Clear Lake Blue Ribbon Committee: Technical Subcommittee Report #1

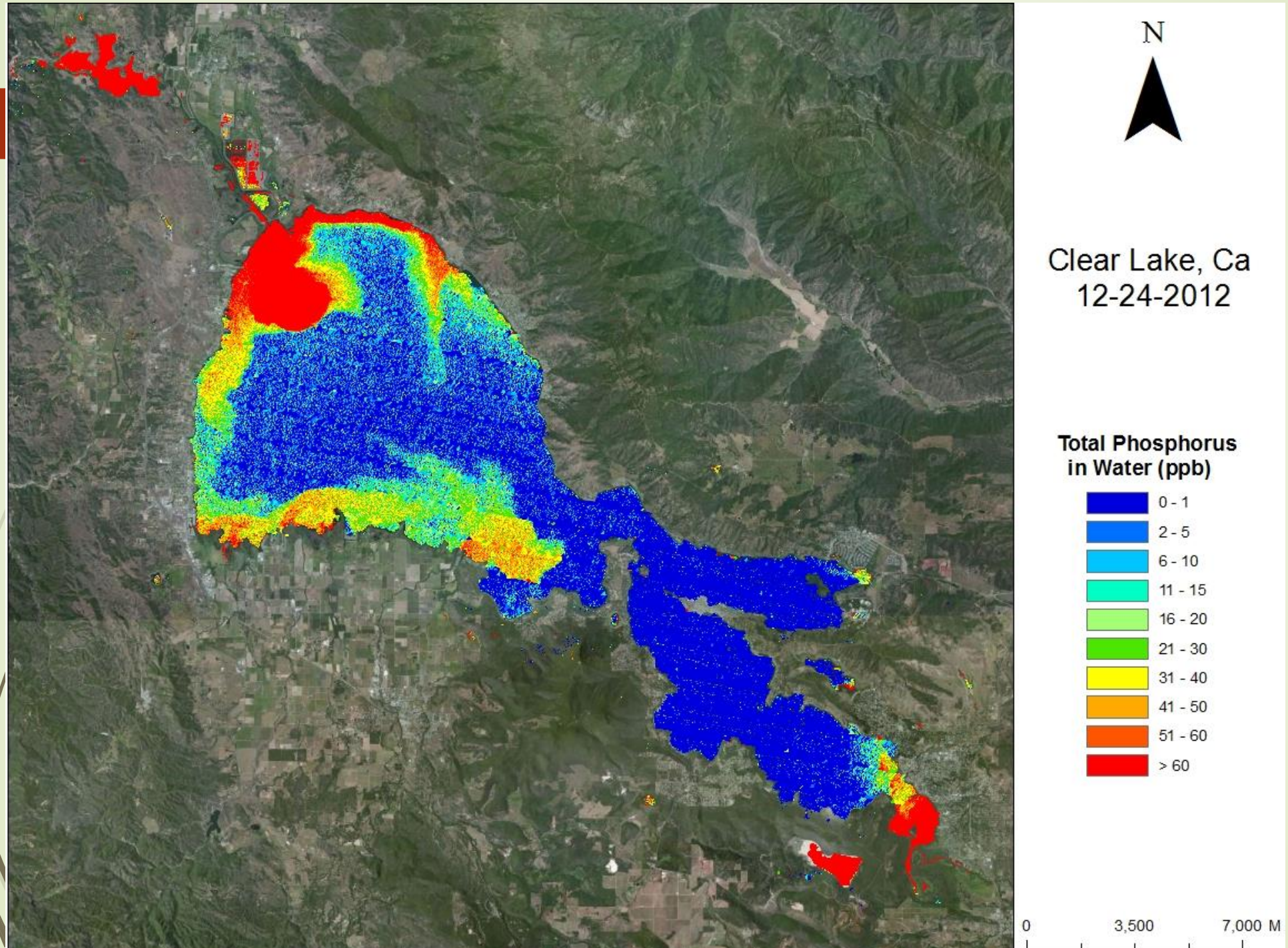
June 5, 2019

Technical Subcommittee Overview

- 2 meetings held in April and May
- Meetings include presentations on key concerns about lake health and associated infrastructure including:
  - Cyanotoxin
  - Sediment and nutrient deposition
  - Impacts to public water systems
  - Clear Lake TMDL
- Participants discussed overall threats to lake and initial recommendations

Presentations Overview

- **Clear Lake TMDL**
- **County response to TMDL and water quality programs overview**
- **UC Davis initial findings/research update**
- **Public water systems on Clear Lake**
- **Cyanotoxin report**
- **Satellite imagery of sediment and nutrient deposition**


N
Clear Lake, Ca
12-24-2012
Total Phosphorus in Water (ppb)
0 - 1
2 - 5
6 - 10
11 - 15
16 - 20
21 - 30
31 - 40
41 - 50
51 - 60
> 60
0
3,500
7,000 M

Threats to Lake Health and Causal Assumptions

- Cyanobacteria and harmful algal blooms (HABs)
- Mercury and mercury methylation
- Sediment deposition and erosion identified as primary driver of HABs
- A septic or other coliform signal that is unrefined

Unknown Issues

- Is assumption that sediment deposition acts as primary driver correct?
- Is assumption that Middle Creek is the primary mechanism for sediment deposition correct when considered in comparison to *all other* streams and inputs combined?
- What drives HABs and cyanobacteria production in winter months?
- What is the level of septic or other coliform inputs?

Initial Recommendations

- Robust review of upper watershed=
  - To determine specific sediment sources (based on available data)
  - To determine load rates (and later to determine loss rates in lake).
- 1. Assess the scope and scale of erosive activities (i.e., OHV use, runoff from roads, agriculture, and other uses)
- 2. Assess effectiveness of existing BMPs and TMDL implementation activities (what needs to change?)
- 3. Review of 2017 LiDAR data (post fire conclusions?)
- 4. Current, up-to-date LiDAR flight of entire Clear Lake basin, including upland areas and streams
- 5. Compare LIDAR data to determine new or confirm old sediment sources.