

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT
MEETING DATE: February 14, 2018

ITEM: 7A

SUBJECT: **Operational Landscape Units and Shoreline Resilience for San Francisco Bay -**
Presentation by Julie Beagle of the Resilient Landscapes Program at the San Francisco Estuary Institute (SFEI)

DISCUSSION: The focus of this presentation will be on a project currently being funded by the Water Board to develop a spatial framework to help guide the development, permitting, and implementation of climate change adaptation strategies along the Bay's shoreline. This framework is called the Operational Landscape Unit (OLU) Project. Julie Beagle has been working in SFEI's Resilient Landscapes program as a geomorphologist since 2010, focusing on fluvial and tidal geomorphic processes in Bay Area rivers and wetlands to better understand the physical and biological responses to sea level rise and climate change.

Climate change and sea level rise is expected to impact the water quality and beneficial uses of San Francisco Bay in the near future. For example, increasingly frequent storm surges and higher tides threatens the functional integrity of shoreline infrastructure such as highways, wastewater treatment facilities, and pipelines, leading to water quality impacts, and can drive tidal wetlands to "drown" and downshift into tidal mudflats. This project is aimed at identifying vulnerable areas along the Bay's shoreline and developing strategies to improve their resilience to climate change. These strategies can include structural and nonstructural measures to address ecosystem, flood risk management, water quality, land-use planning, and environmental justice concerns. The approach looks at geography, geomorphology, hydrology, and information about the natural and built environment along the Bay's shoreline to define the OLU's and develop strategies appropriate to each OLU.

Interim products generated from this project describing the Bay's estuarine processes and the character of the Bay's shoreline have been used by the Resilient by Design project teams in their research phases to help with project design. The final report on the OLU Project is due in November 2018. We anticipate that recommendations in the final report will help Water Board staff in evaluating applications for 401 water quality certifications and in implementing other strategies appropriate to address the water quality impacts of climate change and sea level rise.

RECOMMEN-
DATION:

This is an information item and no action is necessary.