Background Report # 3

BACKGROUND REPORT

ON

LAND USE AND DEVELOPMENT

Prepared by:

Staff of the Delta Protection Commission

January, 1994

Reprinted January, 2001

Table of Contents

Introduc	ction	1
Chapter	I: History of the Delta	5
1.	An Overview of Delta History	5
	a. Phase One: Hunter/Gathers to Native Americans	
	b. Phase Two: European Explorers	5
	c. Phase Three: The Gold Rush and Early Delta Settlers and River Use	
	d. Phase Four: The Early 1900's	7
2.	Significant Communities Located Within the Delta Protection Act	
	Primary Zone	7
	a. Clarksburg	7
	b. Courtland	8
	c. Hood	8
	d. Locke	8
	e. Ryde	9
	f. Walnut Grove	
3.	Existing Historical and Cultural Institutions	10
Chapter	II: Summary of County General Plans and Zoning Codes	11
1.	Contra Costa County	11
	a. General Plan	
	b. East County Area Plan	
	c. Zoning code	
2.	Sacramento County	16
	a. General Plan	
	b. The Delta Community Area Land Use Plan	
	c. Special Plans	
	d. Zoning Ordinance	
3.	San Joaquin County	19
	a. General Plan	
	b. Zoning Ordinance	
4.	Solano County	20
••	a. General Plan	
	b. Zoning Ordinance	
5.	Yolo County	21
٥.	a. General Plan	
	b. Clarksburg General Plan	
	c. Zoning Ordinance	

Chapte	er III: Ownership of Land and Underwater Areas	23
1	Private Ownership	23
	Ports	
3.		
4.	Special Districts	
5.		
6.		
7.	State Lands Commission	
8.	Department of Parks and Recreation	
9.	-	
10.		
11.	Cal Trans	
	Reclamation Board	
13.	Federal Agencies	27
	a. U.S. Army Corps of Engineers	
	b. U.S. Navy	27
Chapte	er IV: Proposed Projects	29
1.	Twitchell Island	29
2.		
3.	Stone Lakes National Wildlife Refuge	
4.		
5.	Prospect Island	
6.		
7.		
8.	Yolo Basin Wetlands	
9.	Port of Sacramento Mitigation Bank, Yolo and Solano Counties	34
10.	Jersey Island	
11.	Central Valley Habitat Joint Venture Implementation Plan	34
Adonte	ed Land Use Findings	37
Adopte	ed Policies	41
Adopte	ed Recommendations	42
	dix A	
Appen	dix B	45
	nces	
T		
	Figures 1: Man of Dolta	9
Figure	1: Map of Delta2: Chart of Parcel Sizes	 13
	3: Map of Proposed Projects	
1 15010	J. 1414p of 1 10posed 1 10jects	

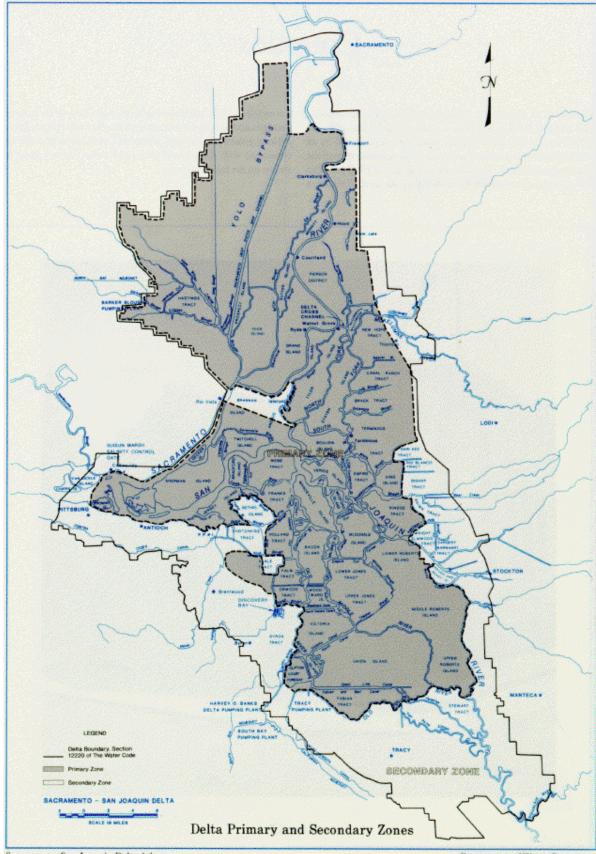
INTRODUCTION

The Delta Protection Commission is charged with preparation of a land use and resource management plan for the primary management area of the Delta, as defined in the Delta Protection Act (see Figure 1). The plan is to be adopted by the Commission and forwarded to the five Delta Counties (see Figure 2) for adoption and implementation through the existing regulatory process.

The Counties regulate land use through the General Plan and Zoning Ordinance, and through the day-to-day review of proposed projects. This process is largely reactive, a project is proposed, permits applied for, and then County review begins. Change of ownership does not usually require any County review. State and federal projects are exempt from the local permit process; state and federal projects are reviewed only through the environmental review process. By commenting on the environmental impacts of proposed projects, the Counties attempt to ensure that the County plans and goals are implemented by all projects.

This background report describes the history of the Delta from the days of first settlement to the recent past. The report outlines the existing General Plan and Zoning Code delineations of the Primary Zone of the Delta. Land ownership is described, including lands owned by governmental entities. Finally, the report lists pending projects that will take lands out of agricultural use.

Due to the very limited budget and very short timeline allotted the Delta Protection Commission to complete the task of preparing the Plan, this report is based on existing references, updated where feasible through personal contacts with agency staff. The Department of Water Resources generously provided maps, reprinted from the 1993 Delta Atlas.



Sacramento-San Joaquin Delta Atlas

Department of Water Resources

CHAPTER I: HISTORY OF THE DELTA

This chapter of the Delta's history is divided into four phases: Phase One: Hunter/Gatherers to Native Americans, Phase Two: European Explorers, Phase Three: The Gold Rush and the Early Delta Settlements and River Use, Phase Four: The Early 1900's

The Delta's Primary zone is comprised of several small historical significant towns. This report discusses the towns and their unique characteristics.

1. <u>An Overview of Delta History</u>

a. Phase One: Hunter/Gathers to Native Americans. The Delta's first known inhabitants were hunter/gathers who arrived between 12,000 and 20,000 years ago at the end of the last Ice Age. These people traveled from Alaska and the Pacific Northwest to settle along the coast and further inland. They occupied shoreline village sites during the summer and moved to higher, drier ground during the winter. During their peak their Delta population was about 30,000. These people initially spoke the Hokan language.

After considerable time, a warmer and drier climate developed (about 4,000 years ago). New people from eastern Washington and Oregon and western Idaho migrated to the warmer environment. The new language group known as Penutian occupied Hokan territory in the Bay and Delta. The Hokan and Penutian groups mingled traditions forming into what was referred to as the Windmiller Tradition, but they too soon developed different lifestyles and formed into the ancestral Miwok and Yokut Indian tribes.

Archaeological evidence indicates that was considerable trade between groups and little warfare. Most of the Delta was occupied by the Eastern, or Plains Miwok. They inhabited the lower reaches of the Mokelumne and Cosumnes rivers and both banks of the Sacramento River from Rio Vista to Freeport. The Bay Miwok, or Sacian, lived in the eastern portions of Contra Costa from Walnut Creek eastward to Sherman Island. South of these tribes were the Northern Valley Yokuts, whose territory extended to the ridgeline separating the Calavaras and Mokelumne River drainages and to the crest of the Mount Diablo range. North and west of the Miwok tribes lived the Patwin, from Benicia, to the Yolo drains and sinks of Putah Creek.

b. <u>Phase Two: European Explorers.</u> European exploration and use of the Delta waterways began slowly. San Francisco was first sighted by Europeans in 1769 by a party of Spanish explorers searching for Monterey. In 1772, on another exploration, Father Juan Crespi and Pedro Fages reached the Bay and wrote the first account of the Delta from vantage-point on Mt. Diablo describing the confluence of the Sacramento and San Joaquin Rivers. Explorers sailing in small boats, frigate, from the new Presidio in San Francisco reached the mouth of the Sacramento River in 1776.

Large shipping vessels began exploration of the Delta in 1811. Fathers Abella and Fortini journeyed up the "northern river of San Francisco" to explore the mouth of the San Joaquin River and Spanish fathers and soldiers in 1820 explored Montezuma Slough, the Sacramento Valley, and the southern Delta to the Stockton area.

British and French trappers appeared in the Delta by 1820, at the same time the Mexicans

began occupation of California. The traders brought pelts to Yerba Buena Cove and other trading centers to trade furs with China and send hides to New England shoe factories. A few Delta place names such as French Camp, remain to indicate their presence. By the mid-1840's the beaver, muskrat, freshwater mink, and otter of the Delta had nearly become extinct, and the fur trade dissipated.

The Russians, under Captain Kisbue's command, sailed the Sacramento River in 1824. The British Navy sent H.M.S. Sulphur in 1837 when the oldest surviving chart of the lower Sacramento was produced.

The Hudson Bay Company's exploration party traveled the Sacramento in 1832. Members of the company's party brought malaria to the valley. Within four years over 75% of the Patwin had died, the Bay Miwok disappeared and the Plains Miwok lost over 80% of their people. Other European diseases-small pox, measles, influenza and syphilis-also decimated Indian populations.

c. <u>Phase Three: The Gold Rush and Early Delta Settlers and River Use.</u> John Augusta Sutter founded New Halvetia in 1839 at the confluence of the Sacramento and American rivers, the beginning of what is now Sacramento, In 1848, James Marshall, working for John Sutter, discovered gold at Coloma. That same year the United States acquired California, ending Mexican occupation. The California Gold Rush began in 1849, attracting thousands of gold seekers to the Delta/Mother Lode region. Between 1848 and 1850, the population of California jumped from 13,000 to 100,000, most of the residents residing in the San Francisco and Mother Lode regions.

River commerce developed between the new settlements of John Marsh at the foot of Mt. Diablo in 1837, John Sutter at New Helevetia in 1841, and Juan Vaca at Lagoon Valley (Fairfield) in 1842, the Berryessa brothers at Cache creek in 1843, and Charles M. Weber at French Camp and Stockton in 1844. The Sacramento River had more traffic than the San Joaquin because of upriver settlements by Peter Lassen, John Bidwell, William Knight, and a Wolfskin clan. The sailing launch on the Sacramento River, part of the Sutter purchase of Fort Ross in 1841, was the first to provide regular service between New Helvetia and Yerba Buena. The round trip took two weeks.

The steam "era" began in the summer of 1847 with the Russian bark Nasedich's "general cargo" delivery at Yerba Buena. This "cargo" was the 37-foot steamboat named the Little Sitka that was consigned to the merchant William Leidesdorff. The Sitka steamed upriver for six days to New Helvetia.

In 1850, California became a state; Sacramento was named the state capitol in 1854. By this time, steamboats were traveling the Sacramento river and other waterways for the Delta. Because of the Gold Rush, steamboat trade flourished and the Delta became the main traffic corridor from San Francisco to Sacramento for prospective miners and camp followers. High profits encouraged more boats and shipping companies resulting in lowered fares and profits. By 1850, one steamboat, the Senator reduced its fare from \$30 to \$1. There were then 203 vessels on the rivers. Ramming was a frequent device to eliminate competition. To maintain profits and reduce sinking, the major boat owners in 1854 formed the California Steam Navigation Company, creating an effective monopoly on river traffic through the 1930's.

Sedimentation and siltation from hydraulic gold mining ruined the rivers for the larger boats. The floods of 1861, 1862, 1875, and 1878 carried sand, mud, and tailings from the upper reaches of the rivers to farmlands and fisheries of the Feather, American, Bear, and Sacramento rivers. Steamboat Slough's average depth was 12 feet in 1853; in 1879 it was only five feet deep and was closed to steamboats. Shallow draft steamboats took over where the bigger boats could no longer travel.

The steamboat era and the extensive use of the Delta waterways gave rise to the first levee construction in the Delta. Supposedly, the first levee in the Delta was built in 1851 by George Kercheval where Steamboat Slough and the Sacramento River meet. Chinese laborers imported to work on the transcontinental railroad moved to the Delta to build the levees after the railroad's completion in 1869. Early levees were built by hand. These early efforts were destroyed by the great flood in the 1890's. Power dredges and reclamation districts appeared at the turn of the century, leading to permanent settlements.

d. <u>Phase Four: The Early 1900's.</u> By the time Congress banned hydraulic mining in 1909, significant changes had occurred in the Delta. One and a half billion cubic yards of silt worked into the Delta rendered many of the waterways non-navigable to river steamboats. High water tables and increased mineral content of the water destroyed orchards, which were replaced by Bartlett pear orchards; many of which still exist today.

As early as 1882, the federal government became involved in the Delta as the U.S. Army Corps of Engineers began to address flood control. The Federal Flood Control Act of 1917 established federal involvement in flood control, as well as navigation.

In 1933, California voters approved the creation of the Central Valley project, but when the State could not finance the project, federal funds were allocated, ultimately leading to the presence of the U.S. Bureau of Reclamation in California.

After World War II, the area's growing population began using the Delta for recreation. The channels, riparian vegetation, and excellent fishing made the Delta a boater's paradise. Marinas, docks, restaurants, and bait shops were built to service the recreational users.

From 1950 to 1975 the area retained its rural character, but large-scale and commercial development began to replace the farms on the lands around the Delta. Until recently there has been little growth pressure on the Delta, however, the children of early settlers, the delta farmers, and the rural residents are now sharing the Delta with retirees and recreational users.

2. Significant Communities Located Within The Delta Primary Zone

a. <u>Clarksburg</u> Clarksburg grew to serve Josiah Green's ranch on the upper end of Merritt Island and the Portuguese settlement on the lower end of Lisbon.

Josiah Buckman Green, founder of Clarksburg, purchased farmland on Merritt Island from an agent in San Francisco. When he arrived at the Island in 1849, the land he had purchased was flooded. To maintain his land above water, Green realized he must build levees around his property; that was the first reclamation project in the Delta.

At the same time Portuguese began settling along the Sacramento River near Merritt Island in 1850. This high land, named the Lisbon district, had everything they needed to start a new life: land for farming, shepherding, cattle raising, and fishing.

In early 1870, a general store opened and a wharf was built. In the 1880's many Clarksburg residents arrived from the Netherlands. Their knowledge of levee building greatly influenced this area; Clarksburg soon began to look like Holland because of its many dikes and canals. (2)

b. <u>Courtland</u>. Courtland is located on the east bank of the Sacramento River. James V. Sims, an ex-miner who turned farmer, established a steamer landing in 1870. The following year a wharf was built. The California Pacific Railroad Company steamers made regular landings and the town soon became a shipping port for the fruit growing area. Courtland, like many of the Delta communities, had its own Chinese section. However, in December 1879, the Chinese section of town burned to the ground. A notable Courtland landmark is the Wo Chong and Co. General Stores. (3)

Due to the large numbers of Chinese residents residing in the Delta, Dr. Sun Yat-Sen visited Courtland to raise money for his fight against the Communists. Chinese in the Delta raised substantial money for his cause; they bought ten or twenty airplanes that were stored on a wharf below Hood prior to shipment. However, saboteurs sent the warehouse and planes up in flames. (3)

- c. <u>Hood.</u> Hood is located on the east bank of the Sacramento River. The town was named after William Hood, chief construction engineer for the Southern Pacific Railroad in the 1880's. William Hood had hoped to connect the railroad with Suisun and Antioch but the railroad never extended beyond Isleton. He selected the town site so farmers could bring in goods by ship and then transport the goods by rail. The area was also selected because it was not flood prone. (4)
- d. <u>Locke.</u> Locke, located on Upper Tyler Island, is the last remaining rural Chinatown in the United States. The entire community was placed on the National Register of Historic Places in 1971.

The Southern Pacific Transportation Company operated the large warehouse along the levee for many years. During harvesting season, packers rented space in the warehouse. Chan Tin-San is commonly credited as being the founding father of Locke. He was the first Chinese to construct a building on the Locke brothers' property realizing the business potential of the packing houses served by the Southern Pacific spur. The next structures in town were a boarding house, gambling hall, and saloon.

In 1916, after the fire destroyed the Chinese settlement in Walnut Grove, a number of chang-san Chinese leased land from the Locke brothers to build new homes and shops. The chang-san Chinese were from the Pearl River Delta in Kwangtung Province. Lee Bing, one of the more prominent Chinese settlers in Locke, financed nine buildings. The Chinese owned their buildings but not the land underneath. The 1913 Alien Land Act barred any one who was not a citizen of the United States from purchasing land, and because the 1882 Chinese Exclusion Act barred Chinese from becoming citizens, Chinese were unable to purchase land. Despite this, Locke eventually grew into a bustling town. Between 1916 and 1920, restaurants, dry good

stores, hardware stores, grocery stores, brothels, and a merchants association were built. Later a drug store, soda fountain, post office, tobacco shop, shoe repair, bakery, theater, boarding houses, and opium rooms, were located in the town.

Illegal alcohol was sold in Locke during the Prohibition era. The brothels were owned, operated, and staffed by whites but catered to both Chinese and whites. Chinese came from Sacramento, farms in the Delta, and other areas to visit the famous Locke gambling houses. (5)

In 1977, the 490-acre Locke estate, including the town of Locke was sold to Hong Kong developer Ng Tor-tai of Asian City Development, Inc. for \$700,000. Asian City had plans to turn Locke into a Chinese "Theme Park". The State of California, concerned with preserving the low-key stature of Locke, allocated \$1.2 million for acquisition and restoration of the town. The state's purchase offer of \$137,000 for the Star Theater and the actual town's ten acres was turned down by Asian City Development. Sacramento County Board of Supervisors, fearing Asian city's theme park plan, passed a special ordinance in 1979, amending the county zoning code by establishing a "special planning" area for the town of Locke and its surrounding acreage. The ordinance is intended to preserve the town's cultural and historical integrity and permit rehabilitation of its existing structures. (6)

e. <u>Ryde.</u> Ryde is located on the west bank of the Sacramento River. The town was settled in 1877 and named after the town of Ryde on the Isle of Wright off the coast of England where General Williams, the original landowner, was born. By 1893, the town had a store, wharf and hotel. Mr. Brown ran the general store.

Around the turn of the century the hotel was operated by Pio Giusti. Many of the men who worked on the early dredges lived at the old hotel. The present Ryde Hotel was opened in 1926 and was a popular prohibition era spot. The Hotel became renowned as a special spot where State Legislators came for a drink. From the bar located in the basement, a tunnel opened onto a small detached building that housed the stills. In the late 1920's the hotel was raided several times and the tunnel was sealed. In 1928, Herbert Hoover visited the hotel for a political rally and it is alleged that this was the first place he announced his quest of the presidency of the United States. After World War II, the Giannetti family operated the hotel. Asparagus canneries operated in Ryde for some time. The Ryde Post Office building once housed the saloon and general store. (7)

f. Walnut Grove Walnut Grove is located on the east and west banks of the Sacramento River at the mouth of the Georgiana Slough. The town was founded in 1851 by John W. Sharp, who operated the first ferry on the river. Sharp acquired the land under the Swamp and Overflow Act. Sharp established the first general store, brickyard, blacksmith shop, lumber mill, and was the town's first postmaster. He opened the first hotel, school and operated the first ferry across the river. After Sharp's death, Mrs. Agnes Brown, a San Francisco widow, purchased the hotel and her son Alex opened a general merchandise store. Later, Alex Brown farmed thousands of acres of asparagus, because an agent for the Southern Pacific Transportation Company's steamer line, the agent for Wells Fargo Express, agent for the Western Union Telegraph Company, the assistant Postmaster, and conducted a warehouse business. Alex Brown's son, John Brown, founded the bank of Alex Brown in 1913.

Walnut Grove was home to a large Chinese population. Their stores, rooming houses, and gambling dens were located on the low ground behind the dike. In 1856 a post office was

established, making Walnut Grove one of the earliest small communities in the west to have a post office. By 1865, the town evolved into a significant shipping point, serving substantial river traffic. The town was allegedly a hangout for river bandits that robbed steamboats in the back sloughs. (8)

In 1868, the state legislature authorized the formation of reclamation districts to develop a levee system and reclaim the Delta area. Much of the Chinese labor force relocated to the Delta to work on the levees and in the agricultural industry. Walnut Grove's growth, however, was limited in area because of the value of the surrounding land for agricultural purposes. The community became compact and dense rather than expansive and sprawling. Walnut Grove's economic role was one of a provider of goods, services, and residential opportunities to the agricultural labor force.

The land under east Walnut Grove, until recently, remained in the ownership of the original settlers' descendants. The occupants, most of whom were Asian, were allowed to lease or rent land and construct buildings, but were not to hold title. After World War II and the decline of labor intensive agricultural practices, the demand for commercial and residential space also diminished. (9)

3. Existing Historical and Cultural Institutions

A number of historical or cultural institutions have been created celebrating Delta history. Most of the focus on a geographical sub-unit of the Delta (e.g. East Contra Costa Historical Society) or focus on a special segment of the past (e.g. State Indian Museum). A more complete listing is attached in Appendix A.

In addition, a number of Delta sites have been designated as historic landmarks. These range from the entire town of Locke, the last remaining rural Chinese town in America, to individual historic structures. A list is included in Appendix B.

CHAPTER II: SUMMARY OF COUNTY GENERAL PLANS AND ZONING CODES

The Primary Zone of the Delta was delineated to eliminate incorporated cities. Also excluded were areas within sphere of influence of cities and areas being studied to be included in spheres of influence. These areas have a high likelihood of being developed for residential or other urban uses in the future. Many areas are currently being used for agricultural purposes and have value as agricultural lands.

The Primary Zone of the Delta, the focus of the Delta Plan, is under the jurisdiction of the five Delta counties: Contra Costa, Sacramento, San Joaquin, Solano, and Yolo. Land use decisions are based primarily on the General Plan, required under State law and containing seven mandatory elements: (1) Land Use; (2) Circulation and Transportation: (3) Housing; (4) Open Space; (5) Conservation; (6) Safety; and (7) Noise.

The details of the land uses described in the General Plan are set out in the zoning code. By law (Government Code Section 65860), zoning codes must conform to the General Plans. Figure 2 depicts the minimum parcel sizes for various designations.

Special districts in the Delta have powers and responsibilities separate from the Counties. The most independent are the Reclamation Districts, formed under State law, to allow property owners to tax themselves to build and maintain levees for reclamation and flood control purposes. The Reclamation Districts prepare their own environmental documents and issue their own permits. Reclamation Districts must obtain permits from State and federal agencies. Other special districts collect taxes and provide services, such as fire districts, school districts, etc., but fall under the regulatory schemes of local government.

State and federal actions are exempt from local regulation. Thus a State or federal agency can purchase land and develop a new land use without obtaining a County building permit, use permit, or conditional use permit. Environmental review is required, and local governments can comment on the environmental impacts of a proposed project and propose conditions to mitigate or lessen adverse environmental impacts associated with a proposed project. Local governments cannot veto or deny a State or federal project.

1. <u>Contra Costa County.</u> Contra Costa County has adopted an Urban Limit Line; the Delta is outside the urban limit line due to flood hazards, soil subsistence, lack of infrastructure, and lack of services. The areas to the north and east are designated a special Delta Recreation and Resources area in the General Plan. Portions of the Primary Zone are designated General Agriculture. There has been a great deal of suburban, residential development in the former agricultural lands in the Brentwood and Oakley areas along Highway 4.

Figure 2

MINIMUM PARCEL SIZES

DEFINED IN COUNTY PLANS AND CODES

	320	160	80	40	20	10	5
Solano		X (1)	X (2)	X (3)			
Yolo	X AP (4)	X AP (5)	X AP (6)		X A-1 (7)		X A-1
Sacto			X AG	X AG	X AG		
San Joaq			X (8)	X (9)			
Contra					X DRR (10)	X A-3	X A-2
Costa Co					X A-4 (11)		

- 1. Non-irrigated
- 2. Irrigated
- 3. Orchard/Vineyard
- 4. Not capable of being Irrigated
- 5. Non-irrigated
- 6. Irrigated
- 7. Minimum Parcel for House
- 8. Southern
- 9. Northern
- 10. DRR = Delta Recreation and Resources
- 11. A-4 = Williamson Act Lands

a. <u>General Plan.</u> Contra Costa County program to maintain a specific ratio between developed land and open space land within the County. The ratio, as adopted by the voters in the November 1990 election is 65% of the County to be preserved for agriculture, open space, wetlands, parks and other non-urban uses; 35% may be developed for urban development. The Delta is within the area to remain in open space and low intensity uses.

The Contra Costa General Plan designates Delta islands and nearby tracts as a special "Delta Recreation and Resources" designation. The designation recognizes the location in the 100 year flood plan, the limited services, the value as agricultural land, wildlife habitat, and for low intensity recreation. In these areas, the County allows agricultural uses; and with a use permit, recreation uses such as marinas, hunting clubs, campgrounds, and other outdoor recreation. One dwelling unit per 20 acres is allowed. Minimum parcel size is 20 acres.

Publicly-owned park land and all golf courses are designated "Parks and Recreation". Uses allowed are: recreation and ancillary commerce. No residential. No subdivision.

Transportation and utility corridors are designated "Public Facilities". No residential. No subdivision.

Water areas are so designated. Uses allowed include docks, boating, and fishing. No subdivision.

Publicly-owned land, wetlands, tidelands, and areas of significant ecological resources are designated "Open Space". Uses are limited to resource management and low intensity

recreation. One dwelling unit per legal parcel.

Areas west of Veale and Htochkiss Tracts are designated "Agricultural Land". The existing parcels are mostly between 10 acres and 50 acres. Although the designation would allow parcels as small as five acres; parcels that small are discouraged by the County. One dwelling unit per parcel. Minimum parcel size is five acres.

- b. <u>East County Area Plan.</u> An Area Plan has been adopted for East County (1985) which includes: Holland, Palm, Orwood, and Coney Islands. Uses allowed include: public and private outdoor recreation, equestrian facilities, wind energy systems, single family residences on larger lots, quarries, oil and gas wells, pipelines and transmission lines, vet/kennels, and public uses (airport, reservoir, landfill).
 - c. <u>Zoning Code</u>. In the Primary Zone there are three agricultural designations. These are:
 - *A-2, General Ag, with minimum parcel size of five acres.
 - *A-3, Heavy Ag, with minimum parcel size of ten acres.
 - *A-4, Ag Preserve (under Williamson Act contract), with minimum parcel size of 20 acres.

In the Ag zones, housing is limited to property owner or lessee, family members or ag worker housing.

2. <u>Sacramento County.</u>

The County has an urban limit line in the General Plan; the Delta is outside the urban limit line. Sacramento County has several unincorporated communities within the Primary Zone. Within these communities there is residential and commercial development. There are scattered areas of residential development along certain waterways. There is community review of proposed projects through the Municipal Advisory Council, made up of Delta residents.

a. <u>General Plan.</u> The new Sacramento County General Plan was adopted in December, 1993. The General Plan defines areas of future growth in the county; clearly, these areas are out of the Delta. The December 9, 1992 Land Use Diagram shows the Urban Service Boundary; that Boundary does not pass west of I-5.

The Land Use Diagram shows most of the Delta area as Agricultural Cropland. Areas of low density residential use (1 to 12 dwelling units per acre) are located in the existing communities of Hood, Courtland, Locke, and Walnut Grove. Small areas are identified for Intensive Industrial and Extensive Industrial use south of Walnut Grove, along Twin Cities Road and River road, and near Hood. The Diagram shows Recreational uses at the north tip of Sherman Island, Brannan island State Park, eastern portion of Andrus Island, the shoreline west of Isleton and the area between the Cross channel and Locke. The levees of several islands are identified as recreational areas as well. Several areas are identified as Natural Reserves; Lost Slough, Sherman Island Wildlife Area, the west tip of Grand Island, Stone Lakes, Delta Meadows, and the levees along several sloughs including Snodgrass Slough, Sevenmile Slough,

and Steamboat Slough.

The December 9, 1992 Agricultural Element of the General Plan promotes protection of ag land using mitigation to provide in-kind protection when agricultural land is developed, promotes 300 to 500 foot wide buffers between ag and non-ag uses; and minimum parcel sizes of:

SCS Soil Classes I and II 40 acres SCS Soil Classes III and IV 80 acres

The General Plan also recommends amending the Zoning code to ensure that lot splits are not permitted for the purpose of siting accessory dwelling units. Accessory dwelling units should be sited to minimize disruption of farming operations, avoid conversions of productive farmland, and take advantage of existing facilities including utilities and driveways.

The December 9, 1992 Land Use Element describes the uses shown on the Land Use Diagram including:

Residential: 639 acres zoned for residential (does not include special planning areas); 297 acres for Agricultural Residential; 324 acres for Low Density Residential and 18 acres for Medium Density Residential. In the Delta, there are 1,885 existing housing units of which 1,489 are single family; 256 are mobile homes; 106 are 2 to 4 units; and 34 are 5 or more units.

Industrial: 85 acres are zoned industrial.

Recreation: Areas for active public recreational uses.

Agricultural Cropland: Density of no greater than one unit per 40 acres.

Regarding amendment of the Land Use Diagram, the County shall not accept applications to amend the Land Use diagram from Recreational or Agricultural Cropland to any residential category, commercial and office, or industrial use unless the site is in the established Delta communities of Hood, Courtland, Locke, or Walnut Grove, or is a small expansion which supports the agricultural and recreational economies of the Delta.

The Open Space Element outlines strategies to protect critical open space resources of the County including acquisition of key areas and implementation programs to secure permanent open space, thus fixing the urban service boundary, and establishment of open space linkages (natural land corridors). For the Delta, long-term stability and viability of the Delta's levees is a major statewide concern. Large-scaled urban development is not a threat; however, additional private recreational development could impact open space.

Policies state the County shall adopt a comprehensive Open Space Preservation Action Plan which includes: an inventory of open space resources; refinement of targeted areas for preservation with cost estimates for acquisition; an administrative structure which provides for governance by the Board of Supervisors; and funding for acquisition.

Policies also recommend clustering in rural areas where grouping units at a higher density would create an open space buffer protection intensive farming activities under certain

limited conditions.

The Open Space Element Resource Maps show: Open Space, Marsh and Riparian Areas; Delta islands with inadequate levee protection for 100 year flood; low-lying backwater areas where drainage into the Sacramento River is severely hampered; Prime Farmland; Unique Farmland; Williamson Contract lands; Existing Public Parks and Recreation Sites; Areas of Groundwater Recharge Capability; Known Gas Deposits; and Riparian/Aquatic Wildlife Corridors.

The Conservation Element speaks to protection of key resources including water and soil. Policies include: Diversion of development away from prime or soils of statewide importance; projects resulting in the conversion of more than fifty acres of prime or statewide in importance farmland shall be deemed to have a significant environmental effect, as defined by CEQA; and golf courses shall not be constructed on prime farmlands outside of the urban service area boundary.

b. The Delta Community Area Land Use Plan. A Community Plan has been prepared for the Delta which show a greater level of detail. The Delta Community Plan (1983) designates most of the Delta as permanent ag land in 80, 40, and 20 acre parcels. Ag residential parcels are one and two acres. The communities of Hood, Courtland, and Walnut Grove are identified as locations for future residential development and commercial growth; residential development in the agricultural areas is discouraged. A Special Planning Area is identified on Andrus Island focusing on recreational development; additional small areas are designated Commercial Recreation.

Water areas are designated Delta Waterways, with some water areas also identified as <u>natural areas</u> (Dolan Island, waterways near the tip of Sherman Island, portion of Sevenmile Slough, South Fork of the Mikelumne River, Snodgrass Slough), <u>scenic areas</u> Steamboat Slough, Sutter Slough, and Georgiana Slough), and <u>restricted areas</u> (Steamboat Slough, Snodgrass Slough, and Sevenmile Slough).

The area around Stone Lake is designated Recreation Reserve, as is much of Snodgrass Slough and the Delta Meadows area, the southwest tip of Grand Island, Brannan Island State Park, and the islands at the tip of Sherman Island are designated Recreation, with a Flood overlay.

- c. <u>Special Plans</u>. Special Plans have been prepared for the communities of Courtland, Hood, Locke, Walnut Grove, and Ryde and for the Lower Andrus Island Special Planning Area. These areas are designated as the residential, commercial, processing, and retail centers within the Delta. These communities have water and sewage treatment facilities, fire protection through volunteer fire departments and limited service from the County Sheriff's Department.
- d. Zoning Ordinance. The zoning ordinance allows lots of several sizes in the Ag zones. Permitted uses on Ag lands include: single-family dwelling, agriculture, processing of agricultural products, stables, wildlife preserves, public parks, and utilities and facilities. There are some inconsistencies between the zoning ordinance and the General Plan; some areas zoned 20 acre minimum parcel are Class I or II soil designated for minimum parcel of 40 acres in the General Plan.

Uses allowed with Conditional Use Permit include: accessory buildings for guest house or employee quarters, crop dusting, processing of agricultural products not grown on site, hospital social center, lodge, animal hospital, kennel, church, school, airports, private landing strip, hunting clubs, boat docks, bed and breakfast, irrigation disposal of wastewater, and gas or oil well.

In the <u>Ag zone</u>, property owners are allowed to request "lot reductions" which separates residential parcels of at least one acre from the remainder of a parcel. Approval of lot reductions must be found not detrimental to the agricultural use of the property.

The <u>Ag Residential zone</u> allows residences, ag, stables, wildlife preserves, schools, and parks. With a Conditional Use Permit, mobile-homes, institutional uses, private boat docks and gas or oil wells are allowed.

<u>Residential Lots</u> allow residences, stables on larger lots; private boat docks are allowed with a conditional use permit.

<u>Recreational Reserve</u> allows: residences, ag, stables, wildlife preserves, parks, government buildings, utilities and facilities with a Conditional Use Permit, mobile-homes, hunting clubs, boat docks, marinas, other recreation uses, and gas and oil wells are allowed.

Recreation designation allows agriculture, commercial stables, wildlife preserves, parks, government buildings, utilities and facilities; with a Conditional Use Permit; residence, mobilehome, agriculture, hospital, cemetery, church, government buildings, trailer park, hunting clubs, boat docks, marinas, outdoor recreation uses, and oil or gas wells are allowed.

<u>Waterways</u> designation allows no new houseboats except in marinas, no septic tanks (except on residential lots created before November 30, 1972), no storage of recreational vehicles over 180 days, and only mobile home parks created before 1978.

3. San Joaquin County.

San Joaquin County promotes future growth within the existing cities and existing unincorporated communities. Three future new communities are identified; none are in the Primary Zone, although Mountain House is directly adjacent to the Primary Zone, south of Old River. A small portion of Thornton, at the intersection of I-5 and Walnut Grove, is planned for Freeway Service Commercial. There are no unincorporated communities in San Joaquin County's portion of the Delta. The closest is the large recreational development at Tower Park, which includes some permanent residents.

Two incorporated cities, or their planned growth areas, abut the Primary Zone: Stockton and Lathrop.

a. General Plan. The General Plan recognizes that the County will grow substantially in the future, but states that rural areas will accommodate minimal growth because open space and agricultural preservation are paramount in these areas. On the County General Plan Map, the Delta is largely designated General Agriculture. The waterways and channel islands are designated "Resource Conservation". There are two regional parks and one area designated commercial recreation at Terminous (Tower Park).

Commercial Recreation is defined as major development of at least 100 acres with potential of more than 500 people on a site. Such development is to be master planned under the Commercial Recreation zone. Under the General Plan policies, with a use permit smaller areas of commercial recreation may be permitted in agricultural areas because of specific location needs, such as direct access to natural resources or roadways. Typical uses include: marinas, recreational vehicle parks, and golf courses. Commercial Recreation areas outside communities must have a public wastewater treatment system serving the entire planned area.

Recreational values of the Delta are to be protected. Along the waterways, opportunities should be provided for: bank fishing; boating; water skiing; hiking, bicycling and horseback riding; picnicking; and nature study. The General Plan recognizes the Delta as an area of international importance and a major recreational, wildlife, agricultural and economic resource. Waterway development and development on Delta islands shall protect the natural beauty, the fisheries, wildlife, riparian vegetation, and the navigability of the water. Development on the Delta islands is limited to water-dependent uses, recreation, and agricultural uses. The County encourages other public agencies, private sector, and non-profits to provide recreation.

The Open Space policies state that the Resource Conservation designation shall be used to protect significant resource areas and areas with serious development constraints, such as the Delta, should be predominantly maintained as open space. Policies also designate several Delta roads as scenic routes.

Agricultural Lands make up the majority of the Delta in San Joaquin county. The General Agriculture designation addresses areas where soils are capable of producing a wide variety of crops; parcel sizes are large enough to support commercial agricultural activities; and were there is an existing commitment to commercial agriculture under Williamson Act contracts and with capital investments. Density of development in the General Agriculture designation throughout the County, shall be a maximum of one primary dwelling unit per 20 acres. Additional dwelling units for farm employee housing and farm labor camps may be permitted. Minimum parcel sizes shall be 20 to 40 acres where irrigation water is available; 80 to 160 acres where water is not available to irrigation.

Uses allowed in the General Agriculture designation including crop production, feed and grain storage and sales, aerial crop spraying, and animal raising and sales. Additional activities such as resource recovery, dairy and canning operations, stockyards, and animal feed lots and sale yards require permits. All lands designated for agricultural uses shall be placed in an agricultural preserve and shall be eligible for Williamson Act contracts; parcels eligible for Williamson Act contracts shall be 20 or more acres in size in the case of prime land or 40 or more acres for non-prime land. There shall be no further fragmentation of land designated for agricultural use, except parcels for home sites may be created, provided that the General Plan density is not exceeded; a parcel may be created for a use granted by permit in the A-G zone. Non-agricultural land uses at the edge of agricultural areas shall incorporate adequate buffers (e.g. fences and setbacks) to prevent conflicts with adjoining agricultural operations.

b. <u>Zoning Ordinances</u>. The northern Delta area is designated 40 acre minimum parcels; the southern Delta area is designated 80 acre minimum parcels. The General Agriculture Zone allows residence, agriculture, and cultural facilities. Allowed accessory uses and structures include: antennae, barn, boat house, dock (one per lot), farm employee housing, greenhouse,

horse raising, stable, water storage facility, wind machine, temporary building, and mobile homes.

With a Use Permit: farm labor camps, food processing, kennels, cemeteries, campgrounds, marinas, parks, churches, and commercial stables are allowed.

The Zoning Ordinance allows the creation of home site parcels on agricultural parcels, in very limited circumstances. (10)

San Joaquin County does have a right to farm ordinance.

4. Solano County.

Development in Solano County is directed by County and City policies into the existing cities (Vacaville, Fairfield, Rio Vista, Vallejo, Suisun City, Dixon, and Benicia). Much of the land in the Primary Zone is above sea level and distant from the sloughs and rivers that provide riparian water for agriculture. There is also very little recreational development in the Primary Zone in Solano County.

Portions of the sphere of influence of the City of Rio Vista are within the existing boundary of the Primary Zone, and if developed would be directly adjacent to agricultural lands in the Primary Zone.

A special law, Proposition A, passed in 1984 prohibits the Board of Supervisors from changing the General Plan designation on Ag lands, except in very limited circumstances. Proposition A, which was due to expire December 31, 1995 was extended for 15 years by the Solano County Board of Supervisors.

Portions of Prospect Island are designated Open Space: Marsh. The General Plan calls for protection of wetlands and riparian vegetation that are critical habitat, formation and retention of parcels of sufficient size to preserve valuable wetlands, and protection of these lands from impacts of development.

- a. General Plan. Delta lands are designated Intensive Ag, if irrigated, and Extensive Ag, if not irrigated. Irrigated land is 80 acre minimum parcel, or 40 acre minimum parcel for highly productive areas(orchard or vineyard). Unirrigated land is 160 acre minimum parcel size. The parcel sizes are based on the concept of "farmable unit" defined as the size of parcels a farmer would consider leasing or purchasing for different agricultural purposes. This is different than an "economic unit", defined as the parcel size needed to totally support a farm household. Policies speak to the trend to break agricultural lands into smaller 20 to 40 acre parcels for home-sites and discourages this subdivision because it removes land from the agricultural economy without converting it directly to urban use.
- b. Zoning Code. The Solano County Code includes a "right to farm ordinance". Under the Zoning Code, in the Exclusive Agricultural District uses allowed include: agriculture, roadside stand, processing of products produced on premises, one family dwelling, barns, sheds, and small signs. With a use permit, uses allowed include: feed yard, agricultural processing, farm labor quarters, kennel, airport, public stables and clubs or resorts for boating, fishing, hunting or shooting, roadside stands, agricultural service uses, additional dwellings for farm

employees, and fertilizer plants. Minimum parcels sizes are 40 acres in A-40, 80 acres in A-80, and 160 in A-160.

c. <u>Rio Vista.</u> Within the current boundary of the Primary Zone, the April 1990 General Plan proposed uses included: airport, sewage treatment plant, heavy commercial/light industrial uses, and landfill. These uses would be directly adjacent to agricultural uses in the Primary Zone. In addition, the 1990 General plan proposed uses show a new freeway outside the City's sphere of influence and within the Primary Zone of the Delta.

5. Yolo County.

About half of the Yolo County lands within the Primary Zone are in the Yolo Bypass, a flood basin which is part of the federal flood control project between Collinsville and Red Bluff. The Yolo Bypass is west of the Port of Sacramento Deep Water Ship Channel and bounded by a levee generally located along the Yolo County-Solano County boundary. The eastern portion of Yolo County includes the unincorporated community of Clarksburg, Merritt Island and agricultural lands in Reclamation districts 999 and 307.

- a. <u>General Plan.</u> The General Plan designates Delta lands as A-1, Agricultural General Zone, and A-P, Agricultural Preserve for lands in Williamson Act contracts. Ag policies are very protective of agricultural uses; new residential, suburban, commercial and industrial uses are prohibited, unless directly related to and incidental to agriculture. Residential uses in agricultural areas are limited to farm owners or employees, on lands unsuited for agricultural use, or clustered.
- b. <u>Clarksburg General Plan.</u> A special plan has been prepared for the community of Clarksburg (1982/1992). The plan outlines areas for new residential growth, although the community has no community water or sewage disposal systems. No significant intensification of commercial and residential land use is proposed. The Plan includes an urban limit line.
- c. Zoning Ordinance. Agricultural General Zone (A-1) principal uses are agriculture, one residence, electrical substations, oil and gas wells, and parks and recreation. Accessory uses include agricultural buildings, landing strips, and recreational uses, including country clubs and golf courses. Conditional Uses include: house on parcel of less than 20 acres, include airports and landing strips, animal hospitals, public buildings, cemeteries, electrical transmission substations, fertilizer plants, labor camps, quarries, mobile home parks (10 per acre maximum), riding stables, wineries, and co-generation facilities. Minimum parcel size is five acres; minimum parcel size for a residence is 20 acres.

In the Ag Preserve (A-P) designation, allowed uses include: one dwelling on a parcel of at least 20 acres, electrical substations, oil and gas wells, and parks and recreation (not golf courses). Accessory uses are hunting clubs, employee living quarters, and offices. Conditional uses include: ag labor camps, electrical transmission substations and utility yards, hunting clubs with permanent buildings, quarries, public utilities including wastewater treatment ponds, additional home for family members or farm workers, but not more than one per 20 acres and clustered maximum four on one parcel, reservoirs, wineries, and co-generation facilities. Subdivision of land in Williamson Act contracts must be approved by the Planning Commission; the Planning Commission may approve a subdivision in order to transfer land to a family member. Minimum parcel size for irrigated land is 80 acres, for non-irrigated land capable of

cultivation is 160 acres, and for land not capable of cultivation (range land) is 320 acres.

CHAPTER III: OWNERSHIP OF LAND AND UNDERWATER AREAS

Ownership of the land in the Delta reveals the amount, percentage, and location of land subject to local jurisdiction as opposed to State and federally-owned land that is not subject to local controls. The total acreage within the Primary Zone is 487,625 acres.

1. <u>Private Ownership.</u>

In 1850, when California became a state, the United States granted jurisdiction over "swamp and overflowed lands" to California. (11) The land was surveyed by federal and state surveyors and by 1871 was measured at two million acres. Much of the "swamp and overflowed" land was sold or "patented" to private citizens for the purpose of agricultural reclamation. A line was drawn around the Delta for future state determination if these islands were swamp and overflowed lands, submerged lands, or uplands. It is this original "lowlands boundary" that became the statutorily defined Delta. The "swampland" which was sold during a 30-year period also included both navigable tidelands and submerged lands—lands that were to be held in the public trust.

Landowners "reclaimed" the rich peat soils of the Delta for agriculture by building low, and then higher, berms along the channels and draining the islands. Due to the primitive surveying methods then in use, and due to limits in the accuracy of surveying wetland and water areas, the State Lands Commission believes that some of the lands now claimed in private ownership are subject to the public trust. The State Lands Commission has never been funded to carry out a comprehensive survey and analysis of the public trust lands remaining in the Delta. Land owner-ship is resolved on a case-by-case basis, when property owners propose development on Delta property. Property owners claim State Land Commission's cloud over their property creates legal and financing burdens and hurdles.

2. Ports

The Ports of Sacramento and Stockton own property in the Delta. The Port of Sacramento Ship Channel is 47 miles long. The Channel itself is 250 feet wide and is bounded by levees along both sides. A toe channel is located at the base of the west levee. The Channel occupies about half of the 3,000 acre property purchased to construct the channel. The Port owns a portion of Decker Island and land on Prospect Island. The Port itself is located The Port itself is located in the Secondary Zone in West Sacramento. (12)

The Port of Stockton purchased several islands in order to construct the Stockton Deep Channel. The Port owns Donlon Island (255 acres), the center of Browns Island (100 acres), Mandeville Tip (176 acres), Venice cut (211 acres), Tule Island (36 acres), North Headreach (53 acres), North and South Spud Islands (28 and 60 acres), a portion of Acker Island (7 acres), and a portion of Roberts Island (228 acres), for a total of 1,124 acres in the Primary Zone. Some of these lands are leased for recreational use, some are wetlands, and some are designated for dredge spoils disposal (13) for necessary maintenance dredging. In the Secondary Zone, a 613 acre site on Roberts Island is used for spoils disposal. (13)

3. Reclamation Districts.

Districts own limited amounts of land for ditches, dredge spoils disposal, canals, pump sites, levees, and mitigation sites. Reclamation districts are self-regulating.

4. Special Districts.

Special districts, e.g., fire districts and school districts, own small amounts of property associated with their mission. For example, the Clarksburg Fire District owns the land upon which the firehouse is constructed. The Clarksburg School district owns land for school sites. The Ironhouse Sanitary District in Contra Costa County has purchased 2,900 acres Jersey Island to use for future on-land disposal of treated wastewater. (14)

5. <u>Cities and Counties.</u>

Cities and Counties own small amounts of land for present and future needs. Sacramento County owns about 1,567 acres within the boundaries of the proposed Stone Lakes National Wildlife Refuge.

6. <u>East Bay Regional Park District.</u>

The District, which serves as the Park Department for Contra Costa County and which is a special district funding by property taxes on lands within Alameda and portions of Contra Costa County, manages 595 acres of land on Browns Island at the west edge of the Delta, which is leased from the State Lands Commission. The Island is managed for wildlife habitat and has no public facilities.

The District has acquired portions of Big Break(8.45 acres), a flooded island in Contra Costa County, just east of the Antioch Bridge. The wetland area will be part of a regional shoreline facility linking Pittsburg, Antioch and the eastern Delta areas. A regional educational facility, called the Delta Environmental Science Center, is proposed by a non-profit group.

7. State Lands Commission.(15)

The State Lands Commission administers the State's sovereign ownership interests in tidelands, submerged lands, and beds of navigable waterways. Tidelands are those lands that lie between the lines of ordinary high and ordinary low water on tidal waterways. Submerged lands lie below the line of ordinary low water on tidal or non-tidal waterways. These lands were acquired by the State upon its admission to the Union in 1850. The State holds its sovereign interests in these lands for the benefit of all the people of the State, for the statewide Public Trust purposes of waterborne commerce, navigation, fisheries, water-related recreation, natural habitat, and ecological preservation.

The landward boundaries of the State's sovereign interests are generally based upon the lines of ordinary high and low water as they last naturally existed, prior to any filling or artificial accretion, and thus may not be readily apparent from present day site inspections. Extensive studies of historical data are generally necessary to determine the location of the boundaries

between the State's sovereign lands and adjacent privately owned lands.

To date, the precise nature, extent and location of the State's sovereign interest in most areas of the Delta has no been defined by agreement or court judgment. Except where such agreement of judgments exist, the State's sovereign ownership is not recorded in the official records of the County Recorders. The Commission is authorized to enter into agreements establishing the boundaries of the State's sovereign lands. The Commission may also execute land exchanges, whereby, under certain limited circumstances, it may terminate the State's sovereign interests in lands that have been filled and reclaimed, and are no longer useful for Public Trust purposes.

The State's sovereign interests may consist of fee ownership of unsold tidelands and submerged lands, or a retained public trust easement over tidelands validly sold pursuant to legislation enacted during the 1800's. Sales of sovereign lands were later determined to be unconstitutional and are no longer permitted. Uses of sovereign lands held in fee by the State must be consistent with the Public Trust. Uses of privately held lands that remain subject to the State's Public Trust easement may not be inconsistent with Public Trust needs of the areas. Thus, for example, if a specific site, which is subject to State sovereign interests, has been identified as critical habitat for a threatened or endangered species, the Commission would object to any development of the property that would damage those habitat values. On the other hand, projects that would benefit or enhance Public Trust values would be favored by the Commission.

In addition to sovereign Public Trust lands, the State also acquired from the federal government swamp and overflowed lands; marshy lands which lay above the ordinary high water mark. These lands were authorized to be sold by State patent into private ownership for reclamation purposes. Unfortunately, land descriptions in the original State patents were often imprecise and inaccurate, and encompassed lands which were not swamp and overflowed in character, and thus not subject to sale by the State. To the extent the lands described in the Swamp and Overflowed Land Patents were in fact swamp and overflowed lands (above the last natural ordinary high water mark), they passed into private ownership free of any sovereign interest. However, to the extent such lands were in fact tidelands, they generally passed into private ownership subject to the States' retained Public Trust easement. If, in their last natural condition, these lands included submerged lands, those submerged lands did not pass into private hands and remain in State ownership.

The Commission retains in its Sacramento office many historical records, which are relevant to determining title, interests throughout the Delta. The Commission's records are available for public inspection upon reasonable notice.

The Primary Zone includes about 50,000 acres of water covered areas subject to the public trust.

8. Department of Parks and Recreation. (1,450 acres of land/4,857 total acreage)

The Department of Parks and Recreation is mandated to purchase and develop property for recreation activities of statewide value. The Department has had a presence in the Delta since 1954 when Brannan Island State Park was developed.

The Department holds title to: 3,542 acre Franks Tract (a flooded island) in Contra Costa County; 225 acres at Brannan Island, a developed park facility at the southern tip of Sacramento County; 134 acres in the Delta Meadows area, an unimproved, lushly vegetated waterway and old railroad right-of-way near Locke in Sacramento County; and 1,090 acres in the Stone Lake area of Sacramento County.

Brannan Island is developed for boating, camping, swimming, wind-surfing, and other recreation uses.

Franks Tract is used for boating, fishing, and seasonally for hunting (private hunting blinds are located on sites rented form the Parks Department).

A 3,144 linear foot wave wall is proposed at Franks Tract, in cooperation with the Department of Water Resources. The \$4 million project is funded by Prop 70 open space bonds.

The Department has no General Plan for the Delta Meadows area; one is required prior to making any permanent improvements.

The Stone Lakes property may become part of the proposed U.S. Fish and Wildlife Service Stone Lakes Wildlife Refuge.

9. <u>Department of Fish and Game.</u> (8,080)

The Department of Fish and Game is mandated with protecting and managing wildlife and wildlife habitat throughout the State of California. The Wildlife Conservation Board is the arm of Department of Fish and Game that purchases lands. The lands are then managed for wildlife habitat by the Department; some of these lands are also used for seasonal recreational uses including hunting, dog training, hiking, bird watching, etc.

The Department owns several large pieces of land managed for wildlife habitat (16) including: Woodbridge Ecological Reserve: 352 acres; Sherman Island Wildlife Area: 3,100 acres; Calhoun Cut Ecological Reserve: 967 acres; Yolo Bypass: 2,990 acres; and Webb Tract Berms and Islands: 285 acres.

In addition, the Department owns several small islands: Sycamore Island (13 acres); Acker Island (25 acres); Cabin Slough Islands (14.64 acres); Decker Island(34.5 acres); Miner Slough Islands (34.5 acres); Lost Slough Islands (38.5 acres); and Rhode Island (67 acres).

The Department owns fishing access sites at: Westgate Landing; Brannan Island; Cliff House; Georgiana Slough; Hogback Island; and Clarksburg. These access sites are managed by the Counties.

10. Department of Water Resources. (8,545 acres)

The Department of Water Resources (DWR) owns and manages the State Water Project which provides drinking water for two-thirds of the State of California and provides irrigation for thousands of acres of agricultural lands in the fertile Central Valley.

In Contra Costa County, the Department owns the 3,660-acre Clifton Court Forebay and

surrounding lands, and 371 acres at the Delta Intake Channel which are leased for grazing; in Sacramento county, 2,965 acres on Twitchell Island, 1,037 acres on Sherman Island, and .95 acres at the Hood water diversion testing facility; and in Solano county, 40 acres for the North Bay Aqueduct. DWR owns 472 acres of ponds and surrounding lands in Sacramento and San Joaquin Counties, which is leased for farming. (17)

DWR is planning to buy all of Sherman Island and all of Twitchell Island to convert to wildlife habitat to prevent further subsidence. (18) The acquisition also allows DWR to meet contractual obligations to provide water of a certain quality to those lands.

The South Delta Plan environmental document is due September of 1994 and the North Delta Plan environmental document is due June of 1995; these documents will detail any needed acquisitions.

11. CalTrans.

CalTrans maintains highways within the Delta: State Route 4, State Route 12, State Route 160 (River Road), and portions of Interstate 80; Interstate 5 forms much of the eastern boundary of the Primary Zone. Most of Highway 160 is located within easements from the Reclamation Districts. Right-of-way was purchased for the widening project south of Rio Vista. CalTrans owns 480 acres of land between I-80 and the railroad right-of-way at the north end of the Yolo Bypass, which is proposed to be enhanced for wildlife habitat.

12. Reclamation Board.

The State Reclamation Board holds flowage easements on several thousand acres of land in the Yolo Bypass. The easements were acquired as part of the Sacramento River Flood Control Project

13. Federal Agencies.

- a. <u>U.S. Army Corps of Engineers.</u> The Corps owns a parcel of land on the southwestern tip of Grand Island that was once the Isleton Dump, and has been used for dredge spoils disposal.
- b. <u>U.S. Navy.</u> A naval reservation is located in north eastern Solano County totaling 1,900 acres and another in the northern end of the Yolo Bypass in Yolo County. These lands are used for communications facilities.

CHAPTER IV: PROPOSED PROJECTS

In the last few years, agricultural lands have been acquired by several governmental agencies and other entitles for conversion to non-agricultural uses, largely wetland restoration (see Figure 3). The projects are in varying stages of planning, design, and review. The projects have been planned independently of one another; there is no joint management plan. In many instances local governments and citizens have had limited or no input into project development. The Yolo Bypass and Stone Lake Refuge projects have had extensive research and review.

No other pending "development" projects have been identified. However, two recreational projects were recently approved and not yet built: 1,000 new recreational vehicle campsites to be built over 10 years at Tower Park, San Joaquin County, and a new marina at Walnut Grove, Sacramento County.

1. Twitchell Island, Sacramento County: Department of Water Resources (2,965 acres out of 3,553 acres)

Current Uses: Ag, one power line, no major highways, 17 gas wells; marina in northeastern sector(not on DWR lands).

Short-Term: Leases for grazing, farming and Fish and Game for controlled hunting . Subsidence control studies.

Long-Term: Managed wetland/habitat.

2. Sherman Island, Sacramento County: Department of Water Resources (1,037 out of 10,502 acres)

Current Uses: Ag; public boat launch ramp; marinas; residential.

Proposed Uses: Managed wetlands/habitat

3. Stone Lakes National Wildlife Refuge, Sacramento County: U.S. Fish and Wildlife Service (18,000 acres)

Existing Land Use: Agriculture and wildlife habitat.

Proposed Land Use: Refuge will have 9,000 acre core owned by U.S. Fish and Wildlife Service, and 9,000 acre area with cooperative management agreements with farmers. Two visitor centers. Actively negotiating with private and public land owners north of Lambert Road (\$2.6 million in acquisition funds; \$1.6 million from State environmental license plate fund and \$1 million from federal budget) and negotiating with existing public property owners (Sacramento County, State Parks and Recreation, and CalTrans). Seeking conversation easements on private agricultural land south of Lambert Road.

4. Medford Island, San Joaquin County: Private (1,215)

Current Land Use: Ag; Access by boat only.

Proposed Land Use; Mitigation Bank: a preliminary approval by Department of Fish and Game for mitigation bank on entire island.

5. Prospect Island, Solano County: Trust for Public Lands (1,228 acres)

Current Land Use: Agriculture

Proposed Land Use: Managed wetlands/habitat; half the land would be transferred to Bureau of Reclamation; half would remain in TPL ownership.

6. Delta Wetlands Project, San Joaquin and Contra Costa Counties: Private (20,031 acres)

Existing Land Uses:

Bacon Island: 5,590 acres; Agriculture; Bridge to Lower Jones Tract; PG&E gas pipeline

Bouldin: 5,910 acres; Agriculture; Highway 12

Holland: 3,014 of 4,230 acres; Agriculture; Bridge to Veale Tract;

Webb: 5,517 acres; Agriculture; Private Ferry

Proposed land Uses; Combination water storage-wetland enhancement project.

Bacon and Webb: Primarily reservoirs

Bouldin and Holland: Seasonal reservoir (September to April); year-round managed wetland/habitat

7. Palm Tract Mitigation for California-Oregon Transmission Line by Western Area Power Administration and Transmission Agency of Northern California, Contra Costa County (1,213 acres)

Current Land Use: 1,069 acres Ag

Proposed Land Use: Ag and Managed Wetland: 140 acres wheat and 60 acres of barley/vetch for habitat replacement; 30 acres of brood ponds; 20% of corn crop; 25% of wheat crop; 100 acres seasonal wetland; Remainder in commercial agriculture.

8. Yolo Basin Wetlands, Yolo County (Department of Fish and Game)

a. Yolo Causeway Site: between I-80 and Railroad (480 acres)

Current Land use: 25% farmed; remainder fallow

Proposed Land Use: 2,3323 acres of seasonal wetlands; 464 acres of grassland; 28 acres of permanent wetland; 16.5 miles of gravel roads and two parking areas each for 10 to 15 cars.

b. Putah Creek Sinks Site (2,990 acres)

Current Land Use: Ag

Proposed Land Use: 2,323 acres of seasonal wetland; 464 acres of grassland; 28 acres of permanent wetland; 16.5 miles of gravel roads and two parking areas each for 10 to 15 cars.

9. Port of Sacramento Mitigation Bank, Yolo and Solano Counties

The Port of Sacramento has signed a Memorandum of Understanding with the Department of Fish and Game to create a mitigation bank on about 420 acres of land parallel to the Deepwater Ship Channel. No specific plans have yet been prepared.

10. Jersey Island, Contra Costa County: Ironhouse Sanitary District (2,900 acres of 3,515)

Current Land Use: Ag, largely pasture

Proposed Land Use: Ag, applying treated wastewater for irrigated pasture and crop cultivation and sludge as a fertilizer and a soil conditioner

11. Central Valley Habitat Joint Venture Implementation Plan (U.S. Fish and Wildlife Service, Department of Fish and Game, Audubon Society, the Nature Conservancy, California Waterfowl Association, Ducks Unlimited)

The Plan, dated February, 1990, sets out goals for acquiring lands, converting agriculture lands to wetlands, and enhancing agriculture lands for wintering waterfowl use. Goals are set for acres of new wetlands, amount of food to feed the waterfowl, and amount of agricultural land for winter flooding.

The Plan sets out the following acreage of agricultural lands in the Delta Basin(which is not the same as the DPC planning area) to meet the energy needs of wintering waterfowl:

% of Waterfowl	Current	Proposed	Supplemental
which use Delta	Wetlands	Wetlands	Ag Land Needed
10%	10,000	30,000	44,200

Note: Supplemental agricultural land includes rice, corn, milo, and barley; not set-aside, wheat, or other cropland.

The Plan goal is to restore 20,000 acres of former wetlands to permanent wetlands by acquisition of fee title or conservation easements.

The Plan sets out goals for enhancing habitat on ag lands under three incentive programs:

Deferred Tillage: 13,026 acres (\$10 per acres)
Defer tillage of harvested grain fields, specifically rice and corn, until at least February 15.

Winter Flooding: 39,078 acres (\$10 per acre)
Maintain harvested grain fields in deferred tillage plus winter flooding until
February 15

Set-Aside Lands: 16,288 acres (\$10 acre) Encourage dense nesting cover; tilling, burning, and mowing are prohibited.

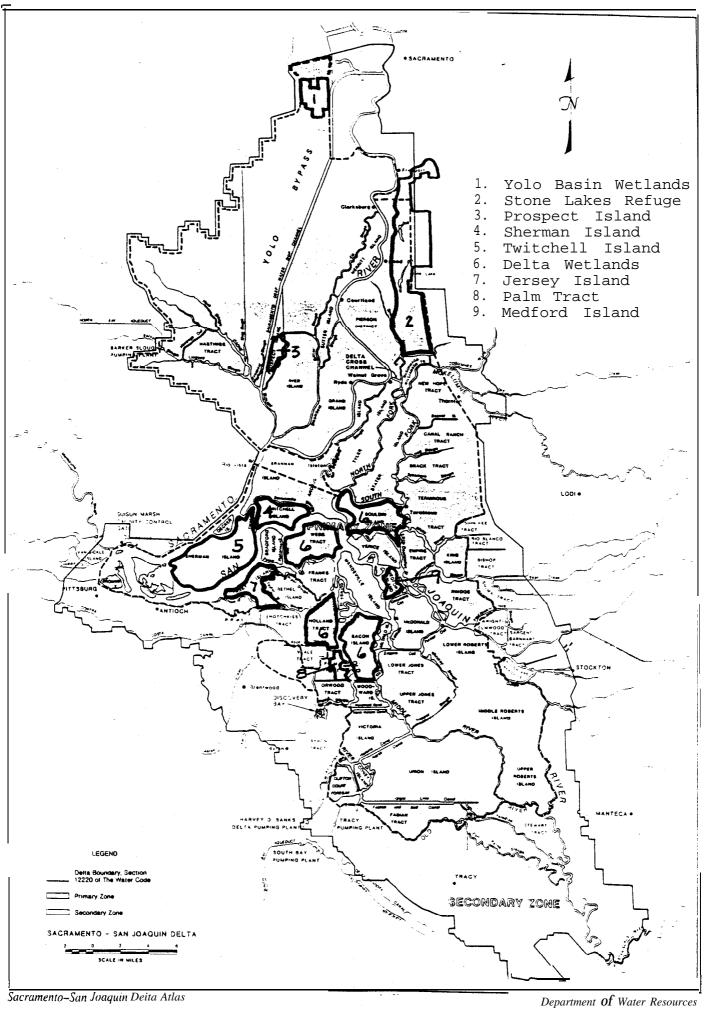
Delta Basin Total: 68,392 acres

To date, there is no funding available for implementation of the incentive program. Technical assistance is being provided to Delta Basin landowners funded primarily by Ducks Unlimited and partially by U.S. Fish and Wildlife Service.

The signers of the plan are currently evaluating the program and will be issuing an update in 1994.

Adopted Land Use Findings:

- F-1. Delta history is closely linked with the rich agricultural heritage of the State. The patterns of settlement reflected the history of immigration into the State in the late 19th century. The rural communities of the Delta reflect the diverse heritage of the Delta, and the independence of country living.
- F-2. The legal Delta Covers 738,239 acres. The Primary Zone is 487,625 acres with about 50,000 acres of water area. Approximate percentages are: Contra Costa: 8%; Yolo: 10%; Solano: 16%; Sacramento: 28%; and San Joaquin: 38%.
- F-3. The five Delta counties—Solano, Yolo, Sacramento, San Joaquin, and Contra Costa designate Delta lands for agriculture or special Delta Resources in their respective General Plans.
- F-4. The zoning codes allow a variety of uses in the Delta: agriculture; outdoor recreation; wildlife habitat; and public facilities; and limited areas for commercial, industrial, and rural residential development. The parcel sizes specified in the General Plans and Zoning Codes range from 160 to 5, with the vast majority of the Primary zone in the 80 to 20 acre minimum parcels sizes.
- F-5. The majority of the lands in the Delta area, before they were reclaimed, consisted of tidelands, submerged lands, and swamp and overflowed lands passed by the United States to California in 1850. The State asserts that some lands now believed to be in private ownership remain subject to a public trust easement, held by the State for the benefit of all its people, and further, that some such lands never passed from State ownership. This uncertainty in some private titles may be resolved on a case-by-case basis by agreement or litigation between the landowner and the State. Unresolved uncertainties in title related to State assertions of public trust ownership may create a cloud on private title, which limits the ability of private owners to finance their operations. Adequate financing of private enterprises is essential to maintenance of the economy of the area that, in turn, supports the essential long-term maintenance of Delta resources and levees. A resource management plan designating land uses for private and public trust lands and addressing public trust purposes and needs, including agricultural land uses, wildlife and aquatic habitat, recreation, open space, water-related commerce, and navigation, would minimize the need for resolving title disputes through boundary settlements or litigation.
- F-6. The two Delta ports, Sacramento and Stockton, own hundreds of acres of land along their respective shipping channels. Some of these lands are used for dredge materials disposal; some have been or will be used for mitigation sites to create new wetland habitat to offset losses suffered in construction or operation of the shipping channels.
- F-7. The East Bay Regional Parks District (EBRPD), which serves as the park department for Contra Costa County, has been active in preparing recreation and access plans along the Delta waterfront in Contra Costa County. EBRPD manages most of Browns Island, a habitat area, and is planning to acquire land in the Big Break/Jersey Island area to



provide recreation facilities.

- F-8. The State Department of Parks and Recreation has operated Brannan Island since 1954. The Department also owns Franks Tract (flooded); Delta Meadows, a scenic waterway near Locke popular with boaters; and over 1,000 acres in the proposed Stone Lakes National Wildlife Refuge. Ownership in Primary Zone: approximately 5,000 total acres/1,500 land.
- F-9. The Department of Water Resources, the agency that operates the State Water Project, owns the Clifton Court Forebay, a water area adjacent to the beginning of the California Aqueduct. As part of the State's goals to protect the integrity of the Delta islands, the Department has purchased most of Twitchell Island (3,500 acres) and plans to acquire most of Sherman Island (10,000 acres) to control subsidence and protect the levees. The DWR proposes to convert the agricultural lands to wildlife habitat. A national expert has completed studies on the habitat values. DWR owns additional lands, some managed by Department of Fish and Game and some leased to farmers.
- F-10. The Department of Fish and Game owns 8,080 acres of land in the Delta. Some of that area is underwater in the Lower Sherman Island Wildlife Area. Another large parcel is 2,990 acres in the Yolo Bypass. The Department owns Woodbridge Ecological Reserve, Calhoun Cut Ecological Reserve, and Webb Tract Berms and Islands, along with several small islands.
- F-11. Federal lands include the corps of Engineers dredge spoils disposal site on the southern tip of Grand Island, and Bureau of Reclamation land north of the Cross Channel.
- F-12. Proposed land use changes in the Primary Zone of the Delta are primarily purchase of private lands by state and federal agencies and private non-profit groups for enhancement for wildlife habitat. Proposed projects include:

Stone Lakes Refuge/U.S. Fish and Wildlife Service: 9,000 acres (18,000 acres total)

Twitchell Island/Department of Water Resources: approximately 3,500 acres

Sherman Island/Department of Water Resources: Approximately 10,000 acres

Prospect Island/Trust for Public Lands: 1,228 acres

Yolo Basin Wetlands/Department of Fish and Game: 2,990 acres

F-13. Other projects will provide wildlife habitat as mitigation for new projects on privately-owned land:

Medford Island/Private

200 acres of mitigation bank

Palm Tract Mitigation for California-Oregon Transmission Line 1,069 acres

Port of Sacramento/along deepwater channel 420 acres of possible mitigation bank

F-14. The Delta Wetlands project would convert four islands from agricultural uses to reservoirs/wetland uses:

5,590 acres on Bacon Island (reservoir)

5,517 acres on Webb Island (reservoir)

5,910 acres on Bouldin Island (agricultural/wetland)

3,014 acres on Holland Island (agricultural/wetland)

F-15. The Central Valley Habitat Joint Venture Implementation Plan, a joint public-private project, hopes to provide seasonal wetland habitat on privately owned agricultural lands. The Plan sets the following goals in the area, which includes much of the legal Delta:

Restore 19,500 acres of land to wetlands. Defer tillage on 13,026 acres of grain fields. Winter flooding on 40,000 acres. Set-aside lands on 16,288 acres.

- F-16. Acquisition of farmed land, and subsequent retirement of that land, affects the economic base for farm support industries; the economic base for community business that rely on patronage form citizens working in farm or farm support industries; the tax and assessment base for special districts, county and State; and existing wildlife use patterns which have adapted to agricultural land use patterns.
- F-17. The highest quality wildlife habitat in the core Delta is the large open expanse of farmland, with a mosaic of small grain crop residues and shallow flooded fields, allowing wildlife to feed and rest.
- F-18. Adverse environmental impacts of new development projects in and near the Delta are being mitigated through development and use of mitigation banks, such as Medford Island.

Adopted Policies:

- P-1. The rich ethnic heritage and strong agricultural base of the Delta should be preserved and recognized in public/private facilities, such as museums within the Delta communities.
- P-2. Local Government General Plans and zoning codes shall continue to strongly promote agriculture as the primary land use in the Primary Zone; recreation land uses shall be supported in appropriate locations and where the recreation uses do not conflict with agricultural land uses or other beneficial uses, such as waterside habitat.

County plans and ordinances may support transfer of development rights, lot splits with no increase in density, and clustering to support long-term agricultural viability and open space values of the Primary Zone. Clustering is intended to support efficient use of agricultural lands, not to support new urban development in the Primary Zone. Local governments shall specifically indicate when, how, and why these options would be allowed in the Primary Zone.

- P-3. New residential, recreational, commercial, or industrial development shall ensure that appropriate buffer areas are provided by those proposing new development; to prevent conflicts between any proposed use and existing agricultural use. Buffers shall adequately protect integrity of land for existing and future agricultural uses. Buffers may include berms and vegetation, as well as setbacks of 500 to 1,000 feet.
- P-4. New non-agricultural residential development, if needed, shall be located within the existing Primary Zone communities where support infrastructure and flood protection are already provided.
- P-5. Local government General Plans shall address criteria under which General Plan amendments in the Primary Zone will be evaluated. Proposed amendments to local government General Plans for areas in the Primary Zone shall be evaluated in terms of consistency of the overall goals and program of the Delta Protection Commission.
- P-6. Subsidence control shall be a key factor in evaluating land use proposals.
- P-7. Structures shall be set back from levees and areas which may be needed for future levee expansion.
- P-8. Local government policies regarding mitigation of adverse environment impacts under the California Environmental Quality Act may allow mitigation beyond County boundaries, if acceptable to reviewing fish and wildlife agencies, for example agricultural lands in the Secondary Zone may be appropriate if the mitigation program supports continued farming in the Primary Zone.



Adopted Recommendations:

- R-1. A program by nonprofit groups or other appropriate entities should be developed to promote acquisition of wildlife and agricultural conservation easements on private lands with the goal of protecting agriculture and wildlife habitat in the Delta.
- R-2. Public agencies and nonprofit groups have or propose to purchase thousands of acres of agricultural lands to restore to wildlife habitat. The amount, type, and location of land identified to be enhanced for wildlife habitat should be studied by wildlife experts to determine goals for future acquisition and restoration. Lands acquired for wildlife habitat should also be evaluated for recreation, access research and other needed uses in the Delta. Habitat restoration projects should not adversely impact surrounding agricultural practices. Public-private partnerships in management of public lands should be encouraged. Public agencies shall provide funds to replace lost tax base when land is removed from private ownership.
- R-3. Multiple use of agricultural lands for commercial agriculture, wildlife habitat, and, if appropriate, recreational use, should be supported, and funding to offset management costs pursued from all possible sources. Public agencies shall provide funds to replace lost tax base when land is removed from private ownership.
- R-4. Because of the need to continually dredge the channels serving the two ports, it is essential to maintain spoil sites and not allow existing spoil sites to be converted to industrial or other uses which preclude or limit their use as spoil sites.
- R-5. To the extent possible, any development in the Secondary Zone should include an appropriate buffer zone to prevent impacts of such development on the lands in the Primary Zone. Local governments should consider needs of agriculture in determining such a buffer.
- R-6. Water reservoirs that are consistent with other uses in the Delta should be permitted.

a. Contra Costa County.

• East Contra Costa Historical Society, Brentwood. Provides information on East Contra Costa history.

b. Sacramento County.

- California State Reclamation Board Library. Provides information on reclamation and flood control in the Central Valley.
- Isleton, Brannan-Andrus Historical Society.
- Portuguese Historical and cultural Society.
- Sacramento County Historical society.
- Sacramento River Delta Historical Society, Walnut Grove. The society provides information on Sacramento River Delta history through printed books and pamphlets, oral history tapes, photographs and audio recordings.
- Sacramento Trust for Historic Preservation.
- State Indian Museum.
- State Railroad Museum.

c. San Joaquin County.

- Filipino American National Historical Society. Promotes understanding, education and enrichment through the preservation and dissemination of the history and the culture of Filipino Americans. (Filipinos arrived in the Central Valley to work in the California fields. By the 1920's Stockton was the hub of Filipino life and was home to an estimated 8,000 Filipinos the largest concentration outside the Philippines.)
- Jedediah Smith Society, University of the Pacific, Stockton. The Jedediah Smith Society is an historical society that advances the story of Jedediah Smith, the first American to reach California by land and explore the Pacific Coast from Mexico to Canada. The Society sponsors annual research and writing contests for both young historians and scholars.
- Methodist Historical Society, University of the Pacific, Stockton.
- San Joaquin Pioneer and Historical Society- The Haggin Museum. The Haggin Museum is both an art and history museum serving the people of San Joaquin County and the City of Stockton.
- Stockton Corral of Westerners. This is a historical society that studies, interprets and preserves the history and lore of the American West. The society has monthly meetings, outings to historical sites and a monthly publication.
- Stockton Cultural Heritage Board: Advises the Planning Commission about historically significant sites and sponsors the City's award of excellence program for architectural achievement.

d. Yolo County.

- Yolo County Historical Society, Woodland. The museum is located in the 1857-1877 Gibson House and displays permanent furnishings, including exhibits of outbuildings and farm equipment.
- Yolo County Historical Society, Woodland. A volunteer organization researching and preserving local historical resources by sponsoring monthly history events,

maintaining a schoolhouse museum, publishing mini-histories of local communities, and collecting historical photographs and archival materials.

e. <u>Solano County.</u>

• Rio Vista Museum.

Appendix B: Historic Delta Locations

1. National Register of Historic Places Located in the Delta:

- Locke Historic District, Sacramento County: Last remaining rural Chinese town in America. Entire town was added to Register in 1971.
- Delta Meadows Site, Sacramento County: Native American village archeological site; added to the Register in 1971.
- Rosebud Ranch, Sacramento County: Also known as Eddinger House and is located on River Road near Hood. Was built by the designer of the Governor's Mansion; added to the Register in 1979.
- Walnut Grove Gakuen Hall, Sacramento County, Pine and C Streets; added to register in 1980.

2. California Historical Landmarks Located in the Delta.

- Benson's Ferry, San Joaquin County: Located 3 miles north of Thornton; the ferry was established in 1849 and purchased by John A. Benson in 1850.
- Site of Moklelune City, San Joaquin County: Established in 1850 was the second largest town in the county; the town was destroyed by floods of 1862.
- Gable House, Yolo County: The mansion is one of the last outstanding examples of 19th century Victorian Italiante architecture.

(<u>California Historical Landmarks</u>, Office of Historical Preservation, Department of Parks and Recreation, 1990.)

3. Proposed Historical Sites: (Delta Community Area Plan, 1983)

- Beach family home: Located south of Freeport. May be the County's oldest house.
- River Mansion: Located on Steamboat Slough. The most elegant and stately home in the Delta. The four-storied home with 58 rooms is now a restaurant and available for touring.
- Steamboat Slough "Dolphin": Located at the Steamboat Slough beach, at juncture with the Sacramento River. The "Dolphin" was a set of bound together pilings, which allowed the long, deep-draft boats coming down river to nose into the cluster so that they could make the turn in the Slough. Without this, the large ships wouldn't have made the turn.

References

- 1) San Francisco Estuary Project, State of the Estuary, 1992. State Lands Commission, Delta-Estuary California's Inland Coast, 1991.
- 2) Isleton May Festival Committee Isleton Presents the Heart of the Delta, 1975.
- 3) Delta Community Area Plan, 1983.
- 4) See #3
- 5) Sacramento River Delta Historical Society, Discovering Locke.
- 6) Gillenkirk, Jeff and James Motlow, Bitter Melon, 1987.
- 7) Sacramento River Delta Historical Society, Discover Paintersville, Vorden and Ryde.
- 8) See #3
- 9) A Business Development Package for the Community of Walnut Grove, 1993.
- 10) Stockton Record, 11-8, 10-93.
- 11) State Lands Commission, Delta-Estuary, 1991.
- 12) pers comm. John Sulpisio, Port of Sacramento, 12-10-93.
- 13) pers comm. Charlene Wall, Port of Stockton, 12-10-93.
- 14) pers comm. Fred Etzel, 12-10-93.
- 15) pers comm. Jane Sekelsky, State Lands Commission, 12-3-93.
- 16) pers comm. Scott Flint, Department of Fish and Game, 11-24-93.
- 17) pers comm. Veronica Hicks, Department of Water Resources, 11-12-93.
- 18) Department of Water Resources, Special Flood Control Projects for Eight Western Islands, 1989.