Proposed Additional Watershed Reference Site Monitoring

Goal – Capture wet weather constituent data from undeveloped reference watersheds with and without fire impacts.

- **Coordinate with RCFCD and WRCAC**
- **Propose monitoring at 2 locations by each agency**
- **Potential monitoring of Lake Elsinore if notable ash from the Holy Fire enters the lake during a rain event. Coordinate with routine TMDL monitoring dates.**
- **Monitor the same constituents as that currently evaluated for the TMDL**

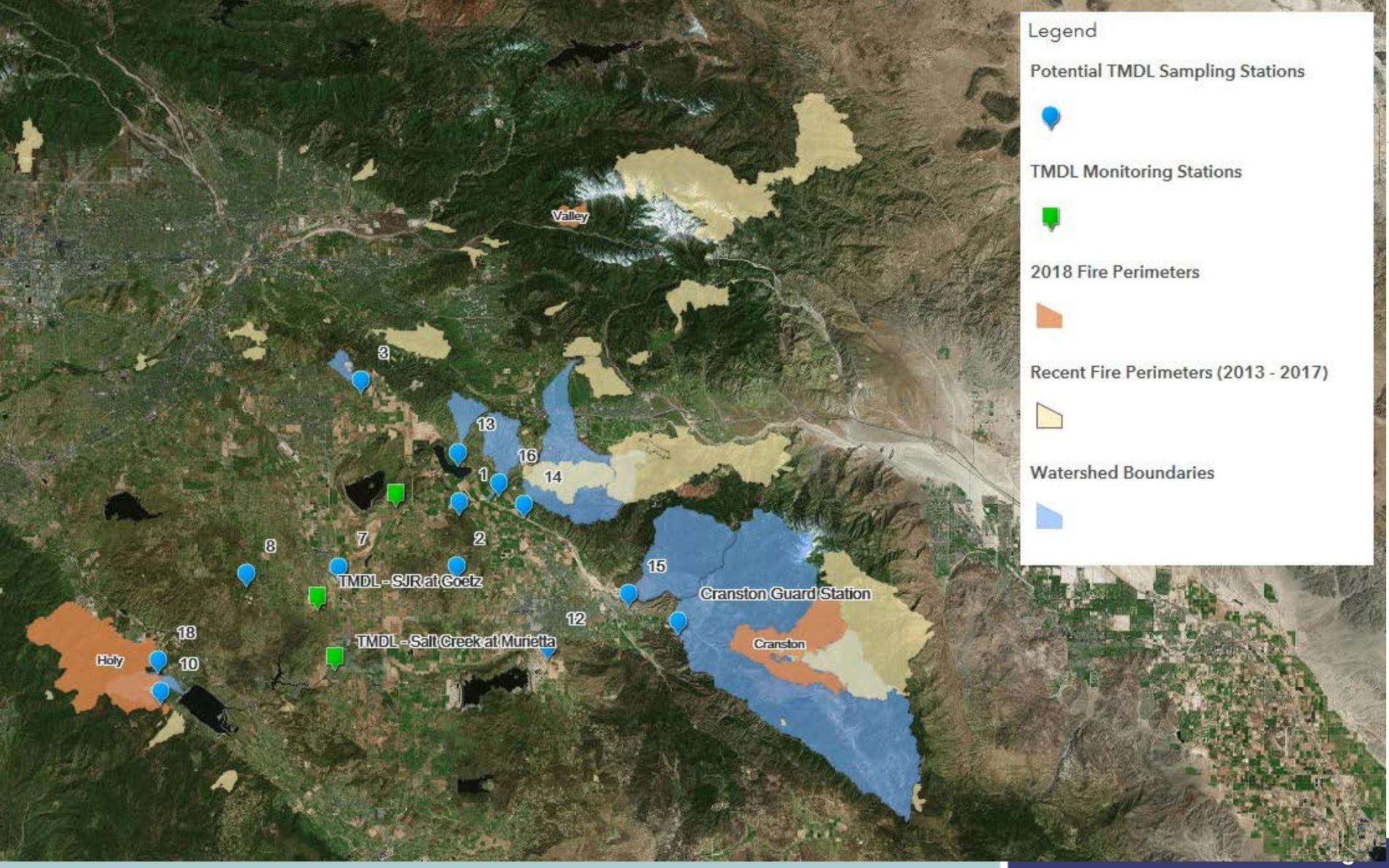
Proposed Monitoring Plan

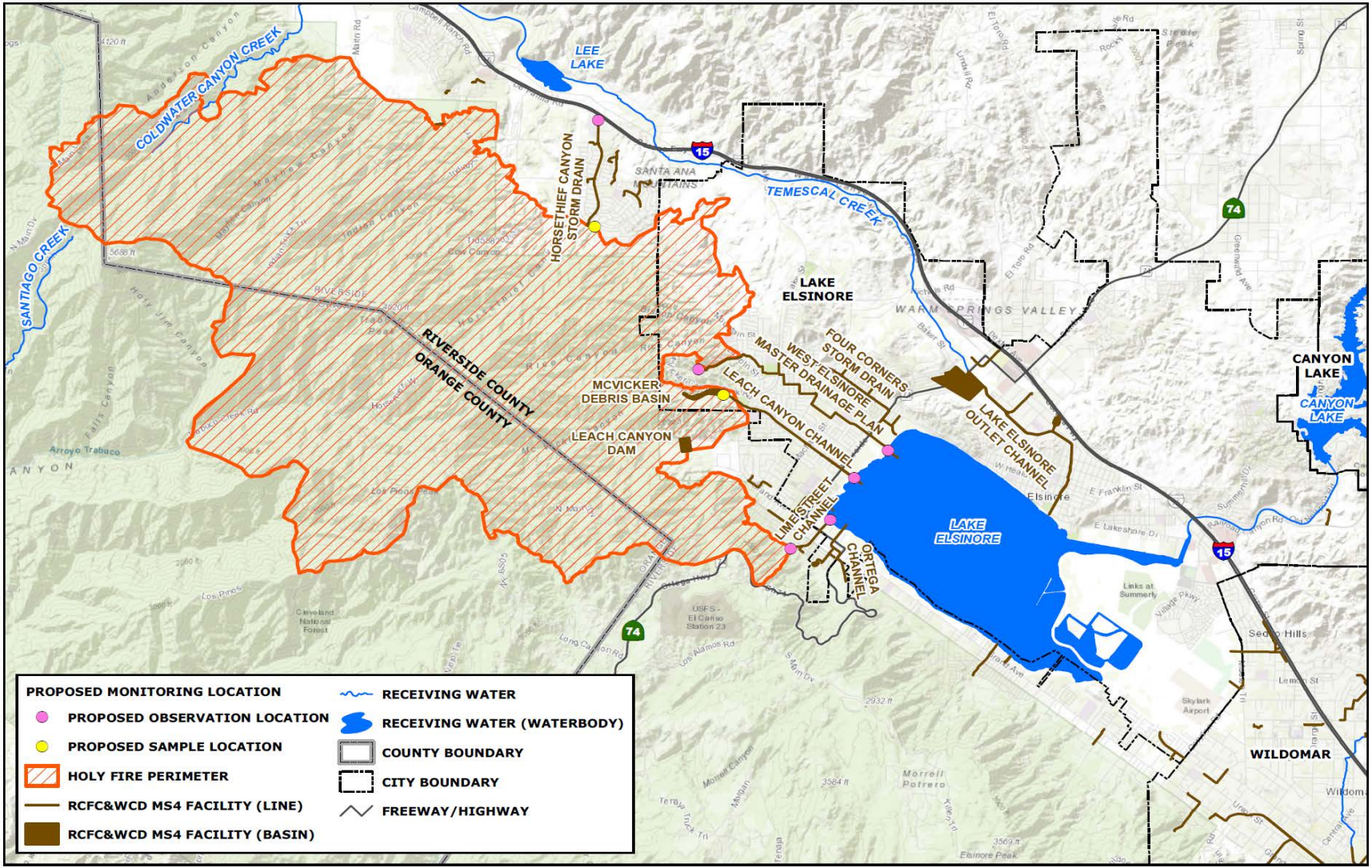
Monitoring Locations – TMDL Task Force and WRCAC

- Two reference sites (Task Force):
  - One unburned (e.g. Site 15) and one burned (Cranston Guard)
- Two agriculture sites (WRCAC):
  - e.g. Site 1 and Site 12
- Post-storm event sampling in Lake Elsinore

Schedule and Mobilization Criteria

- Two storm events during 2018-2019 wet season meeting mobilization criteria.
- Suggest using the District's lower mobilization criteria to ensure capture of post fire impacts = Events forecasted to be 0.3" in 6-hrs to 0.5" in 24-hours vs TMDL criteria of a 1.0 in event over 24-hr period (Oct 1 - Dec 31st), or 0.5 in over a 24-hr period (after Dec 31st).


Legend
Potential TMDL Sampling Stations
TMDL Monitoring Stations
2018 Fire Perimeters
Recent Fire Perimeters (2013 - 2017)
Watershed Boundaries
Valley
3
13
16
1
14
2
7
8
TMDL - SJR at Goetz
15
Cranston Guard Station
12
TMDL - Salt Creek at Murietta
Cranston
18
Holy
10



HOLY FIRE PERIMETER AND DRAINAGE

PROPOSED POSTFIRE MONITORING LOCATIONS FY18-19

Proposed Monitoring Plan (Con't)

Sample Methods

- Flow-weighted composite sampling consistent with LECL TMDL Watershed Monitoring.
- Flow equipment will be installed prior to and remain for the duration of monitoring events.
- Field measurements (pH, temperature, specific conductance, turbidity, dissolved oxygen).
- Grab samples for BOD and COD.

Analyte List

- LECL TMDL Watershed Analytes.
- Cost includes field QA/QC samples (blank and duplicate).

Parameters
General
Flow
Rainfall
Temperature
pH
Specific conductance
Turbidity
Dissolved Oxygen
Biochemical Oxygen Demand
Chemical Oxygen Demand
Total Dissolved Solids
Total Hardness
Total Suspended Solids
Nutrients
Ammonia-Nitrogen
Kjeldahl Nitrogen
Nitrate as N
Nitrite as N
Organic Nitrogen
Total Nitrogen
Total Phosphorus
Ortho-Phosphate

Estimated Monitoring Costs – (4 Sites, 2 Storm Events)

Post-Fire Water Quality Monitoring Cost Estimate	Total Staff Hours	Total Labor Costs	Total Reimbursables (Subs and ODCs)	Total Costs
Task 1: Project Management, Site Reconnaissance, Coordination, and Planning	40	$5,500	$109	$5,609
Task 2: Monitoring Plan	30	$4,090	$ -	$4,090
Task 3: Wet Weather Monitoring	165	$19,145	$4,765	$23,910
Task 4: Flow Monitoring	50	$6,290	$3,277	$9,567
Task 5: Data QA/QC, CEDEN Formatting, Data Summaries	40	$4,900	$ -	$4,900
Task 6. False Start Contingency		$2,500	$500	$3,000
Total	**325**	**$42,425**	**$8,651**	**$51,076**

- Assumes 3 teams of 2 for each sampling event.

Lake Elsinore Monitoring (per event)	**26**	**$3,100**	**$1,020**	**$4,120**