

Day-Use Areas

Existing developed day-use areas will be restored and rehabilitated throughout the unit. Proposed day-use areas can include appropriately designed parking areas, picnic facilities, and trails.

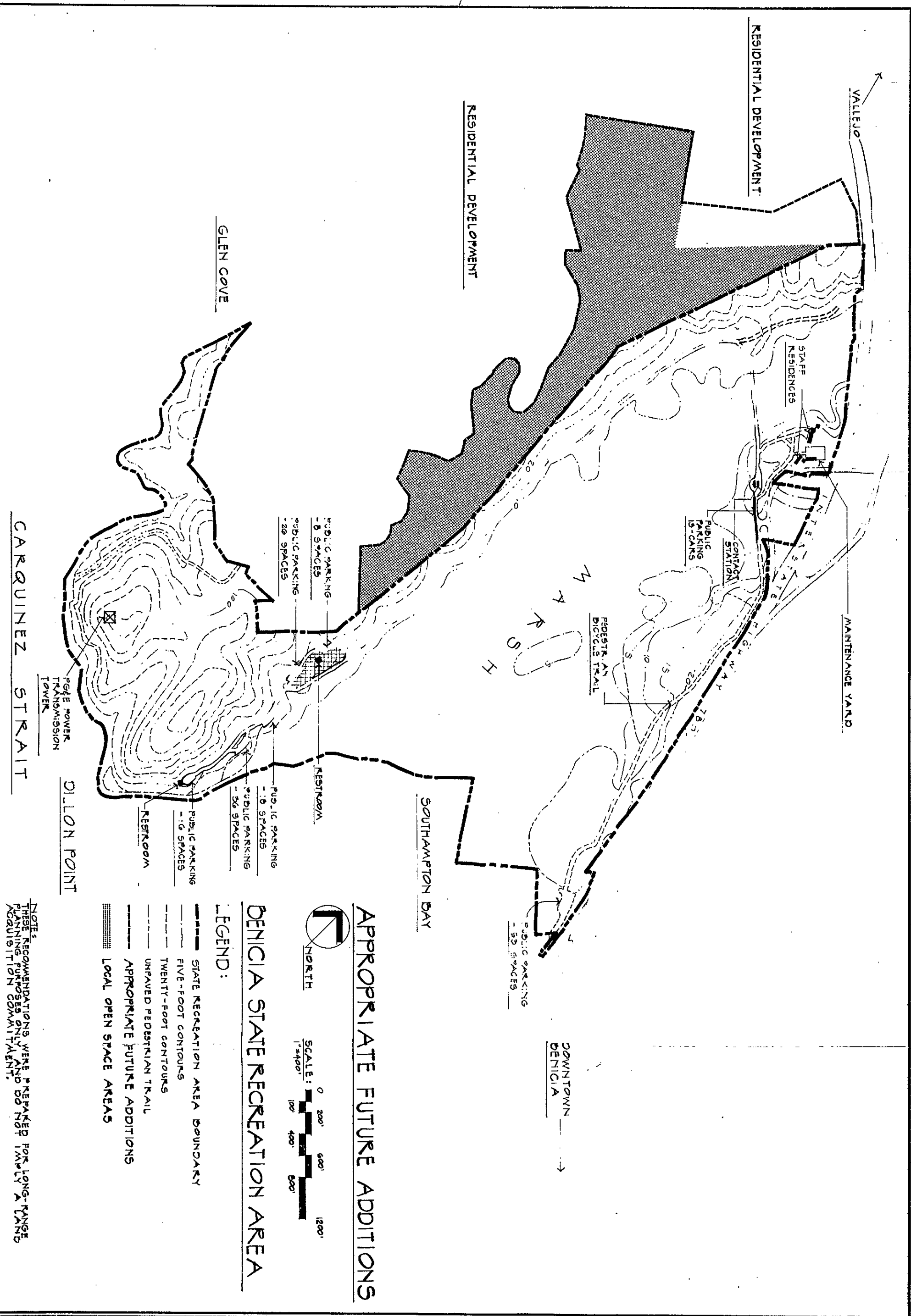
Existing paved roads and related parking areas will be rehabilitated throughout the unit. Duplicate unpaved roads will be consolidated and rehabilitated, if feasible, or restored to a natural state.

Recreation Trails

Existing trails will be rehabilitated, and proposed trails will be developed where the allowable use intensity is designated low to moderate.

Operations Use

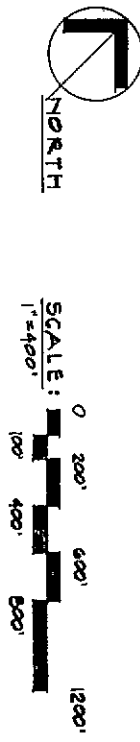
Operations areas include administration, maintenance, and service areas needed to provide support for park operations. Included are staff residences (two mobile homes), equipment storage, park offices, etc. The operations areas will be rehabilitated. Eliminate non-essential staff housing, and expand the maintenance and service area over the former housing site(s). (For a discussion of employee residences, see the Operations Element, page 77.)



APPROPRIATE FUTURE ADDITIONS

BENICIA STATE RECREATION AREA

- LEGEND:**
- STATE RECREATION AREA BOUNDARY
 - FIVE-FOOT CONTOURS
 - TWENTY-FOOT CONTOURS
 - UNPAVED PEDESTRIAN TRAIL
 - APPROPRIATE FUTURE ADDITIONS
 - ▨ LOCAL OPEN SPACE AREAS



NOTE: THESE RECOMMENDATIONS WERE PREPARED FOR LONG-RANGE PLANNING PURPOSES ONLY AND DO NOT IMPLY A LAND ACQUISITION COMMITMENT.

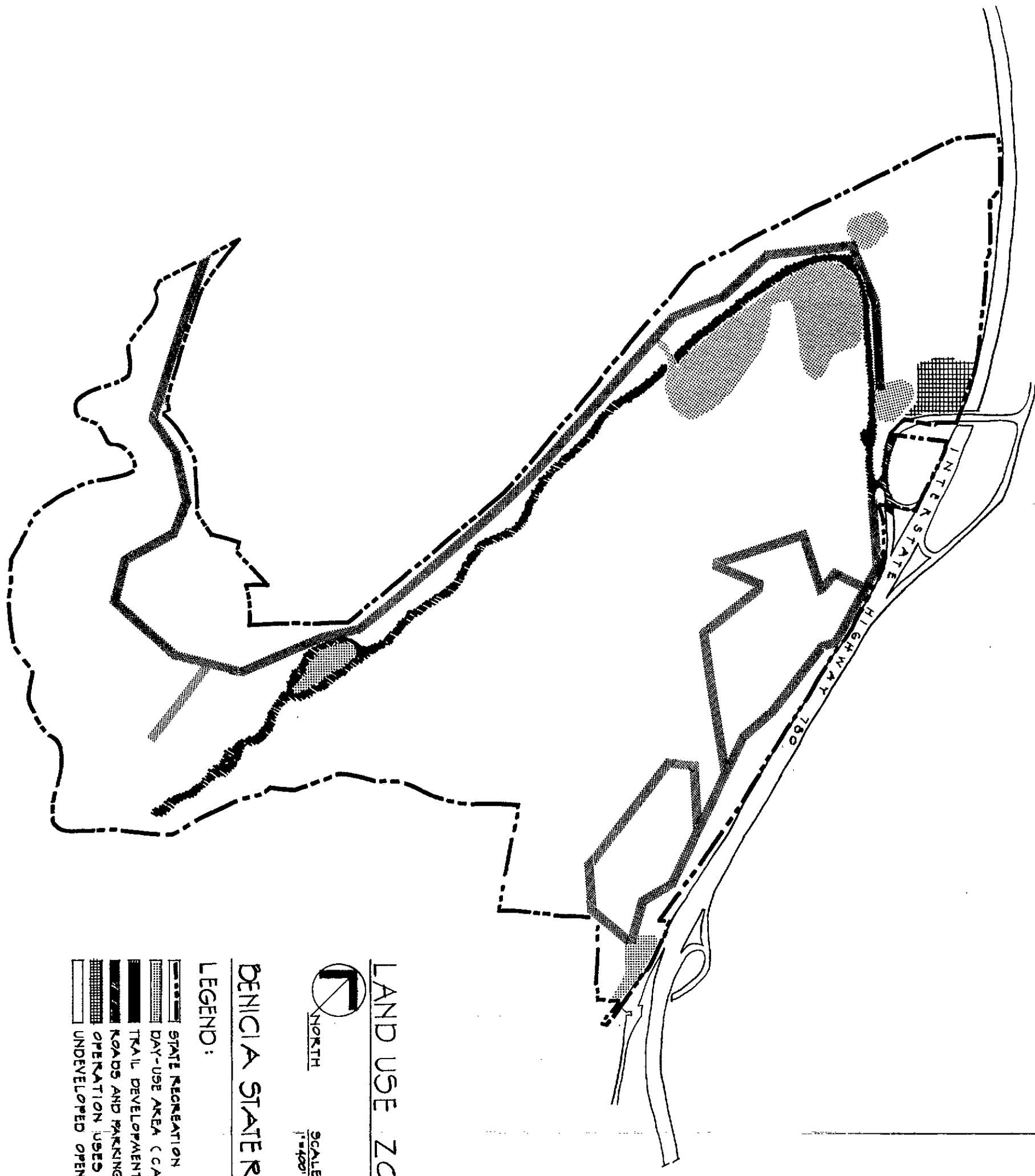
REVISIONS	DATE	DESIGNED

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION

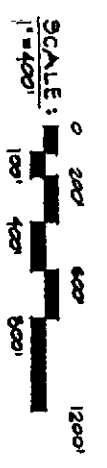
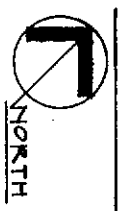
APPROVED _____ DATE _____

Benicia State Recreation Area
Approp. Future Addit.
General Plan

DRAWING NO. _____
MAP No. _____



LAND USE ZONING



BENICIA STATE RECREATION AREA

LEGEND:

- STATE RECREATION AREA BOUNDARY
- DAY-USE AREA (CAN INCLUDE PARKING AREAS)
- TRAIL DEVELOPMENT
- ROADS AND PARKING (EXISTING)
- OPERATION USED
- UNDEVELOPED OPEN SPACE

MAP No 7	DRAWING NO. 	Benicia State Recreation Area Land Use Zoning General Plan	RESOURCES AGENCY OF CALIFORNIA DEPARTMENT OF PARKS AND RECREATION	REVISIONS 	DATE 	DESIGNED
		APPROVED _____ DATE _____			DRAWN 	
					CHECKED 	

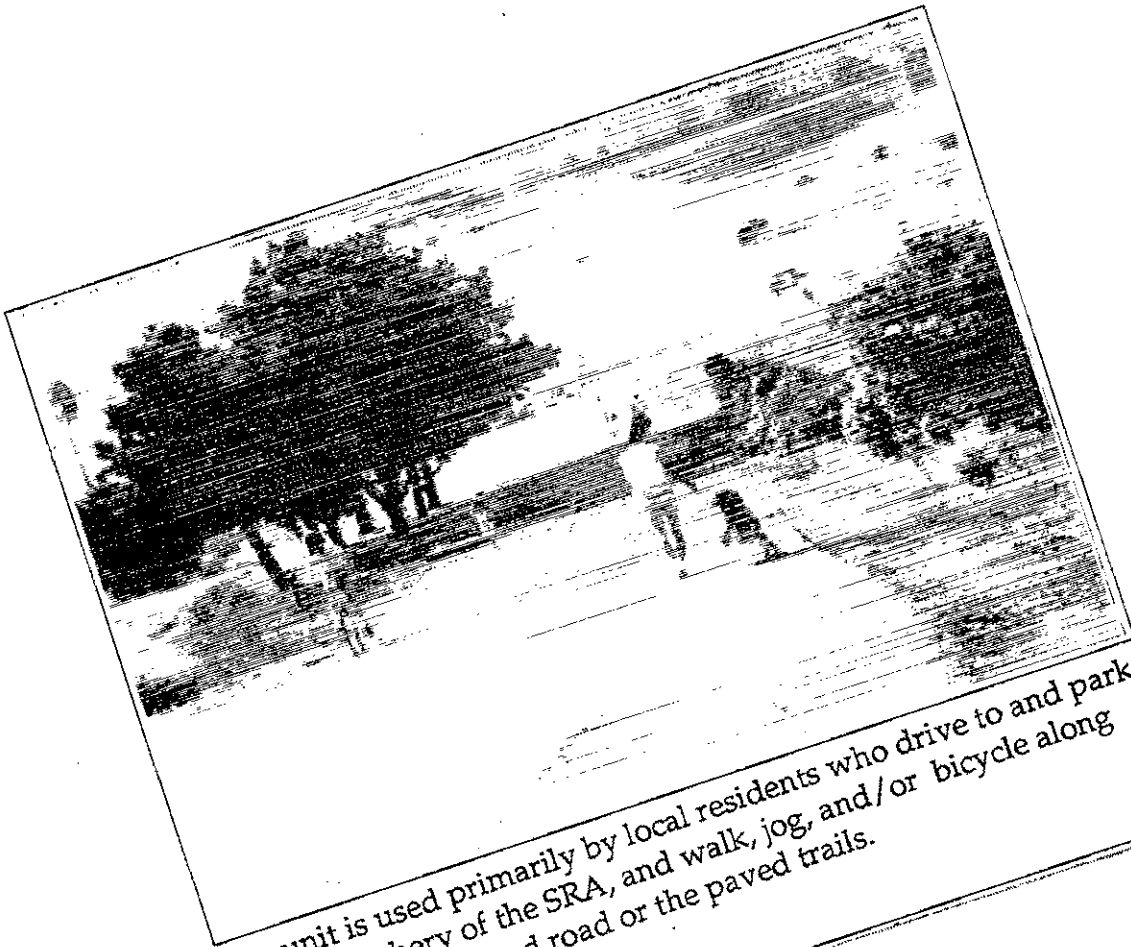
Open Space

Open space includes those areas of the highest natural resource significance and scenic value, including a proposed natural preserve. There will be no developed facilities.

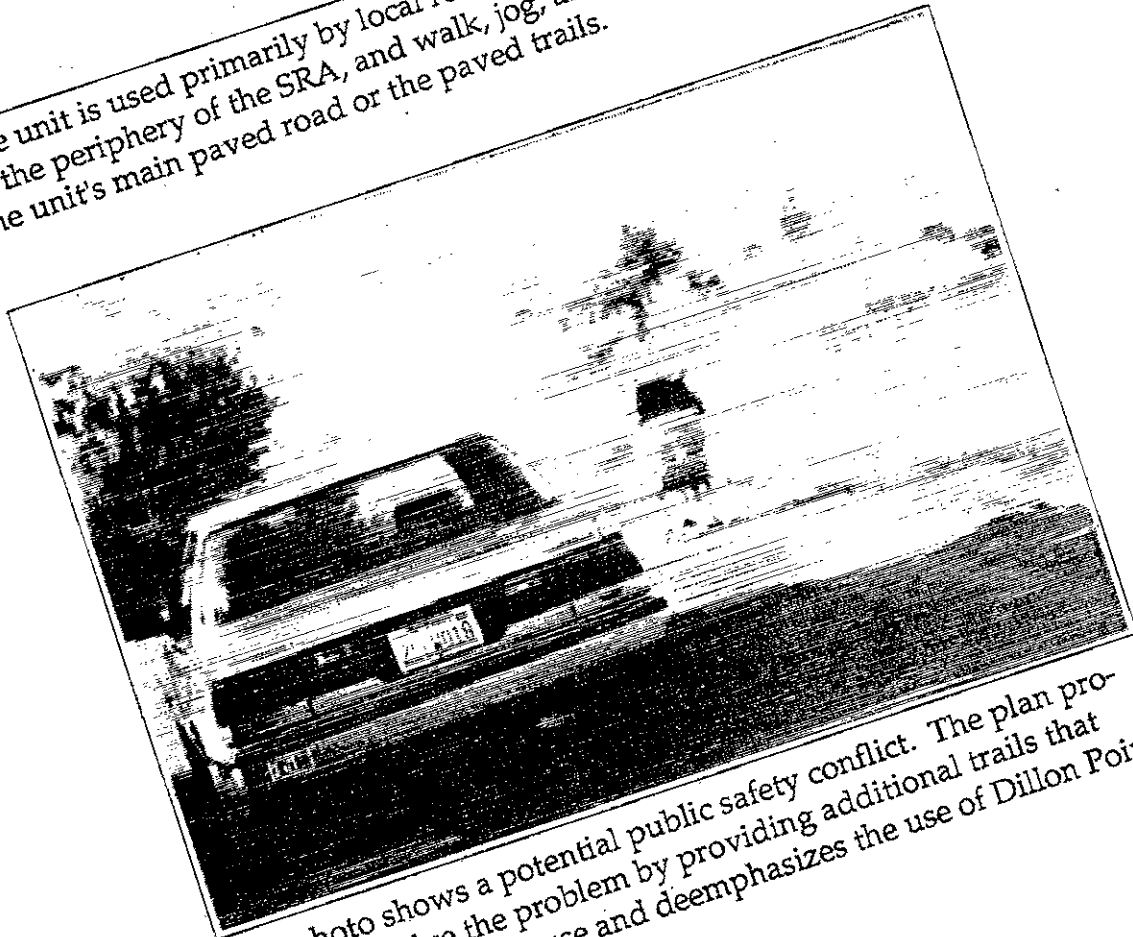
Other

Natural, cultural, and scenic resource interpretation can occur in day-use areas and along trail development, with exhibits housed in information kiosks and interpretive overlooks off trails.

Facilities Element



The unit is used primarily by local residents who drive to and park at the periphery of the SRA, and walk, jog, and/or bicycle along the unit's main paved road or the paved trails.



This photo shows a potential public safety conflict. The plan proposes to resolve the problem by providing additional trails that separate recreational use and deemphasizes the use of Dillon Point Road as a pedestrian trail.

FACILITIES ELEMENT

The Facilities Element identifies existing facilities, and recommends improvement or development of new facilities at Benicia State Recreation Area (see Proposed Facilities Plan, page 119). Architectural and landscaping design concepts, utility concerns, and priorities for development are also discussed.

Various recreational and other facilities are necessary for optimum public access, use, and enjoyment of the unit. Roads, trails, restrooms, and parking areas are typical of the many types of public-use facilities to be provided. Maintenance yards, utilities, and administrative offices are examples of the other facilities needed for operation and maintenance of the unit.

Facilities by Area

Northeast Area of the Unit

This area, which parallels Interstate Highway 780, is a major walking, jogging, and bicycling corridor for local residents.

Recreation facilities include nearly one mile of two separated paved trails, with one trail for bicyclists (completed in 1989) and the other designated for pedestrians; a 13-station par course exercise program laid out along these trails; more than one mile of unpaved trail along the marsh and wetland frontage; and a paved parking lot for 53 vehicles.

The area receives heavy use throughout the year, particularly from walkers and joggers. The trails along the wetland frontage need to be rehabilitated, and some places relocated to protect sensitive natural resources. There are no interpretive signs and displays.

There is potential to upgrade and expand existing uses.

Recommendations:

Under the design criteria established (page 103), enhance/upgrade existing facilities:

1. Paved Trails - Maintain the existing bicycle trail. Improve the pedestrian trail, and landscape the median divider strip to a maximum height of three feet. Reorganize the par course along the pedestrian trail, and lay out each exercise station in its designated sequential order. Along the pedestrian/bicycle trail between the main entrance and the east parking lot, there are several areas where freeway traffic is in full view of trail users. The visual impact of the traffic should be screened by using appropriate plant species that normally reach a 5-6-foot height, such as willows, toyon, coyote brush, and coffeeberry, or, if there is adequate space, berming or mounding up to 5-6 feet in height (see Visual Enhancement Map, page 105). This screening should not block motorists' views of the wetland and bay.

2. Unpaved Trails - Improve the existing trails by maintaining a level, two- to three-foot-wide pathway free of plant growth, particularly fennel. In some places, relocate existing trails to protect sensitive natural resources
3. Parking Lot - Repave and organize all parking spaces to more efficiently use space, and improve traffic circulation.

New Additions:

1. Provide a restroom facility adjacent to the parking lot.
2. Develop a contact station or an automated self-pay gate at the entrance of the parking lot.
3. Develop interpretive overlooks along the unpaved, pedestrian-only trails. The overlooks can include historic, natural, and scenic information. The overlooks are to be of unobtrusive design, to blend with the unit's landscape. Benches could be included in the overlooks.
4. Provide a pay telephone attached to or near the new restroom.

Main Entrance Area

This area includes an automated self-pay entrance station, 13 public parking spaces (free), parking along the Interstate 780 on- and off-ramp easement that is used to park more than 40 cars, and the maintenance/operation area, which includes two staff residences.

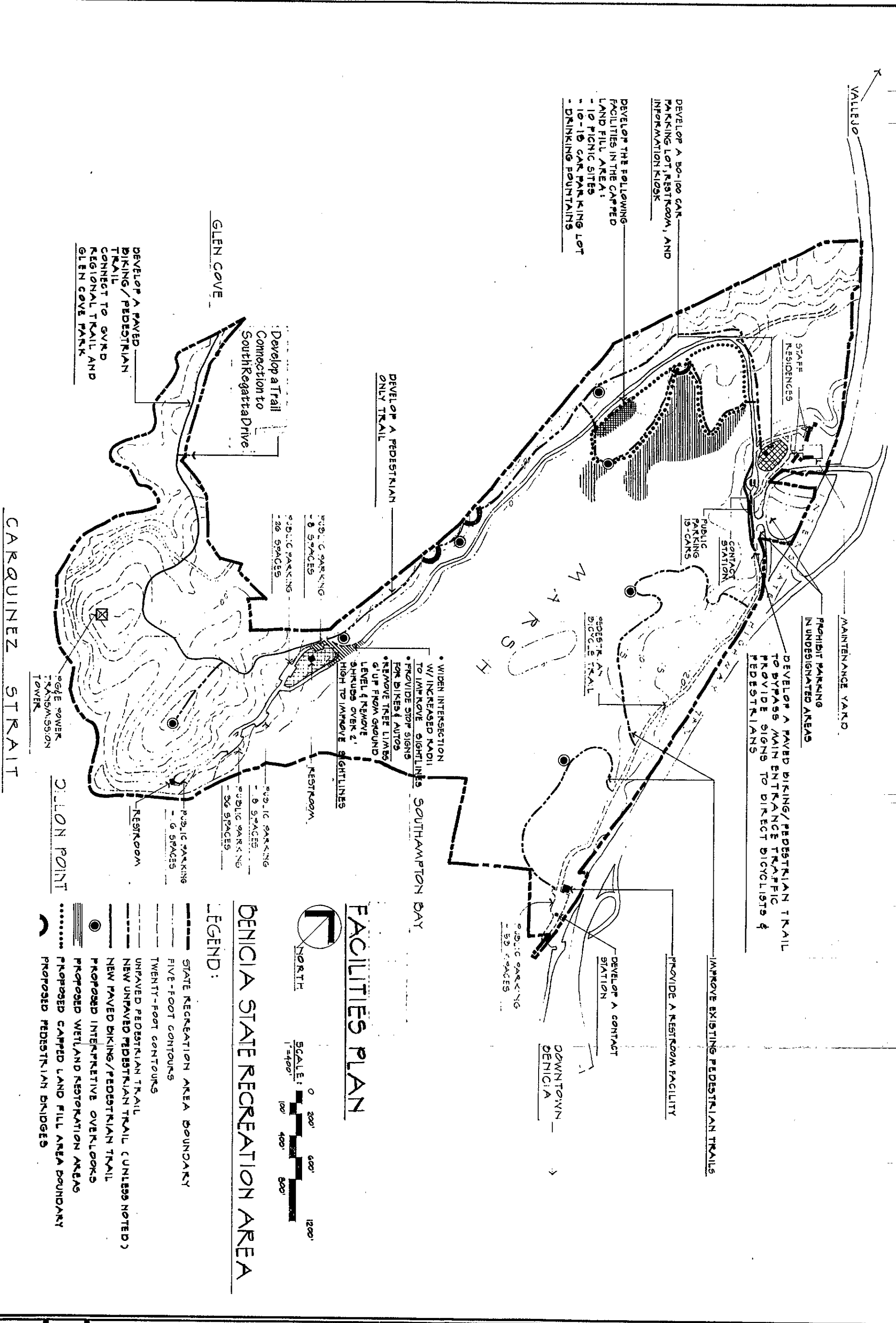
The California Department of Transportation has proposed to completely realign the Interstate 780 overpass and off/on-ramp intersection near Benicia State Recreation Area. This project is part of their new Benicia/Martinez Bridge system project. Currently, there is no firm completion date for the project. The realignment and proposed relocation of state recreation area facilities is shown on the "Proposed Main Entrance Alternative with Highway 780 Realignment" (see page 121).

In the interim, or if Caltrans' intersection realignment project is not constructed, the main entrance area will still require improvements and upgrades. Parking on the road easements will no longer be allowed because of public safety. A parking lot will be developed near the contact station, in an undeveloped area immediately south of the maintenance/operations area. The maintenance/operations area will be maintained. One staff residence (mobile home) is needed to respond to unit emergencies.

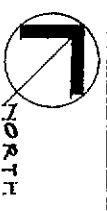
Recommendations:

Under the design criteria established (page 103), enhance/upgrade existing facilities for all sites.

1. Contact Station - Improve and rehabilitate.
2. Maintenance and Operations Area - Provide needed additional equipment storage space and maintenance office space over the vacated staff residence site.



FACILITIES PLAN



BENICIA STATE RECREATION AREA

LEGEND:

- STATE RECREATION AREA BOUNDARY
- FIVE-FOOT CONTOURS
- TWENTY-FOOT CONTOURS
- UNPAVED PEDESTRIAN TRAIL
- NEW UNPAVED PEDESTRIAN TRAIL (UNLESS NOTED)
- NEW PAVED BIKING/PEDESTRIAN TRAIL
- PROPOSED INTERPRETIVE OVERLOOKS
- ▨ PROPOSED WETLAND RESTORATION AREAS
- ▨ PROPOSED CAPPED LAND FILL AREA BOUNDARY
- PROPOSED PEDESTRIAN BRIDGES

CARQUINEZ STRAIT

VALLEJO

GLEN COVE

DILON POINT

DOWNTOWN BENICIA

SOUTHAMPTON BAY

MAINTENANCE YARD

PROHIBIT PARKING IN UNDESIGNATED AREAS

DEVELOP A PAVED BIKING/PEDESTRIAN TRAIL TO BYPASS MAIN ENTRANCE TRAFFIC. PROVIDE SIGNS TO DIRECT BICYCLISTS & PEDESTRIANS.

IMPROVE EXISTING PEDESTRIAN TRAILS

PROVIDE A RESTROOM FACILITY

DEVELOP A CONTACT STATION

PUBLIC PARKING - 53 SPACES

PEDESTRIAN BICYCLE TRAIL

PUBLIC PARKING 15-CARS

CONTACT STATION

STAFF RESIDENCES

DEVELOP A 50-100 CAR PARKING LOT, RESTROOM, AND INFORMATION KIOSK

DEVELOP THE FOLLOWING FACILITIES IN THE CAPPED LAND FILL AREA:
- 10 PICNIC SITES
- 10-15 CAR PARKING LOT
- DRINKING FOUNTAINS

DEVELOP A PEDESTRIAN ONLY TRAIL

DEVELOP A TRAIL CONNECTION TO SOUTH REGATTA DRIVE

DEVELOP A PAVED BIKING/PEDESTRIAN TRAIL CONNECT TO GVRD REGIONAL TRAIL AND GLEN COVE PARK

PUBLIC PARKING - 8 SPACES
PUB. PARKING - 26 SPACES

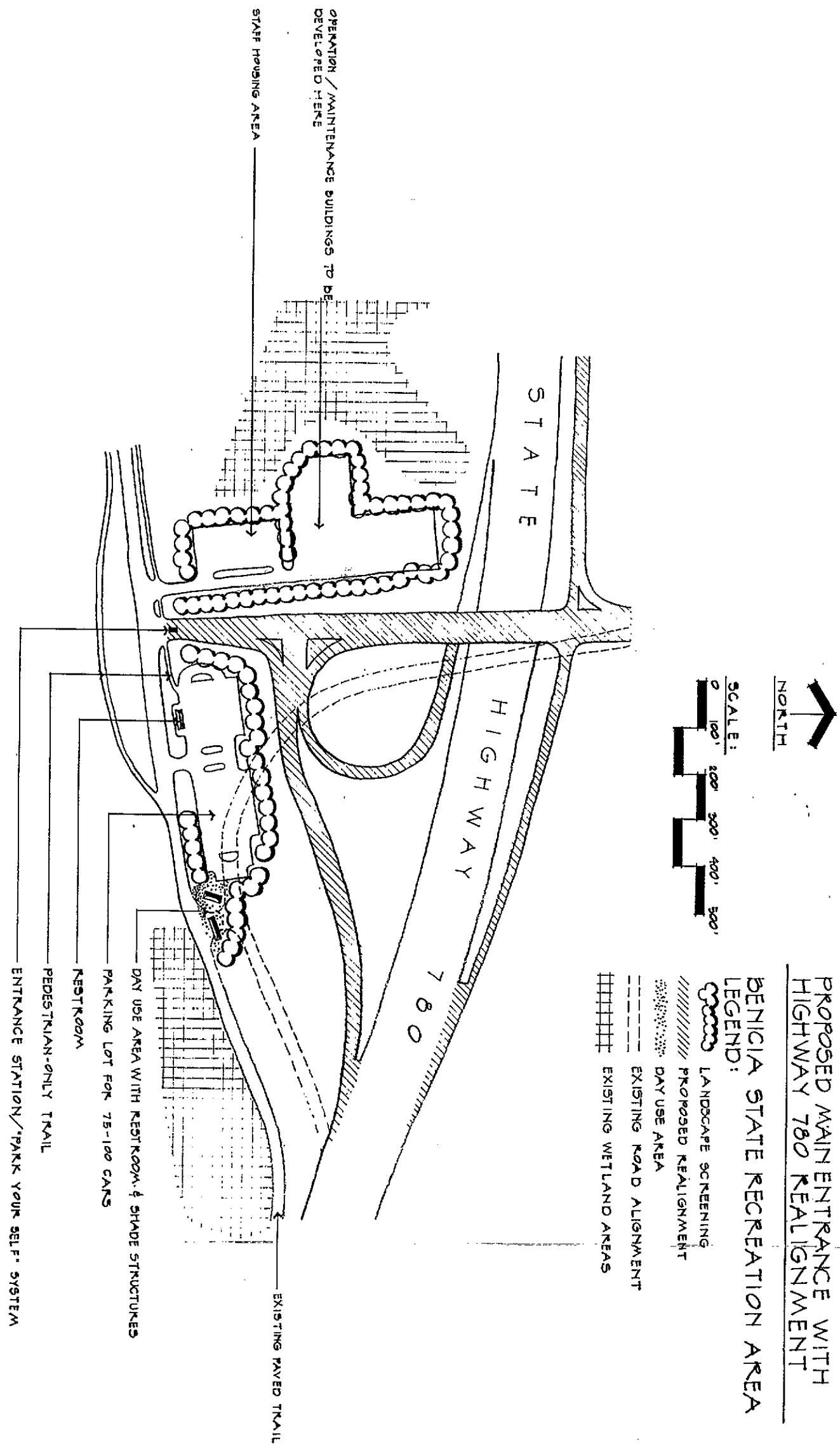
RESTROOM

PUBLIC PARKING - 8 SPACES
PUB. PARKING - 36 SPACES

PUBLIC PARKING - 6 SPACES

RESTROOM

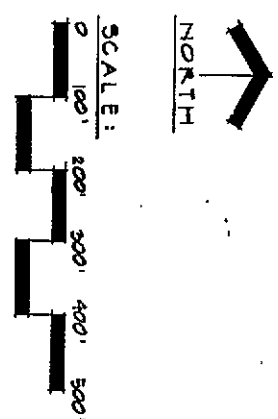
EGLE POWER TRANSMISSION TOWER



PROPOSED MAIN ENTRANCE WITH
HIGHWAY 780 REALIGNMENT

BENICIA STATE RECREATION AREA
LEGEND:

- LANDSCAPE SCREENING
- PROPOSED REALIGNMENT
- DAY USE AREA
- EXISTING ROAD ALIGNMENT
- EXISTING WETLAND AREAS



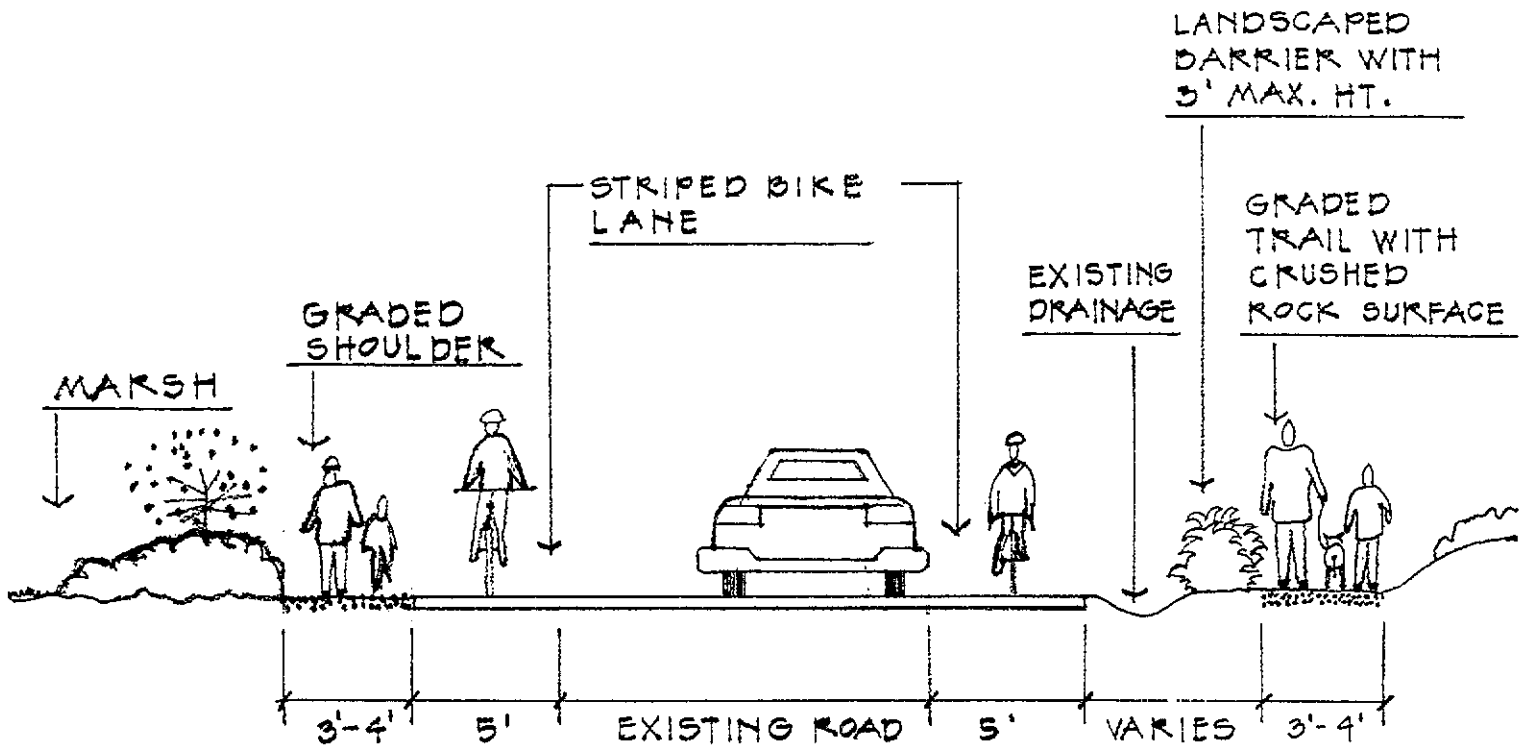
**Benicia State Recreation Area
Proposed Main Entrance With
Highway 780 Realignment
General Plan**

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF PARKS AND RECREATION
APPROVED _____ DATE _____

REVISIONS	DATE	DESIGNED
		DRAWN
		CHECKED

DRAWING NO.

MAP No
9



SECTION : DILLON POINT ROAD

PROPOSED HIKING & JOGGING
 TRAIL OFF DILLON PT. RD.
 (NORTHWEST SECTION)

3. Rehabilitate the paved roads to safely accommodate both motor vehicles and bicyclists. Provide "bicycle route" signs along Dillon Point Road at suitable intervals to inform motor vehicle drivers that bicyclists also use the roadway.

New Additions:

1. Develop a 50-100 vehicle parking lot between the contact station and the maintenance yard. The proposed new main parking lot near the entrance should be landscaped around its perimeter with shrubs that normally reach a 5-6-foot height, such as toyon, coyote brush, and coffeeberry, to help screen motor vehicles from the view of visitors. The other existing parking areas are near scenic bay vistas. Any screening of these parking areas should not impede the scenic vistas for the public.
2. Develop a restroom facility in the new parking lot.
3. Develop an informational/interpretive panel in the new parking lot.
4. Develop a new pedestrian-only trail on the land side of Dillon Point Road. This trail will continue to Dillon Point and around to Glen Cove, and will connect with the proposed regional trail.
5. Provide a pay telephone attached to or near the new restroom.

Northwest Section Area

With the exception of Dillon Point Road, no development is present in this 30+-acre area. Nearly 27 acres were a former dump site, and 18 acres were former tidal wetland.

In order to help disperse recreation development throughout the state recreation area, the former dump site and tidal wetland should be restored as much as feasibly possible, and appropriate day-use facilities and hiking trails could be developed (subject to satisfactory completion of restoration project and regulatory agencies' approval) close to the wetlands.

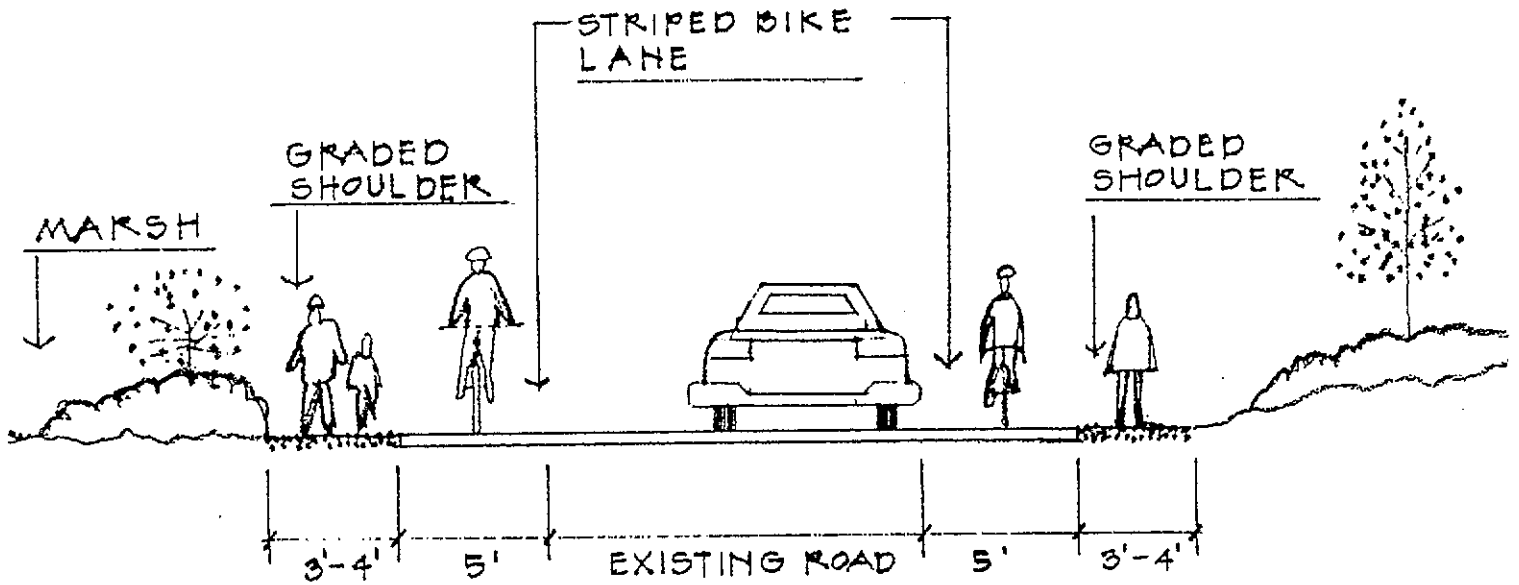
Recommendations:

Under the design criteria established (page 103), enhance/upgrade existing facilities for all sites.

1. Rehabilitate the paved roads to safely accommodate both motor vehicles and bicyclists. Provide "bicycle route" signs along Dillon Point Road at suitable intervals to inform motor vehicle drivers that bicyclists also use the roadway.

New Additions:

1. Former Dump Site and Tidal Wetland (\pm 27-acre area) - Restore about 9.5 acres of tidal wetland, and fill and cap, where feasible, the remaining area.



SECTION : DILLON POINT ROAD
PROPOSED MULTIPLE USE

The consolidated, capped dump site will not be suitable for recreation facility development for ten years following closure, due to anticipated compaction and differential settling out the site.

When appropriate, develop day-use facilities, hiking trails, a vehicle parking area, and interpretive facilities on the filled/capped area. Provide 10 picnic sites, two drinking fountains, and a 10-18 car parking lot on the capped dump site.

2. Pedestrian-Only Trail - Continue this trail, which originates from the main entrance parking lot. Develop about 4,000 lineal feet of unpaved trail along the interface of the fill/capped area and restored wetlands. An appropriately designed pedestrian-only wood bridge will be developed over the wetland drainage to connect the trail. The trail will originate off the primary pedestrian-only trail off the main parking lot, terminate across Dillon Point Road, up the slope, and tie into the primary pedestrian trail (see Facilities Plan Map, page 119). The trail should be three to four feet wide, and free of plant growth.

Develop an interpretive overlook off the trail and near the day-use area to provide cultural, natural, and/or scenic information. The overlook is to be of unobtrusive design to blend with the unit's landscape.

3. Develop an interpretive panel off the primary pedestrian trail up the slope to interpret cultural, natural, and/or scenic information, and provide an elevated vista of the state recreation area and its wetlands. A bench could be included.

Southern End of Dillon Point Road Area, Including Dillon Point

This area includes Dillon Point Road as it parallels the western portion of the wetland, most of the state recreation area's developed day-use facilities, and Dillon Point and its Carquinez Strait shoreline. The historic PG&E transmission tower is located in this area. A PG&E station is adjacent to the unit in this area.

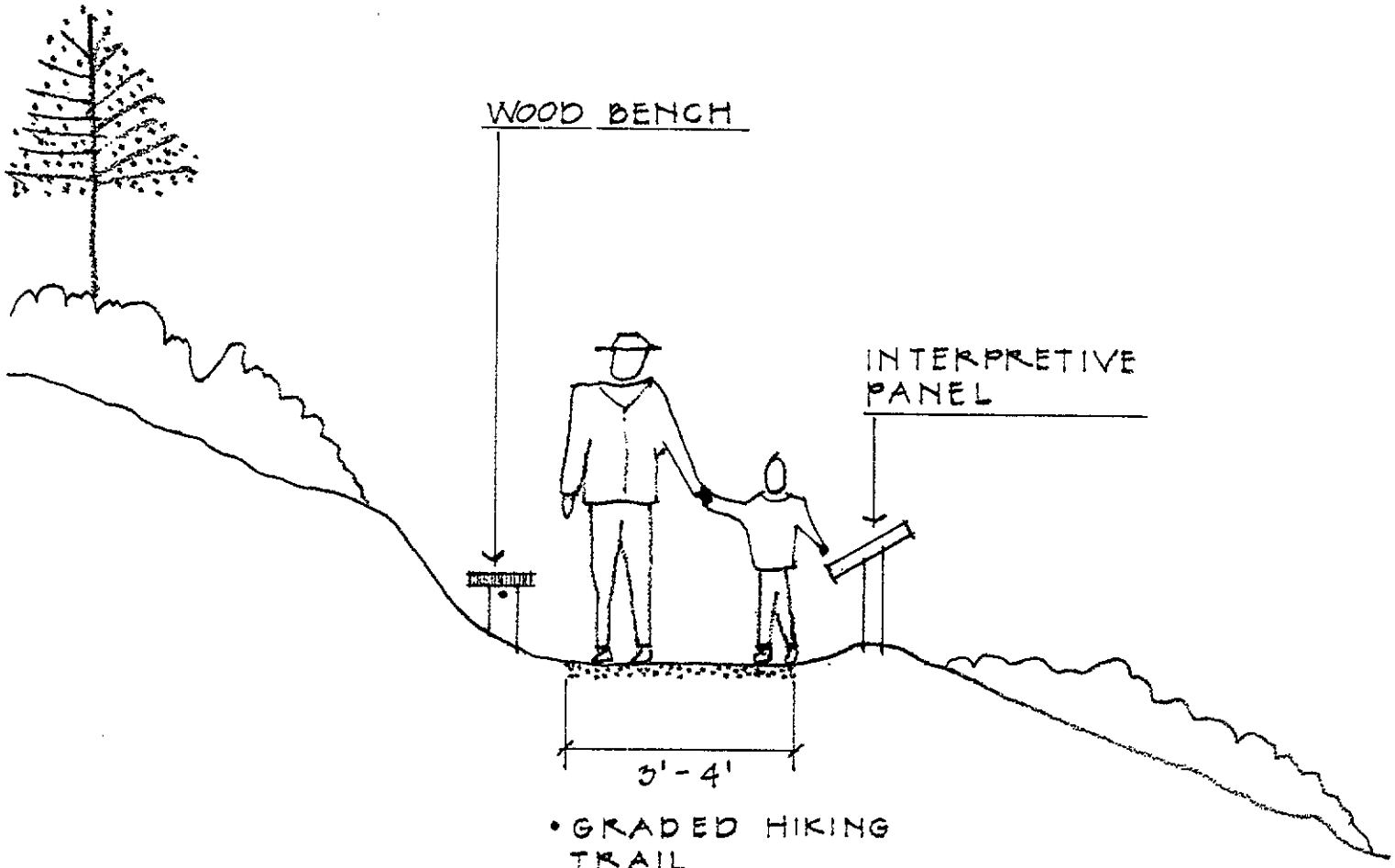
The area is popular for visitors who stay for longer periods, primarily because of the existing facilities. Fishermen are found year-round along the shoreline of Dillon Point. Hiking, jogging, and bicycling are popular activities.

Proposed regional trails connect with the state recreation area at the Glen Cove intersection. Numerous trails criss-cross each other throughout the upper elevations of Dillon Point.

Recommendations:

Under the design criteria established (page 103), enhance/upgrade existing facilities for all sites.

1. Rehabilitate restrooms (2) and day-use facilities.
2. Rehabilitate road and parking lots. Organize all parking spaces to more efficiently use space.



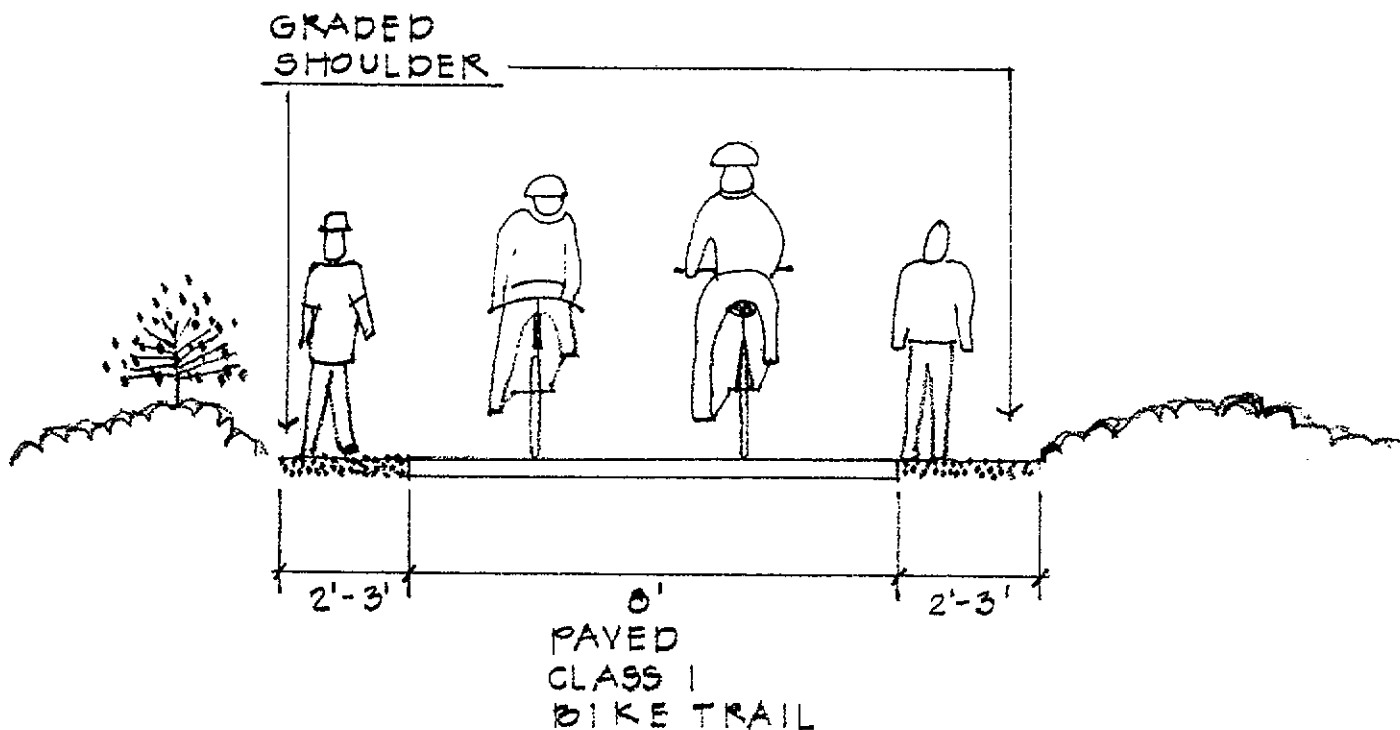
WOOD BENCH

INTERPRETIVE PANEL

3'-4'

- GRADED HIKING TRAIL
(USE CRUSHED ROCK AND/OR A SOIL BINDER ON THE SURFACE WHERE NEEDED)

SECTION: HIKING AND JOGGING TRAIL



SECTION: BICYCLING AND
HIKING TRAIL

New Additions:

1. Pedestrian-Only Trail - Continue this trail, which originates from the main entrance parking lot, curves around the northwest section area of the unit, and goes through Dillon Point to connect to the proposed pedestrian/bicycle trail that continues to Glen Cove Regional Park.
2. Develop a pedestrian/bicycle trail off the day use/PG&E service road, and connect Glen Cove Regional Park and the regional bicycle trail off South Regatta Drive.
3. Provide interpretive overlooks along pedestrian trails, to interpret the scenic vistas and historic and natural resources.

Provide three appropriately designed interpretive overlooks along the new trails. The outlooks will be located along the pedestrian-only trail.

Provide an appropriately designed interpretive overlook off the southernmost parking lot. The overlook would primarily be used by bicyclists, although motorists will use the overlook.

4. Provide two pedestrian bridges over natural drainage areas to connect the trail. The bridges are to be of unobtrusive design, to blend with the unit's landscape.
5. Develop an unpaved authorized-vehicle-only road to serve utilities, equipment, etc. on Dillon Point. All other existing roadways will be eliminated, and the former unpaved roads restored to a natural state.
6. Provide appropriate landscape screening around the PG&E station, to buffer the facility from state recreation area visitors' view.
7. Provide a pay telephone attached to or near the southernmost restroom.

Utility Concerns

This information is meant to provide general background of the capabilities and problems related to providing utilities for proposed unit development. Further studies and negotiations with the cities of Benicia and Vallejo may be required, based on more comprehensive development plans for the General Plan's proposals (see Facilities Plan Map, page 119).

Electrical Power: Pacific Gas and Electric Company provides electricity to the state recreation area. Service extensions are available, and will be needed, at the new restroom and contact station at the east end parking lot.

Telephone: Pacific Bell currently provides service to the unit. Telephones are proposed to be located at the east end parking lot, the main entrance station, and near the restroom at Dillon Point.

Water: Benicia Utilities supply water to the state recreation area. Water connections will be needed for the new restroom at the east end parking lot, and drinking fountains in the northwest section area.

Sewage Disposal: The state recreation area has its own septic tank system. Currently, all restroom facilities are connected to this system. Because of its location, it is recommended that if feasible the new restroom in the east end parking lot be connected to the Benicia Utilities sewage system. A lift station would be needed in order to properly tie in with the city's sewage lines. If this is not feasible, other methods of waste disposal will be evaluated.

Drainage Systems: All drainage systems, including culverts, must be properly sized, designed, and maintained to adequately protect public safety, unit facilities, and the unit's wetlands.

Priorities for Development

The general priorities in this section are intended to guide budget decisions in order to accomplish the most important things first, in terms of visitors' health, safety, resource protection, public access, and enjoyment. The program will be carried out over a long period of time; consequently, some priorities are likely to change as time goes on. The availability of funds or staff may also cause priorities to change. As each phase is completed, it will be prudent to evaluate how the facilities are being used, and to determine what future development is appropriate to accommodate visitors and their needs within the constraints of this plan.

Priority 1

1. Rehabilitate and upgrade existing facilities, including day-use areas, pedestrian and bicycle trails, roads with level graded shoulders for hikers and joggers, and utilities.
2. Restore the former dump site and tidal wetlands for recreational use and preservation.
3. Develop new pedestrian-only (with bridges) trails and bicycle trails.
4. Develop a new vehicle parking lot closer to the main entrance.
5. Develop handicap-accessible facilities, where feasible.
6. Provide bicycle route signs along Dillon Point Road.

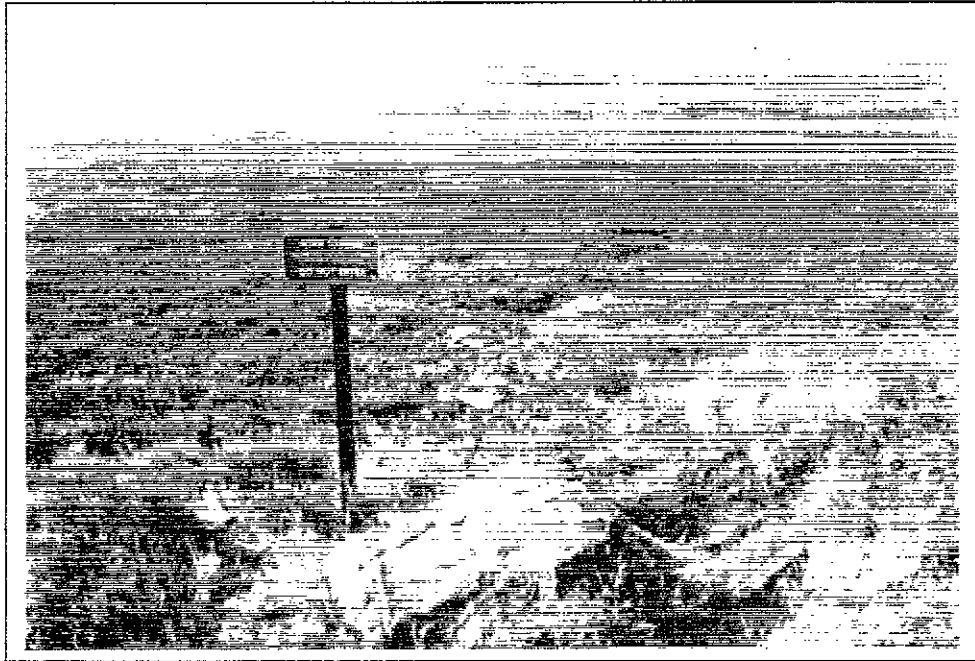
Priority 2

1. Provide interpretive displays, kiosks, panels, and overlooks.
2. Improve paved parking areas.
3. Develop a new main entrance station.

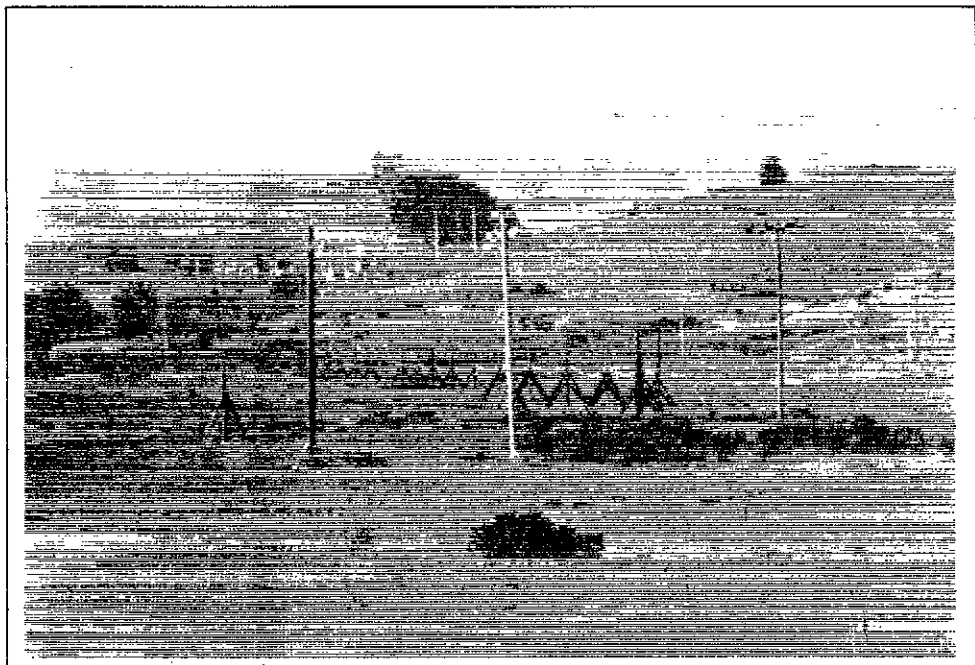
Priority 3

1. Develop a single service-vehicle-only lane at Dillon Point, eliminate all other existing lanes, and restore those areas to a natural state.
2. Expand the maintenance yard to meet equipment storage and office space demands once one of the staff residences has been eliminated.

Environmental Impact Element



Portions of the wetlands were used as a dump site.



The power lines and utility poles provide a significant negative feature .

ENVIRONMENTAL IMPACT ELEMENT

The Environmental Impact Element (EIE) serves as the environmental impact report required by the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000, et seq.) and the State Environmental Impact Report Guidelines (California Code of Regulations, Section 15000, et seq.). The EIE incorporates by reference the other elements of the General Plan as the Project Description and the Description of the Existing Environment. It should be recognized that the level of detail of the Environmental Impact Element is commensurate with that of the General Plan. As site-specific development and resource management plans are proposed, they will be subject to further environmental review, and the appropriate environmental documents will be prepared, if necessary.

The potential significant impacts of implementation of the General Plan are (1) disturbance of the wetland habitat and its resident rare, threatened, and/or endangered species, (2) disturbance of slope stability, and (3) cumulative impacts with respect to water consumption, sewage production, air quality, and solid waste generation.

Project Description

The project is the General Plan for development, operation, interpretation, and resource management of Benicia State Recreation Area. In summary, the plan calls for limited additional day-use facility development, wetland habitat restoration, and resource management activities. These are described in greater detail in the Resource Element and the Land Use Element of the General Plan.

Description of the Existing Environment

The description of the environment is in the Resource Element and the Land Use Element.

Significant Environmental Effects

1. Development of facilities and trails in the wetlands areas has the potential to affect state-listed California Native Plant Society-listed rare or endangered plant species (Cordylanthus mollis var. mollis, Lathyrus jepsonii ssp. jepsonii, Aster chilensis var. lentus, and Grindelia humilis).
2. Increased public use in the vicinity could disturb three state- and federally-listed endangered wildlife species (salt marsh harvest mouse, California clapper rail, and California brown pelican), and one candidate for federal listing/state-listed threatened species (California black rail). Harvest mice, clapper rails, and black rails are resident species, dependent on the salt marsh. Any reduction of the habitat value could directly affect these species.
3. Grading and other soil-disturbing activities will increase soil sedimentation in the wetlands. The upland soils with the greater slopes have a higher erosion and instability hazard.

4. Construction of the landfill picnic area could disturb the landfill, and cause unintentional release of toxic or hazardous materials to the wetlands.
5. There is a potential cumulative impact to water supply, air quality, and solid waste disposal. Projected use increase for the unit is approximately 5 percent per year; water consumption and solid waste will increase proportionally to use. Solano County population is expected to increase by about 35 percent by the year 2005, and an 18 percent growth in the same time period is projected for Contra Costa County. The City of Benicia provides the unit's water supply. The unit has its own septic tank system. The proposed restroom for the east end parking area could be connected to the City of Benicia's sewer system; however, a lift station would be required to connect to the city's sewage lines.

The estimated water requirement for day users or picnickers is approximately 5 gallons/day/person, without any reduction for water conservation measures. The 1988/89 use was about 400,000 visitors, which would require 2,000,000 gallons (6.1 acre-feet). This should be considered a high estimate, because much of the visitation is transient, and involves little or no water consumption.

6. Any development adjacent to the cliffs along Dillon Point could expose the public and facilities to landslides or other slope failures.

Unavoidable Environmental Effects

The cumulative impacts to water consumption, solid waste disposal, and air quality may be considered unavoidable. These impacts will result primarily from regional population growth, and are not under the control of the department.

Mitigation Measures

1. Selection of trail alignments and installation of pedestrian barriers to prevent plant damage to the sensitive plant species can reduce the impact to a non-significant level. Any development of wetland interpretive trails around the perimeter of the wetland will be carried out in consultation with departmental resource ecologists and the Department of Fish and Game.
2. No public use facilities will be developed on the high slope areas. Vegetation management plans may improve slope stability, and reduce the erosion hazard. Development will be placed away from the edge of the landslide-prone cliffs at Dillon Point.
3. The department can incorporate various water conservation measures into design of specific facilities to reduce water demand. These include drip irrigation systems, spring-loaded faucets, and low-volume flush toilets in restrooms. During drought conditions, additional measures may be necessary, such as temporary replacement of restrooms with chemical toilets, and reduction of unit operating hours.

4. Grading and other ground-disturbing activities will be limited to low rainfall periods to reduce erosion potential and sedimentation of the wetlands. Pedestrian bridges will be built over some of the watercourses along the proposed pedestrian trail that will parallel Dillon Point Road.
5. Testing and analysis of the landfill site will precede any development or disturbance of the site.

Alternatives

Various levels of development could be provided at the state recreation area. The proposed plan was developed to provide optimal recreational opportunities for the public, within the restrictions of protection and preservation of the natural resources.

1. NO PROJECT ALTERNATIVE

The unit could remain at its present level of development, and no resource management would be effected. The current conflicts between automobiles, pedestrians, and bicyclists would continue, and would increase as recreational use grows with the population.

2. HIGH-INTENSITY PUBLIC USE AND FACILITY DEVELOPMENT

There is limited area available for development in the unit. Any substantial increase in use of facilities would require an encroachment in the wetland habitat, or on unstable slopes. Additional facilities could be developed in the Dillon Point area; however, access would be difficult to the upland area around the power tower and electrical substation. Increased public use and facility development in this area is undesirable because of the difficulty of access, and the intrusions of the electrical facilities. Generally, any increase in public use has an attendant increase in resource damage.

- A. There is a high demand for camping facilities in the Bay Area. The Solano County Park and Recreation Element recommended development of camping facilities in the Dillon Point area. Access would be difficult, and there could be conflicts with adjacent residential areas. The higher intensity of public use in the proximity of the PG&E facilities could create a liability problem.
- B. A boardwalk trail could be extended into the wetland area. This would create additional opportunities for interpretation, and for the public to view or experience the wetland habitat. Such extension would also reduce wetland habitat in disturbance during construction, and reduction of wetland habitat area through shading and disruption or disturbance of wildlife by pedestrian users. Perimeter trails provide the least disruption during construction, and the least adverse impacts to the marsh animals, and, therefore, are the preferred alternative.

- C. Additional surfaced parking could be developed. Such development increases the impervious surface area in the watershed, increases the freshwater flow into the wetland, and decreases the vegetative cover. Development in a park involves balancing the need for recreational facilities with the resource loss and impacts. Provision of overflow parking was considered to be the better alternative.
3. REDUCED DEVELOPMENT AND LOWER-INTENSITY PUBLIC USE
- A. Trail development near the wetland area could be eliminated to reduce any impacts to the ecosystem. "Volunteer" trails might be created without regard to resource impacts. There would be a greater requirement for patrol to limit use near the wetland area.
 - B. Parking could be limited to the existing capacity. No additional day-use facilities would be developed. Existing facilities would be employed at full capacity for a greater proportion of the time, and overflow parking would be used more often. Concentration of use could deteriorate the facilities and resources in the vicinity.
 - C. The road between the north end of the unit and Dillon Point could be removed or dedicated to pedestrian and bicycle use only. This would reduce the conflict between vehicles and other users; however, the Dillon Point area is a popular fishing access and day-use area. Without vehicle access, these uses would be severely curtailed.

Generally, the environmental impacts would be reduced as a result of the lower-use intensity alternatives; however, recreational opportunities would be decreased, or limited to current levels.

Relationship Between Short-Term Uses and Long-Term Productivity

The proposed long-term and short-term uses are preservation and recreation. The resources will be protected, and should another use prove more critical to the public than preservation, the resources would be available. There is no intent to improve the productivity; the natural resource value may be improved through resource management programs such as prescribed fire management, exotic plant control and reduction, or wildlife habitat restoration.

Irreversible Environmental Changes

None of the development proposed by the General Plan would create an irreversible environmental change. The facilities could be removed in the future without any significant deterioration of the resource values. There would be minor topographical changes as a result of grading.

Growth-Inducing Impacts

The project should have no growth-inducing impacts. While there is some expansion of facilities proposed, the increase or percentage of increase in capacity (in the regional context) is far below the growth rate of the area, and the demand for recreational facilities. The increased capacity will meet a small portion of the demand. The existing parking capacity is 170 vehicle spaces (not including overflow parking); the proposed increase is 35 to

48 spaces (20 to 28%). It should be recognized that the parking capacity is required for only part of the use; much of the use is walk-in or bike-in. The potential or actual use is not directly related to the parking capacity, or any other facility.

The increased capacity may have a cumulative impact, with rapid residential growth in the area creating a demand for additional support facilities, such as service stations, restaurants, grocery stores, and sports equipment outlets, in addition to public utilities, such as water supply and solid waste disposal. However, the impact is not expected to be significant, given the level of facility development; most of the facility development is proposed to enhance or better accommodate existing use (i.e., separation of vehicles, pedestrians, and bicyclists).

The potential increased use relative to the existing regional supply of public services or infrastructure is relatively small. The demands created by additional staff increases would be typical of residential needs (schools, hospitals, etc.), and would be minor.

Effects Found Not Significant

1. Noise levels are not projected to increase. Separation of vehicles from pedestrians and bicyclists should reduce the impact of automobile-generated noise. There will be an increase in noise levels during construction of facilities; however, these impacts will be temporary, and generally limited to normal work hours. There are no noise-sensitive receptors (i.e., schools, hospitals). The recreational environment may be considered sensitive; some wildlife may be disturbed. The impact is not expected to be significant.
2. Effects on air quality should not be significant. The users are predominantly local. The primary source of air pollution in the region is the automobile. The availability of local recreational opportunities will act to reduce vehicle travel. Improvement of pedestrian and bicycle facilities will encourage non-automotive use in the unit. The cumulative impact on air quality of development throughout the airshed is potentially significant.
3. No significant impacts to cultural resources are expected. Public use and development are generally located away from sensitive areas. There is always the potential for vandalism or unintentional damage to cultural resources. Education and patrol can reduce the potential impact.
4. There are two faults in the immediate vicinity of the unit: the Southampton fault, running along the western edge of the wetland, and the Glen Cove fault, running southwest to northeast from Elliot Cove to the north end of the unit. Two quaternary faults lie about four miles to the east: the Green Valley and Concord faults. No significant impacts are expected; no facilities are proposed that would endanger the public in the event of an earthquake, nor are there any activities proposed that would promote fault movement.

5. No substantial increase in energy consumption is projected as a result of implementation of the plan. The primary form of energy consumption associated with the unit is vehicular travel to and from the unit by users. The proposed connection with the Greater Vallejo Recreation District bike trail in the Glen Cove area could encourage bicycle access as an alternative to the automobile.
6. There will be a minor increase in traffic associated with the unit. Between 1984 and 1989 the peak-hour traffic level of State Route 780 increased from 3400 to 5400 vehicles per hour, a 59 percent increase, or, roughly, a 12 percent annual increase. Most of the use at the state recreation area occurs during off-peak periods (weekends, holidays, and midday). The department will work with Caltrans in development of the interchange, which could alleviate some of the traffic problems.

References

Solano County Park and Recreation Element, June 1983

California State Park System Plan, 1980

Vista Cove Negative Declaration, March 1990

Traffic Impact Study for the Proposed Vista Cove Development, January 1990

Vallejo Specific Area Plan - Area 5, December 1976

1984 and 1989 Traffic Volumes - California State Highways, Department of Transportation

Carquinez Highlands Subdivision Environmental Impact Report, September 1978

Fault Map of California, Department of Conservation, 1975

Comments and Response to Comments

The Final Environmental Impact Report for the Benicia SRA consisted of the Preliminary General Plan, Draft Environmental Impact Element (EIR), and the Comments and Response to Comments.

The Preliminary General Plan and Draft Environmental Impact Report was circulated for review, to the following:

State of California

- State Lands Commission
- Regional Water Quality Control Bd. - San Francisco Bay Region
- Department of Water Resources
- Department of Conservation
- Resources Agency
- State Water Resources Control Bd.
- Department of Transportation
- Department of Consumer Affairs
- Department of Fish and Game
- California Coastal Commission
- S. F. Bay Conserv. & Dev. Com.

Local Government

- City of Vallejo
- Solano County
- Greater Vallejo Recreation District
- City of Benicia
- Association of Bay Area Govt.

Special Interest

- Benicia Historical Society
- California Park & Conserv. Assoc.
- Bay Area Ridge Trail Council
- Solano County Audubon Society
- Benicia St. Pk. Interp. Volunteers

Notice of Availability was published in the Vallejo Times-Herald, and in a Department of Parks and Recreation newsletter.

Copies of the document were made available for public review at John F. Kennedy Library in Vallejo, Benicia State Capitol Office, and the Department's Diablo District Office in Concord.

Comments were received from the Solano County Abatement District, Greater Vallejo Recreation District, City of Benicia, City of Vallejo, County of Solano-Department of Environmental Management, California Department of Transportation, State Lands Commission, and the Benicia Historical Society.

Comments focused primarily on seven issues: (1) landfill site, (2) runoff/wetland, (3) trail design, (4) viewshed/esthetic considerations, (5) lead contamination, (6) land acquisition, and (7) parking fees.

March 22, 1991

Mr. James M. Doyle, Supervisor
Environmental Review Section
State of California
Department of Parks and Recreation
P. O. Box 942896
Sacramento, California 94296

Dear Mr. Doyle,

I have just reviewed the Preliminary General Plan dated February 1991 for the Benicia State Recreation Area, and I must say, you have covered every aspect of the State Park. My interest is in the historical section. Reviewing pages 35 to 38 and pages 64 and 65, I only find four discrepancies. Whether of any serious concern or not, they are:

Patrick Dillon born in 1820, not 1810. (page 35)
the Gray of Peabody & Gray is Samuel C. Gray (page 36)
the dump was the Vallejo dump (off Benicia road) (page 37)
no mention of the Corbett-Choynski boxing fight on June 5, 1889 on Southampton mudflats which took place on an old grain barge, EXCEL.

These are all minor items but they might interest someone.

Also, would you please send me a copy of this Preliminary General Plan? The copy that I was reviewing belongs to the Historical Society. If there are any costs, I will reimburse.

Sincerely, *Michael J. Hayes*
Michael J. Hayes

Historian for the Benicia
Historical Society

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MAR 25 1991

RPD

Michael J. Hayes
133 Howard Avenue
Vallejo, California 94589

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APR 12 1991

(707) 648-4600



^{RPD}
**GREATER VALLEJO
RECREATION DISTRICT**

Richard T. Conzelmann, General Manager

March 26, 1991

Mr. James M. Doyle
Supervisor
Environmental Review Section
Department of Parks & Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Re: Benicia State Recreation Area Preliminary General Plan.

Dear Mr. Doyle:

I would like to take this opportunity to thank you for the opportunity to participate in and comment on the preliminary general plan. The Greater Vallejo Recreation District's, (GVRD), comments are as follows:

THE RESOURCE ELEMENT

1. Page 26; paragraph 3. In this paragraph you have referred to the presence of lead contamination at the site. Staff cannot find another reference to the lead contamination. There is no mention in the Environmental Impact Report or any plan referred to on how to mitigate the toxic materials.

GVRD has been working with the State Department of Health Service (DHS), regarding lead contamination at the Glen Cove Waterfront Park. This site is adjacent to Benicia State Recreation Area, (BSRA). The DHS has required the district to treat levels of 300 mg/kg and above.

On page 36; paragraph 3; the report describes the Noxious fumes from the smelter plant killing grapevines and causing sickness to animals that grazed in the grasslands. Staff believes it is important to address this issue in the Environmental Impact Report.

2. Page 33; paragraph 4; What is the outcome of the department's investigation of the 27 acre waste disposal site? What kind of project is being planned to consolidate this waste? What

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395 Amador Street Vallejo, California 94590

1-2343

measures are being developed to quantify the "Possible toxins" this dump site emits? How are the toxins affecting the visitor or plant and wildlife?

3. Page 36. There is reference to the state acquiring BSRA, however, there is no mention of the City of Vallejo's or GVRD's effort's or monies, in this acquisition.

4. Page 41; Under resources it should be noted that a portion of the trail in BSRA was dedicated in October of 1989 as Bay Area Ridge Trail.

LAND USE ELEMENT

Page 91, paragraph 7; We have already addressed the fact that the Bay Area Ridge Trail was dedicated at BSRA in October of 1989. The State department of Parks & Recreation took part in the dedication.

Page 99 , Design Criteria, Landscape Design, paragraph 4; "the scenic vista of the wetlands and Bay, for motorists traveling in an easterly direction along I-780, should be maintained and enhanced by removing section of eucalyptus trees along the I-780 corridor" While there would be some advantages to motorist provide intermittent views of the wetlands, primary concern should be for the park and the user. Staff is concerned that removing some of these eucalyptus trees would eliminate the noise and pollution barrier they provide.

FACILITIES ELEMENT

1. Page 117, Map 9; The proposed main entrance with highway 780 realignment does not show pedestrian/bicycle access across the highway. It is important that this issue be resolved early as many people walk and bicycle into BSRA.

Figure 8; There is an existing trail and locked gate on Regatta Drive that does not show on the map. This trail is also segment of the trail that was dedicated as part of the Bay Area Ridge Trail.

ENVIRONMENTAL IMPACT ELEMENT


The Greater Vallejo Recreation District believes this element is not adequate. This document does not address the possibility of lead contamination, the toxic elements of the existing dump site, the possible impacts from off-site drainage as well as on site land fill. The General plan identify's the possibility of some contamination but offers no quantitative measurements. What impact to users and neighbors would result from the recommendations? How can recommendations be made without the

quantitative knowledge?

Staff realizes the economic constraints that the department has been under to produce this document. We believe due to the time delays that were involved in the design and recommendations, many concerns were left out or addressed inadequately. Staff recognizes the plan is schematic, however, we have been looking forward to a document that would address the needs outlined in the public meetings and aid local agencies in their planning process as it relates to BSRA.

If you have any questions please contact Patricia Gloyd of our staff.

Sincerely,



Richard T. Conzelmann
General Manager

CC: State Senator, Barry Keene
State Assemblyman, Tom Hannigan
Mike Alverz, Benicia Parks & Recreation Director
Brian Mattson, Director City of Vallejo Community Development
Director
Mike Meiring, Associate Planner, City of Vallejo Planning
Department

DEPARTMENT OF TRANSPORTATIONP.O. BOX 2048 (1976 E. CHARTER WAY)
STOCKTON, CA 95201

(209)948-7858

April 3, 1991

10-Sol-780-PM 4.85
Preliminary General Plan
Benicia State Rec. Area
SCH #91033021Mr. Ken Button
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, CA 95814

Dear Mr. Button:

Caltrans, District 10, has reviewed the Preliminary General Plan for the Benicia State Recreation Area. Improvements to the main entrance and interchanges on Interstate 780 near Columbus Parkway are proposed.

Although the recreation area is within Solano County, which District 10 supervises, we defer all comments to the Caltrans District 4 Offices in San Francisco. District 4 is currently conducting a Benicia-Martinez-Carquinez Corridor Study, in which I-780 is situated. All information pertaining to this project should be submitted to District 4 for their review. This arrangement has been confirmed with District 4. Emil Moranda of Nino Cerruti's office can be contacted if you have any questions.

Thank you for the opportunity to review this Preliminary General Plan. District 10 would like to be updated when the General Plan is adopted, but I reiterate, comments should be reserved for District 4. If you have any questions, please contact me at the above noted telephone number.

Sincerely,

A handwritten signature in cursive script that reads "Al Johnson".

AL JOHNSON
IGR Coordinator

DEPARTMENT OF TRANSPORTATION

BOX 7310
SAN FRANCISCO, CA 94120
(415) 923-4444



April 9, 1991

Mr. Ken Button
State Clearinghouse
1400 Tenth Street
Room 121
Sacramento, CA 95814

10-Sol-780 P.M. 4.85
Preliminary General Plan
Benicia State Rec. Area
SCH. #91033021

Dear Mr. Button:

Thank you for the opportunity to review the Preliminary General Plan for the Benicia State Recreation area. The Preliminary General Plan is consistent with the proposed Benicia-Martinez Bridge System project, especially the improvements to the main entrance from I-780/Columbus Parkway interchange. We have been coordinating our project with the Department of Parks and Recreation with regards to the General Plan for the Benicia State Recreation area.

If you have any questions or need additional information, please call me at (415) 557-8427.

Sincerely,

PRESTON W. KELLEY
District Director

By

for [Signature]
NINO A. CERRUTI

Senior Transportation Engineer
P/D Benicia-Martinez Branch

cc: Gary Adams, Dist. 4 CEQA Coordinator
Al Johnson, Dist. 10 IGR Coordinator
James Doyle, Dept. of Parks & Recreation



Department of
Environmental Management

601 TEXAS STREET
FAIRFIELD, CALIFORNIA • 94533

April 5, 1991

James M. Doyle, Supervisor
Environmental Review Section
State Department of Parks and Recreation
P. O. Box 942896
Sacramento, CA 94296-0001

Dear Mr. Doyle:

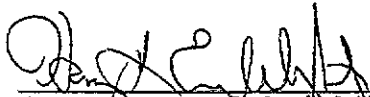
SUBJECT: Benicia State Recreation Area
Draft General Plan and Environmental Impact Report

Thank you for the opportunity to review the above draft report. As you are aware the Bay Area Ridge Trail passes through Benicia State Park. The San Francisco Bay Trail will in the future follow this same route through the State Park. We support the proposed Trail improvements through the park including the proposed Biking/Pedestrian Trail to connect to Glen Cove.

The Bay Area Ridge Trail is planned to extend north from Benicia State Park through the Vallejo/Benicia buffer area. This trail would leave the park from the main entrance crossing over I-780 to Columbus Parkway. No provision has been made in plan as part of the proposed "main entrance with the I-780 realignment" to provide from a pedestrian and bike access. This is not only important for the future extension of the Bay Area Ridge Trail but also for access to the State Park from the cities of Vallejo and Benicia. We would ask that consideration be given to pedestrian and bike access as part of the overcrossing and main entrance improvements.

If you have any questions concerning my comments, please feel free to contact me.

Very truly yours,



Harry L. Englebright
Principal Planner

PHEDOYLE/pj

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PLANNING / ZONING (707) 421-6765

APR 10 1991

BUILDING INSPECTION 421-6780

ENVIRONMENTAL HEALTH 421-6770

RPD

1-2286

DEPARTMENT OF TRANSPORTATION

BOX 7310
SAN FRANCISCO, CA 94120
(415) 923-4444



April 9, 1991

Mr. Ken Button
State Clearinghouse
1400 Tenth Street
Room 121
Sacramento, CA 95814

10-Sol-780 P.M. 4.85
Preliminary General Plan
Benicia State Rec. Area
SCH. #91033021

Dear Mr. Button:

Thank you for the opportunity to review the Preliminary General Plan for the Benicia State Recreation area. The Preliminary General Plan is consistent with the proposed Benicia-Martinez Bridge System project, especially the improvements to the main entrance from I-780/Columbus Parkway interchange. We have been coordinating our project with the Department of Parks and Recreation with regards to the General Plan for the Benicia State Recreation area.

If you have any questions or need additional information, please call me at (415) 557-8427.

Sincerely,

PRESTON W. KELLEY
District Director

By

Nino A. Cerruti
for

NINO A. CERRUTI
Senior Transportation Engineer
P/D Benicia-Martinez Branch

cc: Gary Adams, Dist. 4 CEQA Coordinator
Al Johnson, Dist. 10 IGR Coordinator
James Doyle, Dept. of Parks & Recreation



CITY HALL • 250 EAST L STREET • BENICIA, CA 94510 • (707) 746-4200

April 5, 1991

James M. Doyle, Supervisor
Environmental Review Section
Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA. 94296-0001

Mr. Doyle, as you probably are aware, the City of Benicia has participated in the lengthy process of updating the General Plan for the Benicia State Recreation Area. We believe that the General Plan, in its final form, should address the recreation needs and desires of the park users, along with protecting this environmentally sensitive area. We believe that the document should serve as a guide in managing these sometime conflicting goals. As we indicate in our review, we believe that there are many issues that have not been addressed adequately and should be addressed and studied further.

The following are our comments concerning the preliminary General Plan Draft for the Benicia State Recreation Area.

PAGE 3 SUMMARY

The summary states that efforts should be made to "Reduce or eliminate pollutants from the waters entering the unit". Information contained in the General Plan continually states that pollutants, through runoff, are generated from surrounding development. No information has been provided to substantiate this statement. It should be understood that efforts have been made by surrounding developments to control, direct and contain surface runoff.

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MARILYN CITRON O'ROURKE, Mayor
Members of the City Council
DIRK FULTON Mayor Pro Tem • JOHN F. SILVA • ERNEST F. CIARROCCI • RICHARD W. SHAFER

MICHAEL WARREN, City Manager
VIRGINIA SOUZA, City Treasurer
FRANCES GRECO, City Clerk

PAGE 4

The plan proposes to "landscape the median strip between the pedestrian and bicycle trail to help maintain separated use." The City of Benicia participated in funding and designing the bicycle trail adjacent to the existing pedestrian trail in the northeast area of the unit. During the design discussions we had with BSRA staff concerning the placement of a landscape separator. The City of Benicia has always objected to this design. However, staff of BSRA indicated that design plans would not be approved without this separator. Our objection still remains. We believe the landscape median will be hazardous and will cause maintenance problems.

PAGE 12, PARAGRAPH 1

The draft states that the "Benicia State Recreation Area is an area with great recreational appeal that draws visitors from across the nation". We do not agree with this statement. The BSRA primarily serves the communities of Vallejo and Benicia.

PAGE 13, PUBLIC INVOLVEMENT

We believe that public process was too lengthy, causing concerned citizens from Benicia to lose interest. Many concerns expressed during the public process have not been addressed adequately.

PAGE 21, PARAGRAPH 1

A statement is made that recently BSRA has experienced increased surface water flows due to subdivision and urban development in the watershed. Again, as mitigation for surrounding developments, the City of Benicia has worked to insure the surface water flows have not caused problems for downstream activities. No data has been provided to support the statement that surface water flows have increased from surrounding urban development in BSRA.

PAGE 32

It is mentioned that the Braitto landfill was found to be emitting toxic leachate in the past. Since 1984, the leachate from the Braitto landfill has been directed into the sanitary sewer system of the City. The leachate is ultimately treated and released from our Wastewater Treatment Plant, approximately 7 miles from BSRA. There are also retention ponds that have been created to slow down and hold surface runoff from the landfill area.

PAGE 48, PARAGRAPH 5

Again, there is mention that the Braitto landfill outside the boundary of the unit is known to leach toxic materials in the past. As we stated earlier, in 1984 the City, as a requirement for closure of the Braitto landfill, was required to direct the leachate from the Braitto landfill into the City's sanitary sewer system.

Further in this section, it is mentioned that BSRA should work with the appropriate agencies to insure that water quality monitoring is conducted to identify potential degradation of ecological values in the BSRA. However, there is no discussion of monitoring or evaluation of water quality, whether it be surface runoff or leachate, from the known landfills within the boundaries of BSRA. This issue needs to be discussed in the appropriate sections of the draft, including the Environmental Impact Section.

PAGE 54, PARAGRAPH 3

A directive indicates that the Department shall continue to pursue a Wetland Restoration Project on the waste disposal site in BSRA. This directive should be expanded to indicate that the Department, in developing its Wetland Restoration Project, will conduct a thorough environmental impact review of the proposed work to study the impacts of disturbing the present landfill. Further study should provide additional information as to whether the Department can pursue a Wetland Restoration Project in the landfill area.

PAGE 54, PARAGRAPH 5

There is discussion involving the use of fire as a part of ecological restoration. It should be known that in the past, fires started accidentally in the landfill areas of BSRA, continued to burn for several months due to buried refuse. Further study and consideration should be pursued to determine whether the policy of using fire is feasible and safe.

PAGE 59, PARAGRAPH 4

It is true that a majority of the visitors come to fish, jog, bicycle and exercise. It is known that few visitors are seeking interpretive experiences. Unfortunately, we believe this is true because the existing interpretive experiences and opportunities have never been expanded in the unit. Further study and expansion of this use should be a priority.

PAGE 65, PARAGRAPH 8

Again, it is probably true that there is little interest in interpretative experiences and that a large interpretive center does not seem justified. Again, we believe this is true because this experience has never been expanded nor pursued. Further study into providing such facilities is needed. The use of mobile "wetlands interpretive trailers" may initiate interest.

PAGE 67

The interpretive recommendation should be expanded to include facilities, whether they be temporary or permanent. These facilities, along with an effort to expand interpretive programs, will generate the interest needed to support these types of facilities in BSRA.

PAGE 76, PARAGRAPH 4

Again, it is mentioned that a major resource problem is increased water flow from development in the surrounding area. No data has been provided to support this statement.

PAGE 95

The first sentence describes that screening should not impede the scenic vistas for surrounding homeowners and I-780 motorists. We strongly object to any mention of removal of trees or existing screens to open view sheds for motorists on I-780. Removal of existing screens will not only remove habitat for existing wildlife, but will also make the freeway visible to park users, which is a visible pollutant. Throughout the entire preliminary General Plan, there is discussion of concern for the park user and the wildlife. However, by opening and removing screens for view sheds from I-780 is in direct conflict.

PAGE 97

Halfway through the page there is discussion regarding landscaping unpaved medians between roads and trails. The use of low native plantings is fine if there is sufficient room. We believe that the unpaved width between the existing bicycle/pedestrian trail in the northeast section is too narrow for any landscaping.

PAGE 99

In the first paragraph of the Design Criteria section, there is a discussion that screening should be appropriate and properly scaled, such as trees and shrubs to help focus visitor attention on the BSRA unit resources from I-780. We believe additional screening should be installed to protect the BSRA user from I-780.

On the same page there is mentioned of removal of a large section of Eucalyptus trees along I-780. These trees should not be removed, as they provide habitat and serve as a good screen from I-780.

PAGE 101

All of the parking within the boundaries of BSRA, as proposed, is fee parking. Presently, there are 124 fee parking stalls inside the park and 66 non-fee outside. One will find at peak use, all of the 66 parking facilities outside of the BSRA are full and a small fraction of the fee parking within BSRA is empty. If the plan proceeds to provide all fee parking within the unit, again these lots will be empty and users will either not use the park or they will find non-fee parking somewhere outside the unit. This situation will impact the surrounding area on the west side of Benicia and the area adjacent to the freeway by the main gate. We have discussed this issue at length with your staff. Again, the City of Benicia strongly protests the removal of non-fee parking in the east parking lot.

PAGE 103 - APPROPRIATE FUTURE ADDITIONS

Conspicuously absent from the area identified as appropriate for future additions to the BSRA is a parcel of land at the extreme northwest corner of the facility adjacent to existing development, the site of the earlier proposed Vista Cove development. This parcel has the potential to serve all of the purposes listed on Page 103 for appropriate future additions. Moreover, incompatible development of this parcel is much more of a threat than it is on the parcels identified in the Plan. We strongly recommend inclusion of the Vista Cove parcel as an appropriate future addition.

PAGE 113

There is mention of a bicycle trail completed in 1989. There is no mentioned that this trail was planned, designed and constructed with funds from the City of Benicia.

We have already discussed our concern of placing a landscape median, separating the existing bicycle/pedestrian trail. During our planning process of the bicycle trail, we provided various options to staff of BSRA. We have always maintained that a separation of the trails by landscaping is hazardous and will be difficult to maintain.

Further in this paragraph there is mention of opening the view of the bay for motorists on I-780. Again, we have made our position known. We believe that screening should be maintained, separating I-780 from the park user.

PAGE 114 - NEW ADDITIONS

A drinking fountain should be provided at the restroom facility.

The City of Benicia strongly objects to the installation of an automated self-paying gate at the northeast section of BSRA. Our reasons for our objection have been cited earlier.

PAGE 122 - 2ND PARAGRAPH

We believe further studies should be involved when considering placing facilities adjacent to or on the existing landfill. Should studies determine that day use facilities can be developed, we recommend that a restroom facility be placed adjacent to the parking lot and the other facilities.

PAGE 26 - PRIORITIES FOR DEVELOPMENT

We believe in Priority 2, #2, "to improve paved parking lots", should be in Priority #1 listing. The condition of the lots need to be rehabilitated and upgraded.

ENVIRONMENTAL IMPACT ELEMENT

As indicated in the text of the General Plan, the Environmental Impact Element will serve as an environmental impact report. It is our understanding that the EIR will serve to meet CEQA requirements for the General Plan. Although CEQA provides that the environmental analysis for planning documents such as this need not be as detailed as the analysis for a more specific development project, it is our opinion that this Environmental Impact Element does not provide an analysis commensurate with the level of detail in the Plan. As a result, the Element is inadequate for CEQA purposes. In addition, there are significant impacts which have

not been addressed.

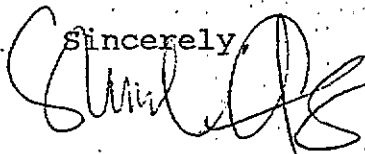
The Environmental Impact Element Section indicates three areas of potential significant impact that need to be studied. A fourth section should be included which involves clean up of the landfill.

A fifth significant impact which was not addressed in the Environmental Impact Element is the traffic effect of eliminating all free parking within the facility. This may be expected to create severe on-street parking impacts and congestion on the residential streets adjacent to the southeast facility entrance and may also result in continued unsafe parking along the I-780 on-ramp. Parking lots for commercial facilities at Rose Drive and Columbus Parkway might also be affected. In the latter case, there would be a further impact of pedestrian traffic crossing the overpass to reach the facility.

On Page 32, it is mentioned that none of the proposed development by the General Plan will create irreversible environmental changes. This is not true. There is not enough data provided to determine what impact the proposed improvements in the landfill area will do.

Again, we want to thank you for the opportunity to review the Benicia State Recreation Area Preliminary General Plan. We hope that our comments will be considered and, if required, initiate further study. We know that the General Plan, once approved for the Benicia State Recreation Area, will serve as a guide for the next 10 years. We must insure that the final product meets all of the needs of the park user and the sensitivity of the park itself. We believe, through the cooperation of the surrounding communities, public agencies and the State, we can develop a final product that is workable.

Sincerely,



Michael Alvarez
Director of Parks and Recreation

MA/cg

cc: Benicia Parks and Recreation Commission
Brian Mattson, Community Development Dept., City of Vallejo
Richard Conzelmann, GVRD
Senator Barry Keene
Assemblyman Thomas Hannigan

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CITY OF VALLEJO

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION

April 8, 1991

James M. Doyle, Supervisor
Environmental Review Section
Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

RE: Comments on the Benicia State Recreation Area Draft General Plan and the Environmental Impact Report.

Dear Mr. Doyle:

Initially I would like to thank you on behalf of the City of Vallejo for the opportunity to participate in the development of the General Plan and ultimately the review of the Plan and the Environmental Impact Report. The process, as you know, as been a very long one and the City of Vallejo has been anxiously awaiting its conclusion so that the long delayed improvements to the Benicia State Recreation Area can finally proceed. The City of Vallejo realizes that the process has been difficult for staff of the Department of Parks and Recreation but it has also been a very frustrating one for our community.

In 1979 when the City and the Greater Vallejo Recreation District (GVRD) initiated the expansion of the Benicia State Recreation Area (BSRA) and assisted in the acquisition of the additional land known as Dillon Point, the staff of the Department of Parks and Recreation knew that growth in the area was imminent and that day use of the BSRA would soon be increasing dramatically. The City of Vallejo and GVRD attempted to keep the Department of Parks and Recreation up to date with the growth and continually asked that needed improvements that were identified in 1979 be made before Glen Cove became fully developed. As you are aware, the Department has been unable to respond to those concerns due to budgetary constraints and the lack of a General Plan for the expanded park boundaries.

The staff for the City of Vallejo believes that the process for the development of the General Plan has been a good one, except for its fragmented nature due to time delays and the limited participation by the public. Clearly, when the General Plan is ultimately adopted it will be an asset to the region. Staff is however, concerned that the document appears to be biased in relation to the impacts caused by the cities of Vallejo and Benicia versus the impacts caused by the lack of improvements that were known to be needed in the BSRA as far back as 1977. Thus, while the staff for the City of Vallejo believes the document to be relatively complete we also believe that in order for it to be truly accurate it must acknowledge the efforts the City of Vallejo has made to address potential impacts as well as the impacts that exist within the park boundaries caused by conditions beyond the

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control of the Department of Parks and Recreation and the lack of funding that the facility has received.

In addition to addressing these concerns with regard to the General Plan, staff believes there are a number of impacts that have not been addressed by the Environmental Impact Report. These impacts relate to both existing conditions and proposed improvements that may have on- and off-site negative impacts. Staff will fully address these concerns in the latter part of this letter and will look forward to a complete analysis being prepared.

With regard to specific concerns about the Draft General Plan, staff believes that there is lack of documentation about pollution to the water from either off-site or on-site sources. We do not question whether the water that enters the park may be polluted that enters the park but the question is how much of what time of pollution is entering, is it significant, and has the amount of pollution been reduced or significantly modified by the adjoining development. The document in a number of instances, indicates that the BSRA property was highly contaminated prior to the purchase of the property by the State. Based on that contention, it would seem reasonable to assume that the adjoining property was also contaminated by quarry activities, the lead smelter, and by grazing activities. As a condition of project approval in Glen Cove the developers were required to test the soil for lead contamination and take those steps necessary to reduce concentration to an acceptable level. In most cases the grading of the site eliminated the contamination and reduced downstream pollution into the park. However, several developers had to take the soil to a Class I dump for disposal. Additionally, as a requirement of such projects erosion control measures were required during construction which reduced siltation that had previously existed due to over grazing of the property and all of the vehicular and pedestrian trails on the property. Without factual information, statements about water pollution are not substantiated and should be.

Also related to this concern is the lack of discussion about the pollution that is being generated on-site from the existing dumps. It is mentioned several times in the document that the off-site dumps have caused a problem in the past and are currently being monitored. No where in the report does it indicate whether the landfill on site has been monitored. In addition, the report indicates that "oil-saturated soil has been identified on the site" (of the old landfill) "with an estimated volume of 4,000 cubic yards".> Doesn't the drainage from this area within the park pollute the park and the straits?

Now to specific concerns about the statements in the summary and introduction of the report or lack their of:

Page 3 - It is very difficult to "Reduce or eliminate pollutants from the water entering the unit" until they are absolutely identified, quantified, and it is determined that they are a detriment to the unit. In addition, shouldn't it also be a directive to: Eliminate or reduce pollutants that are generated from the existing landfill and road within the unit.

Page 4 - One of the improvements proposed is to "landscape the median strip between the pedestrian and bicycle trail to help maintain separate use". The median is approximately eighteen inches in width, with both the bicycle and the jogging paths adjacent of substandard widths. Any plant material would have a hard time establishing itself in that narrow of an area and could pose a safety problem for bicycle riders. In addition, the bicycle riders use the par course on the other side of the pedestrian trail, any improvements to the median would have to include the ability to provide access. Finally, a number of parents use this trail to train their children to skate and ride bicycles. Providing a barrier would cause one or the other to be on the wrong trail. If the trails could be expanded and greater separation provided a landscaped median may be more appropriate.

Page 18 - It is mentioned that construction adjacent to Dillon Point has occurred on an easement in the BSRA. For clarification it should be indicated that the easement for construction purposes was created at the time the property was purchased because the plans which facilitated the purchase required grading to occur in the future BSRA.

Page 21 - At the top of the page is a statement that "several of these streams have recently experienced dramatically increased flows, in not only peak flows but also base flows. This is due to subdivision and urban development in the watershed, paving over the natural absorption surfaces of the hillsides, and increased unnatural water use, such as lawn irrigation". As previously mentioned, no where in the General Plan or during any of the meetings were measurements presented which would indicate that this was in fact the case. In addition, it is hard to believe that in the last four years that this plan was being developed that this condition was observed, since we have had a drought. Additionally, as a result of development, part of the watershed boundary has been regraded diverting a portion of the water that once used to flow into the unit. Before statements like this can be made part of the plan there must be historical evidence to justify them. Without evidence the statements can only be speculation and it should be stated that this is the case.

Also, on this page is the statement about the "concern about the increase amount of fresh water entering the wetland". And again, where is the factual evidence to indicate that this is the case. Staff is skeptical of this statement especially given the drought and the increased diversion of fresh water from the Carquinez Straits that has occurred over the last 30+ years.

Where is the evidence that in the past this was in fact a saltmarsh ecology, it may have been more dependent on the fresh water that has since been diverted from the delta. This position is validated by a recent article that appeared in the local newspaper, Vallejo Times-Herald, which indicates that the Audobon Society has identified an influx of birds into Southampton Bay east, that depend on salt water (see attached article).

Finally, there is a brief discussion of the freshwater springs in the unit but no indication whether the flows from these springs have increased or decreased in the recent past. Historical measurement of these springs would assist in the determination about whether there has been a historical increase in fresh water.

Page 23 - The plan states, "Surface water quality in the unit is primarily affected by sediments and toxics contained in the increased runoff from the surrounding watersheds.....". Again there is not documentation on whether this is the case, whether due to increased vegetation in the watershed and the elimination of offsite lead contamination the impacts have been reduced. In addition, the on-site impact of a landfill with toxic waste and oil laden soil has not been addressed relative to water quality, as well as the impact from erosion within the unit caused by scattered trails, newly created drainage ditches, barren side slopes, and slides.

Page 26 - There is a paragraph on lead contamination in the General Plan that indicates that since the smelter closed, the contamination of the site has decreased and most of the contaminated soil that remains is along the shoreline. The City of Vallejo has not found that to be the case in Glen Cove. While it is true the highest contaminated sites in Glen Cove are along the water, analysis has shown that this is related to the high concentration of eucalyptus trees at this location. In fact, throughout Glen Cove the highest concentrations of lead in the last 10 years have been found to be at the base of eucalyptus trees that would have caught dew or fog blown from the direction of the smelter. Since there still are eucalyptus trees in the unit that could have been affected, testing in those areas is recommended in order to verify the conclusions reached in the Plan.

Page 32 - Again the document identifies impacts due to increased fresh water flows that have not been quantified or verified. In this section the impacts of the landfills outside the unit are mentioned as impacting the ecosystem but nothing is said about the landfill and contaminated soil inside the unit.

- Page 36 - In the discussion on the history of the unit it is indicated that the state acquired Dillon Point. While this is partially true, it does not reflect the effort or monies that were contributed by Solano County, the Greater Vallejo Recreation District, and the City of Vallejo. Without those agencies Dillon Point would likely be fully developed with a residential project.
- Page 48 - The City of Vallejo realizes that the State Department of Parks and Recreation does not have the resources necessary to address all of the problems that exist within the BSRA unit, however, in order to determine the future impacts on the unit an on going water quality monitoring program should be initiated by the Department of Parks and Recreation. In order to develop meaningful directives base information must be available by which new, as well as existing projects, can be evaluated.
- Page 53 - The directive to develop a wetlands management plan is an appropriate one but the staff for the City of Vallejo is not sure what the primary objective of "restoration of natural conditions" means. Again there is a lack of data on what the natural conditions of the park where and there has been no identification of which time period the natural conditions are deemed to be most appropriate. If, for example, the period of time desired is before the gold rush, that would mean that the silt in Southampton Bay would have to be removed as would the land fill site and some how all the material removed by the quarry would be replaced. If the plan is referring to a later natural period then what is being proposed is to make natural conditions after significant man-made intervention. Without defining what natural period is being proposed, what is the basis for that decision, and what is the quantitative measurements that will be used to ultimately achieve the directive.

Also on this page is a discussion of the waste disposal site within the unit, with the statement that "The 27-acre waste disposal site.....may be contributing pollutants to the adjacent wetlands and surface waters, and may pose a public health and safety hazard." The related directive is to "pursue a wetlands restoration project on the waste disposal site". Throughout the General Plan it is stated that the storm water from off site is causing significant impacts to the quality of water on the site and there are directives aimed at requiring other jurisdictions to modify and address these impacts which have not been quantified. With regard to the landfill on site the plan indicates that it may have impacts, again no quantitative analysis has been presented to make that determination. The difficulty is that the report has also identified that the land fill contains an area of "oil-saturated soil....

with an estimated volume of 4,000 cubic yards" yet it is stated only that this "may" have an effect. This is not consistent with statements of the effects that off-site water run-off is known to have on the marsh.

Finally with regard to the Resource Element portion of the General Plan there needs to be a discussion of another very important resource that is generated at the unit and that is waste. As the Department must be aware of, the State Legislature is requiring that the citizens throughout the state reduce their waste stream by 25% in 1995 and 50% in the year 2000. Solano County and all its member cities are working towards development of programs to accomplish this. The Department of Parks and Recreation must also comply with the requirements of the legislation and one of the ways to do so is to look at the waste as a resource to be diverted, collected, and/or recycled. There should be directives in the plan which require the evaluation of methods to deal with collecting recyclable materials in the park as well as the composting of all waste created through pruning, removal of plant material and maintenance. In addition, provisions should be included to accommodate residential recycling if that is not already being done.

Staff of the City of Vallejo has no comments about the Interpretive Element except that it would be very beneficial to our communities when the programs are fully implemented. With regard to the Operations Element staff has the following comments:

Page 75 - In the section on "Existing Operations Summary" the last paragraph needs some clarification where it says that "I-780 separating it from the City of Benicia on its east boundary". Only a portion of the City of Benicia is separated from the park by the freeway. And again, in referring to the separation from the City of Vallejo it would seem to indicate that there is only housing adjacent, when in fact a community park has been planned and located on the boundary of the BSRA to provide for easy access and proper separation.

Page 76 - Statements are made about freshwater flow and the impacts and again there are no measurements to justify the statements. It is indicated that the increased flow is the reason for flooding on the park road. While this could possibly be true, inspection of the flooded area would indicate that lack of maintenance, the location of culverts, and the creation of temporary ditches within the unit have contributed to the flooding problems. Also within the discussion of "Housing Developments" there is an indication that there are "4000 homes near the unit's boundaries. Within a half mile of the unit boundary there may be 2,000 homes, within a mile 4,000 homes. There are not even 4,000 homes in all of Glen Cove.

It is also indicated that "homeowners adjacent to the unit have started making their private trails to the unit". A review of aerial maps before the development

of Glen Cove in 1984 would show that not only were there numerous foot trails into the unit from Glen Cove but many vehicular roads. With the development of Glen Cove the majority of the trails have been eliminated except those that provide for servicing of the utilities. In addition, since the City of Vallejo had the fence installed along the boundary of the unit the number of trails have been significantly reduced. Finally, the City of Vallejo in planning the development of Glen Cove provided for several formal improved trails to provide access from Glen Cove to the BSRA. Staff for the Department of Parks and Recreation were concerned that they would be unable to control multiple access points and due to limited staff were even concerned about one additional access point adjacent to the Glen Cove waterfront park. After lengthy negotiations however, temporary access from Glen Cove has been provided that has also helped to reduce the number of trails. However, given the location of the access point and the desire to increase the access without having to drive, another point of access should be considered along the western boundary of the unit.

- Page 77 - Under the section on Resource Management it indicates that star thistle is a hazard to the units users. Studies have also shown that the star thistle is a significant hazard to some wildlife and as well as 'preferred' vegetation.
- Page 78 - Some staffing increase is definitely needed at this time just to attempt to address existing problems. If staff could patrol the unit during peak hours several times a week, that would help to reduce illegal activities that are currently occurring within the unit.

With regard to the comments on the Land Use Element, many of the City of Vallejo's concerns have already been addressed in the above comments. However, there are a few specific concerns that need to be addressed in this section:

- Page 91 - The statement is made that, "local planners have recommended that existing and future trails of BSRA tie in and connect with proposed trails...". In fact the BSRA already ties into the combined Bay and Ridge Trail system. The "local planners" wanted to insure that these ties become formalized and installed to meet minimum trails standards.
- Page 99 - It is recommended under the section on Landscape Design that sections of eucalyptus trees along the I-780 frontage be removed to improve the views for the motorists. While the improvement of views would be a good objective the result would severely impact the use of the park unless a landscaping screen was installed and allow to mature prior to the removal of the trees.

When using the BSRA it is clear that the freeway noise impact is significant and increased noise levels can be noticed with just the slight changes that have occurred to the vegetation through pruning and storm damage. The criteria related to this issue should be expanded to address the timing of the removal.

Page 103- In the section on Appropriate Future Additions it is indicated that the undeveloped open space to the northwest of the SRA is the area of interest. While the City of Vallejo understands the Department of Parks and Recreation defined purposes for expansion of the unit there are a number of problems that should be recognized and evaluated as part of the General Plan. At the present the majority of the area being considered for future addition is designated as permanent open space and owned by the City of Vallejo. The area is fenced at the rear of the residential properties and adjacent to the park. This open space provides an excellent buffer between the park and the single family homes. If it were to be purchased a new fence would have to be installed that would probably impact the residents views. In addition, the new fence then would probably be altered to gain access to the open space and views which would then require increased maintenance and patrols. Additionally, the dual fence system that exists now can help to reduce the impact of domestic animals on the unit.

A potential alternative to purchasing the land would be to work with the Glen Cove Homeowners Association and the City of Vallejo to develop a landscaping plan for the open space that would not totally block the views of the residents but would provide additional visual buffer between the park and the developed area.

Again many of the concerns with the Facilities Element have been already discussed above but, there are several additional points that should be addressed by the Department of Parks and Recreation. These concerns are:

Page 113- In the section about the facilities in the northeast area it is stated that: "The area receives heavy use throughout the year, particularly from walkers and joggers." This is true but peak time use of this area also includes bicyclists and while they do not outnumber joggers or walkers, their relative impact is as great or greater on other users and on the unit itself.

Under recommendations on the same page it is suggested that the median be landscaped. As previously pointed out, both of the trails in this area are substandard and there are no recommendations to bring them up to standard. In addition, the par course is on the pedestrian side of the trail system and would become

unusable by bicyclists. The median would create further problems for parents whose children are learning to ride a bicycle or skate who now are trying to obey the rules and use the separate paths. Finally, for the majority of the path there is not sufficient room to create a median without incurring incredible costs for maintenance and replacement.

We do concur with the recommendation in the same paragraph that additional screening should be installed to buffer the trail. And again, this should be done before any trees are removed.

Page 114- A fifth recommendation should be added to the section on New Additions that states: Work closely with the City of Benicia to address off-site parking and related impacts prior to development and installation of the gates.

Figure 8- There is an existing trail and gate on Regatta Drive that connects to the BSRA that has not been shown on the map. Also, there is no indication that the gate or trail are to be removed.

Figure 9- The City of Vallejo realizes that the plans for improvements are schematic at best but, with regard to the main entrance there does not appear to be an opportunity for anyone to turn around if they decide not to pay to enter the park. Backing into the intersection would not be acceptable.

The final area that the City of Vallejo would like to address is the Environmental Impact Element. In reviewing the comments so far it is obvious that the City of Vallejo believes that there are number of concerns that have not addressed in sufficient detail to make this document qualify as a General Plan. Those concerns would also relate to the Environmental Impact Element which we believe is not adequate. Specifically, the following items either have not been addressed at all or sufficiently to allow the project to proceed:

- Two of the new additions are to the parking lots, and our concerns relate to the reconfiguration and installation of gates. Even though the final designs are not included, the plan recommends that development of these facilities be undertaken. The Environmental Impact Element makes no mention of these projects and there is sufficient information available about the proposal at this time to provide a basis to identify potential impacts and then propose mitigation measures.
- There are numerous recommendations about drainage, identified impacts from off-site and potential impacts from the land fill on-site. However, there is no quantitative measurements presented which would allow an evaluation to be made as to what impacts might occur if the recommendations are followed.

In order to make a determination that the General Plan will not have an impact on water quality, the existing water quality situation needs to be identified.

- It is noted that erosion is a concern with new development of trails. A mitigation measure that should be considered to address existing erosion problems is: Existing areas subject to erosion will be identified and a program developed to address the problem shall be prepared and implemented. Additionally, some of the maintenance practices within the unit currently are causing erosion and sedimentation impacts. Another potential mitigation measure could be: All drainage basins will be evaluated to determine if improvements need to be made and the improvements will be done in a manner to reduce disturbance of wildlife, preferred vegetation and reduce further downstream sedimentation.
- There are recommendations in the plan that suggest that trees should be eliminated to increase views, however, since there is no indication that the trees would be removed after additional material is installed and established there could be potential noise impact on the trail.
- The elimination of trees would also have to be evaluated in relation to wildlife habitat. There is no indication whether there are any animals using the existing trees, but in Glen Cove the eucalyptus trees provide habitat for owls. This needs to be evaluated as does the removal of any other vegetation whether desirable or not.

Staff for the City of Vallejo realizes that we have identified a number of concerns that we believe need to be addressed prior to the adoption of the General Plan for the Benicia State Recreation Area. Vallejo, as has Benicia, has waited a long time for the preparation of this document and we believe that making it as complete as possible is to everyone benefit. We don't want to have wait for another 10 years to get some improvement installed because it wasn't addressed in the Plan or by the environmental report. If you have any questions about the comments please contact Michael Meiring of my staff.

Sincerely,



Brian Mattson
Community Development Director

cc: State Senator Barry Keene, Senatorial District 2
Assemblyman Tom Hannigan, Assembly District 4
Dick Conzelman, Greater Vallejo Recreation District
John Bunch, City of Benicia Planning Department
John Taylor, Solano County Planning Department
Michael Alvarez, Benicia Department of Parks and Recreation

do in the event of an earthquake.

The drill, which will be broadcast on 70 radio stations throughout the state, kicks off the first week of Earthquake Preparedness Month. Listeners will be asked to duck beneath a table or desk, brace themselves and wait in that position for 30 seconds.

All government offices and schools in Vallejo, Fairfield and Suisun City are expected to participate in the drill.

AIDS victim count rises in Solano

VALLEJO — Sixteen Solano County residents have died of acquired immune deficiency syndrome since Jan. 1, and 34 new cases have been diagnosed.

To keep up with the growing demands for counseling and services to those afflicted with this deadly disease, the Solano County AIDS Task Force will hold a training session for new volunteers on April 6 and 7.

Volunteers are taught to be sensitive to the day-to-day issues affecting HIV/AIDS-infected individuals.

The training session will be held at Kaiser Permanente Medical Center at 975 Sereno Drive in Vallejo from 8:30 a.m. to 5 p.m. each day.

Pre-registration is required.

A white cat sits at its owner's shoulder and watches the Interstate 80 traffic

Sea birds grow fond of Vallejo

By Jacqueline Ginley
Times-Herald staff writer

VALLEJO — A little visitor to this city's waterways has been attracting the attention of loyal waterfront walkers.

The black ducks that are causing such a stir are "surf scoters," according to Robin Leong, a Vallejo Audubon Society member.

The surf scoter is a sea bird that has been seen in the Carquinez Straits and the Suisun Bay in increasing numbers in recent years.

Leong attributes the recent influx to the drought, which has increased the salinity of the

(See Ducks, B2)

Walgreens

By Alisa Y. Kim
Times-Herald staff writer

VALLEJO — Walgreens is coming to town. By the end of this year, the nation's largest drugstore chain will take up about 13,600 square foot of space at the Springhill Shopping Center.

But the move into the area requires some existing businesses to either relocate or move out, and it is ruffling a few feathers among Springhill business people.

Walgreens will be moving into building space currently occupied by the U.S. Post Office, Springhill Vacuum Center and Bjorn's Hair Styling Academy, said Bob Cranmer-Brown, a broker with Transpac, a Palo Alto-based company that is improving the 35-year-old shopping center located near Springs Road and Rollingwood Drive. To completely fit the new store, another 2,400 square feet will be constructed in back.

As the drugstore comes in,

(See Walgreens, B3)

Three-building
2,400 sq

Ducks

(From B1)

waters surrounding Vallejo.

"The species that utilize salt water are coming further and further up in the bay," he said.

Vallejo's Audubon Society chapter has been counting area birds each year since the 1930s. In 1977, the year after a crippling statewide drought, 275 surf scoters were counted in the Vallejo-Benicia area. In 1940, two had been counted here.

In 1939, when bird counters first began using a boat for the annual event, no surf scoters were sighted.

The Society's data is not scientific, but it does point out some trends, Leong said.

Leong attributes the recent influx to the drought.

Several other sea birds appear to be moving eastward as the waters in the Carquinez Straits become saltier, he said.

One is the Barrow's Goldeneye, a duck first seen here in 1989. In December, 44 were sighted. The male duck is distinguished by its white underbelly,

shoulders and crescent moon-shaped marking on its cheek.

Other fish-eating birds have also been seen here in recent years, Leong said. They include the hook-billed pelagic cormorant, a long-necked coastal bird, and the marbled godwit, a shellfish-eating bird that also showed up in large numbers here after the 1976 drought.

Many years ago, Leong said, the brackish waters referred to as the "tidal prism" stopped at the Richmond Bridge. Today, years of drought and upstream dams have pushed the salt further north into the Suisun Bay and the Carquinez Straits.

Solano County Mosquito Abatement District

P.O. Box 304, SUISUN, CA 94585

Telephone (707) 425-5768

MILTON WALLACE, President - Rio Vista
CLARENCE GOLOMB, Vice President - Vacaville
MANUEL BARACOSA, Secretary - Suisun
GUIDO COLLA, Trustee-at-Large
JOE F. ANDERSON - Dixon
MELVIN FROHRIB - Vallejo
ALLAN WITT - Fairfield
WILLIAM LAWRENCE - Benicia

Meetings: Second Monday Every Month
714 Main St., Suisun, 7:30pm

DENNIS D. BEEBE, Manager
CAROL EVKHANIAN, Biologist
VICTOR BARACOSA, Supervisor
MARY JEAN GOLLINGER, Sec./Bkpr.

April 8, 1991

Mr. James Doyle
State of California
Department of Parks and Recreation
Environmental Review Section
P.O. Box 942-896
Sacramento, California 94296 - 0001

Subject: Benicia State Park Preliminary General Plan

Dear James:

In reviewing the Benicia State Park (BSP) Preliminary General Plan, there are several areas of concern to the Solano County Mosquito Abatement District (SCMAD).

References are made to the restoration of the old dump site located on the northwestern portion of BSP, watershed into the wetlands from uplands, and effects in the wetlands from tidal exchanges.

The restoration of wetland areas, including planting of native grasses and adopting a management plan for the tidal wetlands, can be incorporated with necessary mosquito source reduction.

There are areas in the BSP tidal wetlands that are known to produce Aedes dorsalis. This species is known for being aggressive biters and have a potential flight range in excess of 20 miles. This species lays its eggs in moist soil and must go through a drying period first (i.e. tidal wetlands).

Enclosed you will find SCMAD Criteria approved by the BCDC and the California State Department of Health Services - Environmental Branch for mosquito prevention in: (1) Tidal Marshes (2) Permanent Ponds used as Waterfowl Habitat (3) Drainageway Construction and Maintenance Practices and (4) Salt Marsh Restoration.

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page 2

The SCMAD would appreciate the aforementioned concerns being taken into consideration in the future planning and the adoption of the proposed BSP management plan.

Please feel free to contact the SCMAD office if you have any questions.

Sincerely,

Dennis D. Beebe
Manager

Victor Baracosa
Victor Baracosa
Field Supervisor

enclosures: 4

cc: Frank Ennik, Sr. Public Health Biologist
California Department of Health Services
Environmental Management Branch

SOLANO COUNTY MOSQUITO ABATEMENT DISTRICT
CRITERIA FOR MOSQUITO PREVENTION IN
TIDAL MARSHES

Background Statement

Historically, tidal marshes in Solano County were prolific sources of mosquitoes, an aggressive, migrating, day-biting species. In addition to direct abatement, water management practices have been developed by SCAD to prevent the production of mosquitoes in tidal marshes. The principal prevention method consists of the construction of ditches to circulate tidal water into sloughs and bays to avoid ponding. The following recommendations should be followed to reduce the mosquito production in tidal marshes.

Policies For Tidal Marsh Management

1. All marsh lands should be periodically surveyed to determine if ditches and drainage water control structures are properly placed to ensure effective drainage.
2. Ensure that all spreader ditches are constructed and maintained free and clear of debris and vegetation. Clear and retrench approximately every three years.
3. Spreader ditches should be properly connected to a slough via a main ditch or by having a flapgate, weir box or other adequate water control mechanism.
4. The drainage capacity of the drainage systems (spreader and main ditches) should take no more than 5 days to ensure full removal of water from the surface to the marsh prior to potential mosquito production.
5. To ensure the effectiveness of the drainage system and water control structures for the prevention of mosquitoes, SCAD will conduct surveillance after each bi-monthly high tide.

SOLANO COUNTY MOSQUITO ABATEMENT DISTRICT
CRITERIA FOR MOSQUITO PREVENTION IN
PERMANENT PONDS USED AS WATERFOWL HABITAT

Background Statement

The diversity of waterfowl habitat in the Suisun Marsh is increased by the occurrence of permanent ponds. Permanent ponds, however, should remain a minor part of the marsh habitat because (1) they require specific conditions to provide optimum habitat and (2) other more intensive types of management can generally be carried out that provide for higher yields of waterfowl food.

Seeding of permanent ponds is not necessary since plants such as sago pondweed and widgeongrass should become established in the ponds naturally.

Policies For Management of Permanent Ponds

Establishment:

1. Permanent ponds are recommended only in areas where at least 70% of the total permanent water area will be maintained year round at a minimum depth of $3\frac{1}{2}$ to 4 feet. This depth limits the occurrence of cattails and tules and stimulates the production of desirable pondweeds.
2. Levees surrounding permanent ponds must have a shelf on which cattails and tules can become established to serve as a buffer against wave action.
3. Permanent ponds should be established only in areas where the gates and ditches can provide maximum circulation of water without fluctuation in water level.

Maintenance:

1. Set gates to allow maximum circulation without change in water level. Maintain circulation year round, but especially during warmer months (April-Sept.). Poor circulation during these months could increase salinity, mosquito reproduction, and the probability of botulism.
2. Once every five years, completely drain the pond in February and keep it dry through September. This will control carp populations, allow oxidation of the sediment in pond bottoms resulting in the release of nutrients, and allow for mowing or burning of undesirable vegetation. At this time an inspection of gates and levees will be undertaken and needed repairs will be made.

This plan is suitable for use on private duck club land and all other lands owned by public agencies managed as waterfowl habitat, and in normal weather cycles will limit the production of mosquitoes if water levels are managed properly. However, if adverse variations in water levels occur, SCMAD may take action to abate any production of mosquitoes pursuant to the procedures set forth in the California Health and Safety Code Sections 2274 et. seq. at the property owners expense whenever larvae and adult mosquitoes are found to be present in sufficient densities to warrant control procedures.

SOLANO COUNTY MOSQUITO ABATEMENT DISTRICT
CRITERIA FOR MOSQUITO PREVENTION IN
DRAINAGEWAY CONSTRUCTION AND MAINTENANCE PRACTICES

Background Statement

Mosquitoes breed in creeks and ditches where ponding occurs due to obstructions, overflow of banks, excessive siltation and back-eddys created from low water flow during the dry months. Consequently, modification of drainageways (digging, and filling, etc.) is often necessary to allow free flow of water. Construction of new ditches must be undertaken to maintain adequate circulation of water.

Although obstructions and ponding in creeks and ditches most often occur naturally, alterations to water flow also arise from new construction, refuse deposits and agricultural activities. The correction and costs of such alterations become the responsibility of the person(s) or agency(s) involved when mosquito production results, and abatement expenditures incurred by SOMAD may be billed to the responsible party, pursuant to the procedures set forth in the California Health and Safety Code, Sections 2274 et. seq..

SOMAD constructs one type of drainageway to adequately drain low lands in the marsh. Spreader ditches are small ditches (18 by 18 inches) which drain into main ditches or tidal water sloughs. Main ditches direct flow to a water control outlet structure and thence into a tidal water slough.

Policies For Management of Drainageway Construction and Maintenance

1. Water control structures (flap gates, slide gate, weir box, etc.) should be maintained in working condition to facilitate the flooding and complete draining of managed wetlands.
2. Clear and retrench spreader ditches approximately every three years.
3. Excavate or dredge existing main ditches when necessary.
4. Repair levees and remove debris and vegetation which are obstructing natural stream channels if such materials create a situation which may endanger public health and safety.
5. Fill isolated potholes (depressions found in marsh areas) which may create mosquito problems and cannot feasibly be connected to circulating water.
6. Connect pools (depressions found in streambeds) to the main flow of water by minor hand ditching when it appears that they are problem mosquito breeding sites.
7. Maintain all access roads and levees in good repair to allow continuous mosquito surveillance, and provide access for control equipment.
8. Install and maintain water control structures whenever possible to expedite flood water removal.

SOLANO COUNTY MOSQUITO ABATEMENT DISTRICT
CRITERIA FOR MOSQUITO PREVENTION IN
SALT MARSH RESTORATION OF EXTERIOR LEVEE LANDS

Background Statement

These lands were originally tidal marshes, vegetated areas subject to daily tidal action. They were reclaimed for agricultural and other uses by the construction of levees and the installation of one or more water control structures to control the inflow and outflow of water. The Suisun Marsh Protection Plan recommends the restoration of former tidal marshes to tidal action where and when possible.

Salt marsh restoration projects on former exterior areas generally have a great potential for producing large numbers of mosquitoes. At least one mosquito species produced in these types of areas is an aggressive pest of man and is capable of flying in excess of 20 miles. Mosquito control in California has its origin in the San Francisco Bay Area where efforts were undertaken to control this pest by ditching to enhance drainage and water circulation.

Removing or breaching the levee will subject the sites to tidal flow. The extent of tidal flow depends, of course, on the relative elevation of the site to tide. Tidal flushing itself does not create mosquito problems. Mosquito problems arise from the residual tidal and flood waters remaining in depressions and cracked ground.

The following District Practices should be implemented prior to removal or breaching of any levee or water control structure.

Policies for Management of Salt Marsh Restoration of Exterior Levee Lands

1. Develop a management program for the control of mosquitoes. Such a plan should be developed in coordination with SCMAD.
2. If necessary, obtain an engineering survey to locate depressions that would retain tidal water, and to determine the location of ditches for water circulation and drainage.
3. Establish a water recirculation system by interconnecting depressions with ditches that will enhance water movement and provide access for predator fish.
4. Disk or harrow all cracked ground caused by shrinkage and subsidence.
5. Plan and fund a long-term maintenance program on the marsh. The maintenance should include:
 - a. Dredging and cleaning of sloughs, spreader ditches and main ditches to provide adequate water circulation.
 - b. Disking of cracked ground as needed.
 - c. Maintenance and repair of water control structures.

GOVERNOR'S OFFICE OF PLANNING AND RESEARCH

1400 TENTH STREET
SACRAMENTO, CA 95814



Apr 22, 1991

JAMES DOYLE
CA. DEPT. OF PARKS AND RECREATION
1416 NINTH STREET
SACRAMENTO, CA 95814

Subject: BENICIA STATE RECREATION AREA - GENERAL PLAN
SCH # 91033021

Dear JAMES DOYLE:

The State Clearinghouse has submitted the above named draft Environmental Impact Report (EIR) to selected state agencies for review. The review period is now closed and the comments from the responding agency(ies) is(are) enclosed. On the enclosed Notice of Completion form you will note that the Clearinghouse has checked the agencies that have commented. Please review the Notice of Completion to ensure that your comment package is complete. If the comment package is not in order, please notify the State Clearinghouse immediately. Remember to refer to the project's eight-digit State Clearinghouse number so that we may respond promptly.

Please note that Section 21104 of the California Public Resources Code required that:

"a responsible agency or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency."

Commenting agencies are also required by this section to support their comments with specific documentation. These comments are forwarded for your use in preparing your final EIR. Should you need more information or clarification, we recommend that you contact the commenting agency(ies).

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact Ken Button at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

David C. Nunenkamp
Deputy Director, Permit Assistance

Enclosures

cc: Resources Agency

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STATE LANDS COMMISSION

LEO T. McCARTHY, *Lieutenant Governor*
GRAY DAVIS, *Controller*
THOMAS W. HAYES, *Director of Finance*

EXECUTIVE OFFICE
1807 - 13th Street
Sacramento, CA 95814

CHARLES WARREN
Executive Officer

April 23, 1991

State Projects Coordinator
The Resources Agency
1416 Ninth Street, Room 499
Sacramento, California 95814

Mr. James M. Doyle
State Department of Parks and Recreation
1416 Ninth Street
Sacramento, California 95814

Gentlemen:

Staff of the State Lands Commission (SLC) has reviewed the Draft Environmental Impact Report for the Preliminary General Plan for the Benicia State Recreation Area (SCH 91033021). Under the California Environmental Quality Act (CEQA), the Department of Parks and Recreation is the Lead Agency and the SLC is a Trustee Agency.

SLC JURISDICTION

The State acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all the people of the State for the statewide Public Trust purposes of waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. The landward boundaries of the State's sovereign interests are generally based upon the ordinary high water marks of these waterways as they last naturally existed. Thus, such boundaries may not be readily apparent from present day site inspections. The State's ungranted sovereign interests are under the jurisdiction of the State Lands Commission.

The area included within the Benicia State Recreation Area consists of existing and/or historic tidelands and submerged lands included within Swamp and Overflowed Land Patent 100 and Tideland Surveys 26 and 27.

Swamp and Overflowed Lands

By virtue of the Arkansas Swamp Land Act of 1850, the State was authorized to sell swamp and overflowed lands (S & O). As defined, S & O lands lie above the ordinary high

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State Projects Coordinator
Mr. James M. Doyle
April 23, 1991
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water mark. Lands lying between the ordinary high and ordinary low water marks are tidelands; lands lying below the ordinary low water mark are submerged lands. On numerous occasions, tidelands and/or submerged lands were erroneously encompassed within the perimeter descriptions of the S & O land patents.

In 1860, the Legislature adopted numerous "curative" statutes, some of which ratified certain prior sales of tidelands inadvertently described within with S & O land patents. These acts affirmed that certain lands described within the patents which were, in fact, tidelands had been sold, but as tidelands, not as S & O lands. These sold tidelands, whether filled or unfilled remain subject to a State-retained Public Trust easement for commerce, navigation, fisheries, recreation, habitat preservation, and open space. Lands which were, in fact, submerged lands did not pass into private ownership under the S & O land patents and are owned in fee by the State as sovereign lands.

A majority of the Recreation Area is included within the lands described in S & O Patent 100. Portions of the S & O Patent consist of historic and possibly existing tidelands and submerged lands. The precise nature, extent and location of the State's sovereign interests have not been defined by agreement or court judgment.

Tideland Surveys 26 and 27

The Legislature authorized the sale of certain tidelands through a series of general sales statutes during the late 1800's. As described above, tidelands lie between the last natural ordinary high and ordinary low water marks.

The California Supreme Court held in People v. California Fish Co., 166 Cal. 576 (1913) that tidelands sold by the State pursuant to general sales acts are subject to the State-retained Public Trust easement.

The lands that were included within the subject tideland patents are waterward of the lands within S & O 100.

Uses over privately owned historic and existing tidelands, whether filled or unfilled, which are subject to the State retained Public Trust easement (those included within S & O Patent 100 and the subject tideland patents), must not be inconsistent with Public Trust needs in the area, including the ecological values associated therewith. The SLC administers the easement. At the present time, the SLC does not require permits or leases for uses over its easement lands, but does review use proposals to ensure they not inconsistent with trust needs in the area.

State Projects Coordinator
Mr. James M. Doyle
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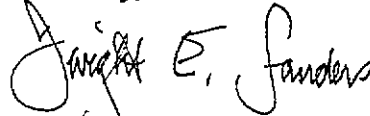
ENVIRONMENTAL ANALYSIS

The Commission has a legal responsibility for, and a strong interest in, protecting the ecological and Public Trust values associated with the State's sovereign lands, including the use of these lands for recreation, and preservation in their nature state so that they may serve as ecological units for scientific study as open space and as environments which provide food and habitat for birds and marine life.

The document is unclear as to why only 9.5 acres and not the entire 27-acre waste disposal site in the northwest corner of the wetland is proposed for restoration (pages 53-54). Given the significance of wetlands to the ecosystem and the loss of wetland acreage in the State, it would be preferable if the entire site were to be restored.

We would like to review site specific resource management plans as they are prepared. If you have any questions, please call Diane Jones at 916-327-2920.

Sincerely,



DWIGHT E. SANDERS, Chief
Division of Environmental
Planning and Management

cc: Charles Warren, Executive Officer
OPR

Comments and Response to Comments

What are the results of the Department's investigation of the 27-acre landfill site? What is proposed to consolidate the waste? Why are only 9.5 acres of the 27 acres proposed for restoration of wetland? There is need to conduct further studies to evaluate the feasibility of using fire for ecological restoration in view of past problems with the landfill site.

An initial investigation of the 27-acre site has been completed. The results show that this landfill site contains predominantly household refuse and construction materials. There are no toxics present, other than some petroleum products. Petroleum products were found in some oil-saturated soil near the entrance road, and in residual amounts in an estimated one hundred 55-gallon barrels. The investigation also found little hydrologic continuity between the landfill site and the wetland tidal prism; therefore, contaminants do not appear to be entering the wetland from the landfill. The department has spent \$198,000 in site investigations, contaminant characterizations, and preliminary design investigations. An additional \$200,000 has been funded for the 1990/91 fiscal year to conduct design phase field investigations, and to prepare working drawings for a wetland restoration project. The implementation cost is estimated at \$1,360,000. The department is seeking these funds from the Shell Oil Spill Litigation Fund.

Of the 26.7 acres of the landfill, 18 acres are former tidal wetland. This project will provide for restoration of 9.5 acres of that wetland. The remaining 8.5 acres will not be restored, but will be used for storage of fill from the other 9.5 acres. The waste will be consolidated to prevent leaching of contaminants into the wetland, and to prevent the public from exposure to the waste. The capped waste disposal site will be revegetated. The oil-saturated soil layer will be excavated and disposed of off-site at a land-farming facility. For preliminary cost estimate purposes, it was assumed that 4200 tons of soil would be transported off-site.

Prior to the use of fire for ecological restoration, the department will prepare a unit Vegetation Management Plan which will consider various methods of ecological maintenance and restoration, including prescribed burning. Should prescribed burning be employed, a separate prescribed burning plan for each burn project would be prepared which would consider the environmental constraints and potential fuel hazards, such as the landfill site. This prescribed burn plan would be subject to compliance with the California Environmental Quality Act.

The General Plan does not identify and quantify the pollutants from the water entering the unit. The General Plan does not provide statistical substantiation of increased or altered flows into the wetland as a result of the upstream development.

The expected increase in surface water runoff into the wetland from surrounding lands adjacent to the unit is based on qualitative rather than quantitative information. The department does not have statistical evidence that shows the extent of increase in sediments, pollutants, and freshwater flows into the unit since development of the surrounding lands. However, there is plenty of literature (i.e. Environmental Impact Report, Proposed Carquinez Highlands Subdivision, City of Vallejo, 1978, or Carmel Valley Drainage and Sediment Master Plan, 1985) that supports the department's expectation of increased surface water runoff and pollutants commonly resulting from residential development (fertilizers, detergents, petroleum products, etc.), particularly when there is a recent change in land use from open space to residential. Unit staff have also made observations of vegetation changes in recent years that indicate an increase in freshwater flows into the wetland. The cities of Benicia and Vallejo have required mitigation such as sedimentation basins in the surrounding developments to reduce these impacts. We are not aware of any monitoring program that has demonstrated the effectiveness of these measures.

The Bay Area Ridge Trail passes through the SRA. The San Francisco Bay Trail will follow this same route in the future. No provision has been made in the general plan as part of the proposed "main entrance with the I-780 realignment" to provide for pedestrian and bicycle access. This is important for the future expansion of the Bay Area Ridge Trail and access to the SRA from Vallejo and Benicia. Local planners want to insure that these ties become formalized and to meet minimum trail standards.

If the proposed California Department of Transportation realignment of the I-780 overpass becomes a reality, the department will work closely with Caltrans and appropriate local government agencies to develop a suitable plan to provide pedestrian and bicycle access over the new overpass.

With Caltrans being the lead agency for the development of the trail connection and access to the SRA, Caltrans standards for the paved trails will be followed.

It is the department's intent to provide a continuous route for pedestrians and bicyclists to and through the SRA via the Bay Area Ridge Trail and San Francisco Bay Trail.

The proposed landscaping of the median strip between the pedestrian and bicyclist trails is too narrow for any landscaping and would cause a safety problem for bicycle riders.

The intent of landscaping the median between the pedestrian and bicycle trails is to help visually define the separation of trails and to help restrict the easy crossover of conflicting recreational use (pedestrians vs. bicyclists) on both trails. With the present width of the bare soil median at about two feet, native grasses such as festuca or stipa and a wildflower mix such as lupine or poppy would help dress up the unsightly strip and provide some separation, between the trails to enhance public safety.

At such time when the trails need to be rehabilitated, it is recommended that the trails be realigned to provide a more substantial and appropriate 4-5 foot separation. Suitable shrubs (up to three feet), native grasses, and wildflowers could be used (see Design Criteria page 99). The planting will not be a solid wall like mass, but rather an undulating plant palette with a height of 6 inches to 3 feet.

Another access point should be considered along the western boundary of the unit.

Glen Cove residents have requested additional trail access points be established along the western boundary of the unit. The general plan is proposing to develop two new trail connections: (1) off South Regatta Drive near the southern end of the unit and (2) a new connection with Glen Cove Park. These proposed two new access points and the existing two access points to the unit are all that the existing and proposed limited park staff, can reasonably manage and properly operate.

In the history discussion, it is indicated that the state acquired Dillon Point. This does not reflect the efforts and funding assistance contributed by Solano County, the Greater Vallejo Recreation District, and the City of Vallejo.

It should be noted that the state along with the important assistance and funding contributions of Solano County, the Greater Vallejo Recreation District, and the City of Vallejo help make the acquisition of Dillon Point possible.

The majority of the area being considered for future additions to the unit is owned by the City of Vallejo and is designated permanent open space. An alternative to purchase the land is to work with the Glen Cove Homeowners Association and the City of Vallejo to develop a landscape plan to provide a visual buffer between the park and the residential development.

The parcel that was formerly proposed for the Vista Cove development is absent from the future additions plan.

It is not the intent of the department to purchase the open space property presently owned by the City of Vallejo. The general plan states that open space is a compatible adjacent use. However, if conditions change which would seriously effect the SRA values, and the property becomes available for purchase, management or acquisition by the state would be considered.

Given the magnitude of residential development surrounding the SRA, particularly from Glen Cove, establishing a visual landscape buffer between the homes and the SRA would be a major undertaking. given the scale of the project. Careful planning would be essential to assure a "natural" look and not block the homeowner's view of the bay. Although the project would be a low priority project when compared to other needed projects in the unit, the department would be open to participate with the Glen Cove homeowners and City of Vallejo to study the problem and examine potential alternatives.

The parcel that was previously proposed for the Vista Cove Development is included in the "Appropriate Future Additions" plan and map.

The recommendation to remove eucalyptus trees, along the I-780 frontage to improve motorists view of the unit and the bay, would impact the use of the park unless a landscaping screen was installed and allowed to mature prior to the removal of the trees. The eucalyptus trees also provide wildlife habitat.

The plan to remove sections of eucalyptus trees to enhance I-780 motorists' view of the wetlands and bay, involves the removal of single and small isolated stands of trees that would provide partial views of the unit and bay. The large mature stands of eucalyptus trees will remain. The sections designated for tree removal are shown ("Visual Enhancement Map" page 101) with arrows that designate view "windows" for motorists.

The removal of the single and small stands of trees will help stop the proliferation of eucalyptus in these areas and prevent a "solid tree wall" effect along the I-780 frontage.

The City of Benicia strongly protests the removal of non-fee parking in the east parking lot. If the plan proceeds to impose parking fees, SRA parking lots will be empty and users will not use the park or they will find non-fee parking outside the unit. This will effect the surrounding area on the west side of Benicia.

The department has been mandated to collect fees from park users in order to

reduce the current state deficit. Although the fee collection system will not be established immediately, it will take place once adequate staffing and funding to develop the fee collection facilities are in place.

There are alternatives to reduce the cost to park and use the SRA. A seasonal pass is an economical way to use the SRA, and is also good for use of other day use facilities in most other state park system units.

The department will work with the City of Benicia to address off-site parking and related impacts prior to development and installation of a fee collection system in the east parking lot.

There are concerns related to configuration and installation of gates at the proposed realigned main entrance, if the I-780 overpass is developed.

The California Department of Transportation will be required to prepare an environmental impact report for the proposed I-780 realignment project. Full review of this project, as well as a new entrance design to the state recreation area, is required under the California Environmental Quality Act. The department will work closely with Caltrans, the cities of Vallejo and Benicia, and other appropriate local agencies to develop a suitable main entrance plan to the state recreation area.

What is the extent of lead contamination at the unit? What measures are being considered to mitigate the impact?

The department's knowledge of the extent and level of lead-contaminated soil in the SRA, is limited to studies from the California Department of Health Services completed in 1970 and 1978, and from studies conducted more recently at the adjacent Glen Cove Waterfront Park. The department will contact and consult with the Department of Health Services to determine if additional testing in the unit should be conducted. No new development in the unit, in the vicinity of the lead smelting plant site at Glen Cove will be initiated until potential concerns have been addressed to the satisfaction of the Department of Health Services.

Addendum to Response to Comments

Below are comments and specific proposed modifications to the Preliminary General Plan for Benicia State Recreation Area. These comments and modifications are an addendum to the Response to Comments for the Final Environmental Impact Report on the General Plan. This addendum resulted from a May 28, 1991 meeting with representatives from the cities of Benicia and Vallejo and the Greater Vallejo Recreation District. The addendum is broken into two sections. The first represents further explanation of department responses to concerns expressed by the local government representatives. The second proposes specific General Plan modifications, which the department recommends the California Park and Recreation Commission approve when adopting the General Plan.

I. General Comments

Fee Issue:

Concern was raised over the indirect impacts fees would have on on-street parking in nearby residential areas. The General Plan provides for long-term management and development of Benicia State Recreation Area. Parking fees are not a long-range, general plan issue, but rather a specific, on-going operations matter that may periodically change as required or mandated. A general plan does not provide the legal authority by which the California Department of Parks and Recreation determines whether or not to charge fees, or the authority to determine what those fees will be. That authority stems from the the Public Resources Code, Section 5010. Because the General Plan constitutes a report on a project, and this project does not establish fees, any impacts, direct or indirect, from establishment of a fee are not covered in the General Plan Environmental Impact Report.

Even though there is not a California Environmental Quality Act (CEQA) requirement to address fee issues in this General Plan, the issue of fees has been raised, and the department would like to provide information on what fee options are available to frequent users of the unit. The department has been mandated to generate revenue to offset operational costs. In order to accomplish this, the department must collect fees statewide from park users. To inform park users of fee options, information on money-saving fee options such as an annual day use pass, an annual individual pass, a disabled discount pass, various senior citizen passes, and other annual/special passes will be prominently displayed in the unit's information panels and kiosks. The City of Benicia and the Greater Vallejo Recreation District (GVRD) have volunteered to help sell the passes for the convenience of their

local residents. Some other options to further study and evaluate are establishment of parking meters, and a modified fee schedule such as a discounted user fee for those who use the unit during early morning or early evening hours, or outside normal operating hours. The department will, in the future, evaluate alternative proposals from the cities of Benicia and Vallejo and the GVRD related to fee collection in the unit.

Lead Contamination:

The Response to Comments documents indicate that the department will contact the California Department of Health Services (DHS) regarding additional testing for lead contamination in the unit. The department has spoken to DHS staff who have experience on this issue on adjacent lands. DHS staff is reviewing measures necessary for additional testing and requirements for public use and new development in areas where tests may indicate problems.

Landfill/Wetland Restoration:

Staff from the cities of Benicia and Vallejo asked what evidence the department had to support a statement indicating that contaminants from the landfill do not appear to be entering the wetland. The information was obtained from the following report: Benicia SRA Landfill Closure Investigation, Preliminary Design Feasibility Investigation Report. This report was the result of a study by Aquasolum Consultants. Consultants gathered this information as a result of monitoring sampling wells.

The General Plan proposes some restoration project at the landfill site. This is the only known historical tidal marsh. Restoration details will be determined after future study and completion of the CEQA process for a specific project.

II. Specific Preliminary General Plan Modifications

Below are recommended specific modifications to the Preliminary General Plan.

Summary and Resource Element:

In recognition of the efforts of the cities of Benicia and Vallejo in reducing sediments and other contaminants from runoff of adjacent lands, the following modifications to the General Plan are proposed:

- a. Page 3, item 2, paragraph 2 - “Reduce or eliminate pollutants from the waters entering the unit by working cooperatively with the cities of Benicia and Vallejo.”

b. Page 21, new paragraph inserted at top of the page- "It is generally recognized that runoff from recently graded areas or established urban development increases and can have impacts on environmentally sensitive areas, like coastal wetland systems. References are made in the Hydrology, Soils, and Plant Life Sections related to these potential impacts. These are general beliefs, and are not based on specific sampling or other quantified data. The cities of Benicia and Vallejo have worked to insure that surface water flows from recently developed areas adjacent to the the unit have reduced downstream impacts by requiring a variety of water quality control measures."

c. Page 32, paragraph 6 - It was not clear in the General Plan that the problem of toxic leachate emitting from the Braitto landfill has been corrected. The following addition (underlined) would clarify past local government efforts: "...Two landfills are located in the watershed above the unit, one of which, the Braitto or Solano County landfill, was found to be emitting toxic leachate in the past. Since 1984, the leachate from the Braitto landfill has been directed into the sanitary sewer system of the City of Benicia. The leachate is ultimately treated and released from the city's wastewater treatment plant, approximately seven miles from the state recreation area. There are also retention ponds that have been created to slow down and hold surface water runoff from the landfill area."

d. Page 43, paragraph 1 - Since completion of the final draft of the Resource Element of the General Plan, a portion of the trail in the state recreation area was dedicated as the Bay Area Ridge Trail. The following addition (underlined) should be added: "...A three-mile paved road borders the wetland, and is used as a service road and for public access. On a part of this road, closed to public vehicles, is an 18-station par course, on the eastern periphery of the unit. This portion of the road and the trail to Glen Cove Park was also dedicated in October of 1989 as the Bay Area Ridge Trail. There are 170 paved..."

e. Page 50, paragraph 3 - add the following: "Another potential source of water quality degradation is the landfill site in the unit. While a recent study has concluded that no seepage from the site is affecting the wetlands, periodic monitoring should continue, as described in the directive below."

f. Page 50, paragraph 4 - same as above for Page 32. Delete from the text paragraph 4, beginning: "The Braitto dumpsite..."

g. Page 56, Add the following paragraph before the directive:

"Management of the wetland system would emphasize restoring or maintaining natural conditions. Natural conditions include present-day wetland elevations which allow for periodic tidal influences to help maintain wetland characteristics. Managing for natural conditions also suggests that artificial impediments to a functioning wetland system be removed or minimized".

Interpretive Element

a. Page 71, Item B. Long-Term Development

In order to further enhance interpretive opportunities, particularly with docent and school groups, the following language will be incorporated:

"-- When the operations area is rehabilitated, it is recommended that suitable enclosed building space in the operations area be developed for special group use, such as docents, environmental study groups, school groups, etc., on a reservation basis."

"-- When the proposed main parking lot near the main entrance is developed, provide suitable space and appropriate utility hookup for a temporary interpretive/educational program trailer. The programs should relate to the unique resources of the unit and the surrounding area."

Operations Element

a. Page 80, Housing Developments. Eliminate the following sentence:

"This increased flow is also causing siltation in the unit from out-of-park sources, as well as changing the complexion of the saltwater marsh".

b. Page 80, Housing Developments, Change the following sentence:

"Introduction of approximately 4,000 homes near the unit's boundary ..." will be changed to read as "Introduction of approximately 4,000 homes within a one-mile radius of the unit has increased dramatically ...".

c. Page 80, Housing Developments. Change the following sentence:

"Homeowners adjacent to the unit have started making their private trails into the unit" will be eliminated, and a new replacement sentence will read: "Trails have been developed from the adjacent Glen Cove residential development into the unit."

d. Page 81, Resource Management, Add the following language as the last paragraph of the section: "In order to comply with recycling

requirements for the unit, the department will work with the cities of Benicia and Vallejo and Solano County to incorporate a recycling program in the SRA."

Land Use Element

a. Page 103, Design Criteria, Landscape Design, fourth paragraph. In order to further clarify establishment of scenic vistas for I-780 motorists, the following language will be added to the end of the paragraph: "The arrows on the "Visual Enhancement Map" indicate the approximate location where the single or small isolated stands of trees would be removed, and "window views" of the wetland and bay can be established. Removal of these trees will also help stop the proliferation of eucalyptus, and prevent a "solid tree wall" effect along the I-780 frontage."

b. Page 103, Design Criteria, Landscape Design, fifth paragraph. To clarify various landscape implementation phasing, the following language will be added to the end of the paragraph: "Any berming, mounding, and/or landscaping proposed along the pedestrian and bicycle trail that parallels I-780 should be done prior to the establishment of view windows, as designated on the "Visual Enhancement Map," which would require removal of eucalyptus trees."

Facilities Element

a. Page 117, Northeast Area of the Unit, first sentence. To acknowledge the contributions of the City of Benicia regarding the bicycle trail, the following language (underlined) will be added to make the sentence read: "... with one trail for bicyclists (completed in 1989, and planned, designed, and constructed with funds from the City of Benicia) and ..."

b. Page 117, Recommendations, 1. First sentence. To clarify the purpose of landscaping the median strip, the following language will be added after the sentence: "The intent of landscaping the median between the pedestrian and bicycle trails is to help visually define the separation of trails, and to help restrict the informal crossover of conflicting recreational use (pedestrian vs. bicyclists) on both trails. With the present width of the bare median strip between 2 and 3 feet, native grasses such as festuca or stipa, and a wildflower mix such as lupine or poppy, would help dress up the strip, and provide some separation between the trails to enhance public safety. At such time when the trails need to be rehabilitated, it is recommended the trails be realigned to provide a more substantial and appropriate separation of at least 10 feet. Suitable shrubs (up to three feet), native grasses, and wildflowers could be used (see Design Criteria). The planting will not

be a solid wall-like mass, but rather an undulating plant silhouette, with a varying height from several inches to three feet."

c. Page 118, New Additions, 1. The following language will be added after the sentence: "A drinking fountain should be developed and attached to or near the restroom."

d. Page 118, Main Entrance Area, Second paragraph. The following language will be added at the end of the paragraph to clarify development of a trail/access connection on the proposed overpass: "Caltrans will be required to provide pedestrian/bicycle access on the new overpass, and into the SRA. It is important this be accomplished for future expansion of the Bay Area Ridge Trail and the San Francisco Bay Trail, and to provide access to the SRA for residents who live on the north side of the freeway."

e. Page 119, Map No. 8, Proposed Facilities Plan. The following addition will be made to the plan: "Show the existing trail connection and gate entrance on South Regatta Drive that connects to the SRA, and was developed with the assistance of the City of Vallejo and the Greater Vallejo Recreation District. "

f. Page 124, New Additions, Item 2. The following language will be added after the sentence: "A drinking fountain should be developed and attached to or near the restroom."

g. Page 126, second paragraph. The following language (underlined) will be added to the first sentence: "When appropriate, develop day-use facilities, portable restrooms, hiking trails ..."

h. Page 130, Remove item 2 under Priority 2, and revise item 1 (underlined) under Priority 1 to read: "1. Rehabilitate and upgrade existing facilities, including day-use areas, pedestrian and bicycle trails, paved parking lots, roads with level graded ..."

Environmental Impact Element

a. Page 133, paragraph 2 - Add the following to the last sentence: ", and (4) landfill clean-up and wetland restoration."

Appendices

NEWSLETTER 1

WE NEED YOUR HELP

At 7:00 p.m., on February 23, 1988 in the Benicia City Council chambers, we will be holding a public meeting to discuss future plans for Benicia State Recreation area.

With your help, the California Department of Parks and Recreation will be preparing a General Plan for Benicia State Recreation Area. A General Plan is a master plan which will guide the long-range preservation, use, and management of a unit of the State Park System. We are now beginning the planning effort for Benicia State Recreation Area. The purpose of our first meeting is to hear your ideas and concerns as a part of our information gathering phase. With your ideas and further research, staff will prepare alternative plans for your review at a second public meeting. Additional newsletters will be sent out to announce the times and locations of our next meetings. Please plan to attend one or all meetings.

BENICIA STATE RECREATION AREA

Benicia State Recreation Area is located in Solano County, on the north shore of the Carquinez Strait at Southhampton Bay between the cities of Benicia and Vallejo. Interstate 780 on the north side provides access to the state recreation area.

Original land acquisitions began in 1957. Current land ownership is 455 acres.

The general topography consists of grassy hillsides and wide open wetlands. A series of rolling hills along the western boundary of the state recreation area range in elevation from 100 feet to 300 feet. The area adjacent to Southhampton Bay is wetlands, while areas to the north and east are gently sloping ground.

The unit is subject to strong western winds blowing through the Carquinez Strait. The hills and sloping terrain contain several species of native grasses, including blue wild-rye and needle grass, and wildflowers, as well as stands of exotic species such as anise, thistle, and mustard. The main gate entrance station is landscaped. The wetland ecosystem contains salt marsh, freshwater marsh, and brackish water marsh and provides habitat for an abundant variety of animal life. Several State or Federally-listed rare or endangered plants and animals occur in the wetland. These include the salt marsh harvest mouse, the California black rail, and soft bird's-beak. Additional wildlife utilizes the uplands and wetlands including raptors, rabbits, ground squirrels, gophers and garter snakes. Existing facilities include two entrances, 79 picnic sites, 4 day-use parking areas, PAR course exercise equipment, and about 2.5 miles of trails.

GENERAL PLAN STUDY

The State Department of Parks and Recreation is preparing a long-range General Plan for Benicia State Recreation Area. This plan will guide future programs, management, and development at the state recreation area over the next 20 years.

The plan is made up of the following seven elements:

- o The Resource Element is a summary of the natural and cultural resources of the area, and sets the management policies for protection and use of these resources.
- o The Land Use Element describes current and proposed land uses and relevant planning issues.
- o The Facilities Element describes facilities and programs.
- o The Interpretive Element describes proposals and programs for interpretation of natural and cultural features of the park.
- o The Operations Element describes specific operational requirements unique to the park.
- o The Concessions Element describes appropriate service facilities necessary to meet public demand.
- o The Environmental Impact Element analyzes proposed development in relationship to the California Environmental Quality Act (CEQA).

The General Plan is scheduled to be submitted in the summer of 1989 to the State Park and Recreation Commission for its review and approval.

PLANNING PROCESS

- o STEP 1 ORGANIZING THE PLANNING JOB
- o STEP 2 GATHERING INFORMATION – Public meeting February 23, 1988
- o STEP 3 DEVELOPING ALTERNATIVES
- o STEP 4 COMPOSING A SINGLE PLAN
- o STEP 5 CEQA REVIEW PROCESS
- o STEP 6 STATE PARK AND RECREATION COMMISSION PUBLIC HEARING OF PLAN

PUBLIC MEETING

In planning for Benicia State Recreation Area, we would like to learn a whole range of things from you. We are requesting your participation in upcoming meetings, where together we'll discuss the future of the park. We need your ideas and concerns on what recreation opportunities are needed, what facilities you would like developed, what lands should remain in their natural condition, and which natural, historical, and cultural values should be enhanced or interpreted.

Your first opportunity to share your concerns with the planning team will be at our first public meetin which is on:

February 23, 1988 – 7:00 p.m. to 10:00 p.m.

Benicia City Council Chambers
City Hall
250 East 'L' Street
Benicia, California 94510

Any comments or questions about the recreation planning effort can be sent to the attention of Alan Tang, Assistant Project Manager, at the following address (or call us at (916) 323-4268):

Benicia State Recreation Area Planning Team
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, California 94296-0001

Benicia State Recreation Area Planning Team
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, California 94296-0001

NEWSLETTER 2

BENICIA STATE RECREATION AREA

WHAT WE'VE DONE TO DATE

The first General Plan public meeting was held on February 23, 1988; to gather public input on ideas and concerns for Benicia State Recreation Area. We have met with local government representatives as well as local elected officials. The Department has prepared a draft Resource Element which summarizes the natural and cultural resources of the area and sets

the policies for their protection and management. A draft Interpretive Element describing proposals and programs for interpretation of natural and cultural features of the area has also been prepared. After a number of project delays, we are now able to continue the General Plan process.

PUBLIC MEETING NUMBER 2

In planning for Benicia State Recreation Area, we would like to learn a whole range of things from you. We are requesting your participation in upcoming meetings where together we'll discuss the future of the park. We need your ideas and concerns on what recreation opportunities are needed, what facilities you would like developed, what lands should remain in their natural condition, and which natural, historical, and cultural values should be enhanced or interpreted.

Your next opportunity to share your concerns with the planning team will be at our second public meeting, which is on:

PUBLIC MEETING 2

February 28, 1989

7:00 to 10:00 p.m.

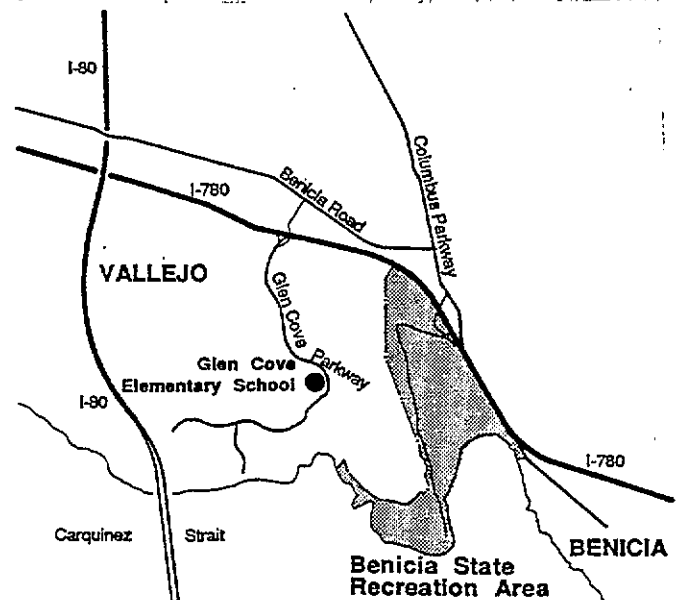
Glen Cove Elementary School

Multi-Purpose Room

501 Glen Cove Parkway

Vallejo, CA

Park staff will provide a project update and we will discuss alternative plans for Benicia State Recreation Area.



THE NEXT PUBLIC MEETING

The purpose of our upcoming second public meeting is to provide you with a project update and also review Alternative Land Use proposals. The meeting will be divided into two parts.

- First, we will provide an update on what's been happening since the first meeting. Summaries of the draft Resource Element and Interpretive Element as well as briefings on the Bicycle Trail widening, Wetlands Existing Land Fill Area project, Interstate 780 widening project, and the Martinez Oil Spill will be included.
- Secondly, we will use a workshop format to allow us to discuss, hear, and write recommendations regarding land use planning for Benicia State Recreation Area. An "Alternative Land Use Workbook", which will be passed out at the meeting, will help us focus on deciding what kind of place we want Benicia State Recreation Area to be. The workbook will include a summary of existing factors and concerns and a list of alternative potential changes and new development for various categories, such as recreation, interpretation, land management, transportation, and operations. The alternatives are

based upon public input, local agency discussions, and project information we have gathered to date. We plan to put everyone to work on February 28 to help provide the needed input so we can develop a single long-range plan for Benicia SRA.

IF YOU CAN'T ATTEND OUR NEXT MEETING...

and you would like to be involved with the land use planning for Benicia SRA, please notify:

Benicia State Recreation Area
General Plan Team
Department of Parks
and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

We will send you a copy of the workbook on land use alternatives for Benicia SRA or you can pick up a copy at the Diablo District office, 4180 Treat Boulevard, Suite D, Concord. Your responses combined with what we hear at the public meeting will help us formulate a preliminary plan which will be discussed in a future newsletter and at a third public meeting.

GENERAL PLANNING PROCESS

- o STEP 1 ORGANIZING THE PLANNING JOB
- o STEP 2 GATHERING INFORMATION
- o STEP 3 DEVELOPING ALTERNATIVES - Public meeting February 28, 1989
- o STEP 4 COMPOSING A SINGLE PLAN
- o STEP 5 CEQA REVIEW PROCESS
- o STEP 6 STATE PARK AND RECREATION COMMISSION PUBLIC HEARING OF PLAN

BENICIA STATE RECREATION AREA

GENERAL PLAN

The State Department of Parks and Recreation is preparing a long-range General Plan for Benicia State Recreation Area. This plan will guide future programs, management, and development at the State Recreation Area over the next 20 years.

The plan is made up of the following seven elements:

- o The Resource Element is a summary of the natural and cultural resources of the area and sets the management policies for protection and use of these resources.
- o The Land Use Element describes current and proposed land uses and relevant planning issues.
- o The Facilities Element describes facilities and programs.
- o The Interpretive Element describes proposals and programs for interpretation of natural and cultural features of the park.
- o The Operations Element describes specific operational requirements unique to the park.
- o The Concessions Element describes appropriate facilities necessary to meet public demand.
- o The Environmental Impact Element analyzes proposed development in relationship to the California Environmental Quality Act (CEQA).

The General Plan is scheduled to be submitted in the spring of 1990 to the State Park and Recreation Commission for its review and approval.

Any comments or questions about the planning effort can be sent to the attention of Alan Tang, Assistant Project Manager, at the following address (or call us at (916) 323-4268):

Benicia State Recreation Area Planning Team
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

newsletter

Benicia State Recreation Area

**General Plan Update
Issue Number 3**

March 1990

GENERAL PLAN UPDATE

It's been awhile since you've heard from us, but after some delays, we're back on track with the general plan.

To those of you who weren't able to attend the last meeting on February 1989, about 30 people took part in reviewing alternative land use plans and giving us their specific long-range recommendations for the recreation area.

"Alternative Land Use Workbooks" were used to receive public input. The land use alternatives were based on our concerns for preserving and protecting the park's resources and on information collected during the previous public meetings, meetings with special interest groups, user surveys, letters, and from statewide recreation needs.

Working in small groups, the participants assessed various land use and facilities options and made some of their own recommendations to create a plan which the group felt to be the best plan for development of facilities and use of the recreation area.

Since we saw you last, staff is now attempting to resolve the sometimes conflicting recommendations made by group and individual plans by putting together a draft General Plan.

The planning team will put all elements (Resource Element, Interpretive Element, Land Use Element, Facilities Element, Concessions Element, and the Operations Element) together into a draft general plan containing what the planning team believes to be the most feasible and appropriate plan for the management and use of the recreation area.

The third public meeting to review highlights and a summary of the draft general plan is scheduled for June-July 1990.

WHAT WE HEARD AT THE LAST MEETING

The following information shows how people from the last public meeting (both individually and as a group) and by mail responded and commented on the workbook questions.

ALTERNATIVE LAND USE WORKBOOK SUMMARY

The first percentage figure is based on 43 completed workbooks while the second figure in parenthesis is based on responses from 27 individuals that were divided into five meeting groups.

What kind of place should Benicia SRA be?

44% (43%) CONCEPT #1 - Leave Benicia SRA as it is with minor rehabilitation.

42% (43%) CONCEPT #2 - Moderate new development.

09% (13%) CONCEPT #3 - Restricted major recreational additions.

Additional Comments:

"Parts of each (alternative concept) are O.K. ... Improve separation between cars and pedestrian/bicycle paths, add emergency phones ... Expand and develop area at Dillon beyond (the existing) restrooms ... Space is limited for the provision of parking facilities, all improvements will necessarily be tied to access and parking restrictions ... Improvements, i.e., restroom, parking spaces, picnic area, bike trail/ walking, jogging trail, bird watching hikes ... Add separate pedestrian trail, add a phone at joggers turnaround ... need telephone, tear down the Glen Cove homes on the hill, they ruin the view ... Separate non-paved jogging trail ... Add jogger trail parallel to roadway to Dillon Point ... No camping in BSRA ... An interpretive center on the bluff at Dillon Point ... Existing facilities should be improved consistent with safety and reasonable use. Add separate running trail, paved or otherwise ... Would like to see limited group reservation for use of campsites. Walk-in type camp. No RVs ... need telephones ... Separate and additional trails might lessen impact on each trail. Additional parking is needed. Add restrooms nearer parking areas. Walk or bike-in camping ... Any development beyond rehabilitation will only increase the congestion; the park is too small to accommodate a large increase in usage ... Existing facilities need pay phones and also restrooms on Military West parking lot ... No RV camping, close road into park to motor vehicles, hills and curves are incompatible with young children biking or walking on road. Cars (are also) moving too fast. Develop walk-

in campgrounds for youth groups ... Unless more land is obtained, the land area ... No increase in development other than improved entry points and trail systems. Work eventually to remove above ground utilities ... more marked trails with trailheads will provide access and protect the park from random foot traffic which will eventually damage the area from overuse ... A separate bike trail would be helpful and nice ... No camping — keep people out of wetlands area - but need an interpretive/nature education facility because of weather ... Very moderate (development) - a few toilets, access at Glen Cove and some separation of bikes and pedestrians where feasible. No camping, no major buildings. Improvements and developments are inevitable. My concerns stem toward the adverse impacts of the inevitable. We as a people/government need to adopt a common sense approach to development of any kind ... I would like to see the park remain as it is now. Adding surrounding land would be great. We should preserve it as it is for the birds and wildlife there and not impinge on any more of their territory. Also, trees or large shrubs should be planted near development (it's horrible) to hide it from park view ... Park should be left as wetlands habitat, Glen Cove housing developments should be screened off by barriers of trees...

Trails and Access

- 53% (53%) Do not create any more access points to the park.**
- 63% (63%) Complete a comprehensive trail plan, to include recommendations for standards, reconstruction, relocation, establishment of new trails, and abandonment of duplicate or environmentally damaging trails.**
- 42% (37%) Provide detailed information on trail signs to include distance, destination, difficulty, average time to complete, highlights, etc.**
- 40% (23%) Provide trail connections between the main gate area and the Glen Cove area.**
- 86% (73%) Develop a double trail (separate pedestrian and bicycle trails) where possible between Dillon Point and Glen Cove Park.**
- 28% (17%) Develop a single trail between Dillon Point and Glen Cove Park.**
- 65% (73%) Establish an on-going trail maintenance program and budget funds sufficient to maintain, reconstruct, relocate, and to establish new trails.**

75% (73%) Cooperate with local and regional agencies to connect to a regional trail system.

Additional Comments:

No additional vehicle access ... Use some material other than asphalt for pedestrian trails ... Control access points ... (provide) Access from Glen Cove housing development ... Control the access points ... Join the trail up to GVRD Park. More parking would only encourage more traffic and park overcrowding and more cost to SRA. No more access ... Move houses from Glen Cove ... Incorporate with Bay Area wide trail system. No additional vehicle access to park. Trail access from Glen Cove park site ... Limited access from Glen Cove or other areas except to provide a trail from Stremmell parcel to Glen Cove ... No vehicles on road to Dillon Point except for supplies for camping or other designated safety needs. No additional vehicle access to park, access from Glen Cove by bike and bikers would be good ... Bicycles and joggers are extremely incompatible, I've had many near misses. Also, dogs should be either banned or trails should be patrolled. Dogs who dirty the trails without owners cleaning up after them should be kept out or the owners should be fined (enforcement should be strict). Leash law (enforcement is) currently inadequate ... Work with the City of Benicia and community of Glen Cove to develop shoreline trail system. Use sidewalks when blocked but acquire right of way for continuous trail. This allows choice to use various segments at different times. Spreads use out. Work quickly before shoreline is blocked everywhere. Benicia hasn't been very careful about loss of a continuous shoreline access ... Please leave some trails unpaved-natural. The uneven surface uses more muscles in the legs and is highly advantageous for some people. Also, the dirt path is more soothing to the soul. Making separate bike and people trails is an excellent (idea) if feasible ... Trails are a big issue in this kind of park, they need to address all the uses, the main should be just that, it goes from point A to point B, currently from the main gate entrance to the East End entrance to Dillon Point. Glen Cove Park to Dillon Point trail should be part of the proposal of the development of that park. I feel the existing "main trail" should accommodate all the main traffic, autos, bikes, and pedestrians. Make it wider and mark some divisions for different uses. Keep in mind that 95% of the time there is no conflict of traffic and common courtesy goes a long way to avoid conflict. Avoid cluttering the park with excessive information on signs. If people need/want that information, provide it at park headquarters in printed form (maybe a small fee for printing costs). Just a note on main trail design: please do not use curbs or bumps, paint on the divisions so when there is no traffic, you can still walk or bike at will with no obstacles. The point is to enjoy the park, not trip over a curb while you are looking at the view...

Recreation

- 30% (23%) Leave day-use facilities as they are. No additional facilities are needed.
- 72% (77%) Rehabilitate existing facilities where needed.
- 0% (0%) Reduce unnecessary day-use areas. Where?
- 21% (13%) Develop a more inviting entry for the East End parking lot.
- 60% (67%) Provide restrooms at the existing Main Gate entrance and East End parking area.
- 65% (70%) Provide public telephones at the Main Gate entrance, East End parking lot, and Dillon Point parking lot.
- 12% (20%) Develop fishing pier at Dillon Point.
- 30% (40%) Provide picnic facilities along Dillon Point shoreline.

Additional Comments:

Provide additional safety features ... Restrooms and telephones are badly needed, but no reasons at main gate ... To increase day-use would clog the park with vehicles. Pedestrian and bicycle use is so pleasant away from heavy traffic ... Dillon Point fishing pier is probably a good idea, but is it cost effective? Dillon Point picnic facilities not a good idea - it's too windy, people will trash the area, and if it isn't patrolled, kids will use it to get stoned and drunk ... Restrooms need to be controlled, install pay phones only, no incoming calls ... Would recommend restrooms if they could be kept clean ... Collect parking fees ... Make people walk on proper side of side. All dogs should be kept on leashes, provide more restrooms but not at main gate ... Provide more instructions on using the correct side of the road ... Public telephone building and restrooms facilities would improve the park. However, unless the access is closed at evening hours ... I have no desire to see auto traffic increase in the park so I do not wish to see a fishing pier or any other facility where people would drive up the road ... Too much wind at Dillon Point for pier ... Pacific Bell should see need and be provider of phones ... The park is unique because of the untouched areas we need to preserve that and provide for the future. The key word is compromise. What already exists should be well maintained, new facilities at the gates are necessary to accommodate the public. Places like the wetlands and Dillon Point shoreline could use preservative maintenance and an occasional trash can on Dillon Point. Picnic tables and

auto access should be limited to the main trail area. Leave the unique in the park ... Interpretive center would be a good idea.

Recreation-Camping

- 5% (10%) Develop camping facilities in the north-west corner of the park.
- 2% (13%) Develop a campground facility that will accommodate RV use. Includes a trailer sanitation station and full hook-up utilities.
- 0% (10%) Provide for some enroute camping for self-contained RVs at designated parking lots.
- 72% (4%) Do not develop camping.

Additional Comments:

"Develop small group walk-in sites near Dillon Point ... Want environmental campground (walk-in) ... No camping ... Too small for camping ... Keep out RVs ... Camping is not appropriate for the small size of the area ... Camping not recommended ... No camping at all ... Park is too small for camping - a much larger facility is needed in Solano County ... This park's use would change, and that is not our intention ... I don't think the area should have any camping ... Use those chemicals or low water toilets. There's all sorts of toilet paper and evidence of inappropriate bathroom use in the East End. Really gross! I went around and cleaned a bunch up on the beach (during) Clean-up-Day or whatever is was called ... I think the demands for local use which are high, should supersede other demands. If there is a big (camping) demand, let a KOA or other private source fill the need ... This is a critical wetlands area - camping facilities are in direct conflict with wetland preservation ... Environmentally, this park site is not equipped to handle camping ... The Glen Cove proposed park could be developed with camping as the main purpose — leaving the existing park pretty much as it is. And having the two connect by main trail so that access from I-780 interchanges will be for all aspects of park uses ... Keep day use only ...

Bicycling

- 74% (47%) Continue the present use of bicycling on paved park roads and paved park trails.
- 33% (20%) Close the park to auto traffic for several hours on specified days for traffic-free bicycle rides on the park roads.

72% (43%) Develop signs (to be read by both bicyclists and motorists) to be placed at the park entrances that list bicycling rules for riding on park roads.

Additional Comments:

"Provide occasional bike patrols ... No bikes off of approved trails — too dangerous and degrading to park ... Keep bicycles and pedestrians separated, designate bike lanes ... Mark bike lanes on roads ... Provide a separate trail for bicycling which are paved — no bicycles on dirt paths ... Severely limit off-road bicycling (only on existing old road along beach from Dillon Point to CMA? ... Designate bike lane on paved road ... Mark bike lanes on pavement, separate bikes and pedestrians ... Bicycles and pedestrians should be separate ... Don't allow bicycles off of trails — they would cut the hills and destroy vegetation ... Cut down weeds so that bicyclists can see around corners, people should not walk en masse ... (Provide) designated two trail system ... Continue bicycle trail to Glen Cove ... Considering the size of the park and its heavy use, bicycles should be allowed only on the paved roads ... (Bicycling is a) hazard even on paved trails ... Make separate bike or people trails where possible; on roads shared with cars, paint a line with "bike lane — "; No off-road vehicles (because they are) noisy, erosive, damage plants, i.e., generally, obnoxious; have some dirt bike trails ... not feasible too close Dillon point road on intermittent basis ... Prevention of environmental damage to this park must have priority over some people's desire to play with their toys.

Interpretation

- 21% (27%) Leave the current interpretive program as it is. No additional work is needed.**
- 60% (63%) Develop outdoor panels to interpret the park's natural, historical, and recreational resources at appropriate sites.**
- 49% (60%) Develop additional self-guided trails next to the wetlands and on the bluffs overlooking the Carquinez Straits.**
- 19% (30%) Provide a mobile "wetlands" interpretive trailer which could be shared with other regional wetlands parks.**
- 30% (43%) Develop a small visitor center/interpretive gathering area/docent work area.**
- 40% (43%) Develop new interpretive programs and guided tour opportunities.**
- 44% (50%) Coordinate interpretive programs and resources with surrounding local agencies.**

Additional Comments:

"Develop overlook for marshland ... Hire kids to work during the summer on park maintenance or on other projects ... Integrate with local schools (all three levels) to foster on-site appreciation, outdoor interpretation, environmental evaluation, and personal contacts ... Park is already being used by schools, etc. — using guided tours by instructors ... No self-guided tours next to wetland, tours should be guided ... Develop small visitor center in the already existing park headquarters with the available staff on a prearranged tour basis ... child tours ... I have enjoyed Napa-Sonoma Audubon Society walks through the park.

Land Management

88% (97%) Establish a natural preserve within the park for protection of the wetland.

Additional Comments:

"Inform people to leave area as is ... Why do you need a preserve within a park? Double classification should not be necessary ... Keep people and dogs out of marsh area, monitor runoff often from developments ... Do not provide paved trail because that would mean too much traffic ... I feel it is imperative to preserve as much area in the park as possible.

Transportation

- 37% (17%) Completely rehabilitate all paved roads with adequate road base and surface.**
- 56% (70%) Do not widen or straighten roads.**
- 37% (20%) Widen Main Gate - Dillon Point Road for better accommodation of vehicular and bicycling traffic.**
- 77% (90%) Redesign Main Gate entrance traffic circulation pattern.**
- 79% (87%) Provide adequate signing for bicycle in Benicia SRA.**

Additional Comments:

"Restrict auto traffic ... Do not increase vehicular access to the park ... Look for parking facilities in nearby additional land; i.e., Caltrans area is foot-bridge ... Get the cars off the road. Surface use is by pedestrians and bicyclists ... Autos are serious hazards to recreation in the park ... Widen trail between Main Gate and East End parking lot and have bicycle path separated from walking path ... Designate bike lanes ... Provide additional parking at Glen Cove ... Establish bike patrols on a random basis with both parks and association personnel. Also, separate paths or trails for

different uses. Perhaps speed limits for bikes and more trails separation from freeway ... Do not allow cars up to the end of Dillon Point, only allow them as far as the picnic area ... If people or bicyclists would ride with care, some problems wouldn't exist, the park should never be a race course ... Paint in bicycle lanes on roads shared with cars ... Use the main trail idea — keep the bulk of the traffic on one path with divisions for safety in congested times. Any auto in the park should be driving slowly, 5 mph in congestion. Safety rules should be posted at main entrances ...

Operations and Concessions:

91% (97%) Increased funding and staffing are needed to provide adequate interpretive services, law enforcement, and maintenance for Benicia State Recreation Area.

70% (60%) Expand the park volunteer cooperative association to undertake special projects to enhance park management and interpretation.

Additional Comments:

*Increase publicity about volunteer programs ... snack bar on weekends ... no interpretive services ... no concessions ... no concessions wanted or needed ... you have a great opportunity with cooperative association ... Need a ranger at the park, get rid of feral dogs and cats ... Concessions are unnecessary and will only increase litter ... Be reasonable, conservative, and realistic.

Individual Reports

1. Were you satisfied with the workbook format of selecting alternatives to develop land use and facilities recommendations for Benicia SRA?

Yes - 81% No - 5%

2. Were you satisfied with your group's discussions on land use and facilities recommendations for the park?

Yes - 65% No - 2%

3. List and describe the recommendations which you feel are the most important at Benicia SRA:

42% -Paved separate pedestrian bike paths

14% -Keep the park the same with minor improvements.

12% -No more vehicle access, only at Glen Cove.

**9% - No camping.
Keep and preserve wetlands.**

7% - More restrooms.

**5% - Provide more parking areas.
Moderate controlled growth.
No off-highway vehicles.
Clean up dog feces.**

**2% - Provide a jogging path to Dillon Point.
Alleviate erosion from hiking trails.
Expand and mark trail system.
Provide information signs.
Park is too small.
Spread out use.
Develop an interp. center at Dillon Pt.
No recreational vehicles.
Develop a walk-in campsite.
Provide more security and maintenance.
DPR rangers should give interp. tours.**

4. Are you still satisfied with your initial selection of Concept 1, 2, or 3?

Yes - 100%

WHAT HAPPENS NEXT...

This newsletter highlights what we heard from you at the last meeting and by mail.

At the next meeting (you will be notified of the time and place), the planning team will present a single plan of the draft General Plan. The purpose of the meeting is to hear public comments on this plan before completing a preliminary General Plan (which is scheduled to be printed for public distribution, review and comment in late fall of this year).

If you have questions or comments, please send them to:

**Benicia State Recreation Area
General Planning Team
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001**

newsletter

General Plan Update
Issue Number 4

Benicia State Recreation Area

October 1990

Third Public Meeting

Our next public meeting will be held:

November 8, 1990, 7pm-9:30pm

Glen Cove Elementary School

Multi-Purpose Room

501 Glen Cove Parkway

Vallejo

Park Staff will provide a general plan update and present a single land use plan and highlights of the preliminary Land Use and Facilities Element.

GENERAL PLAN UPDATE

To those of you who weren't able to attend the last meeting, over 50 people took part in reviewing alternative land use plans and giving us their specific long-range recommendations for the SRA.

"Alternative Land Use Workbooks" were used to receive public input. The land use alternatives were based on our concerns for preserving and protecting the SRA's resources and on information collected during the previous public meetings, meetings with special interest groups, user surveys, letters, and from statewide recreation needs.

Working in small groups, the participants assessed various land use and facilities options and made some of their own recommendations to create a plan which the group felt to be the best plan for development of facilities and use of the SRA.

Since we saw you last, staff has put together a preliminary draft Land Use and Facilities Element, containing what the planning team believes to be the most feasible and appropriate plan for the management and use of the SRA.

After we hear your comments on the land use and facilities plan at the upcoming November 8 meeting, the planning team will put all elements (Resource Element, Interpretive Element, Land Use Element, Facilities Element, Concessions Element, and the Operations Element) of the plan together into a draft general plan. The draft will be available for public review and comment in April 1990 during the California Environ-

mental Quality Act review process. The draft general plan will be presented to the Park and Recreation Commission for approval in June 1991.

THE SINGLE PLAN

To compose the single plan, the planning team studied the results of all the public meetings, meetings with local government planners and special interest groups, user surveys, letters, and the input from the multidisciplinary general planning team. Our primary concern in locating uses and facilities at the SRA is how to best satisfy the identified needs while protecting the park's resources.

The major identified needs include:

- Preservation and protection of significant natural resources
- Facilities and programs for natural, cultural, and recreational interpretation
- Improvement and rehabilitation of existing day use areas, trails, roads, and SRA entrances
- Additional day use and parking areas
- Additional trails to separate hiking and jogging trails from bicycling trails

PLAN CONCEPTS AND RECOMMENDATIONS FOR LAND USE AND FACILITIES

General Land Use

Increase recreation opportunities and enhance visitor's experience:

- Recreation activities are to continue to be low to medium intensity in use areas.
- Existing facilities and areas are to be rehabilitated and made more efficient and upgraded to better accommodate and encourage recreation use.
- Day-use facilities will be moderately increased.

Disperse recreation use around the unit:

- Attract visitors to appropriate low-use areas by improving the areas and providing needed facilities.
- Develop new recreation use areas along the wetland frontage that will provide recreational and interpretive opportunities as well as resource protection.

Preserve the character and natural beauty of the Benicia State Recreation Area landscape and wetlands

- Maximize open space:
 - Designate a **Natural Preserve** where no development can occur and the area can perpetuate to a natural state.
 - Land use on the hillsides should be generally undeveloped.
 - Restrict new development to appropriate areas near existing roads.
 - Locate new development adjacent to existing development or along margins of scenic or open areas where existing vegetation, land forms, or screening will minimize visual impacts.

Serving the public:

- Develop controlled park access points.
- Provide adequate maintenance facilities to meet present and future demands.

Transportation and Circulation

Encourage non-automobile transportation to and within the park:

- Improve, maintain, and sign the hiking and bicycling trail system.
- Encourage local transit systems (no large buses) to provide scheduling to the SRA when economically feasible.
- Encourage local government agencies to continue to plan and implement hiking and bicycle trail systems connecting to the SRA.
- Develop new park trails where possible to connect SRA use areas, and make trails accessible to the handicapped where feasible.
- Paved roads and designated trails are open and unpaved trails are closed to bicycles.
- No motorized off-highway vehicle use will be permitted in the park.

Emphasize low-impact/esthetic design criteria for new roads and utilities:

- Design and site roads for minimum environmental impact and visibility.
- Use sensitive road grading including rounded and revegetated cut and fill slopes.
- Locate utility lines out of view (underground where feasible).

Balance recreational use with resource and facility capacities:

- Do not develop major new facilities.

Protect safety of automobile users and other road users:

- Rehabilitate all paved roads.
- Provide general signage at both SRA entrances to notify motorists of speed limits, bicyclists, and road conditions.

Land acquisition

- Parcels of undeveloped land to the northwest of the SRA represent potential long-range additions to the SRA. Most of the properties are currently being used to preserve open space, which is a compatible adjacent use. If conditions change which would seriously threaten park values, management or acquisition by the state should be considered.

(Please note that these recommendations were prepared for long-range planning purposes and does not imply a land acquisition commitment.)

WHAT HAPPENS NEXT...

This newsletter highlights portions of the draft Land Use Element and Facilities Element of the General Plan.

At the November 8 meeting, the planning team will present the single plan to be included in the Land Use Element and Facilities Element of the draft General Plan. The purpose of the meeting is to hear public comment on this plan before completing the written draft General Plan (which will be printed for public distribution, review and comment in April).

If you would like to review the preliminary draft Land Use Element and Facilities Element, it will be available around October 18 at both the Diablo District Office, 4180 Treat Boulevard, Suite D, Concord (telephone number (415) 687-1800) and the Benicia Capitol State Historic Park, 115 West G Street, Benicia (telephone number (707) 745-3385).

If you have questions or comments, please send them to:

**Benicia State Recreation Area
General Planning Team
Dept. of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001**

Attention: Stuart Hong

APPENDIX E

The General Plan Team

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Under the supervision of:

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Robert Cates, Chief, Development Division
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With thanks to:

The many citizens who have helped shape this plan through participation in the planning effort at the public workshops.

Copies of this report are available from:

The California State Parks Store
P. O. Box 942896
Sacramento, CA 94296-0001

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