

Table of Agriculture and Land Stewardship Framework and Strategies

I. Framework for Agricultural and Land Stewardship (ALS) Planning

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- B. Develop ALS Plans for projects (061014)(Revised)**

II. Potential Strategies

The ALS Strategies can be used by project proponents when their proposed projects will affect agricultural land. Some of the ALS Strategies can be used to work with local government and landowners to avoid or minimize impacts on agriculture and to consider local and regional plans. Some of the ALS Strategies provide options to consider for environmental mitigation required under the California Environmental Policy Act (CEQA). Other ALS Strategies could assist in maintaining the agricultural sustainability of the area where the project is located. Finally, some of the ALS Strategies discuss opportunities to keep local landowners and farmers on the land by participating in project activities, when a project involves conversion from agriculture to other open space uses.

A. Strategies to help maintain agriculture

- 1. Improve flood management
 - 1.1. Improve flood protection for agriculture (102913)(no change – October 2013 posting was 1a)
 - 1.2. Help landowners comply with FEMA flood insurance regulations (102913)(no change – October 2013 posting was 1b)
 - 1.3. Help with local flood preparedness and response efforts (061014)(under development-October 2013 posting was 1c)
- 2. Improve on-farm agricultural productivity, including soil and water quality (102913) (no change – October 2013 posting was 2)
- 3. Control weeds and other pests

- 3.1. Reinvigorate County Weed Management Areas (061014)(revised - October 2013 posting was 6a)
- 3.2. Prioritize weeds and other pests for area-wide control (061014)(revised – October 2013 posting was 6b)
- 3.3. Encourage use of weed-free construction materials (102913)(no change – October 2013 posting was 6c)
4. Reduce conflict between agriculture and nearby habitat lands
 - 4.1. Establish good neighbor policies (061014) (revised - October 2013 posting was part of 7)
 - 4.2. Provide “take” coverage for neighboring lands (061014)(revised - October 2013 posting was part of 7)
 - 4.3. Support local efforts to reduce nuisance and illegal activities (061014) (new)
5. Provide agricultural conservation easements (102913)(no change – October 2013 posting was 11)

B. Strategies that provide incentives for conservation on agricultural land

1. Partner with others to maintain and enhance environmental quality on agricultural land (102913)(no change – October 2013 posting was 12)
2. Provide incentives for farmers and landowners to take part in market-based conservation programs (061014)(revised – October 2013 posting was 14)

C. Strategies to manage land to reverse subsidence and sequester carbon

1. Provide incentives to stabilize or reverse land subsidence (102913)(no change – October 2013 posting was 15)
2. Assist farmers and landowners to produce and sell greenhouse gas offset credits (102913)(no change – October 2013 posting was 16)
3. Investigate options to designate subsidence reduction and carbon sequestration crops as agricultural production for regulatory and incentive purposes (061014)(new – October 2013 posting was 18)

D. Strategies that support an agricultural economy

1. Develop area-wide economic and land use studies
 - 1.1. Develop an historic and current land use study (102913)(no change – October 2013 posting was 19a)
 - 1.2. Develop an economic study of agricultural activity and related infrastructure (102913)(no change – October 2013 posting was 19b)

- 1.3. Develop a plan for protection and restoration of habitat areas that takes into consideration the vitality of the agricultural economy (under development – October 2013 posting was 19c)
2. Promote economic development (102913)(no change – October 2013 posting was 20)
3. Improve transportation infrastructure (10291)(no change – October 2013 posting was 21)
4. Help farmers and landowners earn new revenue from recreation and tourism (102913)(no change – October 2013 posting was 22)
5. Assist farmers and landowners in working with governmental agencies
 - 5.1. Public advisor for government projects (061014)(new – October 2013 posting was 23a)
 - 5.2. Farmbudsman – Help farmers and landowners navigate regulatory requirements for agricultural activities.(102913)(no change – October 2013 posting was 23b)
 - 5.3. Work with others to better align regulatory processes to expedite wildlife friendly agriculture(102913)(no change – October 2013 posting was 23c)

E. Strategies for successful planning by project proponents

1. Project planning
 - 1.1. Early project planning (061014)(new – October 2013 posting was 3a)
 - 1.2. Work with farmers and landowners
 - 1.2.1. Involve farmers and landowners in project planning (061014)(new – October 2013 posting was 3b)
 - 1.2.2. Compensate farmers and landowners to manage agricultural land for project purposes (102913)(no change – October 2013 posting was 13)
 - 1.2.3. Compensate farmers and landowners to manage project habitat lands (102913)(no change – October 2013 posting was 17)
 - 1.3. Avoid, minimize and mitigate for impacts to agricultural land from project
 - 1.3.1. Reduce impacts on land (061014)(new)
 - 1.3.2. Reduce impacts on ground water levels (061014)(new)
 - 1.3.3. Mitigate for conversion of agricultural land (061014) (new – October 2013 posting was 3c)
 - 1.4. Implementation and funding (061014)(new – October 2013 posting was 24 and 25)
2. Work with local government
 - 2.1. Coordinate with local planning efforts (061014)(new – October 2013 posting was 9a)
 - 2.2. Implement actions required by the Williamson Act (061014)(new)
 - 2.3. Work with counties to expand Williamson Act authorized uses (102913)(no change - October 2013 posting was 9b)
 - 2.4. Investigate options for in lieu tax revenue for local government (102913)(no change - October 2013 posting was 9c)
 - 2.5. Work with others to explore the value of reinstating state funding of Williamson Act subventions (102913)(no change – October 2013 posting was 8)

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SECTION I: FRAMEWORK FOR AGRICULTURAL and LAND STEWARDSHIP PLANNING

A. Incorporate Toolbox of ALS Strategies into planning processes

"...[t]he multiple benefits we gain from farming and ranching including crop and livestock production. In addition to valuable open space and wildlife habitat, the management decisions and conservation practices of farmers and ranchers also enhance environmental quality, provide recreational opportunities and offer social benefits." - CDFA's Environmental Farming Act Science Advisory Panel definition of ecosystem services.

“...‘Agricultural land stewardship’ means farm and ranch landowners—the stewards of the state’s agricultural land—producing public environmental benefits in conjunction with the food and fiber they have historically provided while keeping land in private ownership.” — *California Water Plan Update 2005*, Agricultural Land RMS.

Agricultural and Land Stewardship (ALS) Planning can provide an integrated and collaborative approach for addressing impacts associated with the use of farmland for project purposes and the conversion of farmland to different uses, especially uses that continue an open space use of the land.

Conversion of agricultural land to other uses

Projects that convert agricultural lands for urban uses (e.g., residential, commercial, industrial) can compromise an area’s ability to support agriculture. Other projects may promote open-space benefits, such as flood management or wildlife habitat on agricultural land, but may limit or eliminate agricultural uses on those lands. For many years, governmental and other organizations have encouraged programs that promote the development of environmental benefits on agricultural land as a way to protect natural resources while keeping the land in agriculturally productive private ownership. More recently, attention has been focused on the social and economic impacts of taking agricultural land out of production.

One of the key questions in approaching mitigation for conversion of farmland from one use to another for project purposes is whether the impacts identified are economic, environmental, or a mixture of the two. In general, it is not legally necessary to mitigate for purely economic impacts unless they lead to reasonably foreseeable secondary environmental impacts. Because of the complex nature of farmland as a natural and economic resource, there can be different views on when an impact is economic and

when it is environmental. In addition, there may be policy reasons to support and encourage farmers¹ and agriculture² that go beyond current legal requirements

Agricultural and Land Stewardship Strategies Toolbox and Framework

DWR has worked with the California Department of Food and Agriculture and others to develop an Agriculture and Land Stewardship (ALS) planning document that includes a tool box of ALS Strategies and a Framework for considering them that can help inform agricultural and land stewardship activities at all levels of planning and assist with funding decisions. The ALS Framework and Strategies can provide project proponents and those affected by a proposed project with a collaborative approach to address protecting and changing uses of agricultural land, from mitigating its loss to valuing its multiple benefits. The Framework proposes that projects that plan to convert agricultural land to other uses develop an ALS Plan that considers the different ALS Strategies in the Tool Box. The Framework explains how the different ALS Strategies can be applied in developing such a plan.

The ALS Framework and Strategies encourage the exploration of a voluntary process that engages project proponents and other interested parties in pursuing mutually beneficial solutions that consider the following fundamental premises:

- *provide the environmental and habitat benefits that are part of the project*
- *are consistent with state and regional policies*
- *provide opportunities for farmers to stay on the land*
- *maintain agricultural and economic viability in the area where the project is located*
- *support the stability of local governments and special districts*

What is Agricultural and Land Stewardship

Agricultural land stewardship is not a new concept. Under various names, it has been practiced by farmers and ranchers and encouraged by state and federal entities for many years. This *ALS Framework and Strategies* uses an intentionally broad meaning of the term “agricultural and land stewardship” because it is designed to encourage project planners to think about the effect of their projects on agricultural resources and to be good stewards of agricultural land. Some of the ALS Strategies can be used by

¹ In this paper, farmer is used as a generic term that includes farmers, ranchers, landowners, or tenants if they are currently farming the land and want to continue managing the land whether or not it is used for project purposes. The approach suggested in this paper would not prohibit farmers from selling or leasing their land for project purposes if they do not want to continue to farm the land themselves.

² When discussing agriculture, farmland or agricultural land in general terms, the terms can generally be used interchangeably. The term “agriculture” is also intended to include the related effects on Delta farm workers, tenant farmers, and farmland owners and the economic impacts on the companies and individuals who provide productive inputs to Delta farmers, and on those who transport, process, store, and market the output of Delta farms.

project proponents to work with local government and landowners to avoid or minimize impacts on agriculture and to consider local and regional plans. Some of the ALS Strategies provide options to consider for environmental mitigation required under the California Environmental Quality Act. Other ALS Strategies can assist in maintaining the agricultural viability and sustainability of the area where the project is located. Finally, some of the ALS Strategies discuss opportunities to keep local landowners and farmers on the land by participating in project activities, when a project involves conversion from agriculture to other open space uses. The Toolbox is organized in way that recognizes these distinctions.

Funding of ALS Strategies

Early consideration, support, and funding of landscape and regional level ALS Strategies could help develop a culture of cooperation, collaboration, and recognition of the value of agriculture in California, especially in areas, such as the Delta, which are recognized as unique. This could aid in establishing a foundation of understanding that will assist in project planning. Funding can come from a variety of sources, including project funding, bond programs and other sources (see Strategy E1.4). Depending on the source of funding, implementation of a Strategy could be carried out with regard to one or more of three different kinds of activities – project planning, environmental mitigation and/or other assistance (see Strategy E1.4).

Planning at the landscape, regional and site-specific project level

A framework for planning and a comprehensive set of ALS strategies can help develop informed agricultural and land stewardship activities at three levels: landscape, regional and site-specific project. Some of the ALS strategies clearly apply to only one of these levels. Others may apply to two or even all of the levels. An example of how the strategies might be grouped based on these levels is attached as Attachment 1.

Landscape Level: Basic to understanding impacts of projects on agricultural resources is baseline information on crop patterns and other land uses, agricultural commodity and market trends, agriculture and transportation infrastructure, and manpower needs; as well as modeling and analysis of this data to support development of strategies to maintain a viable agricultural economy in a particular area. This information can help provide a more effective assessment of impacts that may result from ongoing and potential ecosystem restoration and flood protection actions, and can help support strategic investment decision making.

Regional Level: Regional agricultural planning, based on the analyses gained from the landscape planning describe above can be developed to prioritize and guide planning and investment of funding to preserve and enhance agriculture in a particular area. To the extent that there is regional conservation planning, it can provide a basis for informing the development of ecosystem restoration projects and ensure that best available science and adaptive management are foundational to a long term restoration program. The overlap of these planning processes can provide an element that fully considers the agricultural systems that the restoration will impact or replace. This will ensure that to the greatest extent practical, restoration efforts will avoid, minimize or

mitigate impacts to agricultural operations. Additionally, incorporating better understanding of agricultural systems is likely result in more effective restoration efforts and overall cost and time savings. .

Site-specific Project Level: An Agricultural and Land Stewardship Plan (ALSP) can provide an integrated and collaborative framework for addressing the use of farmland for project purposes and the conversion of farmland to different uses, especially uses that continue an open space use of the land. It goes beyond the mandatory California Environmental Policy Act requirements and considers both economic and environmental impacts of a project. Development of an ALSP should involve the local community in the planning process for the project along with local, state and federal agencies. At its core is involvement of the landowner and the county where the property is located, recognizing that local interests have unique and specialized knowledge. The Agricultural and Land Stewardship Plan is discussed in more detail in Section B below.

Attachment 1
ALS Strategies arranged by level of planning

Strategies related to Landscape Level Planning

- Strategy C2:** Assist farmers and landowners to produce and sell greenhouse gas offset credits
- Strategy C3:** Designate carbon sequestration and subsidence reversal crops as agricultural production for regulatory and incentive programs
- Strategy D1.1:** Develop an historic and current land use study
- Strategy E1.1:** Early project planning
- Strategy E1.2.1:** Involve farmers and landowners in project planning
- Strategy E1.3.2:** Reduce impacts of site relating to ground water levels
- Strategy E1.3.3:** Mitigate for conversion of agricultural land
- Strategy E1.4:** Implementation and funding
- Strategy E2.1:** Coordinate with local planning efforts
- Strategy E2.3:** Work with counties to expand Williamson Act authorized uses
- Strategy E2.4:** Investigate options for in lieu tax revenue for local government
- Strategy E2.5:** Work with others to explore the value of reinstating state funding of Williamson Act subventions

Strategies related to Regional Level Planning

- Strategy A1.1:** Improve flood protection for agriculture
- Strategy A1.2:** Help farmers comply with FEMA flood insurance regulations
- Strategy A1.3:** Help with local flood response efforts (under development)
- Strategy A2:** Improve on-farm agricultural productivity, including soil and water quality
- Strategy A3.1:** Reinvigorate Delta County Weed Management Areas
- Strategy A3.2:** Prioritize invasive weeds for Delta-wide control
- Strategy A4.1:** Establish “good neighbor” policies
- Strategy A4.2:** Provide “take” coverage for neighboring lands
- Strategy A4.3:** Support local efforts to reduce nuisance and illegal activities
- Strategy A5:** Provide agricultural conservation easements
- Strategy B1:** Partner with others to maintain and enhance environmental quality on farmland
- Strategy B2:** Provide incentives for farmers and landowners to take part in a market based conservation program
- Strategy C1:** Provide incentives to stabilize or reverse land subsidence
- Strategy C2:** Assist farmers and landowners to produce and sell greenhouse gas offset credits
- Strategy D1.2:** Develop an economic study of agricultural activity and related infrastructure

- Strategy D1.3:** Develop a plan for protection and restoration of habitat areas that takes into consideration vitality of agricultural economy (under development)
- Strategy D2:** Promote economic development
- Strategy D3:** Improve transportation infrastructure
- Strategy D4:** Assist farmers who want to manage their land to incorporate recreation and tourism
- Strategy D5.2:** Farmbudsman – Help farmers navigate regulatory requirements for farm activities.
- Strategy D5.3:** Work with others to better align regulatory processes to expedite wildlife friendly agriculture
- Strategy E1.1:** Early project planning
- Strategy E1.2.1:** Involve farmers and landowners in project planning
- Strategy E1.3.2:** Reduce impacts off-site relating to ground water levels
- Strategy E1.3.3:** Mitigate for conversion of agricultural land
- Strategy E1.4:** Implementation and funding
- Strategy E2.1:** Coordinate with local planning efforts
- Strategy E2.3:** Work with counties to expand Williamson Act authorized uses

Strategies related to Site-specific Project Level Planning

- Strategy A2:** Improve on-farm agricultural productivity, including soil and water quality
- Strategy A3.3:** Encourage use of weed-free construction materials
- Strategy A4.1:** Establish “good neighbor” policies
- Strategy A4.2:** Provide “take” for neighboring lands
- Strategy A5:** Provide for agricultural conservation easements
- Strategy D5.1:** Public advisor for projects
- Strategy E1.1:** Early project planning
- Strategy E1.2.1:** Involve farmers and landowners in project planning
- Strategy E1.2.2:** Compensate farmers and landowners to manage agricultural land as habitat
- Strategy E1.2.3:** Compensate farmers and landowners to manage habitat lands
- Strategy E1.3.1:** Reduce impacts on site
- Strategy E1.3.2:** Reduce impacts of site relating to ground water levels
- Strategy E1.3.3:** Mitigate for conversion of agricultural land
- Strategy E1.4:** Implementation and funding
- Strategy E2.1:** Coordinate with local planning efforts
- Strategy E2.2:** Implement actions required by the Williamson Act
- Strategy E2.3:** Work with counties to expand Williamson Act authorized uses

SECTION I. FRAMEWORK FOR AGRICULTURAL and LAND STEWARDSHIP PLANNING

B. Develop Agricultural Land Stewardship Plans for Projects

Normally a draft Agriculture and Land Stewardship Plan (ALSP) would be provided to the public at the same time as draft CEQA/NEPA environmental documents, but not later than construction or implementation of a project. To the extent they apply, the strategies of the Tool Box of Potential ALS Strategies should be considered in developing the ASLP. However, not all of the strategies will apply to a specific project. In fact, some of the strategies may provide different approaches that are not compatible.

The primary responsibility for preparing and implementing an ALSP lies with the program or project proponent. ALSPs can be useful at the landscape, regional or site-specific level. They may look quite different depending on the level involved. As discussed in Strategy E1.1 on Early Project Planning, local or regional entities such as the local counties, the Delta Conservancy and the Delta Protection Commission, may want to consider developing a landscape or regional ALSP which could help identify places where special attention should be given to preserving agricultural land, as well as establishing a framework within which site-specific projects can work. More site-specific projects can take advantage of information developed in regional or landscape ALSPs but will probably be more focused on the use of the property being developed. If a farmer is involved in carrying out a site-specific project, another agreement, sometimes called an ALSP, may be needed that sets forth the responsibilities of the farmer. Part of this agreement may be a requirement that the farmer carry out identified agricultural land stewardship measures.

Development of an ALSP should occur during the planning process of a project and should involve the local community along with local, state and federal agencies. Involvement of the landowner and the county where the property is located is particularly important and recognizes that local interests have unique and specialized knowledge of the region. In addition to the landowner and/or farmers affected, at a minimum, the following organizations or types of organizations should also be consulted:

Local government, SACOG and other councils of government

- Federal and state resource and regulatory agencies
- Organizations with a regional interest such as the Delta Conservancy, the Delta Protection Commission and the Delta Stewardship Council
- Resource Conservation Districts

- Local colleges and universities, including the Agricultural Extension Service
- Local labor and farm worker organizations
- Local economic development corporations
- Tribal representatives
- NGOs representing farmers
- NGOs representing entities that promote habitat protection and restoration activities.

The basic components of an ALSP could include the following:

1. Promote Agricultural Productivity of Farmland
 - a. Early Planning (Strategies D1.1, D1.2, D1.3, E1.1, E.1.2, E.2.1, E.2.2, and E.2.3)
 - Identify existing land uses and relation to other planning efforts
 - Identify how a proposed project can be part of or complement existing land uses, including agricultural use; flood management; mitigation and enhancement of aquatic and terrestrial habitat; recreation; and tourism
 - Establish a public advisor position to serve as an information source for those wanting to know more about a proposed project (Strategy D5.1)
 - b. Site-Related Avoidance and Mitigation (Strategies E1.3.1)
 - Try to avoid impacting agricultural lands (especially those identified as prime, unique, high value or important for the viability of local agriculture)
 - Give priority to appropriate public lands and existing conservation lands
 - Develop measures to reduce conflict between agriculture and nearby habitat lands by implementing good neighbor policies such as managing project lands to avoid impacts, establishing buffer zones, and developing compensation funds and agreements that protect landowners from endangered species liabilities (Strategies A4.1, A4.2, and A4.3)

- c. Mitigate On-site (Strategy E1.3.1)
 - Design the project to optimize contiguous parcels for farming
 - Plan the project so that farming can continue during and after the project as much as possible
 - Provide alternate access for roads, drainage and irrigation if existing access is disturbed.
 - Save and reuse soil removed for project purposes
- d. Consult with farmers on the role they wish to take, if any (Strategy E1.2.1)
 - Develop working landscapes where possible (Strategies E1.1 and E1.2.1)
 - Keep project land in private hands where possible and make local government whole (Strategies E2.4 and A5)
 - Compensate farmers to help manage project lands (Strategies E1.2.2 and E1.2.3)
 - Partner with landowners and others to maintain and enhance environmental quality on farmland (Strategy B1)
 - Manage land to reduce subsidence and sequester carbon (Strategy C1, C2, and C3)
 - Provide incentives to take part in market based conservation programs (Strategy B2)
- e. Ways to track Implementation (Strategy E1.1)
 - Provide a framework for adaptive management with regard to agricultural land
 - Provide a plan for reporting and monitoring to show that the actions agreed to in the ALSP are being carried out.

2. Minimize Impacts on Williamson Act Lands

- Make sure that proper notice and findings are made (Strategy E2.2)
- Work with counties where Williamson Act land is located to expand Williamson Act authorized uses to include open space/habitat lands in Williamson Act Preserves (Strategy E2.3)

3. Mitigation Under CEQA/NEPA for Conversion of Farmland

- Baseline - Determine the basis for mitigation (Strategies E1.3 and A5)
 - Prime agricultural land, unique farmland or farmland of statewide significance
 - Farmland of local significance and grazing land
 - Temporary conversion
- Off-Site Terrestrial Resources
 - Determine whether agricultural land preserved for terrestrial species preservation or mitigation can count for agricultural land preservation (Strategies E1.3 and A5)
- Determining Mitigation for CEQA/NEPA Impacts
 - Mitigate for off-site impacts such as increased (Strategy E1.3.2)
 - Determine appropriate ratio for mitigation lands for agricultural conversion (Strategies E1.3 and A5)
 - Decide whether to use conventional mitigation that relies entirely on purchase of easements in the path of development or use an optional approach that can use a mix of conventional mitigation and other programs that will benefit agricultural activity in the area affected. (Can include most of the Strategies), especially E1.3, A1.1, E1.3.2, E1.3.3, A2, A3.1, A3.2, A4.1, A4.2, A4.3, A5, B1, C1, and C2)

4. Mitigation for Social/Economic Impacts (Strategy E1.3 and E1.4)

- Work with others to find funding to mitigate for social and economic impacts not mitigated through CEQA/NEPA. Possible sources include establishing a greenhouse gas offset market using credits created through the development and restoration of wetlands; using “Cap and Trade” program funds, reinstating state funding for California Land Conservation Act subventions; recommending funds to be included in any bond measure; and others. (Can include most of the Strategies, especially E1.4, E1.5, A1.1, A1.2, A1.3, A2, A3.1, A3.2, A4.3, B1, B2, C1, C2, C3, D1.1, D1.2, D1.2, D2, D3, D4, D5.2, D5.3, E2.1, and E2.5)

Samples of proposed or actual ASLPs will be posted on the ALS website, when available, at <https://AgriculturalLandStewardship.water.ca.gov/>

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SECTION II: POTENTIAL STRATEGIES

Group A: STRATEGIES TO HELP MAINTAIN FARMING

Strategy A1: Improve flood management

Strategy A1.1: Improve flood protection for agriculture

DESCRIPTION

This strategy would enhance existing programs that protect Delta agriculture from flood damage. Improvements to flood protection could include strengthening or otherwise rehabilitating levees, enhancing floodwater bypasses, arresting riverbank and levee toe erosion, removing obstructions to floodwater flow, removal of levee encroachments, and constructing floodgates. Many such projects could be designed to benefit flood-dependent ecosystems as well.

RELATED PROGRAMS AND POLICIES

DWR provides engineering assistance and funds to Delta reclamation districts to maintain and improve levees and other flood protection facilities in a way that avoids environmental damages and enhances habitat. This work is accomplished through the Delta Subventions and Special Projects efforts. DWR's Division of Flood Management is preparing Basin-Wide Feasibility Studies (including Paradise Cut bypass options) and Regional Flood Management Plans that aim for better flood protection in the Delta for areas protected by levees that are part of the State Plan of Flood Control. The Lower Sacramento River/Delta North Regional Flood Management Plan is investigating the feasibility of SPFC improvements along the Sacramento River, the Yolo Bypass, Steamboat Slough, Sutter Slough and other watercourses in the North Delta. DWR is also seeking improvements to flood emergency preparedness at all levels of government in the Delta region via multi-agency coordination, emergency planning and exercises, and increased capacity to fight floods.

The Delta Stewardship Council has recommendations in its draft Delta Plan to (1) improve emergency preparedness and response, (2) finance and implement flood management activities, (3) prioritize flood management investment, (4) improve residential flood protection, (5) protect and expand floodways, floodplains and bypasses, (6) integrate Delta levees and ecosystem functions, and (7) limit State liability.

ISSUES

Flood protection projects could be potentially controversial because of economic feasibility, environmental and social impacts, and questions about how to pay for the projects. There are also issues about how to prioritize projects.

OPPORTUNITIES AND POTENTIAL PARTNERS

In 2012, a highly diverse group of stakeholders came together as an ad hoc group, The Coalition to Support Delta Projects, whose goal, was to identify near-term Delta projects whose implementation the group could unanimously support. Numerous Delta interests took part, including several water agencies and reclamation districts, the Delta Counties Coalition, representatives from four county governments, Local Agencies of the North Delta, and Restore the Delta. Several funding and permitting agencies attended the meetings and helped the group understand potential issues, but otherwise remained neutral. The group developed a list of projects and submitted it to the Governor, the Secretary for Natural Resources, the Secretary for Environmental Protection, and the Acting Secretary of the Business, Transportation and Housing Agency.

The published list of supported projects includes twenty-eight whose main purpose or benefit is flood protection. Several projects also have ecosystem benefits. Nearly all of the projects would improve flood protection for agricultural lands. Seven projects have already begun, four need only permits or funding in order to get started, and the remainder requires detailed engineering or design work. The ad hoc group noted that the total cost of the projects exceeds available funds by about \$500 million.

This strategy could focus on supporting the projects recommended by the Coalition. DWR, as the State's principal flood management agency, would need to play a role. To the extent that any projects are within the jurisdiction of the Central Valley Flood Protection Board, it would also need to be involved.

SECTION II: POTENTIAL STRATEGIES

Group A: STRATEGIES TO HELP MAINTAIN FARMING

Strategy A1: Improve flood management

Strategy A1.2: Help farmers comply with FEMA flood insurance regulations

DESCRIPTION

Outside the major cities, most of the Delta is mapped into the Federal Emergency Management Agency (FEMA) 100-year floodplain (Special Flood Hazard Area). These areas must meet community-mandated National Flood Insurance Program (NFIP) standards as they apply to both residential and nonresidential structures, including barns, agricultural storage sheds and drying sheds.

New residential structures, including major additions, must have the first floor elevated above the NFIP base flood elevation (that is, the 100-year-flood water surface shown on the FEMA effective flood insurance rate map). Required elevation of first floors can well exceed eight feet above the natural grade of the adjacent ground. Nonresidential structures that are not used for agriculture must be dry-flood proofed or elevated above the base flood elevation. Agricultural structures must be elevated or dry-flood proofed unless the community grants a variance to the community floodplain management ordinance or building code. FEMA's minimum regulations allow for a variance for nonresidential agricultural structures and their contents, provided that flood damage is limited by practices such as storage of pesticides and other farm chemicals above the base flood elevation, use of flood-resistant materials for construction, and elevation of utilities that could be damaged during a flood.

This strategy would help agricultural and other rural property owners in the Delta to meet community-adopted NFIP standards, either through buyouts, relocation, structural elevation, or flood-proofing. The financial losses caused by flooding of structures and contents could also be mitigated through the purchase of federally-backed flood insurance. Potential actions include the following:

- elevating existing homes above the base flood elevation
- providing grants for new homes and agricultural structures to be built above the base flood level
- buying out or relocating residential and nonresidential structures that cannot be elevated or retrofitted
- retrofitting existing nonresidential structures to minimize potential flood damage
- helping farmers pay for flood insurance for homes or other structures

- helping pay for crop insurance against natural disasters

RELATED PROGRAMS AND POLICIES

The Department of Water Resources is the coordinating State agency that works with FEMA and the United State Army Corps of Engineers to promote wise floodplain management and on the implementation and management of the NFIP. DWR also applies for grants under the family of FEMA hazard mitigation grants referred to as the Hazard Mitigation Assistance (HMA) Program. HMA grants generally provide 75% to 80% of the funding to implement hazard mitigation projects that include home elevation and small flood control projects. Through Community Development Block Grants, the federal Department of Housing and Urban Development (HUD) can provide funding to assist low-income property owners purchase flood insurance. Regional Flood Management Plans (being prepared by local interests) and Basin-Wide Feasibility Studies (being prepared by DWR) may expand on strategies related to flood risk reduction and compliance with the NFIP. The State Systemwide Investment Approach (SSIA) in DWR's Central Valley Flood Protection Plan (CVFPP) recommends measures to reduce flood risks in rural and agricultural areas.

ISSUES

FEMA grants under the HMA Program are competitive and most funding is dependent on post-disaster monies made available after a presidential disaster declaration. Even with a state cost-share, many communities cannot raise the funds that are required for projects. Community Development Block Grants from HUD are also competitive and may not be awarded until after the occurrence of a disaster. Due to the implementation of the NFIP Reform Act of 2012 (Biggert-Waters 2012), some properties located in FEMA 100-year floodplains are losing their historic flood insurance subsidies and flood insurance rates will be rising in each of the next five years. For a home with the first floor located four feet below the base flood elevation, NFIP flood insurance rates may rise to above \$9,000 per year.

OPPORTUNITIES AND POTENTIAL PARTNERS

Purchase of flood insurance through the NFIP is a reasonable method to mitigate potential flood damages. Elevation of existing structures, elevation of new structures, and flood proofing/retrofitting agriculture and nonresidential structures are viable and proven means of reducing flood risk. Federal funds may be available under the existing FEMA HMA Program. Funds may also be available through HUD Community Development Block Grants for low income communities. Implementation of DWR's CVFPP-SSIA and the related Lower Sacramento River/Delta North Regional Flood Management Plan and CVFPP Basin-Wide Feasibility Studies, which are currently

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under development, may provide a vehicle for implementation of measures within this strategy.

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SECTION II: POTENTIAL STRATEGIES

Group A: STRATEGIES TO HELP MAINTAIN FARMING

Strategy A.2: Improve on-farm agricultural productivity, including soil and water quality

DESCRIPTION

Farmers in the Delta face different on-farm problems that can affect the productivity of the land. Channel sedimentation is a problem in parts of the Delta that can make irrigation pumping for some farmers more difficult or more costly or prevent it altogether. It can also restrict channel capacity and create problems for marinas. Pumping and drainage from agricultural lands can also create water quality problems for landowners and other downstream users. Other farmers may face problems from high salt levels in the soil. Drainage and water supply canals and crossings may not be in the optimal positions. This strategy would provide farmers with technical and financial assistance for on-farm water management activities such as those listed below. This strategy is not intended to cover water quality impacts caused by operation of the SWP, CVP or the BDCP conveyance facility which are being discussed in other arenas. See discussion below on assisting farmers in meeting their own water quality regulatory requirements. Possible measures would include:

- Creating GIS-based topographic or other types of maps of their land that would help farmers better understand and manage their land. For example, GIS-based topographic maps could be used to decide whether there are drainage problems and help determine appropriate solutions.
- Regional weather networks, such as CIMIS, for irrigation scheduling.
- Providing portable pumps to improve water quality by removal of soil salts through drainage.
- Facilitate changes in timing of pumping or discharging water to improve water quality and supply by
 - Providing larger pumps, deepening wells, or extending existing local agricultural diversions further into deeper water
 - Helping to build small holding ponds for drainage water so that it can be released at a time when water quality issues for downstream users are less likely to occur.
- Consolidate intakes.

- Selectively dredging small areas to improve flow conditions and operation of agricultural siphons to provide for better water quality or supply, for example in Middle River, Old River, and West Canal in the South Delta.
- Improve agricultural and wetland management crossings.
- Maintenance and improvement of drainage and water supply canals.

This strategy could also provide technical or financial assistance for the implementation of practices to protect soil from erosion and to keep soil and agricultural chemicals, including fertilizers and pesticides, from entering ground and surface water. In 2003, the Central Valley Regional Water Quality Control Board adopted a new set of regulations pertaining to discharges of waste from irrigated agricultural lands into waters of the State. The purpose of the program is to prevent agricultural discharges from impairing the waters that receive these discharges. These regulations, which are referred to as the Irrigated Lands Conditional Waiver Program provided an individual irrigator with an option to join a coalition group or to participate directly in the program as an individual. This Strategy differs from Strategy 23b which is focused on decreasing actual and perceived regulatory obstacles on agriculture-related businesses seeking to expand, enhance, and/or maintain their operations. Some of the practices envisioned could also be used in Strategy 12 (partner with others to maintain and enhance environmental quality on farmland) and include:

- assistance in preparation of required plans such as farm evaluation plans, nitrogen management plans and sediment and erosion control plans
- installation and maintenance of riparian forest buffers
- grassed waterways
- windbreaks and hedgerows
- cover crops and mulch
- no-till, minimum till or direct seeding
- inter-cropping
- tailwater recovery ponds and sediment basins

RELATED PROGRAMS AND POLICIES

- As part of the Suisun Marsh Preservation Agreement, the Department of Water Resources and the U.S. Bureau of Reclamation currently fund a mitigation

program in the Suisun Marsh that provides portable pumps to farmers, as needed, to drain high salinity water from agricultural land to increase productivity. This is used as mitigation during drought years for high salinity soil. For this program specifically, pumps provide removal of salty water through drainage. These pumps provide temporary drainage and can be moved around among farmers. This program is managed by the Suisun Marsh Resource Conservation District.

- In the past, DWR has occasionally been able to find funding to voluntarily dredge an area in the delta which provided relief for a number of years. If funding could be found for continued dredging, it would help the farmers in the area.
- *Try new BMPs at no risk:* The Nutrient *BMP Challenge*³ allows growers to try current BMP application rates for N, P or K without risk to income. Producers already working at BMP fertilizer application rates can experiment with below-BMP nutrient applications. Any loss of income due to lower yield will be compensated by the program. Limitation: currently limited to corn producers.
- *BMPs and training:* University of California Division of Agriculture and Natural Resources used to offer a *Farm Water Quality Planning Series* to provide training for irrigated crop growers who are interested in water quality protection practices.
- *State bond funding to implement BMPs:* Proposition 84 money has been used to help Central Valley farmers to implement agricultural water quality improvement projects. The funding, available through a bond initiative approved by California voters in 2006, was awarded to Coalition for Urban Rural Environmental Stewardship (CURES) by the State Water Resources Control Board.
- The Delta Conservancy has convened a Habitat Enhancement of Working Landscapes Coalition, to coordinate efforts to enhance the habitat value of working landscapes and benefit agriculture in the Sacramento-San Joaquin Delta. Working with partners (Delta Protection Commission (DPC), the Natural Resources Conservation Service, the five Delta county Resources Conservation Districts (RCD), Point Blue Science Center (previously PRBO), The Nature Conservancy, Audubon California, Ducks Unlimited, and the Delta agricultural community) the group has developed shared objectives and a suite of innovative management practices and project activities that focus on addressing agricultural

³ The BMP Challenge is backed by a commercial service agreement provided by Agflex, an Iowa corporation.

needs and providing benefits to terrestrial species, waterfowl and other avian species, aquatic species and water quality.

- The NRCS and RCDs provide technical and financial assistance for the practices named above. For example, the NRCS Conservation Stewardship Program makes annual payments for the environmental benefits produced by the practices, and scales payments to match the level of benefits. The DPC sponsors the Delta Working Landscapes Program, a group of projects which demonstrates how farmers can integrate habitat restoration into farming practices. The program established hedgerow grass plantings and other vegetative buffers along irrigation ditch banks to separate farm fields from waterway. These served to reduce runoff of sediment and pesticides, reduce herbicide use, enhance levee stability, and retard levee erosion, among other benefits.
- CDFA's Fertilizer Research and Education Program (FREP) facilitates and coordinates research and demonstration projects by providing funding, developing and disseminating information, and serving as a clearinghouse for information on fertilizing materials.

ISSUES

- Some farmers may not want to participate because of their reluctance in dealing with State or federal agencies.
- There may be impacts on wetlands and other natural resources habitats, water quality and hydrology that would need to be avoided or mitigated;
- Nutrients may be lost as a result of drainage
- Permits may be needed to install or operate facilities.
- The measures may not be a permanent solution.
- Some of the measures could increase subsidence and increase GHG emissions.
- Determining what to fund, how to fund it and how to avoid other adverse impacts is a challenge.
- Whether cost-sharing should be part of the plan

OPPORTUNITIES AND POTENTIAL PARTNERS

The Natural Resource Conservation Service (NRCS) and local resource conservation districts (RCDs) may be possible partners since these are techniques that can help farmers increase the productivity of their land. Other partners might include reclamation and irrigation districts, UC Cooperative Extension, the Delta Conservancy and the Delta Protection Commission.

Draft – Subject to Revision

The San Joaquin County & Delta Water Quality Coalition (<http://www.sjdelatawatershed.org/>) and the East San Joaquin Water Quality Coalition (<http://www.esjcoalition.org/home.asp>).for water quality issues

Partner with CDFA and other agricultural research organizations such as the University of California Cooperative Extension to create or extend programs such as re-establishing the *Farm Water Quality Planning Series*, or administering a program similar to the Nutrient BMP Challenge that includes more crop types than just corn.

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SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A3: Control Weeds and Other Pests

Strategy A3.1: Reinvigorate County Weed Management Areas

DESCRIPTION

The strategy would assist Delta county Weed Management Areas (WMAs) to coordinate and implement weed management projects in the Delta with farmers and other Delta partners. Example projects are early detection, eradication, and control of terrestrial and aquatic weeds, such as perennial pepperweed, medusahead and water hyacinth, in and around agricultural and grazing land.

Controlling the spread of weeds in and around agricultural lands has the potential to reduce the spread of weeds onto any adjacent habitat reserves or protected areas in the Delta, potentially reducing management costs. Therefore, multiple benefits can be obtained from investing in weed management programs.

Aquatic weeds are a widespread problem in the Delta and have multiple adverse effects on recreation and local agriculture and businesses by impeding flow of water, increasing the cost of pumping, increasing the need for pesticides, decreasing water quality, and harboring pests like mosquitos.

WMAs are local stakeholder groups working on weed projects and are usually led by the County Agricultural Commissioner or local Resource Conservation District. Each WMA develops a strategic plan that identifies its top priorities for local management. The WMAs that overlap the Delta are Alameda-Contra Costa, Sacramento, Northern San Joaquin Valley, Solano, and Yolo.

Once identified, weed populations could be prioritized by the WMA for control or eradication. Landowners could help detect target weeds on their land, including those rated by CDFA or listed by the California Invasive Plant Council (Cal-IPC). Where weed management is needed, the work could be contracted to landowners through their local WMA. Landowners are welcome to participate in their local WMA and landowner participation in a WMA could be a condition for farmers to receive WMA funds to implement weed management on their land.

This strategy would benefit farmers because weeds are expensive to manage, and some species of weeds may reduce crop yield, decrease property value, and cause illness or death when consumed by livestock. Additionally, weeds can add fuel to wildfires and impede water flow in canals and streams.

RELATED PROGRAMS AND POLICIES

The California Department of Food and Agriculture (CDFA) administered the WMA program until the funding ended (<http://www.cal-ipc.org/policy/state/wma.php>). The program infrastructure still exists and many WMAs continue to meet.

ISSUES

Permits may be necessary for chemical treatment, possibly including NPDES permits for use of herbicides on or near water. Environmental impacts from chemical treatments may need to be addressed via CEQA. Non-chemical treatments (e.g., controlled burning, hand clearing, or grazing) are generally expensive, time consuming, or hard to implement/coordinate with residents and agencies.

PARTNERS AND OPPORTUNITIES

Potential partners include:

- CDFA Plant Health and Pest Prevention Services (<http://www.cdfa.ca.gov/plant/>)
- California Agricultural Commissioners and Sealers Association (<http://cacasa.org/>)
- California Association of Resource Conservation Districts (<http://www.carcd.org/>)
- California Invasive Plant Council (www.cal-ipc.org)

Potential Opportunities include:

- USDA Grant and Partnership Programs for Invasive Species are available to private land owners, tribes, and farmers and encourage them to enhance or restore habitat, including invasive species management, or convert degraded agricultural land into wildlife habitat on their property (<http://www.invasivespeciesinfo.gov/toolkit/grantsusda.shtml>). Part of this ALS strategy could be to provide assistance to the WMAs with the grant application and the cost-share portion.

SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A3: Control Weeds and Other Pests

Strategy A3.2: Prioritize weeds and other pests for area-wide control

DESCRIPTION

This strategy would provide technical assistance to Delta farmers, residents, marina operators, boaters, and others affected by terrestrial and aquatic weeds to inventory, prioritize, coordinate, and implement weed management projects. This strategy could also be extended to management of other pest species.

There are 130 known CDFA-rated noxious weeds and Cal-IPC-listed invasive plant species in the Delta. Actions could be designed to perform risk assessment and subsequent prioritization of treatment areas to strategically and effectively reduce expansion of the multiple species of weeds. Actions could include creation of an early detection network and reporting system. Tools to help identify suitable candidate weeds and populations for management include CalWeedMapper (<http://calweedmapper.cal-ipc.org/>) and WHIPPET (Weed Heuristics: Invasive Population Prioritization for Eradication Tool) (<http://whippet.cal-ipc.org/>).

CalWeedMapper (<http://calweedmapper.cal-ipc.org/>) is an online tool that enables natural resource managers to identify management opportunities in a region of interest. WHIPPET (<http://whippet.cal-ipc.org/>) is a decision-making tool to help prioritize weed populations for eradication. Used together, these tools can help land managers systematically target weed infestations by putting their limited resources into populations known to cause the greatest impacts, are most likely to spread, and are most feasible to eradicate.

As proposed in Strategy A3.1, Reinvigorate County Weed Management Areas, treatments could then be done through contracts with the landowner through the local Weed Management Areas to treat on private land or contracted with the California Conservation Corps for work on public-owned land.

This ALS strategy, in concert with Strategy A3.1, would complement the efforts of the Department of Boating and Waterways on aquatic weeds by addressing additional terrestrial weeds that are problematic for agriculture, and often for native vegetation communities as well.

RELATED PROGRAMS AND POLICIES

The California Department of Fish and Wildlife maintains the California Aquatic Invasive Species Management Plan (<http://www.dfg.ca.gov/invasives/plan/>), which proposes management actions for addressing threats focused on non-native algae, crabs, clams, fish, plants, and other species that continue to invade California's creeks, wetlands, rivers, bays, and coastal waters.

The California Department of Food and Agriculture (CDFA) designates plant species as noxious weeds and maintains a noxious weed list per the California Food and Agricultural Code and Title 3 of the California Code of Regulations. When listed as noxious, each weed receives a rating based on its statewide importance as a pest, the likelihood that eradication or control efforts would be successful, and the present distribution of the weed in the state. CDFA uses the noxious weed list to prioritize weed control and eradication throughout the state.

Under the Aquatic Weed Control Program, the Department of Parks and Recreation's Division of Boating and Waterways (DBW) (<http://www.dbw.ca.gov/>) is the lead state agency responsible for the control of Brazilian waterweed, water hyacinth, and South American spongeplant in the Delta, its tributaries, and Suisun Marsh. DBW is bound by permit conditions and prioritization systems that dictate when and where control activities may occur.

The Delta Conservancy in cooperation with the Department of Water Resources is testing a pilot program that will likely lead to a Delta-wide Arundo Control Program.

The Delta Plan has a policy and a recommendation related to nonnative invasive species. Ecosystem Restoration Policy ER P5 (23 CCR section 5009) states:

- (a) The potential for new introductions of or improved habitat conditions for nonnative invasive species, striped bass, or bass must be fully considered and avoided or mitigated in a way that appropriately protects the ecosystem.*
- (b) For purposes of Water Code section 85057.5(a)(3) and section 5001(j)(1)(E) of this Chapter, this policy covers a proposed action that has the reasonable probability of introducing or improving habitat conditions for nonnative invasive species.*

Ecosystem Restoration Recommendation ER R7 states:

The California Department of Fish and Wildlife and other appropriate agencies should prioritize and fully implement the list of "Stage 2 Actions for Nonnative Invasive Species" and accompanying text shown in Appendix J taken from the Conservation Strategy for Restoration of the Sacramento–San Joaquin Delta Ecological Management Zone and the Sacramento and San Joaquin Valley Regions (DFG 2011). Implementation of the Stage 2 actions should include the development of performance measures and monitoring plans to support adaptive management.

The DWR Central Valley Flood System Conservation Strategy update for 2017 will include an Invasive Plant Management Plan.

DWR Operations and Maintenance Aquatic Nuisance Species Program focuses on invasive pests in State Water Project facilities, but also has done work on arundo removal on land purchased for mitigation and funds CDFA to survey for hydrilla in the Delta and to eradicate it from Clear Lake and other water bodies connected to the watershed.

Weed managers may also consider the National Park Service Exotic Plant Management Program (http://www.nature.nps.gov/biology/invasivespecies/EPMT_teams.cfm) as a model for forming strike teams to assist landowners to respond swiftly to protect their land from invasive plants.

ISSUES

Farmers may not be familiar with Cal-IPC, CalWeedMapper, and WHIPPET and how these partners and tools are beneficial.

Currently, DBW, the only entity authorized to use herbicide to treat Brazilian waterweed, water hyacinth, and South American spongeplant in the Delta, is required to operate under two Biological Opinions (USFWS and NMFS) and the Central Valley Regional Water Quality Control Board's National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits are required for all aquatic pesticide applications in California.

Securing adequate funding and resources for aquatic weed control is also an issue. The DBW program is expensive, and non-chemical treatments (e.g., mechanical harvesters) are also expensive, time-consuming, or hard to implement/coordinate with residents and agencies.

Identifying and coordinating with existing efforts to manage pest species would maximize efficiency.

PARTNERS AND OPPORTUNITIES

Resource Conservation Districts (RCDs) (<http://www.carcd.org/>) implement various types of conservation projects on public and private lands and educate landowners and the public about resource conservation. Project activities conducted by the RCDs include, but are not limited to, agricultural land conservation, wildlife habitat enhancement, and wetland conservation. Weed managers could consider engaging the

RCDs in helping to educate farmers about invasive species and the benefits of removal as well as provide technical assistance to identify weed populations and prioritize control or eradication on agricultural land.

The Bay area has established a Bay Area Early Detection Network (BAEDN) (<http://www.cal-ipc.org/WMA/BAEDN/>). BAEDN is a collaborative partnership of regional land managers, invasive species experts, and concerned citizens in the nine-county San Francisco Bay Area which selects regional priority species for eradication, including some naturalized non-native plant species that have not yet become invasive but that are deemed to be a future risk. BAEDN has become a project of Cal-IPC, joining with other regional partnerships across the state working with Cal-IPC to prioritize eradication targets. Cal-IPC is supporting continued work on Bay Area populations that have been selected for eradication. BAEDN used WHIPPET to prioritize populations of target weed species. This program could serve as a model for a similar program in the Delta.

Other potential partners include:

- USDA-Agricultural Research Service (<http://www.ars.usda.gov/>)
- UC Cooperative Extension Weed Research and Information Center (<http://wric.ucdavis.edu/>)
- California Department of Food and Agriculture (<http://www.cdfa.ca.gov/plant/>)
- Local Weed Management Areas (<http://www.cal-ipc.org/WMA/>)
- California Invasive Plant Council (<http://www.cal-ipc.org/>)
- Sacramento-San Joaquin Delta Conservancy (<http://www.deltaconservancy.ca.gov/>)
- California Department of Fish and Wildlife (<http://www.dfg.ca.gov/invasives/>)
- California Conservation Corps (<http://www.ccc.ca.gov/>)

SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A3: Control Weeds

Strategy A3.3: Encourage Use of Weed-Free Construction Materials

DESCRIPTION

Work with County Agricultural Commissioners in the Delta to certify noxious and invasive weed-free products for use in construction and erosion control projects.

Hay and straw can contain viable weed seeds if harvested from fields where weeds are allowed to develop seed. When used for erosion control wattles, these contaminated products can spread noxious and invasive weeds to new areas. The use of certified weed-free materials is one way to prevent the spread of noxious and invasive weeds.

According to a survey conducted in April 2010, the Delta counties with active weed-free certification programs include Alameda, Contra Costa, San Joaquin, Solano, and Yolo, but not Sacramento. PG&E and Caltrans use weed-free materials in construction, operation, and maintenance activities. Encouraging other users to have a policy to use local, weed-free materials for construction, operation, and maintenance project would help expand the market for these products and local growers could have more incentive to manage their fields to produce materials that can be certified as weed free.

This strategy would benefit farmers by increasing their revenue because their product would be purchased for habitat and other projects. The region would benefit because moving the product would not contribute to further noxious and invasive weed infestation.

RELATED PROGRAMS AND POLICIES

County Agricultural Commissioners and CDFA administer the weed-free certification program. Weed-free certification is a voluntary program for producers. Weed-free certification may also be applied to forage for livestock.

Information regarding certified weed-free forage and straw resources and list of available suppliers can be found on Cal-IPC's website: <http://www.cal-ipc.org/ip/prevention/weedfreeforage.php>.

The California Invasive Plant Council has published Prevention Best Management Practices for Land Managers and addresses using weed-free materials: http://www.cal-ipc.org/ip/prevention/PreventionBMPs_LandManager.pdf

ISSUES

Planning ahead is necessary. Growers need to know early in the year (January/February) whether there will be demand for weed-free certified product. Inspections usually take place in June/July before harvest.

Weed-free certification programs usually inspect for noxious weeds from the CDFA Noxious Weed List, so there would need to engage in discussions with the County Agricultural Commissioner regarding expanding the weed-free certification to include invasive species listed by the California Invasive Plant Council.

PARTNERS AND OPPORTUNITIES

County Agricultural Commissioners and CDFA would be the logical agencies to implement this strategy.

SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A4: Reduce conflict between agriculture and nearby habitat lands

Strategy A4.1: Establish “Good neighbor” policies

DESCRIPTION

Many Delta farmers are concerned that habitat lands could harm nearby agriculture in various ways. Habitat areas could export weeds, diseases and pests. Prolonged flooding of constructed wetlands could cause water seepage onto nearby farmland and consequently damage crops. Neighbors of a restoration project may also have concerns about wildlife and human trespass. Farmers are also concerned that protected species could migrate from restored habitat areas onto farmland and result in liability under species protection laws. In addition, farmers want assurance that owners of project lands purchased and held pending development and approval of projects will be good stewards and continue to maintain the agricultural nature of the lands pending commencement of the project.

Farmers would like additional assurance that entities that establish and manage habitat projects nearby will consult with their neighbors and find ways to avoid such impacts and resolve problems when they arise. This could include creation of buffer zones between habitat preserves and farmland, which would help to reduce or eliminate exposure to pests and diseases on neighboring lands, prevent overspray of chemicals onto habitat lands, and assist with a successful transition between different land uses. Another option is to provide third-party liability insurance or a fund to compensate landowners for any substantiated property damage.

A third option is to develop and obtain approval of land management agreements and permits that provide landowners protections from liability under state and federal endangered species laws for their otherwise lawful operations, should expanded populations of threatened and endangered species enter their property due to nearby habitat restoration. See Strategy A4.2 for a more detailed discussion of this option.

RELATED PROGRAMS AND POLICIES

Buffer zones are in use in the North Natomas HCP in Sacramento and Sutter Counties to separate the habitat preserve from urban and potentially urban areas. In that instance, the main aim of the buffer zone is to protect native wildlife from urban threats, such as cats and dogs.

The land use and management plan adopted by the Delta Protection Commission includes a policy that calls for habitat projects to include appropriate buffer areas to prevent conflicts with neighboring agricultural parcels. It further states: “Buffers shall adequately protect integrity of land for...agricultural uses and shall not include uses that conflict with agricultural operations on adjacent...lands.”

The Mitigation and Monitoring Reporting Program for the Delta Stewardship Council’s Delta Plan, which summarizes the mitigation measures in the final program environmental impact report, contains three actions under Mitigation Measure 7-1 to reduce the impact of habitat projects on agriculture. These actions include reconnecting utilities or infrastructure that serve agricultural uses if these are disturbed by project construction, managing project operations to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land, and establishing buffer areas between projects and adjacent agricultural land that are sufficient to protect and maintain land capability and agricultural operation flexibility.

With regard to buffer areas, Delta Plan Mitigation Measure 7-1 states, in part, “Design buffers to protect the feasibility of ongoing agricultural operations and reduce the effects of construction- or operation-related activities (including the potential to introduce special-status species in the agricultural areas) on adjacent or nearby properties. The buffer shall also serve to protect ecological restoration areas from noise, dust, and the application of agricultural chemicals. The width of the buffer shall be determined on a project-by-project basis to account for variations in prevailing winds, crop types, agricultural practices, ecological restoration, or infrastructure. Buffers can function as drainage swales, trails, roads, linear parkways, or other uses compatible with ongoing agricultural operations.”

ISSUES

Buffer zones may be expensive to acquire, both in dollars and land area. Because they typically do not contribute to the acreage requirements for species protected in habitat preserves, their justification lies in their ability to reduce or prevent impacts to neighbors.

Multi-purpose buffers are worth considering both because they may provide co-benefits for the landowner and others, and because some compatible uses may reduce the costs of acquiring or maintaining buffer zones. For example, trespass concerns might be reduced by planting buffers or borders along the edges of the planting that will discourage human trespass, such as rose, blackberry, and poison oak hedgerows that also have wildlife benefits, or another barrier might involve planting a dense hedgerow of trees to intercept pesticide drift from neighboring properties. Such hedgerows can also function as valuable habitat. Other examples of multi-purpose buffers could

include a drainage ditch or irrigation canal, interior or exterior levee, fire road, wind break, pipeline or power line, railroad right of way or rural airstrip, flood bypass, groundwater recharge area, windmills to generate electricity for on-farm use and/or the grid, solar panels to generate electricity for on-farm use and/or the grid, CIMIS station and cell phone tower.

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SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A4: Reduce conflict between agriculture and nearby habitat land

Strategy A4.2: Provide take coverage for neighboring lands

DESCRIPTION

Farmers are concerned that protected species could migrate from restored habitat areas onto farmland and result in liability under species protection laws. Farmers would like protection from liability under state and federal endangered species laws for their otherwise lawful operations, should populations of listed threatened and endangered species enter their property as a result of habitat restoration. This type of protection is sometimes called neighboring landowner protection.

The California Endangered Species Act provides limited protection for “accidental take,” which could occur in the course of an otherwise lawful, routine, and ongoing farming or ranching activity. This strategy does not include a discussion of accidental take issues.

RELATED PROGRAMS AND POLICIES

A conservation plan approved under the federal Endangered Species Act or state Natural Community Conservation Planning Act can include provisions through which landowners neighboring habitat preserves established under the plan could obtain take authorization. The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan provides for “neighboring land protections” to assure neighboring landowners that their routine and ongoing agricultural activities on their lands will not be affected by protected species that become established on their land. Protections extend one-half mile out from the habitat preserve border, and provide coverage under both the federal and state endangered species acts. Landowners who seek such protection must sign a Certificate of Inclusion. The Santa Clara Valley Habitat Plan has a similar provision, providing incidental take coverage under a voluntary program to active farmlands within a one-mile radius of the reserve area and covering three listed species: California red-legged frog, California tiger salamander, and western pond turtle.

Incidental take programs in ESA/NCCPA conservation plans typically identify eligibility requirements, including provisions for voluntary participation, timelines for applying for take coverage, the geographic scope of eligible lands, and the land uses eligible for take coverage. In addition, they require a biological survey that identifies baseline conditions (e.g., the type, number, location, and condition of species and their habitat) for the purpose of identifying changes from the baseline as a result of conservation plan implementation. The Santa Clara Valley Habitat Plan provides landowners the option of

either allowing biologists with the implementing agency to survey their property and reimbursing the cost of the survey, or hiring a biologist on their own with the approval of the implementing entity.

ISSUES

Landowners would need to allow access to biologists for the purpose of gathering information regarding baseline and future conditions. This requirement, along with the cost of surveys, could affect participation levels in a voluntary program. The incidental take coverage program also should set forth how incidental take coverage issues will be addressed when land ownership is transferred.

Efforts to increase the abundance of protected fish species in the Delta, and elsewhere, raise concerns that those fish could be unintentionally drawn into irrigation water intakes. No approved Habitat Conservation Plan provides neighboring land protection for take of fish that are drawn into water intakes. Thus, the process and rules for determination of eligibility, geographic scope, and baseline survey requirements for such coverage have not been established, and would likely prove difficult.

OPPORTUNITIES AND POTENTIAL PARTNERS

- Farm Bureaus of five Delta counties
- California Farm Bureau Federation
- Resource Conservation Districts
- Delta Protection Commission, Delta Conservancy, Delta Stewardship Council, California Department of Fish and Wildlife, California Biodiversity Council
- U.S. Fish and Wildlife Service, National Marine Fisheries Service

SECTION II: POTENTIAL STRATEGIES

Group A. STRATEGIES TO HELP MAINTAIN FARMING

Strategy A4: Reduce conflict between agriculture and nearby habitat lands

Strategy A4.3: Support local efforts to reduce nuisance and illegal activities

DESCRIPTION

Farmers in the Delta face problems related to trespassing, vandalism, dumping, poaching, and crime on or near their farmland. Some Delta farmers are concerned that BDCP construction activities, as well as the development and operation of new habitat lands, could increase problems related to illegal activities. Farmers would like assurances that these unwanted situations won't harm them or interfere with their farming operations. A partial solution for this potential problem would be to increase law enforcement presence in areas where illegal activities occur. There are a variety of ways to help provide for increased law enforcement. They include providing funding for:

- Department of Fish and Wildlife to hire additional game wardens. These wardens would patrol areas deemed necessary to reduce crime on and near habitat lands. One of the BDCP measures would increase game warden staffing to enforce regulations regarding the illegal harvest of adult salmon, steelhead, and sturgeon. If this measure is funded, the mere presence of additional game could act as a deterrent to the types of crimes noted above. These game wardens may also arrest individuals engaged in a wide variety of illegal activities, in addition to poaching.
- local police and sheriff departments to hire additional staff, including law enforcement personnel.
- hire private security guards.

In addition, project proponents of restoration projects should consider the potential for illegal activities and work with neighboring farmers and land managers to provide adequate patrolling of the land by project personnel or others. Regular patrolling and a visible presence on the land, as part of the job of managing the project can deter vandals and trespassers, and reduce potential opposition to the project from neighboring landowners. If problems are observed, law enforcement can be brought in to help deal with the problems.

Potential solutions not involving law enforcement also exist:

- Road, trail, public/private signs that clearly demarcate public/project land from private land.
- Trespass Signs: Landowners have a responsibility to either fence or sign their lands, but funding or signage could be provided to landowners to make it more feasible.
- Protocol for farmers/residents to follow when issues arise: Pamphlet/flyer/web site directing farmers and residents on what to do when there is a conflict.

RELATED PROGRAMS AND POLICIES

The Delta Conservancy prepared a paper on “Law Enforcement in the Sacramento-San Joaquin Delta Region” which has a number of recommendations included here. The Conservancy and the Delta Protection Commission are currently drafting a follow-up to this report that identifies how to address some of these issues. The PPIC also issued a report called “Costs of Ecosystem Management Actions for the Sacramento-San Joaquin Delta” which discusses enforcement issues.

The Western Riverside County Multiple Species HCP includes funding for Reserve Managers to carry out management activities. These management activities include addressing disturbances, such as illegal trespass that affect the habitat land. Examples of illegal trespass are dumping, vandalism, and off-road vehicle use.

A State program to aid local law enforcement was implemented during the construction of Oroville Dam.

ISSUES

Funding for these types of positions may be difficult to obtain, especially year after year. These positions would need to be funded for the life of the habitat land, which is usually in perpetuity. According to the PPIC report (above), one game warden would cost about \$200,000 per year (including benefits, salary, and operational support).

Funding would also be needed for appropriate signage.

OPPORTUNITIES AND POTENTIAL PARTNERS

- Resource Conservation Districts
- California Department of Fish and Wildlife
- Sheriff Departments and County Prosecutors’ Offices for the six Delta Counties
- CHP

SECTION II: POTENTIAL STRATEGIES

Group A. POTENTIAL STRATEGIES TO HELP MAINTAIN FARMING

Strategy A5: Provide agricultural conservation easements

DESCRIPTION

An agricultural conservation easement (ACE) is a voluntary, legally recorded deed restriction that is placed on a specific property used for agricultural production. ACEs are created specifically to ensure agriculture remains viable over a long period of time and to prevent incompatible development on the subject parcels. While other benefits may accrue because the land is not developed (scenic and habitat values, for example), normally the primary use of the land is agriculture. Strategies E1.2.2 and E1.2.3 17 may make use of easements in addition to other tools such as direct payments.

Normally, ACEs are held in perpetuity, which demands careful contemplation of future potential agricultural uses, as well as current customary uses. Historically, the goal of an ACE has been to maintain agricultural land in active production by removing the development pressures from the land. Such an ACE generally prohibits practices which would damage or interfere with the agricultural use of the land, although multipurpose easements may impose restrictions on agriculture needed to preserve other, nonagricultural land values that are also within the scope of the ACE's purposes.

Because the ACE is a restriction on the deed of the property, the ACE runs with the land; that is, as long as it exists, the restrictions it contains remain in effect through all subsequent changes in ownership. Depending upon each situation, the placement of an ACE on land may provide income, property, and estate tax benefits. Historically, ACEs have often been held by land trusts or local governments, which are responsible for ensuring that the terms of the ACE are upheld. The property proposed for an ACE must have characteristics (e.g., location, soil quality) that make it a priority for the ACE holder organization. If the potential ACE holder wishes to pursue an ACE on the proposed property, it would negotiate terms with the landowner, including price and restrictions

This strategy is referred to elsewhere in this paper on strategies as a “Conventional Mitigation Approach.” As it is normally used in other other areas of California, when agricultural land is converted to another use, the strategy requires the preservation and, in some cases, enhancement of other land of similar agricultural value, and is most effective if the ACE is on land that is in the path of development. Thus, typically, ACEs are use to conserve or protect farmland subject to economic pressure to convert to a use other than agriculture. In the Delta, the approach is complicated by the fact that there is little development pressure in the inner Delta due to regulatory restrictions, flood threats, and the large number of acres potentially planned for restoration by DWR and other public and private entities. These circumstances make both the valuation of

potential ACE property interests, and the identification of the best locations for ACEs much more complex.

In considering locations for ACEs, the following factors could be considered:

1. Would ACEs provide a sustainable area of high quality or unique farmland in the Delta?

There is significant acreage of high quality farmland in the Delta. Some of the historically productive land is under threat of inundation from sea level rise, and other land would be converted from agricultural use if required for implementation of some BDCP or other HCP/NCCP conservation measures. However, there may be non-developed uses (e.g., conversion from farming to some recreational or conservation uses) that could cause conversion from agricultural use of high quality soils. Obtaining ACEs on such lands could ensure long-term agricultural uses on Delta farmland.

Determining the best locations for ACEs will depend on soil quality, long-term viability of agricultural uses, owner interest in capitalizing land value through voluntary participation in an ACE program, and local factors, including local governments' interest in preserving agricultural land uses. Where in-Delta and out-of-Delta orchard and crop types or planting patterns are geographically and/or economically linked, there may be a benefit to ensuring long-term protection on in-Delta land, via ACEs, by providing a bridge to preserving agricultural land outside the Delta. The economic vitality of Delta agricultural land may also benefit from protection of land with similar orchard and crop types located adjacent to, or reasonably close to comparable Delta farmland.

To the maximum extent possible, replacement land should be of equal or greater value, using either the Department of Conservation's Important Farmland classifications, the Storie Index for California soils, or using the NRCS soil survey classes. All ACEs should comply with statutory requirements qualifying them as enforceable restrictions pursuant to §421, *et seq.* of the Revenue and Taxation Code.

2. In considering the use of ACEs as mitigation, what are the possible land loss/easement ratios that could be considered?

Recent custom for mitigation of the conversion of agricultural land for development purposes tends to be that a 1:1 ratio for ACEs meets the feasible mitigation standard. This approach appears to recognize that the mitigation would result in a net loss of farmland, since the action would permanently restrict equivalent acreage to agricultural use, but still would not cause an increase in high quality land available

for agricultural uses. Other approaches using lower or higher ratios have also been used and in some cases the determination that there is no feasible mitigation has resulted in no ACEs being proposed (see the Appendix, Attachment 3 for a summary of CEQA cases). Where multi-purpose agricultural conservation easements (see below) are used to mitigate for the loss of farmland elsewhere, the 1:1 ratio would most likely be based on the net land available for farming on the easement property (that is, by not counting land from which farming would be excluded in order to meet conservation measures).

A suggestion has been made that acreage restricted to habitat conservation easements should not be counted toward CEQA mitigation for agricultural land. Another suggestion is that a higher ratio may be appropriate, for example, in conversion of a Farmland Security Zone parcel, reflecting the high quality of the land and the longer term commitment by landowners and local governments. A suggestion has also been made that a 3:1 ratio should apply to any conversion of agricultural land to non- agricultural uses.

3. What issues arise with combination habitat conservation and ACEs?

Habitat conservation easements are often placed on lands to preserve the land for preservation and restoration of plant and animal species. ACEs are recognized in statute and can be more broadly used to protect habitat as well as to preserve agricultural land. Easements used by the Department of Conservation and the Coastal Conservancy have provided for both habitat and agricultural conservation in perpetuity. Depending on the conservation easement, habitat conservation easements can be very restrictive with regard to the type of farming that is permitted in order for the land to serve as habitat for a specific species.

Factors to consider in determining when it is appropriate to use a combination habitat conservation easement and ACE include:

- The extent to which the easement serves both habitat and agricultural purposes;
- Whether, and the extent to which, restrictions needed to conserve or mitigate for loss or replacement of habitat prevent the use of some of the land for agriculture or limit the kind of crops that can be grown; and,
- Whether the farmland preserved for conservation or mitigation of the loss of habitat occurs in areas identified as priorities for preserving agricultural resources.

A suggestion has been made that all habitat restoration projects proposed through BDCP and other state agencies should occur on government owned land first and that any habitat restoration projects on privately owned land should only be considered after all public owned lands used for habitat mitigation activities are exhausted. Private lands shall only be considered on a willing seller, willing buyer

agreement with payment of fair and just compensation. Another suggestion is that acquisition of land should be obtained through conservation easements first before fee title is considered by the implementing entity.

RELATED PROGRAMS AND POLICIES.

- California Farmland Protection Program, California Department of Conservation
- California Coastal Conservancy, Grant program for Government agencies (federal, state, local, and special districts) and certain nonprofits.
- Local Williamson Act programs, including Williamson Act “Easement Exchange” actions
- USDA Conservation Reserve and Wetland Reserve Programs
- USFWS LIP program

ISSUES

Issues involve questions of who will negotiate and acquire the ACEs; who will hold the ACEs; how will any ACE be enforced (for performance requirement and to ensure acreage commitments are met); and how would ACEs be endowed, if necessary, to ensure the permanent administration and enforcement of easement rights by the holder(s) of the ACE.

OPPORTUNITIES AND POTENTIAL PARTNERS

Potential Partners include: the Delta Conservancy; private land trusts and conservancies; the Department of Conservation; the California Coastal Conservancy; and USDA, Natural Resources Conservation Service

SECTION II: POTENTIAL STRATEGIES

Group B. STRATEGIES THAT PROVIDE INCENTIVES FOR CONSERVATION ON AGRICULTURAL LAND

Strategy B1: Partner with others to maintain and enhance environmental quality on agricultural land

DESCRIPTION

Additional funds could enhance existing programs that work with farmers to create and maintain habitat on private land. Many governmental and non-profit entities and private landowners work to improve wildlife habitat and other aspects of environmental quality on farmland. They recognize the value of natural habitat features on agricultural land. Similarly, they may see value in establishing a mosaic of habitat and conventional crops across the landscape.

Thus, many growers build wildlife-friendly features on their farms, including hedgerows, grassed waterways and vegetated tail-water ponds. These have beneficial roles in agriculture and serve as habitat features. Some managers make use of livestock for weed control in habitat areas; e.g., livestock grazing is sometimes the key to maintaining desirable conditions in vernal pools.

RELATED PROGRAMS AND POLICIES

A familiar example is the work of Resource Conservation Districts and the NRCS. They offer ways to improve management of farms and rangeland to benefit both agriculture and wildlife. RCDs work with the NRCS to help fund projects on private land. Federal Farm Bill programs, including the Conservation Reserve and Wetland Reserve Programs, share costs with landowners to create and maintain habitat on private land.

The Central Valley Joint Venture is another example of successful establishment of countless wetland habitat projects on privately-owned farmland over the past twenty-five years. The projects are compatible with production agriculture and often involve rice land in both the growing and fallow season and winter flooding of other crops.

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SECTION II: POTENTIAL STRATEGIES

Group B. STRATEGIES THAT PROVIDE INCENTIVES FOR CONSERVATION ON FARMLAND

Strategy B2: Provide incentives for farmers and landowners to take part in a market based conservation program

DESCRIPTION

A consortium (including American Rivers, Environmental Defense Fund, PRBO Conservation Science, Environmental Incentives and Trout Unlimited, Delta Conservancy, and California Department of Conservation) has proposed development of exchanges in which private landowners produce habitat, or otherwise improve environmental quality, and package those accomplishments as credits for sale. Buyers could be either investors or permit-seekers, such as agencies or entities needing to comply with environmental regulations or mitigation requirements. A third-party program administrator would link buyers, producers and regulatory agencies. The consortium is developing the outline of a habitat credit exchange that could be used to improve both flood protection and habitat in the Central Valley and Delta.

The operation of habitat credit exchanges would require creation of scientific techniques to measure benefits (credits), both as acreage and as habitat quality. The consortium is developing such a measurement tool for rice fields, and aims to use it in a pilot project that would compensate rice growers for creating and maintaining high-quality fish habitat. A second pilot project seeks to develop and measure habitat credits for Swainson's hawk, focusing mainly on alfalfa fields and other agriculture-based foraging habitat.

Credits are envisioned as being available on specific land parcels for a fixed period, rather than permanently. Thus, an owner could enroll a parcel and then opt it out of the program at the end of the contract term. The program aim is to keep sufficient acreage enrolled so as to maintain the desired number of credits at all times.

ISSUES

Most environmental market credit programs are in development at this point; neither the crediting process nor the standards that define acceptable habitat projects have been defined. The first few projects will have the burden of proving the feasibility of the programs, including their ability to integrate with existing programs, such as

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HCPs/NCCPs. Another issue will be whether and how such programs will deal with situations that require mitigation measures to be provided in perpetuity.

SECTION II: POTENTIAL STRATEGIES

Group C. STRATEGIES TO MANAGE LAND TO REVERSE SUBSIDENCE AND SEQUESTER CARBON

Strategy C1: Provide incentives to stabilize or reverse land subsidence on Delta islands

DESCRIPTION

Over the past century, agricultural practices in the Delta have caused the loss of over one million acre-feet of peat soils, causing land subsidence down to 20-25 feet below sea level on some islands. Current agricultural practices continue to remove these soils and, as part of that loss, emit about five million tons of carbon dioxide annually—about 1% of California’s total emissions.

This strategy includes two land management options, sometimes referred to as carbon capture wetland farms and low carbon agriculture, that could reduce soil loss and greenhouse gas (GHG) emissions, reduce the flooding and other risks associated with land subsidence, and provide habitat benefits to the Delta ecosystem.

Carbon capture wetland farms are constructed wetlands operated to maximize retention of atmospheric carbon, mainly in the soil, and minimize the release of other GHGs. Native tule wetlands, in particular, can capture and store carbon at very high rates and, in doing so, build soil that continuously reverses subsidence.

Low carbon agriculture refers to farming practices that reduce GHG emissions and rates of ongoing land subsidence. These practices could include increasing groundwater levels during the growing and fallow seasons, winter flooding, reduced tillage, reduced use of nitrogen-based synthetic fertilizer, and conversion to rice production.

RELATED PROGRAMS AND POLICIES

The Delta Stewardship Council’s draft Delta Plan recommends that State agencies not renew or enter into agricultural leases on Delta or Suisun Marsh islands if the actions of the lessee promote subsidence, unless the lessee takes part in subsidence-reversal efforts.

The Delta Conservancy strategic plan calls for incorporation of subsidence reversal into habitat restoration projects and collaboration with growers and landowners to identify areas for subsidence mitigation, potentially including rice fields and carbon sequestration wetlands.

Federal Farm Bill programs, including the Wetland Reserve Program, compensate private landowners to remove their land from cultivation and place it in managed marsh or pasture. The federal Conservation Reserve Program specifically targets highly erodible farmland.

DWR operates a 300-acre wetland on Twitchell Island where researchers from UC Davis, UC Berkeley and the private sector are examining the efficacy of shifting land uses toward rice and wetlands. By 2017, about 3100 acres of wetlands on Sherman Island and 1000 acres of wetland and tidal marsh on Twitchell Island will be completed to provide a farm-scale test of the technical and economic viability of carbon capture wetland farming and the success of subsidence reversal.

Some farmers are utilizing low carbon farming practices.

ISSUES

Establishment of tule wetlands for subsidence reversal faces three issues:

- Potential adverse impacts, including contamination from mercury and dissolved organic carbon and the need for mosquito control, need resolution.
- Implementation will be difficult on islands with multiple owners, unless all owners agree to take part in the project.
- Subsidence reversal requires land management practices that differ from much of conventional agriculture in the Delta.

Expansion of low-carbon agriculture, in the form of rice culture, may be an economic issue for farmers because rice yields are lower in the Delta than in the more favorable climate of the Sacramento Valley.

OPPORTUNITIES

Both DPC and DSC policies assert that all beneficiaries of flood protection in the Delta, including landowners, water exporters, CalTrans, and other infrastructure owners, such as privately owned utilities, should help pay for those benefits. Although these policies were developed with levees in mind, they could be clarified to include subsidence reversal projects as part of the long-term solution to flooding. Subsidence reversal should gradually and continuously reduce the cost of levee maintenance and, in the long run, would provide more secure flood protection.

The “walking wetland” management practice pioneered at National Wildlife Refuges in the Klamath Basin allows rotation between habitat crops and conventional crops on a given parcel. This rotation has proved attractive to growers of conventional crops in

the Klamath Basin because it reduces both fertilizer costs and crop losses to pests. In addition, a three-year rotation into wetlands could meet one requirement for organic certification, namely, that the farm field has been free from prohibited synthetic chemicals for three years. If the economic benefits of wetland rotation do not outweigh their costs in the Delta, other incentives might be needed. In addition, there are questions of whether these practices can be applied to subsidized areas of the Delta.

POTENTIAL PARTNERS

The State could consider providing funds for the federal Wetland Reserve Program or developing a similar State program. The Delta Plan and the Delta Conservancy's Strategic Plan recognize subsidence reversal as an important component of future Delta management. The Delta Conservancy anticipates funding multi benefit projects that result in subsidence reversal, carbon emission reductions and sequestration.

The State program could publicly solicit participation by landowners, and seek out large contiguous blocks of deeply subsidized land, preferably whole islands. Annual payments could be scaled to match habitat and subsidence reversal benefits.

Funds for the program might come from projects that need to mitigate greenhouse gas emissions under CEQA or from proceeds of the AB 32 cap-and-trade allowance auctions. The April 2013 draft investment plan for cap-and-trade auction proceeds recommends funding for "pilot projects for restoration of wetland areas, including the Delta, to increase carbon sequestration and provide co-benefits such as increased native species populations and water quality improvement." It also recommends funding for "agricultural practices and fertilizing material application practices that reduce GHG emissions, improve water quality and provide other co-benefits."

The Delta Levees Subvention Program at DWR and CDFW requires levee repair and improvement projects to include habitat enhancement in order to be eligible for a State cost share. Development of non-tidal wetlands, such as tule marshes, could be explored as one type of enhancement that could help meet a program requirement and reverse land subsidence.

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SECTION II: POTENTIAL STRATEGIES

Group C. STRATEGIES TO MANAGE LAND TO REVERSE SUBSIDENCE AND SEQUESTER CARBON

Strategy C2: Assist farmers and landowners to produce and sell greenhouse gas offset credits

DESCRIPTION

As described in the Strategy C1, the greenhouse gas cap-and-trade regulation provides for the use of offset credits to meet compliance obligations. Marketable credits can be generated under methodologies (called protocols) approved by the California Air Resources Board. Protocols for peat wetlands and rice cultivation are under consideration for adoption. This strategy would promote and track the development of such protocols, examine their financial viability in the carbon offset market, and offer financial incentives, if needed.

RELATED PROGRAMS AND POLICIES

The Delta Stewardship Council's Delta Plan proposes that the DSC partner with the California Air Resources Board and the Delta Conservancy to develop a program for Delta farmers to earn AB 32 credits for carbon sequestration by growing native wetland plants and reducing land subsidence. The Delta Conservancy's strategic plan includes a similar idea.

Farm-scale pilot projects to grow tule wetlands on Twitchell and Sherman Islands are in development, as described in Strategy C1. These projects may contribute to development of a protocol for calculation, monitoring and reporting of carbon credits derived from wetland restoration and conservation projects. Such a protocol is essential for carbon captured in wetlands to become marketable in the AB 32 greenhouse gas offset program. The Department of Water Resources, Delta Conservancy, Coastal Conservancy, and several private sector interests are involved.

The Air Resources Board is considering admitting certain rice cultivation activities into the carbon offset program. The source of offsets is a reduction in methane emissions from flooded rice fields. Efforts are under way at the Climate Action Reserve (a nonprofit corporation) to develop a protocol for peat soil, including soils in the Delta.

ISSUES

- Even after protocols are established, Tule farms are unlikely to provide a clear financial incentive to landowners or investors without either fairly high carbon prices in the cap-and-trade program or subsidies for some of the costs of conversion and management. Another factor affecting the market may be that Credits under AB 32 are available only for carbon that remains sequestered for long periods (a 100-year minimum) or in perpetuity--a condition that restricts land uses to those compatible with carbon sequestration.

OPPORTUNITIES

Research on tule wetlands on Sherman and Twitchell Island by USGS, the University of California and DWR shows large reductions in greenhouse gas emissions through a combination of increased carbon sequestration and prevented loss of soil carbon that results from substitution of tules for conventional crops. Economic models are in development to project break-even costs for replacing conventional farmland with wetlands that can provide carbon offset credits for the AB 32 cap-and-trade program.

SECTION II: POTENTIAL STRATEGIES

Group C. STRATEGIES TO MANAGE LAND TO REVERSE SUBSIDENCE AND SEQUESTER CARBON

Strategy C3: Investigate options to designate subsidence reduction and carbon sequestration crops as agricultural production for regulatory and incentive purposes

DESCRIPTION

As markets for Environmental Services evolve, it is possible that landowners could be reimbursed for growing plants and managing the land but not selling the plant products. This alternative to current agricultural uses on land would repurpose land for environmental benefits via soil conservation, carbon sequestration or both. This would be a change in end-use from the traditional production and sale of products in farming. Instead, as markets develop, the farmer would continue to grow plants, but the seasonal/annual harvest would be replaced by retaining the plant material to store carbon or accrete soil elevation for environmental benefits.

This expansion of the traditional concepts of agriculture would require regulatory or statutory recognition in order to obtain the benefits available to traditional agricultural practices, such as fitting within the definition of agricultural products in the Williamson Act or under the definitions necessary to qualify for other conservation programs. Within the past decade, for example, the production of biofuels was added to the definition of agricultural products in the Williamson Act, providing broader opportunity for expanded “agricultural” markets.

This expansion could:

- reduce some of the transfers of land off the tax rolls to governmental or nonprofit ownership, with resulting impacts on local government incomes,
- retain farmers on these lands and, as noted in Strategy E1.2.3, involve the farmer in managing the land and its drainage, maintaining levees, water control structures and other infrastructure, controlling invasive weeds, and providing security against trespass and vandalism,
- allow an expanded spectrum of compatible agricultural uses (and eligibility for participation) within the scope of local Williamson Act programs.

RELATED PROGRAMS AND POLICIES

The Delta Stewardship Council’s Delta Plan proposes that the DSC partner with the California Air Resources Board and the Delta Conservancy to develop a program for Delta farmers to earn AB 32 credits for carbon sequestration by growing native wetland

plants and reducing land subsidence. The Delta Conservancy's strategic plan includes a similar idea.

ISSUES

Some statutory/regulatory changes may be needed to expand existing definitions of agriculture or agricultural products.

As noted in Strategy B2, most environmental market credit programs are in development at this point; neither the crediting process nor the standards that define acceptable habitat projects have been defined. Another issue will be whether and how such programs will deal with situations that require mitigation measures to be provided in perpetuity.

OPPORTUNITIES

Research on tule wetlands on Sherman and Twitchell Island by USGS, the University of California and DWR shows large reductions in greenhouse gas emissions through a combination of increased carbon sequestration and prevented loss of soil carbon that results from substitution of tules for conventional crops. Economic models are in development to project break-even costs for replacing conventional farmland with wetlands that can provide carbon offset credits for the AB 32 cap-and-trade program.

SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D1: Develop area-wide economic and land use studies

Strategy D1.1: Develop an historic and current land use study

DESCRIPTION

This strategy proposes a comprehensive land use study to collaboratively evaluate Delta land use, past, present, and future. The strategy could help in understanding the most appropriate future uses and help the Delta community, local government, and state and federal agencies to understand how to invest effectively in the Delta.

This type of analysis could answer a number of questions. For instance:

- What are the current land uses by crop type and land use designation?
- How can current habitat restoration efforts support the long-term sustainability of agriculture in the Delta?
- How does the geography—past and current—affect land uses?

To fully understand the potential for agricultural losses from BDCP or other projects or programs and how such losses could be avoided or reduced, a clear understanding of past and current land uses are necessary. Critical to this understanding is knowledge about current land uses in the Delta as well as the historical context for these uses. Once the agricultural landscape of the Delta region is better understood, specific measures to maintain and improve Delta agriculture can be developed. A project such as this could be considered as foundational research that would assist the Delta Conservancy, the Delta Protection Commission and other agencies in understanding how to invest effectively in the future

RELATED PROGRAMS AND POLICIES

The San Francisco Estuary Institute (SFEI) has been conducting historical topography research to understand how land forms have influenced water flows, levees, and land use. SFEI is now considering an agriculture overlay to better understand the nexus between topography and agricultural land uses.

The Delta Conservancy is managing the Delta Restoration Network (DRN)—a coalition of agencies and nonprofits conducting and planning to conduct habitat restoration in the Delta.

Department of Water Resources' Land and Water Use Data program collects land use data and develops water use estimates required for statewide water planning by conducting surveys of agricultural, urban and environmental land uses, collecting weather and other data required to make crop and landscape water use estimates, and developing annual estimates of land and water uses on a regional basis.

Department of Conservation's Farmland Mapping and Monitoring Program produces maps and statistical data used for analyzing impacts on California's agricultural resources. Agricultural land is rated according to soil quality and irrigation status; the best quality land is called Prime Farmland. The maps are updated every two years with the use of a computer mapping system, aerial imagery, public review, and field reconnaissance.

Some of the Delta counties have or are the process of conducting different analyses of agricultural use in the counties.

ISSUES

The primary issues associated with this strategy are financial and organizational. Funding would need to be found to conduct this type of analysis. Funding might come from different grant programs, governmental land use program or education research programs. Interested parties would also have to consider how to identify relevant existing data, what additional information and analyses are needed and who should do the study or studies. There are numerous ways to approach these considerations but all would benefit from input from local interests. One approach would be for the Delta Conservancy and/or the Delta Protection Commission to take the lead on organizing this discussion.

OPPORTUNITIES AND POTENTIAL PARTNERS

The Delta Conservancy and the Delta Protection Commission would most likely be involved in carrying out this strategy. The following organizations may also wish to collaborate to fund, advise, or conduct an agricultural infrastructure analysis, and then help implement any recommendations:

- Delta Stewardship Council
- Departments of Water Resources, Conservation and Food and Agriculture
- SACOG and the Councils of Government which include the Counties of San Joaquin, Contra Costa, and Solano
- The five Delta Counties

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- The University of the Pacific
- The University of California
- CSUS
- Local community colleges
- Local labor organizations
- Economic Development Corporations which cover Delta counties

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SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D1: Develop area-wide economic and land use studies

Strategy D1.2: Develop an economic study of agricultural activity and related infrastructure

DESCRIPTION

This strategy proposes a comprehensive economic study to collaboratively evaluate the Delta agricultural infrastructure, and the technical and financial assistance needed to support a sustainable and competitive agricultural community in the Delta. Currently, there isn't a clear and detailed understanding of agricultural infrastructure in the Delta. Agricultural infrastructure includes, but is not limited to production support, distribution, aggregation, processing, storage, and marketing facilities. This strategy could help understand agricultural needs, which could result in additional strategies to (1) minimize the potential loss of agricultural infrastructure; and (2) improve and expand existing and potential markets.

This type of analysis could consider a number of unanswered questions. For instance:

- What types of agricultural infrastructure are needed in the Delta?
- What is the feasibility and economics of developing needed agricultural infrastructure?
- What is the entry point for various types of specialty crop aggregation, distribution and processing?
- What is the strategy to scale up from entry-level position to larger facilities? What are the feasible scales for this region?
- What costs and revenue are associated with developing new infrastructure needed to accommodate current and future agricultural needs at various scales?
- Is collaboration around community-supported agriculture (CSA) feasible amongst Delta growers?
- Are there opportunities for cost sharing with existing distributors, processors, and food banks? Traditionally, food banks have large capacity for storage and can assist in distribution.
- What costs are associated with operating existing and new infrastructure, and how are those costs covered?
- What are the regulatory, marketing, and distribution barriers and other challenges to developing new infrastructure and operating existing infrastructure?

- What are the recommended strategies and suggested action plans for establishing aggregation and distribution site(s) and establishing and expanding processing facilities in the region?
- What is the history of processing, distribution, etc. in the Delta. Why did it change and how has the market changed since then?
- What are the current worker supply issues? Is there adequate housing?

To determine the potential for agricultural infrastructure losses from BDCP or other projects or programs and how such losses could be avoided or reduced, a clear understanding of why these losses could occur is needed. Critical to this understanding is knowledge about the current structure of the Delta region's agricultural infrastructure, potential losses to that infrastructure, and the needs of Delta agriculture. Once the agricultural landscape of the Delta region is better understood, specific measures to maintain and improve Delta agriculture can be developed. A project such as this could be considered as foundational research that would assist the Delta Conservancy, the Delta Protection Commission and other agencies in understanding how to invest effectively in the future.

RELATED PROGRAMS AND POLICIES

A number of tools currently exist that could be employed individually or in combination that would be most helpful in understanding the agricultural activity and related infrastructure of the Delta:

- RUCS. The Sacramento Area Council of Government's (SACOG) Rural Urban Connection Strategy (RUCS) initiative has been working to answer questions related to stimulating economic development in rural communities around the six-county SACOG region, and expanding market opportunities for agricultural producers. SACOG's current project seeks to answer various questions to better understand the feasibility of expanding existing, and creating new, agricultural infrastructure in Yolo and Sacramento counties. It is possible that this project could be extended to the three other Delta counties to understand and identify the agricultural infrastructure needs in San Joaquin, Contra Costa, and Solano counties, as well.
- IMPLAN. Used locally by Yolo County, IMPLAN is an input-output analysis that examines relationships within an economy, between businesses and between businesses and final consumers. The analysis captures all monetary transactions in a given time period. This type of analysis examines the effects of a change in one or several economic activities on an entire economy (impact analysis).

- **LESA.** Used by the USDA, the National Agricultural Land Evaluation Site Assessment (LESA) rates soils and places them into groups ranging from the best to the least suited for a specific agricultural use, such as cropland, forestland, or rangeland. A relative value is then determined for each group. California has adapted the model for use as an optional methodology to be used in environmental assessments. The California Agricultural LESA Model evaluates measures of soil resource quality, a given project's size, water resource availability, surrounding agricultural lands, and surrounding protected resource lands. For a given project, the factors are rated, weighted, and combined, resulting in a single numeric score. This type of analysis can assist landowners and others in making decisions regarding land use and conversion.
- **Tipping Point Analysis.** This analysis calculates how various factors can change an outcome. More specifically, a tipping point analysis (1) identifies the driving conditions that have the greatest impact; (2) determines the points of change in each condition at which a specific strategy would be impacted (tipping points); (3) calculates the probability of reaching each tipping point; and (3) chooses a strategy based on the probability of reaching each tipping point.

In order to determine the best analysis tool—or combination of tools—a clear understanding of the information needed is necessary, as well as more specifics about each analysis tool, a scope of work, and potential funding sources. Project partners and local stakeholders can assist in vetting this information.

ISSUES

The primary issues associated with this strategy are financial and organizational. Funding would need to be found to conduct this type of analysis. Funding might come from different grant programs, governmental land use program or education research programs. Interested parties would also have to consider how to identify relevant existing data, what additional information and analyses are needed and who should do the study or studies. There are numerous ways to approach these considerations but all would benefit from input from local interests. One approach would be for the Delta Conservancy and/or the Delta Protection Commission to take the lead on organizing this discussion.

PARTNERS AND POSSIBILITIES

The Delta Conservancy and the Delta Protection Commission would most likely be involved in carrying out this strategy. The following organizations may also wish to

collaborate by helping to fund, advise, or conduct an agricultural infrastructure analysis for the Delta, and then helping to implement the recommendations of that program:

- Delta Stewardship Council
- Departments of Water Resources, Conservation and Food and Agriculture
- SACOG and the Councils of Government which include the Counties of San Joaquin, Contra Costa, and Solano
- The Five Delta Counties
- NRCS and associated RCDs
- The University of the Pacific
- The University of California
- CSUS
- Local community colleges
- Local labor organizations
- Economic Development Corporations which include some or all of the five Delta counties
- NGOs associated with agriculture, land trusts and the environment

There is currently much interest in the Sacramento and Bay Area in local food sources. In fact, the City of Sacramento and the Sacramento Convention and Visitors' Bureau has branded Sacramento as the "Farm to Fork Capitol." With this level of interest, and the ideal location of the Delta, midway between the major urban centers of Sacramento, Stockton, and the Bay Area, the momentum is there to help the Delta further develop its agricultural markets. A program to identify, and then help meet, the infrastructure needs of Delta agriculture could help the region's farmers achieve a sustainable and prosperous future.

SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D2: Promote economic development

DESCRIPTION

The Delta has many small, isolated, and potentially under-capitalized farms and agricultural support companies. Delta businesses could benefit from increased access to capital and financial expertise.

There are number of ways to support or promote economic development in the Delta t the Delta (or perhaps the Delta plus Suisun Marsh and the Yolo Bypass) that could ensure a central depository for technical expertise, financing, business development, and promotional efforts that would benefit the Delta, including Delta agriculture. These could include some or all of the mechanisms listed below.

- The formation of an Economic Development Corporation (EDC). An EDC is an organization, usually a 501(c)(3) non-profit corporation, whose mission is to promote economic development and job creation within a specific geographic area. It is controlled by a local Board of Directors, and often receives some funds from local governments, and technical expertise from local colleges. It often provides technical advice and low-interest loans to help new businesses get started in the area, and to enable existing businesses, including farms, to expand their operations.
- An Economic Development Summit Conference. While not an ongoing institution, it can help organize and produce thinking about how to move forward.
- An agricultural ombudsman program that assists farmers, ranchers, and agriculture-related businesses with various permitting processes, including assistance with agricultural permitting, standards and reporting as required by regulatory agencies. An ombudsman could help to facilitate and expedite the development and implementation of agricultural projects. (See Strategy D5.2)
- A position within an existing EDC that focuses on part or all of the five-county Delta region.

RELATED PROGRAMS AND POLICIES

There are more than 80 different regional, county, or city-level EDC's or similar organizations in California. Not one covers the Delta. The San Joaquin Partnership covers all of San Joaquin County. The Solano EDC serves all of Solano County. The Sacramento Area Commerce and Trade Organization serves all of Sacramento and Yolo Counties, plus four other counties which do not contain any part of the Delta. While Contra Costa County does not have an EDC, a number of businesses, local government entities, and educators in eastern Contra Costa County have created East Contra Costa Squared (EC2). EC2 is a volunteer-run collaborative focusing on economic development and education and the nexus of the two.

The Kern EDC⁴ could serve as a model for a Delta EDC. It works to ensure a “diverse and strong economic climate for all businesses in Kern County.” It supports the growth of local “value-added agriculture” by “recruiting related business” to the county and working with existing value-added agricultural businesses – such as wineries. The Kern EDC has formed task forces to aid local agriculture by addressing some of the industry's challenges, including regulatory burdens, resource needs, logistics, transportation, and infrastructure, as well as research and development.

The Central Valley Business Incubator (CVBI) is a resource for entrepreneurs wishing to start or expand an enterprise. It partners with UC Merced and CSU Fresno-affiliated institutions to help support agricultural and other businesses in the San Joaquin Valley.

ISSUES

Possible issues which could affect developing an organization and implementing a program to support economic development in the Delta include the following:

- **Funding.** Significant funds, from low-interest loans, grants, and contracts, would be needed to create, and then to operate, a Delta Economic Development Corporation. While some base funding could come from the five Delta Counties, as well as local entrepreneurs and philanthropists, additional funding would probably be needed, at least at the beginning, to get it started.
- **Non-political boundaries.** Although many EDC's in California cover more than one county, there does not appear to be an EDC which covers a region such as the Delta, which includes parts of six different counties.

⁴ For more information about the Kern EDC, visit their Website at <http://www.kedc.com/>.

- Some of the support given by a Delta EDC would go to non-agricultural companies in the Delta. However, a sustainable and prosperous Delta economy would also benefit Delta agriculture.

PARTNERS AND POSSIBILITIES

- The Discover the Delta Foundation, which promotes tourism and recreation in the Delta, helps preserve the Delta’s rich heritage, and supports Delta agriculture by sponsoring Farmer’s Markets and other activities.⁵
- Colleges and universities in and near the Delta, including UC Davis, CSUS, the University of the Pacific, and the various local Community Colleges.
- The Sacramento Area Council of Governments, which promotes economic development and local agriculture in two of the Delta Counties (Sacramento and Yolo), plus four other counties.
- The San Joaquin Council of Governments, which promotes economic development in San Joaquin County.
- The Delta Stewardship Council.
- The Delta Conservancy, which is authorized to “spend funds on developing an economic sustainability program” for the Delta⁶.
- The Association of Bay Area Governments, which promotes economic development in three Delta Counties (Alameda, Contra Costa, and Solano), plus six other counties.
- The Farm Bureaus of the five Delta Counties.
- The Delta Protection Commission, which authored the Delta Economic Sustainability Plan.
- The local banking community.
- Regional labor organizations.
- Delta region Chambers of Commerce.

⁵ For more information about the Discover the Delta Foundation, please visit: <http://www.discoverthedelta.org/>

⁶ From Page 2 of an 8/19/10 letter from Mary N. Piepho, Delta Conservancy Chairperson, to Phil Isenberg, Delta Stewardship Council Chairperson.

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SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D3: Improve transportation infrastructure

DESCRIPTION

This strategy proposes transportation infrastructure improvements to provide a (1) safe, reliable transportation system for Delta agriculture and commerce and (2) safe and clearly signed access for cars, buses, trains, boats, and bikes for recreation and tourism purposes. Strategy D1.2 addresses agricultural infrastructure, especially distribution and processing which rely heavily on safe and reliable roads.

Potential programs that are more focused on recreation and tourism include:

- Local and CalTrans assistance to encourage compatibility among drivers/tourists and farm operations (e.g., signs, farm signs, crop signs, etc.)
- Project proponent commitment to incorporate hiking and biking routes, as well as public access to waterways for fishing, wildlife watching and non-motorized boating, and publicly-funded levee improvements, where feasible and in coordination with the local communities.
- Local (county) assistance to develop recreational touring routes, including planning, road widening, off-street trails, bridges and signage (one example is implementing the DPC's Great California Delta Trail)
- CalTrans engagement on recreation improvements along State Routes 4, 12 and 160, such as bicycle routes, signage, viewing pull-outs, parking at fishing access points, etc.

RELATED PROGRAMS AND POLICIES

The five counties and the State all have varying degrees of responsibility with the Delta's roadways. Transportation infrastructure improvements are critical for increasing safety and access for Delta agriculture and commerce, and for better safety, access and signage for increased recreation and tourism by car, bus, train, bike, boat, and foot. The *Economic Sustainability Plan for the Sacramento-San Joaquin Delta (ESP)*, states:

“Driving for pleasure in the Delta is very popular and is a prime example of the right of way/tourism-related recreation use. This recreation category also includes bicycling, hiking, and walking. The winding roadways, interesting

bridges, scenic views of waterways and agricultural areas, Legacy Communities, and historic structure all contribute to its visual appeal. The ability to buy fresh fruits and vegetables straight from the grower, visit a winery and sample their product, stop and pick up a freshly made deli sandwich or an ice cream at a 50-year-old grocery store all deepen the Delta experience. To many, the resources are part of the charm—the historical town of Locke, the wildlife preserves, or even the beautiful oak tree canopies shading the roadway.”⁷

The Delta Protection Commission (DPC) is developing the Great California Delta Trail to create a contiguous land-based trail system throughout the Delta. DPC is meeting with local governments, trail organizations, and locals to discuss trail routes, connectivity, and concerns related to publicly accessible trails. The Delta Conservancy (Conservancy) supports DPC’s efforts and is identifying projects that can contribute to the trail program, including the development of recreation plan for the McCormack-Williamson Tract.

A few towns and chambers of commerce have developed or are interested in developing driving/touring maps that will make it easier to navigate the Delta. Additionally, the Conservancy—in coordination with the DPC—is developing a Delta brand and marketing plan that will coordinate tourism opportunities in the region.

In 2011, State Parks released a *Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh*, which discussed a “Gateway-Basecamp-Adventure” strategy. This strategy would create a network of recreation areas to help manage and coordinate recreation in the region.

Delta agri-tourism organizations currently advertise their trails and farms on the roadways.

The ESP also states that “Several physical and operational constraints have an impact on current facilities and recreation access including...access points...private land trespass, and complex regulations.”⁸ The Conservancy, DPC, and State Parks are also discussing how to encourage compatibility amongst tourism, recreation, and farm operations.

ISSUES

Farmers are often concerned about trespass - a concern which has eliminated many traditional recreation access points in the region. A program to increase recreation

⁷ Delta Protection Commission, *Economic Sustainability Plan for the Sacramento-San Joaquin Delta*. 2012. Page 168.

⁸ Ibid. Page 147.

access points, or even provide clarity to recreationists on where they can find legal recreation access points, will reduce trespass. This could include signage, parking and safety improvements at legal access points, and a web-based map guide. The ESP states, “When attracting visitors and expanding recreation access to waterways and landside recreation improvements, potential negative impacts on agriculture from increased tourism and recreation can be minimized by focusing recreation uses and activities through expansion of existing recreation sites, development in Legacy Communities, creating buffer areas adjacent to agriculture, and increasing public safety enforcement.”⁹ Compatibility needs to be front and center as does including the community in determining how best to address these issues.

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OPPORTUNITIES AND POTENTIAL PARTNERS

The Delta Conservancy, Delta Protection Commission, State Parks, Department of Fish and Wildlife and local government.

The State Lands Commission should be involved in identifying legal access points, along with public land managers.

⁹ Ibid. Page 148.

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SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D4: Help farmers and landowners earn new revenue from recreation and tourism

DESCRIPTION

This strategy envisions recreation and tourism, including road touring, hunting, wildlife watching, fishing, farm stays, on-farm sales, value-added products, and u-pick harvesting as marketable products of land management whose first product is an agricultural crop.

RELATED PROGRAMS AND POLICIES

There are numerous private hunting clubs in the Delta and Suisun Marsh. Some forms of eco-tourism are also fairly well developed locally. The Department of Fish and Wildlife leads tours of fallow rice fields in the Sacramento Valley and areas in the Delta to view wildlife--mainly birds--and charges visitors a use fee. Many State Wildlife Areas and federal National Wildlife Refuges charge an entry fee. The Nature Conservancy makes several of its properties, including Staten Island and the Cosumnes River Preserve, available for wildlife viewing and other forms of non-consumptive recreation. TNC does not charge an entry fee, but accepts donations. The Habitat Conservation Plan for East Contra Costa County has a preserve system that allows recreation, including hiking, cycling, and horseback riding.

Agri-tourism entities include Solano Grown, Brentwood Farm Trail, Sacramento River Delta Grown, wineries, and the Delta Farmer's Market. The University of California Small Farm Program offers promotional activities and training for agricultural tourism.

Both the California Department of Parks and Recreation and the Delta Protection Commission have recommended creation of a network of recreation areas in the Delta, including improved public access to shorelines. California State Parks' *Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh* recommends inclusion of recreational facilities in ecosystem restoration projects, as do several recreation-related Delta Plan policies. DPC's *Economic Sustainability Plan* emphasizes enlarging the tourism and recreation economy through private visitor-serving businesses and collaboration and partnerships between public- and private-sector recreation providers.

The Delta Conservancy has committed to work to “design restoration projects that allow for activities that create revenue, including wildlife-friendly farming practices...and bird-

watching, to help pay for long-term maintenance and stewardship of the property.” The Conservancy has also partnered with the Delta Protection Commission to develop a “Delta brand” and marketing plan that Delta businesses—farmers included—can use to promote their service or destination.

The Delta Conservancy and the Delta Protection Commission have received comments at public forums regarding the need for assistance with risk-reduction measures to help mitigate the effects of increased tourism on agriculture. Both agencies have conducted some research into these issues and are in the process of determining how best to move forward.

ISSUES

These include the following:

- Few growers are knowledgeable about the outdoor recreation business, so that partnerships with professionals may be needed.
- Current agri-tourism organizations are volunteer-run by farmers and others in agriculture with already full-time jobs, limiting the amount of outreach and marketing that can realistically be conducted.
- Recreation on or near private farmland raises issues for the landowner, including liability, trespass, sanitation, pesticide management, vandalism, traffic, and litter.
- Planning for recreational uses on BDCP habitat lands could complicate the permitting process, because the regulatory agencies would need to consider how to manage the property so that tourism is not a threat to covered species.

SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D5: Assist farmers and landowners in working with governmental agencies **Strategy D5.1: Public adviser for government projects**

DESCRIPTION

Public participation can improve project development and implementation. Likewise, landowners can benefit from direct interaction with agencies performing projects on or near the landowners' properties. A public adviser could improve communication between landowners and agencies by informing landowners of the agencies' activities, and providing landowners with easily accessible means of giving input. Landowners would be able to access information about a project from a designated source, without the need to navigate through a maze of government offices. Similarly, agencies could maintain a central information repository about who has contacted the adviser about the project and what type of information the public is interested in.

There are several ways that a public adviser position could be established and structured, including those listed below:

- Create a public adviser position assigned to cover a specific project and to communicate with interested people and entities on behalf of all agencies involved in undertaking the project.
- Designate a public adviser within a specific agency that covers all projects the agency is undertaking, either within a specific region or Statewide.
- Create a public adviser position assigned to cover all projects that are taking place in a certain region.

A public adviser could be housed within an agency that is undertaking a project, in an agency that already works with landowners in a specific region, or as a separate office within a county government. Regardless of where the public adviser is housed, the public adviser could advise agencies involved in a project on how best to communicate with the public.

RELATED PROGRAMS AND POLICIES

The California Energy Commission employs a Public Adviser. The CEC's Public Adviser, who must be an attorney licensed to practice law in California, is nominated by the CEC and appointed by the Governor for a term of three years. The Public Adviser assists the public in understanding the process and complexities of the CEC's meetings, workshops, and hearings, and makes recommendations to the public on the best way to be involved so that public involvement in CEC proceedings can be effective and

meaningful. The Public Adviser performs public outreach efforts, such as the preparation and release of a CEC practice guide in December 2006 on the process of licensing the construction, operation and closure of thermal power plants 50 megawatts or greater, “Public Participation in the Siting Process: Practice and Procedure Guide,” which is available online. The Public Advisor also maintains a roster of interested parties in various proceedings, organizes appearances of members of the public at CEC proceedings and makes formal introductions to the Commission, and suggests consolidation and coordination among various members of the public who have similar interests or views. The Public Adviser does not represent any member of the public or NGO, and does not advocate any position on substantive issues before the CEC.

In addition to communicating with members of the public, the Public Adviser communicates with the CEC regarding its proceedings. For example, the Public Adviser makes recommendations to the CEC regarding the measures it should employ to assure open consideration and public participation in its proceedings. By facilitating public participation in CEC proceedings, the Public Adviser assists the CEC in compiling a comprehensive public record upon which the Commission can base its decisions. The Public Advisor also disseminates notice of CEC meetings and public hearings to interested groups and to the public at large, and makes recommendations to the CEC on how to improve the accuracy and timeliness of its notices.

ISSUES

Possible issues which could affect the development of a public adviser position include the following:

- Funding. Creation of a new position would require funding. Funding could be included in the budget for projects when approved. If the public adviser is assigned to cover more than one project or multiple agencies’ projects, arrangements would need to be made to allocate funding responsibilities among the various agencies and/or projects.
- Non-political boundaries. Projects are not necessarily limited to existing political boundaries, which could make it difficult to identify the appropriate location to house a public adviser position. For example, projects that would be carried out in the Delta, such as the BDCP, cross multiple county lines.

OPPORTUNITIES AND POTENTIAL PARTNERS

- County Governments
- Delta Conservancy
- Delta Protection Commission
- SACOG and other Councils of Government

SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D5: Assist farmers and landowners in working with governmental agencies

Strategy D5.2: Farmbudsman - Help farmers and landowners navigate regulatory requirements for farm activities.

DESCRIPTION

There are multiple local, State and Federal permitting processes and regulations that affect the way that farmers do business. It can be difficult for farmers to navigate the various levels of regulations or simply to understand all that exist from water quality, to environmental health, to business regulations. An agricultural ombudsman or farmbudsman program can assist farmers, ranchers, and agriculture-related businesses with various permitting processes, including assistance with agricultural permitting, standards and reporting as required by regulatory agencies. An ombudsman could help to facilitate and expedite the development and implementation of agricultural projects.

RELATED PROGRAMS AND POLICIES

The idea of an agricultural ombudsman program was first discussed locally prior to 2008. Both Solano and Yolo counties' General Plans incorporate the concept of the ombudsman position. Solano County was the first to develop the concept into a real position with the Farm Assistance, Revitalization, and Marketing Coordinator that existed in the county from 2008-2009. In November 2011, the Solano and Yolo Counties Joint Economic Summit identified an Ombudsman Program as an "opportunity to enhance the value of agriculture within the two counties and decrease actual and perceived regulatory obstacles on agriculture-related businesses seeking to expand, enhance, and/or maintain their operations." Working with the Small Business Development Center at Solano College, Yolo and Solano counties released a request for qualifications for consultant services for the Farmbudsman Program. A consultant was selected in mid-2013.

Sonoma and Marin counties also have agricultural ombudsman programs managed by Agriculture and Natural Resources – Cooperative Extension at the University of California. San Mateo County is in the process of starting an ombudsman program, as well.

ISSUES

The Sacramento-San Joaquin Delta encompasses parts of five counties, however, the focus of a Delta-specific ombudsman could be reduced to three counties by collaborating with the Yolo and Solano Farmbudsman. In addition to geographic logistics, a few other issues exist:

- Funding – start-up and on-going. Yolo and Solano counties both contribute \$27,000 per year to the part-time position.
- Location and office space. The Delta is large. Ideally the position would be housed somewhere in the middle. Funding and space availability, however, may make a less central location more appropriate.
- Consensus. With five counties and multiple agencies already working in the Delta, consensus on the position's focus, scope, location, etc., could be challenging.

SECTION II: POTENTIAL STRATEGIES

Group D: STRATEGIES THAT SUPPORT AN AGRICULTURAL ECONOMY

Strategy D5: Assist farmers and landowners in working with governmental agencies

Strategy D5.3: Work with others to better align regulatory processes to expedite wildlife friendly agriculture

DESCRIPTION

Ecological restoration and enhancement projects, including habitat restoration, are generally subject to the same regulatory permit requirements as projects that convert agricultural and open space lands to developed, urban uses. The result can be long lag times, an uncertain approval process, and extra costs. This can create barriers to achieving voluntary ecosystem improvements.

To encourage continued participation of farmers in ecosystem enhancements, the following actions could be explored, taking advantage of recent and on-going efforts discussed below:

- Provide third-party support to facilitate completion of permitting requirements; Resource Conservation Districts have played this role
- Identify a core set of conservation practices and environmental protection measures and develop a programmatic permit for such projects
- Clarify CEQA Guidelines for restoration programs
- Create an inter-agency permit coordination task force

RELATED PROGRAMS AND POLICIES

Recent efforts by the California Biodiversity Council (CBC) have highlighted this topic in their resolution adopted February 6, 2013. The Resolution, “Strengthening Agency Alignment for Natural Resources Conservation,” includes a related goal and specific recommendation. The goal, “better alignment of planning, policies and regulations across governments and agencies; and coordinated and streamlined permitting to increase regulatory certainty,” addresses statewide concerns that are specifically relevant to ongoing BDCP mitigation of impacts to agriculture.

Other studies and workgroups that have looked at the issue include:

- California Public Policy Institute of California: “Integrated Management of Delta Stressors – Institutional and Legal Options” (April 2013 publication) and “Partners

in Restoration (PIR) Permit Coordination Program – DRAFT – Comprehensive Program Assessment” (September 2010 briefing paper)

- Roundtable on Agriculture and the Environment (CRAE) November 2010 publication, “Permitting Restoration – Helping Agricultural Land Stewards Succeed in Meeting California Regulatory Requirements for Environmental Restoration Projects”
- California Rangeland Conservation Coalition “California Restoration and Enhancement Permitting: Challenges to California’s Permitting Process for Restoration and Enhancement Projects” publication – offers insights and recommendations on the topic
- UCLA and UCB report, “Room to Grow: How California Agriculture Can Help Reduce Greenhouse Gas Emissions”
- Task Force to Remove Barriers to Restoration – California Natural Resources Agency, 2003

Partners in Restoration (PIR), a project begun by Sustainable Conservation in 1998, has successfully coordinated among permitting agencies in Santa Cruz, Marin, Mendocino, and other counties. The PIR experience suggests that programmatic, regional, and even statewide permits for environmental enhancements would be advantageous on agricultural lands.

ISSUES

- Difficult to coordinate multiple agencies with multiple objectives
- Agencies may not have a clear mandate to treat environmental preservation or enhancement projects differently from “development” projects
- Inadequate staffing and resources at regulating/permitting agencies
- Possible insufficient capacity at some RCDs to manage the permit requirements for establishment and implementation of habitat enhancement projects
- Lag time, uncertain approval process, and undue costs
- Consistency of interpretation (or lack thereof), including clear definition of required information

OPPORTUNITIES AND POTENTIAL PARTNERS

- Biodiversity Council, Delta Conservancy and Delta Protection Commission, Delta Stewardship Council
- California Association of RCDs – Guide to Watershed Project Permitting for the State of California
- Sacramento River Watershed Program – Online Regulatory Permitting Guide

Draft – Subject to Revision

- The Central Valley Joint Venture is engaged with the State Water Resources Control Board to simplify requirements in the Board's Draft Water Quality Control Policy for Wetland Area Protection and Dredged or Fill Permitting as they apply to habitat enhancement

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SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.1: Early Project Planning

DESCRIPTION

This strategy encourages project proponents to plan early and collaboratively. Even if it not required, proponents might want to consider an Agricultural Land Stewardship Plan (ALSP). ALSs can be used at any level – landscape, regional or site-specific. See Framework for ALS Planning – IB. Develop ALS Plans for Projects. Factors to take into consideration include:

- Obtain information on existing and planned land uses and the project's relation to these uses. Include acreage of all land devoted to agriculture, including farmland of local importance, grazing land, and confined animal agriculture. (See also Strategies D1.1, D1.2 and D1.3).
- Identify how a proposed project can be part of or complement existing and planned land uses, including agricultural use; flood management; mitigation and enhancement of aquatic and terrestrial habitat; recreation; and tourism. This is particularly important when there are multiple uses being considered for one specific area of land, but it is also important to look at how the project affects or fits into other plans for the region or sub-regions where the project is located. (See also Strategies A1.1, B1.1, B1.2, C1.1, C1.2 and D4).
- Consider whether the proposed land use is consistent with State, regional and local plans. See discussion below on Related Programs and Policies. (See also Strategy E2.1).
- Consider whether agriculture and/or habitat management activities undertaken pursuant to the proposed project are consistent with State and local policies relating to flood protection and whether they might provide additional protection because, for example, they (i) provide flood management activities that provide additional protection for agricultural activities or (ii) prevent or divert potential higher groundwater levels that would thwart flood control efforts. (See also Strategy A1.1).

- Make use of available communication forums to let local interests learn about project and provide an opportunity for their input. (See also strategies E2.1 and D5.1).
- Site projects and project footprints to minimize the permanent conversion of Important Farmland, to nonagricultural uses. Where choices are possible among or between particular parcels or lands that are available for a project, project proponents should look at the characteristics of the different parcels or lands to determine whether one choice would be better from an agricultural resource perspective. If choices can be made regarding different locations for a project and still achieve the project purposes, it may be possible to avoid areas that may have more value from an agricultural resources perspective such as whether the property is (1) “high quality” farmland, (2) unique or has special values, (3) important to maintaining viability of agriculture in a certain area, (4) important to maintaining habitat lands in agriculture in a certain area. (See also Strategies D1.2 and D1.3).
- Give priority to appropriate public lands and existing conservation lands, considering the purpose for which the property was acquired and the benefits it currently provides as wildlife habitat and for the public before purchasing additional private land. (See also Strategy A5).
- Try to be consistent with local planning requirements and with existing Williamson Act contracts and preserves and follow appropriate notice and findings requirements. (See also Strategies E2.1, E2.2, and E2.3).
- Develop measures to reduce conflict between agriculture and nearby habitat lands by implementing good neighbor policies such as managing project lands to minimize the introduction of invasive species or weeds that may affect agricultural production on adjacent agricultural land, establishing buffer zones, and developing compensation funds and agreements that protect landowners from endangered species liabilities. (See also Strategies A3.1, A3.2, A3.3, A4.1, A4.2, and A4.3).
- Develop ways to track implementation of project components and mitigation measures include providing a framework that encourages adaptive management with regard to agricultural land and a plan for reporting and monitoring actions necessary to show that actions agreed to are being carried out. (See Strategies E1.2, E1.2 and E1.3).

Timing and Early consultation

Whether or not an ALSP is required, development of ways to avoid and mitigate for agricultural impacts should occur early in the planning process of a project and should involve the local community along with local, state and federal agencies. Involvement of the landowner and the county where the property is located is particularly important and recognizes that local interests have unique and specialized knowledge of the region. See also Strategies E1.2 and E1.3). In addition to the farmers and landowners affected, the following list of organizations or types of organizations is a starting place on who else should be consulted:

- Local government, SACOG and other councils of government
- Federal and state resource and regulatory agencies, including the California Natural Resources Agency, the California Department of Water Resources, the Central Valley Flood Protection Board, the California Department of Conservation, the California Department of Food and Agriculture, the California Department of Fish and Wildlife, the United States Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Department of Agriculture, including the Natural Resources Conservation Service.
- Organizations with a regional interest such as the Delta Conservancy, the Delta Protection Commission and the Delta Stewardship Council
- Resource Conservation Districts
- Tribal Interests
- Local colleges and universities, including the Agricultural Extension Service
- Local labor and farm worker organizations
- Local economic development corporations
- NGOs representing farmers
- NGOs representing entities that promote habitat protection and restoration activities.

RELATED PROGRAMS AND POLICIES

Related programs and policies will be different depending on the area involved. Several high level statements regarding preservation of natural resources and agricultural land include:

- California @ 50 Million: California's Climate Future, The Governor's Environmental Goals and Policies Report (Draft September 2013)
- California Agricultural Vision: Strategies for Sustainability (December 2010)

- CDFA Climate Change Consortium for Specialty Crops: Impacts and Strategies for Resilience
- California Air Resources Board Cap and Trade Auction Proceeds Investment Plan FY 2013 – 2014 through 2015 – 2016 (May 2013)
- 2009 California Natural Resources Agency Climate Change Adaptation Strategy and the 2013 Safeguarding California Plan.
- California Water Plan Update 2013
- California Fish and Wildlife Vision for California’s Strategic Wildlife Action Plan Update 2015

Regional efforts to deal with some of the measures identified above include:

- Delta Stewardship Plan
- The Delta Restoration Network, hosted by the Delta Conservancy
- Ways to Restore Delta Habitat and Protect Land Owners workshops sponsored by the Delta Conservancy and Water Education Foundation
- Delta Conservancy Strategic Plan
- Delta Protection Commission Land Use and Resource Management Plan and Economic Sustainability Plan
- County General Plans

ISSUES

Comprehensive, consistent and usable information on land uses or on the effect of changes in land uses may not be available or different parties may interpret the data in different ways. Although there are efforts to establish regional strategies for restoration projects in the Delta, there has not been active participation by local landowners up to this point. Developing collaborative groups can be difficult, especially at the beginning, and is not a guarantee to consensus or success. Funding for developing information, costs of avoiding agricultural land and for good neighbor activities may not be available. Resource agencies must be willing partners in multi-use projects and in helping to craft accidental take and other good neighbor activities.

PARTNERS AND OPPORTUNITIES

Farmers and Landowners and other entities listed above in the Description.

SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.2: Work with farmers and landowners

Strategy E1.2.1 Involve farmers and landowners in project planning

DESCRIPTION

This strategy encourages project proponents to consult with farmers and landowners on the role they wish to take, if any, in project planning and development. Consultation could involve possible roles regarding participating in project activities, how project activities could affect them either directly or indirectly, or integration of project activities into other land use issues in the area. Issues to consider include whether;

- To the extent that a project includes maintaining farmland on project lands, consideration should be given to providing flexibility to the farmer and to developing working landscapes on project lands. Farmers of land affected by project facilities and activities could maintain or obtain full or partial ownership of the land on which project activities will be carried out or could be compensated to manage project lands. (See also Strategies E1.2.2 and E1.2.3).
- Some or all of the ownership interests on any project land could remain in private hands where possible in order to keep the property in nongovernmental ownership and thereby on the County tax base. Agriculture could take place within areas identified for habitat restoration under the project without undermining the achievement of the project goals and objectives. (See also Strategies E2.3 and E2.5).
- Opportunities exist to partner with landowners and others to maintain and enhance environmental quality on farmland. Existing agricultural operations on lands could be modified, through such things as crop change, new integrated pest management strategies, altered water usage, or full or partial conversion to habitat uses, in a manner that renders such operations consistent with the goals and objectives of the project by enhancing environmental outcomes in a manner beneficial to species covered by the project. (See also Strategy B1).
- Opportunities exist to manage land for purposes other than conventional crop production. Subsidies, carbon payments or other market mechanisms could be used to encourage economically viable rice farming or managing wetlands or other habitat areas due to the environmental benefits of such rice farming such

as the stabilization of subsiding areas or the creation of sinks for greenhouse gases and methylmercury. (See also Strategies C1, C2, and C3).

- Opportunities exist to provide incentives to take part in market based conservation programs. (See also Strategy B2)

RELATED PROGRAMS AND POLICIES

See related discussions in Strategies B1, B2, C1, C2 and C3

ISSUES

Some of the measures described above, such as managing lands to maintain and enhance environmental quality, have been practiced by farmers, resource conservation districts, and others for many years. Others, such as development of carbon credits and payments to “farm” the land in a way that reverses subsidence, are newer or still in the process of development. Although there are efforts to establish regional strategies for restoration projects in the Delta, there has not been active participation by local landowners up to this point. It may be difficult to find funding for developing or implementing the measures. To the extent that agricultural land is involved in project purposes, long term (often in perpetuity) conservation easements and funding assurances will have to be developed. Strategies that seek to serve multiple benefits such as maintaining agricultural uses, meeting species-based regulatory requirements, and getting carbon credits, will still need to meet the standards of all of those things in order to be viable, and finding ways to do that will be challenging.

PARTNERS AND OPPORTUNITIES

Farmers, Landowners and other entities listed in Strategies B1, B2, C1, C2 and C3. They include:

- Local government, SACOG and other councils of government
- Federal and state resource and regulatory agencies, including the California Natural Resources Agency, the California Department of Water Resources, the Central Valley Flood Protection Board, the California Department of Conservation, the California Department of Food and Agriculture, the California Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Department of Agriculture, including the Natural Resources Conservation Service.
- Organizations with a regional interest such as the Delta Conservancy, the Delta Protection Commission and the Delta Stewardship Council
- Resource Conservation Districts

- Local colleges and universities, including the Agricultural Extension Service
- Local labor and farm worker organizations
- Local economic development corporations
- NGOs representing farmers
- NGOs representing entities that promote habitat protection and restoration activities.

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SECTION II: POTENTIAL STRATEGIES

Group E. STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.2 Work with farmers and landowners

Strategy E1.2.2: Compensate farmers and landowners to manage agricultural land for project purposes

DESCRIPTION

Where agricultural production is consistent with or necessary for the conservation purpose of BDCP, farmers and ranchers could be paid to manage habitat lands, either as owners or lessees. Examples of practices that have been carried out in the Delta or elsewhere are these:

- cultivation of alfalfa and irrigated pasture as foraging habitat for Swainson's hawks, tricolored blackbirds and sandhill cranes
- cultivation of rice, wheat and feed corn for sandhill cranes
- rangeland management that supports burrowing owls
- rice cultivation that supports giant garter snakes
- seasonal flooding of agricultural land on floodplains and enhancement of channel margin habitat for fish

RELATED PROGRAMS AND POLICIES

Managers of several properties in the Delta area, including Cosumnes River Preserve, Staten Island, and Yolo Bypass Wildlife Area, lease land to growers, who successfully integrate commercial crops and valuable habitat. The Habitat Conservation Plan for the Natomas Basin in Sacramento and Sutter Counties includes a habitat reserve area, most of which is kept in commercial crops, leased to farmers, and managed to provide habitat for Swainson's hawk.

Some commercial habitat mitigation banks are built around farm property and managed by farmer owners, e.g. Sacramento River Ranch in Yolo County, owned by Wildlands, Inc.

ISSUES

One important issue is the reluctance of growers to accept restrictions on their choice of crops or management practices.

OPPORTUNITIES AND POTENTIAL PARTNERS

The Delta Conservancy's Strategic Plan aims to “evaluate options for public/private partnerships to develop restoration projects.” The Delta Conservancy's Strategic Plan recognizes the need to evaluate options for public/private partnerships to develop restoration projects and to give priority to management models that preserve economic uses of the land. The Conservancy has proposed establishment of a Delta Restoration Network of entities with knowledge about habitat restoration opportunities and concerns.

SECTION II: POTENTIAL STRATEGIES

Group E. STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.2: Work with farmers and landowners

Strategy E1.2.3: Compensate farmers and landowners to manage project habitat lands

DESCRIPTION

Landowners could be retained to establish and manage habitats that have replaced agricultural land uses. Management could involve contouring the land and reconfiguring its drainage, maintaining levees, water control structures and other infrastructure, controlling invasive weeds, and providing security against trespass and vandalism.

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SECTION II: POTENTIAL STRATEGIES

Group E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.3 Avoid, minimize and mitigate for impacts to agricultural land from project

Strategy E1.3.1: Reduce Impacts on land

DESCRIPTION

This strategy encourages project proponents to design and implement projects in a way that reduces impacts on agricultural activity of the lands affected by the project. It identifies specific measures that should usually be considered in developing mitigation measures under CEQA/EPA and that can be used in the development of an Agricultural Lands Stewardship Plan (see Framework I.B on developing Agricultural Land Stewardship Plans for projects that affect agricultural lands). When considering implementation of the following measures, project proponents will need to consider many factors, including feasibility and compliance with environmental and other permitting programs.

1. Design projects so as to optimize contiguous parcels of agricultural land of a size sufficient to support their efficient use for continued agricultural production
2. Where the construction or operation of a facility could limit access to ongoing agricultural operations, maintain a means of convenient access to these agricultural properties as part of project design, construction, and implementation
3. Minimize extent of excavation and soil disturbance
4. Dispose of spoils, reusable material, and dredged material in a way that reduces impacts to or provides benefits to agriculture
5. Salvage, stockpile, and replace topsoil and prepare a topsoil stockpiling and handling plan
6. At borrow sites to be returned to agricultural production, remove and stockpile, at a minimum, the upper 2 feet of topsoil replace the topsoil after project completion as part of borrow site reclamation
7. In areas permanently disturbed by project activities, and where topsoil is removed as part of project construction and not reused as part of the project, make the topsoil available to less productive agricultural lands that could benefit from the introduction of good-quality soil

8. Relocate, upgrade and/or replace wells, pipelines, power lines, drainage systems, and other infrastructure that are needed for ongoing agricultural uses and would be adversely affected by project construction or operation
9. Minimize disturbance of farmland and continuing agricultural operations during construction by (1) locating construction laydown and staging areas on sites that are fallow, already developed or disturbed, or are to be discontinued for use as agricultural land and (2) using existing roads to access construction areas
10. Consult with landowners and agricultural operators to develop appropriate construction practices to minimize construction-related impairment of agricultural productivity. Practices may include coordinating the movement of heavy equipment and implementing traffic control measures
11. Consult with landowners and agricultural operators with the goal of sustaining existing agricultural operations, at the landowners' discretion, until the individual agricultural parcels are needed for project construction
12. Perform geotechnical studies to assess condition of soil and identify measures to reduce or eliminate potential problems related to levee stability, liquefaction, seepage, settlement of embankments or structures, subsidence, and soil bearing capacity
13. Evaluate placement of power line poles and towers to avoid impacts on agricultural lands and activities
14. Develop and implement erosion and sediment control plans to avoid impacts on adjacent farmland
15. Develop and implement a fire prevention and control plan
16. Implement measures to control fugitive dust
17. Locate new transmission lines and access routes to minimize the removal of trees and shrubs and pruning needed to accommodate new transmission lines and underground transmission lines where feasible
18. Develop and implement an area management plan to reduce aesthetic and visual impacts
19. Locate concrete batch plants and fuel stations away from sensitive visual resources and receptors and restore sites upon removal of facilities
20. Underground new or relocated utility lines where feasible
21. Conduct a survey of inaccessible properties, including agricultural buildings, to assess eligibility as a cultural resource, determine if these properties will be adversely impacted by the project, and develop treatment to resolve or mitigate adverse impacts

22. Implement site-specific construction traffic management plan to reduce effects on access to and from agricultural parcels
23. Limit hours or amount of construction activity on congested roadway segments to reduce effects on access to and from agricultural parcels (
24. .Make good faith efforts to enter into mitigation agreements to enhance capacity of congested roadway segments to reduce effects on access to and from agricultural parcels
25. Prohibit or limit construction activity on physically deficient roadway segments to reduce effects on agricultural operations
26. Improve physical condition of affected roadway segments as stipulated in mitigation agreements or encroachment permits to reduce effects on agricultural operations
27. Verify locations of utility infrastructure to avoid impacts to system operations
28. Relocate utility infrastructure in a way that avoids or minimizes any effect on operational reliability
29. Relocate utility infrastructure in a way that avoids or minimizes any effect on worker and public health and safety
30. Develop and implement a greenhouse gas mitigation program to reduce construction-related greenhouse gas emissions to net zero (0). This mitigation measure could include incentives to farmers to deliver agricultural wastes to existing waste conversion facilities or finance rice cultivation in the project area
31. Test dewatered solids from solids lagoons and dredged sediment prior to reuse and/or disposal
32. Where applicable, provide compensation to property owners for losses due to implementation of the project.

RELATED PROGRAMS AND POLICIES

See Issues section below.

ISSUES

Many of these practices are considered best management practices. While there does not appear to be a standard approach statewide or within the region, projects constructed could be examine to see what kinds of contractual or other types of agreements have been used in the past. Some of the measures identified may be considered standard environmental impact mitigation measures and would be part of the project cost and incorporated into contract specifications for construction of projects.

Others mitigate or reduce economic impacts. In most cases, these measures would not legally be required, but could be entered into on a voluntary basis and/or project proponents could help seek funding to cover the costs of these measures.

PARTNERS AND OPPORTUNITIES

- Farmers and Landowners
- Local government, SACOG and other councils of government
- Reclamation and irrigation districts
- Resource Conservation Districts
- NGOs representing farmers Federal and state resource and regulatory agencies, including the California Natural Resources Agency, the California Department of Water Resources, the Central Valley Flood Protection Board, the California Department of Conservation, the California Department of Food and Agriculture, the California Department of Fish and Wildlife, the United States Fish and Wildlife Service, the National Marine Fisheries Service, and the U.S. Department of Agriculture, including the Natural Resources Conservation Service.
- State agencies such as the Department of Transportation, the Department of Conservation, and the Department of Parks and Recreation
- Organizations with a regional interest such as the Delta Conservancy, the Delta Protection Commission and the Delta Stewardship Council

SECTION II: POTENTIAL STRATEGIES

GROUP A: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.3 Avoid, minimize and mitigate for impacts to agricultural land from project

Strategy E1.3.2: Reduce Impacts on ground water levels

DESCRIPTION

Water quality, and particularly the salinity of irrigation water, is an important factor for crop production. In general, crops have varying degrees of tolerance to irrigation water salinity, and tolerance can vary by growth stage. Salinity of surface water supplies are dependent upon water year type, time of year, and flow conditions.

Groundwater levels are generally shallow in the Delta, and many reclamation districts, irrigation districts, and water agencies operate canals and ditches that are used both for irrigation and drainage. Increases in local groundwater levels can seep onto adjacent lands, requiring additional drainage pumping (and additional costs) to ensure that crop roots are not exposed to excess water that can cause root rot. A related concern is associated with dewatering activities for construction, in which groundwater levels on adjacent areas could drop below levels necessary for crop irrigation.

This strategy proposes a number of measures that could reduce impacts on agricultural activities from changes in groundwater levels that could be caused by project construction and/or operations.

Actions to avoid or reduce seepage effects

When subject to the jurisdiction of the California DWR's Division of Safety of Dams, forebays and reservoirs must be constructed to comply with the requirements of the Division of Safety of Dams, which includes design provisions to minimize seepage. These design provisions would minimize seepage under embankments and onto adjacent properties. Once constructed and placed in operation, the operation of forebays would be monitored to assure that seepage does not exceed performance requirements. In the event seepage does exceed performance requirements, the project proponents would need to modify the embankments or construct seepage collection systems that would ensure any seepage would be collected and conveyed back to the forebay or reservoir or other suitable disposal site.

Prior to construction, project proponents should also determine areas potentially subject to seepage caused by habitat restoration and enhancement actions or operation of water supply facilities. These areas should be monitored and evaluated on a site-specific basis to identify baseline groundwater conditions. Restoration sites, along with the sites of water supply features that could result in seepage would be subsequently monitored once construction is completed. Monitoring would include placement of piezometers and/or periodic field checks to assess local groundwater levels and associated impacts on agricultural field conditions. In areas where operation of water supply facilities or habitat restoration is determined to result in seepage impacts on adjacent parcels, potentially feasible additional mitigation measures should be developed in consultation with affected landowners. These measures could include installation or improvement of subsurface agricultural drainage or an equivalent drainage measure, as well as pumping to provide for suitable field conditions (groundwater levels near pre-project levels). Such measures would be designed to ensure that the drainage characteristics of affected areas would be maintained to the level existing prior to project construction.

Actions to avoid or reduce dewatering effects

Prior to construction, project proponents should determine the location of wells within the anticipated area of influence at construction sites where dewatering would occur, Based on available information, the location of wells, depths of the wells, and depth to groundwater within the wells would be determined. It may also be feasible to schedule dewatering activities to occur during the drainage season, when adjacent land managers may be draining excess water and dewatering activities could be a benefit to agricultural operations. During construction, monitoring wells would be installed sufficiently close to the groundwater dewatering sites, or if possible, water levels in existing wells would be monitored, in order to be able to detect changes in water levels attributable to dewatering activities.

If monitoring data or other substantial evidence indicates that groundwater levels have declined in a manner that could adversely affect adjacent wells, the project proponents could offset agricultural water supply losses attributable to construction dewatering activities by ensuring that agricultural water supplies are maintained during construction or by providing compensation to offset for crop production losses. Measures to consider include:

install wells to recharge groundwater, install cutoffs (such as sheet piles, soil freezing, or slurry walls) to depths below groundwater elevations

deepen or modify wells to ensure agricultural production supported by water supplied by these wells is maintained.

secure a temporary alternative water supply or

compensate farmers for production losses attributable to a reduction in available groundwater supplies.

RELATED PROGRAMS AND POLICIES

Many of the considerations and actions related to groundwater are considered best management practices that may be included in the design of the project, may be included in contract specifications, and/or may be included in permit requirements (for example, compliance with Division of Safety of Dams regulations).

ISSUES

While many of the actions associated with groundwater effects are considered best management practices, there are a couple of considerations or issues that could arise while implementing these actions. One potential issue relates to securing access to land for the placement of monitoring equipment at appropriate locations. The project proponents may not be granted access to all areas that could be within the area of influence and, therefore, may not be able to gather complete information regarding whether or not the project is affecting groundwater levels on adjacent areas. Another consideration is the fact that, depending on timing and site-specific conditions, changes in groundwater levels created by the project could create beneficial effects for agricultural operations by requiring less pumping for irrigation or drainage.

PARTNERS AND OPPORTUNITIES

Farmers and landowners

DWR Division of Safety of Dams

Reclamation and Irrigation Districts

Local governments

Resource Conservation Districts

NGOs representing farmers

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SECTION II: POTENTIAL STRATEGIES

GROUP A: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.3 Avoid, minimize and mitigate for impacts to agricultural land from project

Strategy E1.3.3: Mitigate for conversion of agricultural land

DESCRIPTION

Sometimes early planning (Strategy E1.1), working with landowners (Strategy E1.2.1 E1.2.2 and E1.2.3) and counties (E2.1, E2.2 and E2.3), and mitigating on site (Strategies E1.3.1 and E1,3,2) will reduce environmental and economic impacts on agricultural land or agriculture, but will still involve the conversion of agricultural use to another use. Factors to consider in determining appropriate mitigation or assistance for conversion of agricultural land include the factors discussed below. The discussion is divided into environmental mitigation under the California Environmental Quality Act (CEQA) and mitigation for impacts not covered by CEQA. The National Environmental Policy Act (NEPA) has similar considerations. The following discussion identifies some factors to consider; however compliance with CEQA/NEPA is a legal question and should be discussed with legal counsel

Environmental Mitigation under CEQA/NEPA

1. CEQA Requirements: Under CEQA/NEPA, project proponents should consider adverse environmental impacts on agricultural resources and feasible mitigation measures that could reduce potentially significant impacts..
2. Basis for Mitigation: The first step in determining significance of environmental impacts is to determine the basis for mitigation. With regard to agriculture, the CEQA Guidelines ask whether the project would:
 - Convert farmland identified as prime agricultural land, unique land or farmland of statewide significance as identified on the Farmland Mapping and Monitoring Program of the California Natural Resources Agency to non-agricultural land uses (the program is administered by the California Department of Conservation(DOC), see <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>),

- Conflict with existing zoning for agricultural use, or a Williamson Act contract, or
 - Involve other changes to the existing environment, which due to their location or nature could result in the conversion of farmland to non-agricultural use.
3. More on Basis for Mitigation: Other factors a lead agency may consider include:
- Use of the California Agricultural Land Evaluation and Site Assessment Model (1977) developed by DOC
http://www.conservation.ca.gov/dlrp/Pages/qh_lesa.aspx,
 - The extent to which other kinds of farmland may be affected by the project. DOC and other sources also identify farmland of local significance, grazing land and other agricultural uses of land such as confined agriculture, or
 - Whether the impacts are temporary or periodic.
4. Mitigation: Once an impact on agricultural resources has been determined to be significant, the project proponent must consider feasible mitigation. Issues to consider include:
- The Conventional Approach for mitigation for significant adverse impacts to agricultural resources uses an agricultural conservation easement or ACE that keeps land in agriculture in perpetuity or forever. Historically the goal of an ACE has been to maintain agricultural land in active production by removing the development pressures from the land. Mitigation ratios suggested for different projects have ranged from less than 1:1 up to 3:1. See Strategy A5 for a discussion on ACEs.
 - Some projects require habitat conservation easements as mitigation requirements for biological resources values (e.g. for its value as habitat for Swainson's hawk). For some terrestrial species the habitat conservation easement may require that land be kept in agriculture. These easements usually put restrictions on the property with regard to what can be grown on the land and how the land is to be managed. Some projects have included land that is

required to be kept in agriculture for habitat conservation easements as mitigation for impacts on agricultural resources where the easements for biological values also incorporate agricultural preservation. See Strategy A5 on ACEs.

Impacts Not covered by ACEs

1. CEQA Requirements: CEQA does not usually require mitigation for social or economic impacts. Farmland conversion may have impacts in terms of changes to high quality soils, changes to land use and loss of habitat. Whether or not conversion of agricultural land is environmental or social/economic is a distinction that is sometimes difficult to make in the context of agricultural resources, especially where the land converted will stay in open space, but agricultural use will either be prohibited or reduced.
2. Additional Commitments: Project proponents can consider measures in addition to the Conventional Approach. Project proponents may agree to implement additional commitments as part of their projects.
3. Working with others to find further funding: Even if project proponents do not fund additional measures, they can work with others to find funding to mitigate for impacts not otherwise mitigated. Possible funding sources include establishing a greenhouse gas offset market using credits created through the development and restoration of wetlands; using "Cap and Trade" program funds, reinstating state funding for California Land Conservation Act subventions; recommending funds to be included in any bond measure; and others. See Strategy E1.4.
4. Possible approach for use of strategies in addition to the Conventional Mitigation Approach:
 - The ALS strategies provide a tool box that can be used in considering what additional measures project proponents might want to implement that would maintain and promote agricultural vitality in the area affected. See especially Strategies A1.1, A1.2, A1.3, A2, A3.3.1, A3.3.2, E1.1, E1.2, D2, D3, D5.1, D5.2, and D5.3).
 - The ALS tool box also includes measures that would encourage landowners to carry out activities that would keep them on the land such as incentives for conservation on farmland or to manage land for purposes other than conventional crop production. See especially Strategies B1, B2, C1, and C2.

5. Possible approach for use of strategies in conjunction with the conventional mitigation as an Optional Agricultural and Land Stewardship Approach:

- Conventional mitigation may be complicated in situations, such as the inner Delta, where there is little development pressure, due to regulatory restrictions, flood threats, and the large number of acres potentially planned for restoration by DWR and other public and private entities. Agricultural interests may see additional ACEs as unnecessary or unwanted limitations on agricultural lands. The draft BDCP EIR/EIS proposes an Optional Agriculture and Land Stewardship Approach that uses some or all of the funds that would normally be used to purchase ACEs to be used for other activities that would maintain agriculture in the area affected.
- The approach requires the project proponents to first determine:
 - Whether there is Important Farmland in the Delta reasonably accessible to the BDCP proponents and/or to the owner(s) and/or operators for use for agriculture and/or habitat management in a manner consistent with the goals and objectives of the BDCP
 - Whether there is Important Farmland that might not remain in agriculture if it was not protected by means of an agricultural conservation property interest because of threats of urban development (e.g. in the secondary zone in the Delta) or wind/solar and other non-renewable energy projects, or the productive value of which is so high, it should remain in agriculture instead of being used for restoration or other open-space projects because, for example, it is:
 - unique or has special values
 - important to maintaining viability of agriculture in the region
 - critical to prevent a tipping” point that could lead to elimination of a crop in the region
 - important to maintaining habitat lands in agriculture in the region
 - Whether Agricultural and Land Stewardship Strategies benefit agricultural lands by providing feasible CEQA/NEPA mitigation (or providing funding for such mitigation) for potential significant environmental agricultural impacts at both the farm and the regional level. In determining whether the funds necessary to make an Optional Agricultural and Land Stewardship Approach feasible are available, the project proponents shall be guided by the principle that funds

that might otherwise be used for off-site preservation or another form of compensation may be made available instead to assist with making the Optional Agricultural Land and Stewardship Approach work.

- If it is determine that the factual situation is one where the Optional Agricultural and Land Stewardship Approach works, the project proponents can then work with interested parties to develop a plan. Under the draft BDCP EIR/EIS, approval of the landowner and the appropriate county is necessary. See Possible Partners and Possibilities below for other interested parties.

RELATED PROGRAMS AND POLICIES

CEQA and NEPA are discussed above. See also Cases dealing with Agricultural Resources at <https://agriculturallandstewardship.water.ca.gov/documents/18/08140125-7e0d-4e83-8b12-25909b476919>.

ISSUES

Different interests have different views with regard to what CEQA requires with regard to what is a significant impact to agricultural resources and what are appropriate mitigation measures.

To the extent that mitigation measures are identified that are not required by CEQA/NEPA, there may be problems with finding funds to pay for them and with concerns regarding setting precedents for other projects.

The strategy suggests options that involve trying to find a consensus in which every party benefits. This type of effort can be very time-consuming and assumes that all parties share some kind of common goal. A lot of time and money can be spent on negotiations that, in the end, fail.

PARTNERS AND OPPORTUNITIES

- Landowners and operators
- State agencies such as the California Natural Resources Agency, California Department of Water Resources, Central Valley Flood Protection Board, California Department of Conservation, California Department of Food and Agriculture, and California Department of Fish and Wildlife
- Federal agencies such as the United States Fish and Wildlife Service, National Marine Fisheries Service, and U.S. Department of Food and Agriculture, including the Natural Resources Conservation Service
- Organizations with a regional interest such as the Delta Conservancy, the Delta Protection Commission and the Delta Stewardship Council

- Tribal interests
- Local labor and farm worker organizations
- Local land trusts
- NGOs representing farmers
- NGOs representing entities that promote habitat protection and restoration activities.

SECTION II: POTENTIAL STRATEGIES

GROUP A: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E1: Project Planning

Strategy E1.3 Avoid, minimize and mitigate for impacts to agricultural land from project

Strategy E1.4 Implementation and Funding

DESCRIPTION

How an ALS Strategy might be implemented will depend on what kind of activity it is intended to carry out. Measures to take into consideration include:

Implementation

Implementation of a strategy could be carried out with regard to one or more of three different kinds of activities. These activities are identified below.

- Project planning to include agricultural considerations.

Some of the strategies are standards of practice that are or could be included as part of the project. Others could include ways to involve farmers in managing project lands for project purposes and could range from payments to use the land to partnerships to manage the land. Some of these might not result in any additional costs to the projects. Others might add to project costs.

- CEQA/NEPA mitigation.

As discussed in Strategy E1.3.3, mitigation for impacts to agricultural resources is usually accomplished by purchasing agricultural conservation easements or other property interests. To the extent that strategies are selected as a result of the Optional Agricultural and Land Stewardship Approach for CEQA/NEPA mitigation, it is expected that they would not be more costly than the Conventional Agricultural Approach which would be based on the costs to acquire necessary agricultural conservation easements or other property interests.

- Additional Commitments to Sustain Vital Local Economies

Because of the complex nature of farmland as a natural and economic resource, there can be different views on when an impact is economic and when it is environmental. In addition, there may be policy reasons to support and encourage farmers and agriculture that go beyond current legal requirements. Additional Commitments could include some of the same strategies considered for the Optional

Agricultural Land Stewardship Approach for CEQA/NEPA mitigation, but the funding would have to come from other sources.

New funding on a case by case basis. Some of the strategies have (or have had in the past had) funding, for example Williamson Act subvention funds and funding for Weed Management Areas and funding has been reduced or eliminated for budgetary reasons. It is possible that additional funding could be found for these programs. Alternatively, new funding may come from new programs such as from a market to buy carbon credits or environmental services on the land. Each of these might require additional legislation, funding allocations or executive decisions. They would be pursued case by case and would be subject to other priorities determined by the administration and the Legislature. .

New funding as part of a new program to fund Agricultural Land Stewardship Strategies not part of environmental mitigation. Funding sources could come from new sources – such as from new bond funds or grants from new programs such as Cap and Trade funds or money used to mitigate for other projects. Funds from existing programs or new money to existing programs could also become part of such a program. There are a number of ways to set up such programs. Several options are listed below:

1. Give the funds to a governmental agency such as the California Department of Conservation, the California Department of Food and Agriculture, the Delta Conservancy, the Delta Stewardship Council, the Delta Protection Commission or to Regional Conservation Districts. This option could also involve the creation of a new organization or a Joint Powers Agency consisting of relevant local agencies. The agency could distribute funds based on a set of factors to be determined.
2. Give the funds to a governmental agency to distribute as competitive grants similar to programs run by the California Department of Fish and Wildlife for the Environmental Restoration Program or the California Department of Water Resources for the Integrated Regional Water Management Program. The agency could distribute funds based on a set of factors to be determined.
3. Give the funds to a governmental agency to distribute based on the recommendations of an advisory group composed of appropriate local agencies. All (or a specified percentage of the members) would have to agree on a specified project before funding could be disbursed. Consideration would need to be given to whether there would be any limitations on the funding besides consistency with relevant state and local policies.

Funding

The following potential sources of funding could be considered.

- Funded as part of project planning
- Funds for project environmental mitigation.
- Grants from state Integrated Regional Water Management and different Flood Management Programs and from federal National Resource Conservation Service and other similar sources.
- Grants from Non-profit organizations
- Funds that might be used for mitigation of greenhouse gases could be used to support agriculture friendly GHG reduction activities
- California Air Resources Board (CARB) established greenhouse gas offset market using credits created through the development and restoration of wetlands
- Funding from CARB’s “Cap and Trade” program developed pursuant to the Global Warming Act Solutions Act of 2006 (AB 32)
- Bond measure(s) placed on the statewide ballot

ISSUES

There can be different views on what is “mitigation” and what is “additional commitments”. A number of interests would object to use of mitigation funds to cover anything other than agricultural conservation easements. Funding for additional commitments may be difficult to find. It may be difficult to obtain agreement on governance for distributing funds for implementing different strategies.

BDCP and EIR/EIS

BDCP includes a number of mitigation measures and additional commitments.

PARTNERS AND OPPORTUNITIES

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SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E2: Work with Local Government

Strategy E2.1: Coordinate with local planning efforts

DESCRIPTION

There are a number of regional and local plans, policies, and regulations that may be relevant to implementation of a proposed project. Generally, state and federal agencies, as well as some local or regional agencies involved with the location or construction of facilities for the production, generation, storage, treatment, or transmission of water, are not subject to local land use regulations and inconsistency with a specific local land use regulation is not by itself an adverse effect on the environment.

Local governmental agencies, however, are in a unique position to know and understand the local and regional planning issues for their area. Factors to consider in working with the county and other regional entities include the factors discussed below:

- Meet with the counties and other local entities that are located in or near the project area discuss the project. Consider entering into agreements with the appropriate counties to participate in the planning and development phases of the project.
- DP P1 of the Delta Plan states that water management facilities, ecosystem restoration, and flood management infrastructure must be sited to avoid or reduce conflicts with existing uses or those uses described or depicted in city and county general plans for their jurisdictions or spheres of influence when feasible, considering comments from local agencies and the Delta Protection Commission. Plans for ecosystem restoration must consider sites on existing public lands, when feasible and consistent with a project's purpose, before privately owned sites are purchased. Measures to mitigate conflicts with adjacent uses may include, but are not limited to, buffers to prevent adverse effects on adjacent farmland.
- DP R4 of the Delta Plan states that agencies acquiring land for water management facilities, ecosystem restoration, and flood management infrastructure should purchase from willing sellers, when feasible, including consideration of whether lands suitable for proposed projects are available at fair prices.

- DP R7 of the Delta Plan states that cities, counties, and other local and State agencies should work together to protect and enhance visitor serving businesses by planning for recreation uses and facilities in the Delta, providing infrastructure to support recreation and tourism, and identifying settings for private visitor serving development and services.

RELATED PROGRAMS AND POLICIES

State programs: Consider state programs dealing with a specific geographical area such as the Delta Plan of the Delta Stewardship Council. State entities are subject to the requirements of the Plan's regulations. Any project subject to the DSC review must file a certification of consistency with the Delta Plan. Although the BDCP is not a project for which a certification of consistency must be prepared, the analysis in the Draft BDCP EIR/EIS discusses how the BDCP is consistent with the 14 policies of the Final Draft Delta Plan.

Regional programs

- The Delta Protection Commission's Land Use and Resources Management Plan. The Plan is composed of seven elements: Land Use, Agriculture, Natural Resources, Recreation and Access, Water, Levees, and Utilities and Infrastructure. Many of its goals and policies support long-term viability of agriculture and to discourage inappropriate development of agricultural lands.
- The Delta Protection Commission's Great California Delta Trail Blueprint Report for Contra Costa and Solano Counties which is also intended to serve as a template for the Great Delta Trail planning process in Sacramento, San Joaquin and Yolo counties.
- Suisun Marsh Local Protection Plan
- San Francisco Bay Plan

Other Habitat Conservation Plans, including the following existing and potential plans

Placer County Conservation Plan
Yuba-Sutter HCP/NCCP
Natomas Basin HCP
Yolo Natural Heritage Program

South Sacramento HCP
Solano County Multispecies HCP
East Contra Costa County HCP/NCCP
San Joaquin County Multi-Species HCP and Open Space Plan
East Alameda County Conservation Strategy

State and federal plans for fish and wildlife and parks such as:

- U.S. Fish and Wildlife Service - Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan
- California Department of Parks and Recreation - General Plan for Brannan Island and Franks Tract State Recreation Areas
- California Department of Parks and Recreation - Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh
- California Department of Fish and Wildlife - Yolo Bypass Wildlife Area Land Management Plan
- California Department of Fish and Wildlife - Lower Sherman Island Wildlife Area Land Management Plan

Local Airport Land Use Compatibility Plans

Under the provisions of the Planning and Zoning Act (Gov. Code §65000, et seq.) cities and counties must prepare general plans, incorporating seven mandatory elements, including land use, open space and conservation. A number of cities and the following counties include land in the Delta:

- Alameda
- Contra Costa
- Sacramento
- San Joaquin
- Solano
- Sutter
- Yolo

ISSUES

The form and nature of discussion with the counties and other local entities may be different depending on among other things:

- the type and scope of the project
- who pays for the time and resources of local government staff involved

- the role of local government – advisory, part of governance structures, other

OPPORTUNITIES AND POTENTIAL PARTNERS

The counties would normally be the primary or initial contact for working with local government. Other partners could include any of the parties identified in the section above on Related Programs and Policies.

SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E2: Work with Local Government

Strategy E2.2: Implement actions required by the Williamson Act

DESCRIPTION

The Williamson Act is an agricultural land protection program enacted by the California Legislature in 1965 to help maintain the agricultural economy of the state by preserving its agricultural land. The act discourages premature and unnecessary conversion of agricultural land to urban uses. The legislation benefits landowners by allowing them to enter into long-term contracts (10 or 20 years) with the state of California to keep agricultural land in production. In return, the state reduces property taxes based on a complex calculation tied to agricultural income.

The Williamson Act is implemented when a city or county creates an agricultural preserve. Once a preserve is established, the landowner enters into a contract with a city or county. The landowner and any successors-in-interest are obligated to adhere to the contract's enforceable restrictions, unless the contract is rescinded or cancelled. The minimum Williamson Act contract term is ten years and the contract is automatically renewed each year, adding an additional year to its term. If a county agrees to establish a Farmland Security Zone (FSZ, or "Super-Williamson Act") program, landowners may choose to enter into a 20-year contract to establish an FSZ or include the land within an established FSZ. In return, FSZ contracts offer landowners greater property tax reduction than under a 10-year Williamson Act contract.

These Williamson Act and FSZ contracts may be terminated by non-renewal or by cancellation. If a 10- or 20-year contract is terminated through non-renewal, a 9- or 19-year non-renewal period must be initiated by either the landowner or the city or county, during which time the land is still under contract, and the property taxes rise by a statutory formula during the last nine years of either form of contract. If a contract is terminated through cancellation, a city or county must make findings specific to each type of contract to justify cancellation.

Under several provisions of the Act, land under contract may be removed from contract in order to convert land to a non-agricultural use. Land may be acquired from a willing seller or by public acquisition for a public improvement project.

The statute sets forth a number of requirements for public agency project proponents that want to implement projects within agricultural preserves and subject to Williamson Act contracts subject to Williamson Act contracts. The following discussion identifies

some factors to consider where applicable; however compliance with CEQA is a legal question and should be discussed with legal counsel.

- Comply with applicable provisions of California Government Code Sections 51290–51295 with regard to acquiring lands within agricultural preserves and subject to Williamson Act contracts. Sections 51290(a) and 51290(b) specify that State policy, consistent with the purpose of the Williamson Act to preserve and protect agricultural land, is to avoid locating public improvements and any public utilities improvements in agricultural preserves, whenever feasible. If it is infeasible to locate such improvements outside of a preserve, they shall be located on land that is not under contract, if feasible.
- Whenever it appears that land within a preserve or under contract may be required for a public improvement, the Department of Conservation (DOC) and the city or county responsible for administering the preserve must be notified (Section 51291(b)). Within 30 days of being notified, DOC and the city or county must forward comments, which will be considered by the proponents of the public improvement (Section 51291(b))
- A public improvement generally may not be located within an agricultural preserve unless the project proponents make specific findings to the effect that (1) the location is not based primarily on the lower cost of acquiring land in an agricultural preserve and (2) for agricultural land covered under a contract for any public improvement, no other land exists within or outside the preserve where it is reasonably feasible to locate the public improvement (Sections 51921(a) and 51921(b)). Findings do not need be made if the action falls within one of the exemptions in Section 51293. The contract is normally terminated when land is acquired by eminent domain or in lieu of eminent domain (Section 51295).
- DOC must be notified within 10 working days upon completion of the acquisition (Section 51291(c)).
- DOC and the city or county must be notified before completion of any proposed work of any significant changes related to the public improvement (Section 51291(d)).
- If, after acquisition, the acquiring public agency determines that the property would not be used for the proposed public improvement, DOC and the city or county administering the involved preserve must be notified before the land is returned to private ownership. The land will be reenrolled in a new contract or encumbered by an enforceable restriction at least as restrictive as that provided by the Williamson Act (Section 51295).

RELATED PROGRAMS AND POLICIES

The Williamson Act provides some exemptions from the findings listed above. These exemptions are identified in §51293 of the California Government Code and are listed below.

- The acquisition of either (1) temporary construction easements for public utility improvements, or (2) an interest in real property for underground public utility improvements. The exemption applies only where the surface of the land subject to the acquisition is returned to the condition and use that immediately predated the construction of the public improvement, and when the construction of the public utility improvement will not significantly impair agricultural use of the affected contracted parcel or parcels.
- The location or construction of the following types of improvements, which are hereby determined to be compatible with or to enhance land within an agricultural preserve [not a contract]:
 - (1) Flood control works, including channel rectification and alteration.
 - (2) Public works required for fish and wildlife enhancement and preservation.
 - (3) Improvements for the primary benefit of the lands within the preserve.
- All facilities which are part of the State Water Facilities as described in subdivision (d) of Section 12934 of the Water Code, except facilities under paragraph (6) of subdivision (d) of that section
- The acquisition of a fee interest or conservation easement for a term of at least 10 years, in order to restrict the land to agricultural or open space uses as defined by subdivisions (b) and (o) of Section 51201.

ISSUES

Project proponents need to remember that there are specific policies and requirements that may apply when changing land use to non-agricultural uses when the land in question is within an agricultural preserve and subject to Williamson Act contracts. Unless specifically stated in the statute, state agencies are not exempt from these requirements.

Some land uses may be compatible with the agricultural use. Project proponents should check with the county in which the project is located to determine what uses are compatible.

As discussed above, contracts may be terminated by non-renewal. This process takes either 10 or 20 years, depending on what type of contract is involved.

PARTNERS AND POSSIBILITIES

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- Farmers/landowners
- County in which the project is located.

SECTION II: POTENTIAL STRATEGIES

Group E. STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E2: Work with local government

Strategy E.2.3: Work with counties to expand Williamson Act authorized uses

DESCRIPTION

As noted in Strategy E2.5, the Williamson Act was enacted in 1965 to help lessen the impacts of rapidly spiraling land values and property taxes, and to ensure that California would continue to benefit from a long-term supply of agricultural and open space land. In the 48 years since, the Act has been primarily used by local governments to preserve agricultural land in California. However, the Act also provides options for non-agricultural open space contracts (e.g. for wetland and wildlife habitat) per Government Code § 51205. Cities and counties have the authority to include open space, habitat, and recreation as primary uses in agricultural preserves and to provide for those uses in their Williamson Act contracts. In the Delta, relatively few, if any agricultural preserves currently provide for exclusive open space contracts to be set up. Accordingly, open space, habitat, and recreation uses can occur as a “compatible use” but not as a primary use.

The Williamson Act (Government Code § 51254) provides for the conversion of existing agricultural contracts to open space contracts (or open space easements). The contracting parties, by mutual agreement, can rescind an existing agricultural contract and simultaneously enter into a new open space contract. Securing the cooperation of the Delta counties in the conversion of Williamson Act agricultural contracts to open space contracts could facilitate a farmer’s ability to remain on the land by allowing habitat/open space as the primary use while retaining Williamson Act property tax benefits. The farmer could then act as property manager for the habitat land and, if feasible, continue to farm a portion of the land as a secondary use. Keeping the land in private ownership retains the property’s contribution to the respective county’s tax base.

RELATED PROGRAMS AND POLICIES

Under the provisions of the Planning and Zoning Act (Gov. Code §65000, et seq.) cities and counties must prepare general plans, incorporating seven mandatory elements, including land use, open space and conservation. Within these elements, a city or county normally provides direction and future intent for the land identified as agricultural or open space land. The Williamson Act provides a narrower spectrum of land that can be compatible as open space within agricultural preserves and under Williamson Act contracts. These limited uses, which are further defined within the Act, include: (1) a

scenic highway corridor, (2) a wildlife habitat area, (3) a saltpond, (4) a managed wetland area, (5) a submerged area, or, (6) an area enrolled in the United States Department of Agriculture Conservation Reserve Program or Conservation Reserve Enhancement Program.

ISSUES

The loss of OSSA funding makes the resulting reduction in property tax revenues a greater challenge for counties. Conversion of producing agricultural land to lower production or open space could also reduce the income from affected land. The strategy could also be viewed as reducing agricultural production and income options and detrimental to the local economy. On the other hand, if there is no agreement to provide for a change from agricultural to open space use, BDCP participants may choose to not renew the existing Williamson Act contracts which could lead to uncertainty with regard to property tax values, in lieu taxes and the potential for subventions. Achieving cooperation from the participating counties will be the key to the success of this strategy and the development of identifiable benefits or meaningful incentives could encourage the counties to consider changing the existing contracts.

OPPORTUNITIES AND POTENTIAL PARTNERS

Many NGOs, such as The Nature Conservancy, the Trust for Public Land, and regional and local land trusts, have dealt with the issue of Williamson Act agricultural restrictions on lands that they have acquired for restoration. The conversion of existing Williamson Act agricultural contracts to open space contracts or open space easements could facilitate habitat restoration and the development of recreational opportunities, which are goals that are shared by many groups. These shared goals could provide partnering opportunities that expand the scope and effectiveness of this strategy. Converting Williamson Act agricultural contracts to open space contracts or easements could provide options to facilitate habitat restoration and the development of recreational opportunities, while avoiding potential conflicts with local Williamson Act rules that may limit nonagricultural open space uses.

SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E2: Work with Local Government

Strategy E2.4: Investigate options for in lieu tax revenue for local governments

DESCRIPTION

Project investments in land can result in public ownership of property, removing it from property tax rolls and reducing property tax revenues to local government. Other public investments could result in the transfer of less than full property ownership in the form of lesser interests in land, such as agricultural conservation easements and other forms of conservation easements. Under existing provisions of the Revenue and Taxation Code, creation of these easements would result in a permanent reduction in assessments for the properties subject to conservation easements.

Some of the ways proposed to make local governments whole as a result of public projects are to:

- commit to fully replace lost tax revenue on land that will be acquired in fee by public agencies;
- reinstitute Open Space Subventions, reducing tax losses from enforceably restricted land;
- provide reimbursement for any losses from enforceably restricted land not otherwise reimbursed by Open Space Subventions;
- commit to pay for applicable special district costs imposed on landowners.

RELATED PROGRAMS AND POLICIES

California Constitution, Article XIII, Section 8 - Provides the basic authority to permit preferential property taxation contingent upon the adoption of enforceable restrictions by the Legislature.

Revenue and Taxation Code §420, *et seq.* establishes qualifying enforceable land use restrictions and sets forth tax formulae for restricted lands.

The Open Space Subvention Act - Government Code §16140, *et seq.* - Provides for State payments to participating counties and cities based on the type of land and amount of land enrolled in Williamson Act contracts (\$5/acre for prime land, \$1/acre for land other than prime). The Act also provides for the State's oversight of local programs, including standing to bring suit to enforce.

The Williamson Act (California Land Conservation Act) - Government Code §51200, *et seq.* - sets forth the structure for establishing agricultural preserves, entering to and

terminating contracts, approving compatible uses for preserves and contracts; and enforcement of restrictions required by the Constitution in exchange for tax benefits.

§51252 provides: “Open-space land under a contract entered into pursuant to this chapter shall be enforceably restricted within the meaning and for the purposes of Section 8 of Article XIII of the State Constitution and shall be enforced and administered by the city or county in such a manner as to accomplish the purposes of that article and of this chapter.”

ISSUES

Loss of open space subventions (See E2.5) – The Williamson Act was enacted almost 50 years ago, and in the intervening period has had a profound effect by helping to retain large swaths of agricultural land and open spaces in California. However, it did not become widely popular in California before the enactment of the Open Space Subvention Act (OSSA) in 1969. The OSSA, until it was defunded in 2010, reimbursed participating cities and counties for a portion of their tax revenue losses resulting from limiting the property taxes on landowners of land contracted under the terms of the Williamson Act. Two Delta counties, San Joaquin and Yolo, were among the top 10 counties receiving subventions before defunding occurred. In 2009, San Joaquin received \$1,872,435 and Yolo received \$1,309,555 from the State General Fund. For the other Delta counties, 2009 subventions were: Contra Costa - \$66,947; Sacramento - \$517,933; Solano - \$644,178.

Because of the loss of OSSA subventions, the Delta Counties already face significant unreimbursed tax revenue losses from property tax restrictions on land. Much of the land that is expected to be affected by the use of various conservation easements would be valued under the same Revenue and Taxation code provisions that now apply to the land subject to Williamson Act contracts. In the case of the Williamson Act or Farmland Security Zone contracts, the counties are free to “nonrenew” the contracts, causing taxes to return to a Prop. 13 basis over the remainder of their 10- or 20-year terms. However, conservation easements will be eligible for lower taxes in perpetuity, so long as the Revenue and Taxation Code formulae for enforceably restricted land remain on the books.

Currently, the Bay Delta Conservation Plan provides no proposed offset for revenue loss for easements – However, Assessors are required to consider conservation easements as enforceable restrictions that will affect property valuation (See R&T Code §§421, 422, 422.5).

Making local governments “whole” The Delta Five-County Coalition has signaled that it expects that payments associated with BDCP will “make the Counties whole” by replacing lost tax revenues, and that special districts will also receive full payments for revenue lost to public ownership effects on the tax rolls.

PARTNERS AND POSSIBILITIES

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- The California Climate and Agriculture Network
- California Department of Food and Agriculture
- California Department of Conservation
- California Natural Resources Agency
- Delta Five County Coalition
- California Special Districts Association

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SECTION II: POTENTIAL STRATEGIES

GROUP E: STRATEGIES FOR SUCCESSFUL PLANNING BY PROJECT PROPONENTS

Strategy E2: Work with Local Government

Strategy E2.5: Work with others to explore the value of reinstating state funding of Williamson Act subventions

DESCRIPTION: The Williamson Act has proven to be a popular and successful farmland and open space conservation tool for almost 50 years. 53 of 58 counties participate in the voluntary program that provides property tax relief to landowners in exchange for accepting development restrictions on their land for a term of 10 or 20 years. Subvention payments from the State to the participating counties and cities for the lost property tax revenue have been mainstay of the program until 2009. State budget cuts have dramatically reduced funding for the Williamson Act, which places an increased burden on the participating counties and cities and casts doubt on the future of one of the nation’s oldest land conservation programs.

Recent research, published in the winter 2012 issue of *California Agriculture*, surveyed 700 ranchers who have Williamson Act contracts and found that 37 percent of ranchers predicted they would sell some or all of their rangeland without property tax reductions provided under the Act. Of those who would sell, 76 percent predicted that the buyers would develop the land for non-agricultural purposes. This suggests that a significant amount of California’s agricultural and open space land is in jeopardy of conversion without the property tax reductions provided by the Williamson Act. While land in the primary zone of the Delta is protected from development by the Delta Protection Act of 1992, the Williamson Act undoubtedly increases the economic viability of agricultural operations in the Delta by reducing the property tax burden to farmers and ranchers. It also limits the price of land because of the contract restrictions, and the effects of changes to ownership on the tax burdens. The Act allows farmers to purchase land without feeling the full tax burden of a sale from a seller with long-held ownership (which is limited by Proposition 13 rates) to a new owner (whose land will be valued at the new purchase value unless the tax rate is restricted by the Williamson Act).

In order to offset some of the property taxes lost to cities and counties participating in the Williamson Act, the Open Space Subvention Act (OSSA) was enacted in 1970. The OSSA reimbursed participating local agencies based on the amount and quality of land under contract (for a time, the amount of payment for prime land under contract was also keyed to whether the land was within three miles of a city). Until the OSSA funding was cut in 2010-11, the state had paid approximately \$1 billion to cities and counties for

subventions, and also backfilled property tax support to school districts for losses tied to lower tax rates. Some counties adopted agricultural preserve programs with additional restrictions or benefits to participants.

This strategy involves working with the counties, the California Department of Conservation and others to investigate options that could improve the economic base of the counties that participate in the Williamson Act. Some of the options could include looking at the benefits of restoring OSSA-type incentives and/or to provide incentives to counties to either maintain their current Williamson Act agricultural contracts or to encourage the rescinding of those contracts and the simultaneous signing of new open space/habitat contracts. This strategy could allow farmland to remain privately owned and on the tax rolls while keeping the Williamson Act contracts in place. At the same time it would provide economic relief to counties who have suffered the loss of Williamson Act subventions that have resulted from the recent State budget cuts.

RELATED PROGRAMS AND POLICIES

See discussion above.

ISSUES

The greatest issue is the cost of the subvention program to the state general fund. Before funding was terminated, the state paid \$39 million annually to the cities and counties with Williamson Act programs. Another issue could arise if limited payments are targeted at the BDCP Planning Area only. Even if such payments were identified as “in addition” to any increased statewide subvention program, targeted payments could be viewed as counterproductive to efforts to reinstate the subvention program statewide.

OPPORTUNITIES AND POTENTIAL PARTNERS

The counties have been carrying most of the burden of reduced property tax payments under the Act since 2009. Some of the 53 participating counties have placed moratoriums on new contracts due to the uncertainty surrounding the future of subventions funding; however, at present none of the five Delta counties has placed a moratorium on establishing new Williamson Act contracts. The California State Association of Counties currently has a policy and promotes efforts to fully fund Williamson Act Subventions funding and could be an effective potential proponent in bringing this strategy to fruition. In addition to local government, a diverse and sizable roster of organizations have demonstrated their support for reviving funding Williamson Act subventions including environmental and agricultural groups, in addition to various coalitions. The California Farm Bureau has been a prominent voice in explaining the value and success of the Williamson Act and has provided continued support and

guidance to California counties on changes and status of the Act. The California Rangeland Conservation Coalition is currently in the process of creating a workgroup to develop ideas that could reinvigorate subvention funding. The Working Lands Coalition, a consortium made up of the California Farm Bureau Federation, the American Farmland Trust, the California Rangeland Trust, several agricultural associations, and many more regional land trust groups, has developed a proposal to fund a comprehensive agricultural land and open space protection with greenhouse gas cap and trade auction revenue. The proposal includes the restoration of Williamson Act subventions and links subventions and planning money to incentives for counties and cities to adopt strong open space and agricultural protection programs.