



Cache Slough Land Evaluation and Site Assessment (LESA)

Executive Summary

Cache Slough | County of Solano
June 2017



SACRAMENTO - SAN JOAQUIN
DELTA CONSERVANCY
A California State Agency

CACHE SLOUGH LESA EXECUTIVE SUMMARY

A project by USDA-NRCS, County of Solano, Ag Innovations, FlowWest, and funded by the Delta Conservancy

EXECUTIVE SUMMARY

The purpose of the Cache Slough LESA study is to quantify, communicate and analyze the current and potential agricultural productivity of parcels in the Cache Slough region based on Land Evaluation (LE), or soil-based, and Site Assessment (SA), or non-soil based factors that are grounded in the local agricultural environment.

The Cache Slough LESA study asked agricultural stakeholders to answer the question, “What makes the Cache Slough region significant for agriculture?” and to articulate a range of shared values. Through the innovative addition of GIS functionality, this study has resulted in a tool that can represent those shared values in a data-driven world. Values that were identified but are not quantifiable in GIS are listed below and reported in the Technical Memorandum, and describe the cohesive and connected system of agriculture in this region.

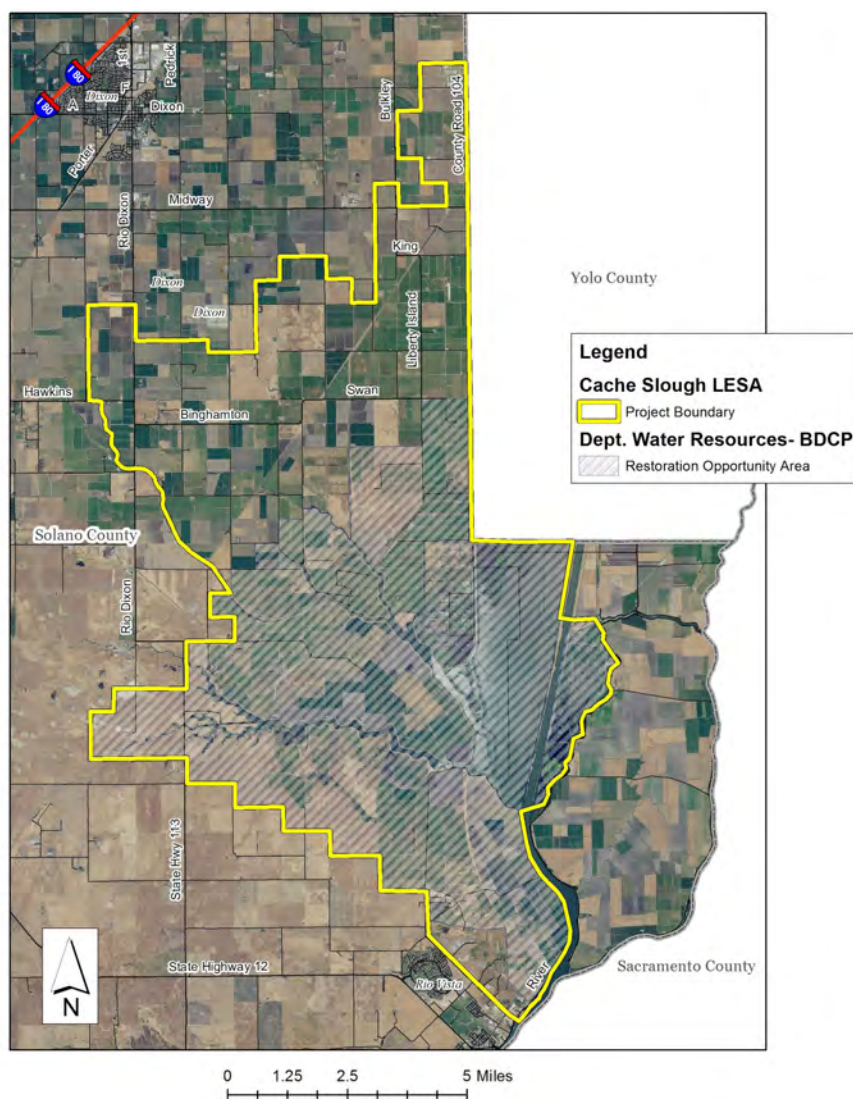
The Cache Slough LESA study took place November 2016 through June 2017 and resulted in 1) a technical memorandum and executive summary, 2) a GIS tool that calculates LESA scores, and 3) a user guide. They are housed in the County of Solano and the USDA-NRCS. They were developed as the result of Proposition 1 Funding through the Delta Conservancy.

The LESA study focused on the 65,586-acre (102.5 square miles) Cache Slough region, and developed five factors with a total of over 20 measures and accompanying maps. Factors are measured in a weighted average indicated by percentages below.

The LESA GIS tool is intended to be used on a project basis to guide planning and conservation efforts in the region that affect agriculturalists by producing objective, replicable scores that allow meaningful comparison of the relative agricultural importance of parcels in the region.

The technical memorandum is a record of decision points leading to the final Cache Slough LESA model. It includes how and why decisions were made and explains the technical elements of the model (such as details of factor selection, factor measurement and scaling, weighting of factors, and threshold calculation). A map and histogram describing regional scores are available in Figures 2 & 3 of the technical memorandum.

Figure 1: Cache Slough LESA Study Area Map



CACHE SLOUGH LESA FACTORS & WEIGHTING

FACTOR 1- Soils, Agricultural Productivity, and Climate - 14%

Quantifies the productivity of soils in the Cache Slough region and the climatic conditions that are favorable for agriculture. Measures were based on Land Capability Class Maps.

FACTOR 2- Agricultural System - 14%

Quantifies the ideal location for agricultural operations in Cache Slough region that support continued agricultural use of the landscape. Measures were based on project size, rural location, and Williamson Act status.

FACTOR 3- Water Rights - 50%

Measures security of agricultural water rights; measures included NDWA Water Rights, Riparian Water Rights, and Appropriative Water Rights.

FACTOR 4- Water Infrastructure for Agriculture - 14%

Quantifies the ability to manage water for the benefit of agriculture: Water delivery infrastructure, drainage infrastructure, flood protection infrastructure. Measures included water delivery, water drainage, types of levees.

FACTOR 5- Compatible Value-Added Activities - 8%

Quantifies additional benefits derived from the land, made possible by and compatible with the agricultural land use. Measures included wildlife habitat & recreational sports; hunting clubs; energy production; flowage easements for regional flood protection.

In addition, stakeholders identified significant implications of regional land use change that were not possible to capture in the LESA format. **Before undertaking projects in Cache Slough, stakeholders asked that planners keep the following in mind:**

1. Cache Slough stands out due to water rights, location, and other features, and is impossible to replicate.
2. Changes in land use degrade the agricultural system, affect production and impact flood protection systems.
3. Fragmentation affects local agricultural operations, communities, and the economy.
4. Ecosystem restoration can affect agricultural viability. Compatible practices are needed for land-uses to co-exist.
5. Reducing tax base through land use changes likewise reduces County revenue and potentially affects services.

Based on this, the steering committee suggests that to work more effectively with agricultural landowners in Cache Slough, planners must:

- Spend time getting to know the lay of the land, the history of land use, and consult with locals and local agencies early and often
- Look for common benefits and regional impact of the project based on current operations, and identify and evaluate compatible uses
- Think about how to be a good neighbor on each project, now and in the future.

Figure 2: Map of Cache Slough LESA Scores, based on 1,000 ft² pixels

