

SFS Annual Meeting – May 20 – 24, 2018

<https://freshwater-science.org/annual-meeting>

Supporting management decisions with a landscape model to predict biotic condition in CA

Raphael D. Mazor¹, Marcus Beck¹, Peter R. Ode², Scott C. Johnson³, Karin Wisenbaker³, Phil Markle⁴, Joshua Westfall⁴

¹*Southern California Coastal Water Research Project, Costa Mesa, CA*

²*California Department of Fish and Wildlife*

³*ABC Labs*

⁴*Los Angeles County Sanitation District*

Abstract

The State of California is developing a state-wide Biological Stimulatory/Integrity program for streams. As part of this effort, the state is exploring methods of identifying streams where integrity may be constrained by development in the watershed, as well as streams where biological condition is likely to be good. To support these aims, the State has developed a landscape model that predicts a range of likely scores for a bioassessment index based on watershed characteristics (e.g., land cover, road density, dams). Streams where the range of predicted scores falls below a defined biotic threshold are considered “likely constrained”, and streams where the predicted range is above this threshold are considered “likely unconstrained.” Using visualization tools based on this model, a group of stakeholders from the San Gabriel River watershed prioritized different areas for different management actions. This model provided context to identify a few under-performing regions (in both developed and undeveloped areas) from a dauntingly large number of low-scoring sites. It could also identify regions where protective measures or additional monitoring are needed. Landscape models can help resource managers set goals that are appropriate for the constraints of their region.