

# CARR POST-FIRE SURFACE WATER QUALITY ASSESSMENT

A review of ongoing Central Valley Water Board surface water quality monitoring activities.



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# PRESENTATION

- Carr Fire Facts
- Assessment of Impacts and Water Quality Threats
- Water Quality Monitoring Strategy
- Monitoring Results
- Next Steps



# CARR FIRE FACTS

- July 23 - August 30, 2018.
- Cause: Rim of trailer tire.
- Highway 299 near Whiskeytown NP, west of Redding.
- ~230,000 acres; ~1,100 homes; 8 deaths.
- “Fire Whirl” with 143 mph winds, 18,000 feet high.
- State and Federal emergency declarations.



# ASSESSMENT ACTIVITIES

- Hazardous Waste
- Facilities (Regulated and Unregulated)
- Municipal Storm Water (City and County)
- Nonpoint Source
- GIS & Data Management





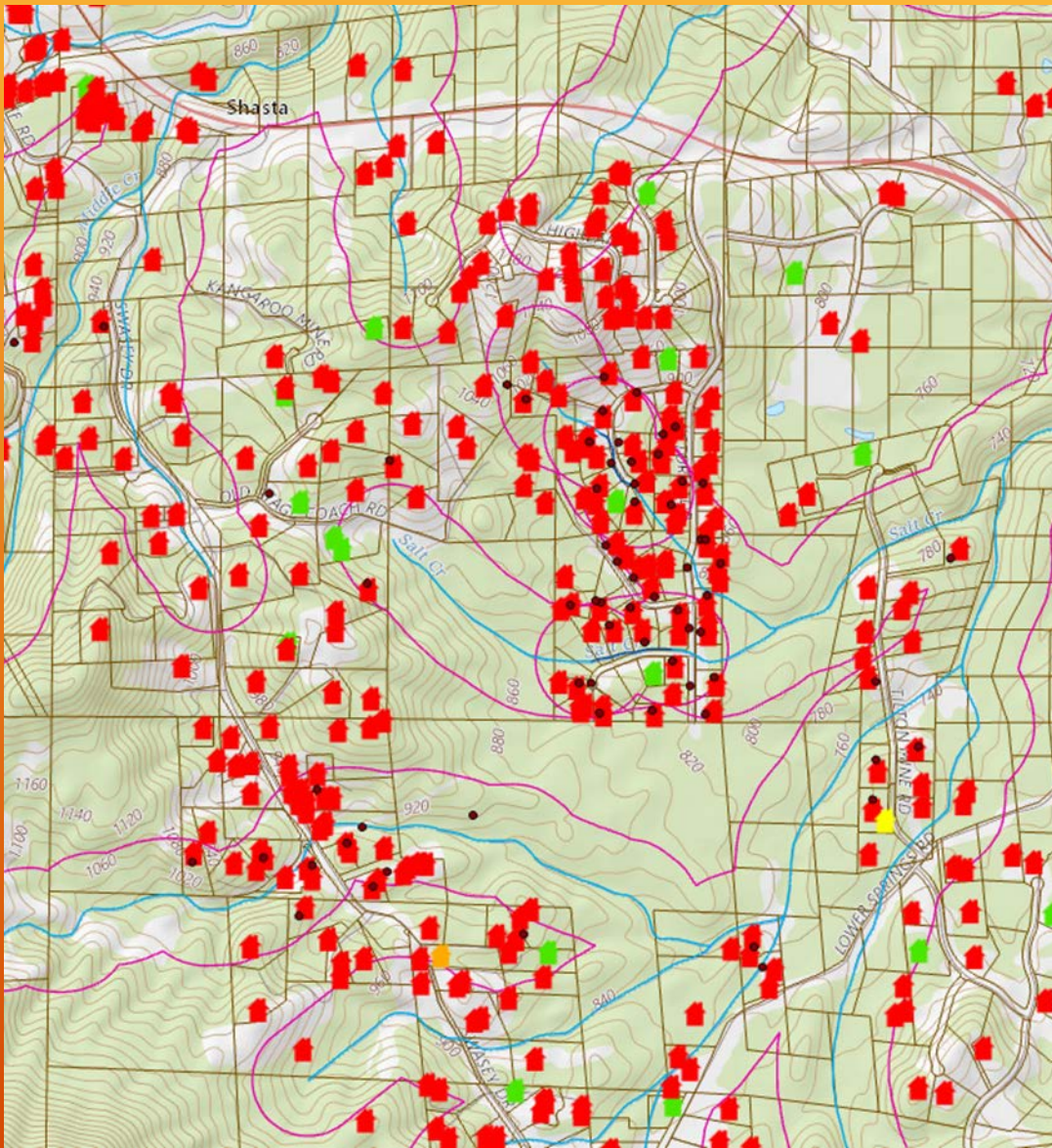




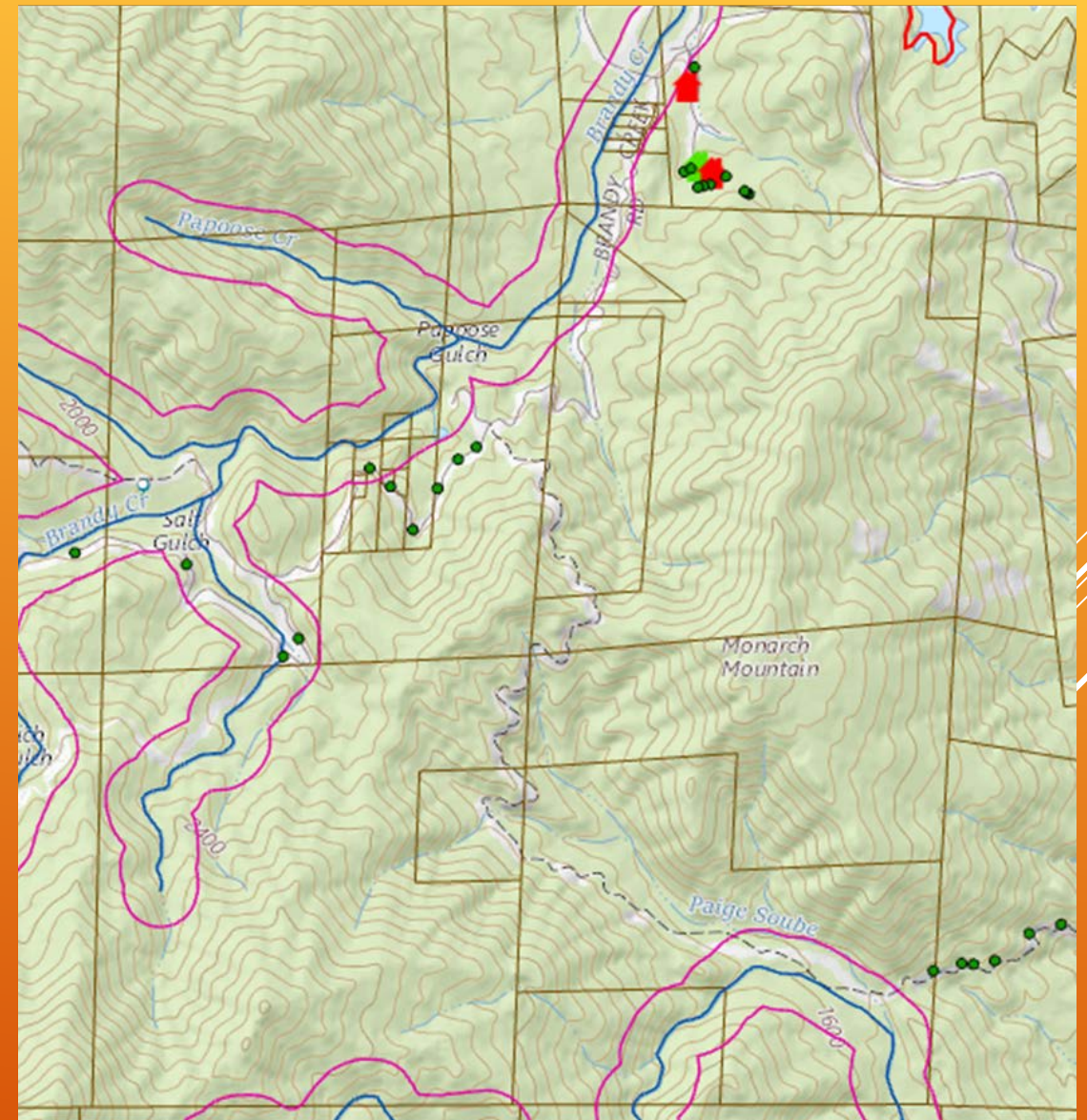




# GEOGRAPHIC INFORMATION SYSTEM



Burned Structures



Priority Water Courses

# AGENCY COORDINATION



# WATER QUALITY MONITORING PROGRAM

- Provide data on post-fire impacts to water quality
- Protect Beneficial Uses (drinking water, aquatic life)
- Assess effectiveness of post-fire mitigation actions





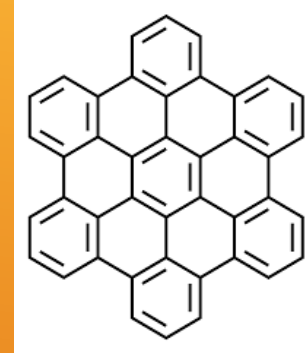
# SELECTION OF MONITORING CONSTITUENTS

- Known post-fire pollutants
- Pesticide Use Data
- 303d Impaired Waters
- CEDEN pre-fire data



# WATER QUALITY MONITORING PARAMETERS

- **Nutrients**
- **Metals – total & dissolved**
- **Organics (PAHs)**
- **General Chemistry**
- **Field Parameters**



# WATER QUALITY MONITORING FREQUENCY

- Pre-storm “Baseline”
- Four or more subsequent storm events

**Storm Event:  
Predicted rainfall  $\geq$  1 inch in 24-hours**



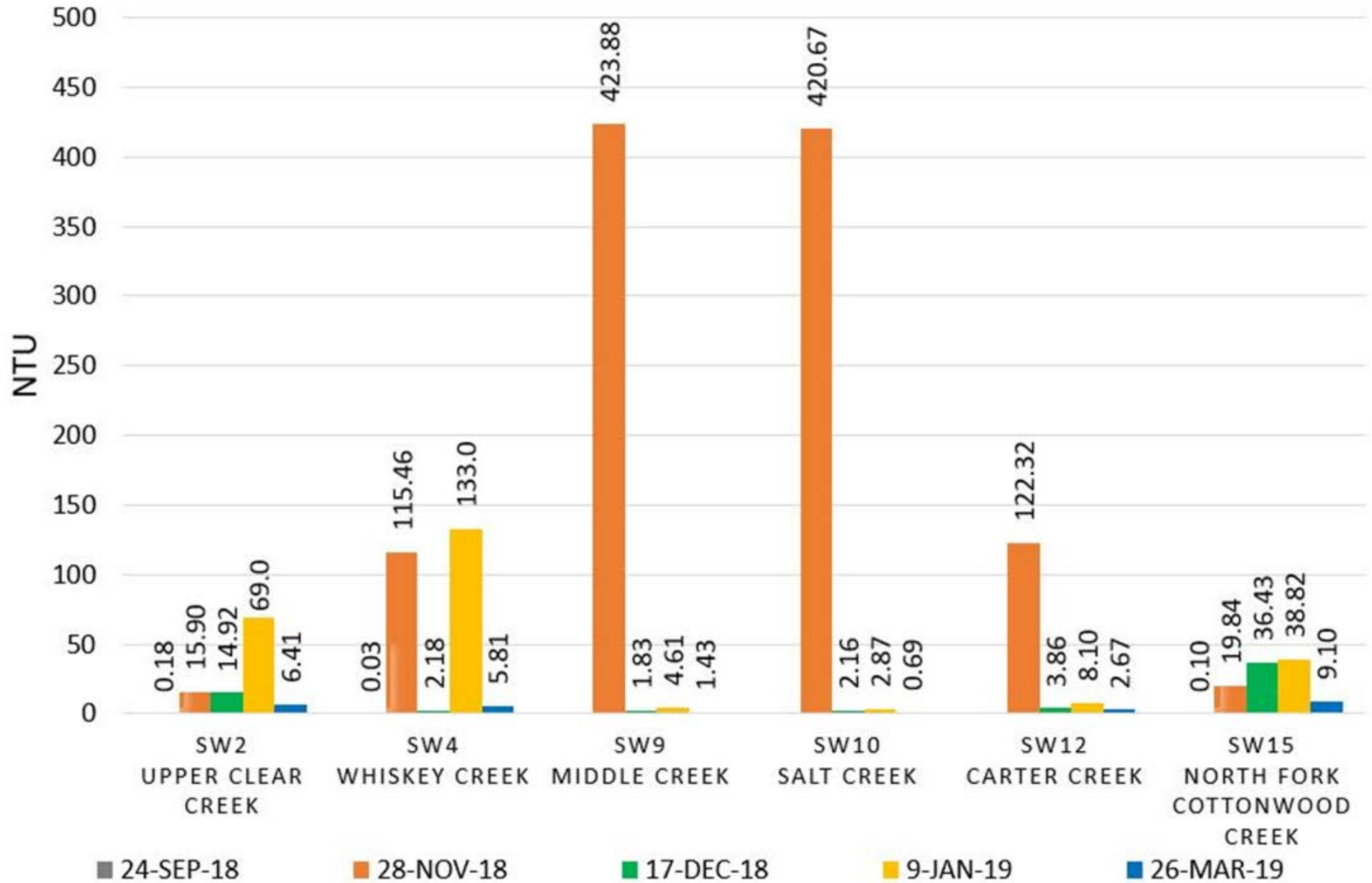
# RESULTS

- Elevated turbidity
- Elevated aluminum and iron

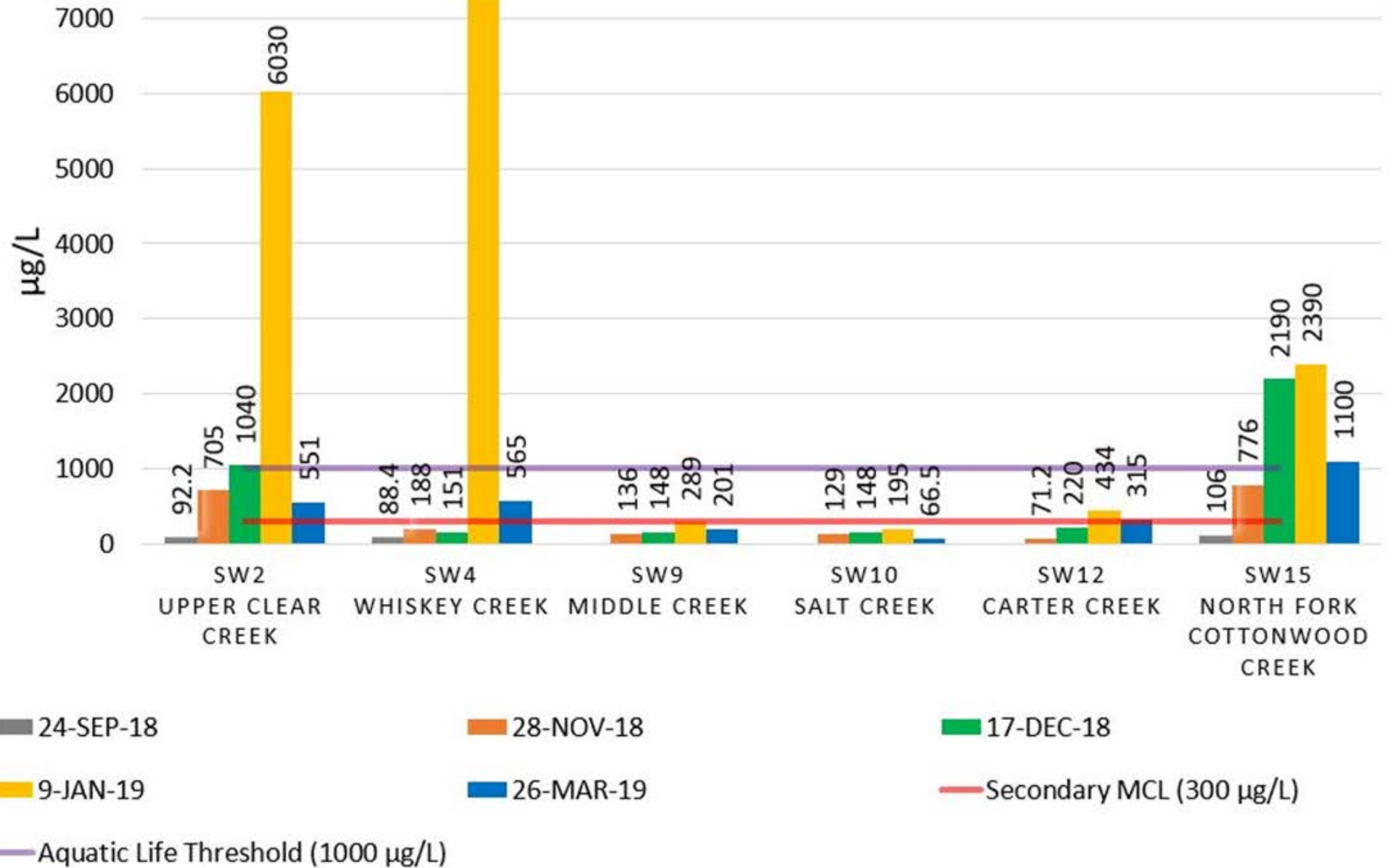




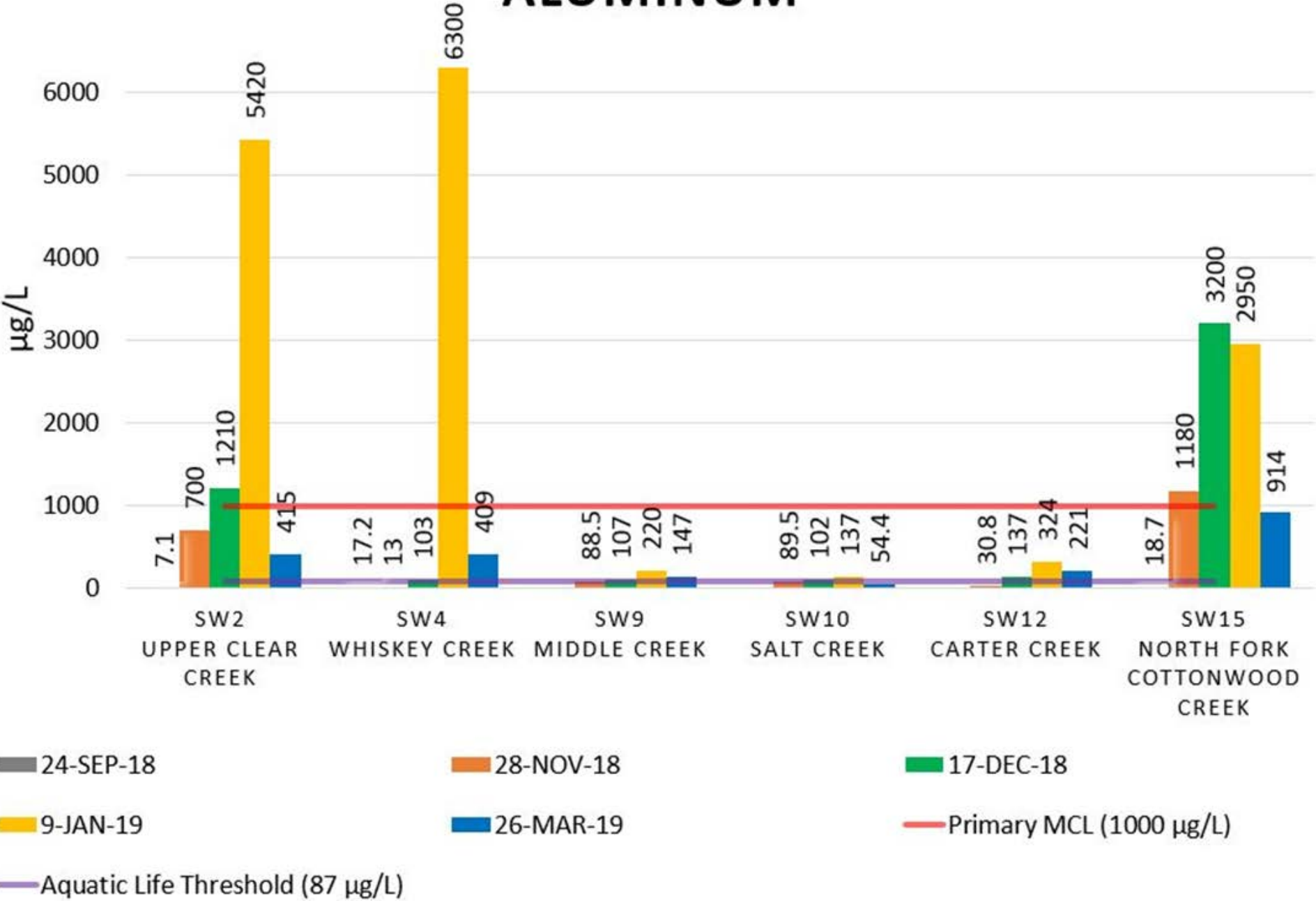
# TURBIDITY



# IRON



# ALUMINUM



# RESULTS

- **Other Constituents:**  
No significant change from baseline



# WHAT DID WE DO WITH THE RESULTS?

- ▶ Data provided to water purveyors
- ▶ Data used to help prioritize watersheds for \$8.4M post-fire mitigation project



# NEXT STEPS

- Monitor storm event – Fall 2019
- Obtain funds for sediment toxicity monitoring



# CHALLENGES

- **Difficult to predict weather**
- **Sampling Coordination**
- **Lab coordination**
- **Impact on staff resources**



# GOALS

- Provide data to public
- Provide information for statewide emergency response plan





# QUESTIONS?



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