February 20, 2018

Little Egbert Tract

Feasibility Study Conceptual Outline

1. EXECUTIVE SUMMARY

2. STUDY SETTING

    2.1. Study Purpose & Scope
    2.2. Study Area Location & Physical Description
    2.3. Historic and Current Land Use
    2.4. Local / Regional Ecosystem
    2.5. Flood Management Infrastructure in Study Area
    2.6. Related Projects & Studies
        2.6.1. Sacramento River Basin-wide Feasibility Study
        2.6.2. Lower Sacramento River / Delta North Regional Flood Management Plan
        2.6.3. Other Studies & Projects
    2.7. Stakeholders

3. PROBLEM IDENTIFICATION

    3.1. Risk of Flooding
        3.1.1. Levee status in and immediately adjacent to study area.
        3.1.2. Levee performance limitations associated with current configuration.
        3.1.3. Effect of Little Egbert on system performance due to location.
    3.2. Threatened Ecosystem in Region
        3.2.1. Limited availability of high quality tidal marsh and riparian habitats
        3.2.2. Increased opportunity for and conditions that support predation
        3.2.3. Loss of natural ecosystem function
    3.3. Agricultural Sustainability / Land Use
        3.3.1. Increasingly difficult and expensive to reclaim Tract after flooding
        3.3.2. Majority of Tract significantly below sea level
    3.4. Threats from Climate Changing and Sea Level Rise
        3.4.1. Tract Submergence
    3.5. Threats to Adjacent Areas
        3.5.1. Sacramento Deep Water Ship Channel
        3.5.2. Reclamation District 536 (Egbert)
        3.5.3. Reclamation District 501 (Ryer Island)

4. PROJECT GOALS & OBJECTIVES

4.1. STUDY GOAL – Identify a full range of future land use configurations, individually maximizing ecosystem, flood, and agriculture with defined capital and operating costs for each, then potentially optimal configurations that reasonably serve all three objectives.

4.2. STUDY OBJECTIVES

- 4.2.1. Maximize flood risk reduction locally and regionally
- 4.2.2. Improve flood system resilience to climate change
- 4.2.3. Create high quality sustainable habitat for threatened and endangered species
- 4.2.4. Sustain cost-efficient agricultural productivity

4.3. STUDY OPPORTUNITIES & CONSTRAINTS

- 4.3.1. Landowner as Willing Seller
- 4.3.2. Highway 84 and Ryer Island Ferry
- 4.3.3. Sacramento Deep Water Ship Channel
- 4.3.4. Water Supply Impacts / Benefits
- 4.3.5. Water Quality Impacts / Benefits
- 4.3.6. Recreation

5. EXISTING & FUTURE PROJECT AREA CONDITIONS

5.1. Existing Conditions

- 5.1.1. Hydrologic and Hydraulic Conditions
- 5.1.2. Water Quality, including Salinity
- 5.1.3. Ecosystem
- 5.1.4. Land Use
- 5.1.5. Existing Infrastructure
  - 5.1.5.1. Infrastructure on Little Egbert Tract
  - 5.1.5.2. Infrastructure near Little Egbert Tract
- 5.1.6. Habitat Quality

5.2. Future Without Project Condition (2050?)

6. DEVELOP ALTERNATIVE PLANS

6.1. No Action Alternative
6.2. Non-Structural Alternative
6.3. Alternative #1
6.4. Alternative #2
6.5. Alternative #3
6.6. Alternative #4

7. PRELIMINARY SCREENING OF INITIAL ARRAY OF ALTERNATIVE PLANS

8. EVALUATE & COMPARE FINAL ARRAY OF ALTERNATIVE PLANS

    8.1. Flood Performance
    8.2. Ecosystem Benefits
    8.3. Agricultural Impacts
    8.4. Project Cost
        8.4.1. Construction Cost
        8.4.2. Off-Site Mitigation Costs
        8.4.3. Operations & Maintenance Costs
    8.5. Funding Availability
    8.6. Stakeholder Support

9. IDENTIFY PREFERRED PLAN

10. PROJECT IMPLEMENTATION

    10.1. Roles and Responsibilities
    10.2. Additional Studies, Reports, Permits, Approvals
    10.3. Implementation Schedule
    10.4. Project Finance Plan and Cash Flow Analysis