Delta Protection Commission Meeting

July 17, 2025

AGENDA ITEM 11: Preliminary Study - Delta Farmland Conversions: Water Supply, Flood Control, and Habitat Projects

Prepared by: Rachel Vanderwerff and Dan Ray

Presented by: Rachel Vanderwerff

Recommended Action: Receive and discuss the preliminary results of the study

Type of Action: Discussion

Background

Agriculture in the Sacramento-San Joaquin Delta (Delta) is far more than a key economic sector- it is also a cornerstone of the region's cultural and environmental identity. Agriculture dominates the landscape, covering approximately 415,000 of the Delta's 800,000 acres.[1] Over 70 different crops are grown for both local and global markets, including corn, rice, tomatoes, wine grapes, stone fruit, and asparagus (Delta Protection Commission 2020). This fertile region, known for its high-quality soil, reliable water supply, and moderate climate, is home to land that is over 80% Prime Farmland[2], the highest soil quality classification designation in the state. Delta agriculture drives the local economy, supporting around 23,000 jobs statewide, with its total economic impact reaching $4.5 billion (Delta Stewardship Council 2025). It also provides the majority of employment within the Delta's Primary Zone. Beyond its economic importance, Delta agriculture holds deep cultural value for residents, farmers, and visitors alike, often representing multi-generational farming traditions that are deeply tied to the land. As the cultural backbone of many Delta communities, agriculture not only feeds people but also preserves a way of life that is essential to California's heritage.

Applicable Policy

The Delta Protection Act and the Commission's Land Use and Natural Resource Management Plan (PDF) (LURMP) seek to protect Delta agriculture. The law provides that,

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[1] The State of Delta Agriculture: Economic Impact, Conservation and Trends. Delta Protection Commission. https://delta.ca.gov/wp-content/uploads/2025/03/Socioeconomic-Indicators-2025-Update-508.pdf (PDF) February 3, 2020, West Sacramento, California.

[2] Delta Adapts: Creating a Climate Resilient Future. Adaption Plan. Delta Stewardship Council. https://deltacouncil.ca.gov/pdf/council-meeting/meeting-materials/2025-06-26-item-6-attachment-1-delta-adapts.pdf (PDF) June 2025

"agricultural lands located within the primary zone should be protected from intrusion of nonagricultural uses" (Public Resources Act section 29703(c)). In furtherance of this goal, the Commission's LURMP's land use policies provide, in part:

- "Local government general plans … and zoning codes shall continue to promote and facilitate agriculture and agriculturally supporting commercial and industrial uses as the primary land uses in the Primary Zone; recreation and natural resources land uses shall be supported in appropriate locations and where conflicts with agricultural land uses or other beneficial uses can be minimized (P-2).
- "New non-agriculturally oriented … habitat restoration … shall ensure that appropriate buffer areas are provided by those proposing new development to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural Commissioners, and shall be based on applicable general plan policies and criteria included in Right-to-Farm Ordinances adopted by local jurisdictions (P-3).
- "Subsidence control shall be a key factor in evaluating land use proposals. Encourage agricultural, land management, recreational, and wildlife management practices that minimize subsidence of peat soils (P-6).
- "The conversion of an agricultural parcel, parcels, and/or an agricultural island for … water conveyance or wetland development may not result in the seepage of water onto or under the adjacent parcel, parcels, and/or island. These conversions shall mitigate the risks and adverse effects associated with seepage, levee stability, subsidence, and levee erosion (P-14)."

The plan's agriculture policies include:

- Conversion of land to non-agriculturally-oriented uses should occur first where productivity and agricultural values are lowest (P-2).

These policies protecting farmland in the Delta are challenged by an increase in water supply, flood control, and habitat restoration projects. These projects address the state's environmental and climate resilience goals, but they are leading to shifts in land use away from production agriculture.

The impacts of habitat and flood control projects are discussed below as part of this study. Further analysis will be included in a final report we anticipate presenting in September.

Summary of Preliminary Findings

Impacts to Agriculture from Flood Control and Habitat Projects

Flood control and habitat projects within the legal Delta were reviewed based on the following criteria: they cover three acres or more, were completed after 2013 (Delta Plan regulations took effect on September 1, 2013), and they involved land that had been farmland within four years prior to conversion. **Figure 1: Habitat and Flood Control Projects** shows the project areas within the study and includes the following projects (see the corresponding numbers on the map):

- Yolo County
    - 5 - Lookout Slough Tidal Habitat Restoration and Flood Improvement Project
    - 3 - Lower Yolo Ranch Restoration Project
    - 4 - North Delta Fish Conservation Bank
    - 1 - Tide's End Multibenefit Restoration Project
    - 2 - Yolo Flyway Farms Restoration
- Solano County
    - 10 - Cache Slough Mitigation Bank Project
    - 9 - Little Egbert Multi-Benefit Project
    - 5 - Lookout Slough Tidal Habitat Restoration and Flood Improvement Project
- Sacramento County
    - 8 - Grizzly Slough Floodplain Restoration Project
    - 7 - McCormack-Williamson Tract Levee Modification and Habitat Restoration Project
    - 16 - Sherman Island Belly Wetland Restoration
    - 14 - Sherman Island Wetland Restoration Project Phase III (Whale's Nose)
    - 15 - Sherman Island Whale's Mouth Wetland Restoration Project
    - 12 - Twitchell Island Wetland Enhancement and Restoration Project
    - 6 - Zacharias Ranch Mitigation Bank and Tidal Restoration Project
- San Joaquin County
    - 19 - McDonald Island Mitigation site
    - 23 - Paradise Cut Expansion & South Delta Restoration Project
    - 11 - Staten Island: Wetland Restoration Project
- Contra Costa County:
    - 21 - Dutch Slough Tidal Marsh Restoration Project Phase 1 and Dutch Slough Tidal Marsh Restoration Project Phase 2: Burrough Parcel
    - 17 - Giant Garter Snake Mitigation Bank
    - 18 - Hoover Ranch and Bethel Island - Land Acquisition

- 22 - Knightsen Restoration Project
- 20 - Marsh Creek Enhancement Area
- 13 - Webb Tract Wetland Mosaic Landscape Project

In addition to these projects, Delta agricultural lands have also been affected by the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (e.g., the "notch" in the Fremont Wier) which may extend the duration of flooding of agricultural land in the bypass both above and within the Delta.

These completed and planned habitat and flood control projects total 36,186 acres -- almost 57 square miles. Of these, 34,470 (95%) are zoned for agriculture, accounting for approximately 8% of the Delta's farmland. This number is preliminary and will change as further analysis provides more detailed information. For example, some portions of these projects will continue to support agricultural use, and those acreages may be accounted for in future analyses.

Impacts to Farmland by Classification Type

The top five farmland classifications impacted by completed and planned habitat and flood control projects are listed below. Farmland categories not shown each accounted for 2% or less of the total land converted. **Figure 2: Farmland Classification** illustrates these categories within the project areas.

Farm Classification Type	Total Area (Acres)	Percent of Total Conversions
Prime Farmland	19,574	54%
Other Land	5,301	15%
Farmland of Local Importance	4,728	13%
Grazing Land	2,995	8%
Unique Farmland	2,361	7%

Projects within Priority Restoration Areas

The Delta Plan identifies several Priority Restoration Areas (PDF) for habitat restoration within the Delta, totaling 246,998 acres. Currently, 15,671 acres or 43% of the completed and planned habitat and flood control projects are located within these Priority Restoration Areas. This represents only 6% of the total designated acreage. **Figure 3: Delta Farmland Conversion: Priority Habitat Restoration Areas**, provides a visual representation of projects located within the priority areas.

Projects within Subsided Areas

In discussion with the Delta Protection Advisory Committee, committee members identified some of the project areas as so impaired that farming was no longer practical there. **Figure 4: Subsidence** depicts Delta islands and tracts that are deeply subsided because of their peat soil's oxidation. In some of these lands, farming is limited by seepage or loss of their fertile peat. Their elevations, many feet below intertidal and shallow water elevations, make these areas poorly suited to restoring habitats which could contribute to the recovery of threatened or endangered Delta species. Flooding them to create freshwater wetlands can, however, sequester carbon in tule beds and contribute to the replenishment of peat, slowly rebuilding depleted soils. The Delta Conservancy is funding several projects to create wetlands on these deeply subsided areas. Of our habitat and flood control projects, approximately 10,667 acres of wetland have been or are being constructed within the subsided areas. 10,985 more acres within the subsided areas are in the permitting or planning stages.

The Delta Conveyance Project

Yet more Delta agricultural land will be lost or damaged if the proposed Delta Conveyance project ("the tunnel") is approved. The project's final EIR identifies 2,340 acres of farmland within the project footprint that would be destroyed. Over 90 percent of these lands are prime or unique farmland or farmland of statewide or local importance.

More farmland would be converted from production to create habitats to compensate for the tunnel's damage to fish, wildlife, and wetlands. On Bouldin Island, 956 acres of farmlands would be converted to freshwater wetlands. In addition, between 3,500 acres to 9,722 acres of tidal habitats would need to be restored to mitigate impacts to smelt and salmon.

Together, these tunnel impacts will convert up to 13,018 acres – over 20 square miles – of farmland from production.

Other State Goals for Delta Restoration

Long term goals in the Delta Plan and state climate policy envision further habitat restoration in the Delta. The Delta Stewardship Council's Delta Plan proposes large scale restoration of habitats to recover the Delta ecosystem. Its performance measures include a target of restoring 32,000 acres of tidal marsh by 2050.

California's Climate Adaptation Strategy also recommends large-scale ecosystem restoration in the Delta watershed. This strategy proposes the restoration of 60,000 to

80,000 acres of natural ecosystems as a success metric. The strategy's near-term goal is to create wetlands or grow rice on 30,000 acres in the Delta by 2030 to reverse subsidence and sequester carbon.

Some projects to implement the Climate Adaption Strategy are currently underway, supported by major planning and restoration frameworks including the Delta Plan, and the Delta Conservancy's Delta Carbon Program. The initiative is being led by the California Natural Resources Agency in coordination with the Department of Water Resources, Department of Fish and Wildlife, Delta Stewardship Council, and Delta Conservancy.

Cutting the Green Tape

As these types of projects increase, some are receiving less scrutiny because of recent changes in the California Environmental Quality Act (CEQA). Habitat projects can now be excluded from impact assessment under CEQA at the discretion of the Department of Fish and Wildlife. This exclusion responds to concerns about the time and costs of CEQA compliance for restoration projects considered environmentally beneficial. The exclusion raises questions about the long-term impacts of removing productive farmland, the adequacy of measures to mitigate impacts to remaining farmland, and the cumulative impacts of multiple projects on water quality and tidal currents. Together, these trends point to the need for a balanced approach that recognizes both the environmental goals driving restoration efforts and the value of Delta agriculture to the region's economy, heritage, and identity.

What's Next

In addition to this analysis of completed and planned projects, two workshops are being held to learn from farmers and their reclamation districts how these projects have affected them. When initiatives to rebuild Delta wetlands expanded in the 2000s under the CALFED Bay-Delta program, worries were expressed that these projects could damage farmland by seepage from flooded areas, effects on drainage systems, conflicts with protected animals and fish, or other changes. Measures to mitigate these effects, including good neighbor agreements between habitat projects and adjoining farmers were proposed in the Commission's Land Use and Resource Management Plan (PDF) and the Delta Stewardship Council's Delta Plan. Based on fifteen years of experience with habitat projects sited next to Delta farmlands, the workshops are an opportunity to reassess how the projects are affecting farmlands and to revisit the adequacy of those mitigation measures. We will report on the workshops at the Commission meeting and in our final report.

This study serves as the foundation for that final report, which will include a more fully developed set of recommendations based on key findings, additional data gathering, and

emerging ideas. Given the scale and pace of ongoing restoration and flood control efforts, it is imperative that we take a comprehensive, region-wide view of the Delta to guide future land use decisions. Strategic planning should consider the cumulative impacts of habitat and flood projects alongside the long-term viability of agriculture, ensuring that both environmental and agricultural values are preserved. By evaluating the Delta holistically—rather than through fragmented or project-specific decisions—we can better identify areas best suited for restoration, flood management, or continued farming, and avoid unintended trade-offs. This integrated approach is essential to meeting the Delta's coequal goals of ecosystem restoration and a reliable water supply while protecting the agricultural foundation that continues to define the region.

Recommended Action

Receive and discuss the preliminary results of the study, along with a summary of key themes and feedback received during the stakeholder workshops held in advance of the Commission meeting. Provide guidance to help inform the framing of the final report.

Relationship to Vision 2030

The Commission's 2030 Strategic Plan proposes several actions related to this study.

Agriculture

The Delta Protection Commission works to conserve agricultural land and economically sustainable agricultural operations in the Delta.

A.1 Protect and enhance long-term viability of commercial agriculture.

1.2 Promote agricultural crops and cultural practices that reduce or eliminate continued subsidence of Delta peat soil.

A.2 Protect agricultural lands from inappropriate development.

2.1 Implement the Land Use and Resource Management Plan (LURMP) and update it to address current conversion challenges in the Delta, such as proposed industrial-scale alternative energy developments and large-scale habitat restoration.

2.2 Advocate for the use of existing public lands and lands owned by conservation entities for habitat restoration to minimize the conversion of productive Delta agricultural land.

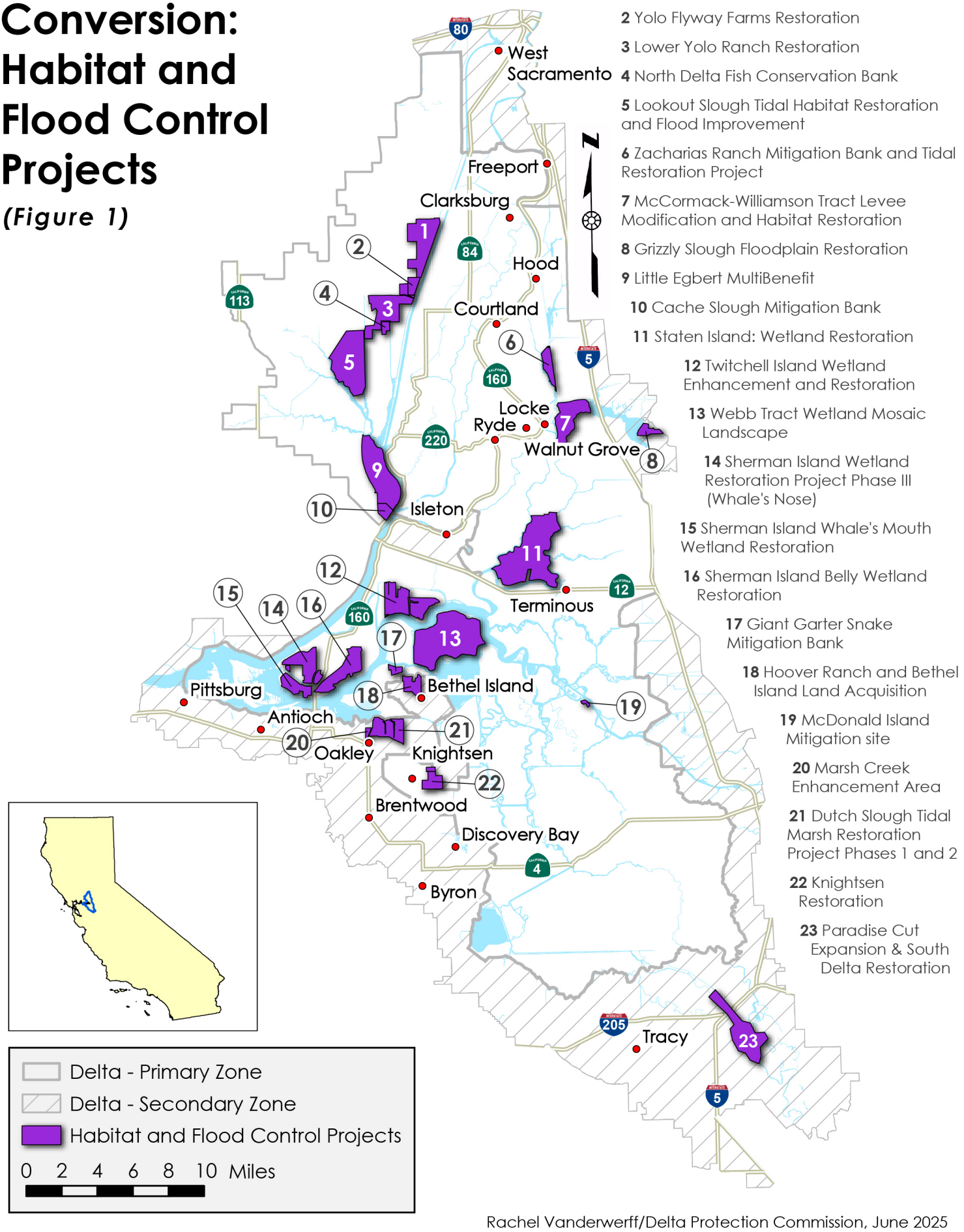
2.3 Advocate for appropriate land usage through the consultation process on Delta Conservancy restoration projects.

A.3 Support wildlife-friendly farming and agriculture-friendly habitat restoration.

3.1 Promote and disseminate "good neighbor" policies to Delta farms and environmental entities.

Delta Farmland Conversion: Habitat and Flood Control Projects

(Figure 1)



PROJECTS

1 Tide's End Multibenefit Restoration

2 Yolo Flyway Farms Restoration

3 Lower Yolo Ranch Restoration

4 North Delta Fish Conservation Bank

5 Lookout Slough Tidal Habitat Restoration and Flood Improvement

6 Zacharias Ranch Mitigation Bank and Tidal Restoration Project

7 McCormack-Williamson Tract Levee Modification and Habitat Restoration

8 Grizzly Slough Floodplain Restoration

9 Little Egbert MultiBenefit

10 Cache Slough Mitigation Bank

11 Staten Island: Wetland Restoration

12 Twitchell Island Wetland Enhancement and Restoration

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16 Sherman Island Belly Wetland Restoration

17 Giant Garter Snake Mitigation Bank

18 Hoover Ranch and Bethel Island Land Acquisition

19 McDonald Island Mitigation site

20 Marsh Creek Enhancement Area

21 Dutch Slough Tidal Marsh Restoration Project Phases 1 and 2

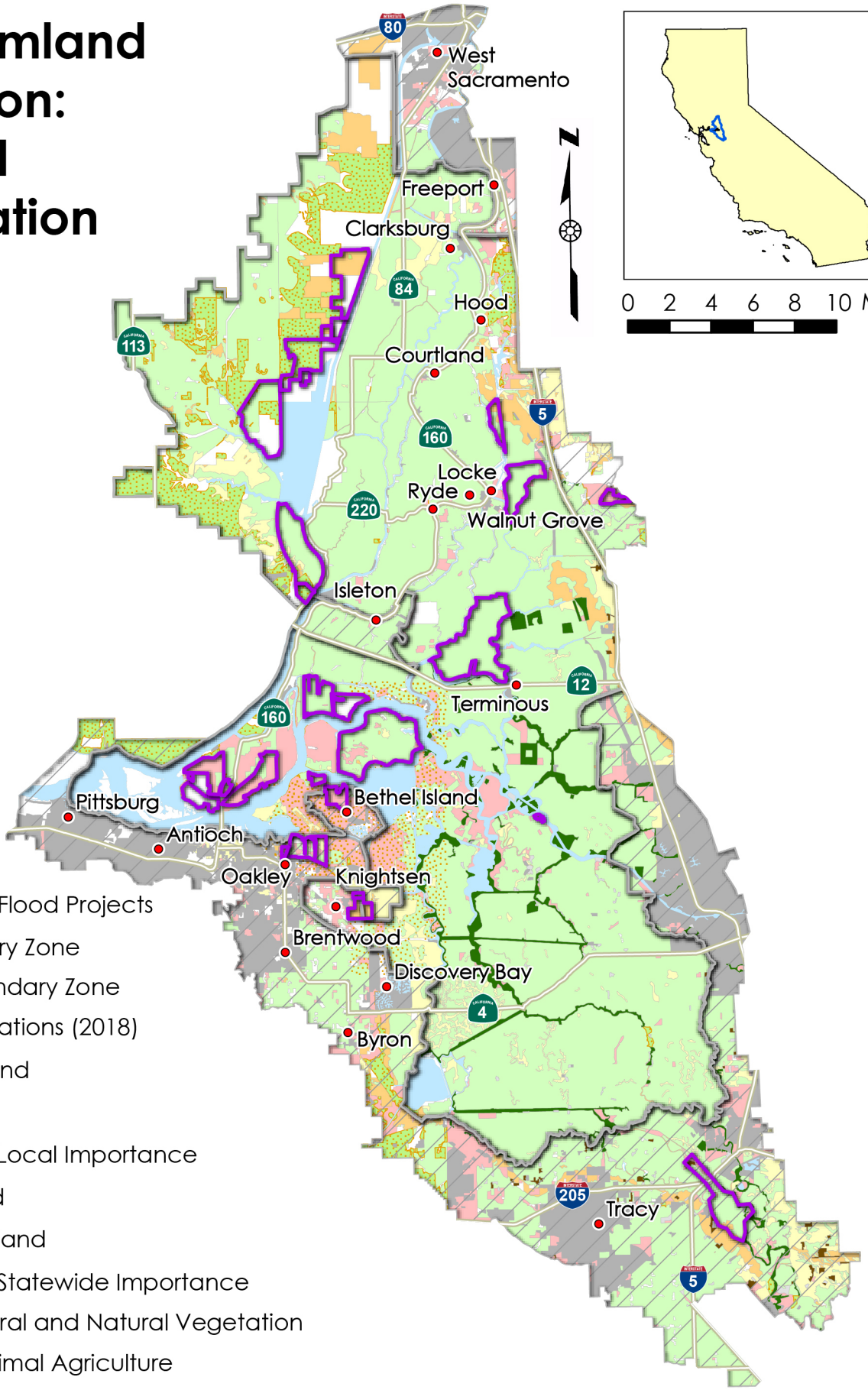
22 Knightsen Restoration

23 Paradise Cut Expansion & South Delta Restoration

Rachel Vanderwerff/Delta Protection Commission, June 2025

Delta Farmland Conversion: Farmland Classification (2018)

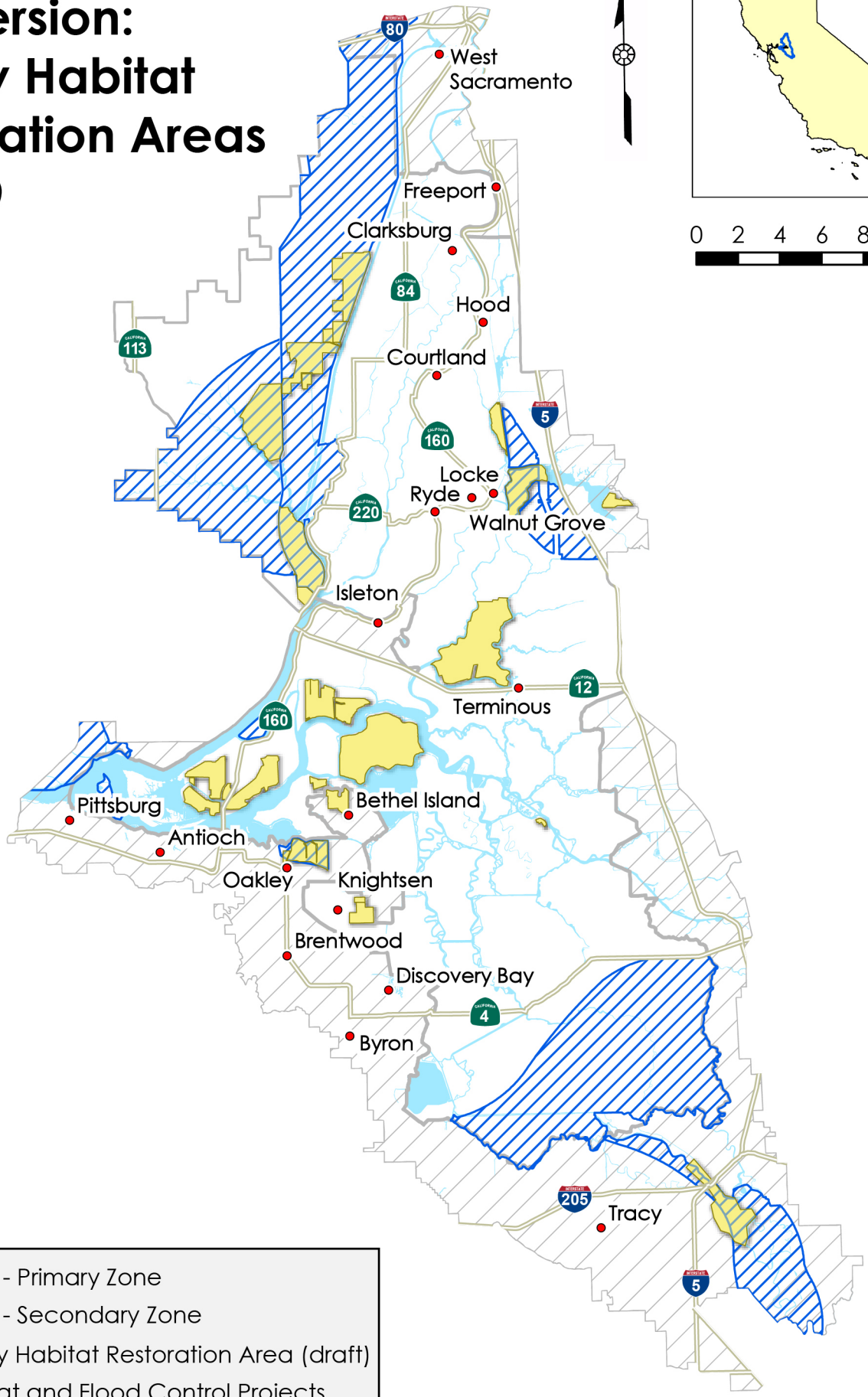
(Figure 2)



California Department of Conservation: Farmland Mapping and Monitoring Program
Rachel Vanderwerff/Delta Protection Commission, June 2025

Delta Farmland Conversion: Priority Habitat Restoration Areas

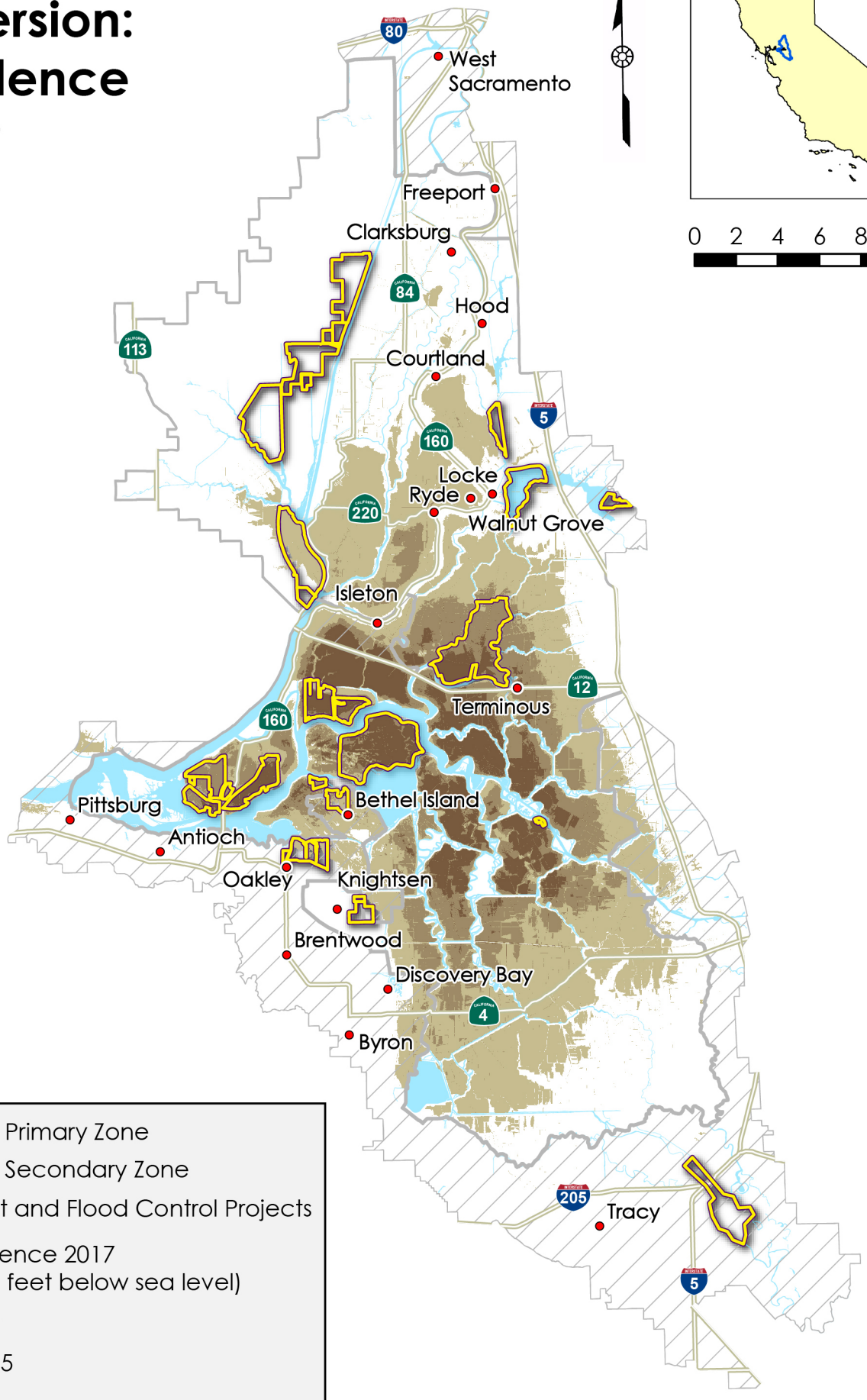
(Figure 3)



Priority Habitat Area data from the Delta Plan
Rachel Vanderwerff/Delta Protection Commission, June 2025

Delta Farmland Conversion: Subsidence

(Figure 4)



Rachel Vanderwerff/Delta Protection Commission, June 2025