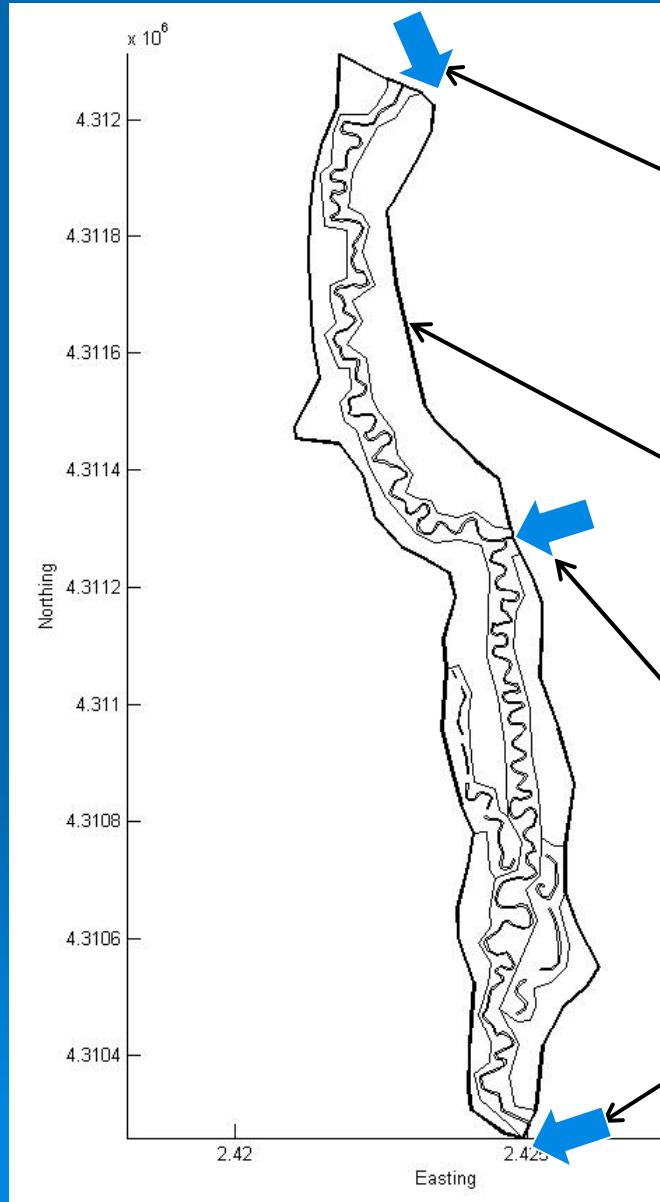


Boundary Conditions

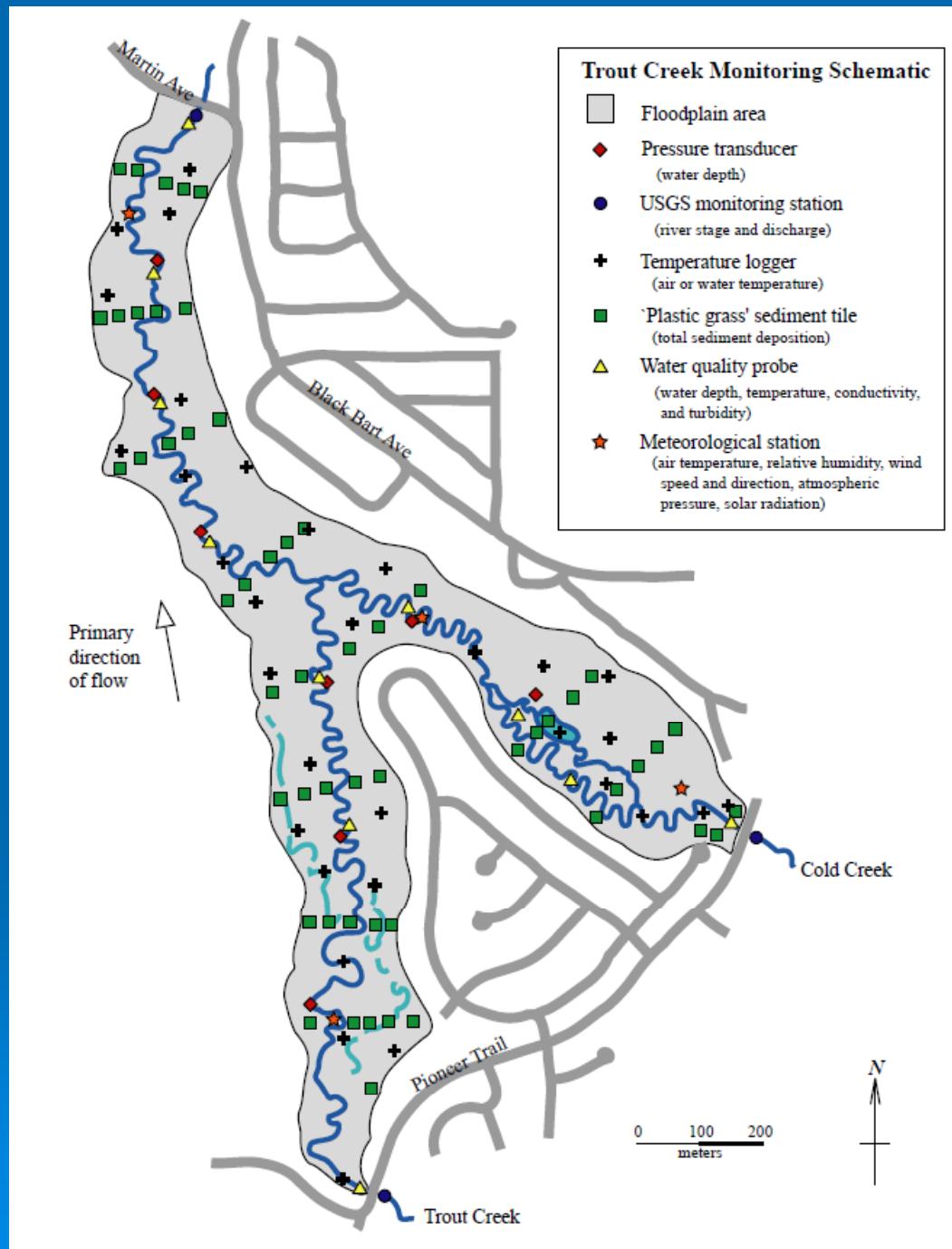


Prescribe water depth leaving

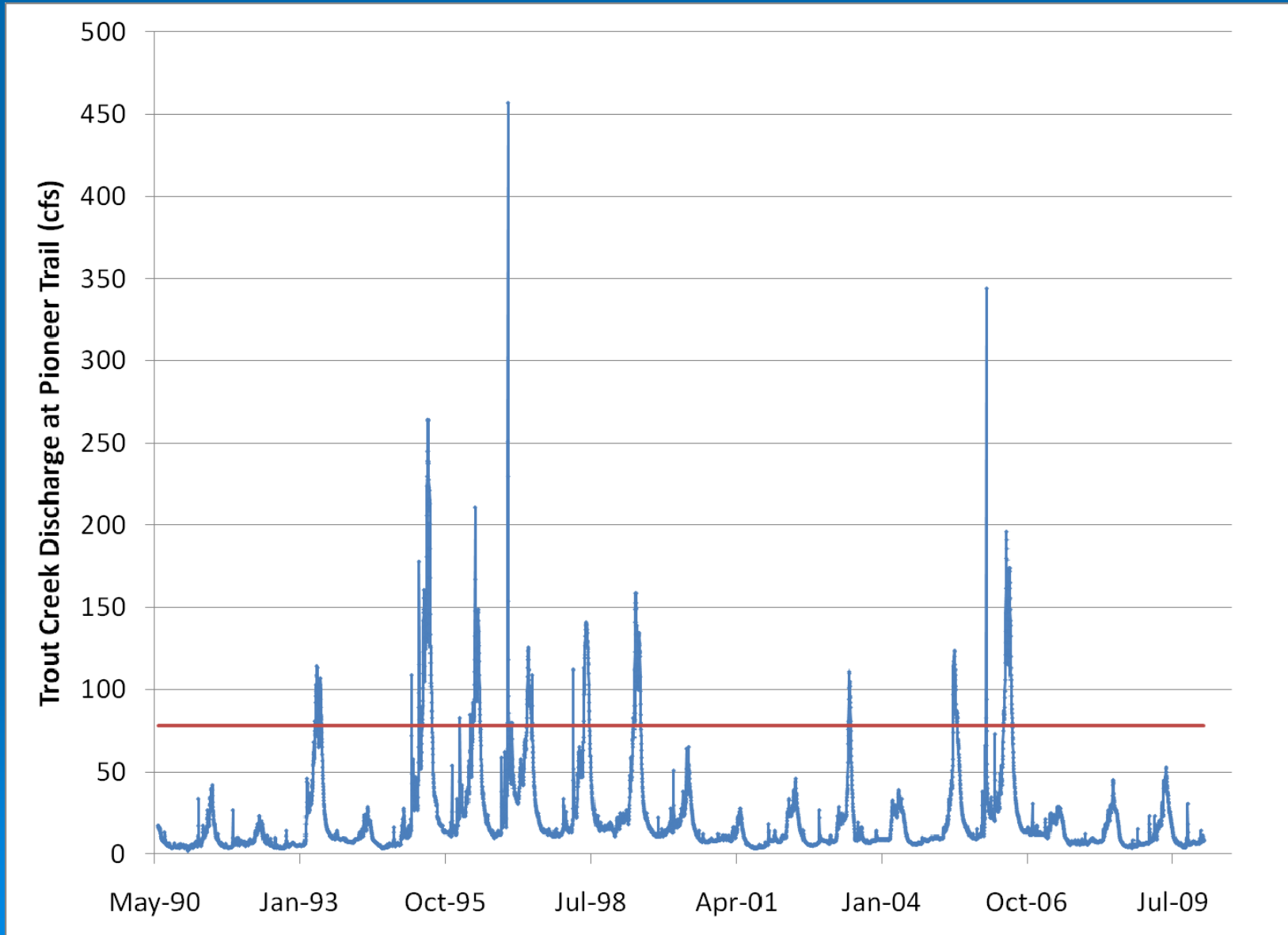
No flow boundary

Prescribe flow and suspended sediment concentration entering

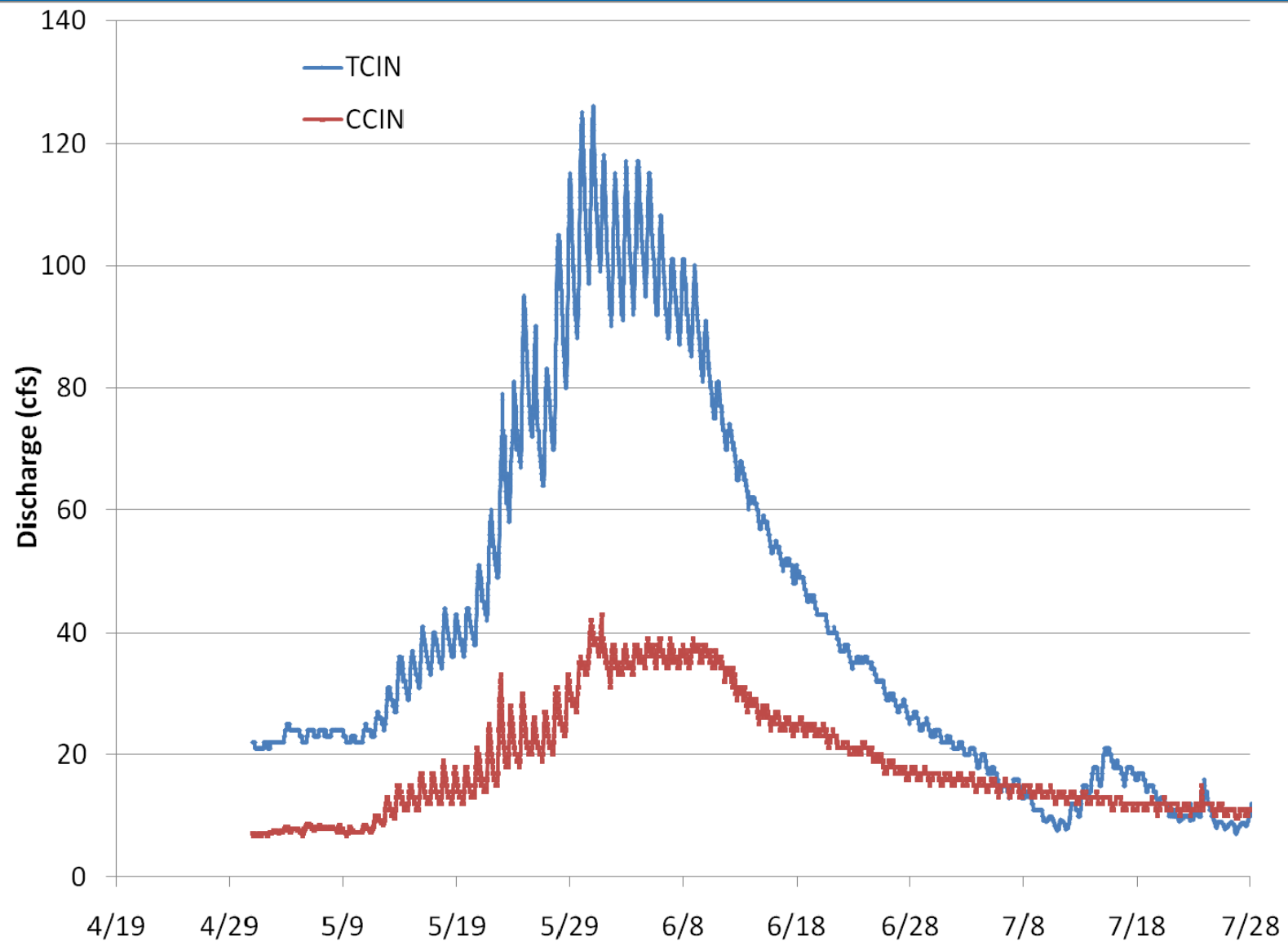
Monitoring Network



Trout Creek Discharge Record

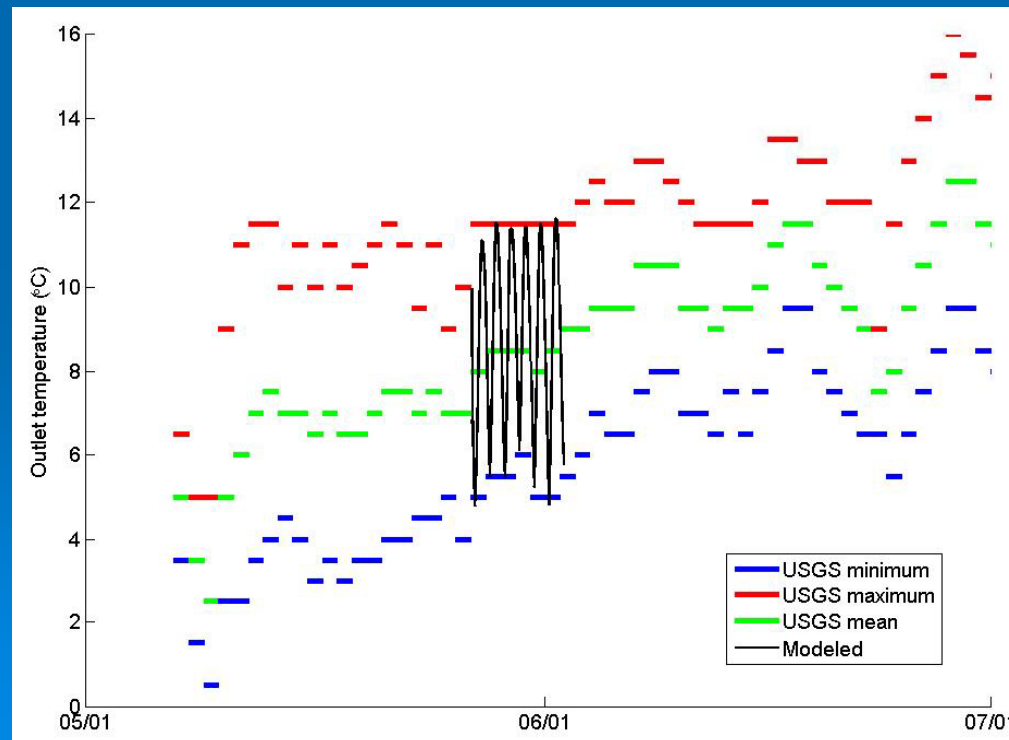


Spring 2003 Flooding



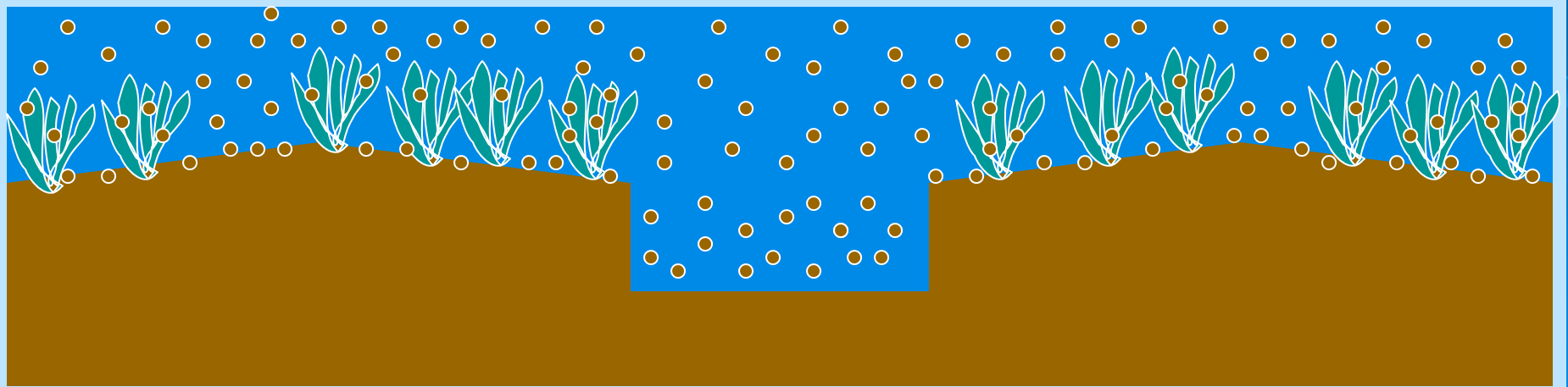
Model Calibration

- Incipient flooding at correct discharge
- Outlet water velocities
- Evapotranspiration + infiltration
- Outlet water temperatures



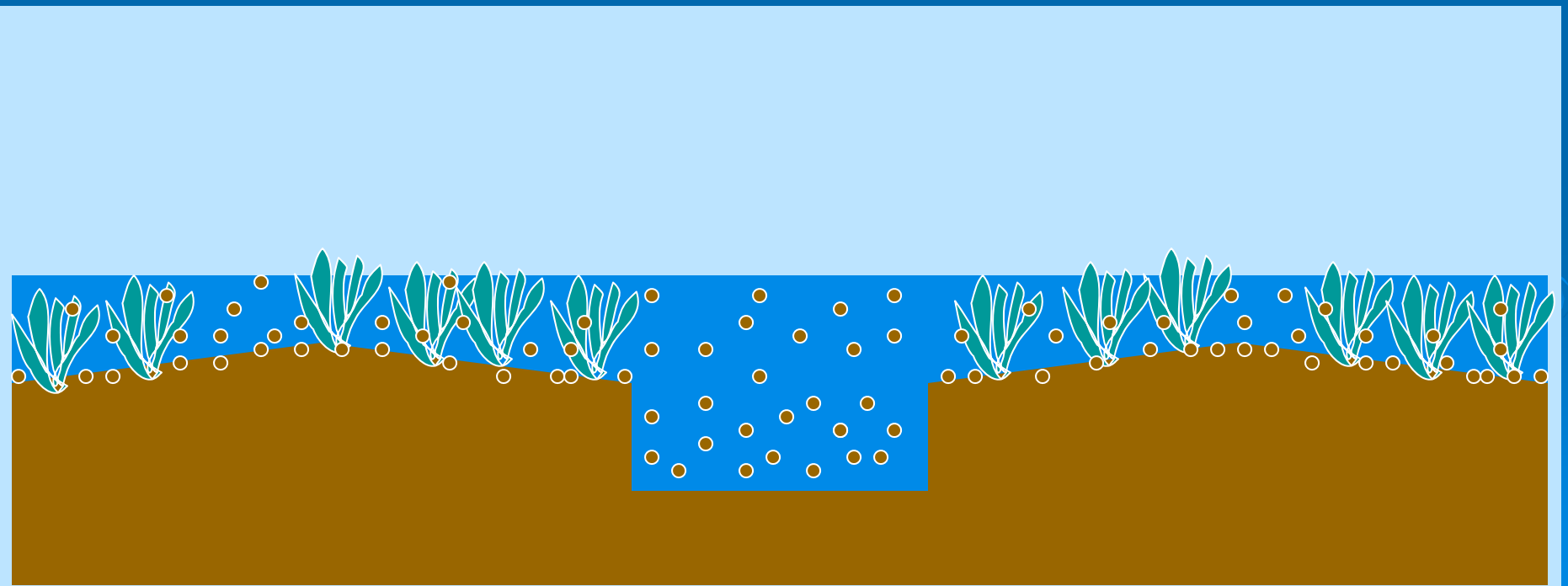
Fine Sediment Removal Mechanisms

1. Settling
2. Removal from impaction on submerged vegetation



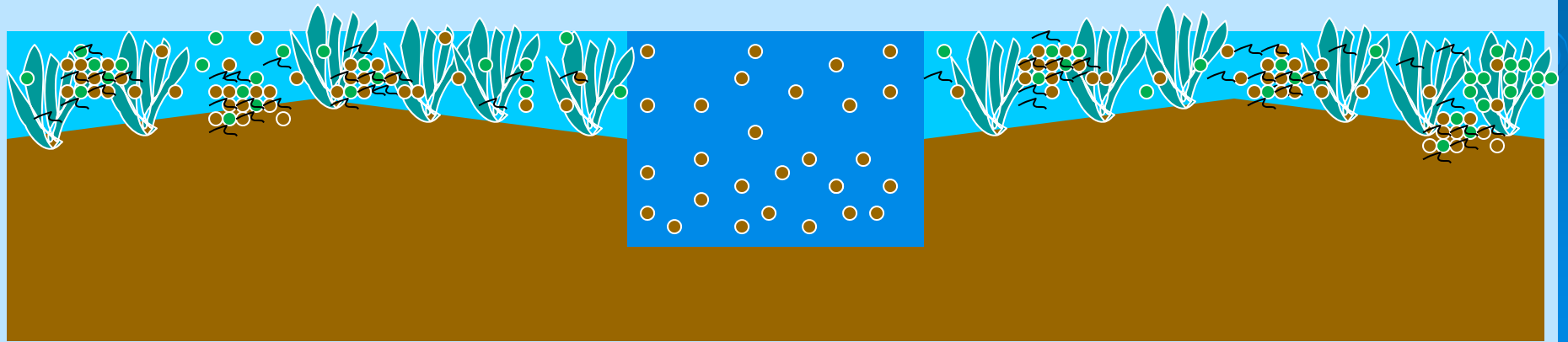
Fine Sediment Removal Mechanisms

1. Settling
2. Removal from impaction on submerged vegetation
3. Stranding from infiltration + evapo-transpiration

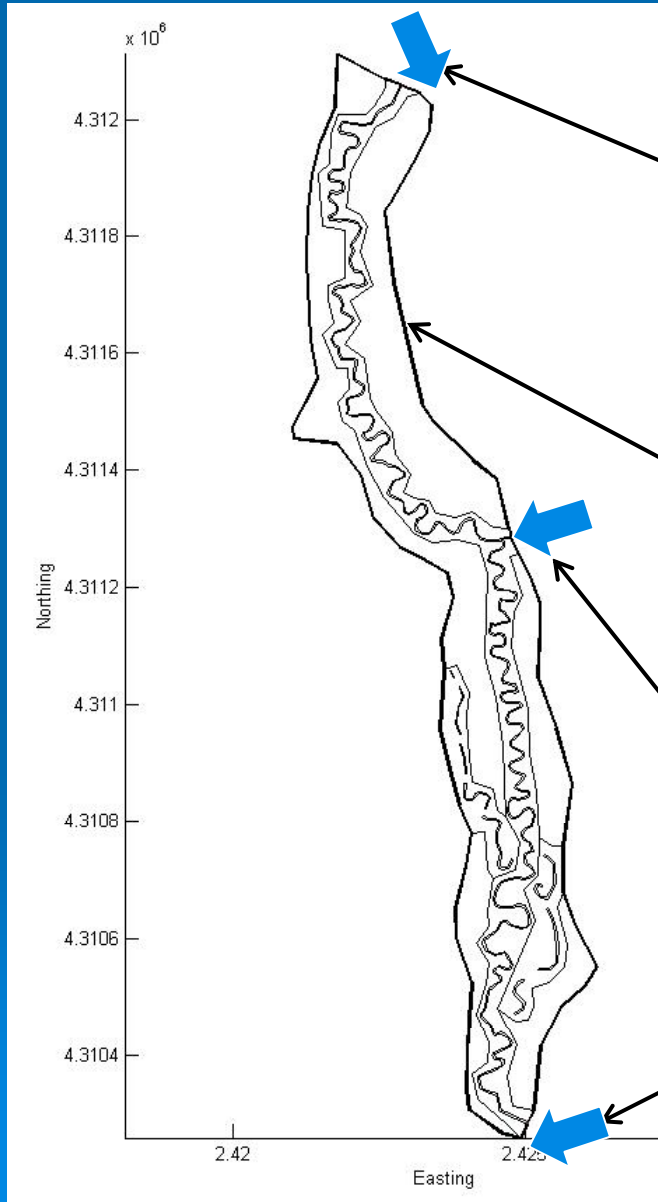


Fine Sediment Removal Mechanisms

1. Settling
2. Removal from impaction on submerged vegetation
3. Stranding from infiltration + evapo-transpiration
4. Flocculation



Boundary Conditions

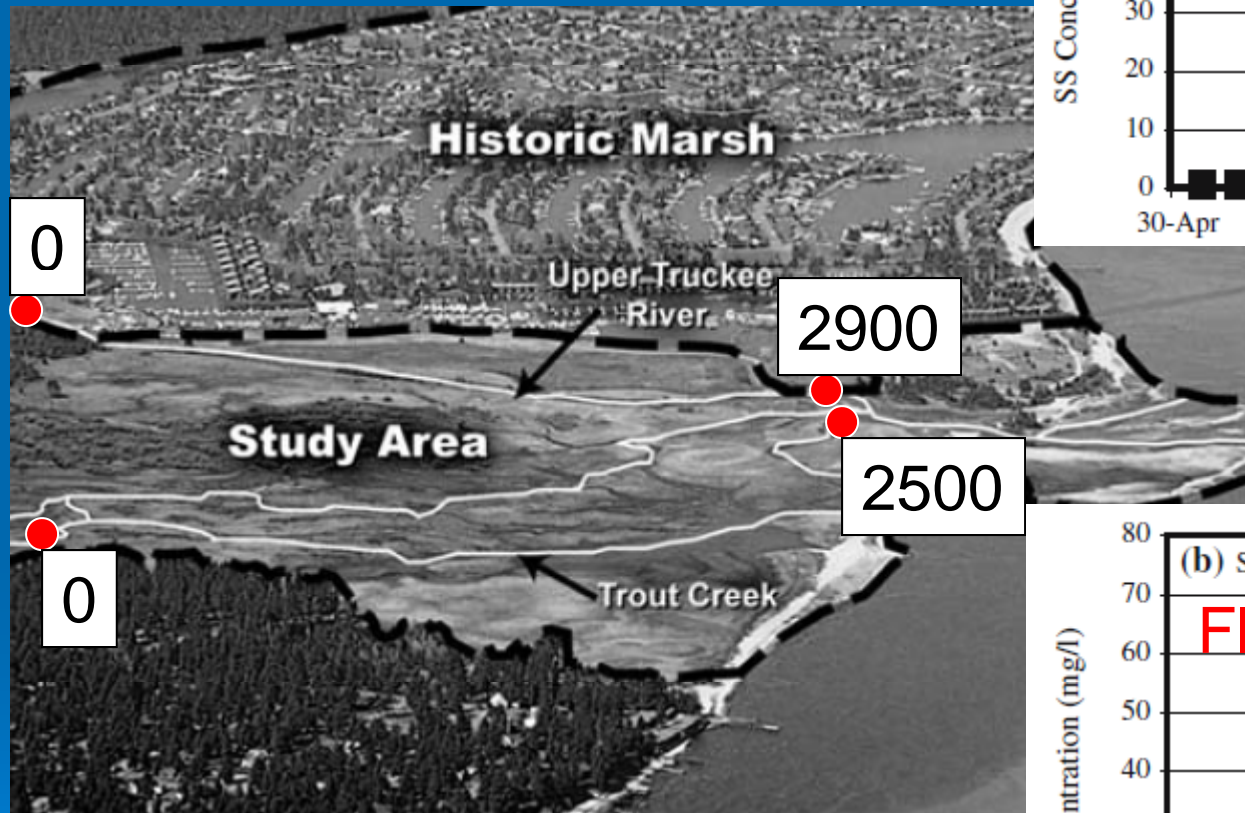


Prescribe water depth leaving
No data on suspended
sediment leaving

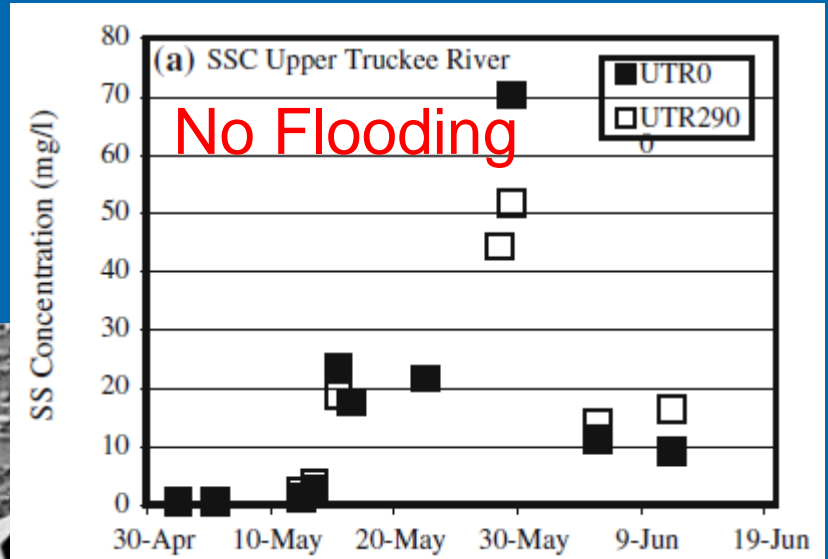
No flow boundary

Prescribe flow and suspended
sediment concentration entering
(USGS and LTIMP)

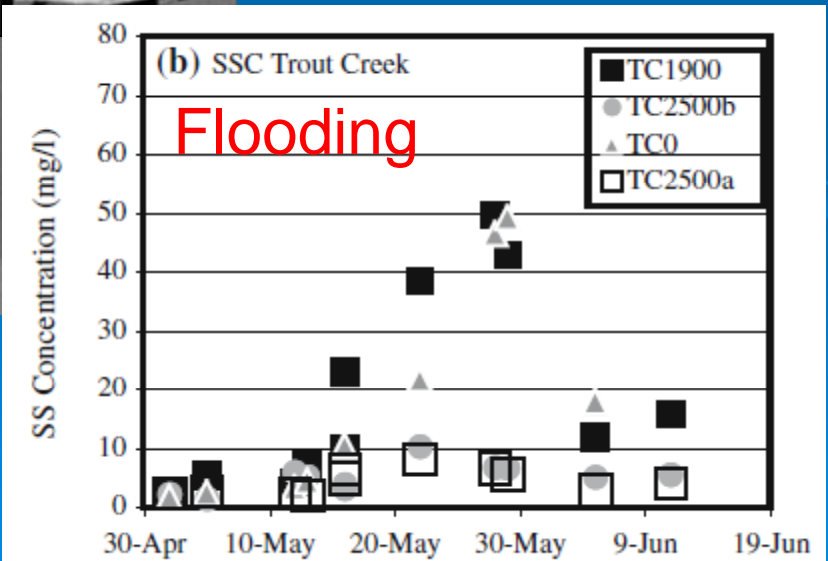
Stubblefield et al. Study



Fine particles retained with the same efficiency as total SS



Spring 03 snowmelt

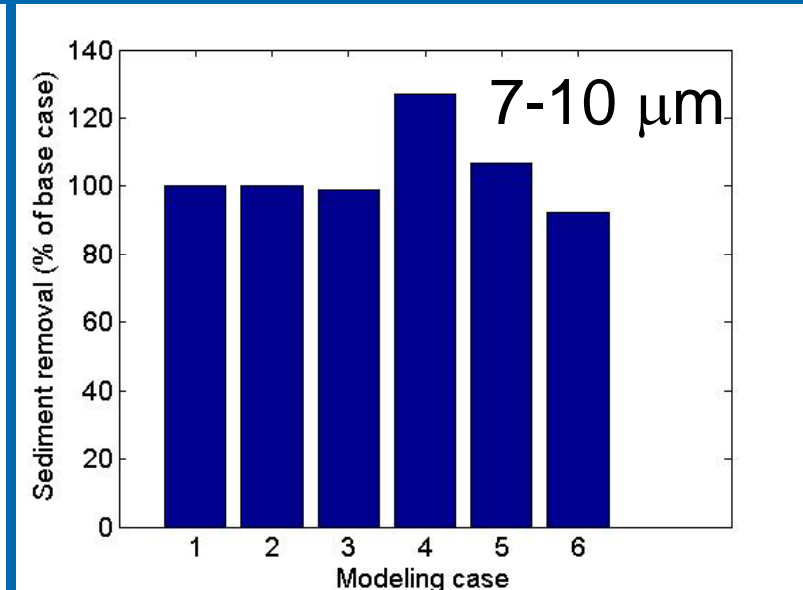
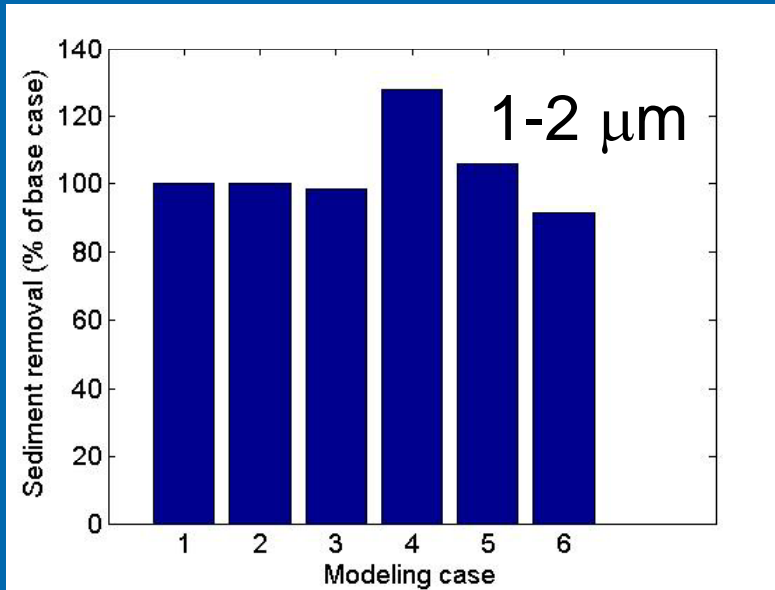


Modeling Cases

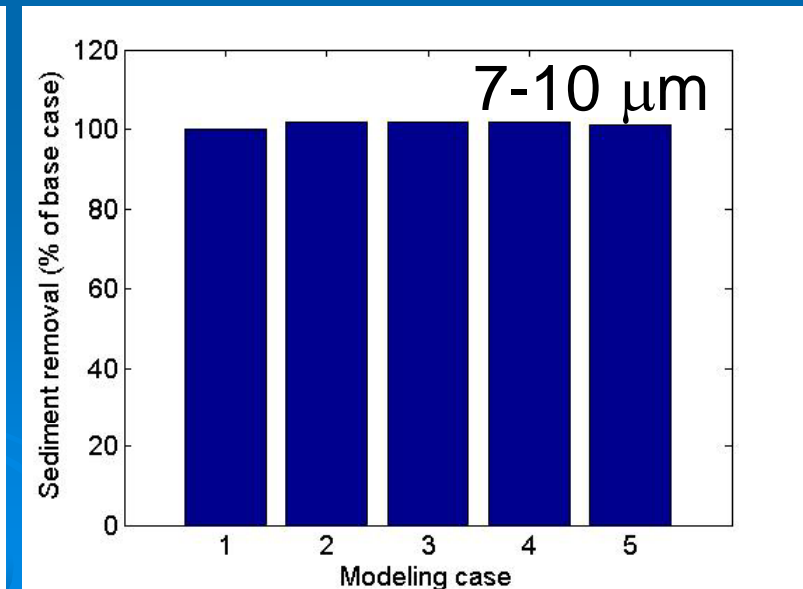
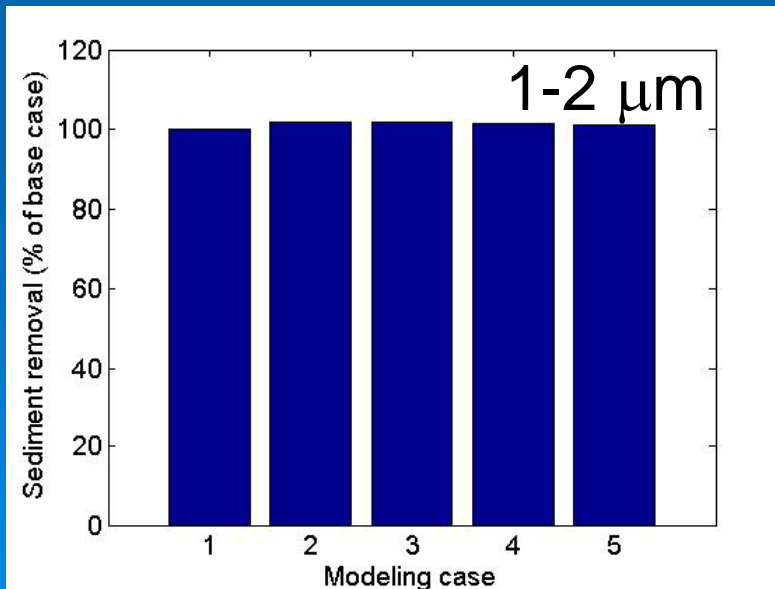
- 1. Base case
- Vegetation changes
 - 2. All grass floodplain
 - 3. All willows floodplain
- Topographic changes
 - 4. Check dam downstream of confluence
 - 5. Check dam upstream of confluence
 - 6. Cross-floodplain berm downstream of confluence

Results

Spring
2003
Snow-
melt:
Peak =
150 cfs



New
Year's
Eve
2005
Peak =
450 cfs



Review: Monitoring Data Needs

- Help from the weather
- Measurements of fine sediment discharges into floodplain and sediment out (turbidity sensors)
- Future studies will take advantage of lidar data



Acknowledgements

- Funding – CTC, SNPLMA Round 8
- Field site introduction – Scott Carroll, Cyndie Walck, Virginia Mahacek

