Restoring People and Watersheds After Fires and Floods:

Responding to Water Quality Impacts

Matthias St. John, Executive Officer
North Coast Regional Water Quality Control Board

Sustainable Water Resources Roundtable

May 3-4, 2018

Potential Post-Fire Water Quality Impacts

- Aquatic habitat and sensitive aquatic life
- Drinking water supplies
- Fate and transport of debris

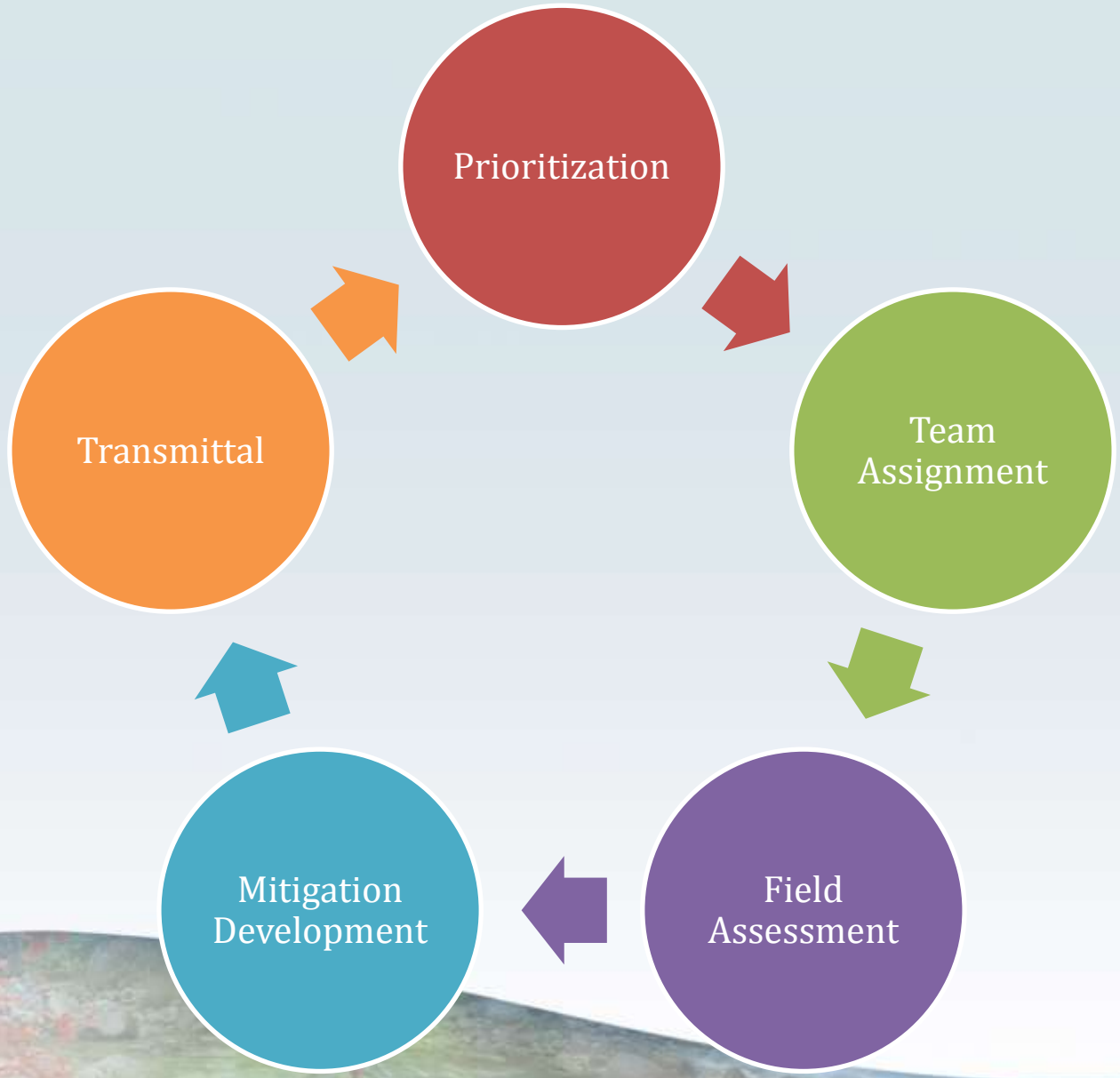
- ✓ Increased Sediment and Turbidity
- ✓ Elevated hardness, conductivity, and pH
- ✓ Total Organic Carbon
- ✓ Nutrients
- ✓ Metals
- ✓ PAHs
- ✓ Water Toxicity


Pump Station
Redwood Valley
County Water District

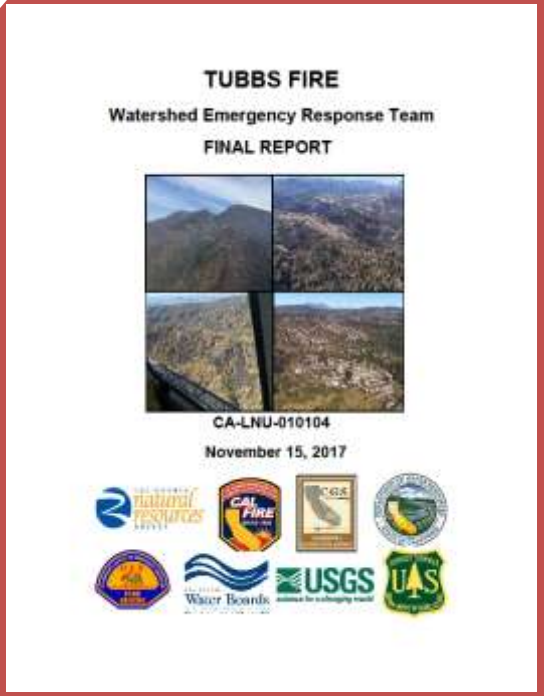
Mayacama Advanced Wastewater Treatment (AWT) facility

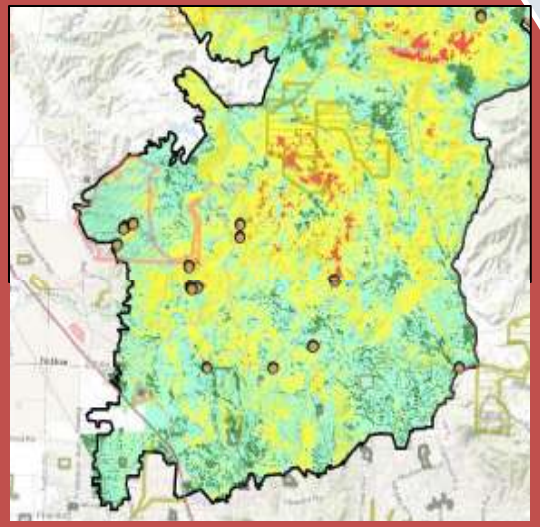
Cal OES Mission Tasking No. 2017-SOC-42661

- The Emergency Services Act provides Cal OES the authority to **task** state agencies to respond to local emergency needs
- Task Description: Five teams of 2-3 personnel to do technical assessments to check for potential erosion and provide suggestions for transport of storm water pollutants


Prioritization
Team Assignment
Field Assessment
Mitigation Development
Transmittal

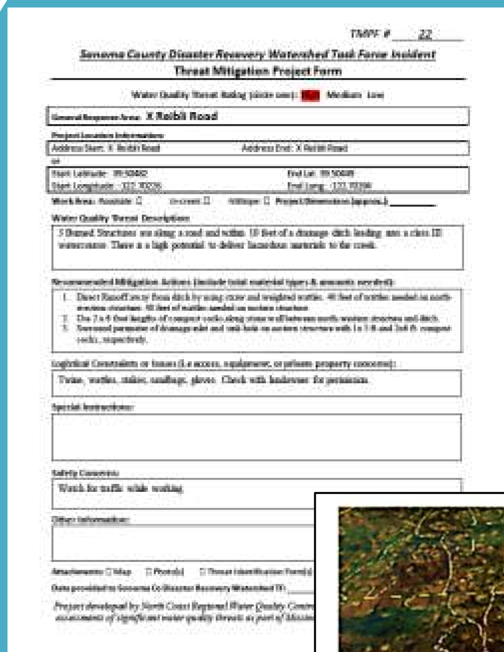
Prioritization





Field Assessment

Mitigation Development



TMPF # 22

Sonoma County Disaster Recovery Watershed Task Force Incident

Threat Mitigation Project Form

Water Quality Threat Rating (circle one): High Medium Low

General Response Area: X Reibli Road

Project Location Information:

Address Start: X Reibli Road | Address End: X Reibli Road

or

Start Latitude: | End Lat:
Start Longitude: | End Long:

Work Area: Roadside ☐ In-creek ☐ Hillslope ☐ Project Dimensions (approx.): ____

Water Quality Threat Description:

Recommended Mitigation Actions (include total material types & amounts needed):

Logistical Constraints or Issues (i.e. access, equipment, or private property concerns):

Special Instructions:

Safety Concerns:

Watch for traffic while working

Other Information:

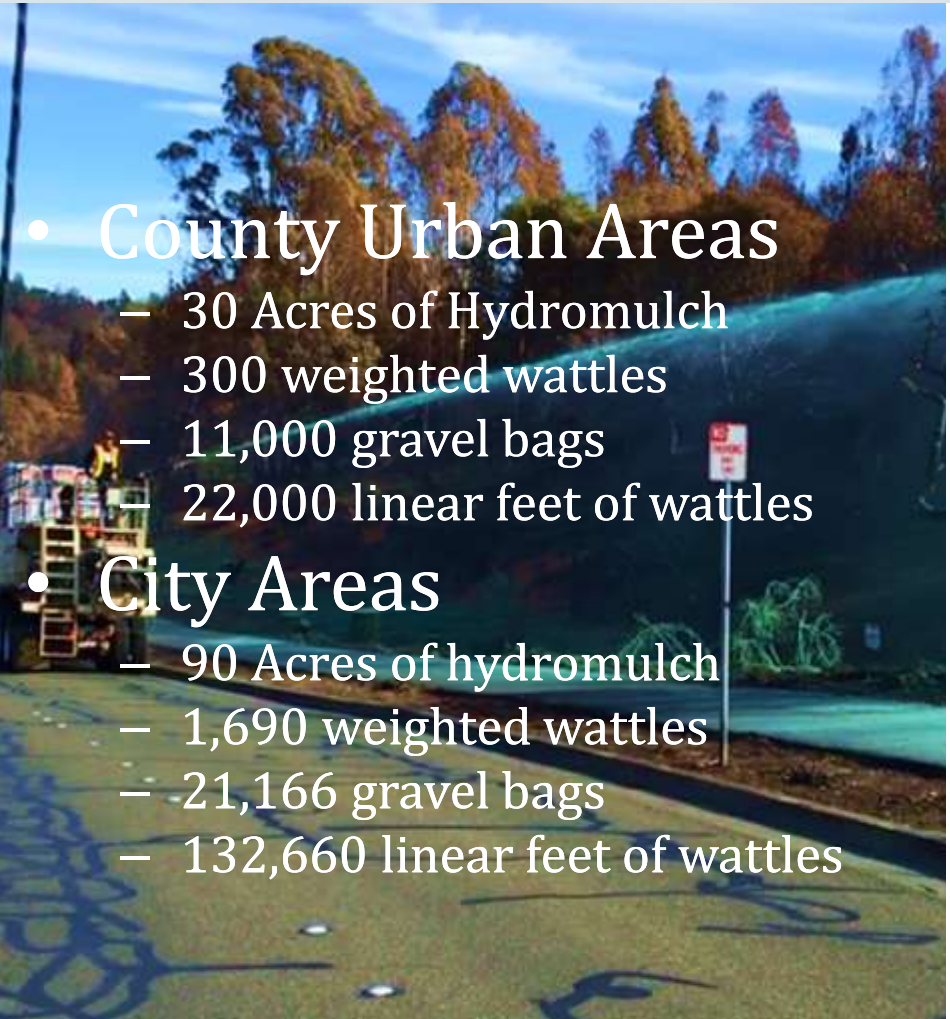
Attachments: ☐ Map ☐ Photo(s) ☐ Threat Identification Form(s)

Date provided to Sonoma Co Disaster Recovery Watershed TF:

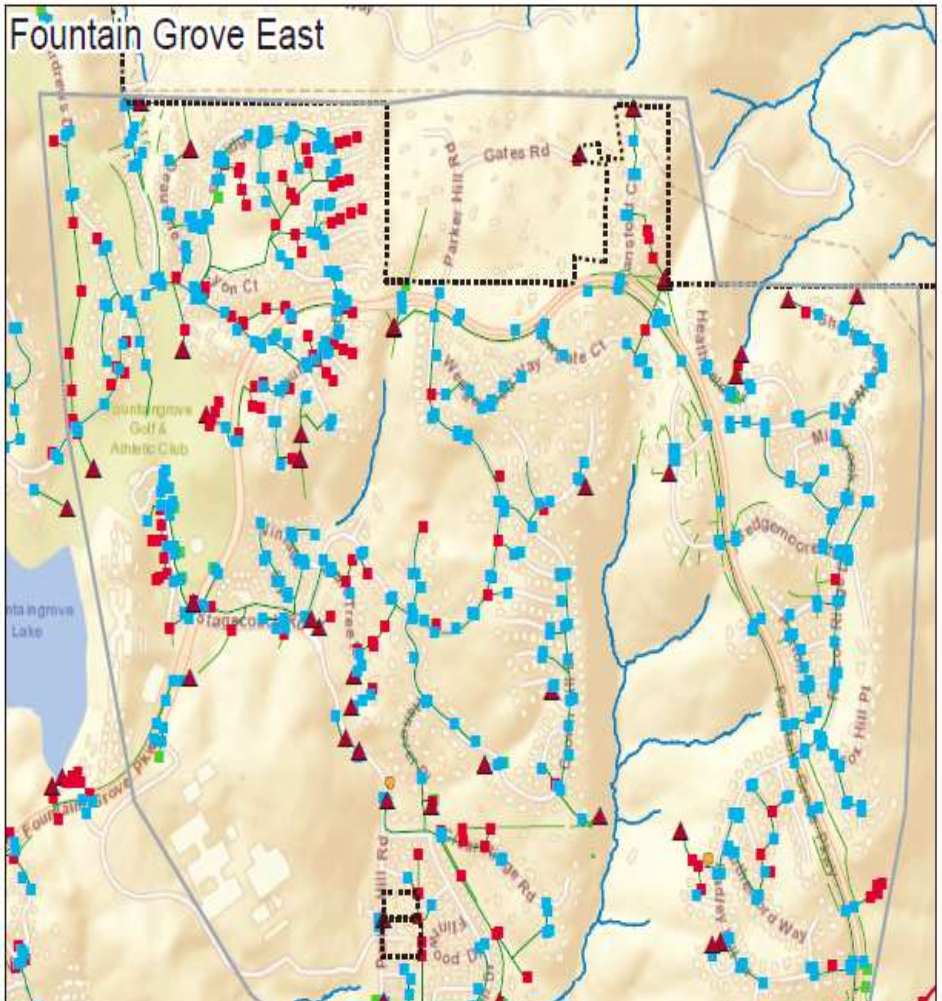
Project developed by North Coast Regional Water Quality Control ...

Threat Mitigation Projects

- Large areas associated with values at risk
- Recommending BMPs storm drains, driveways & slopes



- County Urban Areas
  - 30 Acres of Hydromulch
  - 300 weighted wattles
  - 11,000 gravel bags
  - 22,000 linear feet of wattles
- City Areas
  - 90 Acres of hydromulch
  - 1,690 weighted wattles
  - 21,166 gravel bags
  - 132,660 linear feet of wattles



Technical Specialists

- Cal FIRE Incident Command requested technical assistance
- Provided in the field guidance on the proper placement and configuration of erosion control
- Provided 2-3 teams per day

Coordination With City and County for Urban Areas

- Close coordination with City and County
  - City submits Early Action Plan
- Watershed Task Force Meetings
  - Most immediate threat: runoff from hardscape areas
- Directive letters for Compliance with Municipal Storm Water Permit

Monitoring & Assessment

Near-Term:

- Focus on documenting water quality within burned areas during storm events with focus downstream of urban areas highly impacted by the fires to detect acute hazardous discharges/toxicity and evaluate BMP effectiveness.

Long-Term:

- Participate in collaborative process for assessing long-term impacts and identifying recovery actions. Increase sediment observations.

North Coast Regional Water Quality Control Board
Fire Response Monitoring Plan

Table 1 Monitoring Analytes

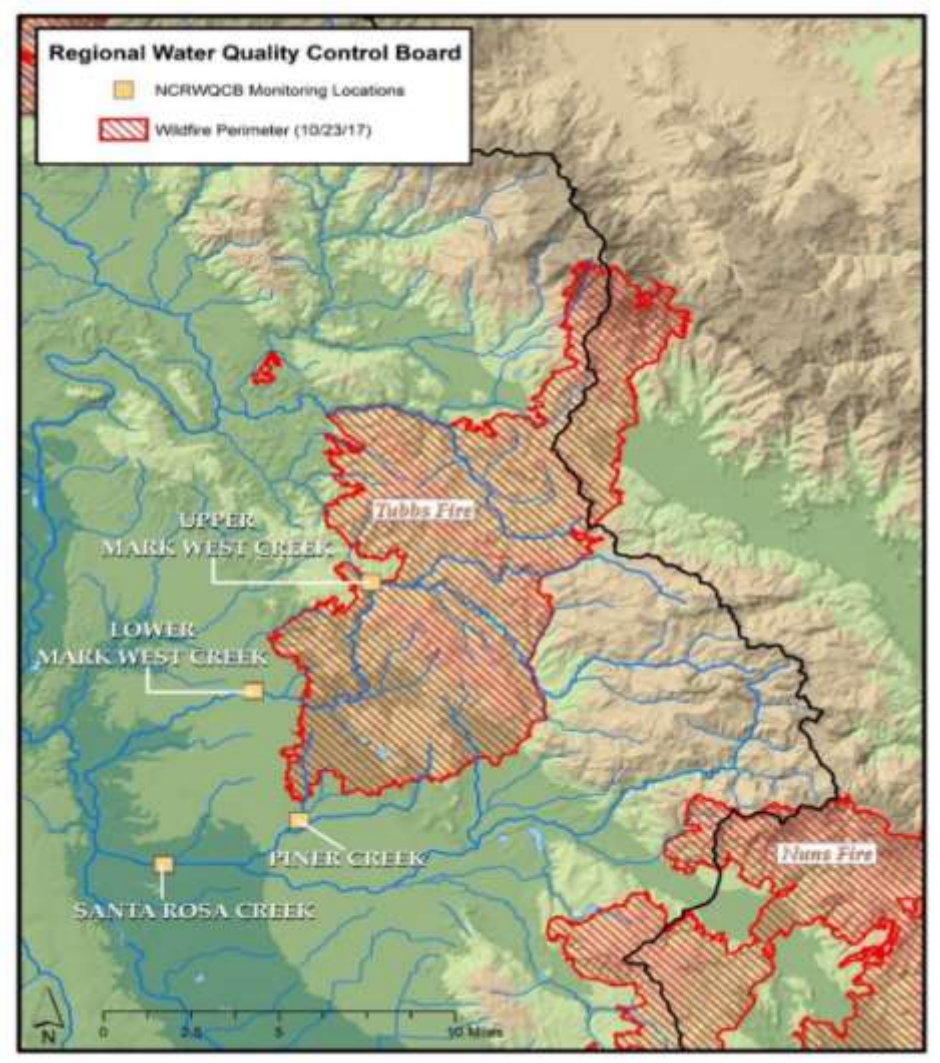
Temperature	Nitrate	Aluminum	Manganese
Specific Conductance	Ammonia	Arsenic	Mercury
Dissolved Oxygen	Total Phosphorus	Cadmium	Nickel
pH	Total Organic Carbon	Chromium	Selenium
Turbidity	Hardness	Copper	Zinc
Total Suspended Solids	Alkalinity	Iron	PAHs
Total Dissolved Solids	Sulfate	Lead	Water Toxicity

Monitoring & Assessment

Near-term

Sonoma County Water Agency

North Coast Regional Water Board



Monitoring & Assessment

Near term

- Samples Collected:
  - November 1: prior to rain event
  - November 8: 1 inch rain event
  - November 15: 2 inch rain event
- Existing Data Summary:
  - No significant increases in pollutant concentrations above expected during storm events
  - No acute toxicity events detected
  - Limitations – few sites + few events + minor rains + discharges may take place over longer time periods

Regional Water Board Monitoring Plan Available at: https://www.waterboards.ca.gov/northcoast/water_issues/programs/swamp/

Monitoring & Assessment

Long-term

- Participate in a collaborative process for long-term monitoring and recovery assessment efforts

- Use Russian River Regional Monitoring Program (R3MP) as a platform for coordination and information sharing

Questions?