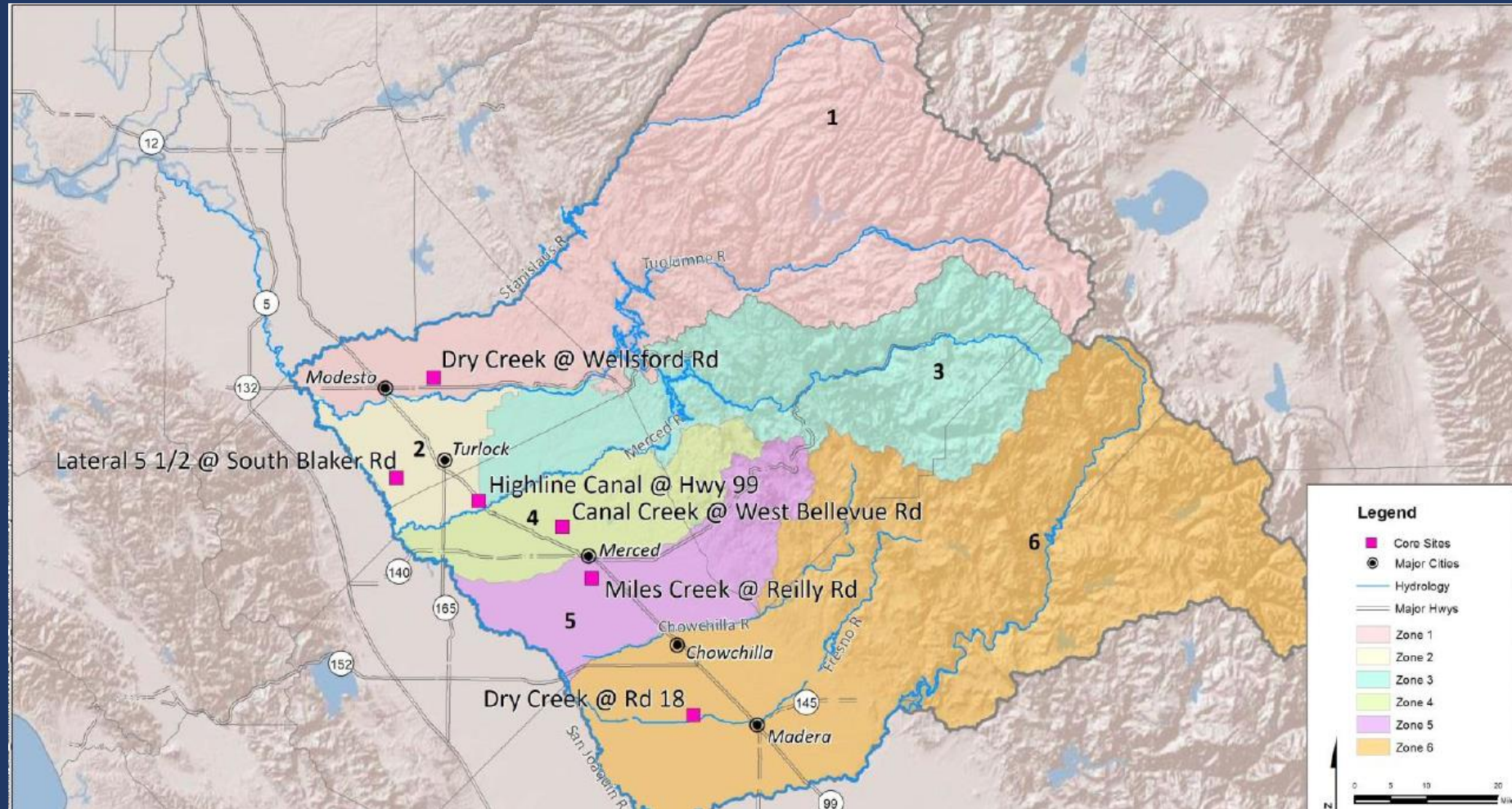


# EXPERT REVIEW PANEL FOR THE EAST SAN JOAQUIN SURFACE WATER QUALITY MONITORING PROGRAM

## Findings and Recommendations 8/26/2020



# Outline

- Overall Assessment

- The Program adequately addresses management goals.

- Key Recommendations

- Improve measurements for current-use pesticides
- Improve measurement and assessment of dissolved oxygen
- Improve outreach coverage
- Improve aspects of data display

# Overall Assessment

- The Program is well conceived and addresses the ESJ management questions.
  - The monitoring design, including the spatial and temporal coverage, is appropriate to identify exceedances and evaluate effectiveness of management actions.
  - The Program is well implemented with proper QA/QC.

# Overall Assessment

- We considered Petitioner alternatives, and do not recommend changing the monitoring design.
  - Source tracking is hampered in ESJ by the lack of hydrologic connection in many places much of the year.
  - The alternative design seems to address different objectives: Compliance and evaluation of individual farms.
  - The Regional Board told the Panel that those are not program objectives, and the Board has other enforcement mechanisms if needed.

## Finding:

Methods are inadequate for characterizing concentrations and effects of some current-use pesticides.

## Recommendations:

1. The Program should now include testing of water and sediment samples using the *Chironomus* toxicity test.
2. The Program should adopt analytical chemistry methods capable of detecting pesticides at biologically active concentrations.
3. The Pesticide Evaluation Protocol should be expanded to include the process for selecting appropriate toxicity test methods.

## *Chironomus Test*

- The Coalition and Regional Board have concerns about consistency and variability.
- These methods have been adopted by SWAMP.
- They are in common use by multiple labs.
- The Regional Board should involve ELAP to ensure a good quality management system associated with this method.

## Finding:

Dissolved oxygen should be better measured and assessed to understand the role, if any, of agricultural practices in persistent low oxygen concentrations.

## Recommendations:

1. DO should be measured either continuously or at times of day when concentrations are likely to be lowest.
2. The Program should measure algae or Chlorophyll a to evaluate relationships between DO and eutrophication.
3. Special studies or improved statistical analyses should be conducted.

### Finding:

Focused outreach does not cover all agricultural operations that could be sources of chemicals of concern in waterways.

### Recommendation:

Focused outreach should be extended to operations where agricultural chemicals could enter rivers.



## Findings:

1. Reporting is generally of high quality and very thorough.
2. Information is lost in some types of data display.

## Recommendations:

1. Trends should generally be graphed using constituent concentrations rather than exceedances.
2. Precipitation curves should be added to trend graphs, with precipitation data averaged over appropriate time intervals.
3. Dry sites should be reported as “no data” rather than “no exceedance.”
4. Any apparent trend lines should be the result of statistical analyses described in the report.

These conclusions and recommendations represent unanimous agreement among the Panelists.