



INFORMATION ITEM

Overview of the Delta Landscapes Scenario Planning Tool

Summary: Representatives from the San Francisco Estuary Institute – Aquatic Science Center (SFEI) will provide an overview of the recently developed, Council-funded, Delta Landscapes Scenario Planning Tool (DLSPT). The DLSPT allows users to evaluate the ecological and economic tradeoffs between different land-use changes, evaluate proposed projects, and track actual progress towards regional goals as projects are implemented and the landscape changes over time. Additionally, covered action project proponents may utilize the DLSPT to assess and communicate compliance with the Delta Plan and contributions to the coequal goals. Council staff can also use the DLSPT to evaluate Delta Plan performance measures. Today's agenda item will apprise the Council of this resource's availability, demonstrate its use and value, and preview some of the functions to come in 2021-2022.

BACKGROUND

Predicting the outcomes of restoration projects and other land-use conversions on improving the Delta ecosystem is a complex matter which requires querying a multitude of underlying datasets and performing complex mathematical calculations. Individual projects typically hire consultants to develop computer models that simulate the expected outcomes of their project alternatives, but those models are not made to talk to one another or to analyze the cumulative effects of multiple projects. Several agencies and organizations are interested in understanding the ecological and economic effects of restoration and other land-use changes in the Delta on a landscape scale, such as the Delta Conservancy, the California Department of Fish and Wildlife, the Nature Conservancy, and the Council. The DLSPT was scoped in a series of stakeholder meetings and developed specifically tailored to the needs of a variety of Delta agencies and land managers.

The DLSPT is an online, map-based tool that projects the impacts of user-designed land-use scenarios. The DLSPT was created to inform Delta restoration and other land-use planning efforts, including:

- the Delta Plan Chapter 4 "Protect, Restore and Enhance the Delta Ecosystem" amendment process;
- support for Delta Plan performance measures; and
- ongoing implementation of restoration objectives as described in the Delta Plan.

The DLSPT allows users to design, analyze, and evaluate alternative land-use scenarios in a scientifically robust, accessible visual interface. Tool development and outreach are managed under contract by SFEI. The tool is currently available to the public online and will be updated with extended and enhanced functionality by April 2022. SFEI will also provide targeted training and outreach to build awareness and promote widespread usage of the tool.

ABOUT THE DLSPT

Developed for planners, managers, and other stakeholders, the DLSPT estimates how proposed restoration projects and other land-use activities are likely to affect a suite of ecosystem processes and functions, as well as infrastructure and agriculture.

Tool Capabilities

The DLSPT estimates the impacts of user-defined land-use scenarios. The tool can currently evaluate impacts on 12 objectives, including wildlife habitat, protected areas, marshes, and agriculture. Future updates will improve the tool's analyses of protected areas and flood inundation. The set of objectives will also be expanded to include economic sustainability and carbon. The tool currently assesses scenarios across an 800,000-acre area that coincides with the historical Delta, based on SFEI's prior historical ecology work. However, it is missing some patches of the modern legal Delta. By April 2022, the tool's coverage area will be expanded to include the full legal Delta and the Suisun Marsh, matching the full geographic area governed under the Delta Plan. The updated tool will also allow users to evaluate their input scenarios' cumulative impacts by integrating information about other restoration projects in the legal Delta and Suisun Marsh into their analyses.

Tool Audiences

The DLSPT's primary intended user consists of Delta stakeholders involved with land planning and project management. Specifically, agency staff engaged in ecological restoration, recreation, and water management projects, as well as private landowners interested in assessing the ecological and economic impacts of alternative land-use activities. The updated version of the DLSPT will also allow users to assess how wetland restoration and/or agricultural conversion to rice farming contribute to climate change mitigation objectives by estimating associated changes in carbon storage and greenhouse gas emissions. Users will be able to evaluate these activities' economic impacts based on projected potential revenues from participation in carbon markets. In addition to primary user groups, Delta

decision-makers are also a key audience for the DLSPT. Tool users can summarize and interpret the output for communication with decision-makers to inform robust, science-based decision-making in the Delta.

Tool Applications

The DLSPT supports science-based adaptive management by generating numeric, comparable estimates of land-use impacts based on use estimates from the tool to compare the relative costs and benefits of alternative land-use scenarios or evaluate which alternative best achieves desired economic and/or ecological outcomes. The tool has been explicitly designed to support tracking of Delta Plan performance measures and contributions to the coequal goals. Council staff will use it to generate ongoing reports. Covered action project proponents can also use DLSPT projections to evaluate or demonstrate compliance with the Delta Plan or other relevant regulations.

FISCAL INFORMATION

In October 2020, the Council approved an amendment of the contract with SFEI to update and enhance the DLSPT, which increased the budget by \$499,993. The total amount awarded for past and future tool development is \$1,017,237. Funds from the California Department of Fish and Wildlife's Blue Carbon project also support the development of the carbon analysis functionality.

LIST OF ATTACHMENTS

Attachment 1: DLSPT one-page overview

Attachment 2: Infographic of DLSPT updates to be completed by April 2022

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