ASH TO ACTION:

HEAL THE BAY'S POST-FIRE WATER QUALITY MONITORING AND ANALYSIS

Annelisa Moe
Associate Director, Science & Policy
Heal the Bay

1 - First flush storm of the Palisades Fire

2 -Assessing risk thresholds for human health and marine health

3 -Time series analysis

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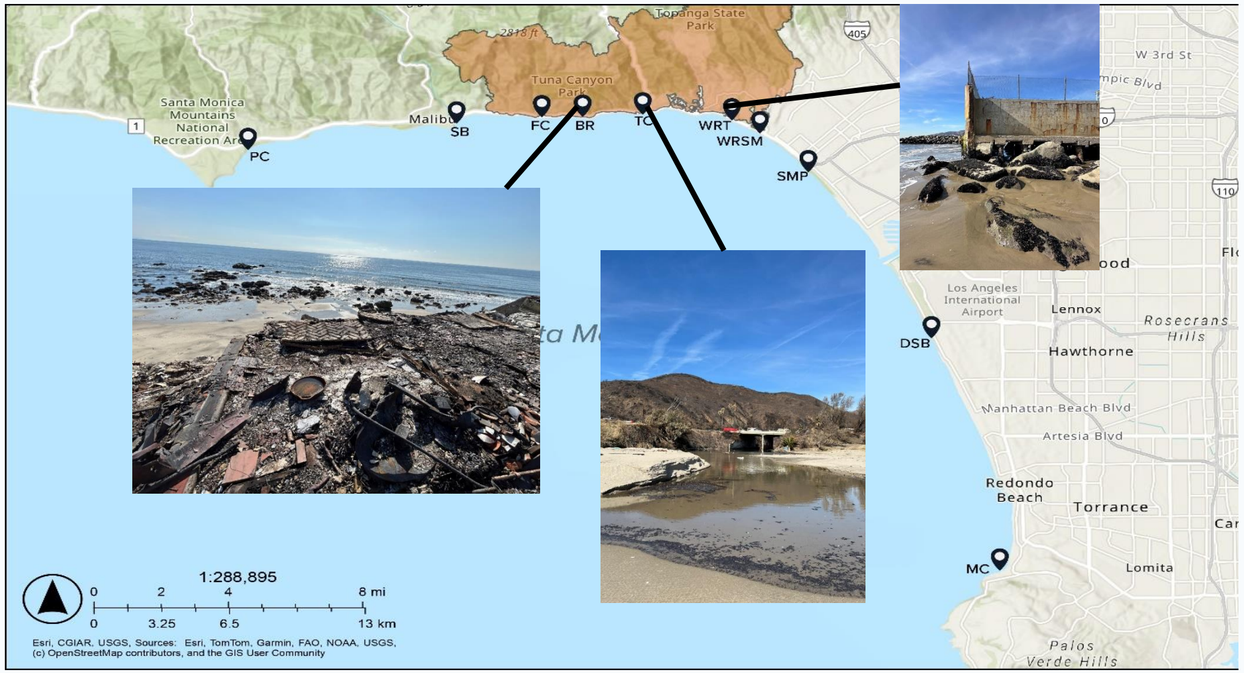
Palisades Fire Damage Data

JANUARY 2025

- Active for 24 days, began January 7, 2025
- 23,448 Acres Burned
- 973 structures damaged
- 6,837 structures destroyed

Palisades Fire

Sampling Locations



JANUARY 2025

- **Pre-rain :** January 24th and 25th 2025
- **Post-rain :** January 28th 2025

Sampling locations :

1. Paradise Cove
2. Surfrider Beach
3. Las Flores Canyon
4. Big Rock
5. Topanga Creek
6. Will Rogers Temescal
7. Will Rogers Santa Monica
8. Santa Monica Pier
9. Dockweiler State Beach
10. Malaga Cove

Palisades Fire

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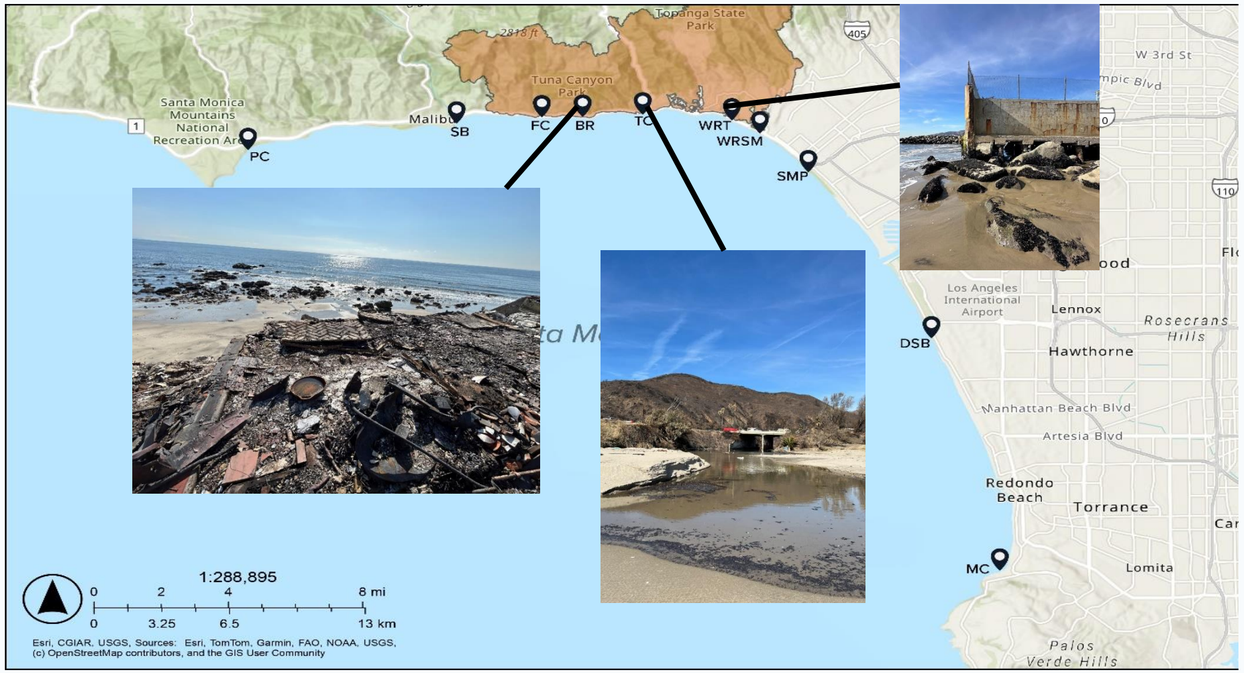

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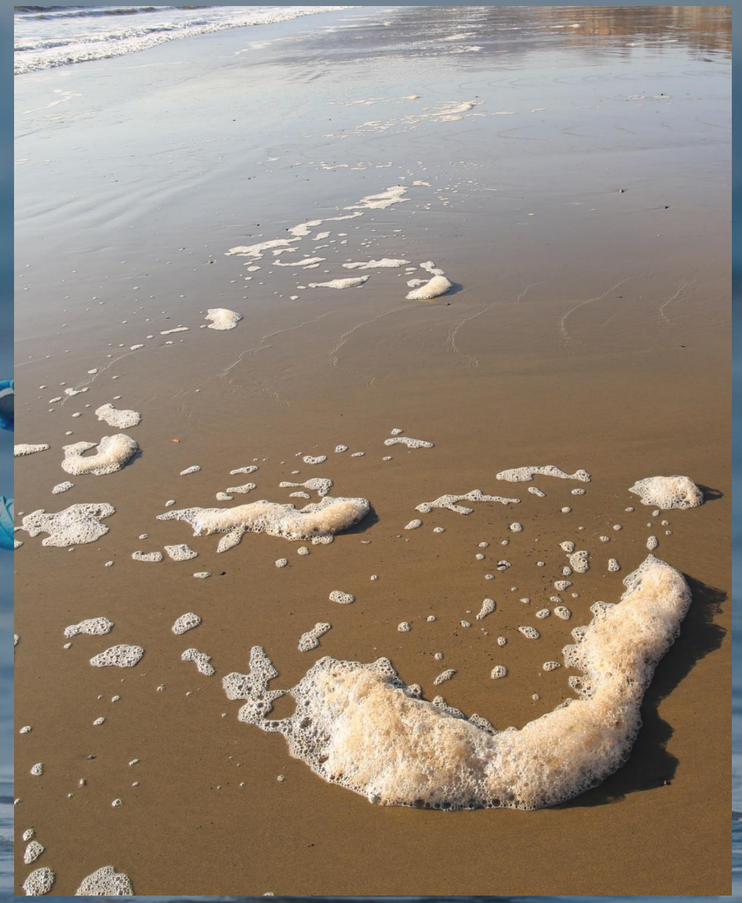


PHYSICAL HAZARDS

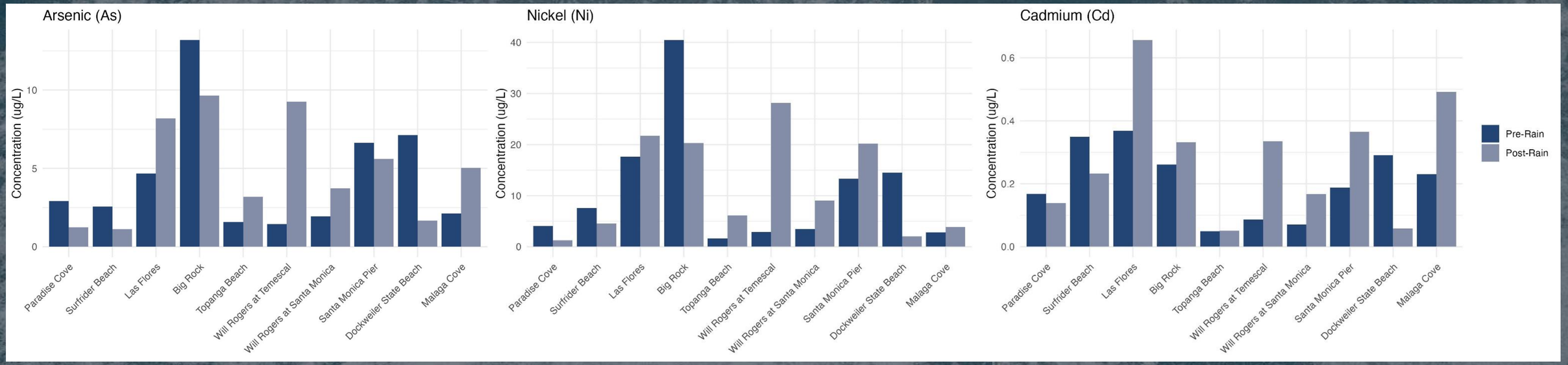
POST-FIRE WATER QUALITY TESTING

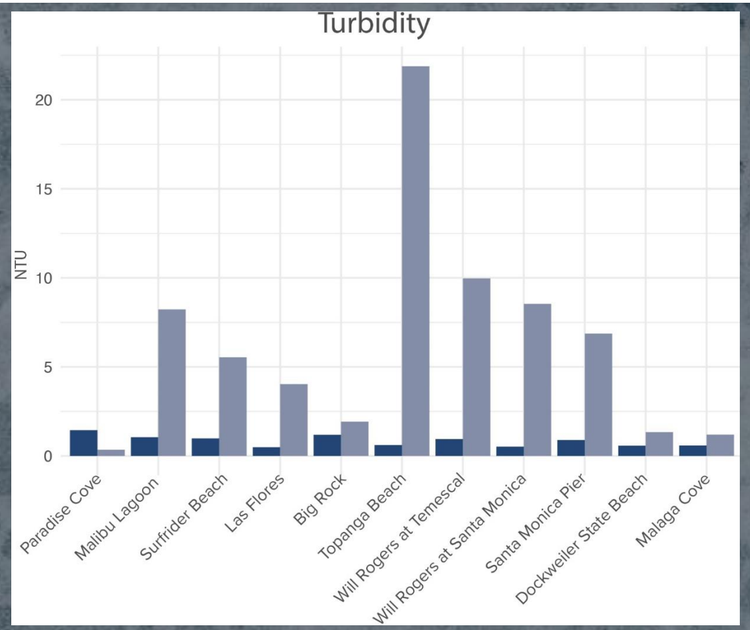
What was tested?

- Nutrients
- Heavy metals
- Bacteria
- Turbidity
- PCBs
- PAHs
- PFAS
- Benzene

Results

In the burned area, heavy metal and turbidity concentrations increased after the storm, except at Big Rock for some metals





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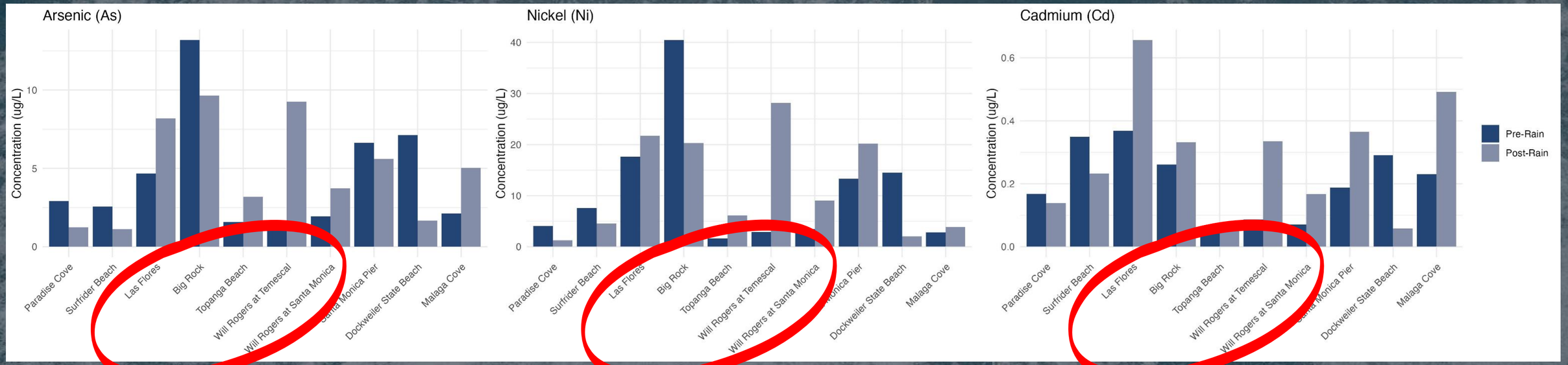

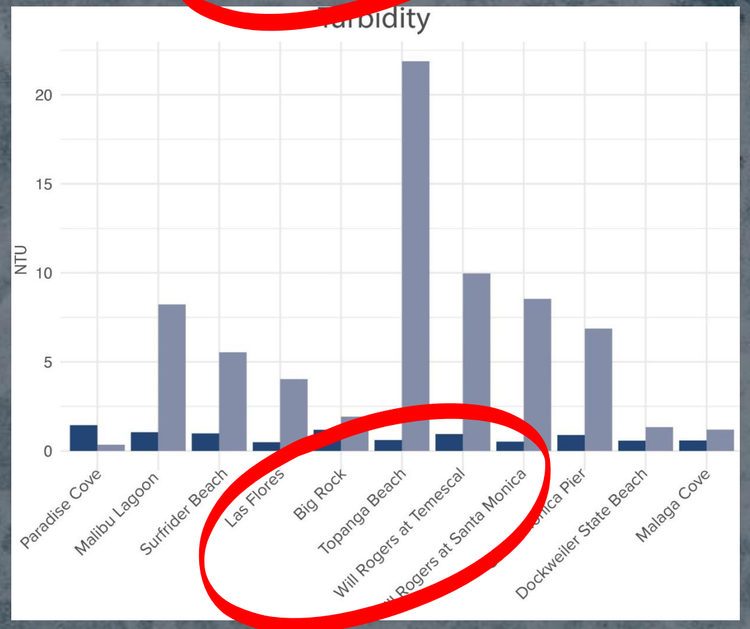

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SCCWRP Post-Fire Monitoring Network

Setting an Analysis Baseline

- Multi-agency consortium of 30+ organizations from government, industry, non-profit, and academia.
- Focus on assessing the impacts of the 2025 LA fires on aquatic habitats
- Develop a collaborative network to coordinate monitoring, build consensus and share results

Data Interpretation Group

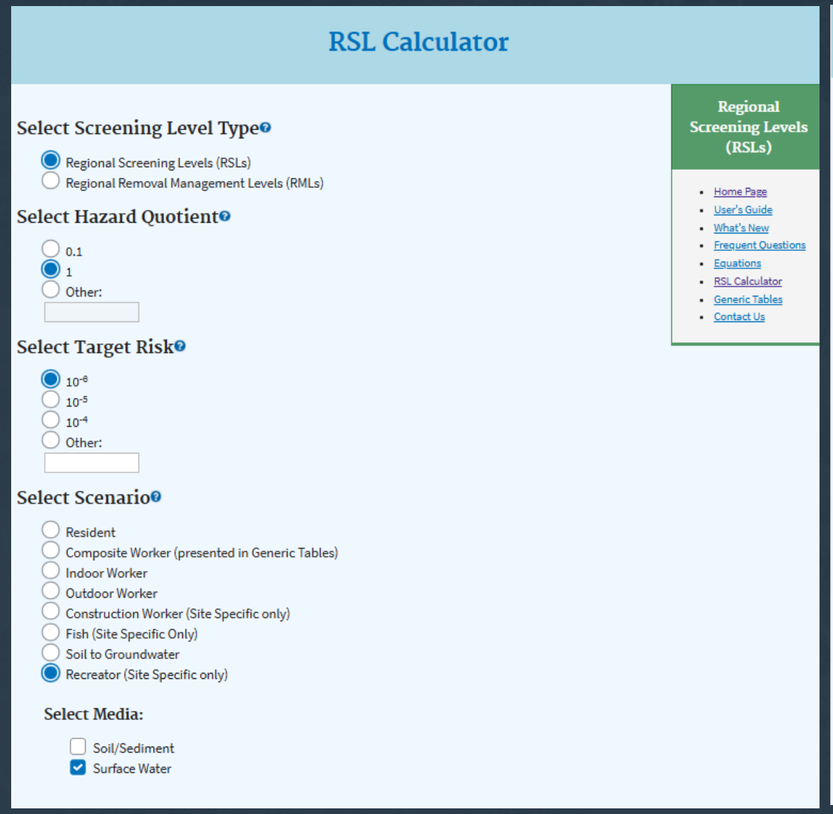
Data Reporting Group

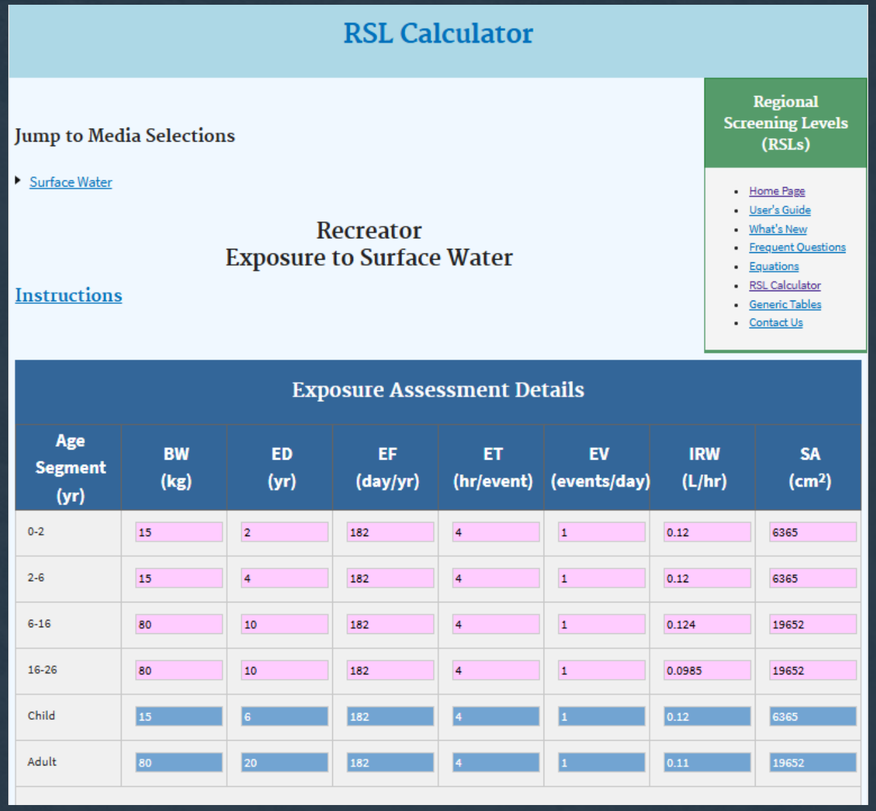
Human health thresholds for recreational exposure

HOW DID HEAL THE BAY ANALYZE THE OCEAN WATER DATA?

- **Calculated by LA Regional Board with OEHHA assistance**
  - Using the US EPA Regional Screening Level (RSLs) Calculator for Recreator Surface Water
  - CA-Specific Adjustments with DTSC Human Health Risk Assessment
- **Assumptions:**

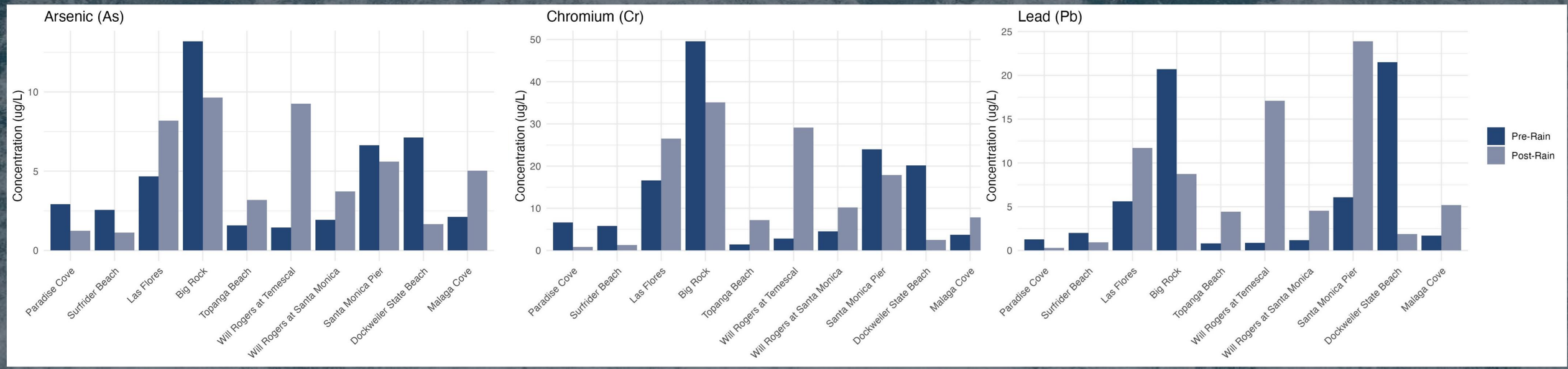
  Chronic exposure : (180+ days) and 4h/day





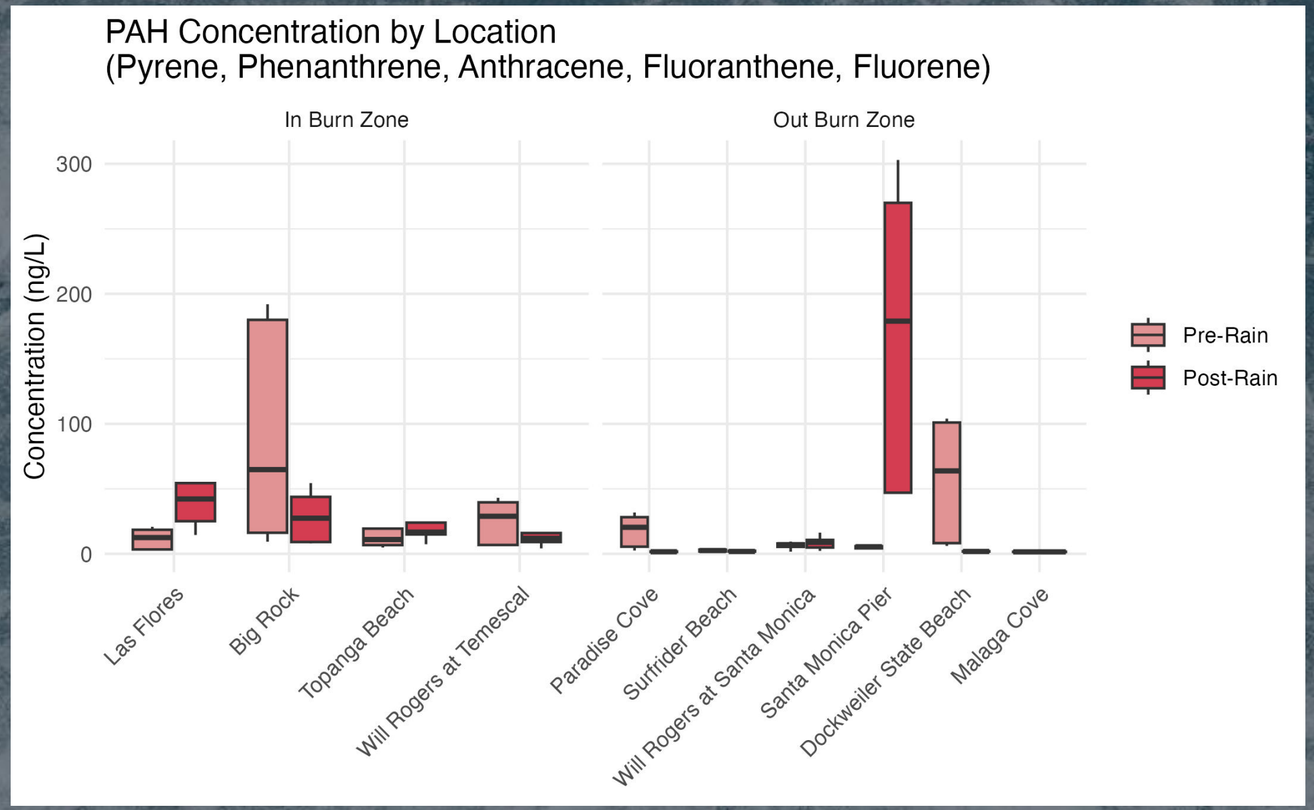
Assessing Human Health Risk

- **Total arsenic concentrations exceed the human health risk threshold for inorganic arsenic of 0.04 µg/L**
- **Chromium and lead were detected in the samples, but no recreational human health risk thresholds currently exist for these contaminants**



Assessing Human Health Risk

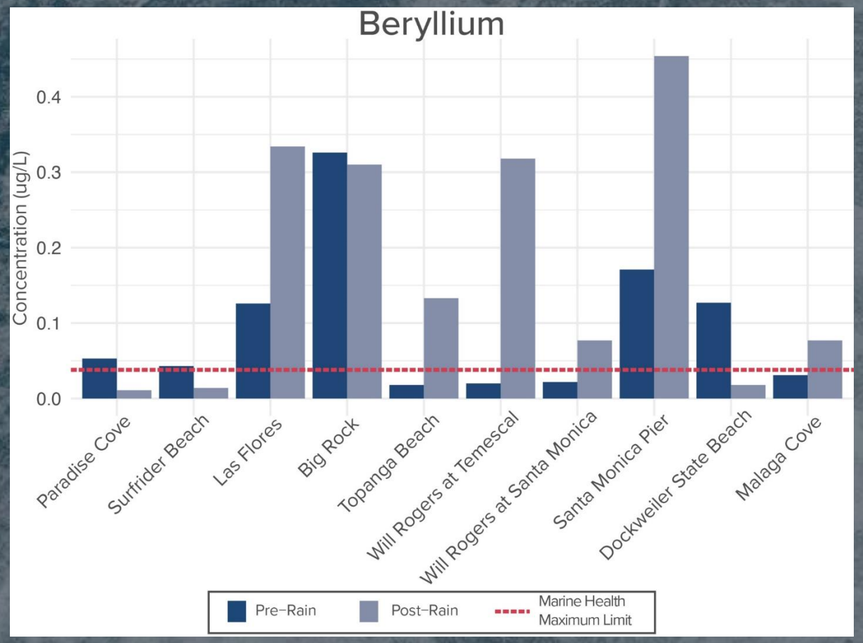
- PAHs were detected but remained below applicable thresholds where they exist
- PCBs were mostly not detected and have no established recreational human health risk thresholds
- PFOA and PFOS were not detected

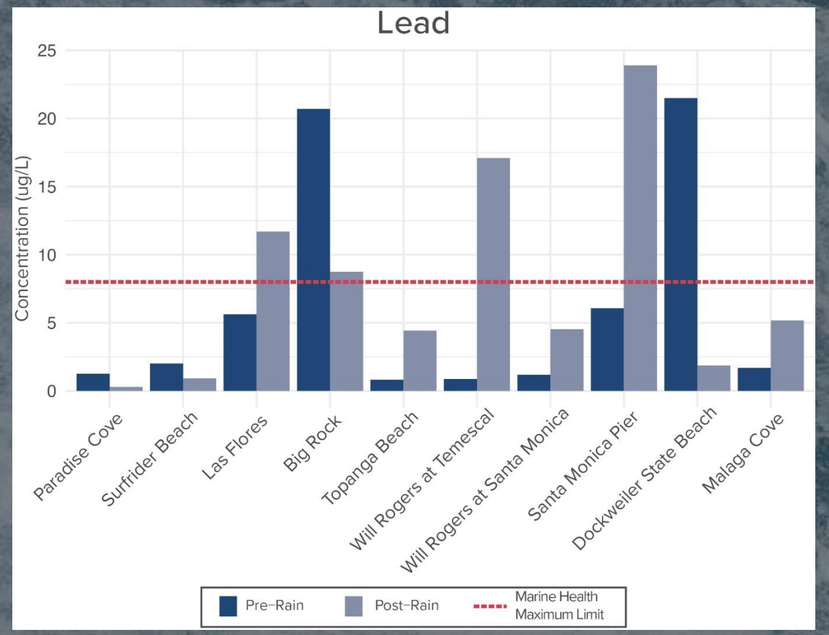


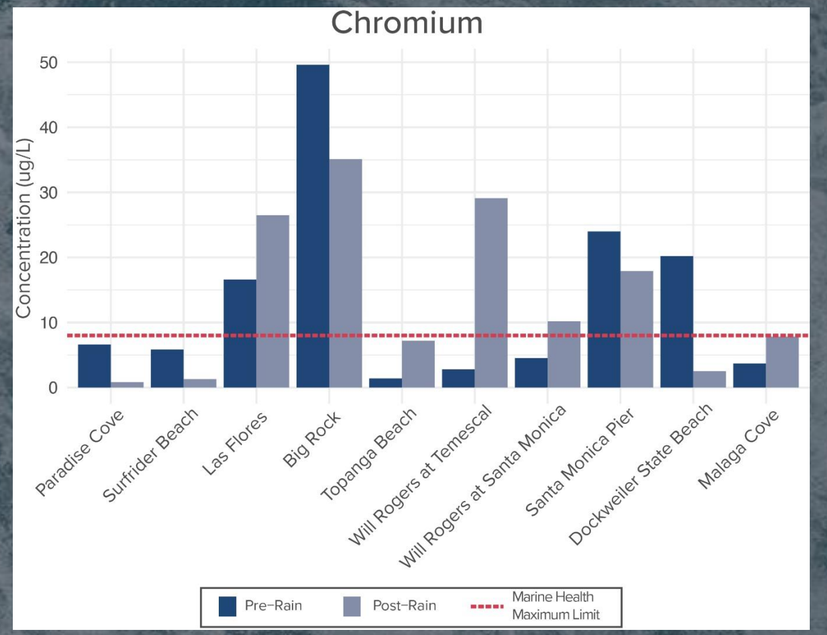
Marine health risks

Assessing Marine Health Risk

Beryllium, Lead, and Chromium are above maximum levels at multiple locations during both dry and wet weather

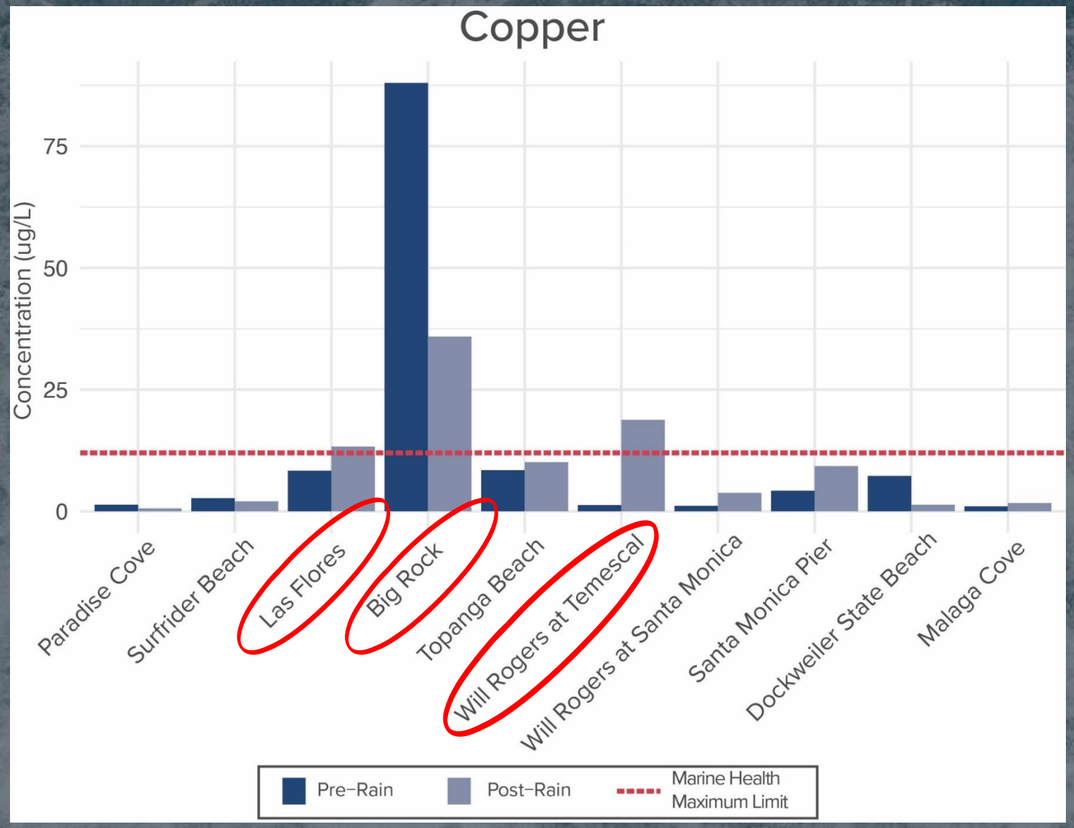


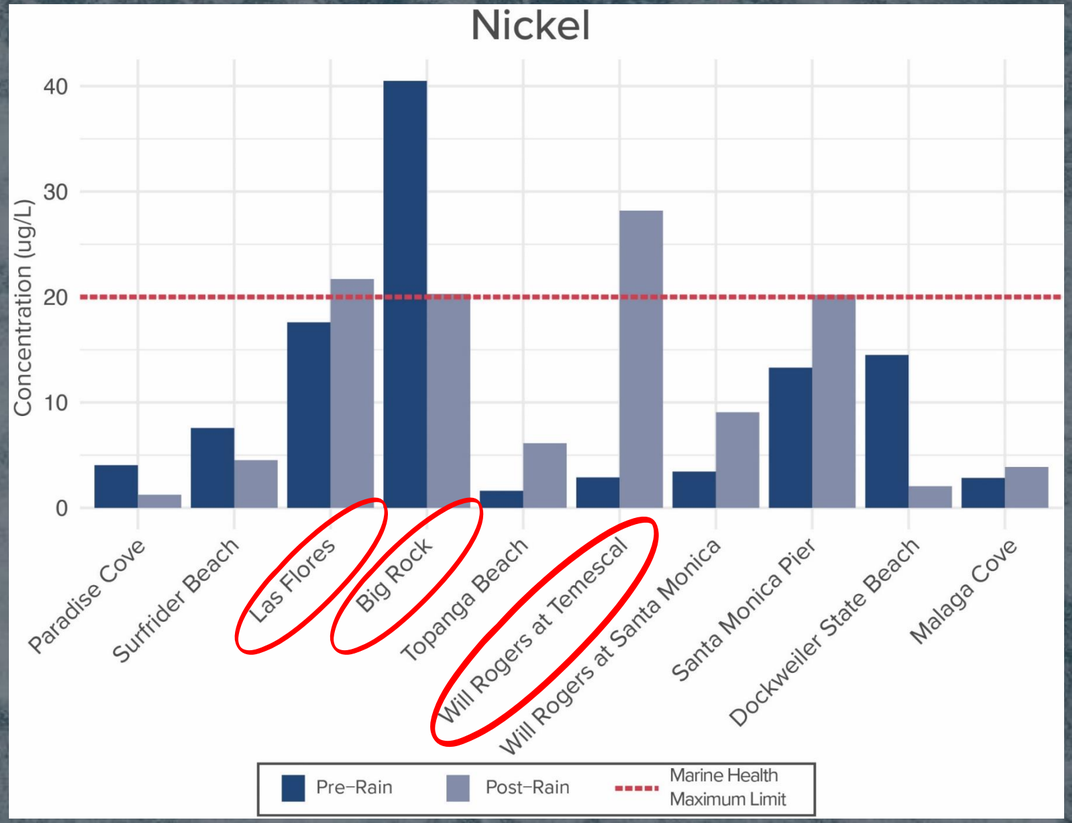




Assessing Marine Health Risk

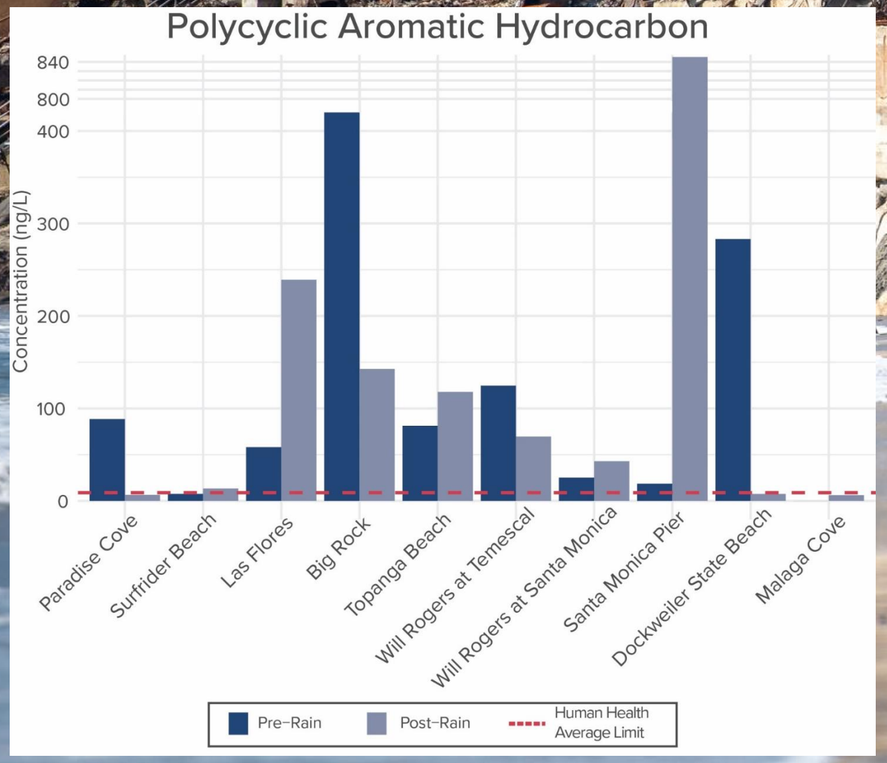
- **Copper and Nickel (along with Silver, Arsenic, and Zinc) were detected above average marine health limits, which could cause long-term impacts if those levels persist.**
- **There are also elevated levels of Aluminum, Iron, and Manganese, which do not have established marine health limits, but elevated levels may still impact marine habitats.**

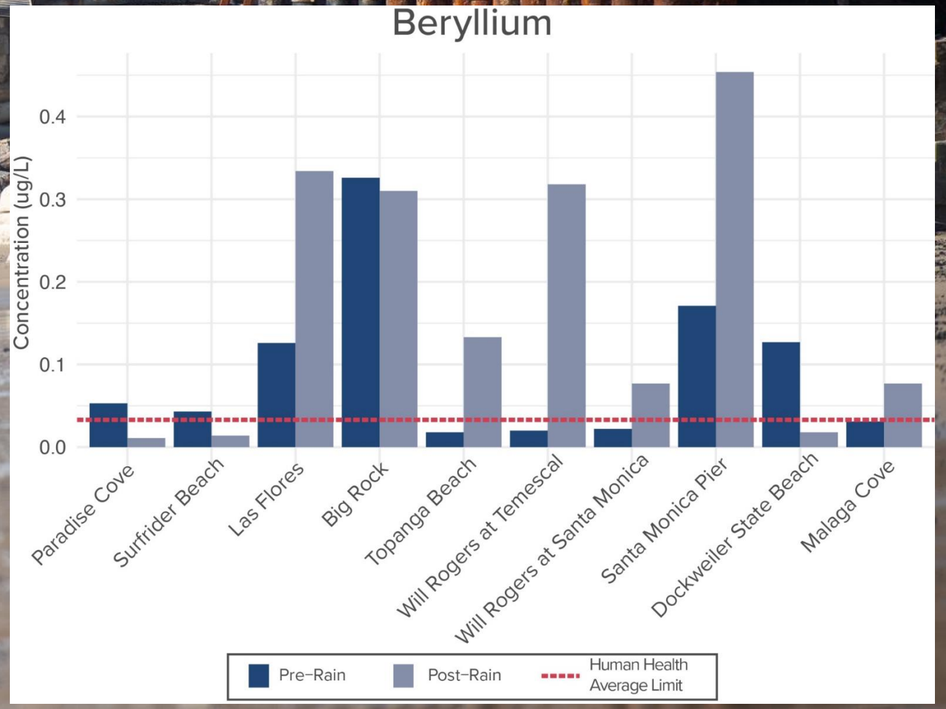




Human Health Limits For Fish Consumption

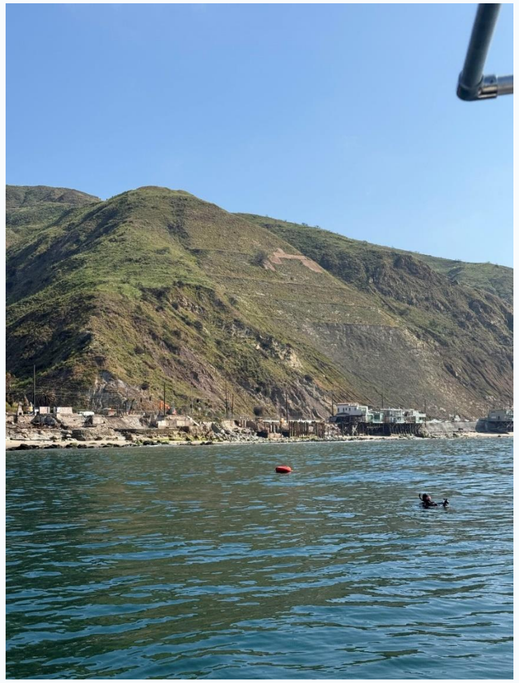
Our data showed exceedances of PAHs and metals, contaminants that can bioaccumulate in the food chain and make fish unsafe to eat for both people and marine life.

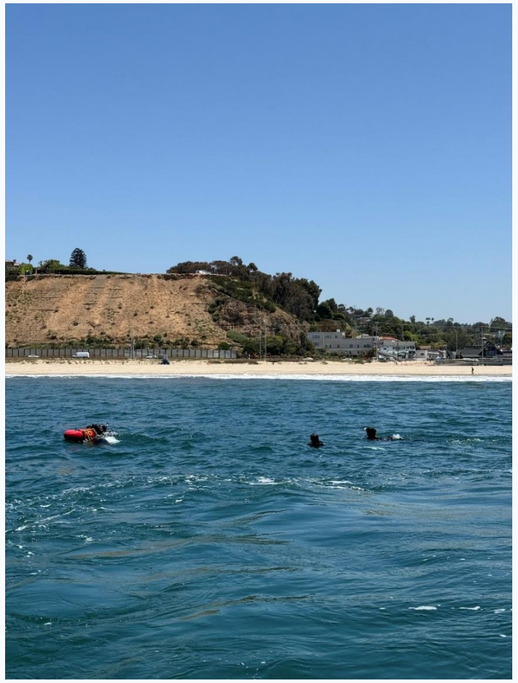




Offshore sampling

- Rustic Canyon & Big Rock
- Water and sand samples collected
- Poor visibility offshore at Rustic Canyon. Divers observed that the water appeared black.
- Debris were observed along the sampling transect.





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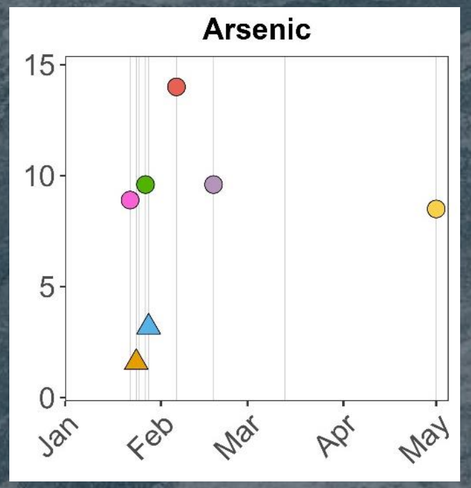
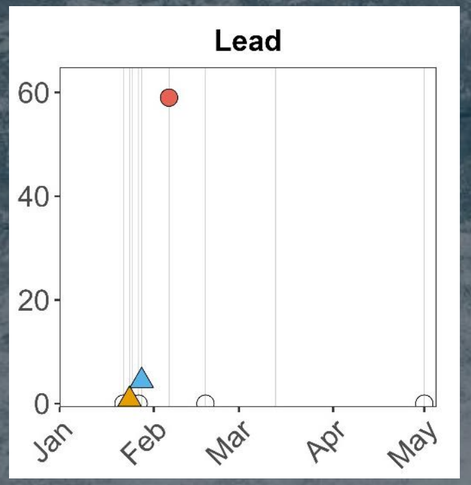
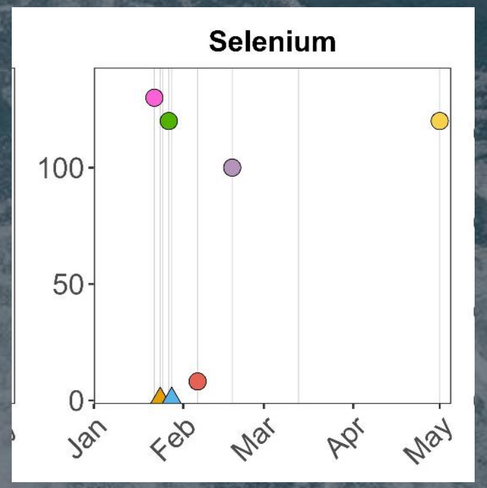
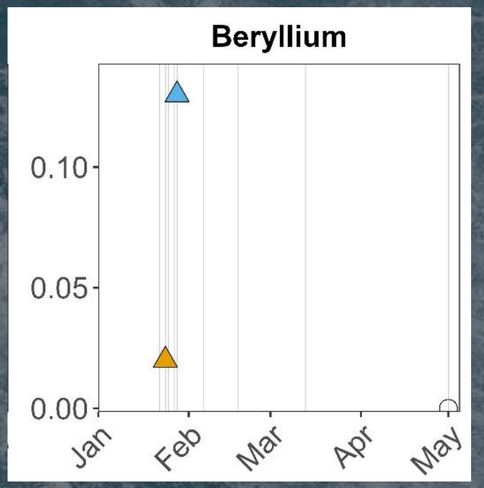
Topanga County Beach at Topanga Canyon Lagoon – Metals

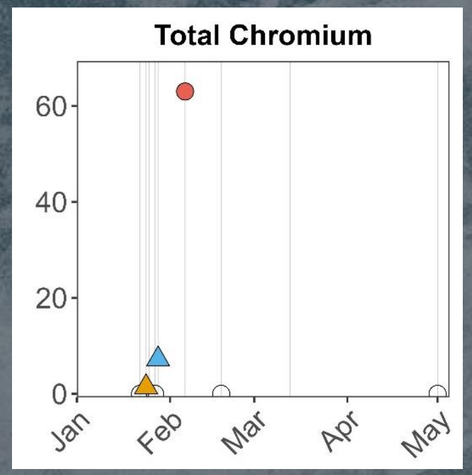
Concentration (µg/L)

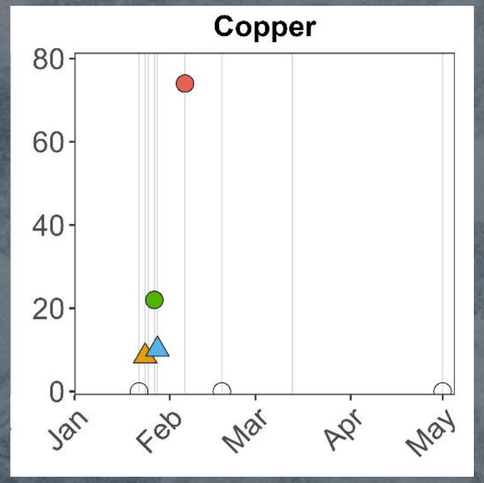


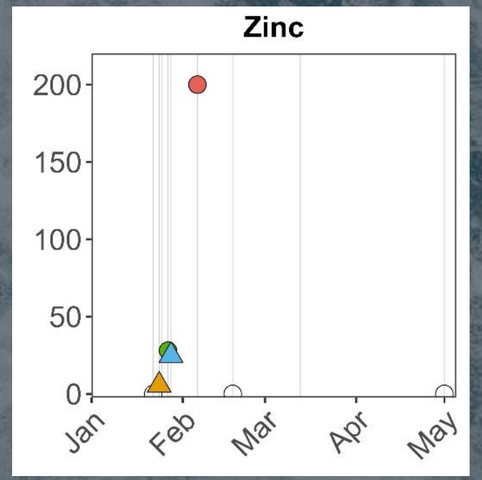


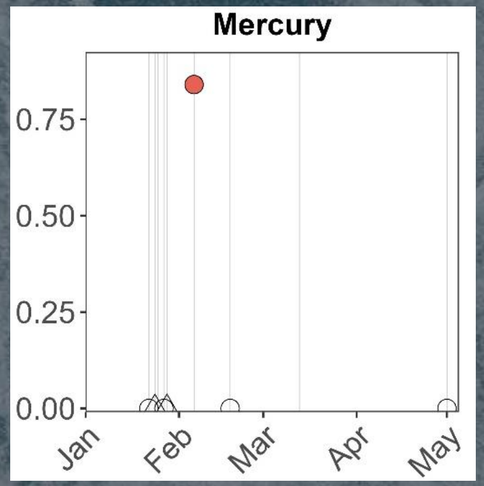










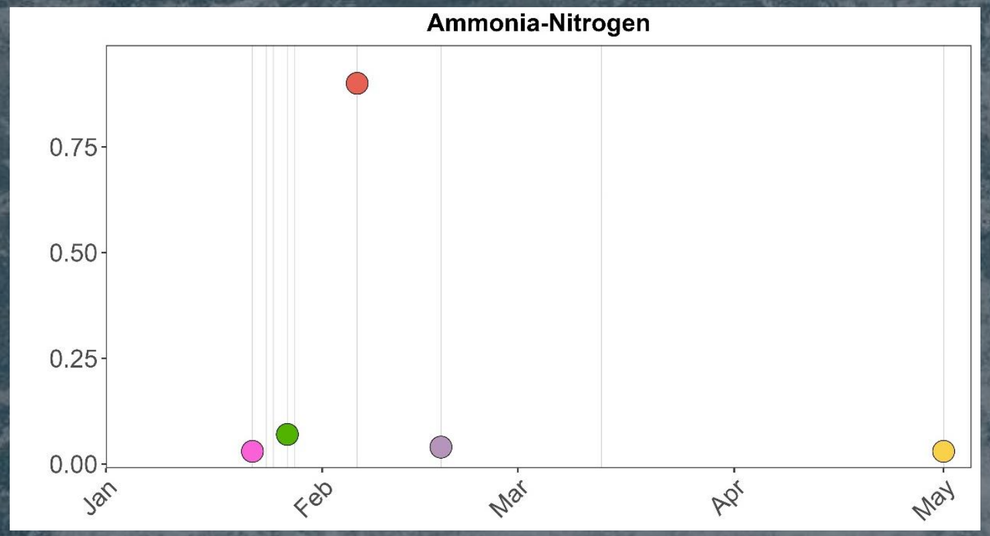


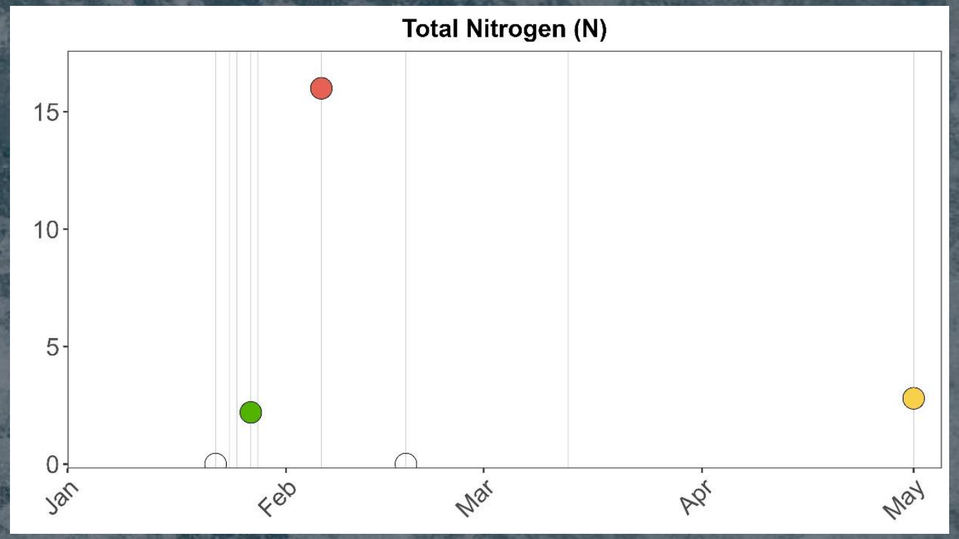
Date
- 2025-01-22
- 2025-01-24
- 2025-01-27
- 2025-01-28
- 2025-02-06
- 2025-02-18
- 2025-05-01

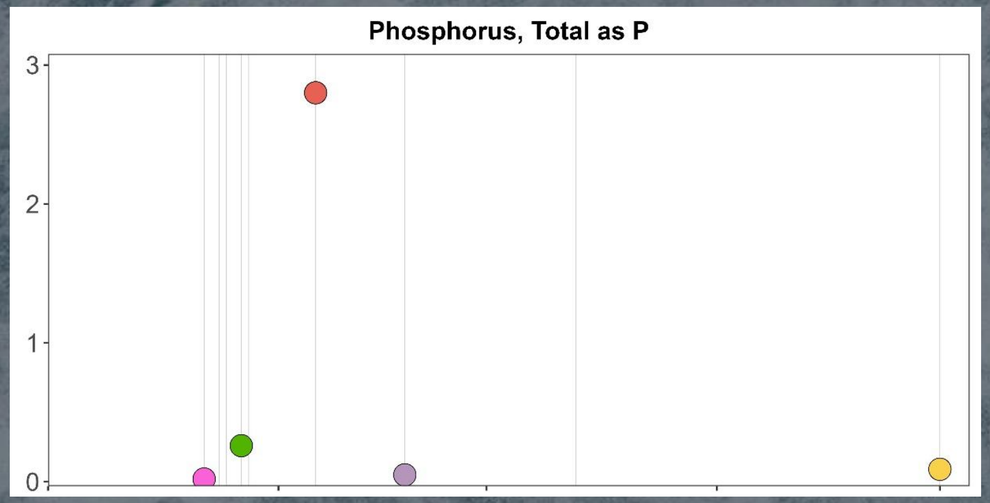
Source
- HTB
- LARWB

Topanga County Beach at Topanga Canyon Lagoon – Nutrients

Concentration (mg/L)

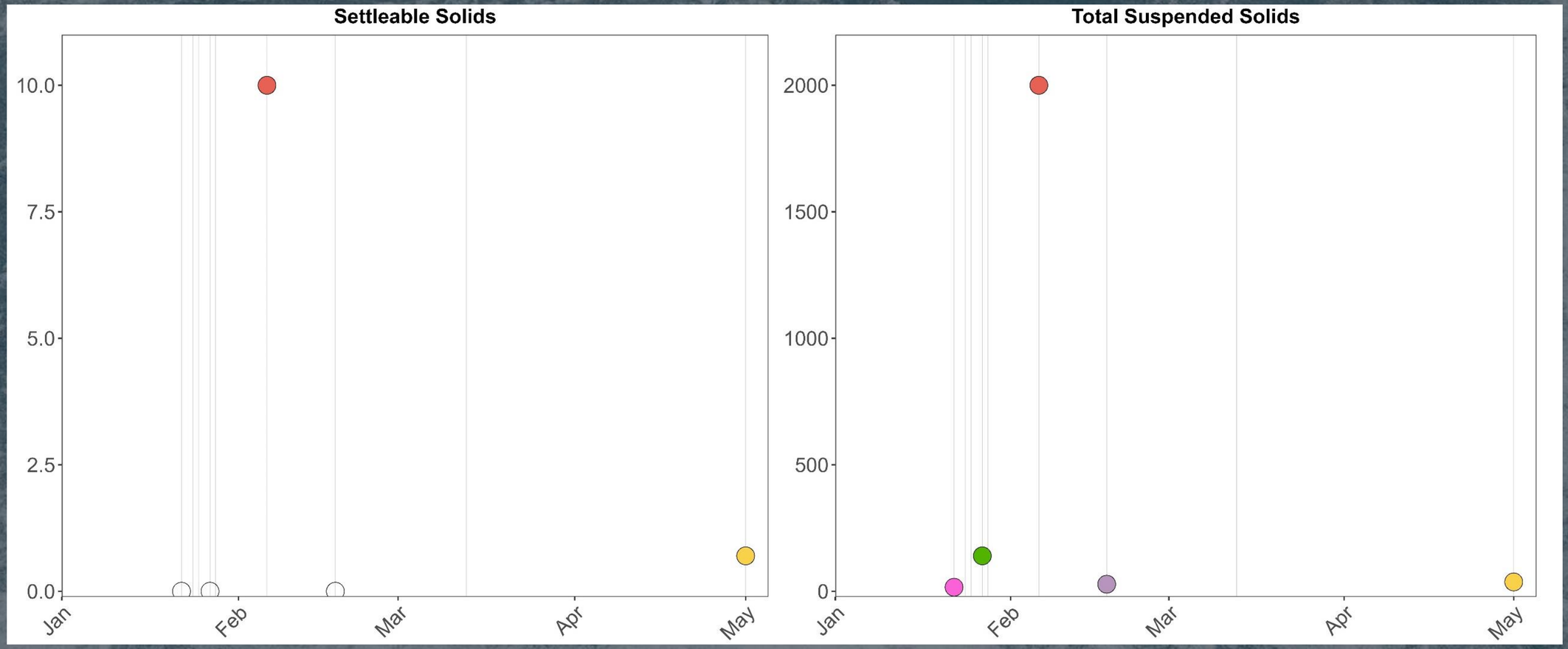






Topanga County Beach at Topanga Canyon Lagoon – Solids & TOC

Concentration (mg/L)



Potential sources of contamination

- EPA hazardous waste site in Topanga
- Natural sedimentation
- Burned houses
- Wildfire Smoke Deposition onto the Ocean Surface

Next steps

- Deep dive into research to better prepare for the next wildfire
- Continue analyzing existing wildfire monitoring data onshore and offshore
- Heal the Bay is working to secure funding targeting stormwater outfalls
- Monitoring to understand the long-term impacts on marine and human health is crucial, but funding is needed

FIRE RESPONSE PARTNERSHIPS

- LA County Fire Department and Lifeguards
- LA County Watershed Taskforce
- SCCWRP Post-Fire Regional Monitoring Network
- USC, UCLA, and CSUN
- US Army Corps of Engineers
- Blue Ribbon Commission on Climate Action and Fire Safe Recovery

THANK YOU

Questions?

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