

Lathrop Urban Drainage Study

Background and Study Design

Rachel Pisor, MWQI
4/21/09

Outline

- Background
- Lathrop's stormwater system
- Study design
 - Sampling Stations
 - River station sampling
 - Pumping station sampling
 - Constituents of Concern
 - GIS analysis

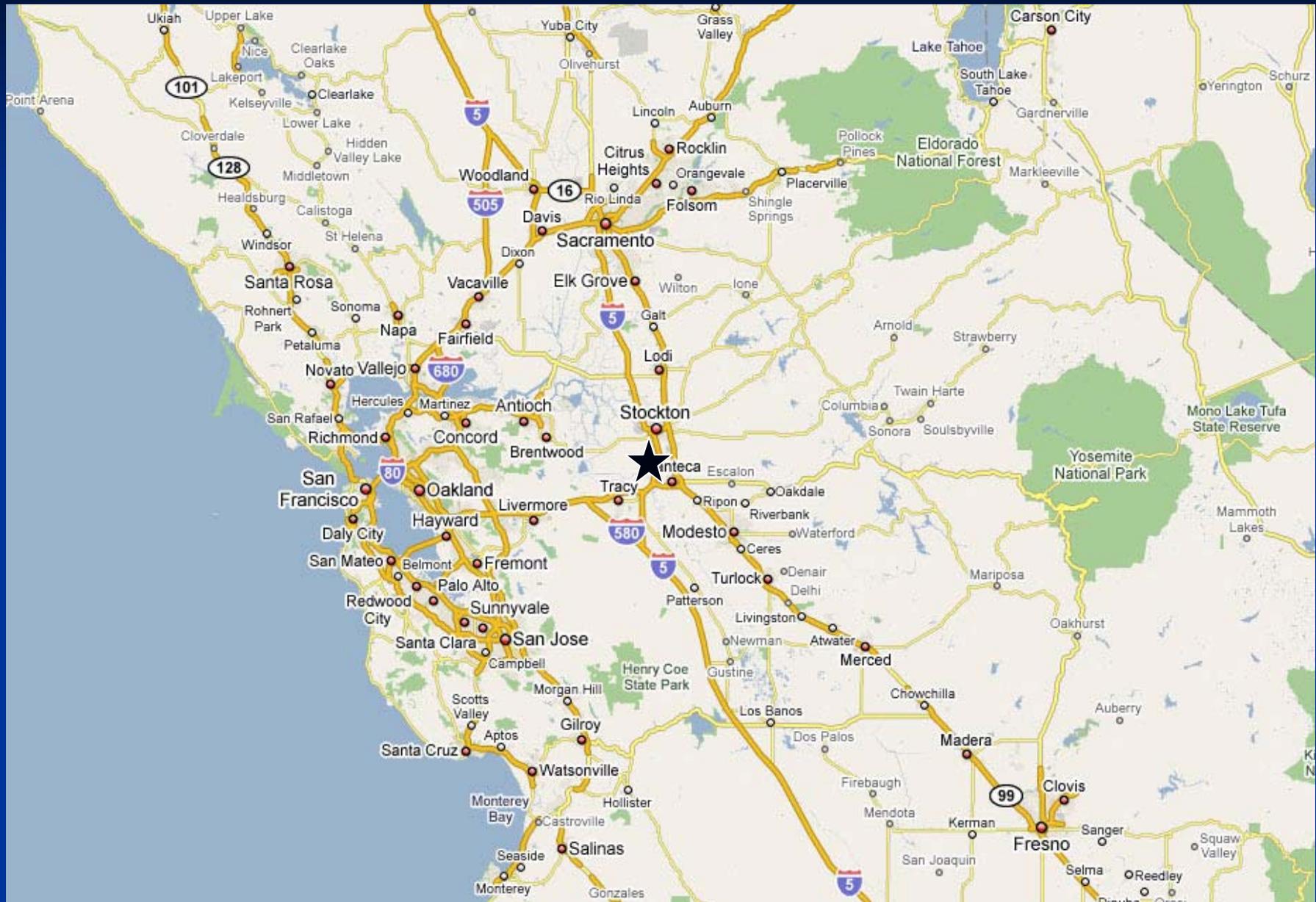
Background

- Urban growth will continue in the Delta
- Potential significant impacts to drinking water quality from
 - Increased contaminant loads
 - Increased impervious cover

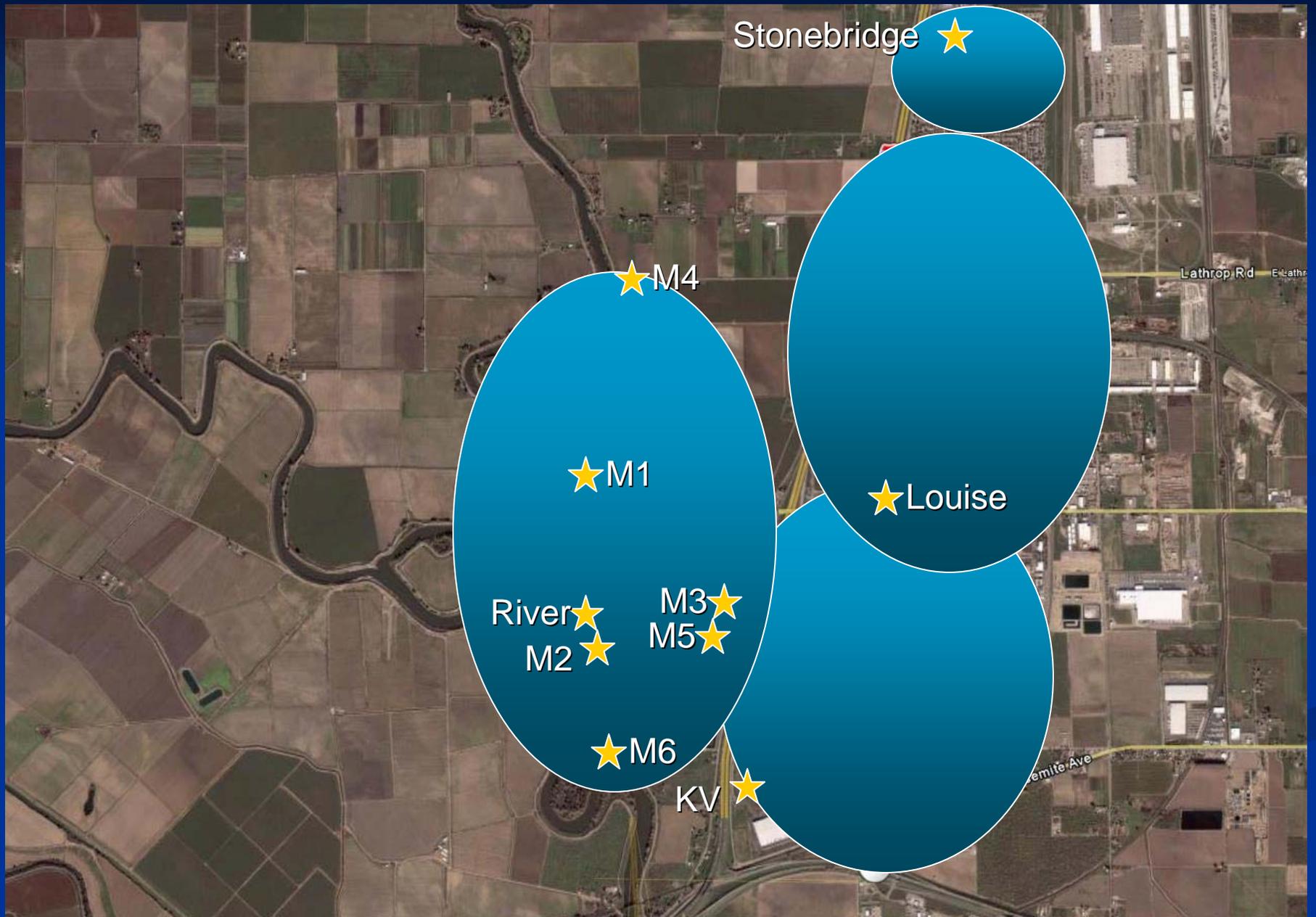
Background

- We are shifting our focus of urban studies from the Sacramento to the San Joaquin River watershed
- Lathrop is the best choice for a water quality study in the San Joaquin River watershed
 - Rapidly growing area
 - Covered under the NPDES Phase II general permit
 - Excellent opportunity to develop a baseline

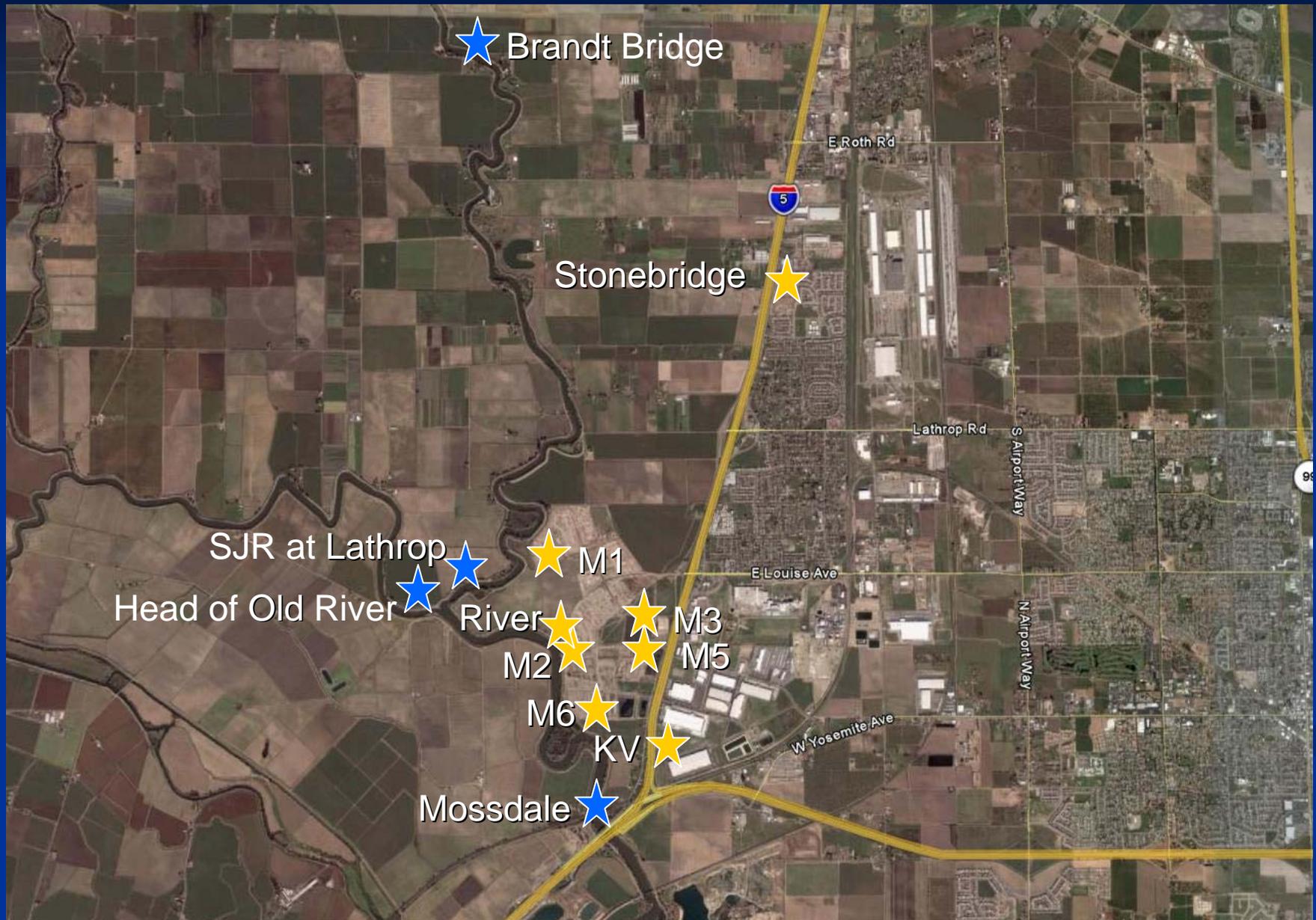
Map of the Greater Study Area



Map of Lathrop's Storm Drain System



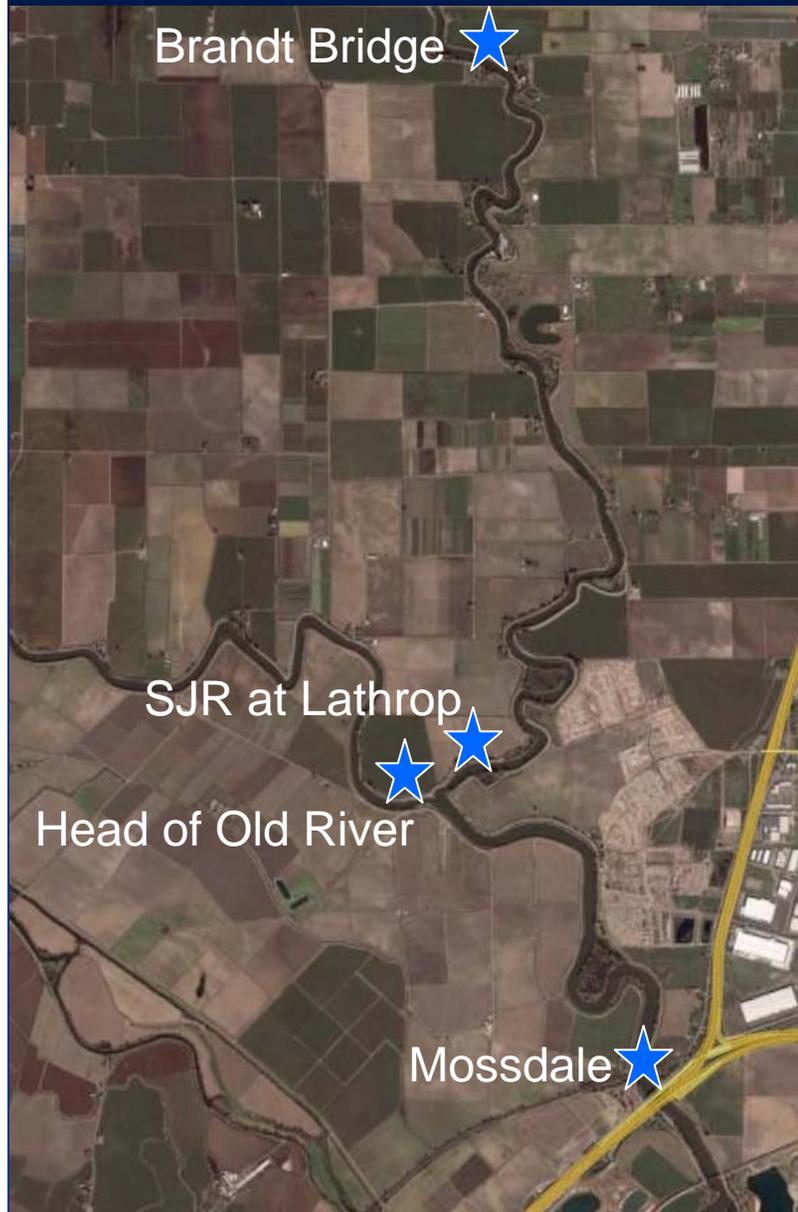
Map of sampling stations



Autosampler Stations

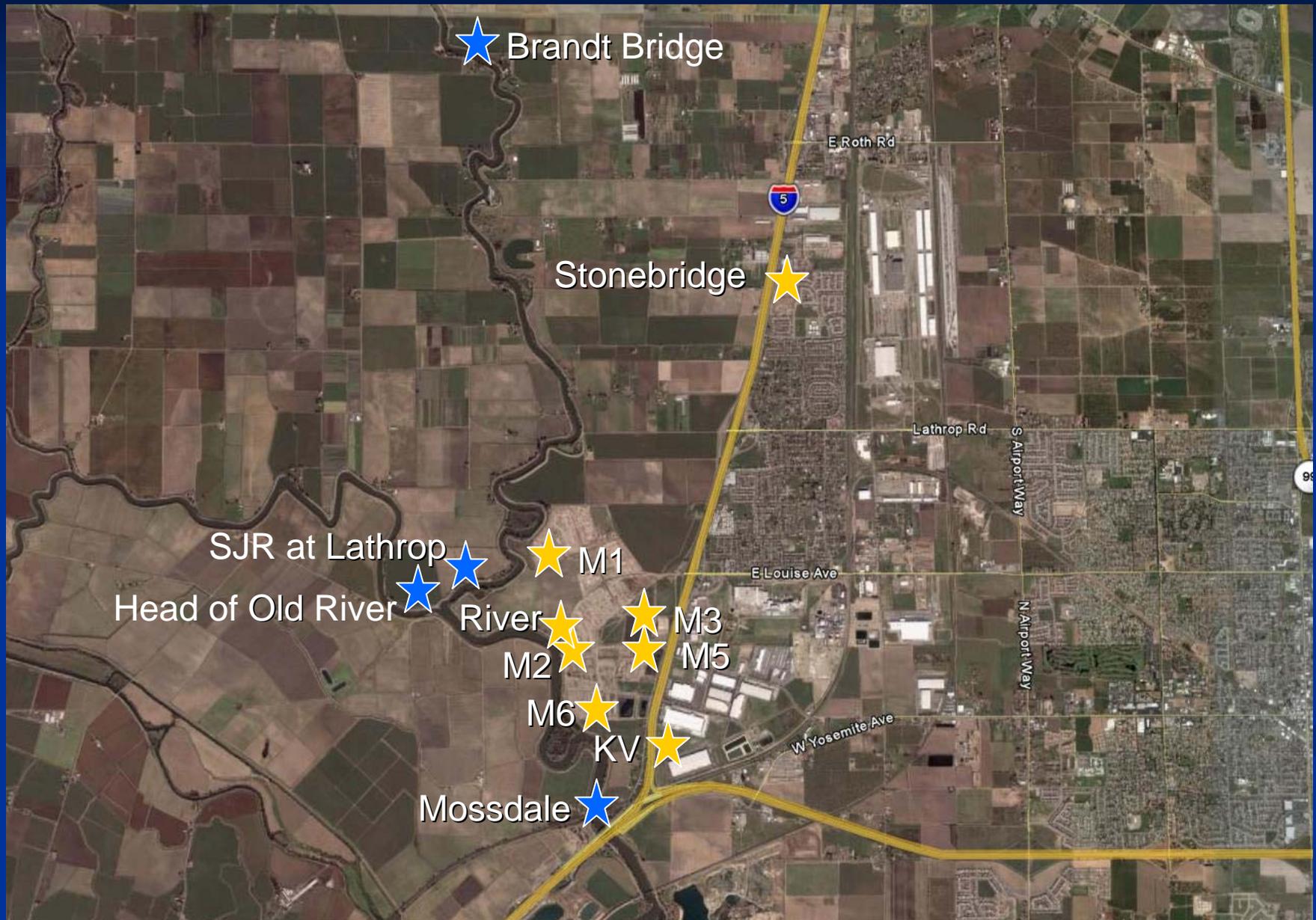


River stations



- Sites were chosen to bracket the study area
 - Flow data is available
- The San Joaquin River in the study area is tidally influenced
 - Tides will influence the order of sampling
 - The first station of the run will be used as the background water quality condition

Map of sampling stations



Constituents

- Minerals
 - Calcium, magnesium, sodium, potassium, alkalinity, sulfate, chloride, boron
- Metals
 - Aluminum, arsenic, cadmium, chromium, copper, iron, lead, mercury, nickel, selenium, silver, thallium, zinc
- Organic Carbon
 - Total and dissolved

Constituents

- Bacteria
 - Total and fecal coliforms
- Turbidity
- Total dissolved and suspended solids
- Total trihalomethane formation potential
- Pesticides
 - Chlorpyrifos, diazinon, malathion, atrazine, cyanazine, prometryn, simazine

GIS Analysis

- A GIS analysis will be developed to assess current land use patterns in Lathrop
- Urban growth in this area has caused much agricultural land to be converted to urban and this will continue
- This baseline of land use conditions will be used in future analyses of land use and water quality

A wide, calm river flows through a landscape. In the foreground, a rocky bank with large, grey and brown stones slopes down towards the water. The river's surface is still, reflecting the overcast sky. On the left side, a concrete dam structure is visible, extending into the distance. The right bank is a steep, grassy embankment. The overall scene is quiet and somewhat hazy, suggesting an overcast day.

Questions?