

# The New Idria Mine San Benito County



Ron Holcomb  
Engineering Geologist



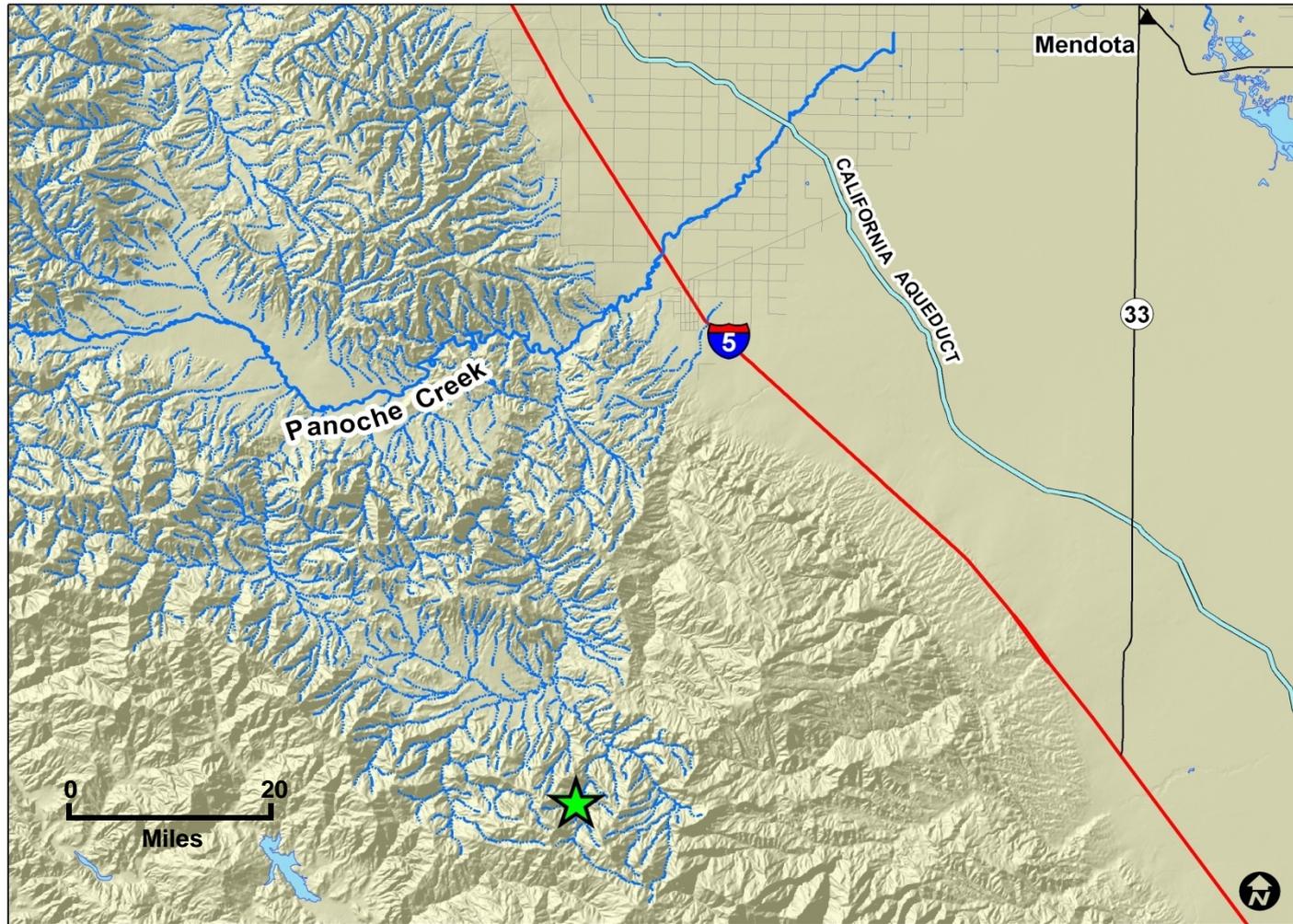
# Mining Activity

- Operated from 1854 to 1972
- One of the largest producers of mercury
- Mercury sulfide (Cinnabar)
- Oxidation of sulfides produces acid mine drainage

# Location



# Watershed



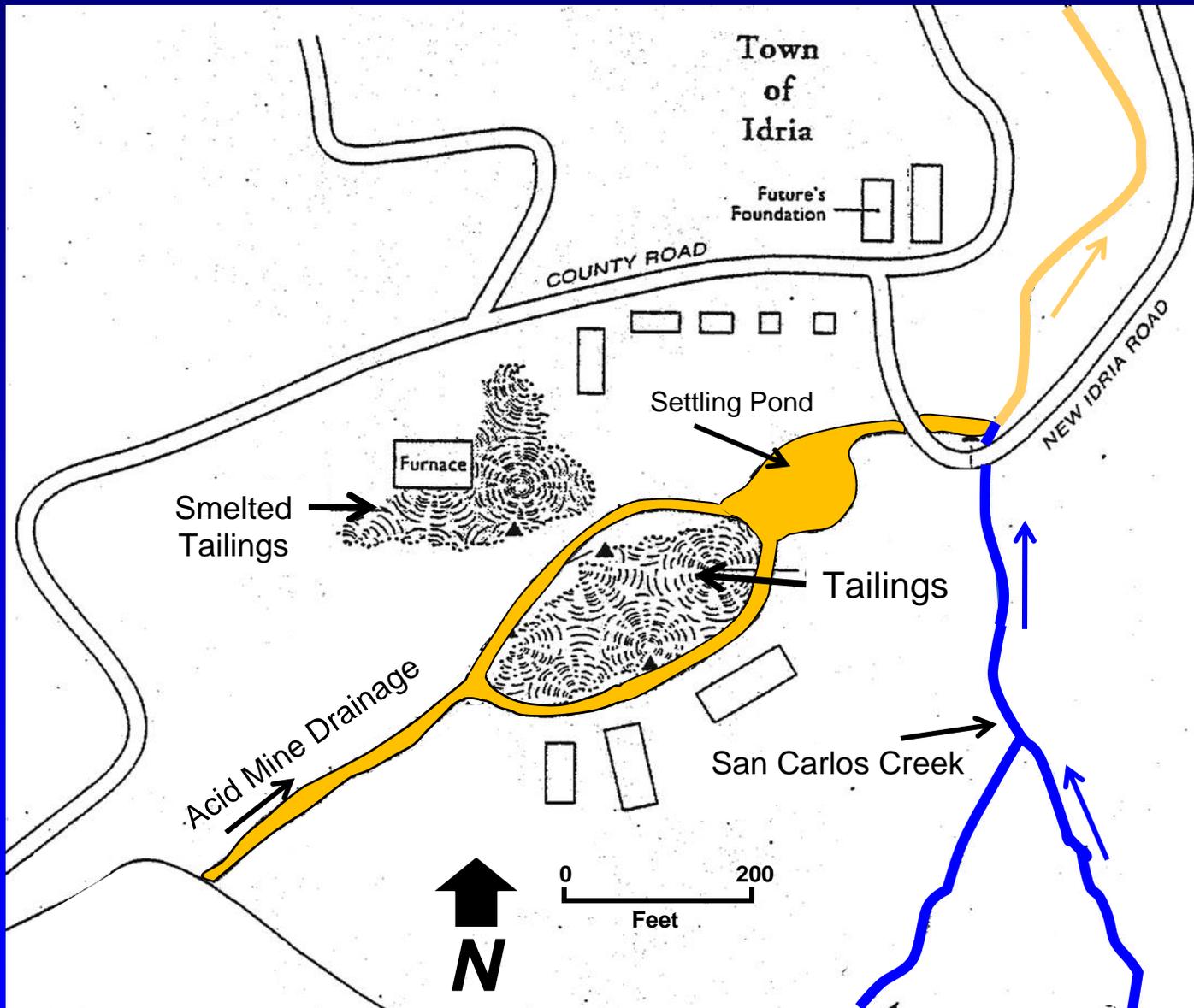
# Watershed Characteristics

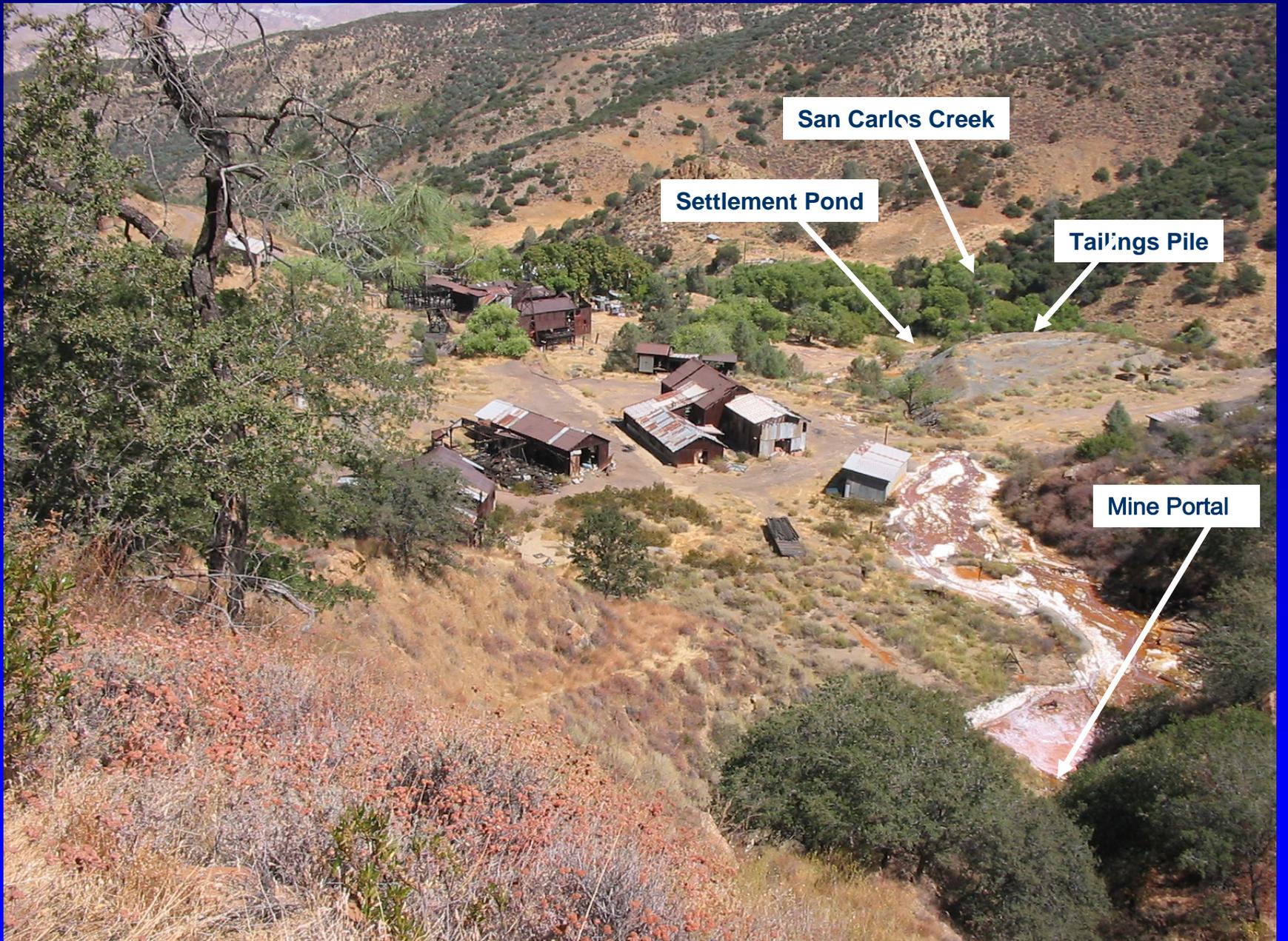
- Located in the rain shadow of the Coast Ranges
- Low precipitation, high evaporation
- Ephemeral streams
- Very little drainage
- Drainage from mine leaves the watershed only during infrequent high-flow events



# Mining Wastes

- Stockpiled waste rock
- Smelted ore tailings
- Acid mine drainage





**San Carlos Creek**

**Settlement Pond**

**Tailings Pile**

**Mine Portal**



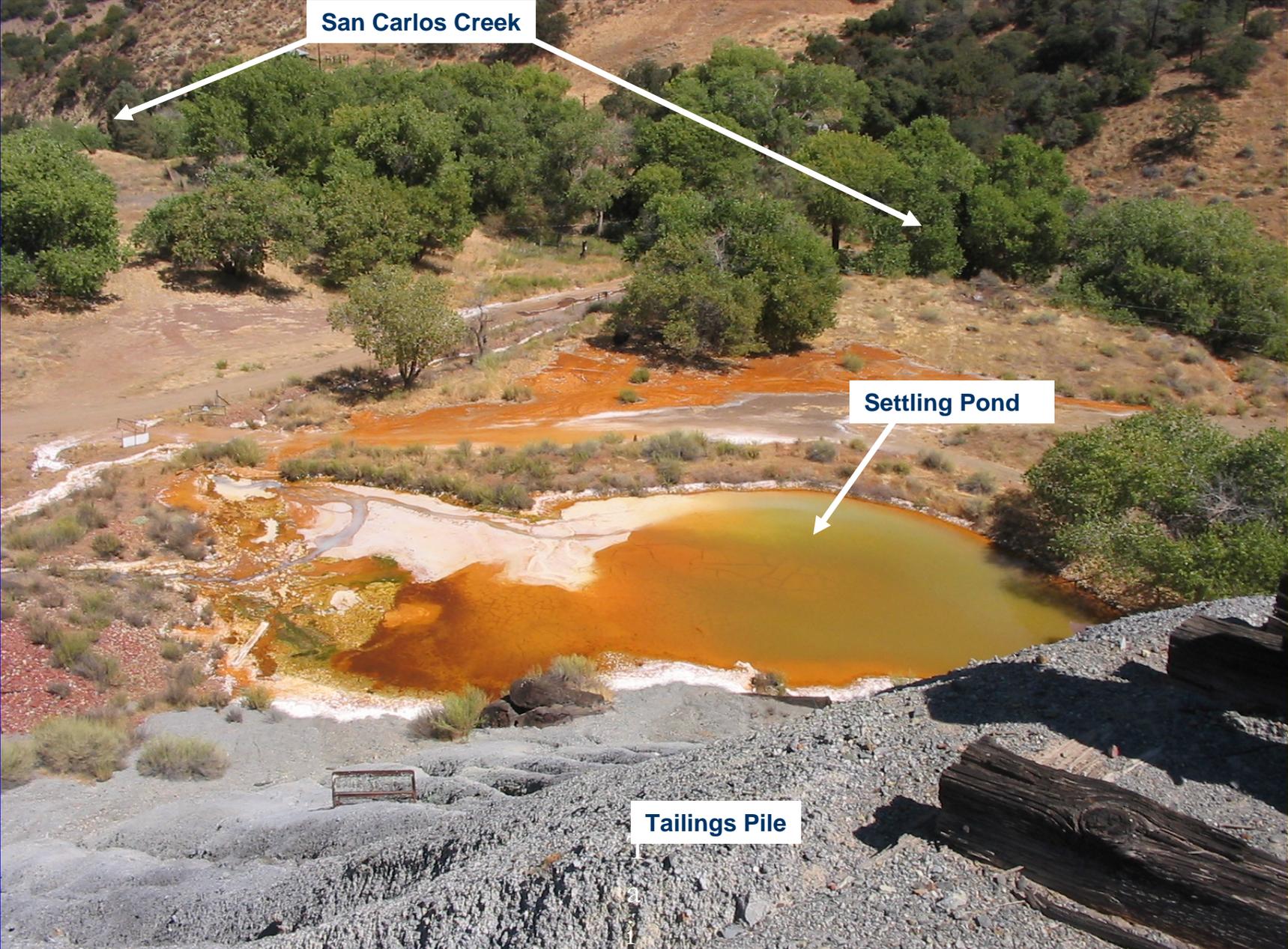
# Acid Mine Drainage

- Mine drainage pH 3.5 to 5.5 as it leaves the portal
- Drainage flows through tailings pile and into San Carlos Creek (pH ~ 9)
- Sudden increase in pH causes decreased solubility and precipitates metals, creek becomes discolored

# Discharge From Portal



Mine Portal



**San Carlos Creek**

**Settling Pond**

**Tailings Pile**

# San Carlos Creek

## Upstream of mine discharge



# San Carlos Creek

## Downstream from mine discharge



# San Carlos Creek

- San Carlos Creek discolored for about four miles, degraded for about five miles
- Drainage from the mine vicinity is ephemeral
- Drains from San Carlos Creek to Silver Creek to Panoche Creek to San Joaquin River, but only during infrequent, high-flow events



# Beneficial Uses

- Tulare Lake Basin Plan, Westside Stream
- Agricultural Supply, Wildlife and Ephemeral aquatic life
- Not Designated for Domestic or Municipal Supply



# Regulatory History

- WDRs Resolution No. 70-205
  - New Idria Mining and Chemical Co.
  - Mine closed in 1972
  - Order rescinded in 2007
- ACL issued in 1992 to Futures Foundation
  - Nonpayment of annual fees
  - Owner of surface rights, therefore not liable
  - ACL rescinded



# Regulatory History

- USEPA conducted a Preliminary Assessment and Site Investigation in 1997
  - Pursuant to placement on the Hazard Ranking System
  - Releases of mercury, nickel, zinc, iron, and sulfides to San Carlos Creek



# Summary

- Acid mine drainage from the abandoned New Idria Mine has degraded water quality in a five-mile segment of San Carlos Creek
- The impacted segment of San Carlos Creek is listed as a 303(d) impaired water body due to mercury, but unlikely to be a significant source of mercury downstream
- Impacts to beneficial uses in the creek appear to be limited in comparison to other impaired water bodies in the Region

# Questions?