

## Section 4.8

# Land Use and Agriculture

## Introduction

This section describes recent changes to the existing environmental conditions and regulatory setting of the Project area, summarizes the unchanged affected environment, and describes changed environmental effects related to land use and agriculture for the Project. This section contains a review and update of the 1995 DEIR/EIS land use and agriculture impact assessment, incorporated by reference in the 2001 FEIR. The land use and agriculture impacts of the Project were most recently analyzed in the 2001 FEIS, which also served as a basis for this analysis.

The 2001 FEIR and 2001 FEIS concluded that the Project alternatives would impact land use and agriculture on the four Project islands. Potential significant and unavoidable impacts included inconsistency with general plan policies for agricultural lands and inconsistency with the Delta Protection Commission's (DPC's) land use plans and policies, and direct and cumulative conversion of agricultural land to nonagricultural uses. Less-than-significant impacts included displacement of residences and structures on the Reservoir Islands, and displacement of property owners on the Habitat Islands.

Since the 2001 FEIR and 2001 FEIS, there have been changes in property ownership and in the number of residences, agricultural structures, and occupants on the Project islands. As a result of these changes, it has been concluded in this impact analysis that the Alternatives 1 and 2 of the Project would not impact residences and structures on the Reservoir Islands or property owners on the Habitat Islands.

Furthermore, there have been additional studies that call into question the long-term viability of agriculture in the Delta. Sea level rise, seismic risk, continued land subsidence, and increased levee vulnerability in the Delta are all factors that threaten the sustainability of agriculture in the Delta over the long term unless major interventions are made. Project impacts on agriculture were reanalyzed in this Place of Use EIR in light of this more recent information as well as in light of changes in the Project, which include agricultural conservation easements on the Habitat Islands and identification of designated places of use where Project water would benefit agriculture. Although these changes were considered in this analysis, the conclusions reflected in the 2001 FEIR and 2001 FEIS that the

direct conversion of agricultural land to nonagricultural uses under Alternatives 1 and 2 would result in a significant impact has not changed.

There have been no changes in the Project that result in new significant environmental effects or a substantial increase in the severity of previously identified significant effects on land use and agricultural resources.

There have been minor changes in the affected environmental and regulatory setting since the 2001 FEIR and 2001 FEIS, but these changes do not alter the conclusions in the 2001 FEIR and 2001 FEIS regarding environmental effects on land use and agricultural resources.

The Project will not have any direct effects on land use and agriculture in the Places of Use; the effects on land use and agriculture, if any, associated with the provision of Project water to the Places of Use are addressed in Chapter 5, “Cumulative Impacts,” and Chapter 6, “Growth-Inducing Impacts.”

## Summary of Impacts

Table 4.8-1 provides a summary and comparison of the impacts and mitigation measures for land use and agriculture from the 2001 FEIR, 2001 FEIS, and this Place of Use EIR.

**Table 4.8-1.** Comparison between Delta Wetlands Project 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures for Land Use and Agriculture

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<b>ALTERNATIVES 1 AND 2</b>	
<p><b>Impact I-1:</b> Displacement of Residences and Structures on Reservoir Islands (LTS)  <b>Mitigation:</b> No mitigation is required.</p>	<p>No impact. Bacon Island and Webb Tract are owned by the Project applicant, as are all buildings, structures, and residences on these islands. Property on these islands is leased for farming; however, the leases are all short-term and contemplate eventual conversion to water storage. Therefore, displacement of residences and structures on the Reservoir Islands as a result of implementation of Alternatives 1 or 2 is not considered an impact.</p>
<p><b>Impact I-2:</b> Displacement of Property Owners on Habitat Islands (LTS)  <b>Mitigation:</b> No mitigation is required.</p>	<p>No impact. The Project applicant owns all property on Bouldin Island and all property within the Project area on Holland Tract. Therefore, no property owners on the Habitat Islands would be displaced as a result of implementation of Alternatives 1 or 2.</p>
<p><b>Impact I-3:</b> Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation (SU)  <b>Mitigation:</b> No mitigation is available to reduce this impact to a less-than-significant level.</p>	<p><b>Impact LU-1:</b> Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation (SU)  <b>Mitigation:</b> This impact has not changed. No mitigation is available to reduce this impact to a less-than-significant level; however, changes have been incorporated into the Project to reduce the severity of the impact.</p>

2001 FEIR and 2001 FEIS Impacts and Mitigation Measures	Differences between 2010 Place of Use EIR and 2001 FEIR and 2001 FEIS Impacts and Mitigation Measures
<p><b>Impact I-4:</b> Direct Conversion of Agricultural Land (SU)  <b>Mitigation:</b> No mitigation is available to reduce this impact to a less-than-significant level</p>	<p><b>Impact LU-2:</b> Direct Conversion of Agricultural Land (SU)  <b>Mitigation:</b> This impact has not changed. No mitigation is available to reduce this impact to a less-than-significant level; however, changes have been incorporated into the Project to reduce the severity of the impact.</p>
<b>ALTERNATIVE 3</b>	
<p><b>Impact I-5:</b> Displacement of Residences and Structures on Reservoir Islands (LTS)  <b>Mitigation:</b> No mitigation is required.</p>	<p><b>Impact LU-3:</b> Displacement of Residences and Structures on Reservoir Islands (LTS)  <b>Mitigation:</b> This impact has not changed. No mitigation is required. All residences and structures on Bacon Island, Webb Tract, and Bouldin Island are owned by the Project applicant. Therefore, this impact only applies to displacement of residences and structures on Holland Tract. Prior to the implementation of Alternative 3, land and property not presently owned by the Project applicant would be purchased. Housing opportunities in the local area are considered sufficient for those affected to be housed.</p>
<p><b>Impact I-6:</b> Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation (SU)  <b>Mitigation:</b> No mitigation is available to reduce this impact to a less-than-significant level</p>	<p><b>Impact LU-1:</b> Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation (SU)  <b>Mitigation:</b> This impact has not changed. No mitigation is available to reduce this impact to a less-than-significant level; however, changes have been incorporated into the Project to reduce the severity of the impact.</p>
<p><b>Impact I-7:</b> Direct Conversion of Agricultural Land (SU)  <b>Mitigation:</b> No mitigation is available to reduce this impact to a less-than-significant level.</p>	<p><b>Impact LU-2:</b> Direct Conversion of Agricultural Land (SU)  <b>Mitigation:</b> This impact has not changed. No mitigation is available to reduce this impact to a less-than-significant level; however, changes have been incorporated into the Project to reduce the severity of the impact.</p>
<p>Note: SU = Significant and unavoidable; LTS = Less than significant; LTS-M = Less than significant with mitigation; B = Beneficial.</p>	

## Summary of Changes, New Circumstances, and New Information

Changes that may potentially affect the environment, regulatory setting, or environmental effects of the Project on land use and agriculture are described in the Existing Conditions section below. The following is a summary of findings based on that consideration.

## Substantial Changes in the Project

Since the 2001 FEIR and 2001 FEIS, there have been no substantial changes to the Project resulting in new significant effects or substantial increase in the severity of effects on land use and agriculture. However, several changes in the Project, in addition to new information, would result in the reduction of the severity of the agricultural land conversion impact relative to the 2001 FEIR and 2001 FEIS conclusion. These Project changes include:

- An environmental commitment to place agricultural conservation easements on Bouldin Island and Holland Tract;
- The Project applicant has entered into agreements to provide water to designated places of use including Semitropic, Golden State, and Metropolitan. Other likely places of use include Valley District, Western, and member agencies within Metropolitan;
- Project water not needed for designated place of use demands would be stored within the Semitropic Groundwater Storage Bank and/or the Antelope Valley Water Bank for later delivery to the designated places of use.
- Project water will be provided to Semitropic to improve the reliability of the existing supplies of water for agricultural irrigation; and

Project water provided to Semitropic, Valley District, Western, and Metropolitan ultimately would benefit agriculture in those service areas by supplementing existing water supplies.

## New Circumstances

Since the 2001 FEIR and 2001 FEIS there have been many additional studies in the Delta and several events that call into question the long-term viability of agriculture in the Delta. The 2001 FEIR and 2001 FEIS assumed that the current infrastructure generally could support the No-Project Alternative (intensive agriculture) through the life of the Project (50 years). However, threats to continued agriculture in the Delta include continued land subsidence, levee instability, sea level rise, seismic risk, and urban encroachment, calling into question whether agricultural activities are sustainable within the projected Project life.

Agricultural cultivation of peat soils in the Delta has contributed to the subsidence of the majority of Delta islands, especially in the western and central Delta, where the Project islands are located. Recent studies confirm that as subsidence continues over time, increased hydrostatic pressure is placed on the surrounding levees, increasing the cost of levee maintenance, water table management, and land loss from seepage and increasing salinity (Trott 2007). Levee failure on deeply subsided islands would damage or destroy agriculture and infrastructure on these islands, as well as threaten water conveyance to agricultural and urban water users in the Bay Area, San Joaquin Valley and southern California. Funding for local levees in the Delta comes primarily from

agricultural reclamation district fees and this funding has been insufficient for levee improvements that would meet current standards, leading to a higher risk of levee failure than assumed in the 2001 FEIR and 2001 FEIS (Trott 2007).

DWR's Delta Risk Management Strategy (DRMS) evaluated the potential for catastrophic levee failure and subsequent effects on water supply and concluded that agriculture within the Delta is unsustainable over the long-term if current land and levee management practices continue for the baseline conditions currently existing in the Delta. According to the DRMS Phase 1 report (California Department of Water Resources 2009), a seismic event is the single greatest risk to levee integrity in the Delta. Levees would fail and as many as 20 islands could flood simultaneously. If this were to occur during a time of low-to-moderate fresh water Delta inflow, brackish water from Suisun Marsh would enter the Delta and would compromise local water supplies, as well as State and federal water project exports, and water could not be used for in-Delta agricultural irrigation (California Department of Water Resources 2009).

A recent paper by Mount and Twiss (2005) estimated that there is a two-in-three chance that 100-year recurrence interval floods or earthquakes will cause catastrophic flooding and significant change in the Delta by 2050. Continued subsidence on the islands has reduced the stability of Delta levees, increasing the risk of levee failure. Ongoing subsidence coupled with the expected sea level rise over the next 50 years associated with climate change is expected to significantly increase the instability of the current Delta levee network over the baseline conditions assumed in the 2001 FEIR and 2001 FEIS, and will result in increased potential for and consequence of island flooding (Mount and Twiss 2005). The central and west Delta are the zones at highest risk of seismic-induced levee failure (Mount and Twiss 2005).

## New Information

There is no new information of substantial importance that would result in an increase in severity of effects on land use and agriculture. The key sources of new information pertaining to land use and agriculture reviewed or used to prepare this section include:

- Development Title of San Joaquin County, adopted July 1992, published 1995 (updated monthly);
- Contra Costa County General Plan 2005-2020, January 2005;
- Contra Costa County Community Development Department 2006 Agricultural Preserves Map;
- California Department of Conservation, Division of Land Resource Protection: 2008 Contra Costa County important farmland series map;
- California Department of Conservation, Division of Land Resource Protection: 2006 San Joaquin County important farmland series map;

- California Department of Conservation, Division of Land Resource Protection: San Joaquin County Williamson Act Lands 2006; and
- San Joaquin County Multi Species Habitat Conservation and Open Space Plan, November 14, 2000.
- 2006 soil surveys for Contra Costa and San Joaquin Counties, prepared by U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS);
- California Department of Conservation's 2006 important farmland mapping system data;
- crop history (2002–2008) for Project islands; and
- current property ownership on the Project islands.

## Existing Conditions

This section discusses changes in the existing conditions or regulatory setting since the 2001 FEIR and 2001 FEIS.

## Regulatory Environment

Several changes in the regulatory setting were considered as follows. These changes in regulations do not alter the impact analysis conclusion or mitigation measures in the 2001 FEIR and 2001 FEIS.

- Update of the Contra Costa County General Plan.
- Update of the San Joaquin County Development Title.
- Adoption of the San Joaquin County Multi Species Habitat Conservation and Open Space Plan.
- Update of Delta Protection Commission's Draft Land Use and Resource Management Plan for the Primary Zone of the Delta.

The following section describes new regulations affecting land use and agriculture and summarizes previously identified regulations.

## State

### California Department of Conservation Important Farmland Mapping and Monitoring Program

The California Department of Conservation administers the Important Farmland Mapping and Monitoring Program (FMMP), which evaluates the quality of farmlands throughout the State of California.

## **The California Land Conservation (Williamson) Act**

The California Land Conservation Act (California Government Code, beginning at Section 51200), also known as the Williamson Act, was adopted in 1965. The Williamson Act allows for the preservation of agricultural and open space lands through property tax incentives and voluntary restrictive use contracts. This program allows property owners to have their property assessed on the basis of its agricultural production rather than at the current market value. The contract may be cancelled if the land is being converted to an incompatible use.

## **1992 Delta Protection Act**

The State's 1992 Delta Protection Act designates the Delta Primary Zone as an area for protection from intrusion of nonagricultural uses (Section 29703a) and establishes the DPC. The DPC is a State entity that plans for and guides the conservation and enhancement of the natural resources in the Delta, while sustaining agriculture and meeting increased recreational demand.

In 1995, the DPC adopted its regional plan, *Land Use and Resource Management Plan for the Primary Zone of the Delta* (LURMP), which outlines findings, policies, and recommendations to guide land use and resource management decisions in the Primary Zone of the Delta. The LURMP was updated in 2009 and adopted in February 2010. As stated in the act, the goals of this regional plan are to "protect, maintain and, where possible, enhance and restore the overall quality of the Delta environment, including, but not limited to, agriculture, wildlife habitat, and recreational activities." The entire Project area is located within the Delta Primary Zone.

## **Local**

Bacon and Bouldin Islands are located within San Joaquin County and Webb and Holland Tracts are located in Contra Costa County. The local regulations established by San Joaquin and Contra Costa Counties that pertain to the islands that fall within their respective boundaries are described below.

### **Contra Costa County General Plan**

The Contra Costa County General Plan was updated in 2005; however, changes do not pertain to land use or agriculture.

### **San Joaquin County Development Title**

The Development Title of San Joaquin County has been updated since the 2001 FEIR and 2001 FEIS. Two pertinent changes were made to the Development Title:

- In 2002, San Joaquin County adopted a land use ordinance (Chapter 9-100) as part of its zoning codes. Under this ordinance project proponents are required to obtain a use permit before constructing a water storage project. The ordinance adds Section 9-115.582 to the Use Classification System of San Joaquin County as follows:

Section 9-115.582 Water Storage. The intentional use of any area of five hundred (500) acres or more for the containment of water which will at any time exceed an average of six (6) feet in depth for thirty (30) days or more in any calendar year. This section does not apply to containment by a levee of an island adjacent to tidal waters in the Sacramento-San Joaquin Delta as defined in California Water Code Section 12220 if the maximum possible water storage elevation exceeds four feet above mean sea level as established by the United States Geological Survey 1929 datum. This section does not apply to dams and reservoirs under the jurisdiction of the Federal Government or the State of California exercising jurisdiction under Division 3 of the California Water Code.

- In 2006, San Joaquin County adopted an agricultural mitigation ordinance (Chapter 9-1080). Section 9-1080.3 of that ordinance requires mitigation for: 1) a General Plan Amendment that changes the designation of any land from an agricultural use to a non-agricultural use; and 2) a zoning reclassification that changes the permitted uses from agricultural to nonagricultural, regardless of the General Plan designation. Mitigation, in a 1:1 ratio, shall be required for land that will no longer be designated as or zoned for agricultural land. This ordinance does not apply to the Project because the Project would not require an amendment to the general plan or a zoning reclassification.

Water storage on Bacon Island is consistent with uses conditionally permitted (i.e., requiring a use permit) by San Joaquin County in the General Agriculture (AG) zone. In addition, because water storage is a permitted use in an AG zone, mitigation, as set forth under San Joaquin County's agricultural mitigation ordinance, would not be required (Swanson pers. comm., July 30, 2008).

## **San Joaquin County Multi Species Habitat Conservation and Open Space Plan**

The San Joaquin County Multi Species Habitat Conservation and Open Space Plan (SJMSCP) was adopted in 2001 and covers all of San Joaquin County. The SJMSCP is designed to provide a regional approach to mitigating development impacts on the 97 listed and non-listed plant, fish, and wildlife species covered by the SJMSCP and compensating for the conversion of open space to non-open space uses. The plan provides compensation for habitat losses through collection of fees that are used to preserve habitats elsewhere. The Project is not considered a covered activity by the SJMSCP. Therefore, mitigation to offset the Project's impacts to agricultural lands would not be required pursuant to the SJMSCP.

## Affected Environment

Existing conditions on the Project islands have been reconsidered in light of updated soil surveys and land production capability assessments, new data on current crop patterns, changes in property ownership, as well as revisions or updates to the San Joaquin County Development Title and the Contra Costa County General Plan as they pertain to new (since 2001) land use ordinances and policies.

Existing land use conditions and agricultural conditions are, for the most part, as they were presented in the 2001 FEIR and 2001 FEIS and are hereby incorporated by reference. Land uses in areas adjacent to the Project islands are discussed briefly in the following section. Changes in the affected environment since the 2001 FEIR and 2001 FEIS are presented in the land use and agricultural conditions sections.

## Adjacent Land Uses

### Land Uses near Bacon Island

Land on islands surrounding Bacon Island is used primarily for agriculture. Scattered agricultural structures, equipment complexes, and a few rural residences are interspersed throughout the vicinity. San Joaquin County has designated land north, south, and east of Bacon Island on Mandeville Island, Woodward Island, and Lower Jones Tract as AG. These islands are under Williamson Act contracts.

### Land Uses near Webb Tract

Webb Tract is bordered by the San Joaquin River to the north and east, False River and the flooded Franks Tract to the south, and Fishermans Cut to the west. Land use west of Webb Tract on Bradford Island is mainly agriculture with associated farmsteads and structures related to agricultural production. Boating facilities are located on the eastern shoreline of Bradford Island, facing toward Webb Tract. The Contra Costa County General Plan designation for all of Bradford Island is Delta Recreation and Resources. Bradford Island has two parcels under Williamson Act contract.

Franks Tract, south of Webb Tract across False River, is a state recreation area. The flooded portion of Franks Tract is designated as Water and the designation for land areas is Parks and Recreational. Franks Tract is used primarily for boating and other water-oriented recreation and has no extensively developed areas.

Land north of Webb Tract across the San Joaquin River is located in Sacramento County. This area has some shoreline development, but most land is in

agricultural use with scattered farmsteads and other agriculture-related structures. Land use designations for this area are Recreational and Agricultural Cropland.

## Land Uses near Bouldin Island

The Mokelumne River bounds Bouldin Island to the north and west, and Potato Slough bounds the island to the east and south. Land on islands surrounding Bouldin Island is used primarily for agricultural production. Scattered agricultural structures, equipment complexes, and a few rural residences are interspersed throughout the vicinity.

In San Joaquin County, islands surrounding Bouldin Island have been designated AG. Staten and Venice Islands, located north and south of Bouldin Island, respectively, are under Williamson Act contracts. Andrus and Tyler Islands, west of Bouldin Island, have been designated as Agricultural Cropland by Sacramento County. Most of the parcels on these islands are under Williamson Act contracts. Most parcels east of Bouldin Island on Terminous and Empire Tracts are also under Williamson Act contracts.

## Land Uses near Holland Tract

Bethel Island northwest of Holland Tract has extensive shoreline development, consisting mainly of boat docks, marinas, single-family residences, and some retail businesses. General plan designations for this developed area are mainly Single-Family Residential High-Density, with some Commercial and Multifamily Residential uses permitted. Similar shoreline land uses exist on Hotchkiss Tract, on the western shore of Sand Mound Slough west of Holland Tract. Inland use of these adjacent islands is primarily for agriculture, with a limited amount of rural residential development.

Franks Tract State Recreation Area is north of Holland Tract. Land uses and designations on Franks Tract are described above.

Land uses south of Holland Tract on Veale and Palm Tracts are generally agricultural with some farmsteads and agricultural structures. Veale Tract is designated as Delta Recreation and Resources with land uses such as agriculture, wildlife habitat, and low-intensity recreational use.

Approximately half of Palm Tract, east of Veale Tract, is designated Delta Recreation and Resources, and this land is under Williamson Act contract. The remainder of Palm Tract is designated Public/Semi-Public.

## Land Use Conditions

The four Project islands are used primarily for agricultural production, with some hunting and fishing recreational uses. In general, conditions remain as they were

at the time the 2001 FEIR and 2001 FEIS was issued. However, there have been some changes in property ownership and in the number of residences, agricultural structures, and occupants on the islands. These changes are presented in the following section.

## **Bacon Island**

Several farmsteads or rural residences are located on the island near the perimeter levees. In total, there are approximately 20 occupants on the island. Agricultural structures and equipment complexes are located in the northern, central, and southern portions of the island. An airstrip for crop dusting flights is located on the eastern portion of the island. Bacon Island, as well as all structures and residences, is entirely owned by the Project applicant. Property on Bacon Island is leased out for farming; however, the leases are all short-term and contemplate eventual conversion to water storage.

All of Bacon Island is currently under Williamson Act contracts. These contracts are in nonrenewal and expire December 2012.

## **Webb Tract**

A small number of agricultural structures and equipment complexes are located on the island, mainly near the perimeter levees. A clubhouse and caretaker's trailer are located on high ground at the extreme eastern tip of the island. There are two occupants on Webb Tract. Webb Tract, as well as all structures and residences, is entirely owned by the Project applicant. Property on Webb Tract is leased out for farming; however, the leases are all short-term and contemplate eventual conversion to water storage.

Webb Tract has a 139.2-acre parcel under Williamson Act contract. This contract is in nonrenewal and expires November, 2012 (Contra Costa County 2007).

## **Bouldin Island**

Scattered agricultural structures and equipment complexes are located in the northern, central, and southern portions of the island. Several residences and associated farmstead structures are located north of SR 12. Two residences, one of which is currently occupied, are located south of SR 12 on the eastern side of the island. There are approximately 40 occupants in total on Bouldin Island. On the eastern portion of the island, just south of SR 12, there is an airstrip used by crop-dusting operators. An oil drilling pad is located on the western portion of the island. Bouldin Island is entirely owned by the Project applicant. Property on Bouldin Island is leased for farming; however, the leases are all short-term and eventual conversion to habitat management is contemplated.

The entire land area of Bouldin Island is under Williamson Act contracts; these contracts are in nonrenewal and expire December 2012.

## Holland Tract

Agricultural structures and equipment complexes are scattered along the southern and western perimeter levees. Onsite residences include a trailer located in the northeast portion of the island near the levee bordering Holland Cut and two residences in the western portion of the island. An abandoned hog feeding area is located east of these two residences. This area includes several structures ancillary to hog farming and untilled open space. There are two occupants currently residing on Holland Tract.

Two marinas are located at the southern boundary of Holland Tract on Rock Slough. The Lindquist Landing Marina on the southern boundary features boat docks and other structures ancillary to marina uses. The Holland Riverside Marina, at the southeastern corner of the island, is a large facility with numerous boat docks, covered slips, and ancillary marina uses.

The Project applicant owns all land on Holland Tract except several small parcels in the southwestern corner of the island, the two marina parcels along the southeastern perimeter of the island, and the 263-acre Wildlands, Inc. parcel directly north of the Lindquist Landing Marina. Wildlands intends to convert this property to a habitat mitigation bank. The marina parcels, 857 acres in the southwestern corner of Holland Tract, the Wildlands property, and other small parcels would be excluded from Alternatives 1 and 2 (estimated 1,120 acres total). The remaining property on Holland Tract is leased out for grazing; however, the leases are all short-term and eventual conversion to habitat management is contemplated.

Holland Tract has no parcels under Williamson Act contract (Contra Costa County 2007).

## Agricultural Conditions

### Crops and Production Levels

Crops and planted acreages on the Project islands have changed. While the analysis for this document was based on updated (2008) baseline conditions, the 2001 FEIR and 2001 FEIS used 1988 conditions to describe pre-Project agricultural land use as a result of the Project's effects on land use during the intervening years.

Between 1990 and 2001, some land management decisions that changed agricultural land use on the Project islands were made in anticipation of Project implementation. Land management decisions made since 2001 have resulted in further changes in agricultural land use on the Project islands. Current cropping

patterns on the islands in many cases are substantially different from 1988 patterns (Table 4.8-2). For example, in 1988, the production of seed potatoes on Bacon Island accounted for 52.5% of San Joaquin County's production of the crop. However, seed potatoes have not been produced on Bacon Island since 2003.

**Table 4.8-2. Agricultural Crop Changes on Project Islands between 1988 and 2008 (Acres)**

Crop	Bacon Island			Webb Tract			Bouldin Island			Holland Tract		
	1988	2008	% Change	1988	2008	% Change	1988	2008	% Change	1988	2008	% Change
Alfalfa	0	1,787	100									
Asparagus	1,043		-100							402		-100
Corn	757	1,914	153	2,128	4,000	88	2,368	4,002	69	226		-100
Fallow	347	14	-96	611	87	-86	685		-100	745		-100
Milo	82		-100									
Oats		207.4	100									
Pasture				58		-100	33		-100	542	2,884	432
Potatoes	1,836		-100									
Rice								623	100			
Sunflower	186	373.6	101				855		-100			
Tomatoes								308	100			
Unknown Crops	155		-100	26		-100						
Vineyard	272		-100									
Wheat		577.5	100	426		-100	1,139		-100	835		-100
<b>Total</b>	<b>4,678</b>	<b>4,873</b>	<b>4</b>	<b>3,249</b>	<b>4,087</b>	<b>26</b>	<b>5,080</b>	<b>4,933</b>	<b>-3</b>	<b>2,750</b>	<b>2,884</b>	<b>5</b>

Source: Delta Wetlands Properties. 2008. Crop history for 2002–08 (unpublished data).

Typically in an EIR, environmental baseline conditions are those that exist at the time the NOP is published or, if no NOP is published, at the time the environmental analysis is begun. Because agricultural land use conditions have changed considerably in 20 years, a baseline defined by 1988 conditions is no longer appropriate or relevant. A baseline based on 2008 conditions provides the most reliable description of pre-Project agricultural land use on the Project islands for assessing the impacts of the Project alternatives; however, it should be noted that a static baseline is only a snapshot of current conditions as cropping patterns will continue to change based on market demand for crops and farmers' choices. The Project applicant provided crop history and crop acreages for 2002–2008 for the Project islands. Cropping patterns for 2009 are likely to change because of changing commodity prices. Crop yields were estimated using 2007 countywide yield data from Contra Costa and San Joaquin Counties.

### Bacon Island

Yield and production levels for the crops grown on Bacon Island, based on planted acreage in 2008, are shown in Table 4.8-3. Crop acreages vary from year to year, depending on market conditions, the status of federal "set aside"

programs, and pest management concerns. Similarly, per-acre yields vary from season to season based on management practices and weather and pest conditions. The production estimates shown in Table 4.8-3 indicate that Bacon Island produced the following percentages of the crops produced in San Joaquin County, based on 2007 countywide production levels in tons: wheat, 4%; corn, 2.3%; and alfalfa, 2.6%; (San Joaquin County Office of the Agricultural Commissioner 2008). Although oats and sunflower were also grown on Bacon Island in 2008, production estimates are not presented here because these crops were not included in the 2007 crop report for San Joaquin County.

### **Webb Tract**

In 2008, an estimated 73% (4,064 acres) of the Webb Tract's total acreage was planted in corn, the only crop grown on Webb Tract in that year (Table 4.8-2). Approximately 87 acres of land were fallowed. Corn and wheat were the two crops grown in recent years (2002–2008) on Webb Tract (Delta Wetlands Properties 2008a).

The production estimates shown in Table 4.8-3 indicate that Webb Tract produced approximately 55% of the corn crop in Contra Costa County, based on 2007 countywide production levels in tons (Contra Costa County Department of Agriculture 2008).

### **Bouldin Island**

As shown in Table 4.8-2, corn and rice were the dominant crops grown on Bouldin Island in 2008; these two crops accounted for nearly 94% of the island's agricultural acreage and 77% of the island's total acreage. Tomatoes accounted for approximately 6% of the island's agricultural acreage in 2008.

Table 4.8-3 shows yields and production levels for the primary crops grown on Bouldin Island based on planted acreage in 2008. The production estimates shown in Table 4.8-3 indicate that Bouldin Island produced the following percentages of the crops produced in San Joaquin County, based on 2007 countywide production levels in tons: corn, 5.0%; rice, 11.7%; and tomatoes, 0.6% (San Joaquin County Office of the Agricultural Commissioner 2008).

### **Holland Tract**

Holland Tract is the least intensively farmed island of the four Project islands. During the period of 2002–2008, 2,884 acres of Holland Tract were used for pasture each year, an equivalent of approximately 69% of the island's total acreage; none of the island was used for crop production during this period (Delta Wetlands Properties 2008a).

**Table 4.8-3.** Estimated Crop Production on the Project Islands in 2008

Crops	Bacon Island			Webb Tract			Bouldin Island			Holland Tract <sup>a</sup>			All Islands	
	Acres Planted in 2008	Yield (tons per acre)	Total Yield (tons)	Acres Planted in 2008	Yield (tons per acre)	Total Yield (tons)	Acres Planted in 2008	Yield (tons per acre)	Total Yield (tons)	Acres Planted in 2008	Yield (tons per acre)	Total Yield (tons)	Acres Planted in 2008	Total Yield (tons)
Wheat	578	3.3	1,906										578	1,906
Corn (grain)	1,914	4.73	9,053	4,064	3.88	15,768	4,002	4.73	18,929				9,980	43,751
Alfalfa	1,787	7.5	13,403										1,787	13,403
Rice							623	4.35	2,710				623	2,710
Tomatoes							308	33.97	10,463				308	10,463
Oats	207 <sup>b</sup>												207	0
Sunflower	374 <sup>b</sup>												374	0
Pasture										2,884	N/A	N/A	2,884	N/A
<b>Total</b>	<b>4,860</b>			<b>4,064</b>			<b>4,933</b>			<b>2,884</b>			<b>16,741</b>	

Sources: Acreages of planted crops were obtained from Delta Wetlands Properties 2008a.

Notes: N/A = not applicable.

Average yields: Average yield data were obtained from San Joaquin County and Contra Costa County 2007 crop reports; San Joaquin County Office of the Agricultural Commissioner 2008; Contra Costa County Department of Agriculture 2008.

<sup>a</sup> Acreage and yield includes production of acreage excluded from the Project under Alternatives 1 and 2.

<sup>b</sup> Although oats and sunflower were also grown on Bacon Island in 2008, production estimates are not presented here because these crops were not included in the 2007 crop report for San Joaquin County.

## Soils and Land Production Capabilities

Information on soil and agricultural land production capabilities has been updated relative to the 2001 FEIR and 2001 FEIS. In general, the soil types and land production capabilities have not changed significantly. As such, there have been no significant changes made to the impact analysis or conclusions based on this update.

Soil data was obtained from 2006 soil surveys prepared by the NRCS. Acreages by soil units on each island were estimated based on GIS measurements made by ICF Jones & Stokes of NRCS soil survey maps. Information on agricultural land production capabilities on the Project islands was updated using the California Department of Conservation's (CDC's) Integrated Farm Management (IFM) system; specifically, updates were made to the total acreages on the islands comprising prime farmland, farmland of statewide importance, and unique farmland based on 2006 CDC IFM maps for San Joaquin and Contra Costa Counties.

### Bacon Island

Bacon Island soil types, as identified by the 2006 NRCS soil survey for San Joaquin County, are presented in Table 4.8-4. Two soil types compose an estimated 73% of Bacon Island, according to GIS measurements of NRCS soils maps. Rindge muck, partially drained with 0–2% slopes, is the dominant soil on Bacon Island, accounting for an estimated 2,360 acres, or 47% of total acreage. Kingile muck, partially drained with 0–2% slopes, accounts for an estimated 1,455 acres, or 26% of total acreage. Both soils have NRCS land capability classifications of III, as do all soils on Bacon Island.

Major limitations of Bacon Island soils include subsidence, a high water table, and slow permeability. Drainage and careful irrigation practices are required for the production of irrigated row and field crops on Bacon Island soils. Fields are irrigated through application of water through siphon pipes from sloughs and channels to a network of canals and ditches on the island. Drainage water must be pumped out continually to prevent flooding by the rising water table that is caused by the constant hydrostatic pressure of the water outside the island levees. The shallow water table, in combination with the organic peat soils, creates a soil condition favorable to the outbreak of plant pathogens and destructive nematodes.

CDC's IFM map for San Joaquin County indicates that virtually all soils on Bacon Island have been classified as prime farmland, approximately 102 acres have been designated farmland of statewide importance, and 10 acres have been designated as farmland of local importance (Table 4.8-5). The soils on Bacon Island have been categorized by NRCS as Class III soils because of the limitations imposed by subsidence and high water table. Class III soils can be categorized by NRCS as prime if the soil limitations are easily solved by agricultural practices, as is often the case with drainage systems for Delta soils (Jones & Stokes 2001b). Virtually all of Bacon Island's soils have been classified

as prime because of drainage practices implemented on the island. An estimated 135 acres of Itano silty clay loam have not been classified as prime.

### **Webb Tract**

According to the NRCS 2006 soil survey of Contra Costa County (U.S. Department of Agriculture, Natural Resources Conservation Service 2007a), Rindge muck is the dominant soil on Webb Tract, accounting for an estimated 4,379 acres (81%) of the island's 5,415 soil acres (Table 4.8-4); Ryde silt loam is the second most common soil found on Webb Tract, accounting for 438 acres. NRCS considers these two soils to be prime. All but an estimated 275 acres (5%) of the island's soils are categorized as Class III soils. Major limitations of the Webb Tract soils include a high water table, rapid permeability, and a moderate soil-blowing hazard. As on the other Project islands, careful drainage and irrigation practices are required for the production of irrigated row and field crops.

The CDC IFM system has designated an estimated 4,374 acres on Webb Tract as prime farmland, 127 acres as farmland of statewide importance, 86 acres as unique farmland, and 735 acres as farmland of local importance (Table 4.8-5).

### **Bouldin Island**

Three soils account for an estimated 73% of the soils on Bouldin Island. Similar to Bacon Island, Rindge muck, partially drained, 0–2% slopes, is the dominant soil on Bouldin Island, accounting for an estimated 2,360 acres (39%) of the total acreage of Bouldin Island (Table 4.8-4). Rindge mucky silt loam (0–2% slopes) and Retryde Peltier complex (0–2% slopes) account for an estimated 18% and 16% of total acreage, respectively. All three soils have NRCS land capability classifications of III.

Major limitations of the Bouldin Island soils are similar to those found on Bacon Island, including subsidence, a high water table, and slow permeability. The discussion of Bacon Island soils describes necessary drainage practices for crop production on Bouldin Island.

All but 30 acres of Bouldin Island have been classified by NRCS as Class III soils. Class III soils are usually not considered prime by NRCS or CDC; however, appropriate drainage and irrigation practices may significantly reduce the limitations of the soil and lead to prime designations for some Class III soils. CDC has classified all but 54 acres of Bouldin Island's farmlands as prime; an estimated 50 acres are classified as farmland of statewide importance, and 4 acres as unique farmland (Table 4.8-5).

### **Holland Tract**

Three soils account for an estimated 83% of Holland Tract's 3,066 soil acres: Rindge muck (47%), Piper loamy sand (15%), and Shima muck (21%) (Table 4.8-4). Unlike Bacon Island, Webb Tract, and Bouldin Island, Holland Tract has large areas of Class IV soils, including an estimated 455 acres of Piper loamy sand and 320 acres of Piper fine sandy loam. The remaining soils on Holland Tract are categorized as Class III soils. Major limitations of Holland

Tract soils include a high water table, low available water capacity, rapid permeability, and moderate soil blowing.

All farmland on Holland Tract has been designated by CDC as farmland of local importance (Table 4.8-5).

**Table 4.8-4.** Estimated Acreages of Soil Types on the Project Islands

Soils	Land Capability Classes <sup>a</sup>	Soil Limitations	Typical Uses	Bacon Island		Bouldin Island		All Islands	
				Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total
<b>SAN JOAQUIN COUNTY SOILS</b>									
Peltier mucky clay loam, partially drained, 0 to 2 percent slopes	IIIw-5	Subsidence, high water table, slow permeability	Irrigated row and field crops	0	0.0	14	0.2	14	0.1%
Retryde-Peltier complex, 0 to 2 percent slopes	IIIw-2	Subsidence, high water table, slow permeability	Irrigated row and field crops	65	1.1	944	15.7	1,009	5.0%
Venice mucky silt loam, overwash, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table	Irrigated row and field crops	0	0.0	210	3.5	210	1.0%
Piper sandy loam, partially drained, 0 to 2 percent slopes	IVw-4	Subsidence, low available water capacity, high water table, weakly cemented substratum	Irrigated row and field crops	0	0.0	30	0.5	30	0.1%
Shima muck, partially drained, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table	Irrigated row and field crops	0	0.0	21	0.4	21	0.1%
Dello loamy sand, partially drained, 0 to 2 percent slopes	IIIw-4	Low available water capacity, severe hazard of soil blowing, high water table	Irrigated row and field crops	0	0.0	20	0.3	20	0.1%
Rindge muck, partially drained, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table	Irrigated row and field crops	2,619	47.0	2,360	39.4	4,979	24.8%
Kingile muck, partially drained, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table, slow permeability	Irrigated row and field crops	1,455	26.1	153	2.6	1,608	8.0%
Kingile-Retryde complex, partially drained, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table, slow permeability	Irrigated row and field crops	480	8.6	0	0.0	480	2.4%
Retryde clay loam, partially drained, 0 to 2 percent slopes	IIIw-2	Subsidence, high water table	Irrigated row and field crops	396	7.1	87	1.5	483	2.4%
Valdez silt loam, partially drained, 0 to 2 percent slopes	IIIw-2	Subsidence, high water table	Irrigated row and field crops	0	0.0	466	7.8	466	2.3%
Rindge mucky silt loam, overwash, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table	Irrigated row and field crops	93	1.7	1,076	17.9	1,169	5.8%
Venice muck, partially drained, 0 to 2 percent slopes	IIIw-10	Subsidence, high water table	Irrigated row and field crops	59	1.0	271	4.5	330	1.6%

Soils	Land Capability Classes <sup>a</sup>	Soil Limitations	Typical Uses	Bacon Island		Bouldin Island		All Islands	
				Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total
Retryde silty clay loam, organic substratum, 0 to 2 percent slopes	IIIw-2	Subsidence, high water table	Irrigated row and field crops	268	4.8	343	5.7	611	3.0%
Itano silty clay loam, partially drained, 0 to 2 percent slopes	IIIw-2	Subsidence, high water table, acidity	Irrigated row and field crops	135	2.4	0	0.0	135	0.7%
<b>Subtotal for Bacon and Bouldin Islands</b>				<b>5,570</b>	<b>100.0</b>	<b>5,995</b>	<b>100.0</b>	<b>11,565</b>	<b>57.7</b>

Soils	Land Capability Classes <sup>a</sup>	Soil Limitations	Typical Uses	Holland Tract <sup>b</sup>		Webb Tract		All Islands	
				Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total
<b>CONTRA COSTA COUNTY SOILS</b>									
Rindge muck	IIIw-10	High water table, rapid permeability, moderate soil blowing hazard	Irrigated row crops	1,454	47.4%	4,379	80.9%	5,833	28.8%
Piper fine sandy loam	Ive-9	High water table, low available water capacity, rapid permeability, moderate soil blowing hazard	Dryland pasture, small grains, volunteer hay	320	10.4%	264	4.9%	584	2.9%
Piper loamy sand	Ivw-4	High water table, low available water capacity, rapid permeability, moderate soil blowing hazard	Irrigated pasture, alfalfa, row crops	455	14.8%	11	0.2%	466	2.3%
Ryde silt loam	IIIw-2	High water table	Irrigated row and field crops	62	2.0%	483	8.9%	545	2.7%
Egbert mucky clay loam	IIIw-2	High water table	Irrigated field crops and wildlife habitat	15	0.5%	0	0.0%	15	0.1%
Shima muck	IIIw-10	High water table, moderate soil blowing hazard	Irrigated row and field crops	644	21.0%	99	1.8%	743	3.7%
Kingile muck	IIIw-10	High water table, moderate soil blowing hazard	Irrigated row and field crops	0	0.0%	37	0.7%	37	0.2%

Soils	Land Capability Classes <sup>a</sup>	Soil Limitations	Typical Uses	Holland Tract <sup>b</sup>		Webb Tract		All Islands	
				Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total
Webile muck	IIIw-10	High water table, moderate soil blowing hazard	Irrigated row and field crops	116	3.8%	0	0.0%	116	0.6%
Merritt loam	IIIw-2	High water table	Irrigated row and field crops	0	0.0%	142	2.6%	142	0.7%
<b>Subtotal for Holland and Webb Tracts</b>				<b>3,066</b>	<b>100.0</b>	<b>5,415</b>	<b>100.0</b>	<b>8,481</b>	<b>41.9</b>
<b>Total</b>								<b>20,046</b>	<b>100.0</b>

Source: U.S. Department of Agriculture, Natural Resources Conservation Service 2007a and 2007b.

Note: Acreage totals may not correspond with acreages shown elsewhere in this report because of measurement error, rounding error, and water bodies not surveyed on the islands. Acreages do not include non-farmable acres (e.g., ditches, roads, equipment yards, levees). Acreages by soil units were estimated based on GIS measurements performed by ICF Jones & Stokes.

<sup>a</sup> Soils are categorized by NRCS according to eight classes (I–VIII) depending on the limitations to agricultural use imposed by specific soil and climatic criteria. The higher the class, the more restrictive the limitation. Soils in Class III have more limitations and hazards than those in Classes I and II. They require more difficult or complex conservation practices when cultivated. Soils in Class IV have greater limitations and hazards than those in Class III and require more difficult or complex measures when cultivated. Capability classes are divided into subclasses and capability units. Subclass symbols include “w” for wetness and “e” for erosion problems. Capability unit symbols include “2” for wetness problems; “4” for coarse texture, low water-holding capacity; “5” for fine textures, tillage problems; “9” for low fertility, acidity, or toxics problems; and “10” for very coarse textured substratum.

<sup>b</sup> Acreages for Holland Tract exclude the 1,120 nonproject acres (under Alternatives 1 and 2).

**Table 4.8-5.** Estimated Acreages of Soils in Important Farmland Mapping Categories on the Project Islands

	Bacon Island		Webb Tract		Bouldin Island		Holland Tract <sup>a</sup>		All Islands	
	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent of Total
<b>SAN JOAQUIN COUNTY SOILS</b>										
Prime farmland	5,151	97.9			5,812	99.1			10,963	56.3
Farmland of statewide importance	102	1.9			50	0.8			152	0.8
Unique farmland	0	0.0			4	0.1			4	0.02
Farmland of local importance	10	0.2			0	0.0			10	0.05
<b>CONTRA COSTA COUNTY SOILS</b>										
Prime farmland			4,374	82.2					4,374	22.5
Farmland of statewide importance			127	2.4					127	0.7
Unique farmland			86	1.6					86	0.4
Farmland of local importance			735	13.8			3,020	100	2,464	19.3
<b>Total</b>	<b>5,263</b>	<b>100.0</b>	<b>5,322</b>	<b>100.0</b>	<b>5,866</b>	<b>100.0</b>	<b>3,020</b>	<b>100.0</b>	<b>19,471</b>	<b>100.0</b>

Source: California Department of Conservation 2006, 2008. Acreages were estimated based on GIS measurements performed by ICF Jones & Stokes.

<sup>a</sup> Acreages for Holland Tract exclude the 1,120 nonproject acres (under Alternatives 1 and 2).

## Farmland Conversion

Under the Farmland Mapping and Monitoring Program, an analysis of agricultural land use and changes in land use throughout California is conducted every other year. Between the years of 1998 and 2006, the amount of prime farmland has steadily decreased primarily due to land use conversions. Table 4.8-6 identifies the acreages of Important Farmland in Contra Costa and San Joaquin Counties from 2002 through 2006. Prime farmland and farmland of statewide importance demonstrate the greatest declines in acreages from 2002 to 2006. Designation of new areas as unique farmland and farmland of statewide importance has resulted in net increases for these categories for San Joaquin County during this timeframe.

**Table 4.8-6.** Important Farmland Acreage in San Joaquin and Contra Costa Counties

Land Use Category	2002	2004	2006	2008
<b>San Joaquin County</b>				
Prime Farmland	416,307	412,548	407,609	n/a
Farmland of Statewide Importance	92,559	91,225	89,273	n/a
Unique Farmland	61,030	62,534	63,231	n/a
Farmland of Local Importance	56,506	57,808	59,957	n/a
<b>Contra Costa County</b>				
Prime Farmland	33,731	32,024	29,938	26,788
Farmland of Statewide Importance	9,733	8,547	8,092	7,555
Unique Farmland	4,450	3,929	3,589	3,123
Farmland of Local Importance	53,136	52,257	52,071	53,449

Note: 2006 farmland acreage is the most recent data for San Joaquin County.

Source: California Department of Conservation, Division of Land Resource Protection 2006, 2008.

## Environmental Commitments

To ensure continued habitat management and agricultural production on the Habitat Islands, the Project applicant will record conservation easements over Bouldin Island and Holland Tract lands controlled by DW Properties. The easements will be developed to be consistent with the HMP and will be recorded in San Joaquin County and Contra Costa County, respectively.

# Environmental Effects

## Methods

Land Use impacts were assessed based on how construction and operation of the Project alternatives would benefit or adversely affect existing residences and structures, adjacent land uses, and existing land uses. The Project alternatives also were evaluated for their consistency with land use designations and policies of the county general plans and zoning ordinances, DPC regional policies, and Williamson Act contracts.

Agricultural resources impact analysis focuses on the conversion of agricultural land and related changes in agricultural production. Agricultural land conversion impacts were evaluated through comparison between conditions under the Project alternatives and point-of-reference conditions described in the Affected Environment section.

## Significance Criteria

The land use and agriculture impact analysis considered several criteria for determining the significance of impacts related to this resource. The analysis took into account both relevant criteria contained in Appendix G of the State CEQA Guidelines (Association of Environmental Professionals 2009) and Project-specific criteria developed by the lead agency to address potential impacts unique to the Project's location and elements.

A Project alternative is considered to have a significant impact on land use if it would:

- displace existing residences and structures in areas where replacement housing is unavailable and landowners are not willing sellers;
- be incompatible with existing adjacent land uses;
- convert existing land use that involves an extreme change from one land use to a more intensive use;
- cause incompatibilities with existing Williamson Act contracts; or
- conflict with adopted and proposed plans and policies in the Project area.
- Impacts on agricultural lands would be considered significant if the Project would result in the conversion of prime farmland as classified by the California Department of Conservation to other uses.

In the 2001 FEIR and 2001 FEIS, changes in agriculture-related employment and farm income were evaluated in a separate chapter, "Economic Conditions and Effects," along with other economic effects potentially associated with implementation of the Project alternatives. In that evaluation, employment and income effects generated by the loss of agricultural use of the Project islands

were assessed to help determine the significance of the loss of agricultural land. Under CEQA, agencies are not required to evaluate economic or social effects. An assessment of the potential economic and social effects is not included in this Place of Use EIR. As such, an assessment of the changes in employment and income potentially resulting from changes in agricultural uses of the Project islands was not used to inform the agriculture impact analysis.

## Impacts and Mitigation Measures

The impacts to land use and agriculture resulting from implementation of the Project were described in detail in the 2001 FEIR and 2001 FEIS and are briefly summarized in Table 4.8-1. Where there have been no changes to the impact analysis, the 2001 FEIR and 2001 FEIS is incorporated by reference. Certain changes in the affected environment, such as crop changes, and changes in land ownership and occupancy, necessitate updating the impact analysis. None of these changes has resulted in new significant environmental effects or a substantial increase in the severity of previously identified significant effects on land use and agricultural resources.

As indicated in Table 4.8-1, the impacts previously identified in the 2001 FEIR and 2001 FEIS as Impact-1, “Displacement of Residences and Structures on Reservoir Islands” and Impact-2, “Displacement of Property Owners on Habitat Islands”, are no longer considered impacts. Property on the Bacon Island and Webb Tract is leased out for farming, but these leases are short-term and contemplate eventual conversion to water storage. As such, there would be no impact to residences, structures, or other property on the Reservoir Islands. Implementation of Alternative 1 would not require removal or relocation of existing structures on Bouldin Island or Holland Tract. Occupants currently residing on the four Project islands would need to relocate; however, housing opportunities in the local area are considered sufficient for those affected to be housed.

## Proposed Project (Alternative 2)

Alternative 2 involves storage of water on Bacon Island and Webb Tract (Reservoir Islands) and management of Bouldin Island and Holland Tract (Habitat Islands) primarily for wetlands and wildlife habitat. The Reservoir Islands would be managed primarily for water storage, with wildlife habitat and recreation constituting secondary uses.

## Conflicts with Adjacent Land Uses

### Bacon Island and Webb Tract

As discussed in the 2001 FEIR and 2001 FEIS, storage of water and associated recreational uses on Bacon Island and Webb Tract would not adversely affect adjacent land uses because the islands are buffered by levees and surrounding

waterways (see Section 4.3, Flood Control and Levee Stability, for more detail on levee structure). Thus, implementation of Alternative 2 is not expected to create nuisances that could affect or impair off-site agricultural or nonagricultural land uses.

Implementation of Alternative 2 without appropriate remedial measures could result in flooding of adjacent lands from seepage from Bacon Island onto surrounding islands. However, the Project applicant proposes seepage control measures as part of Alternative 2.

### **Bouldin Island and Holland Tract**

Habitat management on Bouldin Island and Holland Tract and associated recreational uses would not adversely affect adjacent land uses because the island is buffered by levees and surrounding waterways. Thus, Alternative 2 is not expected to create nuisances that could affect or impair off-site agricultural or urban land uses.

## **Consistency with Zoning and General Plan Designations**

### **Bacon Island**

In an AG zone, water storage is a permitted land use with a use permit. As noted previously, San Joaquin County requires a use permit for water storage projects of greater than six feet in depth, for storage of 30 days or more in any calendar year, on 500 acres or more of agricultural land in San Joaquin County. A use permit will be obtained if this ordinance applies to the Project.

All of Bacon Island is currently under Williamson Act contracts. These contracts are in nonrenewal and expire December 2012. San Joaquin County has preliminarily determined that Alternative 2 is consistent with the goals of the Williamson Act; submerged areas are considered “agricultural lands” in San Joaquin County under the Williamson Act (Jones & Stokes 2001b).

### **Webb Tract**

Water storage on Webb Tract would require rezoning to P-1, planned unit (Roche pers. comm.) and would require a development plan. According to Division 84, Chapter 84-66 of the County’s Code of Ordinances, “the P-1 district is intended to allow diversification in the relationship of various uses, buildings, structures, lot sizes and open space while insuring substantial compliance with the general plan and the intent of the county code in requiring adequate standards necessary to satisfy the requirements of the public health, safety and general welfare.” P-1 zoning would be consistent with the general plan and with the uses proposed under Alternative 2 (Roche pers. comm.).

As discussed in the 2001 FEIR and 2001 FEIS, Alternative 2 would be consistent with the Contra Costa County General Plan Delta Recreation and Resource land use designation, which allows for wildlife habitat and limited recreation. Conditional uses allowed under the Delta Recreation and Resources designation are limited to low- to medium-intensity establishments that do not rely on urban levels of service or infrastructure (i.e., a public water or sewer system, and which will not draw large concentrations of people to flood-prone areas. Because, as

part of the Project, the Project applicant would increase bottled-water delivery service, drill new wells, and incorporate water purification techniques to increase water supply at the recreation facilities, as well as install a new sewage disposal system at each facility consistent with Contra Costa County requirements, the recreational uses proposed under Alternative 2 could be considered low- to medium-intensity. As such, a conditional use permit would be required. Rezoning to P-1 and a development plan would be required for higher-intensity recreational uses (Roche pers. comm.).

Lands zoned A-4 would remain in this district as Williamson Act lands. However, the parcel currently under Williamson Act contract is in nonrenewal and the contract expires November, 2012 (Contra Costa County 2007). Contra Costa County has preliminarily determined that the water component of Alternative 2 is consistent with the current Williamson Act contract and the existing agricultural use (Jones & Stokes 2001b). Water storage is a compatible use under the Williamson Act. Therefore, Alternative 2 would be compatible with the existing Williamson Act contract on Webb Tract.

### **Bouldin Island**

As discussed in the 2001 FEIR and 2001 FEIS, Alternative 2 is considered consistent with San Joaquin County zoning and general plan designations because it retains open space values and encourages the multiple uses of open space (Jones & Stokes 2001b). The entire land area of Bouldin Island is under Williamson Act contracts; these contracts are in nonrenewal and expire December 2012. Based on a preliminary evaluation by San Joaquin County, Alternative 2 would be consistent with the open space preservation goals of the Williamson Act and is consistent with the SJCGP open space/conservation element and AG land use designation (Jones & Stokes 2001b). Therefore, Alternative 2 would have no effect on Williamson Act contracts.

### **Holland Tract**

As discussed in the 2001 FEIR and 2001 FEIS, the habitat management component of Alternative 2 is consistent with the Contra Costa County General Plan Delta Recreation and Resources land use designation and with the agricultural zoning on Holland Tract because the Project would provide uses compatible with agriculture. As discussed for Webb Tract, a conditional use permit would be required for the proposed recreational facilities on Holland Tract. Holland Tract has no parcels under Williamson Act contract (Contra Costa County 2007).

## **Consistency with General Plan Policies and Delta Protection Commission Land Use Plan Principles**

A detailed discussion of the consistency of Alternative 2 with pertinent general plan policies of Contra Costa County or San Joaquin County and land use plan principles of the Delta Protection Commission was provided in the 2001 FEIR. Because the Delta Protection Commission recently has revised and updated the LURMP, the Project's consistency with the LURMP was reexamined in light of policy revisions. However, the impact (Impact LU-1) has not changed. The consistency conclusions are briefly presented here in Table 4.8-7.

**Table 4.8-7.** Consistency of the Proposed Project with Relevant General Plan and Delta Protection Commission Objectives, Goals, and Policies

Goal/Objective/Policy	Consistency
<b>SAN JOAQUIN COUNTY GENERAL PLAN</b>	
<b>Agriculture Principles</b>	
<p><u>Objective 1</u> To protect agricultural lands needed for the continuation of commercial agricultural enterprises, small-scale farming operations, and the preservation of open space.</p>	<p><u>Consistent</u> The Proposed Project would protect agricultural lands for the preservation of open space. Both water storage and habitat management are open space uses.</p>
<p><u>Policy 1</u> The following agricultural land use categories shall be established to promote a range of agricultural activities and preserve open space: General Agriculture, Limited Agriculture, and Agriculture-Urban Reserve.</p>	<p><u>Consistent</u> The Proposed Project would be consistent with the General Agriculture designation on Bouldin and Bacon Islands.</p>
<p><u>Policy 5</u> Agricultural areas shall be used principally for crop production, ranching, and grazing. All agricultural support activities and nonfarm uses shall be compatible with agricultural operations and shall satisfy the following criteria: (a) The use requires a location in an agricultural area because of unusual site area requirements, operational characteristics, resource orientation, or because it is providing a service to the surrounding agricultural area; (b) The operational characteristics of the use will not have a detrimental impact on the management or use of surrounding agricultural properties; (c) The use will be sited to minimize any disruption to the surrounding agricultural operations; and (d) The use will not significantly impact transportation facilities, increase air pollution, or increase fuel consumption.</p>	<p><u>Consistent</u> Water storage and habitat management are both compatible nonfarm uses. Both proposed uses require location in the Delta area, and neither would have a detrimental effect on surrounding agricultural properties or would result in significant air and transportation impacts (see Sections 4.4, Utilities and Highways; 4.10, Traffic; and 4.13, Air Quality).</p>
<p><u>Policy 6</u> All lands designated for agricultural uses and those lands designated for nonagricultural use but not needed for development for 10 years 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 in the case of nonprime land.</p>	<p><u>Consistent</u> The Proposed Project would be consistent with existing Williamson Act contracts in San Joaquin County.</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<p><u>Policy 7</u>                      There shall be no further fragmentation of land designated for agricultural use, except in the following cases:                      (a) Parcels for homesites may be created, provided that the General Plan density is not exceeded.                      (b) A parcel may be created for the purpose of separating existing dwellings on a lot, provided the Development Title regulations are met.                      (c) A parcel may be created for a use granted by a permit in the AG zone, provided that conflicts with surrounding agricultural operations are mitigated.</p>	<p><u>Consistent</u>                      The Proposed Project would not lead to fragmentation of existing parcels.</p>
<b>Open Space Principles</b>	
<p><u>Objective 1</u>                      To preserve open space land for the continuation of commercial agricultural and productive uses, the enjoyment of scenic beauty and recreation, the protection and use of natural resources, and for protection from natural hazards.</p>	<p><u>Consistent</u>                      The Proposed Project would provide recreation opportunities, flood control, and protection of natural resources in the Delta.</p>
<p><u>Policy 4</u>                      Areas with serious development constraints, such as the Delta, should be predominantly maintained as open space.</p>	<p><u>Consistent</u>                      The Proposed Project would maintain the islands in water storage and habitat management, consistent with the county's open space definition.</p>
<p><u>Policy 6</u>                      The County shall consider waterways, levees, and utility corridors as major elements of the open space network and shall encourage their use for recreation and trails in appropriate areas.</p>	<p><u>Consistent</u>                      The Proposed Project would promote recreational use along levees.</p>
<b>Recreation Principles</b>	
<p><u>Objective 2</u>                      To protect the diverse resources upon which recreation is based, such as waterways, marsh lands, wildlife habitats, unique land and scenic features, and historical and cultural sites.</p>	<p><u>Consistent</u>                      The Proposed Project would involve management of the Habitat Islands to protect and restore wildlife habitat.</p>
<p><u>Objective 3</u>                      To ensure the preservation of the Delta and the opportunity for the public to learn about and enjoy this unique recreation resource.</p>	<p><u>Consistent</u>                      The Proposed Project would provide new recreation opportunities in the Delta. Recreation facilities on the Project islands may or may not be publicly accessible; however, the proposed Project would provide opportunities and improve the setting for waterfowl hunting, bird watching, and other recreation activities in the Delta by enhancing the regional habitat value for wildlife in the Delta (see Section 4.6, Wildlife).</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<p><u>Policy 7</u> Natural features shall be preserved in recreation areas, and opportunities to experience natural settings shall be provided.</p>	<p><u>Consistent</u> Implementation of the Proposed Project would provide recreation opportunities in resource management areas in the Delta.</p>
<p><u>Policy 15</u> The recreational values of the Delta, the Mokelumne River, and the Stanislaus River shall be protected.</p>	<p><u>Consistent</u> Same as above.</p>
<p><u>Policy 19</u> Development in the Delta islands shall generally be limited to water-dependent uses, recreation, and agricultural uses.</p>	<p><u>Consistent</u> Under the Proposed Project, the islands would be managed for recreation, wildlife, and water storage.</p>
<b>Vegetation and Wildlife Principles</b>	
<p><u>Objective 2</u> To provide undeveloped open space for nature study, protection of Endangered species, and preservation of wildlife habitat.</p>	<p><u>Consistent</u> Habitat management under the Proposed Project would provide open space for nature study, protection of Endangered species, and preservation of wildlife habitat.</p>
<p><u>Policy 1</u> Resources of significant biological and ecological importance in San Joaquin County shall be protected. These include wetlands; riparian areas; rare, threatened, and endangered species and their habitats as well as potentially rare or commercially important species; vernal pools; significant oak groves; and heritage trees.</p>	<p><u>Consistent</u> Habitat management under the Proposed Project would establish and protect wetlands, riparian areas, and habitats for listed species.</p>
<p><u>Policy 7</u> The County shall support feeding areas and winter habitat for migratory waterfowl.</p>	<p><u>Consistent</u> Same as above.</p>
<p><u>Policy 14</u> The County shall support the establishment and maintenance of ecological preserves and accessibility to areas for nature study.</p>	<p><u>Consistent</u> Same as above.</p>

Goal/Objective/Policy	Consistency
<b>CONTRA COSTA COUNTY GENERAL PLAN</b>	
<b>Conservation Principles</b>	
<p><u>Policy 8-2</u> Areas that are highly suited to prime agricultural production shall be protected and preserved for agriculture, and standards for protecting the viability of agricultural land shall be established.</p>	<p><u>Inconsistent</u> Implementation of the Proposed Project would remove agricultural land in Contra Costa County from production. The inherent agricultural productivity of the islands would not change because of the use of prime agricultural land for water storage and habitat management. Project implementation would not be consistent with the county’s policy of preserving lands for agricultural production.</p>
<p><u>Policy 8-3</u> Watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.</p>	<p><u>Consistent</u> The Proposed Project would enhance and preserve habitat values on Holland Tract.</p>
<b>Agriculture Principles</b>	
<p><u>Goal 8-G</u> To encourage and enhance agriculture, and to maintain and promote a healthy and competitive agricultural economy.</p>	<p><u>Inconsistent</u> Implementation of the Proposed Project would remove agricultural land in Contra Costa County from production; this is not consistent with the county's goal to promote a competitive agricultural economy.</p>
<p><u>Goal 8-H</u> To conserve prime productive agricultural land outside the Urban Limit Line exclusively for agriculture.</p>	<p><u>Consistent</u> Implementation of the Proposed Project would remove agricultural land in Contra Costa County from production; however, Contra Costa County does not consider the Class III and IV soils in Holland and Webb Tracts to represent prime farmland. Therefore, the conversion of farmlands on these islands is not considered inconsistent with the county’s policy of preserving prime agricultural lands for agricultural production.</p>
<p><u>Policy 8-38</u> Agricultural operations shall be protected and enhanced through encouragement of Williamson Act contracts to retain designated areas in agricultural use.</p>	<p><u>Consistent</u> The Proposed Project would not affect existing Williamson Act contracts on Project islands.</p>
<p><u>Policy 8-39</u> A full range of agriculturally related uses shall be allowed and encouraged in agricultural areas.</p>	<p><u>Consistent</u> Water storage and habitat management are considered agriculture-related uses.</p>
<p><u>Policy 8-45</u> Efforts to assure an adequate, high quality and fairly priced water supply to irrigated agricultural areas shall be supported.</p>	<p><u>Consistent</u> A purpose of the Proposed Project is to increase the availability of high-quality water through the Delta.</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<p><u>Policy 8-46</u> Maintenance and reconstruction of Delta levees shall be encouraged to assure the continued availability of valuable agricultural land protected by the existing network of levees and related facilities.</p>	<p><u>Consistent</u> The Proposed Project would enhance the existing levee system on the water storage islands.</p>
<b>Vegetation and Wildlife Principles</b>	
<p><u>Goal 8-D</u> To protect ecologically significant lands, wetlands, and plant and wildlife habitats.</p>	<p><u>Consistent</u> A purpose of the Proposed Project is to increase the extent and value of wildlife habitat in the Delta.</p>
<p><u>Goal 8-F</u> To encourage the preservation and restoration of the natural characteristics of the San Francisco Bay/Delta estuary and adjacent lands, and recognize the role of Bay vegetation and water area in maintaining favorable climate, air and water quality, and fisheries and migratory waterfowl.</p>	<p><u>Consistent</u> Same as above.</p>
<p><u>Policy 8-17</u> The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and Delta, shall be recognized. Existing wetlands in the county shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.</p>	<p><u>Consistent</u> Same as above.</p>
<b>Open Space Principles</b>	
<p><u>Policy 9-2</u> Historic and scenic features, watersheds, natural waterways, and areas important for the maintenance of natural vegetation and wildlife populations shall be preserved and enhanced.</p>	<p><u>Partially Inconsistent</u> The Proposed Project would affect scenic waterways along the Project islands. In other areas, however, the proposed Project would enhance wildlife habitat. See Sections 4.9, Recreation and Visual Resources, and 4.6, Vegetation and Wetlands, for more information on these effects of the Proposed Project.</p>
<p><u>Policy 9-28</u> Maintenance of the scenic waterways of the county shall be ensured through public protection of the marshes and riparian vegetation along the shorelines and Delta levees, as otherwise specified in this plan.</p>	<p><u>Inconsistent</u> Riparian habitat on Delta levees will be affected by the Proposed Project. See Section 4.9, Recreation and Visual Resources, for an analysis of impacts on scenic waterways.</p>
<p><u>Policy 9-44</u> As a unique resource of statewide importance, the Delta shall be developed for recreation use in accordance with the state environmental goals and policies. The recreational value of the Delta shall be protected and enhanced.</p>	<p><u>Consistent</u> A purpose of the Proposed Project is to provide regional recreation opportunities.</p>

Goal/Objective/Policy	Consistency
<b>DELTA PROTECTION COMMISSION—LAND USE AND RESOURCE MANAGEMENT PLAN FOR THE PRIMARY ZONE OF THE DELTA</b>	
<b>Natural Resources</b>	
<p><u>Policy P-3</u> Lands managed primarily for wildlife habitat shall be managed to maximize ecological values. Appropriate programs, such as “Coordinated Resource Management and Planning” (Public Resources Code Section 9408[c]) should ensure full participation by local government and property owner representatives.</p>	<p><u>Consistent</u> Habitat management under the Proposed Project would provide open space, protection of Endangered species, and preservation of wildlife habitat. Bouldin Island and Holland Tract would be managed to provide breeding and foraging habitat for several wildlife species groups.</p>
<p><u>Policy P-5</u> Preserve and protect the viability of agricultural areas by including an adequate financial mechanism in any planned conversion of agricultural lands to wildlife habitat for conservation purposes. The financial mechanism shall specifically offset the loss of local government and special district revenues necessary to support public services and infrastructure.</p>	<p><u>Consistent</u> The conversion of land under the Proposed Project would not change the land use characterization of the land, and thus would not result in loss of local government and special district revenues.</p>
<p><u>Policy P-6</u> Support the implementation of appropriate buffers, management plans and/or good neighbor policies (e.g., safe harbor agreements) that among other things, limit liability for incidental take associated with adjacent agricultural and recreational activities within lands converted to wildlife habitat to ensure the ongoing agricultural and recreational operations adjacent to the converted lands are not negatively affected.</p>	<p><u>Consistent</u> Conversion of agricultural lands to wildlife habitat on Bouldin Island and Holland Tract would not negatively affect adjacent land uses because the islands are buffered by levees and surrounding waterways. As such, the Proposed Project is not expected to create nuisances that could affect or impair off-site agricultural or urban land uses.</p>
<p><u>Policy P-10</u> Ensure that design, construction, and management of any flooding program to provide seasonal wildlife and aquatic habitat on agricultural lands, duck club lands and additional seasonal and tidal wetlands, shall incorporate “best management practices” to minimize vectors including mosquito breeding opportunities, and shall be coordinated with the local vector control districts, (each of four vector control districts in the Delta provides specific wetland/mosquito management criteria to landowners within their district.)</p>	<p><u>Consistent</u> The Project applicant, California Department of Fish and Game, and the Habitat Management Advisory Council would consult and coordinate with the appropriate vector control districts during all phases of the Proposed Project, including design, implementation, and operations, and the Habitat Management Plan would be updated in accordance with the best management practices identified in the Central Valley Joint Venture’s Technical guide to Best Management Practices for Mosquito Control in Managed Wetlands design and management of constructed wetlands published by the Central Valley Joint Venture, California Department of Health Services, and Sacramento-Yolo Mosquito and Vector Control District.</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<b>Utilities and Infrastructure Policies</b>	
<p><u>Policy P-2</u>                      Ensure that new houses built in the Delta agricultural areas but outside of the Delta’s unincorporated towns continue to be served by independent potable water and wastewater treatment facilities and/or septic systems. Agricultural uses that require wastewater treatment shall provide adequate infrastructure improvements or pay to expand existing facilities, and not overburden the existing limited community resources. The appropriate governing body shall ensure that new or expanded construction of agriculturally-oriented wastewater disposal systems meet the appropriate standards/conditions and are not residentially growth inducing. Independent treatment facilities should be monitored to ensure no cumulative adverse impact to groundwater supplies.</p>	<p><u>Consistent</u>                      Drinking water for recreation facilities would be imported as needed or supplied using onsite treatment subject to county and state standards. Sewer disposal would comply with the requirements of the CVRWQCB. A private solid waste collection agency certified to operate in Contra Costa and San Joaquin Counties would be contracted to serve the recreation facilities.</p>
<b>Land Use Policies</b>	
<p><u>Policy P-6</u>                      Subsidence control shall be a key factor in evaluating land use proposals. Encourage agricultural, land management, recreational, and wildlife management practices that minimize subsidence of peat soils. Local governments should utilize studies of agricultural and land management methods that minimize subsidence and should assist in educating landowners and managers as to the value of utilizing these methods.</p>	<p><u>Consistent</u>                      Implementation of the Proposed Project would diminish current subsidence rates.</p>
<p><u>Policy P-7</u>                      New structures shall be set back from levees and areas that may be needed for future levee expansion consistent with local reclamation district regulations and, upon adoption, with the requirements to be identified in the California Department of Water Resources Central Valley Flood Control Plan.</p>	<p><u>Consistent</u>                      The Proposed Project would improve levees on all four Project islands. Although recreational facilities would be located adjacent to the levee crest, they would not interfere with future levee expansion.</p>
<p><u>Policy P-14</u>                      The conversion of an agricultural parcel, parcels, and/or agricultural island for water impoundment, including reservoirs, water conveyance or wetland development may no result in the seepage of water onto or under the adjacent parcel, parcels, and/or island. These conversions shall mitigate the risks and adverse effects associated with seepage, levee stability, subsidence, and levee erosion, and shall be consistent with the goals of this Plan.</p>	<p><u>Consistent</u>                      The Proposed Project would improve levees on all four Project islands. As described in Section 4.3, Flood Control and Levee Stability, Reservoir Island levees will be designed to include a core trench and interceptor well system to provide a levee seepage barrier. In addition, the Project applicant would implement a seepage monitoring program to provide early detection of seepage problems caused by Project operations.</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<b>Agriculture Policies</b>	
<p><u>Policy P-1</u> Support and encourage agriculture in the Delta as a key element in the State's economy and in providing the food supply needed to sustain the increasing population of the State, the Nation, and the world.</p>	<p><u>Inconsistent</u> Implementation of the Proposed Project would result in land being removed from agricultural production.</p>
<p><u>Policy P-2</u> Conversion of land to non-agriculturally-oriented uses should occur first where productivity and agricultural values are lowest.</p>	<p><u>Inconsistent</u> Implementation of the Proposed Project would convert a substantial number of acres of prime farmland in the Delta to non-agricultural use and would result in productive agricultural land being removed from production in the long term (50 years).</p>
<p><u>Policy P-6</u> Encourage acquisition of agricultural conservation easements from willing sellers as mitigation for projects within each county. Promote use of environmental mitigation in agricultural areas only when it is consistent and compatible with ongoing agricultural operations and when developed in appropriate locations designated on a countywide or Delta-wide habitat management plan.</p>	<p><u>Consistent</u> Agricultural conservation easements would be placed on Bouldin Island and Holland Tract.</p>
<p><u>Policy P-7</u> Encourage management of agricultural lands which maximize wildlife habitat seasonally and year-round, through techniques such as sequential flooding in fall and winter, leaving crop residue, creation of mosaic of small grains and flooded areas, controlling predators, controlling poaching, controlling public access, and others.</p>	<p><u>Consistent</u> Agricultural fields on the Habitat Islands will be managed to maximize wildlife habitat values. Requirements specified in the Habitat Management Plan call for the provision of high-value foraging habitat for wintering waterfowl through creation of fields of corn rotated with wheat, mixed agriculture/seasonal wetland, seasonal managed wetland, and pasture/hay fields.</p>
<p><u>Policy P-8</u> Encourage the protection of agricultural areas, recreational resources and sensitive biological habitats, and the reclamation of those areas from the destruction caused by inundation.</p>	<p><u>Partially Inconsistent</u> Although the Proposed Project would inundate agricultural land in the Delta during periods of storage, the Project would provide a net benefit to overall flood protection in the Delta.</p>
<b>Water Policies</b>	
<p><u>Policy P-1</u> State, federal and local agencies shall be strongly encouraged to preserve and protect the water quality of the Delta both for in-stream purposes and for human use and consumption.</p>	<p><u>Consistent</u> Implementation of the Proposed Project would require ongoing consultation with water agencies at the state, federal, and local levels. The final operations criteria and other reasonable prudent measures adopted as part of the Endangered Species Act consultation process include restrictions on Project operations to minimize effects on aquatic habitat and fish. Project effects on drinking water quality would be reduced to a less-than-significant level through the implementation of the mitigation measures.</p>

<b>Goal/Objective/Policy</b>	<b>Consistency</b>
<p><u>Policy P-2</u>                      Ensure that Delta water rights and water contracts are respected and protected, including area of origin water rights and riparian water rights.</p>	<p><u>Consistent</u>                      The four Project islands have existing riparian and appropriative water rights to use a reasonable quantity of water from Delta channels for agricultural and other beneficial purposes of about 44 taf.</p>
<p><b>Recreation and Access Policies</b></p>	
<p><u>Policy P-2</u>                      Encourage expansion of existing privately-owned, water-oriented recreation and access facilities that are consistent with local General Plans, zoning regulations and standards.</p>	<p><u>Inconsistent</u>                      Implementation of the Proposed Project would include the construction of new private recreation facilities in the Delta.</p>
<p><b>Levee Policies</b></p>	
<p><u>Policy P-9</u>                      Support a minimum Delta-specific levee design standard as established by state and federal regulation.</p>	<p><u>Consistent</u>                      Reservoir and Habitat Island levees would be designed to meet or exceed PL84-99 standards. CALFED and the California Department of Water Resources have adopted PL84-99 as the preferred design standard for Delta levees.</p>
<p>Sources: San Joaquin County Community Development Department 1992; Contra Costa County Community Development Department 2005; Delta Protection Commission 2010.</p>	

### **Impact LU-1: Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation**

Implementation of Alternative 2 would convert a total of 6,534 acres of farmland (prime and unique farmland, and farmland of statewide and local importance) on Webb and Holland Tracts to water storage and habitat uses, respectively (Table 4.8-8). This conversion, and subsequent loss of agricultural production, is not consistent with the county's agricultural principles to maintain and promote a healthy and competitive agricultural economy or to protect and preserve areas suited to prime agricultural production (Table 4.8-7). Although the inherent agricultural productivity of the islands would not be significantly changed by the use of agricultural land for water storage or habitat management, the proposed use is not consistent with these general plan principles.

Removing land from agricultural production is inconsistent with the DPC's agricultural policy to support and encourage agriculture in the Delta as a key element in the state's economy. It is partially inconsistent with DPC's agricultural policy to protect agricultural areas from inundation as the Project would flood agricultural land in the Delta during periods of storage; however, the Project also would provide a net benefit to the overall flood protection in the Delta. In addition, because a substantial number of acres of prime farmland would be converted to non-agricultural use, it is inconsistent with the DPC's agricultural policy that indicates that conversion of land to non-agriculture-oriented uses should occur where productivity and agricultural values are lowest. Additionally, the construction of the new recreation facilities on the Project islands is inconsistent with the DPC's recreation principle for private, water-oriented commercial recreational facilities, which encourages the expansion of existing private water-oriented facilities over construction of new recreations facilities. This impact is considered significant and unavoidable.

#### **Mitigation**

No mitigation is available to reduce this impact to a less-than-significant level.

## **Long-Term Conversion of Agricultural Land**

### **Bacon Island**

Implementation of Alternative 2 would remove an estimated 5,570 acres of Class III soils on Bacon Island from agricultural uses on a long-term basis (for the life of the Project) (Table 4.8-4). Under the CDC IFM classification system, an estimated 5,151 acres on Bacon Island have been designated prime farmland, 102 acres have been designated farmland of statewide importance, and 10 acres have been designated farmland of local importance (Table 4.8-5). Implementation of Alternative 2 would remove these lands from agricultural use for the life of the Project.

An estimated 4,859 acres, excluding 14 acres of fallow land, were in agricultural use on Bacon Island in 2008 (Table 4.8-2). This land represented an estimated

0.64% of harvested acreage in San Joaquin County in 2007 (San Joaquin County Office of the Agricultural Commissioner 2008).

As discussed in the “Affected Environment” section, Bacon Island produced the following percentages of the crops produced in San Joaquin County, based on 2007 countywide production levels in tons: wheat, 4%; corn, 2.3%; and alfalfa, 2.6%; (San Joaquin County Office of the Agricultural Commissioner 2008). Although oats and sunflower were also grown on Bacon Island in 2008, production estimates are not presented here because these crops were not included in the 2007 crop report for San Joaquin County. The removal of land on Bacon Island from agricultural uses would reduce the countywide production of these crops. Over the long term, agricultural production on the island may become infeasible even without Project implementation because of subsidence and increased likelihood of levee failure (Mount and Twiss 2005; Lund et al. 2007).

### **Webb Tract**

Implementation of Alternative 2 would remove an estimated 5,140 acres of Class III soils and 275 acres of Class IV soils on Webb Tract from agricultural uses on a long term basis (for the life of the Project). The CDC has designated an estimated 4,374 acres on Webb Tract as prime farmland, 127 acres as farmland of statewide importance, 86 acres as unique farmland, and 735 acres as farmland of local importance. Implementation of Alternative 2 would remove these lands from agricultural uses for the life of the Project.

An estimated 4,000 acres, excluding 87 acres of fallow land, were in agricultural use on Webb Tract in 2008. This land represented an estimated 2% of acreage harvested in Contra Costa County in 2007 (Contra Costa County Department of Agriculture 2008).

Removing the land from agricultural use would result in the loss of agricultural production on Webb Tract for the life of the Project. In 2008, Webb Tract produced approximately 55% of Contra Costa County’s field corn crop, based on estimated total yield (tons). The loss of Webb Tract’s agricultural production would substantially reduce the countywide production of this crop.

### **Bouldin Island**

Implementation of Alternative 2 would convert much of Bouldin Island to nonagricultural uses (i.e., wildlife habitat). Approximately 2,831 acres of prime farmland and 8 acres of farmland of statewide importance would remain in use as agriculture (grains and pasture) for wildlife habitat, as described below, as part of the HMP. Because it has not yet been determined precisely where each crop would be planted on Bouldin Island, these acreage values as they apply to important farmland types are preliminary. In total, approximately 2,981 acres of prime farmland, 42 acres of farmland of statewide importance, and 4 acres of unique farmland would be converted under Alternative 2 to nonagricultural use (Table 4.8-8).

In 2008, an estimated 4,933 acres were in agricultural use on Bouldin Island (Table 4.8-2). Under Alternative 2 as part of the HMP, some portions of Bouldin

Island would be planted, primarily in grain crops, to enhance wildlife habitat. As shown in Table 4.8-9, an estimated 1,867 acres would be planted in corn, wheat, pasture, and barley; an estimated 1,195 acres would be harvested for sale. Approximately 1,014 acres would be planted as mixed agriculture/seasonal wetland but would not be harvested.

The sale of grain crops planted for wildlife habitat would partially offset the loss of agricultural production on Bouldin Island; however, overall crop production on the island would be reduced by implementation of Alternative 2. The effect of this alternative on crop production on Bouldin Island includes the net loss of an estimated 15,344 tons of corn, 2,697 tons of rice, and 8,492 tons of tomatoes, and the net gain of an estimated 805 tons of wheat, 119 acres of pasture, and 13 acres of barley<sup>1</sup>. The crop reductions (based on 2007 countywide production levels) represent approximately 4% of San Joaquin County's corn crop, 12 % of the county's rice crop, and 0.6% of the county's tomato crop. The crop gains would represent approximately 2% of the county's wheat crop, and an unknown percentage of the county's barley crop<sup>1</sup> and harvested pasture<sup>2</sup> (based on 2007 countywide production levels).

### **Holland Tract**

Under Alternative 2, portions of Holland Tract would be excluded from the Project. Nonproject areas on Holland Tract would include marina properties, the 857 acres of parcels on the southwestern corner of the island, the 263-acre Wildlands parcel, and several small parcels along the levee held by outside interests. Approximately 1,179 acres within the Project area would be planted in grain crops (corn, wheat, and barley) and pasture to enhance wildlife habitat, with an estimated 741 acres harvested for sale (Table 4.8-9). Approximately 631 acres would be planted as mixed agriculture/seasonal wetlands but would not be harvested.

Implementation of Alternative 2 would convert an estimated 1,212 acres of farmland to nonagricultural uses (excluding 1,120 nonproject acres and 1,808 acres planted in grain crops, pasture, and mixed agriculture/seasonal wetlands) (Table 4.8-8). An estimated 1,212 acres of land designated as farmland of local importance by the CDC would be converted to nonagricultural uses on Holland Tract. (Table 4.8-8.)

An estimated 2,884 acres were used for pasture on Holland Tract in 2008, and no crops were planted (Table 4.8-2). Implementation of Alternative 2 would change cropping patterns within the Project area on Holland Tract and would result in a net increase in crop production because no harvested crops are currently grown on Holland Tract. The harvest and sale of grain crops planted for wildlife habitat under Alternative 2 would result in the net gain of 1,862 tons of corn, 281 tons of

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<sup>1</sup> San Joaquin County's 2007 Agricultural Report does not provide production data for barley; therefore, an estimate for the barley yield on Bouldin Island and percentage increase in countywide barley production (harvested acreage [tons] resulting from the implementation of Alternative 1 could not be provided.

<sup>2</sup> San Joaquin County's 2006/2007 agricultural report reports pasture production in combination with range land production, not as a separate crop; therefore, a percentage increase in the county's pasture production resulting from the implementation of Alternative 1 could not be provided.

wheat, 19 acres of barley<sup>3</sup>, and 184 harvested acres of pasture in Contra Costa County. The crop gains (based on 2007 countywide harvested acreage) would represent approximately 7% of the county's corn crop, 14% of the county's wheat crop, 3% of the county's pasture, and an unknown percentage of the county's barley crop<sup>3</sup>.

**Table 4.8-8.** Estimated Acreage of Farmland Converted under Alternatives 1 or 2

	Bacon Island	Webb Tract	Bouldin Island <sup>a</sup>	Holland Tract <sup>b</sup>	All Islands
<b>San Joaquin County</b>					
Prime Farmland	5,151		2,981		8,132
Farmland of Statewide Importance	102		42		144
Unique Farmland	0		4		4
Farmland of Local Importance	10		0		10
<b>Contra Costa County</b>					
Prime Farmland		4,374		0	4,374
Farmland of Statewide Importance		127		0	127
Unique Farmland		86		0	86
Farmland of Local Importance		735		1,212	1,947
<b>Total</b>	<b>5,263</b>	<b>5,322</b>	<b>3,027</b>	<b>1,212</b>	<b>14,824</b>

Note: Inconsistencies in acreages are the result of rounding and conversion of 1995 and 2000 data (Jones & Stokes 1995 and 2001b) to GIS.

- <sup>a</sup> Under Alternative 1 or 2, approximately 2,831 acres of prime farmland, and 8 acres of farmland of statewide importance would be planted in grain crops (corn, wheat, and barley), pasture, and mixed agriculture/seasonal wetlands on Bouldin Island. These acreages are excluded here.
- <sup>b</sup> Under Alternative 1 or 2, approximately 1,809 acres of farmland of local importance would be planted in grain crops (corn, wheat, and barley), pasture, and mixed agriculture/seasonal wetlands on Holland Tract. These acreages are excluded here.

<sup>3</sup> Contra Costa County's 2006/2007 agricultural report does not provide production data for barley; therefore, an estimate for the yield and percentage increase in barley on Holland Tract resulting from the implementation of Alternative 1 could not be provided.

**Table 4.8-9.** Projected Crop Production on the Project Islands under Alternatives 1 and 2

Crop	Bouldin Island				Holland Tract <sup>a</sup>				Total		
	Acres Planted	Acres Harvested <sup>b</sup>	Yield (tons per acre)	Total Yield (tons)	Acres Planted	Acres Harvested <sup>b</sup>	Yield (tons per acre)	Total Yield (tons)	Acres Planted	Acres Harvested <sup>b</sup>	Total Yield (tons)
Corn	1,222	819	4.73	3,874	716	480	3.88	1,862	1,938	1,299	5,736
Wheat <sup>c</sup>	487	244	3.3	805	353	177	1.59	281	840	421	1,087
Barley	26	13	N/A	N/A	38	19	N/A	N/A	64	32	N/A
Pasture	132	119	N/A	N/A	72	65	N/A	N/A	204	184	N/A
Mixed agriculture/ seasonal wetlands	1,014	N/A	N/A	N/A	631	N/A	N/A	N/A	1,645	N/A	N/A
<b>Total</b>	<b>2,881</b>	<b>1,195</b>			<b>1,810</b>	<b>741</b>			<b>4,691</b>	<b>1,936</b>	

Sources: Planted acreage projections: Jones & Stokes Assoc. 1995, Appendix G3, “Habitat Management Plan for the Delta Wetlands Habitat Islands.” Average yield projections: San Joaquin County Office of the Agricultural Commissioner 2008; Contra Costa County Department of Agriculture 2008.

Note: Represents acreages of crops planted for wildlife habitat. No crops would be planted on Bacon Island and Webb Tract. These acreages are based on the draft HMP and may be revised in the final HMP. Inconsistencies in acreages are the result of rounding and conversion of 1995 and 2000 data (Jones & Stokes 1995 and 2001b) to GIS.

- <sup>a</sup> Excludes crops grown on 1,120 acres on nonproject Holland Tract lands.
- <sup>b</sup> Represents acreages of crops that would be harvested and sold.
- <sup>c</sup> Includes spring and winter wheat.
- <sup>d</sup> Acreage devoted to mixed agricultural/seasonal wetland would not be harvested.

**Impact LU-2: Direct Conversion of Agricultural Land**

Implementation of Alternative 2 would convert an estimated 14,824 acres of farmland (prime and unique farmland, and farmland of statewide and local importance) to nonagricultural uses on the four Project islands (Table 4.8-8). As indicated in Table 4.8-9, an estimated 4,691 acres total on Holland Tract and Bouldin Island would be planted in grain crops, pasture, and mixed agriculture/wetlands to enhance wildlife habitat. This acreage is excluded from the total converted acreage, as is the 1,120 nonproject acres on Holland Tract.

The direct conversion of an estimated 14,824 acres of farmland is considered significant because it is a substantial acreage and includes 12,506 acres of prime farmland.

The impact of converting prime farmland, farmland of statewide importance, unique farmland, and farmland of local importance and resulting losses in agricultural production would be attenuated by some of the Project features and actions. These are:

- enhancing in-Delta recreation opportunities,
- enhancing the sustainability of agriculture within the place of use of water supplied by the Project,
- restoring agricultural production on Project islands used for water storage purposes, and
- contributing to the sustainability of in-Delta agriculture.

One measure of the value of the loss of farmland is the loss of agricultural production and the potential and resulting adverse impact on employment and income. As shown in Table 4.8-2, agricultural production on the Project islands is primarily limited to the production of grain, seed, and forage crops. Removing these lands would result in a reduction in agricultural-related economic activity. Because planting and harvesting grain, seed, and forage crops is highly mechanized, the employment and income losses attributable to no longer producing these crops would be small when compared to agricultural-related employment in San Joaquin and Contra Costa County.

**In-Delta Recreation Opportunities**

The Project would enhance water-dependent and water-enhanced recreation opportunities occurring within the Delta. The increase in hunting, fishing, and boating activity would benefit the regional economy as recreationists make expenditures for food, fuel, lodging, and equipment that they would not have otherwise made. However, if Mitigation Measure REC-MM-1 is implemented, recreation opportunities would be substantially reduced.

**Enhancing Sustainability of Agriculture Occurring in the Place of Use**

Agriculture in San Joaquin Valley would benefit under Alternative 2 by providing water to designated places of use (Chapter 2, "Project Description"). For example, through its partnership with Semitropic, the Project would provide benefits to landowners and agricultural production within Semitropic's service

areas. Semitropic provides water to irrigate approximately 140,000 acres for agricultural uses in Kern County. Water delivered to Semitropic from the Project would augment Semitropic's groundwater and SWP water supplies. Storage of Project water within the Semitropic groundwater bank would benefit agricultural operations both within and outside of Semitropic's service area by enhancing water supply reliability and in turn increasing the sustainability of agriculture within the San Joaquin Valley.

### **Restoring Agricultural Production on Project Islands**

As discussed in Chapter 2 "Project Description", agricultural production would be eliminated from Project's Reservoir Islands. However, the conversion of these agricultural lands is not considered irreversible. Once the Project ceases operation, the Reservoir Islands would be made available for agricultural production. Use of the Project islands for water storage activities is not expected to have an adverse impact on the productive capabilities of island soils.

### **Enhancing Sustainability of In-Delta Agriculture**

The Project's impact on agricultural land would be further offset by the Project's environmental commitment to place agricultural production easements on Habitat Islands (Chapter 2 "Project Description") and enhancing the stability of levees on Project islands. Enhancing the stability of the Project's levees would help benefit agriculture by reducing the threat of levee failure on the Habitat Islands and other islands within the Delta that also support agriculture.

The direct conversion of agricultural land is considered a significant and unavoidable impact.

### **Mitigation**

No feasible mitigation is available to reduce this impact to a less-than-significant level. Restoring Project lands to agricultural uses at the conclusion of the Project would ensure that permanent conversion of agricultural land and production could be avoided; however, it would not reduce the long-term conversion of prime and other farmlands during the 50-year life of the Project.

## **Alternative 1**

Impacts on land use and agricultural resources of Alternative 1 are the same as those of Alternative 2.

## **Alternative 3**

Alternative 3 involves storage of water on Bacon Island, Webb Tract, Bouldin Island, and Holland Tract, with secondary uses for wildlife habitat and recreation. The portion of Bouldin Island north of SR 12 would be managed as a wildlife habitat area and would not be used for water storage.

Impacts on land use, including displacement of residences and structures, consistency with relevant plans, policies, and zoning designations, and effects on Williamson Act contracts remain as they were presented in the 2001 FEIR and 2001 FEIS and are hereby incorporated by reference, and are briefly summarized in the following section. Because important farmland acreages on the four Project islands have been updated with CDC's 2006 IFM data, values for affected acreages have changed and are incorporated below.

### **Impact LU-3: Displacement of Residences and Structures on Reservoir Islands**

Implementation of Alternative 3 would convert onsite agricultural land uses to water storage operations on all four Project islands. This change would require removal or relocation of existing onsite structures and farmsteads. The affected landowners on Holland Tract would be compensated for their property as willing sellers. Occupants currently residing on all four islands would need to relocate. Housing opportunities in the local area are considered sufficient for those affected to be housed. Therefore, this impact is considered less than significant.

#### **Mitigation**

No mitigation is required.

### **Impact LU-1: Inconsistency with Contra Costa County General Plan Policy for Agricultural Lands and Delta Protection Commission Land Use Plan Principles for Agriculture and Recreation**

Implementation of Alternative 3 would convert approximately 9,588 acres of farmland (prime and unique farmland, and farmland of statewide and local importance) on Webb and Holland Tracts to water storage use (Table 4.8-5). Impacts due to agricultural land conversion under Alternative 3 would be greater than under Alternative 2 because under Alternative 3 no crops would be planted on Holland Tract or Bouldin Island, although as part of the Project's environmental commitments (Chapter 2, "Project Description"), agricultural conservation easements would be placed on Bouldin Island and Holland Tract.

Agricultural land conversion is not consistent with Contra Costa County's or the DPC's agricultural principles to preserve agricultural lands for agricultural production and promote a competitive agricultural economy for the reasons discussed under Impact LU-1 and presented in Table 4.8-7. Although the inherent agricultural productivity of the islands would not be significantly changed by use of agricultural land for water storage, the proposed use is not consistent with these general plan principles. Additionally, as discussed above, the construction of the new recreation facilities on the Project islands may be inconsistent with the DPC's recreation principle for private, water-oriented commercial recreational facilities. This impact is considered significant and unavoidable.

#### **Mitigation**

No mitigation is available to reduce this impact to a less-than-significant level.

## Long-Term Conversion of Agricultural Land

As previously noted, impacts on agricultural resources, including agricultural land conversion and production losses would be greater under this alternative than under Alternative 2. Under Alternative 3, no crops would be planted on Bouldin Island and Holland Tract as part of an HMP; therefore, agricultural resource impacts caused by land conversion on these islands would not be offset by agricultural production associated with habitat management as under Alternative 2 and no conservation easements would apply. Additionally, the 1,120 acres on Holland Tract excluded from the Project under Alternatives 2 and 1 would be converted to water storage uses under Alternative 3.

Agricultural resource impacts of Alternative 3 on Bacon Island and Webb Tract are the same as those described previously for Alternative 1.

Implementation of Alternative 3 would result in conversion to nonagricultural uses of an estimated 5,866 acres of farmland on Bouldin Island, including 5,812 acres designated by CDC as prime farmland (Table 4.8-5). This conversion of agricultural land would result in the loss of agricultural production from an estimated 4,933 acres under cultivation in 2008 (Table 4.8-2). Bouldin Island produces 11.7% of San Joaquin County's rice crop (based on 2007 countywide production levels), 5.0% of the county's corn crop, and 0.56% of the county's tomato crop. All agricultural production on Bouldin Island would be lost under Alternative 3.

Implementation of Alternative 3 would result in conversion to nonagricultural uses an estimated 4,141 acres of agricultural soils on Holland Tract, including 1,095 acres designated by CDC as prime farmland (Table 4.8-5). Conversion of agricultural land would result in the loss of an estimated 2,884 acres of pasture, based on 2008 conditions.

### Impact LU-2: Direct Conversion of Agricultural Land

Alternative 3 would convert to nonagricultural uses an estimated 20,718 acres of farmland (prime and unique farmland, and farmland of statewide and local importance) on the four Project islands combined, including an estimated 16,777 acres of currently harvested cropland and pasture. This conversion amounts to approximately 5,769 acres more than would be converted under Alternatives 1 or 2.

The direct conversion of agricultural land on the Project islands includes conversion of an estimated 15,337 acres of land designated as prime farmland by CDC. This acreage represents approximately 3.5 % of the estimated 437,547 acres of prime farmland in the two counties combined in 2006 (California Department of Conservation 2006).

The conversion of 16,777 harvested acres of agricultural land (including pasture) represents conversion of approximately 1.7 % of the 956,021 harvested acres (excluding nonirrigated grazing lands) in Contra Costa and San Joaquin Counties in 2007. Production losses would be similar to, but greater than, the effects described previously for Alternative 1.

The direct conversion of an estimated 16,777 acres of farmland is considered significant because it is a substantial acreage and includes an estimated 15,337 acres of prime farmland.

As discussed under Alternative 2, the Project benefits would attenuate the adverse effects of converting prime and other farmlands to other uses. These would include enhancing in-Delta recreation opportunities, enhancing the sustainability of agriculture occurring in the place of use, enhancing the sustainability of agriculture within the Delta by improving the stability of the Project levees, and eventually restoring agriculture to the Project islands.

The direct conversion of agricultural land is considered a significant and unavoidable impact.

### **Mitigation**

No feasible mitigation is available to reduce this impact to a less-than-significant level. Restoring Project lands to agricultural uses at the conclusion of the Project would ensure that permanent conversion of agricultural land and production could be avoided, however, it would not reduce the long-term conversion of prime and other farmlands during the 50-year life of the Project.

## **No-Project Alternative**

The analysis of the No-Project Alternative, in relation to baseline conditions projected over the life of the Project, has been revised, relative to the 2001 FEIR and 2001 FEIS, in light of the new information calling into question the long-term sustainability of agriculture in the Delta, as discussed above.

Under the No-Project Alternative presented in the 2001 FEIR and 2001 FEIS, more intensive agricultural operations would be implemented on the four Project islands. An agricultural consultant made general recommendations concerning agricultural practices, land improvements, and cropping patterns that would improve the farming efficiency on the four Project islands (Jones & Stokes 2001b). However, given new information and recent conditions in the Delta (e.g., continued subsidence, increased levee vulnerability), it is reasonable to conclude that for the land use and agricultural resource impact analysis, were agriculture to be intensified under the No-Project Alternative, it likely would be short-lived. However, because these estimates cannot predict with confidence when the agricultural activities would cease to function on the Project islands, the 2001 FEIR and 2001 FEIS projections will not change for purposes of analysis in this Place of Use EIR.

In the short term, implementing the No-Project Alternative would increase the amount of land in agricultural production on the Project islands from approximately 16,741 acres (including pasture) (Table 4.8-2) under existing conditions to approximately 18,720 acres (Jones & Stokes 2001b). Increasing crop production would contribute to an increase in agricultural employment in Contra Costa and San Joaquin Counties, but it is likely that this would be a short-

term gain. Because these estimates cannot predict with confidence when the agricultural activities would cease to function on the Project islands, the 2001 FEIR and 2001 FEIS projections will not change for purposes of analysis in this Place of Use EIR.

Although irrigation and drainage systems would be improved on the Project islands to provide for long-term agricultural production, implementation of the No-Project Alternative would not provide additional flood control benefit or create additional levee stability; and it may, as compared to baseline conditions, have a long-term deterioration of levee stability and an increase, although unquantifiable, in flood risk. Levee stability on the Project islands would continue to be as vulnerable to flood, seismic risk, and land subsidence as it is under existing conditions. As discussed in Section 4.3, "Flood Control and Levee Stability", under the No-Project Alternative, maintenance practices would continue at their current levels as the local Reclamation Districts (RDs) strive to achieve the adopted PL84-99 standard as the preferred delta island levee geometry; however, the resources of local RDs are limited and are not always adequate to achieve or maintain compliance on an annual basis. Levee failure on subsided islands would impair or damage the islands' agriculture as well as affect the salinity balance of the Delta, which in turn would threaten water conveyance to agricultural in the region and beyond (Trott 2007).

Additionally, lands would likely continue to subside, especially in the central and western Delta where the Project islands are located (Mount and Twiss 2005; Lund et al. 2007) and as such would continue to threaten the long-term sustainability of agriculture on the Project islands.

Given these considerations, it is unlikely that increasing agricultural production on the Project islands under the No-Project Alternative would benefit agriculture-related industries for any long-term period.