

EXHIBIT I

2008 SOLANO COUNTY GENERAL PLAN AMENDMENTS

(Note: **Red** = New Language, **Black** = Existing language and **Strikethrough** = language to be deleted)

Chapter 4 Resources Chapter

Suisun Marsh Policies

The Marsh designation has been applied to the Suisun Marsh on the Land Use Diagram. This designation is designed to preserve and enhance the quality and diversity of marsh habitats. Uses in marsh designated areas should be restricted to aquatic and wildlife habitat; marsh-oriented recreational uses; agricultural activities compatible with the marsh environment and which protect the habitat value of marsh areas; and educational and scientific research opportunities and resources; and restoration of historic tidal wetlands by such actions as raising site elevations through placement of approved dredged sediments, breaching levees, and reintroduction tidal action.

The Primary Management Areas as established in the Suisun Preservation Act of 1977 is shown in Figure RS-3. This area consists of tidal marshes, seasonal marshes, managed wetlands and lowland grasslands. It is the intent for this area to remain in its existing marsh and related uses as provided for in the Suisun Marsh Local Protection Program. Within the Primary Management Area lands are generally to be retained in minimum parcel sizes of 250 acres.

The Secondary Management area established in the 1977 Act and shown in Figure 3RS-3 is designated for agricultural use. This area includes portions of four agricultural regions as shown in Figure AG -4. They include the Western Hills region, Suisun Valley region, the Jepson Prairie Region, and the Montezuma Hills region. ~~This~~ These areas within the Secondary Management area consists of upland grasslands and agricultural lands and serves as a buffers to the wetland areas. The Secondary Management Area is designed to assure retention of upland areas adjacent to the marsh in uses compatible with its protection as provided for in the Suisun Marsh local Protection Program. Within the Secondary Management area, lands within the Western Hills west of I-680 are generally to be retained in minimum parcel sizes of 20 acres and east of I-680 in 160 acre minimum parcel sizes. In Suisun Valley region of the Secondary Management area, lands are generally to be retained in minimum parcel sizes of 80 acres and lands in the Jepson Prairie and Montezuma Hills regions of the Secondary Management area are generally to be retained in minimum parcel sizes 160 acres. The County has applied Marsh Preservation (MP) and ~~Limited Agricultural zoning~~ Suisun Marsh Agricultural(A-SM) districts to the Primary and Secondary Management Areas, consistent with the General Plan.

In addition to the Suisun Marsh, a number of important habitat areas also exist along the county's significant water courses. The plan seeks to preserve the water quality and

riparian habitat of these watercourses through the control of erosion, sedimentation and runoff resulting from adjacent use and development. Areas west of I-680 and outside the boundaries of the City of Fairfield are excluded from the land use restrictions which the Act places upon the buffer, except for watercourse protection and erosion and sediment control provisions.

Under the Suisun Marsh Local Protection Program, all public and private management and development activities within the Primary and Secondary Management areas of the Suisun Marsh shall be consistent with the policies and provisions of the Suisun Marsh Protection Plan as adopted by the San Francisco Bay Conservation and Development Commission. The Marsh designation in the Water Related Industry Reserve area, a part of the Secondary Management Area of the Suisun Marsh Protection Plan, will be managed in the same fashion as if it were a part of the Primary Management Area of the Suisun Marsh Protection Plan.

Policies

General Plan policies governing the Suisun Marsh are contained in Chapter 12, Suisun Marsh Local Protection Program.

The following policies are a part of the County's component of the Suisun Marsh Local Protection Program. More specific General Plan policies in the Local Protect Program that apply to the Suisun Marsh area are provided in Appendix C.

The following policies apply specifically to the Suisun Marsh area. These policies are more specific than the balance of the General Plan to address the requirements of the Suisun Marsh Protection Plan and the Suisun Marsh Protection Act of 1977.

Policies

~~RS.P-10: — The County shall preserve and enhance wherever possible the diversity of wildlife and aquatic habitats found in the Suisun Marsh and surrounding upland areas to maintain these unique wildlife resources.~~

~~• — RS.P-11: — The County shall protect its marsh waterways, managed and natural wetlands, tidal marshes, seasonal marshes and lowland grasslands which are critical habitats for marsh-related wildlife.~~

~~• — RS.P-12: — Existing uses should continue in the upland grasslands and cultivated areas surrounding the critical habitats of the Suisun Marsh in order to protect the Marsh and preserve valuable marsh-related wildlife habitats. Where feasible, the value of the upland grasslands and cultivated lands as habitat for marsh-related wildlife should be enhanced.~~

~~• — RS.P-13: — Agriculture within the Primary Management Area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities involving removal or persistent plowing of natural vegetation and maintenance of fallow land during part of the year should not be permitted.~~

- ~~• RS.P-14: Agricultural uses consistent with protection of the Suisun Marsh, such as grazing and grain production, should be maintained in the Secondary Management Area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted.~~
- ~~• RS.P-15: In marsh areas, the County shall encourage the formation and retention of parcels of sufficient size to preserve valuable tidal marshes, seasonal marshes, managed wetlands and contiguous grassland areas for the protection of aquatic and wildlife habitat.~~
- ~~• RS.P-16: The County shall ensure that development in the County occurs in a manner which minimizes impacts of earth disturbance, erosion and water pollution.~~
- ~~• RS.P-17: The County shall preserve the riparian vegetation along significant County waterways in order to maintain water quality and wildlife habitat values.~~
- ~~• RS.P-18: The County shall ensure that public access at appropriate locations is provided and protected along the county's significant waterways within the Suisun Marsh.~~
- ~~• RS.P-19: Within the watershed of the Suisun Marsh, the County shall encourage sound agricultural practices which conserve water quality and the riparian vegetation.~~

Figure RS-3

Figure RS-3, Delta and Marsh Protection Areas, is amended to reflect the BCDC Suisun Marsh Protection Plan map amendment amending the Water Related Industrial Reserve area consistent with 2008 General Plan Land Use Diagram for the Water Dependent Industrial designation in the Collinsville area.

Appendix C Chapter 12 Suisun Marsh Local Protection Program Policies

INTRODUCTION

The Suisun Marsh Management is shown in Figures SM-1 and SM-2. The County is required to prepare and adopt a component of the local protection program required under the 1997 Suisun Marsh Preservation Act (Marsh Act) to implement the Suisun Marsh Protection Plan within the Suisun Marsh Management area (See Chapter 4, Suisun Marsh). The County component of the Local Protection Program is comprised of polices contained in the County General Plan; County Code provisions including the Zoning Code (Chapter 28), Drainage and Flood Control (Chapter 9), and Grading, Drainage, Land Leveling and Erosion Control (Chapter 31); policies regulating sewage disposal systems; and findings of consistency between the Marsh Act and existing county policy.

Purpose

This Chapter contains and references the General Plan provision of the Solano County component of the Suisun Marsh Local Protection Program.

Relationship to Other General Plan Chapters

The Suisun Marsh Local Protection Program includes the following General Plan provisions.

Chapter 1 Land Use

Table LU-5

WB Water Bodies and Courses

PR Park and Recreation

M Marsh

A Agriculture

PQP Public/ Quasi-Public

TC-R Traditional Community Residential

CR Commercial Recreation

WDI Water Dependent Industrial

Special Study Area – Collinsville discussion, goal and policies SS.P-20, SS.P-21, SS.P-23, SS.P-24, SS.P-25, SS.P-27 and Figure SS-5

Chapter 4, Resource

Biological Resources, Suisun Marsh discussion and Figure RS-3

Chapter 8, Public Facilities and Services

Solid Waste - Potrero Hills Landfill discussion and Solid Waste Policy PF.P-31

Chapter 12, Suisun Marsh Local Protection Program Policies

Related Plans, Programs and Agencies

The Suisun Marsh Local Protection Program is required to be consistent with the Suisun Marsh Protection Plan prepared by the Bay Conservation and Development Commission and the provisions of the Suisun Marsh Protection Act of 1977. The Suisun Marsh Local Protection Program was certified by the Bay Conservation and Development Commission (BCDC) on November 3, 1982 and amended on February 2, 1999 _____, 2012.

Issues related to Land-Water, Water, Recreation and Biological Resources

The environmental quality of Solano County is due to a diversity of natural conditions which combine to present a variety of opportunities for the accommodation of people within urban areas and in recreation communities, and for the accommodation of people engaged in resource-oriented pursuits, provided that these natural conditions are not abused. Conversely, man's activities can create problems which degrade efforts toward re-establishing natural environmental qualities can only be achieved at enormous social and economic costs. Natural resources of significance under this section

are the Suisun Marsh, fishing and wildlife habitat, flood plains, water courses, groundwater basins, watershed lands, geologic hazards, and geologic and mineral resources.

LAND USE DIAGRAM

Within the Suisun Marsh Management area, the following land use classifications apply:

Water Bodies and Courses
Park and Recreation
Agriculture
Public/Quasi-Public
Traditional Community – Residential
Commercial Recreation
Water Dependent Industrial

These land use classifications are described in Chapter 2, Land Use and are shown on the Suisun Marsh Land Use Diagram in Figure SM-3

SUISUN MARSH POLICIES

BIOLOGIC RESOURCES

The Suisun Marsh represents an area of significant aquatic and wildlife habitat and is an irreplaceable and unique resource to the residents of Solano County, the state and nation. The Marsh comprises approximately 85,000 acres of tidal marsh, managed wetlands and waterways. It is the largest remaining wetland around San Francisco Bay and includes more than ten percent of California's remaining wetland area. The Marsh is also a wildlife habitat of nationwide importance in that it provides wintering habitat for waterfowl of the Pacific fly-way. Because of its size and estuarine location, it supports a diversity of plant communities which provide habitats for a variety of fish and wildlife, including several rare and endangered species.

In order to preserve and enhance the quality and diversity of marsh habitats and to assure retention of upland areas adjacent to the marsh in uses compatible with its protection, the California Legislature passed the Suisun Marsh Preservation Act of 1977. This legislation serves to protect the Marsh by adopting provisions of the Suisun Marsh Protection Plan as prepared by BCDC. The Preservation Act also requires local governments and districts having jurisdiction over the Marsh to prepare a Local Protection Program for the Marsh consistent with the provisions of the Preservation Act and the policies of the Protection Plan.

An important provision of the Act and Plan is the delineation of two management areas within the Marsh. The Primary Management Area consists of tidal marshes, seasonal marshes, managed wetlands and lowland grasslands within the Marsh, and the Secondary Management Area is comprised of upland grasslands and cultivated lands which serve as significant buffers to the Marsh. Policies incorporated within this Section which refer to uses in either of these management areas apply to the Primary and Secondary Management Areas as established by the Preservation Act.

Another important provision of the Act and Plan is to ensure that appropriate marsh preservation policies are incorporated into local plans and ordinances. The following

discussion of marsh related issues presents policies and standards consistent with this provision. Marsh issues addressed herein are discussed and grouped in several areas of major concern. These include provisions for the management of wildlife habitat, agricultural use within and adjacent to the Marsh, preservation of water quality within the Marsh and watershed, recreation and marsh access, as well as standards for natural gas, utilities, and water-related industrial development.

Wildlife Habitat Management and Preservation

The Suisun Marsh and adjacent uplands provide a unique resource for a wide range of aquatic and wildlife species, due to the occurrence of many diverse habitats in close proximity to each other. The marsh also provides habitat for many rare and endangered plant and animal species.

The tidal marshes, managed wetlands, seasonal marshes and the lowland grasslands of the Suisun Marsh represent a vital resource for many forms of marsh wildlife. Most of the wetlands in the Marsh are managed wetlands that are artificially flooded and cultivated to enhance the production of preferred waterfowl food plants. The tidal marshes, which occur on the edges of the bays and sloughs, are exposed to the natural daily tidal rhythm. Seasonal marshes are found adjacent to the managed wetlands in several areas. They are low-lying lands that are flooded annually by winter and spring rains, and dry out with the approach of summer. Between the Marsh and adjacent uplands lies a "transition zone" of lowland grasslands, which supports a mixture of plants common to both the wetlands and the upland grasslands. Because of their critical importance to Marsh wildlife these areas should be managed so as to preserve and enhance marsh habitat while limiting agricultural use to practices consistent with wildlife use.

Wildlife habitat within the Suisun Marsh shall be managed and preserved through the following policies;

- SM.P-1: The diversity of habitats in the Suisun Marsh and surrounding upland areas ~~should~~shall be preserved and enhanced wherever possible to maintain the unique wildlife resource.
- SM.P-2: The Marsh waterways, managed wetlands, tidal marshes, seasonal marshes, and lowland and grasslands which are critical habitats for marsh-related wildlife and are essential to the integrity of the Suisun Marsh. ~~Therefore, these habitats deserve special protection.~~ shall be protected.
- SM.P-3: The eucalyptus groves in and around the Marsh, particularly those on Joyce and Grizzly Islands, should not be disturbed.
- SM.P-4: Burning in the primary management area is a valuable management tool. However, it should be kept to a minimum to prevent uncontrolled fires which may destroy beneficial plant species and damage peat levees, and to minimize air pollution.
- SM.P-5: Where feasible, historic marshes should be returned to wetland status, either as tidal marshes or managed wetlands. If, in the future, some of the managed wetlands are no longer needed for waterfowl hunting, they should also be restored as tidal marshes.

- SM.P-6: Land divisions or other development that are inconsistent with protection of the Marsh and continued agricultural use shall be limited or prohibited.

AGRICULTURE

Adjacent to the Suisun Marsh wetlands and lowland grasslands, is an area comprising upland grasslands and cultivated lands. The upland grasslands and cultivated lands provide habitat for Marsh-related wildlife, but more importantly, by their location and existing uses, they insulate the habitats from the adverse impacts of both urban development and other upland land uses and practices incompatible with Marsh preservation. Within this area, existing grazing and agricultural uses should continue, and agricultural practices favoring wildlife use and habitat enhancement should be encouraged.

The following policies apply to agricultural uses within and adjacent to the Suisun Marsh.

- SM.P-7: Agriculture within the primary management area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include ~~extensive~~ agricultural uses such as grain production and grazing. ~~Intensive~~ agricultural activities involving removal or persistent plowing of natural vegetation should not be permitted. Grain production should be confined to the Grizzly Island Wildlife Area and relatively small, well-suited areas of some of the large duck clubs. Grazing should be used to control vegetation on duck clubs where plant cover is sub-optimum for waterfowl use and should be discouraged on those clubs where there is already a good mixture of preferred waterfowl food plants. Grazing pressures should not exceed sound range management practices.
- SM.P-8: Agricultural uses consistent with protection of the Marsh, such as grazing and grain production, should be maintained in the secondary management area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted. The value of the upland grassland and cultivated lands as habitats for Marsh-related wildlife should be maintained and enhanced where possible by planting or encouraging valuable wildlife food or cover plant species.
- SM.P-9: Existing non-agricultural uses such as ~~Solano Garbage Company, Pacific Reclamation and Disposal Inc., Potrero Hills Landfill (formally referred to as Solano Garbage Company) Universal Propulsion Col Inc. (Formally, Goodrich and Explosive Technology Corporation), FP Smith Parts and Equipment, Flatiron~~ and others, on sites within the secondary management area should be allowed to continue if they are conducted so that they will not cause adverse impacts upon the marsh. Any future change in uses of these sites should be compatible with the preservation of the Marsh and its wildlife resources.

SM.P-10: Within the Marsh the County shall limit special assessments against the agricultural lands for the provision of public services, where the demand for such services is not generated by agricultural use on the land.

WATER QUALITY AND FLOOD CONTROL

The Suisun Marsh is located where the salt water of the Pacific Ocean and fresh water of the Sacramento and San Joaquin River Delta meet and mix. Because of its location, it provides a transition between salt and fresh water habitats which creates the unique diversity of fish and wildlife habitats characteristic of a brackish marsh. Water quality in the Marsh today is generally adequate, in terms of salinity, turbidity, temperature and pollution levels. The salinity level, however, is almost totally dependent upon the amount of fresh water flowing in from the Delta since it is this inflow that limits the intrusion of saline ocean waters.

Numerous upstream storage facilities, together with diversions of water from the Delta and the tributary streams of the Delta have substantially reduced the amount of fresh water flowing into the Delta with a resultant increase in salinity intrusion into the Marsh and Delta. Future changes in land use in the ~~watershed of the~~ Suisun Marsh and its watershed may also affect water quality through changes in turbidity, temperature or pollution levels.

~~The following upstream~~ Land use and conservation policies ~~serve to~~ can protect water quality and mitigate such stormwater inundation potentials flood hazards by minimizing encroachment on natural drainage courses and preventing increases in the rate of runoff caused by upstream land development within the Suisun Marsh and its watershed.

The following policies represent the County's intent in preserving water quality and reducing flood hazards in ~~of~~ the Suisun Marsh:

SM.P-11: Projects designed to import or redistribute the fresh water in the Marsh for salinity control should be planned carefully so that the expected benefits are realized. Furthermore, any proposed import project should be studied to determine if the project would adversely affect the Marsh by encouraging urban and industrial growth in the Marsh area. No import project should be constructed if the adverse environmental impacts of growth on the Marsh would outweigh the possible beneficial impacts of salinity control.

SM.P-12: To prevent crop damage in some areas, the withdrawal of groundwater from the underground aquifers surrounding the Marsh may be desirable. Withdrawal should not be so extensive as to allow the salt water of the Marsh to intrude into fresh water aquifers, or to disrupt the natural subsurface flow of groundwater into the Marsh.

SM.P-13: Disruption or impediments to runoff and stream flow in the Suisun Marsh and its watershed should not be permitted if it would result in adverse effects on the quality of water in or entering the Marsh. Riparian vegetation in the immediate Suisun Marsh and its

immediate watershed should be preserved due to its importance in the maintenance of water quality and its value as Marsh-related wildlife habitat, and Stream modification should be permitted only if it is necessary to ensure the protection of life and existing structures from floods and ~~Only~~ the minimum amount of modification necessary should be allowed in such cases.

- SM.P-14: The development of industrial facilities in, adjacent to or upstream from the Marsh should be planned to eliminate significant adverse environmental impacts on the water quality of the Suisun Marsh. Activities that could significantly alter the temperature, salinity, or turbidity of the water should be prohibited. Industrial facilities that will increase the potential for spills of toxic and hazardous materials should not be permitted unless it is established that spills of such materials will not represent a significant threat to the Marsh.
- SM.P-15: Any development in the Suisun Marsh or its watershed ~~or secondary management area~~ proposed for areas that have poor soil conditions for construction or that are seismically active, should be controlled to prevent or minimize earth disturbance, erosion, water pollution, and hazards to public safety. Local runoff, erosion, and sediment control ordinances should be established in the ~~immediate~~ Suisun Marsh and its watershed to protect the Marsh from these potential adverse effects.
- SM.P-16: ~~Upstream land use controls shall be formulated to protect~~ Riparian corridors (the stream, its banks, and creekside vegetation) in the Marsh and its immediate watershed should be protected from encroachment and degradation by development. No development shall be permitted which would interfere with existing channel capacity or would substantially increase erosion, siltation, or other contributors to the deterioration of any watercourse.
- SM.P-54: ~~No development shall be permitted which would interfere with existing channel capacity or would substantially increase erosion, siltation, or other contributors to the deterioration of any watercourse.~~
- SM.P-17: ~~Riparian vegetation in the immediate Suisun Marsh watershed should be preserved due to its importance in the maintenance of water quality and its value as Marsh-related wildlife habitat. Stream modification should only be permitted if it is proved necessary to ensure the protection of life and existing structures from floods and only the minimum amount of modification necessary should be allowed.~~
- SM.P-17: Within the watershed of the Suisun Marsh, sound agricultural practices which conserve water quality and riparian vegetation shall be encouraged.

~~SM.P-52: The following Upstream land use practices often that contribute to increased rates of surface water runoff and should therefore be prevented or regulated;~~

~~a. Overgrazing by livestock.~~

~~b. Logging, clearing, burning, and other activities which can reduce natural vegetative cover.~~

~~c. Construction of extensive impermeable surfaces (large developments which might include a number of structures, patios, dwellings, roads, etc.) over naturally permeable soil and geologic areas.~~

SM.P-18: Public roadway construction and improvement activities should be subject to restrictions permitting the natural water movement necessary to sustain the marsh environment.

SM.P-19: Wherever possible, upstream watersheds should remain essentially devoted to open space land uses such as recreation and extensive agriculture (grazing). Upstream land use practices that contribute to increased rates of surface water runoff should be prevented or regulated.

NATURAL GAS

Several thousand feet below the tidal marshes, managed wetlands, sloughs and bays of the Suisun Marsh are geologic formations that contain trapped accumulations of natural gas. These formations and the accumulated gas constitute the Suisun Marsh gas fields. Gas has been extracted from the Suisun fields since their discovery in 1938. However, due to high demands for natural gas as a fuel and the limited nature of the resource, the fields are expected to be completely depleted in the future. After the depletion of the fields, the remaining geologic formations may be suitable for the underground storage of natural gas extracted from other fields and transported to the Bay Area by pipeline or tanker.

Provisions for natural gas exploration, operation and storage shall be controlled through the following policies:

SM.P-20: Transportation of natural gas by underground pipeline is the most economical and safe method of gas transportation in the Suisun Marsh area. Future gas pipelines should be permitted if they are consistent with the Suisun Marsh Protection Plan and if the design and construction meet the following standards:

a. Existing pipeline systems are utilized to the maximum extent feasible.

b. The pipeline design meets all applicable safety standards of the Office of Pipeline Safety Operations and other regulatory agencies.

- c. The pipeline route avoids tidal marshes and managed wetlands wherever possible and, if that is not possible, the route crosses as little marsh or managed wetland as possible.
- d. Wide track or amphibious construction equipment is used in tidal marsh or managed wetland areas. Pads or mats are used as needed to prevent any construction equipment from sinking into the soft marsh muds and damaging the marsh plants.
- e. The "trench and push" construction method is used in all tidal marsh and managed wetland areas where feasible, so that the construction zone is kept as small as possible and the minimum amount of heavy equipment passes through the marsh or wetland area.
- f. Prior to any pipeline construction or related activities in the Marsh, the contractors consult with the Department of Fish and Game to determine at what time such construction or related activities should be conducted so as to create the least possible adverse impact on breeding, migration, or other fish and wildlife activities.
- g. Prior to any underground pipeline construction in the Marsh, the contractors consult with the Solano County Mosquito Abatement District to ensure existing recirculation water ditches are not blocked and levees are adequately repaired after pipeline construction, or that effective mosquito control measures are maintained.
- h. At slough, mudflat and bay crossings of gas pipelines, the trench is dredged in a manner that minimizes turbidity and prevents interference of the dredging operation with fish or wildlife.
- i. A regular surface and aerial inspection of the pipeline route is carried out as required by the Office of Pipeline Safety Operations.

SM.P-21: If additional gas wells or ancillary facilities are required for gas exploration, production, or injection, the drilling should be accomplished with the following safeguards:

- a. Drilling operations conform to the regulations of the California Division of Oil and Gas designed to prevent damage to natural resources.
- b. The drilling operation is confined to as small an area as possible and does not irreversibly damage unique vegetation or fish and wildlife habitats.

- c. After drilling is complete, all drilling muds, water waste, and any other fluids are removed entirely from the site and disposed of in a manner that does not adversely affect the Marsh.
- d. All buildings, tanks, "Christmas trees" or other facilities related to the production or storage of natural gas do not result in the permanent loss of water surface in the Marsh.

SM.P-22: Construction and drilling in tidal marsh and managed wetland areas should occur only during the dry months of the years (generally April 15 through October 15) when these activities would not disturb wintering waterfowl.

SM.P-23: If gas wells are abandoned, they should be sealed in accordance with Division of Oil and Gas regulations; the drilling or production facilities should be removed; and the surface area should be revegetated with native vegetation within one growing season after abandonment.

SM.P-24: Storage of natural gas in depleted gas reservoirs is a reasonable use of the resource and should be permitted. Storage facilities should meet all safety standards of the Division of Oil and Gas.

SM.P-25: Because the Suisun Marsh offers both natural gas and depleted gas fields suitable for gas storage, and because it is close to the urban Bay Area and the proposed waterfront industrial area on the Sacramento River, gas will probably continue to be transported out of, into, and around the Marsh. All gas transportation into and out of the Marsh is now by underground pipeline systems. If other types of systems for the transport or storage of liquefied natural gas (LNG) are proposed for the Suisun Marsh area, a detailed investigation of the hazards and impacts of LNG facilities should be carried out before approval of the facilities.

UTILITIES, FACILITIES AND TRANSPORTATION

Construction of utilities, facilities, and transportation systems in and immediately adjacent to the Suisun Marsh can (1) disrupt the Marsh ecosystem at the time of construction; (2) have lasting effects on wildlife by forming barriers and obstacles to their movement and flight patterns; and (3) stimulate urban development by providing services that are a prerequisite for such development.

The following policies are incorporated to protect the Marsh from such facilities:

SM.P-26: In the Suisun Marsh and upland areas necessary to protect the Marsh, improvements to public utility facilities should follow these planning guidelines:

- a. New electric power transmission utility corridors should be located at least one-half mile from the edge of the Marsh.

New transmission lines, whether adjacent to the Marsh or within existing utility corridors, should be constructed so that all wires are at least six feet apart.

- b. Urban utilities and public services (e.g., natural gas lines, electric lines for local power distribution, domestic water mains, and sewers) should be allowed to extend into the Suisun Marsh and the adjacent upland area necessary to protect the Marsh only to serve existing uses and other uses consistent with protection of the Marsh, such as agriculture. However, utilities in the secondary management area necessary for the operation of water-related industry within the area designated for such use in the Suisun Marsh Protection Plan at Collinsville would be permissible.
- c. Within the Marsh, new electric lines for local distribution should be installed underground unless undergrounding would have a greater adverse environmental affect on the Marsh than above-ground construction, or the cost of underground installation would be so expensive as to preclude service. Any distribution line necessary to be constructed above ground should have all wires at least six feet apart.
- d. New telephone lines installed in the Marsh and within one-half mile of the Marsh should be buried underground whenever possible. All new telephone cables routed through the Suisun Marsh area should be buried, and the alignment should avoid wetland areas whenever possible.
- e. New roadways (highways, primary and secondary roads) and rail lines that form barriers to movement of terrestrial wildlife should not be constructed in the Suisun Marsh or in adjacent uplands necessary to protect the Marsh except where such roadways and rail lines are necessary in the secondary management area for the operation of water-related industry and port uses within the area designated by the Protection Plan as a water-related industry reserve area at Collinsville. Rail access to serve the water-related industrial reserve area may be permitted within the existing Sacramento Northern Railroad right-of-way or along the east side of the Marsh, whichever route would result in the least disturbance to wetlands and wildlife. Wherever possible, rail access to the Sacramento River and through the area designated as a water-related industrial reserve area should be located above the 10 foot contour in order to avoid adverse impacts to wetlands. Whenever the reconstructed line would pass through wetland areas, it should be constructed on trestles or in a manner which allows for the natural movement of water and wildlife beneath the alignment.

- f. The Solano County General Plan acknowledges the need for the possible future expansion of Highway 12. When future traffic loads warrant the widening of Highway 12, such expansion must be designed so as to minimize adverse environmental impacts on the Marsh.

SM.P-27: Underground pipelines, wires, and cables should be permitted in the Suisun Marsh if no alternative route is feasible and they are designed and constructed to meet the following standards;

- a. Installation of pipes, wires, and cables (particularly local service utilities) are located within existing road rights-of-way whenever possible.
- b. All pipelines passing through the Marsh meet Pipeline Safety Regulations of the U.S. Department of Transportation regarding pipe thickness, pressure limiting devices, emergency shut-down valves and other safety design criteria.
- c. Whenever construction occurs within the wetlands, it is confined to the dry months (generally April 15 through October 15) to minimize disturbance of wetland vegetation, wintering migratory waterfowl, other water-associated birds, and nesting resident birds.
- d. Wide-track or amphibious construction equipment is used to reduce the bearing weight of the equipment unless pads are laid on the wetland area to support the heavy machinery and to prevent it from sinking into the soft marsh soil. Equipment movement to the construction site within the Marsh is limited to roads in the immediate vicinity of the pipeline, wire, or cable being installed to minimize disruption of Marsh wildlife habitat. The construction site is well defined and clearly marked so that workers do not disturb adjacent Marsh areas.
- e. When a trench is cut to install a pipe, wire, or cable, excavation is only slightly wider than the utility line to be buried to minimize wetland disturbance.
- f. When pipelines only are being installed across wetlands, the "trench and push" method of construction is employed. This construction method, the least damaging to the wetlands because it avoids the need for heavy equipment alongside the trench to install the pipe, involves filling the excavated trench with water and pushing or pulling the assembled pipe through the Marsh trench. Recent pipeline installations in the Suisun Marsh, conducted under an ECOC permit, indicate that this is a practical method in the Marsh.

- g. Tidal marsh and managed wetlands disturbed during pipeline, wire, or cable construction will generally revegetate naturally within one growing season if the top layer of soil and vegetation is stockpiled when the trench is first dug and replaced on top of the backfilled trench to facilitate revegetation. If a completed trench is not revegetated within one growing season in a managed wetland, the disturbed area must be reseeded with appropriate native plant seed.
- h. In water areas (bays and sloughs), dredging and pipe and cable installation is scheduled so as to avoid major fish migrations.

SM.P-28: To protect the Marsh from potential accidental drainage of toxic materials, any future expansion of the Pacific Reclamation and Disposal, Inc. facility should meet all requirements of the Regional Water Quality Control Board, and any future dam construction to contain waste material should meet all requirements of appropriate regulatory agencies, such as the Division of Dam Safety. Any future expansion, construction, or operation of the Pacific Reclamation facility outside the area currently under option should be away from the steep slopes of the hills that front directly on the Marsh.

SM.P-29: ~~The Solano Garbage Company Potrero Hills Landfill (formally referred to as Solano Garbage Company) should be permitted to continue its existing County approved operation until it reaches capacity. Expansion of this facility or development of a new site in the Potrero Hills for a central solid waste disposal facility could impact upland grassland areas, which provide valuable habitat for Marsh-related wildlife. However, future development expansion of a new the solid waste disposal site in the Potrero Hills Landfill should be permitted if it can be shown that the construction and operation of such facilities will not have significant adverse ecological or aesthetic impacts on the Marsh, Development of a central solid waste disposal site in Jameson Canyon could be permitted if the development would not adversely affect the Jameson Canyon Creek or its riparian vegetation.~~

SM.P-30: Material Disposal Company's debris disposal facility, which is currently not in operation, should not be permitted to resume functioning because its operation would involve fill in tidal marsh and is not compatible with preservation of the Marsh.

SM.P-31: Extraction and removal of minerals or natural materials from existing quarries and borrow areas within the Secondary Management Area of the Suisun Marsh should be allowed to continue where not in conflict with protection of the marsh and in conformance with County Codes. Sites governed by the above provisions include: Two on the Tule Vista Livestock Company properties, of which one is located east of Scally Road and the

other located northeast of Beldon's Landing, one on the Guy Stewart property 1,500 feet west of Shiloh Road, two on the Barnes property 8,000 feet west of Shiloh Road in the Kirby Hills and two on the Wagent property 3,000 feet west of Shiloh Road These are in addition to existing sites under County land use permit.

- SM.P-32: In order to improve marsh management, it is important to improve and maintain exterior and interior levee systems, as well as other water control facilities on public and privately owned, managed wetlands. Hauling excessive amounts of earth material on public roads for levee maintenance use can have a detrimental effect on the roads. In order to minimize impacts on existing public roads on the marsh, earth levee maintenance materials may be transferred from a shore site to barges for transporting the material to a repair site on a temporary basis under the following conditions: (1) there is a proven need for the levee maintenance material at a specific repair site, (2) the transfer site is not a wetland tidal marsh or seasonal marsh; (3) the transfer operation is limited to the minimum time necessary to provide material for the levee repair; (4) any equipment, machinery or similar facilities needed to transfer materials shall be temporary and removed from the transfer site when not in use and (5) no permanent improvements are developed at a transfer site. At such time as is determined to be appropriate by the Board of Supervisors a study may be undertaken to determine whether, when deliveries of marsh maintenance materials are made within the marsh, the operation of a transfer site could encompass transfer of natural materials reclaimed from within the Suisun Marsh from barges to the shore site. Such study, if undertaken, would address the issues of conformance of such an operation with the policies and purposes of the Suisun Marsh Protection Act, and what limitations, conditions, and standards would be necessary to insure protection of the marsh from adverse environmental impact from such activity.
- SM.P-33: The proliferation of sites for the disposal of special wastes could have significant adverse impacts upon preservation of marsh upland areas! The animal burial ground on Scally Road under County Use Permit should be allowed to operate as conditioned. The creation of additional disposal sites of a special nature shall be prohibited.
- SM.P-34: Policies toward diking, filling and dredging of sloughs, managed wetlands and marshes.
- a. No dredging, filling or diking activity shall be conducted within the Primary Management Area of the Suisun Marsh except with the permission of the appropriate permitting authorities.
 - b. In order to minimize adverse effects on desirable plant and wildlife communities and to minimize the potential for

erosion and sedimentation, all diking, dredging and filling activities shall be carried out in conformity with the following general principles and standards.

- i. Stripping or burning of vegetation, or other soil disturbance, should be done in a manner which will minimize adverse impacts on desirable plant and wildlife communities and control erosion and sedimentation.
- ii. Existing native vegetation shall be retained, protected, and supplemented wherever practical. Development shall be accomplished so that existing trees will be preserved whenever practical.
- iii. Exposure of soil to erosion by removal of vegetation shall be limited to the smallest area practical and for the shortest time practical. Soil exposure should not exceed an area in which work can be completed during a single construction season to insure that soil stability is established well in advance of the rainy season. In general, soil disturbance shall be limited to the period between April 1 and October 1.
- iv. Permanent control structures should be installed and final vegetation established as soon as practical.
- v. Facilities shall be constructed in a manner which will minimize erosion and sediment deposition in adjacent waterways and wetlands.
- vi. Slopes, both cut and fill, shall not be steeper than 2:1 unless a thorough geological and engineering analysis indicates that steeper slopes are safe and appropriate erosion control measures are specified.
- vii. Cuts and fills shall not encroach upon existing watercourses, or constructed channels in a manner so as to adversely affect adjacent properties or the carrying capability of the watercourse.
- viii. Disposal of cleared vegetation and excavated materials shall be done in a manner which reduces the risk of erosion and sedimentation and shall conform to the provisions of these standards.
- ix. Diking, filling and dredging activities shall be conducted so as to minimize interference with critical wildlife activities such as nesting and breeding.

- c. To prevent sedimentation resulting from dredging projects and to restore and enhance wetlands, dredged sediments should be disposed of in one of the following ways: (a) placement on dry land; (b) placement as fill in approved fills or levee projects; (c) barging or piping to suitable disposal sites in the ocean, or dumping in areas of the bay designated for such purposes by the appropriate governmental agency; or (d) used to restore or enhance tidal, managed, or seasonal wetlands.
- d. All proposed channels should be carefully designed so as not to undermine the stability of any adjacent dikes and fills.
- e. Any proposed fills, dikes or piers should be thoroughly evaluated to determine their effects on sloughs, managed wetlands and marshes and then modified as necessary to minimize any harmful effects.

SM.P-35: ~~Wind energy is an important renewable, natural resource which is limited in its statewide distribution. Areas which are endowed with the resource should be considered for prudent development of wind energy. Certain areas within the Suisun Marsh have been identified as having significant potential for wind energy resource development. Specifically identified are areas west of I-680 and, in the Potrero Hills ; however, numerous other areas may have potential for development of private or commercial wind energy machines. The County has identified the Collinsville-Montezuma Hills south of SR12 as the primary wind resource area in the County. Wind energy development is inappropriate in certain areas of the county, in order to protect public health and safety and natural resources. These areas include the Suisun Marsh Primary Management Area.~~ Installation of wind turbines in the Suisun Marsh secondary management area could have a significant impact upon maintenance of the area in its present natural state, on Marsh wildlife, and on the visual characteristics of the marsh. Therefore, careful consideration will need to be given projects on a case by case basis to ensure that significant adverse ecological or aesthetic impacts on the marsh will be avoided. The County's objective is to balance the prudent use of wind resources of the marsh with the need to protect and maintain its essential environmental qualities. The following should be followed in siting wind energy projects: (1) Commercial wind turbine generators should be permitted in the secondary management area only. (2) Projects should not be allowed to proliferate in the marsh, but should be allowed only where monitoring has shown productivity to be feasible. (3) The location and density of machines should not substantially alter the principal (agricultural or wetland) allowed uses in the marsh. (4) Roads and utility transmission lines to serve machines and transmit power from machines must be installed in conformance with provisions of the Suisun Marsh Preservation Act (5) In order to protect the biological resources of the marsh, the

design, density, height, noise level, illumination and location of wind turbine generators and ancillary facilities should minimize or avoid the following adverse effects: collision hazards for birds, interference with migratory flight patterns or disturbance of wildlife habitat. Design considerations of importance should include non-synchronous machines, low-noise design, subdued security lighting and minimal tower lighting. (6) All construction must be carried out so as to minimize erosion and prevent sedimentation in the marsh. (7) The installation and operation of wind turbine facilities must protect the visual characteristics of the marsh. In order to minimize the impact upon the aesthetics of the marsh as a natural open space area, wind turbine generators and ancillary facilities should be designed and sited to complement the natural landscape whenever feasible, consistent with the following guidelines: colors should blend with the landscape; lighting should be subdued and be provided for safety and security reasons only; and facilities should be located off the ridgeline unless to do so would result in higher tower height, significant grading or cut and fill.

RECREATION AND MARSH ACCESS

The Suisun Marsh is an 85,000 acre natural recreational area of statewide significance. The area provides for a variety of recreational opportunities on both private and public lands. Duck hunting is the major recreational activity in the marsh occurring from late October until January. Fishing accounts for nearly as much recreational use in the marsh as duck hunting. In addition, several other forms of recreation such as water sports, upland game hunting and wildlife observation are popular in the Marsh.

The importance of the marsh as a recreational area can be seen in the amount of land which is given over to duck hunting. ~~At present, private duck clubs comprise about 37,000 acres and account for about 41,000 waterfowl hunter days each year. A additional 10,000 acres of public land provide 15,000 hunter days per year. Public hunting is accommodated on the 1800 acre Joice Island and 8600 acres Grizzly Island Waterfowl Management Areas located in the central and southern portions of the marsh.~~

The General Plan's land use ~~map diagram indicates~~ identifies two ~~planned~~ recreational sites in the Marsh. A Wildlife Interpretive Center is planned to be developed near the intersection of Hill Slough and Grizzly Island Road ~~in conjunction with current state efforts to construct the Hill Slough wildlife Area. Beldon's Landing is also indicated as a site for a potential public and private recreation development.~~ Beldon's Landing is developed with fishing and boat launch facilities.

Rush Ranch is a 2,070 acre ranch located on Grizzly Island Road, approximately two miles south of Highway 12. The ranch is owned and operated by the Solano Land Trust. The site includes historic buildings, self-guided hiking tours, educational facilities and a nature center which showcases many of the historic and natural features of the property.

In addition to the above mentioned ~~intensely used~~ recreational sites, a number of more passive recreational areas exist in the Marsh. Passive recreational opportunities will be provided at the following areas:

- The 1,112 acre Hill Slough Wildlife area extends along Grizzly Island Road from Hill Slough to State Route 12. Levee construction will return some lands to wetland status and provide public hiking trails.
- The Peytonia Slough Ecological Reserve is a 206 acre area directly south of the City of Suisun City open for public hiking, fishing and wildlife observation.

A number of recreational oriented commercial uses exist in the Marsh. These uses which include Little Honker Bay Resort, ~~Collinsville Resort~~, Pierce Harbor, Suisun Pacific Marina, Port of Suisun Marina and City of Benicia Marina are located on the edge of the marsh accessible to the general public. As the demand for recreation increases there may be a need for more such facilities or expansion of existing facilities.

The vast open expanse of the Suisun Marsh is the location of many recreational activities. The Marsh is well known for waterfowl hunting in California. In addition, several other forms of recreation, including fishing, upland game hunting, and water sports, are also popular. Nevertheless, there are opportunities for a greater diversity and amount of public recreation in the Marsh.

The recreation values of the Marsh, particularly for duck hunting, have been a significant factor in its preservation. Private duck clubs and public agencies, such as the Department of Fish and Game, have made considerable contributions to the improvement of the Marsh habitats for waterfowl as well as other wildlife.

Recreational uses in the Suisun Marsh should be guided through the following policies:

- SM.P-36: Within the Suisun Marsh, provision should be made for public and private recreational development to allow for public recreation and access to the Marsh for such uses as fishing, hunting, boating, picnicking, hiking and nature study.
- SM.P-37: Recreational uses in the Marsh should be located on the outer portions near population centers and easily accessible from existing roads.
- SM.P-38: Recreational activities that could result in adverse impacts on the environment for the Suisun Marsh should not be permitted.
- SM.P-39: Public access at appropriate locations shall be provided and protected along the county's significant waterways within the Suisun Marsh to the maximum extent feasible.
- SM.P-40: Additional land should be acquired within the Suisun Marsh to provide for increased public duck hunting recreational use and additional refuge areas for waterfowl during the hunting season. Acquisition priority should be given to those lands not now operated as managed wetlands.
- SM.P-41: Land should also be purchased for public recreation and access to the Marsh for such uses as fishing, boat launching, nature study, and for scientific and educational uses. These areas should be located on the outer portions of the Marsh near the population centers and easily accessible from existing roads. Improvements

for public use should be consistent with protection of wildlife resources.

- SM.P-42: Public agencies acquiring land in the Marsh for public access and recreational use should provide for a balance of recreational needs by expanding and diversifying opportunities for activities such as bird watching, picnicking, hiking, and nature study.
- SM.P-43: Agencies administering land acquired for public access and recreational use should be responsible for maintaining the areas and controlling their use. Signing on roads leading into the Marsh and maintained litter receptacles at major public use areas should be provided by the appropriate local or state agency to prevent littering and vandalism to public and private property.
- SM.P-44: Recreational activities that could result in adverse impacts on the environmental or aesthetic qualities of the Suisun Marsh should not be permitted. Levels of use should also be monitored to insure that their intensity is compatible with other recreation activities and with protection of the Marsh environment. For example, boat speeds and excessive noise should be controlled and activities such as water skiing and ~~naval training exercises~~ should be kept at an acceptable level.

SCENIC RESOURCES

The ~~general and specific~~ policies set forth below provide a series of guidelines to be used by the County in its land development guidance procedures within the Suisun Marsh. It is the intent that these provisions be employed as criteria to be adhered to by all future land development which falls within the visual components of any of the designated scenic roadways. Intensive development cannot be visually absorbed into a marsh landscape without seriously disrupting the delicate foreground and unprotected background view components. Intensive development here can also result in disruption of the local ecosystem which supports the marsh and its unique and delicate visual character. ~~All applications for suburban or urban uses (all major subdivisions with densities greater than five acres per dwelling unit and commercial/industrial developments) should be reviewed for compliance with these provisions. In agricultural areas, current zoning provisions which are supportive of these aims should be retained. Where present agricultural zoning provisions promote land use patterns at variance with these general and specific policies, modifications should be made to achieve consistency with the Scenic Roadway Element with these policies.~~

General Policies

The following ~~general~~ policies apply to ~~all foreground and distant~~ view components of all designated scenic roadways adjacent to and within the Suisun Marsh:

- ~~1. Current general plan provisions of the county which designate foreground and distant view components of scenic roadways for agricultural and other open space uses should be retained.~~

- SM.P-45: The number of man-made interruptions or incidents along a scenic roadway (housing, commercial uses, signs, driveways, etc.) should

be limited to maintain the current visual values as the prevalent feature of the route. ~~Individual driveways and garages, for example, should not connect directly with a scenic roadway unless necessitated by severe topographic constraints. Rather, they should combine before intersecting with the scenic route to minimize visual and functional disruption.~~

SM.P-46: Placement of off-site advertising along a designated scenic roadway should be prohibited, except where provisions are made, as part of a standardized, public, on-road sign program, for providing signing within the roadway right-of-way for roadway related services. Such a program could provide a series of signs of similar design, identifying food, lodging, and other road-related services by type and by the symbol or logotype of the proprietor (e.g., Shell Oil, Western Motel, McDonald's).

~~4. The county and cities should institute a special program of roadside maintenance (landscape maintenance or replacement, litter retrieval, etc.) along scenic routes, recognizing the fact that the immediate roadside environment has a great impact on the motorist and tends to color his or her total scenic roadway experience.~~

~~5. Pullovers with litter cans should be provided at regular intervals throughout the scenic roadway network for convenient disposal of litter. Special points of interest such as outlooks, creeks, lakes, clusters of roadside shade trees, etc., should be favored in locating pullover sites. Pullovers should be located and designed to minimize possible conflicts with nearby agricultural uses (e.g., orchard pilfering, frightened stock).~~

Specific Policies

~~All designated scenic roadways should be subject to a combination of specific policies based on the composition of each visual unit along the route. The combination of policies associated with the foreground and distant components of each visual unit (and with any special features) as noted on the plan diagram apply to all development that falls within view of the designated scenic roadway.~~

~~The foreground component of each visual unit (up to one quarter mile from the road edge) is subject to the related specific policies listed below:~~

| Foreground Component | Specific Policies |
|---------------------------------|---|
| Marshlands | Intensive development cannot be visually absorbed into a marsh landscape without seriously disrupting the delicate foreground and unprotected background view components. Intensive development here can also result in disruption of the local ecosystem which supports the marsh and its unique and delicate visual character. |

SM.P-47: Immediately adjoining dryland and upland within and

around a marsh should remain in open space use (grazing, cropland, or other extensive uses) to protect the unique visual character of the landscape.

SM.P-48: Existing ~~animal and vegetative~~ habitats should be protected from encroachment due to their own visual value and their role in maintaining the marsh ecosystem and its overall scenic value.

~~SM.P-47: Public roadway construction and improvement activities should be subject to restrictions permitting the natural water movement necessary to sustain the marsh environment. (Moved to Water Quality and Flood Control policy section)~~

SM.P-49: Since such a flat and expansive natural environment tends to exaggerate vertical elements, undergrounding of utility lines is highly recommended.

~~jealypus~~

SM.P-50: Maintenance and protection of existing windbreaks should be encouraged to provide a contrasting visual element on flatland landscapes and to call attention to distant farm development or to places where major changes occur in the alignment or the scenic roadway.

~~SM.P-50: Where appropriate, expansion or addition of new windbreaks should be encouraged to identify distant changes in visual units, road alignments, land use activities, etc.~~

Industrial Land Use

~~The Water Dependent Industrial classification is specifically designed to accommodate industrial development along the Sacramento River as provided for in the General Plan. The Collinsville-Montezuma Hills Area Waterfront represents a unique County resource in that it is one of the few remaining undeveloped areas with deep water access in the Bay Area. Future development of this area will be governed by the specific policies and the proposals of the Collinsville-Montezuma Hills Area Plan.~~

~~This Water Dependent Industrial site is adjacent to the Suisun Marsh and development could have an impact upon Marsh habitats and water quality. Care must be taken to insure that potential impacts upon the Marsh are mitigated through planning guidelines contained in the Collinsville-Montezuma Hills Area Plan.~~

Policies:

- ~~1. The County shall provide for water dependent industrial development as provided for under the specific policies and provisions of the General Plan.~~
- ~~2. Industrial development shall be located and developed in a manner which protects significant marshland and wetland habitats and the water quality of the area.~~

FLOOD HAZARDS

Specific Policies for Upstream Land Use

The following upstream land use and conservation policies serve to mitigate such stormwater inundation potentials by minimizing encroachment on natural drainage courses and increases in the rate of runoff caused by upstream land development

~~SM.P-51: — Wherever possible, upstream watersheds should remain essentially devoted to open space land uses such as recreation and extensive agriculture (grazing);~~

~~SM.P-52: — The following Upstream land use practices often that contribute to increased rates of surface water runoff and should therefore be prevented or regulated;~~

~~a. — Overgrazing by livestock.~~

~~b. — Logging, clearing, burning, and other activities which can reduce natural vegetative cover.~~

~~c. — Construction of extensive impermeable surfaces (large developments which might include a number of structures, patios, dwellings, roads, etc.) over naturally permeable soil and geologic areas.~~

~~SM.P-53: — Upstream land use controls shall be formulated to protect riparian corridors (the stream, its banks, and creekside vegetation) from encroachment and degradation by development.~~

~~SM.P-54: — No development shall be permitted which would interfere with existing channel capacity or would substantially increase erosion, siltation, or other contributors to the deterioration of any watercourse.~~

COLLINSVILLE-MONTEZUMA HILLS AREA PLAN AND PROGRAM

INTRODUCTION

Existing Conditions

Natural and Visual Resources

~~HABITAT VALUES. Significant wildlife habitats have been identified in the planning area at various lowland locations along the shoreline and in the western flatland area between Collinsville Road and Montezuma Slough. The major habitat values of the neighboring Suisun Marsh system of which western portions of the site are a part, have already been emphasized. Planning area components of the system include adjacent segments of the Sacramento River and Montezuma Slough, permanent and seasonal marsh areas, and reclaimed lowland grasslands below the ten foot contour which may be restorable to their original marsh condition.~~

The primary importance of these aquatic and wetland areas lies in their value to migrating fish and bird species. Montezuma Slough is a major part of the principal nursery area for striped bass in the San Francisco Bay-Delta system. The suitability of the slough as a nursery grounds is partially due to its ideal conditions for the growth of *Neomysis* shrimp, the main food item for striped bass.

The position of the Suisun Marsh system along the Pacific flyway is responsible for its importance to birds migrating south! It is a wintering area for many species and an essential "layover" for others.

The planning area marshes along the east side of Montezuma Slough contain active great blue heron and common egret rookeries and are resting and feeding areas for other migrating species.

Current Plans and Policies

The *Suisun Marsh Protection Plan* adopted in December of 1976 by the San Francisco Bay Conservation and Development Commission updates and details the regional agency's position regarding land use in the Suisun Marsh environs. The plan's recommendations for the portions of its jurisdiction within the planning area are shown on Figure 4. As can be seen, roughly 2,520 acres at Collinsville and along Collinsville Road are designated for ultimate use by water-related industry. As amended in 1995, the Plan allows restoration and enhancement of tidal and seasonal wetlands on portions of the site, provided that the restoration is carried out in a manner that does not preclude use of the remaining upland portion of the site for water-related industry. In particular, any such development should preserve sufficient upland areas, rail access, water frontage and access corridors to the water sufficient to accommodate water-related industry and port uses. The Plan also specifies that such uses should conform to a set of stringent performance guidelines to prevent adverse effects on the marsh. The Plan designates the remaining area between the industrial lands and the Montezuma Slough, plus lowlands to the north, as part of its "primary management area" and thus, reserved for the protection and enhancement of seasonal marsh, lowland grasslands, and the restoration of wetlands in that area which buffer the Suisun Marsh from any future water-related uses in the planning area. Restored wetlands in the water-related industry site shall remain as wetlands and not be developed for industrial uses.

Area Wide Land Use and Transportation Policies

Wetland Habitat

Lands designated as Wetland Habitat on the Plan Map are to be reserved for wetland habitat preservation and restoration. Encompassed are all lands below the 10 foot contour line as it continues west of the present Sacramento Northern Railroad track from Little Honker Bay Road south to its intersection with the track right-of-way, plus all land west of a southern extension of this line to the bench mark at Montezuma Bend, and then from that bench mark to a point on the shoreline 3,200 feet west of Bench Mark 3, which is located on the east side of the Collinsville Inlet. The area included amounts to roughly 3,720 acres. The designation is consistent with the configuration of the Bay Area Conservation and Development Commission's Suisun Marsh Protection Plan Primary Management Area and is comprised of permanent and seasonal marshes and lowland grasslands below the 10 foot contour, all of which are critical to marsh wildlife. Moreover, much of the non-marsh lowland grassland and some of the lowlands within the water-dependent industrial area have potential for restoration to higher value tidal, managed

or seasonal marshland by depositing dredged sediments, removing dikes and reintroducing tidal action or by conversion to managed wetland status.

Water Dependent Industrial

All uses to be permitted within the three water dependent industrial designations must comply with the general land use criteria set forth in this section and with the more specific land use, transportation and development requirements set forth in the subsequent section on Subarea Land Use and Transportation policies. Industrial uses to be permitted must also fit the County's definition of a water dependent use. Additionally, these lands within the area designated as "Water Related Industry Reserve Area" within the Suisun Marsh Protection Plan may be limited by the provisions of that plan and the San Francisco Bay Plan.

Commercial Recreation

Approximately 120 waterfront acres at Collinsville have been designated for Commercial Recreation land uses, as shown in Figure 2. Construction of a marina and the development of complementary, water related commercial recreation facilities are permissible within this designation for limited time periods if such uses would not conflict with ultimate water dependent industrial use. It should be noted that the San Francisco Bay Plan and the Suisun Marsh Protection Plan designate the entire area for water related industrial use, and any use proposed for this location must be reviewed for conformity with these plans and implementing regulations. Great care must be taken to ensure that such uses are compatible with the primary activity of the waterfront water dependent industry. The feasibility of commercial recreation uses will significantly increase with the introduction of improved access provisions as proposed to serve waterfront industrial development. This area should provide a focus for public access to the water while preserving the Collinsville townsite.

Shoreline Recreation

On the western edge of the planning area, in the Kirby Hills west of Shiloh Road and south of the Little Honker Bay Road, the opportunity exists for certain marsh oriented passive recreational activities. Although the dominant use of this area is intended to be agriculture, there are limited opportunities for upgraded boat launching facilities, wildlife observation accommodations, as well as other passive recreational facilities. These uses should not conflict with the agricultural uses of the area, nor should they introduce human activities of such intensity so as to adversely affect marsh wildlife habitat.

Transportation

Railroad Branch Line Track

Construction. Wherever possible, rail access to the Sacramento River and through the water related industry district should be located in upland areas above the ten-foot contour in order to avoid adverse impacts to wetlands. Should any portion of the proposed rail route cross wetland areas, the track should be constructed in a manner which allows for the natural movement of water and wildlife beneath the alignment, and construction techniques should minimize disturbance to natural, restored, or enhanced wetlands.

Hazardous Cargo Transport

Although transportation of hazardous cargo is governed by a number of state and federal agencies, it is important that the County be cognizant of such potential hazards due to the planning areas proximity to the Suisun Marsh. Specific procedures which will minimize or eliminate potentials for harm to natural resource values or human life and property from accidental spills of damaging industrial materials must be developed and demonstrated to those responsible agencies by an industry which proposes to transport such a cargo to and from the planning area. All permit applications by industrial owners must include specific evidence of compliance with the U.S. Department of Transportation, Code of Federal Regulations Title 49 and such State, County and Municipal regulations which may be in effect at the time of application. Spill prevention procedures must place special emphasis on protecting the Suisun Marsh from exposure to spill contaminated waters and on protecting urban areas (Rio Vista, Suisun City, Fairfield, etc.) from spill related hazards associated with land transport.

The planning area transportation system (roads, rail, berths, pipelines) must be constructed in a manner which minimizes the likelihood of mishaps involving hazardous cargoes. Design measures for road and rail safety should include limitations on grades, curves, and intersectional conflicts, visibility characteristics, surface conditions, and speed.

The following measures should be considered by the County in determining the adequacy of proposed programs to prevent hazardous cargo mishaps.

Berth facility designs must include systems for routine booming during loading and off-loading of volatile or toxic liquid cargoes and equipment for effective containment and recovery of spilled materials. Containment and recovery systems must be capable of (a) performing effectively in up to five foot wave heights and in two knot river currents, and (b) containing and recovering or clearing all types of cargoes of a harmful nature which will be loaded or off loaded in significant quantities.

All loading and off-loading systems must also be equipped with both automatic and manual emergency shut-off valves at the berth and on the shore.

Berth facilities must include navigational aids and dock or berth safety provisions to reduce the likelihood of accident and damage, including radar reflectors, special lighting, fire protection systems, and adequate security provisions.

The most effective design measure for berth construction is the concentration of ship loading activity into clustered, parallel berth facility areas, as recommended in this plan. Berth concentration effectively achieves the following:

- reduces the number of points of navigational conflict along the Sacramento River Ship Channel and allows installation of more elaborate and effective ship traffic navigation systems than would be possible for individual berth locations dispersed along the 12 mile shoreline for each water related industry;
- allows for more efficient and effective control by the U.S. Coast Guard of vessel traffic movements, traffic monitoring, and supervision of the handling and stowage of harmful cargoes; and

- ~~allows for installation of more elaborate permanent spill containment and cleanup systems.~~

~~Prior to the approval of new pipelines for the conveyance of hazardous liquids or gases which cross suspected fault zones, liquefaction-prone lands, or other potential ground failure areas, specific site investigation by a qualified engineering geologist must determine that (a) no ground failure potential exists, or (b) no reasonable alternative routes are available. In the latter case, the pipeline design must include valves, switches and other equipment appropriate to ensure rapid emergency repairs to minimize the potential for mishaps.~~

~~It should also be required that spill contingency plans contain nondesign measures which address all modes of hazardous cargo transport including both water and land systems (road, rail, and pipeline modes) in order to prevent hazardous cargo mishaps.~~

Recreational Access

~~In light of the considerable length of the area designated in this plan for water-dependent industrial and commercial recreation uses, development of these areas should be designed and constructed in a manner which ensures the maintenance of public access to the shoreline. The state's desire to ensure that public access to such estuarine waters will always be attainable was recently established in California Constitution, 1977-78 (ARTICLE 8, Sec. 4., new section adopted June 8, 1976):~~

~~No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall be always attainable for the people.~~

~~In carrying out the requirements of the California Constitution and to accommodate the increased recreational activity needs generated by projected regional growth, maximum public access and recreational activities should be provided for consistent with public safety needs and the desire to protect wetland habitat values. Allowable land uses along the shoreline of designated water-dependent industrial, commercial recreation and shoreline recreation areas, with the exception of water-dependent industrial designations west of the Collinsville Inlet, may be required to provide adequate public access.~~

~~For each shoreline development proposal within the water-dependent industrial area, provision for shoreline accessways should be considered before or at the time of development and may be required by the County for public access points along the river front. Public access to and along the waterfront should be provided wherever feasible, unless it will result in interference with industrial activities or hazards to the public.~~

Subarea Land Use and Transportation Policies

Wetland Protection Subarea

~~The wetland protection subarea is designated on the Plan Map as wetland habitat. The designation includes roughly 3,720 acres of low-lying, flat wetlands. Wildlife habitats within these wetland areas are highly valued for their biotic significance and are~~

characterized by a low endurance to disruption by development. The designation includes existing permanent marsh (35 percent of the area), seasonal marsh (20 percent) and lowland grasslands below the ten foot contour which may be restorable to a marsh condition (45 percent).

This subarea is adjacent to the Montezuma Slough and is included within the "primary management area" of the Suisun Marsh system as designated in the *Suisun Marsh Protection Plan* by BCDC. Since adoption of the BCDC plan by the state legislature, allowable uses within this area are limited to existing activities which are consistent with protection of the marsh. For example, extensive agricultural uses now predominant in the area will be allowed to continue on dry lands since these uses can provide extended habitat areas for wetland-dependent wildlife.

The wildlife protection subarea is currently held in twelve ownerships. All are privately owned and two are held by industrial interests including a segment of the Sacramento Northern right-of-way and the largest portion of the subarea (roughly 50 percent) which is owned by National Steel/Southern Pacific.

Increasing pressures to develop these wetlands for industrial uses may be created by their proximity to the Sacramento River Deep Water Ship Channel, by their level topography, by adjacent waterfront industrial use designations of this plan, by the transportation infrastructure which has been specified to support these designated industrial areas, and by the fact that the Bay region inventory of undeveloped land next to deep water ship channel is dwindling.

Land Use Policies

All lands within this subarea must be managed to protect and enhance the quality and diversity of wildlife habitats. Specific land uses within the designation must be limited to those which do not interfere with the protection and enhancement of wetland wildlife habitats. Agricultural activities which now occur, such as dry farming of grain and sheep, should continue, provided that such activities do not exceed sound wetland management practices.

Where feasible, historic marshlands below the current ten foot contour which in the past have been diked off from tidal action for agricultural purposes should either be returned to their original tidal wetland status, or converted to managed wetlands, through actions such as raising site elevations through placement of approved dredged sediments, removing portions of levees, and reintroducing tidal action.

The protection of this wetland area will provide a needed buffer between the Suisun Marsh and planning area industrial development.

Transportation Policies

When new railroad improvements which have been specified in the Plan (see Figure 5) are constructed within the existing railroad right of way which separates the wildlife protection subarea from the Clank Hollow drainage area east of the tracks, and/or within any new railroad rights-of-way that traverse areas where wetland restoration occurs, structural solutions which allow for free movement of water and wildlife between the two sides of the track, such as open trestles or culverts, should be utilized.

Western Industrial Subarea

Clank Hollow Drainage. The Western Industrial Subarea also includes a portion of land identified in Figure 5 as the "Clank Hollow Drainage", where a major planning area drainage joins with the wetlands to the west of the railroad right-of-way. This small drainage area is a seasonal marsh and is defined by the ten foot contour. Planning area seasonal run-off water from Clank Hollow drainage collects here in ponds. Under normal conditions, the area usually remains damp nine months of the year.

Development Requirements

Industrial development which is allowable under the land use policies of this subarea should conform to the following development criteria:

1. Filling of low lying lands designated in Figure 5 (CMHP, Figure 11) as "flat lowlands" is permissible for purposes of leveling and improvement of soil stability and site drainage when part of an engineered fill for a proposed water-related industry. Disposal of dredged sediments at this site should be allowed in order to make the site usable for such industrial purposes or for wetland restoration and enhancement. Any dredged sediment placed on site should also be properly engineered to avoid problems with settlement, liquefaction, mud waves, exposure of contaminants, erosion, overloading and similar problems. Restored wetlands shall remain as wetlands and not be developed for industrial uses that this habitat loss will be offset by maintenance of existing lowland areas east of the Marshal Cut or restoration of other wetlands.
2. A recommended "building setback line" is indicated in Figure 6. Its alignment is governed by identified shoreline habitat values and vulnerabilities. Additional exceptions to this habitat protecting limitation may be made where necessary to maintain riparian rights.
3. All surface water runoff (drainage) from a developed industrial holding should be diverted, retained, and adequately treated to mitigate any industry related contamination, before being discharged into the Sacramento River.

Collinsville Commercial Recreation Subarea

As shown in Figure 7, the Collinsville subarea encompasses roughly 120 acres of lowland grassland and includes the Collinsville Inlet and the old settlement of Collinsville. The Collinsville Inlet was used to serve a dockside sugar beet refinery and cattle stock yard with river barge access. These operations are now defunct. The settlement of Collinsville forms the terminal focus of Collinsville Road. Once a small fishing community, it is now exclusively single family residential with a number of vacant, dilapidated old homes which are remarkable for being built on piers several feet off the ground to avoid flooding waters. These structures are interspersed with vacant lots. Approximately 43 of these parcels are included in an area of less than 30 acres.

Shoreline portions of the Collinsville subarea, including the existing settlement of Collinsville, are interspersed with isolated pockets of permanent and seasonal marsh. These lowland shore areas are noted for their habitat values, susceptibility to flooding, and poor soil stability. On the other hand, all interior lands of the subarea are underlain by stable soils and are not in the flood plain.

The Collinsville subarea has unique potentials for water-related recreational use due to its proximity to the Montezuma Slough and the convergence of the Sacramento and San Joaquin Rivers, and to the sheltering effects of Chain and Montezuma Islands from estuarine wave action. With the introduction of a primary loop road near the site for industrial purposes, regional access will be greatly improved, creating increased demands for water-oriented commercial recreation uses at this location. Two of three possible alternative sites discussed in this plan for marina development are within the Collinsville commercial recreation subarea, and a third site at Collinsville Resort is one quarter mile to the east.

Land Use Policies

Lands comprising the existing settlement of Collinsville should be designated to accommodate commercial recreation land uses. Increasing demands for such uses will focus here when construction of improved access roads is complete and if development of one of the possible marina sites becomes feasible. Water-oriented commercial recreation development and a nearby marina would be highly complementary land uses.

The area designated in Figure 7 for commercial recreation land uses should be reserved for small-scale, water-oriented development. In addition to a marina, specific uses permitted should include restaurants, commercial lodging, retail shops to serve recreational uses of the area, boat sales, a boat launching ramp, and facilities for boat construction and repair. Residential uses on previously platted parcels should be permissible, however, residential development should not foreclose potential commercial recreation uses and marina development.

Transportation Policies

Of the three designated alternative marina locations, the preferred location, if it is found to be feasible in terms of dredging and channel maintenance costs, is the Collinsville Inlet. Advantages of this site include more direct road access, fewer conflicts with wetlands, good storm protection for boats, less land access interference with industrial activities, and closer proximity to complementary commercial recreation development.

Precise routing of necessary Collinsville Road improvements should await resolution of marina development plans.

Dedication provisions may be required in commercial shoreline development proposals to ensure the possibility of future public accessways to the waterfront.

Development Requirements

To the extent possible, existing pockets of wetland should be preserved through use of pile or pole types of construction. Such techniques will also promote continuation of the present and rather unique character of the settlement of Collinsville. Where elimination of wetland pockets is necessary to accommodate demands for commercial recreation uses, mitigation should be provided by the developer through assistance in the restoration of tidal action to lands in the Wetland Habitat Subarea which can become a more significant, integrated part of the Suisun Marsh system. Such offset marsh restoration could be done directly or by means of an in-lieu payment.

- Small-scale, water-oriented commercial recreation development can be introduced here in a manner which is compatible with the character of the

~~Collinsville settlement, with its vista of the Sacramento River, its residential uses, and the few abandoned structures that exist there. Retention and proliferation of the roadside facades which provide the focusing effect of Collinsville as an approach and gateway to the river should be encouraged.~~

~~In order to protect the Collinsville townsite and at the same time avoid placing undue constraints upon the development of the area's principal permitted use, a buffer shall be established around the townsite. On the western side of the town site, the buffer extends from the boundaries of the existing parcels outward to the eastern bank of the Collinsville Inlet. On the northern and eastern sides of the townsite, the buffer extends 500 feet from the boundaries of existing parcels. Within buffer areas, no major industrial buildings or structures can be constructed, nor will outdoor industrial storage be allowed. Areas within the buffer can be used for landscaping, parking, or commercial recreation. Docking facilities, minor industrial structures or other uses are also allowed when found by the County during project consideration to be compatible with townsite protection.~~

- ~~• North of Stratton Lane are two small cemeteries which have served the old townsite. A buffer around these two historical sites shall be required on surrounding industrial properties at the time of project consideration. The buffer can be provided by landscaping or by appropriate site plan design conditioned such that the impacts of development of adjoining industrial properties are minimized.~~

Agricultural Subarea

Land Use Policies

~~Certain passive recreational activities are permissible in the northwest portion of the designated agricultural area west of Shiloh Road and south of Little Honker Bay Road. A number of open space recreational values are localized here including wetland habitats and opportunities for Suisun Marsh overlooks and Montezuma Slough oriented activities (boat launching, etc.). Recreational improvements should be encouraged, but should be limited to, wildlife observation/interpretation activities, boat launching facilities and necessary off-road parking. Lands within the recreational open space boundary should be managed and used in a manner which is compatible with the concurrent continuation of their existing agricultural use. The principal riparian habitats of the agricultural area should be protected against adverse effects associated with farming activities. In particular, adverse water quality and habitat impacts on the Sacramento River, Montezuma Slough, and Suisun Marsh must be avoided. Special attention should be given to the prevention of contamination of the Clank Hollow, Lucol Hollow, Hopkins Ravine, Toland Lane and other similar drainages. These drainages must be protected from runoff contamination by pesticides, fertilizers, and other agricultural materials and the resulting damage to downstream wetland habitats. Thus, no intensive agricultural uses should be permitted in these drainages unless measures are taken which will ensure against such contamination.~~

Planning and Regulatory Steps

Dedication Requirements

- ~~1. Dedication of public accessway easement shall be considered before or at the time of development and may be required by the County for access to the riverfront.~~
- ~~2. If a property owner so desires, wetland areas designated for preservation may be dedicated to an appropriate party to assure proper management of these areas in conjunction with the adjoining Suisun Marsh.~~

Water Dependent Industrial Uses

The following Water Dependent Industrial policies shall be applicable to the General Plan Diagram Water Dependent Industrial land use designation within the Suisun Marsh Management Area.

Policies

SM.P-51: The upland portion of the Collinsville site, above the 10-foot contour line presents no significant physical constraints for development and should be reserved for water-related industry use.

SM.P-52: The low-lying portion of the Collinsville site, below the 10-foot contour line, does present physical constraints for development and consists of critical Marsh-related wildlife habitats. Nevertheless, the portion of this area, which fronts on deep water should be reserved for water-related industry use.

SM.P-53: Reservation of the Collinsville site for water-related industry use notwithstanding, wetland restoration or enhancement of the area below the 10-foot contour line may occur provided that the restoration or enhancement program is carried out in a manner that will not preclude use of the deep water shoreline and area above the 10-foot contour line for water-related industry use. Specifically, any wetland restoration or enhancement project should be designed so as not to restrict possible future development and operation of marine terminals and marine terminal berths on the deep water shoreline, and the movement of waterborne cargo, materials and products from the shoreline terminal to the upland portions of the site.

SM.P-54: A program to prevent accidental spills of toxic and hazardous materials entering Montezuma Slough should be developed by industries constructing marine terminal facilities at Collinsville. Prior to the use of such facilities, equipment required to carry out the prevention program should be installed at the appropriate location at or adjacent to the mouth of Montezuma Slough.

SM.P-55: The remaining areas of lowland grassland and seasonal marsh in the Collinsville site should be preserved and, whenever possible, enhanced or restored for their intrinsic value as Marsh-related wildlife habitat and to act as a buffer between the Suisun Marsh and industrial and port activities. There are several land uses that could occur in this area. The existing agricultural use-cattle grazing--could be continued. Portions of the area should also be restored to wetland status, either as tidal marsh or

managed wet-lands. Dredged materials may be used in any wetland enhancement or restoration program when such activity will be conducted without adverse environmental impacts on the Marsh.

SM.P-56: All future industrial development adjacent to the Suisun Marsh within areas reserved for water-related industry should conform to the following planning guidelines:

(a) Industrial activities should not have the potential to cause significant adverse impacts on the Suisun Marsh. In particular, water quality should be maintained by ensuring that no hazardous or toxic materials could be introduced into the Marsh sloughs and by prohibiting activities that could alter the temperature salinity or turbidity of the water. Construction of necessary access routes across wetlands should result in the minimum possible disturbance to the ecosystems and wildlife. Pipelines should be installed using the procedures described in the Plan Policies on Utilities, Facilities, and Transportation. Conveyor belts and railroads should be constructed on trestles, except in situations such as along the western boundary of the Collinsville water-related industry area, where a railroad may be constructed on fill in order to provide a dike separating industrial facilities from wetlands.

(b) The construction and development of any industrial facilities adjacent to and upstream from the Suisun Marsh should comply with the Plan Policies on Water Supply and Quality and all applicable State and Federal water and air quality standards.

(c) Industrial facilities should not be located directly adjacent to the Suisun Marsh. A buffer area should be provided to reduce adverse environmental impacts on the Marsh.

(d) Development of industrial sites should not result in the construction of physical barriers such as freeways, fences or exposed pipelines that impede the movement of wildlife. In addition, construction of very tall structures with which wildlife are prone to collide, especially during migrations and in bad weather, should be avoided. Industrial facilities adjacent to wildlife areas that deter the landing of wildlife should also be avoided. However, the type, size, and location of structures that could be hazardous cannot now be predicted in advance. Therefore, decisions should be made on a case by case basis to ensure that structures in the vicinity of the Marsh are located and constructed to avoid, to the maximum extent feasible, interference with the flight or migration patterns of wildlife.

(e) Industry sites should be developed to allow the most efficient use of the shoreline. For example, in the Collinsville site, wharves constructed along the shoreline in the area reserved for water-related industry, in addition to any petroleum dock which may be needed, should be shared to the maximum extent feasible by industries locating in the water-related industry area.

(f) Storage of raw materials, fuel, or products should not be permitted at the shoreline on a permanent or long-term basis. The waterfront is too scarce and valuable to accommodate uses, such as storage, that could be located farther inland.

(g) Industrial facilities should be located and designed to avoid visual intrusion on the Suisun Marsh. Where sloping land is to be used for industrial development, it

should be terraced, rather than leveled, and soil erosion and storm water runoff should be controlled. Buildings should not be highly visible against the skyline, should have a low profile, be well designed and unobtrusive in appearance, and use colors and materials compatible with the surrounding landscapes. Appropriate landscaping should be used to reduce the impact of industrial structures on views from the Suisun Marsh.

(h) The industrial waterfront is attractive and interesting to many people and public access to the shoreline should be provided wherever feasible, unless it will result in interference with industrial activities or hazards to the public. Public access to exceptional natural features within industrial areas should also be provided wherever feasible.