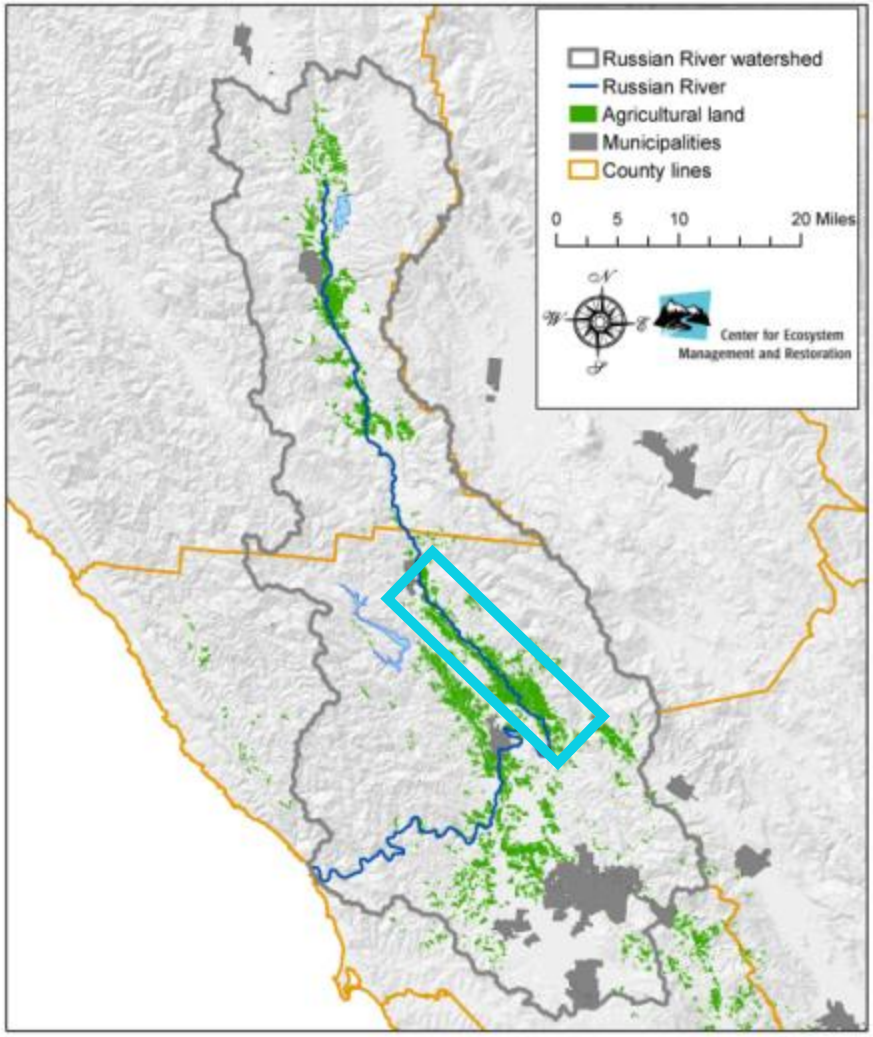
Frost Protection monitoring, Russian River Property Owners Association: Actions in 2009

Photo courtesy of the Sotoyome Resource Conservation District

Russian River Property Owners Association: Grape growers in Alexander Valley, Sonoma County

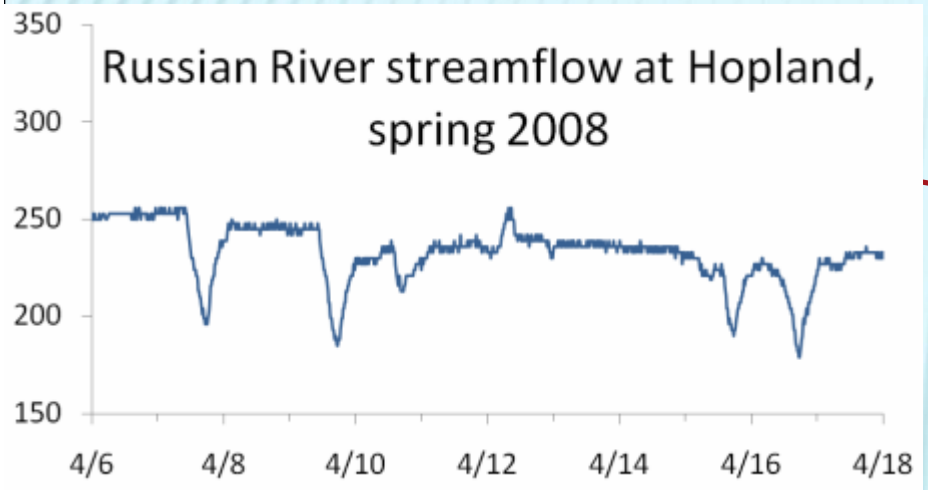


Grape growers need water for frost protection;

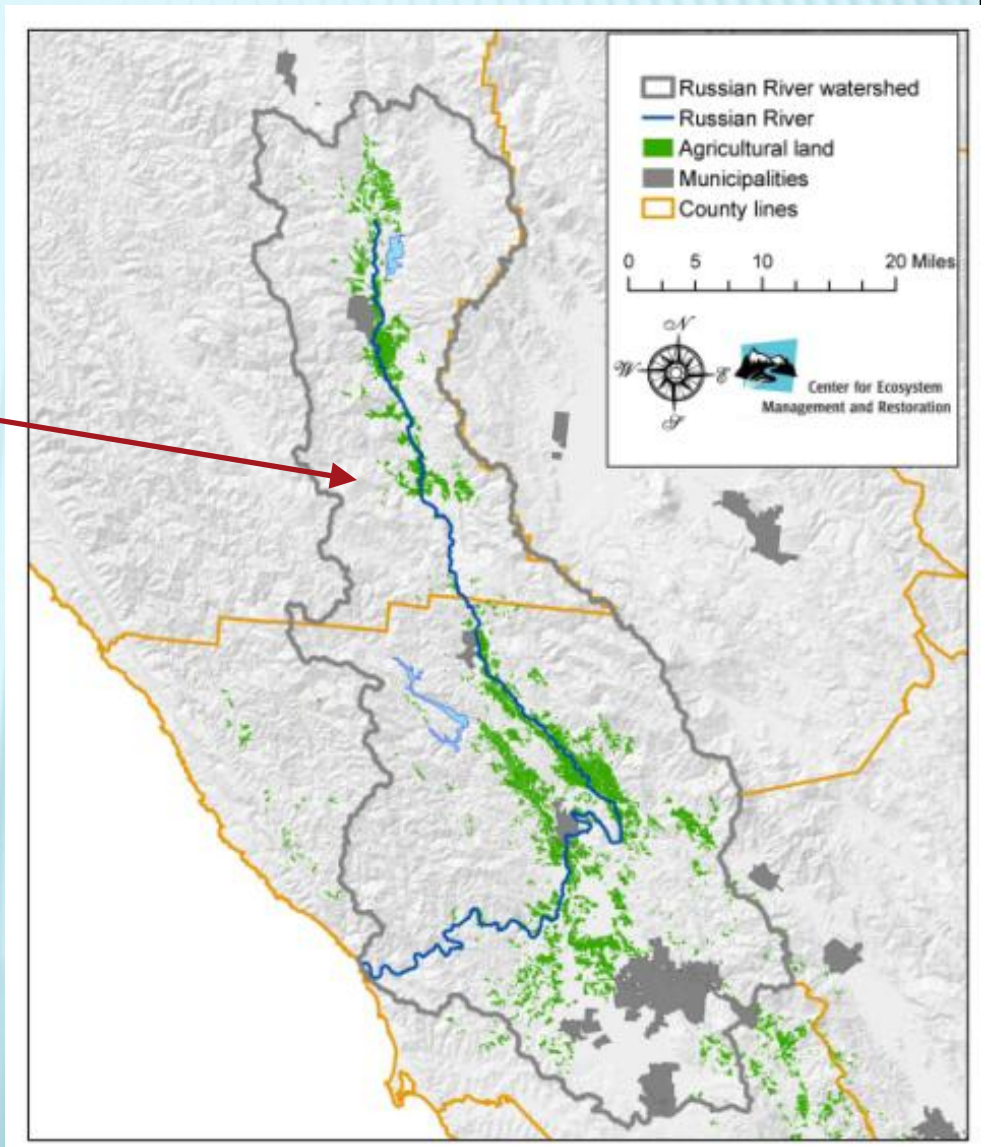
How does obtaining water affect streamflow?

Question posed by Russian River Property Owners:

If diversions harm fish upstream…

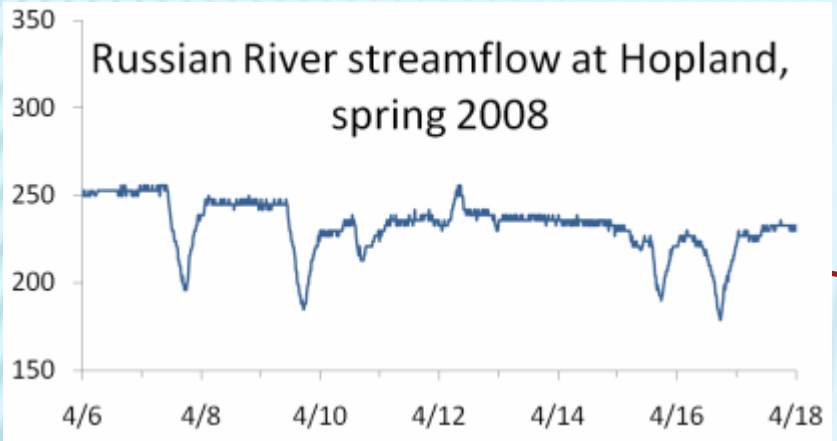


(And similar patterns alleged in tributaries)

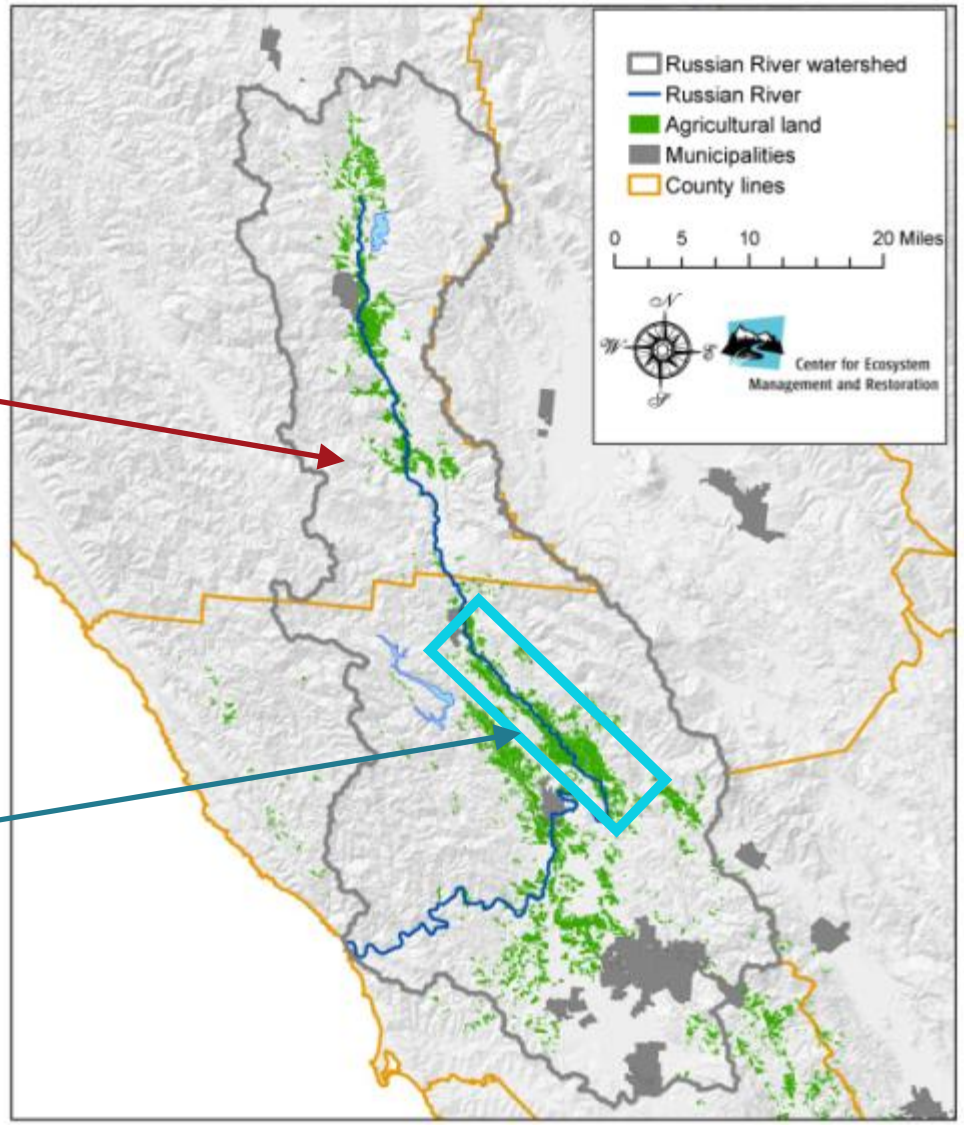


Question posed by Russian River Property Owners:

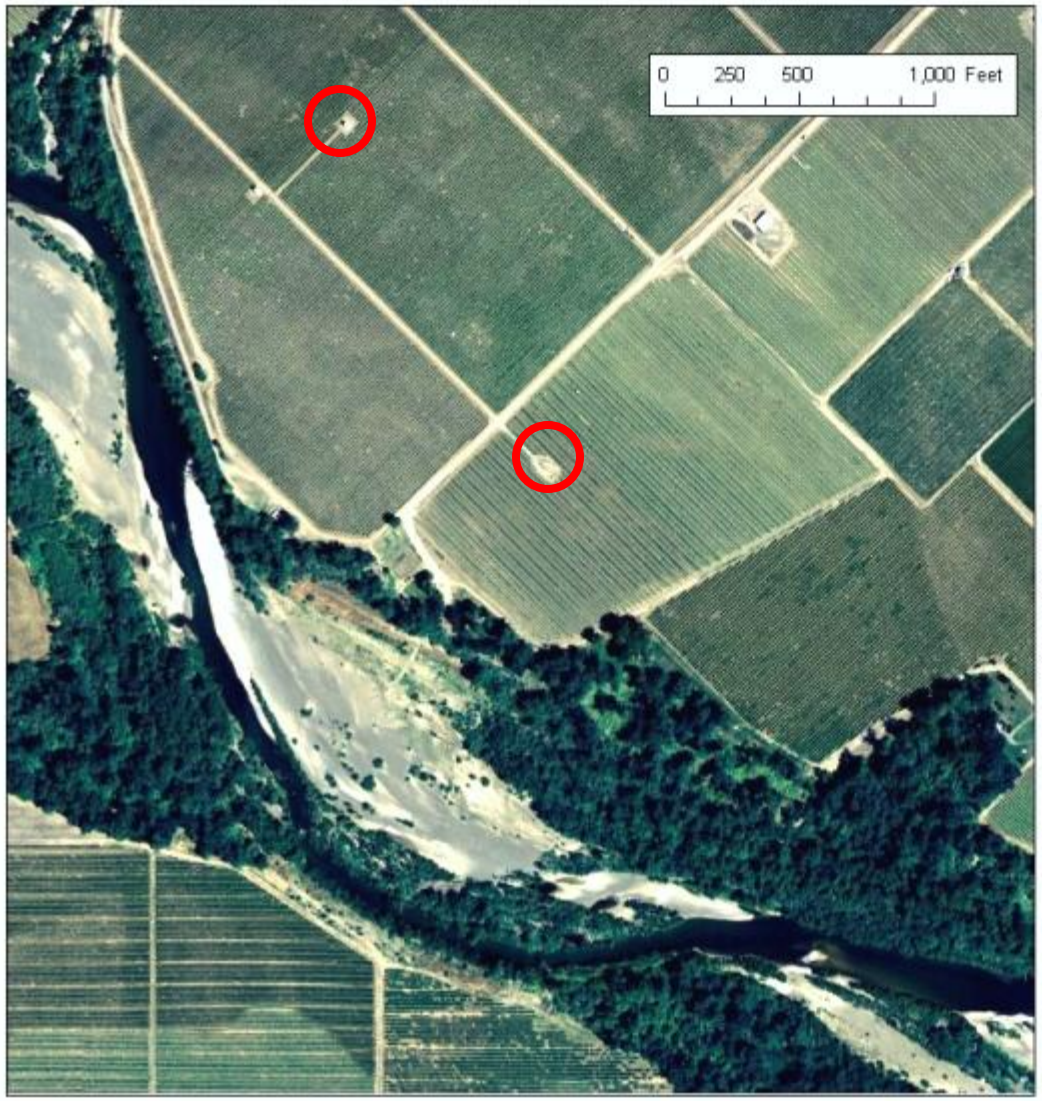
Do we make this worse?



What about in Alexander Valley?



Different method of acquiring water: (close-up, in Alexander Valley)

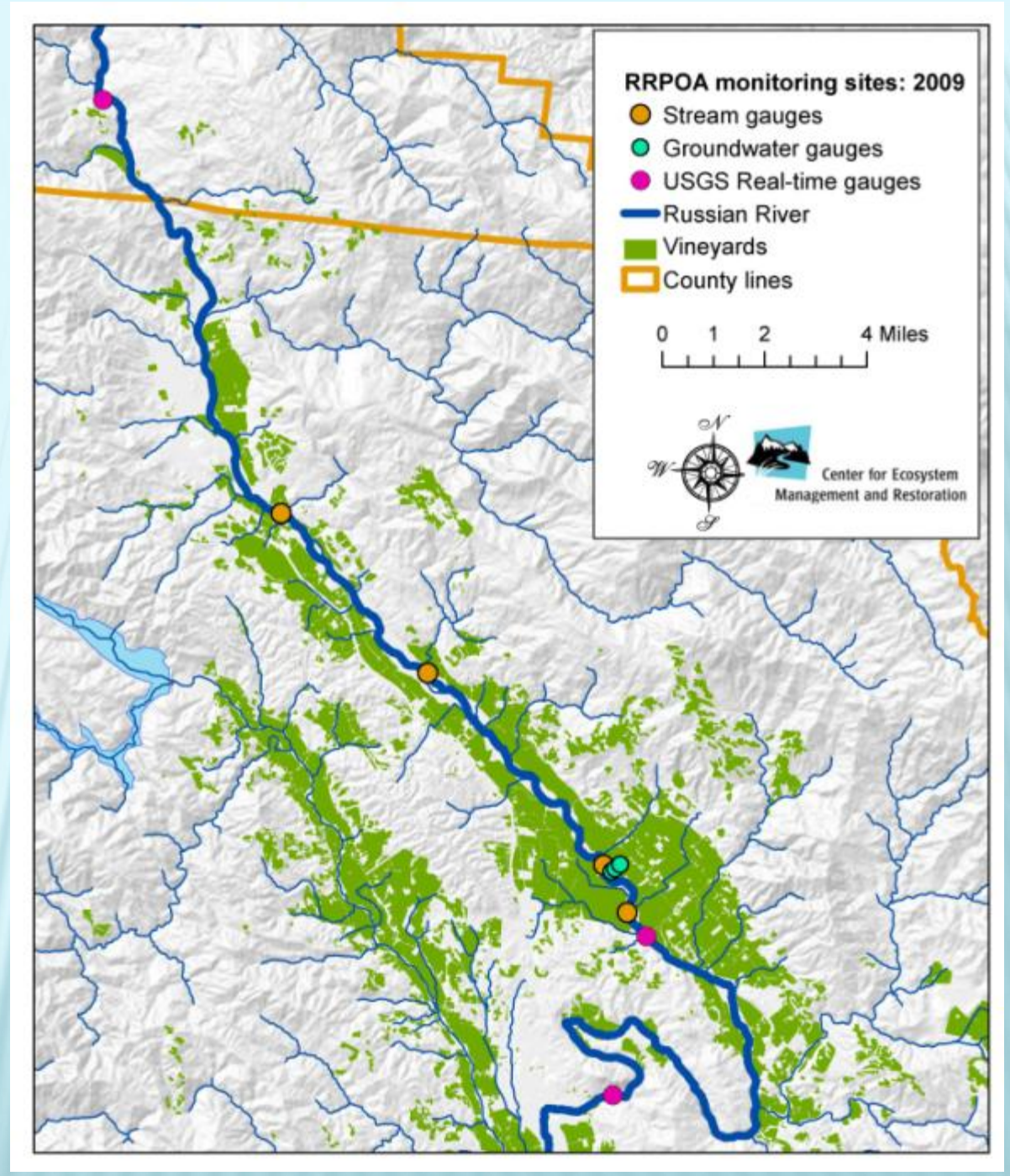


Groundwater wells hundreds of feet from the river.

We installed pressure transducers to answer this question.

4 in mainstem Russian;

3 in adjacent aquifer.



We installed pressure transducers to answer this question.

4 in mainstem Russian;

3 in adjacent aquifer.

Pressure transducers were encased in plastic housing and deployed in the field beginning March 2009.

Photos courtesy of the Sotoyome Resource Conservation District

We measured streamflow every three weeks to develop rating curves and streamflow records: March through October 2009.

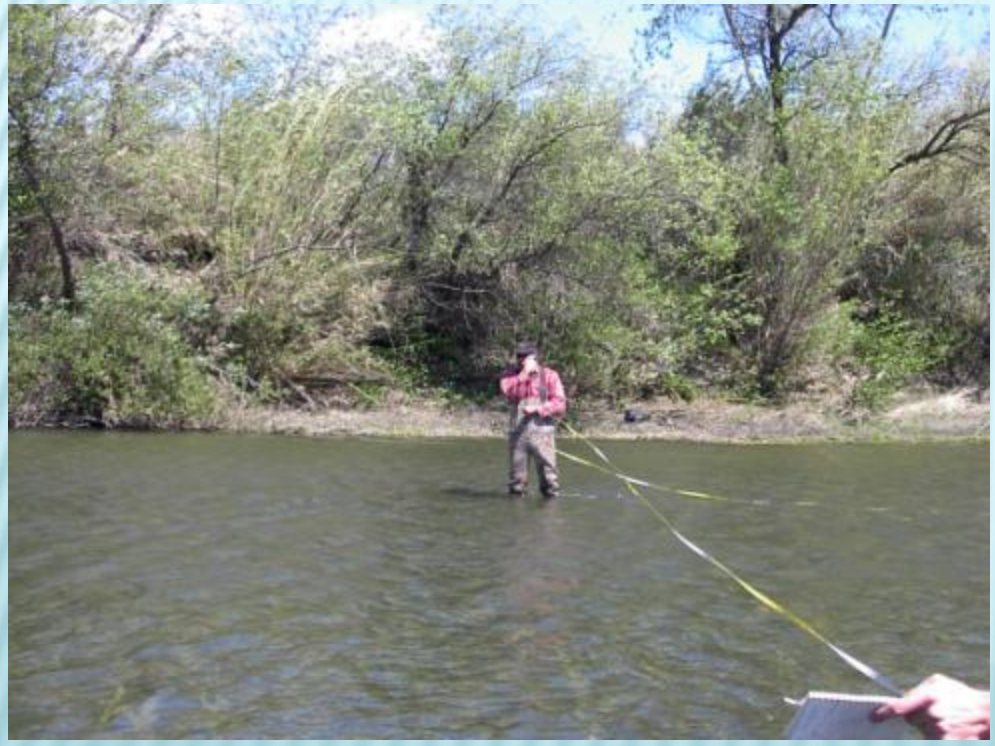
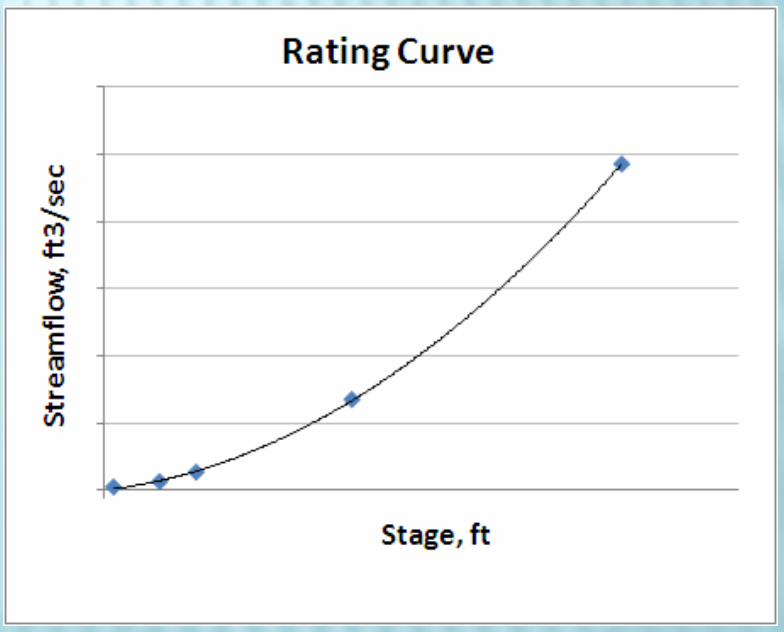
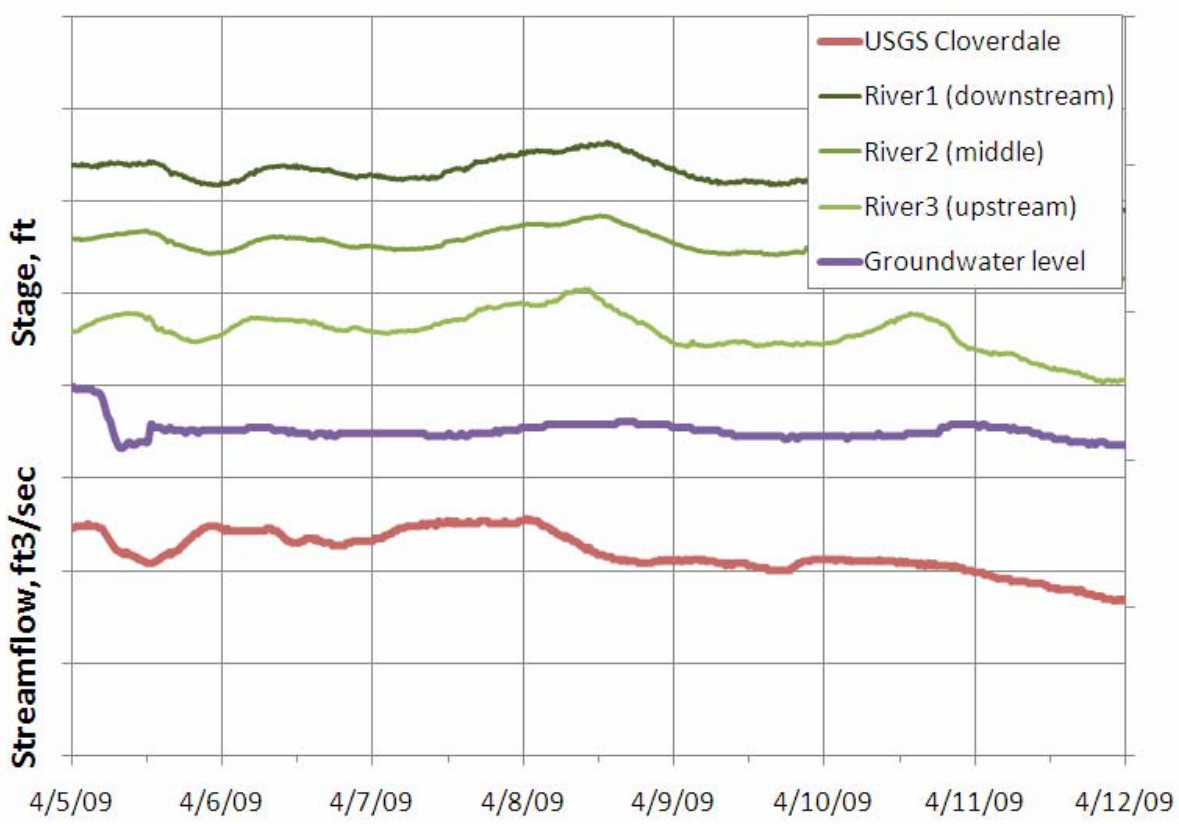


Photo courtesy of the Sotoyome Resource Conservation District

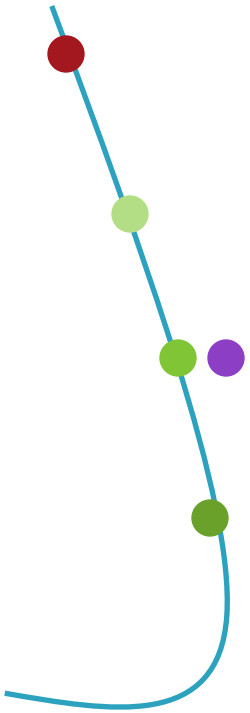


Our results so far:

•Streamflow recession in Alexander Valley does not occur simultaneous with groundwater pumping

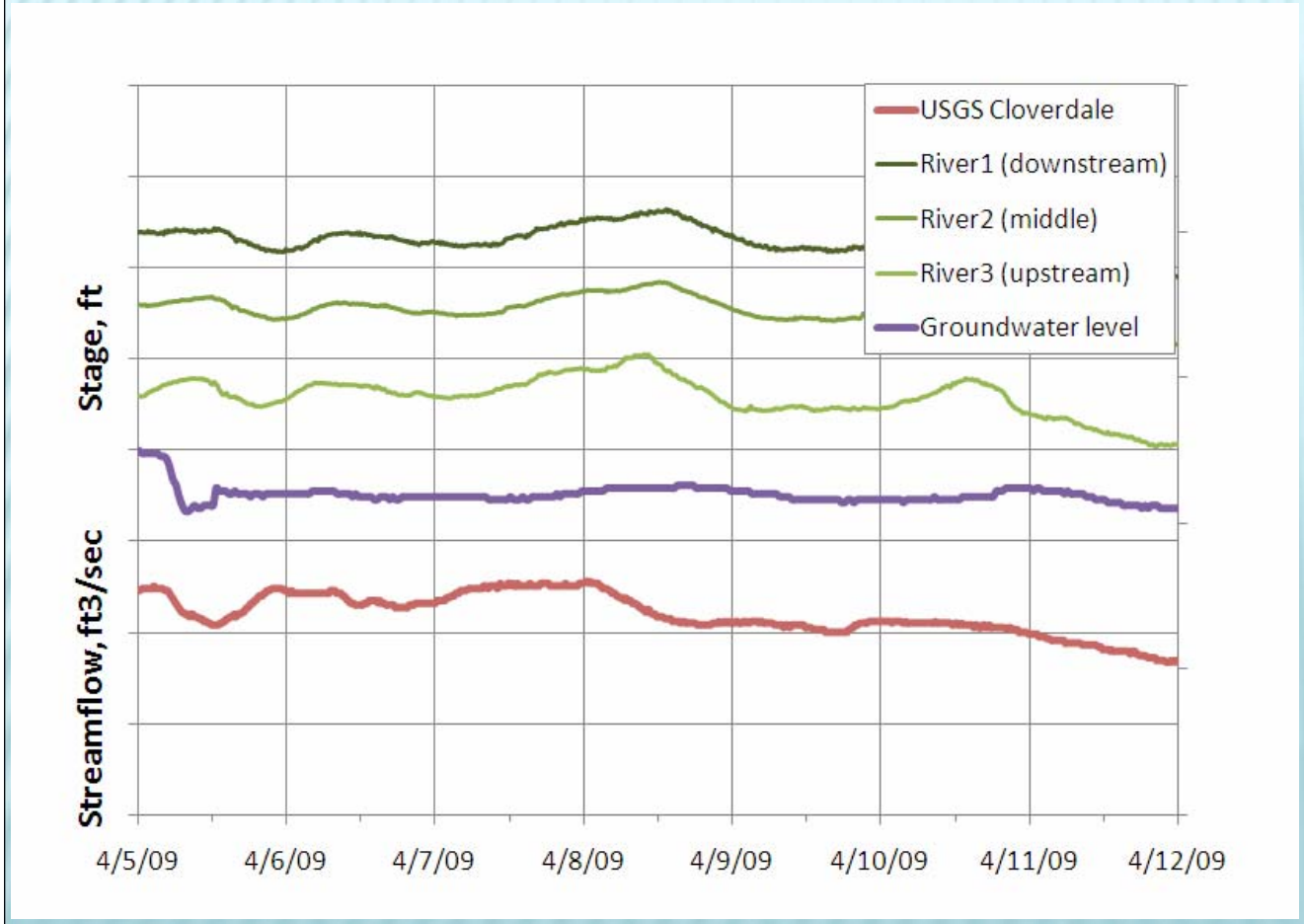


Russian River diagram:

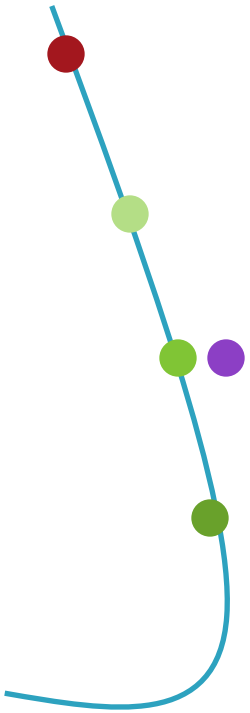


Our results so far:

- Streamflow recession in Alexander Valley does not occur simultaneous with groundwater pumping
- Groundwater level drops simultaneous with groundwater pumping,.

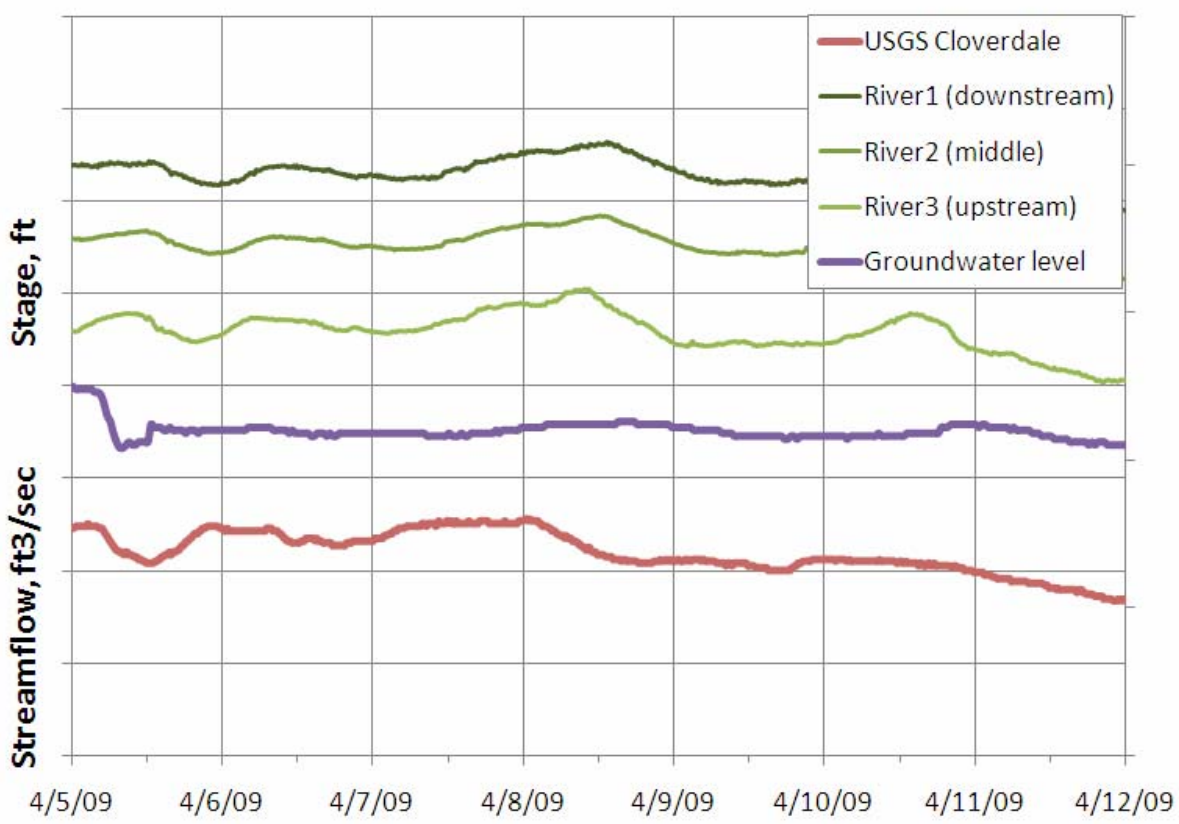


Russian River diagram:

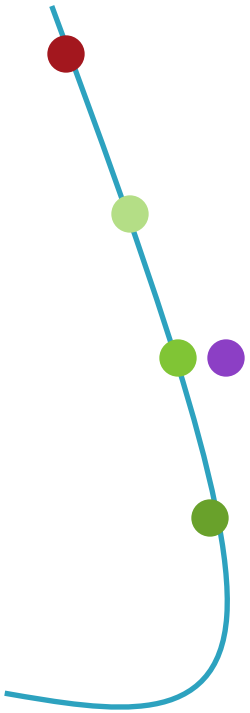


Our results so far:

- Streamflow recession in Alexander Valley does not occur simultaneous with groundwater pumping
- Groundwater levels drop simultaneous with groundwater pumping,.
- Time lag from streamflow recession increases through Alexander Valley

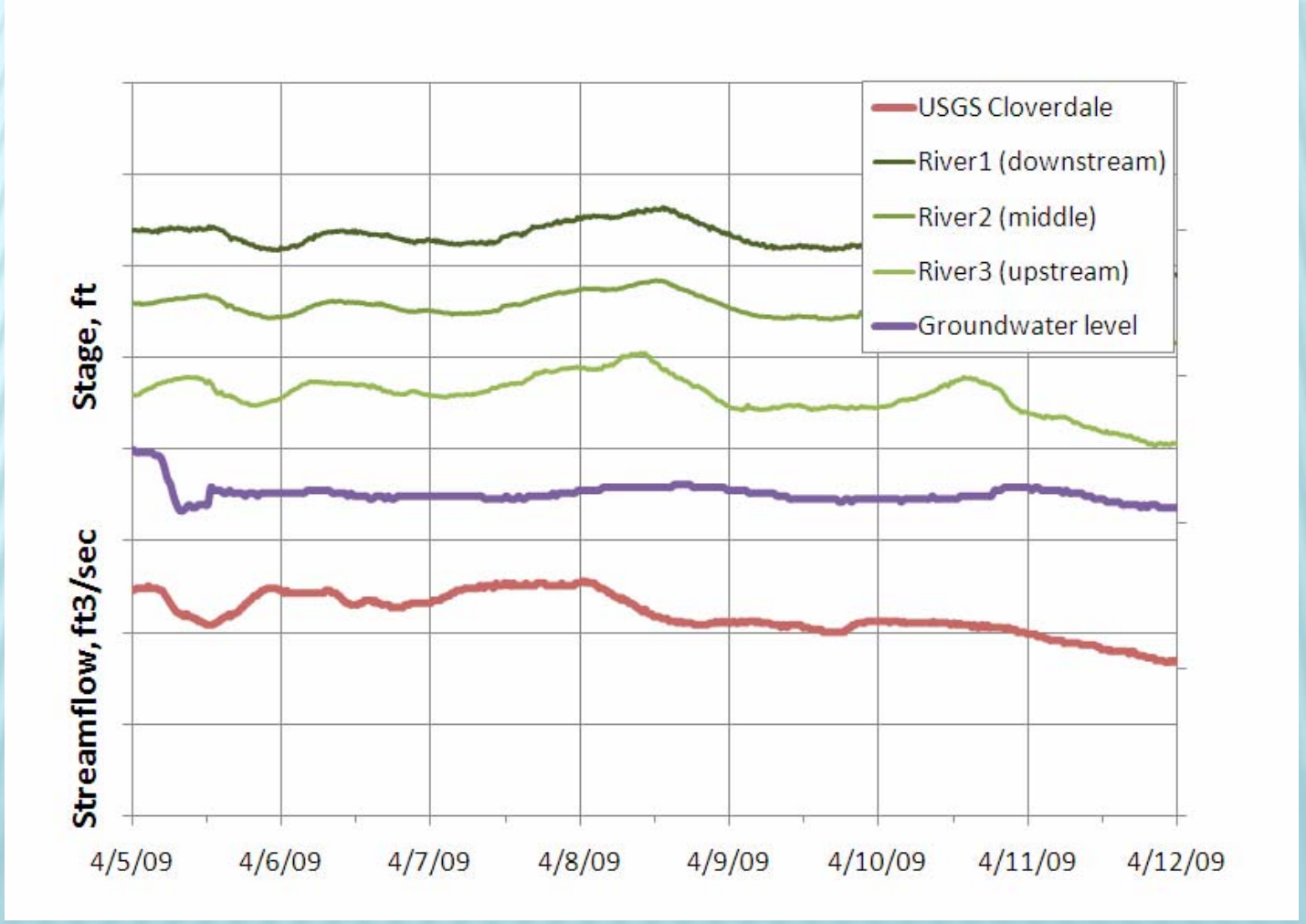


Russian River diagram:



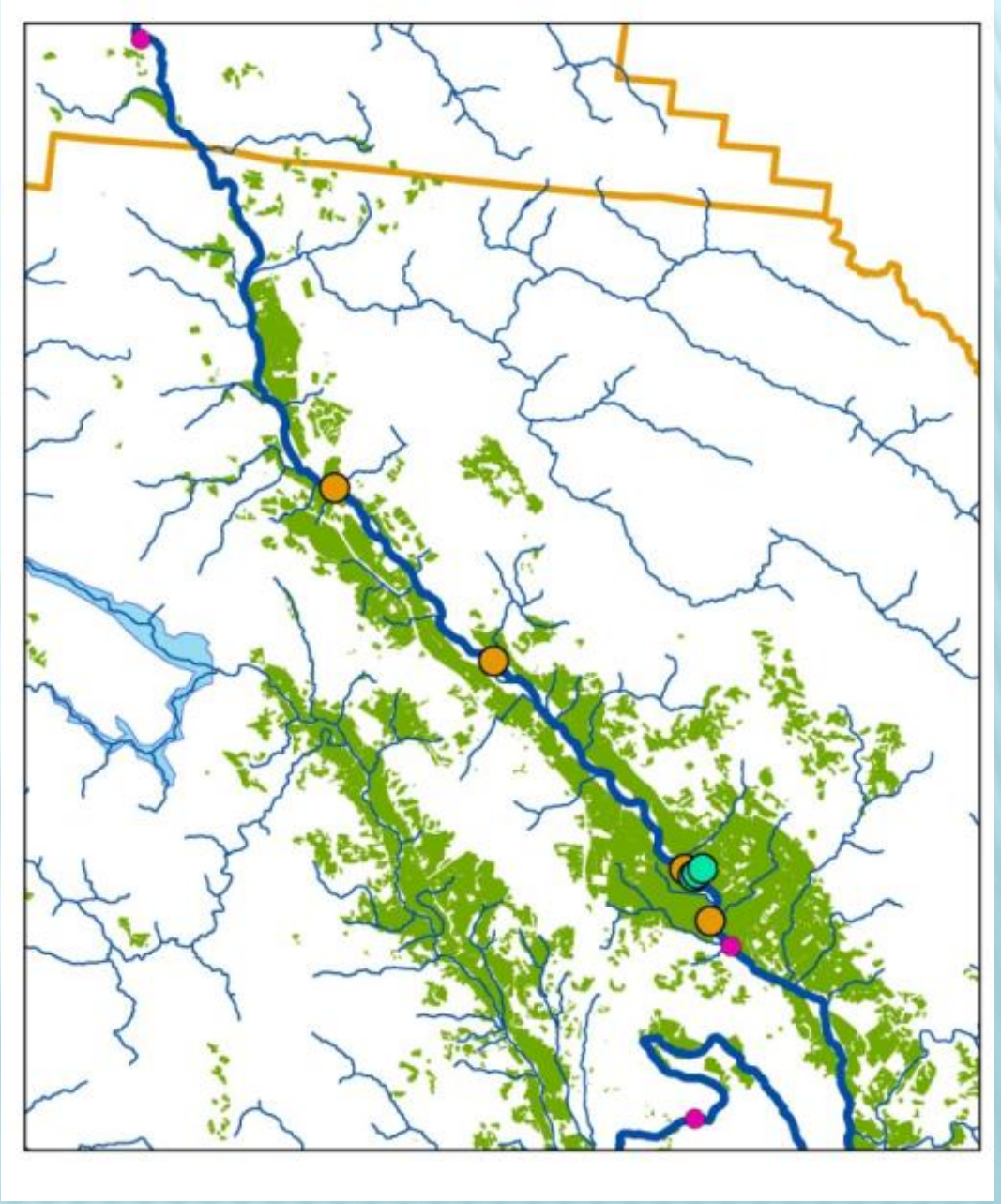
Next steps:

- Additional data processing



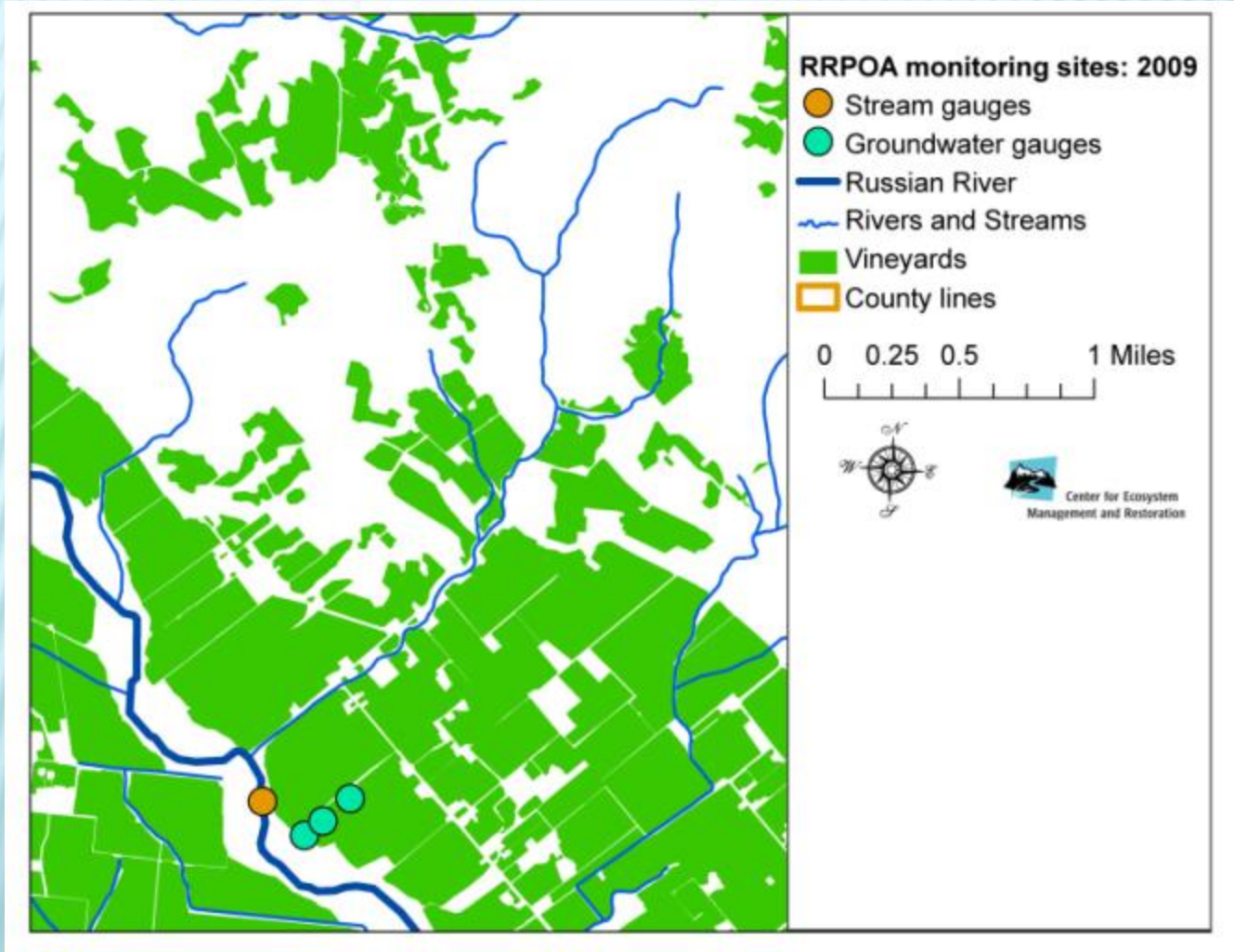
Next steps:

- Additional data processing
- **Continued mainstem monitoring**



Next year's new objectives:

- **Tributary monitoring, expanded aquifer monitoring, and fish stranding surveys**



RRPOA program objectives for 2010:

- Continued monitoring to answer targeted questions (given 2009 data…)
- Transparency with Resource Agencies
- Cooperation with Sonoma County Water Agency
- Develop an Adaptive Plan: what if an impact occurs?

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