

Seaside Basin Watermaster Board of Directors Meeting

August 6, 2014

Update on Laguna Seca Safe Yield Modeling



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Original Questions

- Do groundwater elevations stabilize if Cal-Am stops pumping in the Laguna Seca Subarea (LSSA)?
- What is the safe yield of the LSSA?

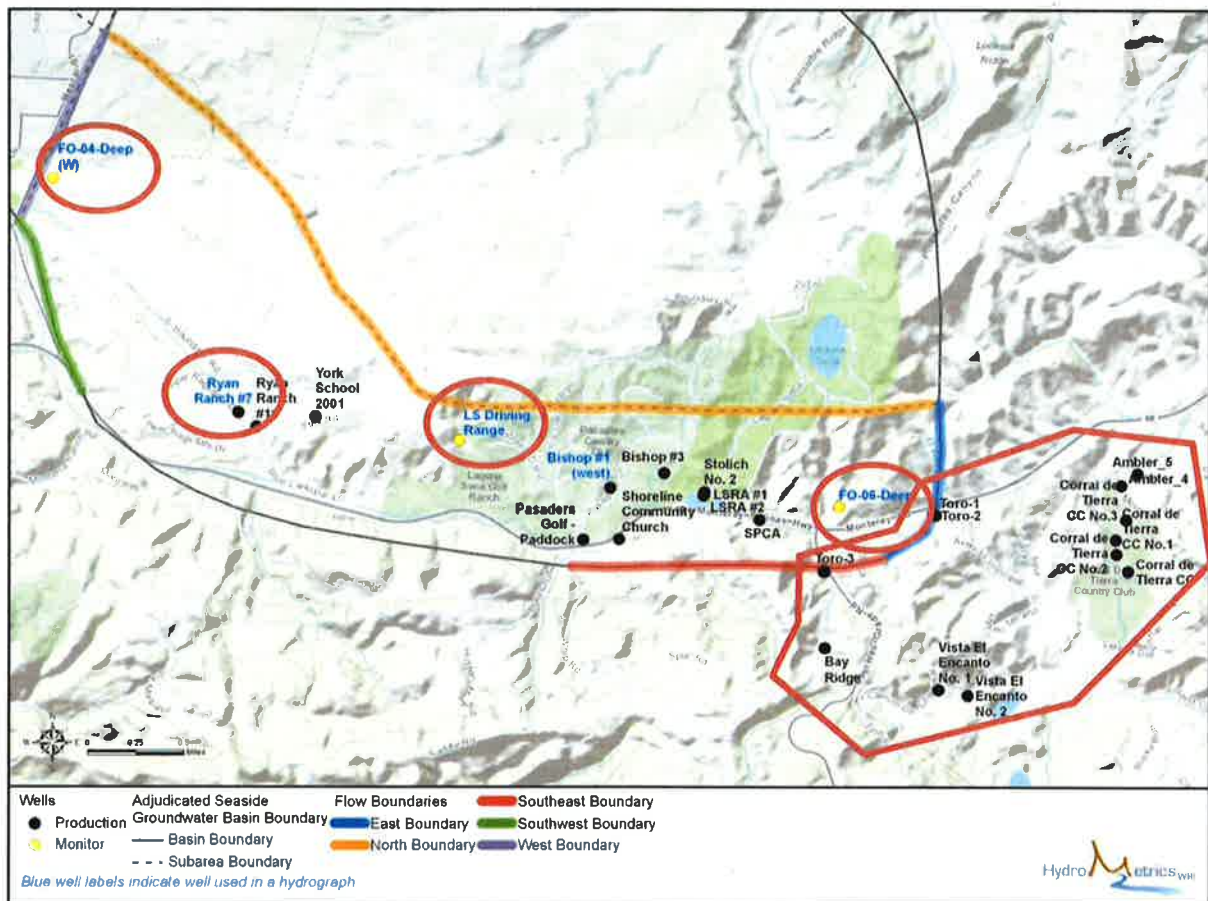


Work to Date

- Provide working definition of Material Injury
- Analyze time until Material Injury occurs
- Estimate safe yield of the Laguna Seca Subarea (248 acre-feet/year)
- Demonstrate that pumping east of Laguna Seca Subarea is impacting groundwater levels
- Demonstrate that groundwater elevations decline if all pumping in LSSA ends.

Present Scope of Work

- Does reducing or eliminating pumping by Alternative Producers in the LSSA appreciably reduce the rate at which groundwater levels are falling in the LSSA?
- What is the impact on groundwater levels in the LSSA of pumping from outside the eastern and southeastern boundaries of the LSSA?

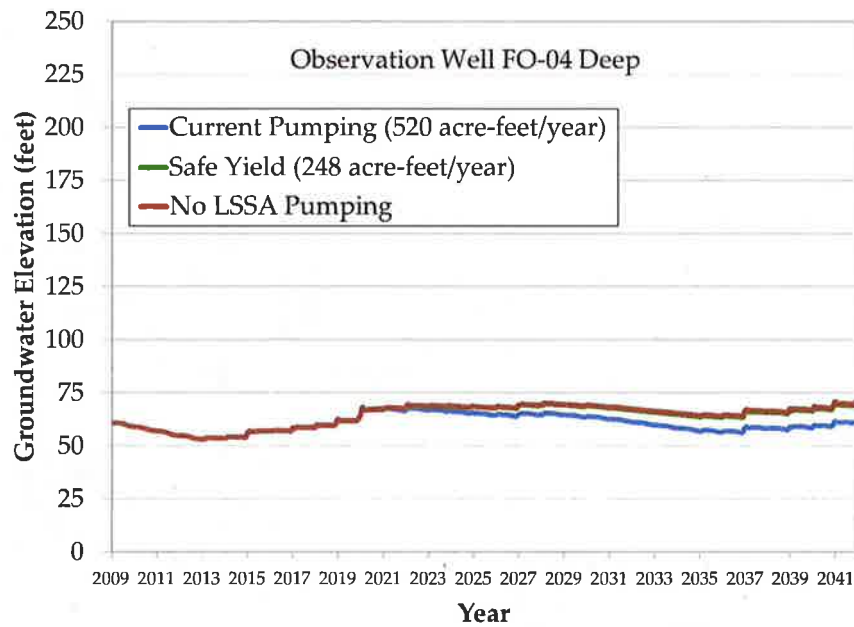


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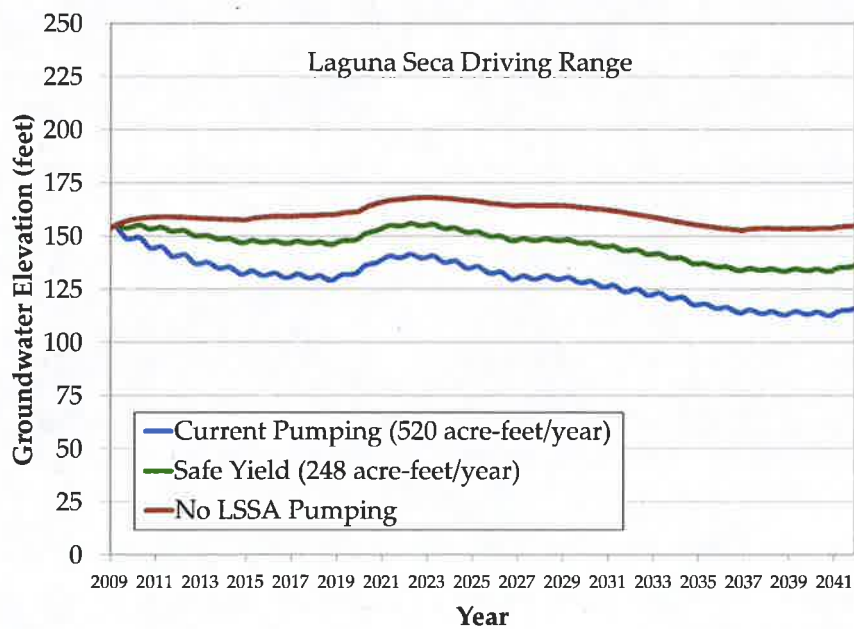
3 Scenarios:

- Current Alternative Producer Pumping (520 acre-feet/year)
- “Safe Yield” Pumping (248 acre-feet/year)
- No Alternative Producer Pumping

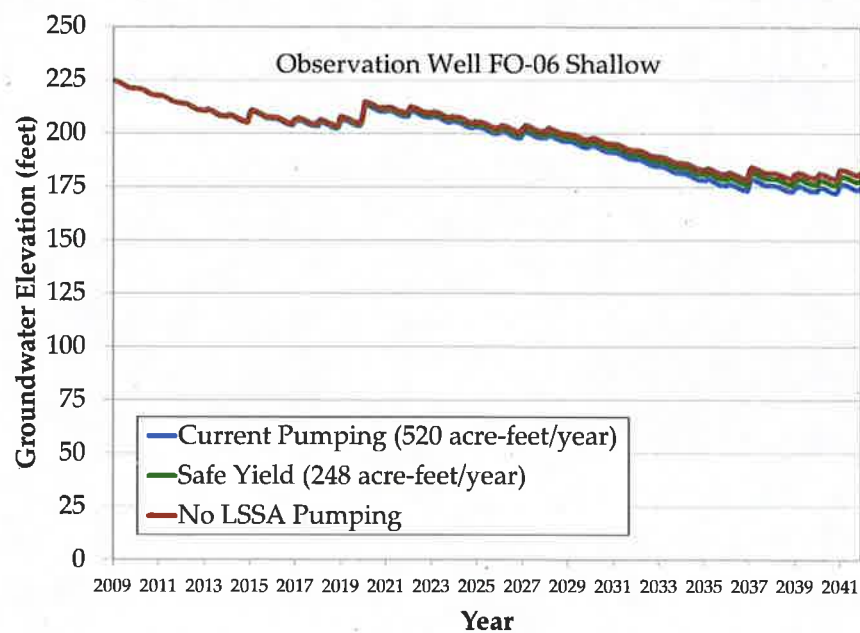
Western LSSA



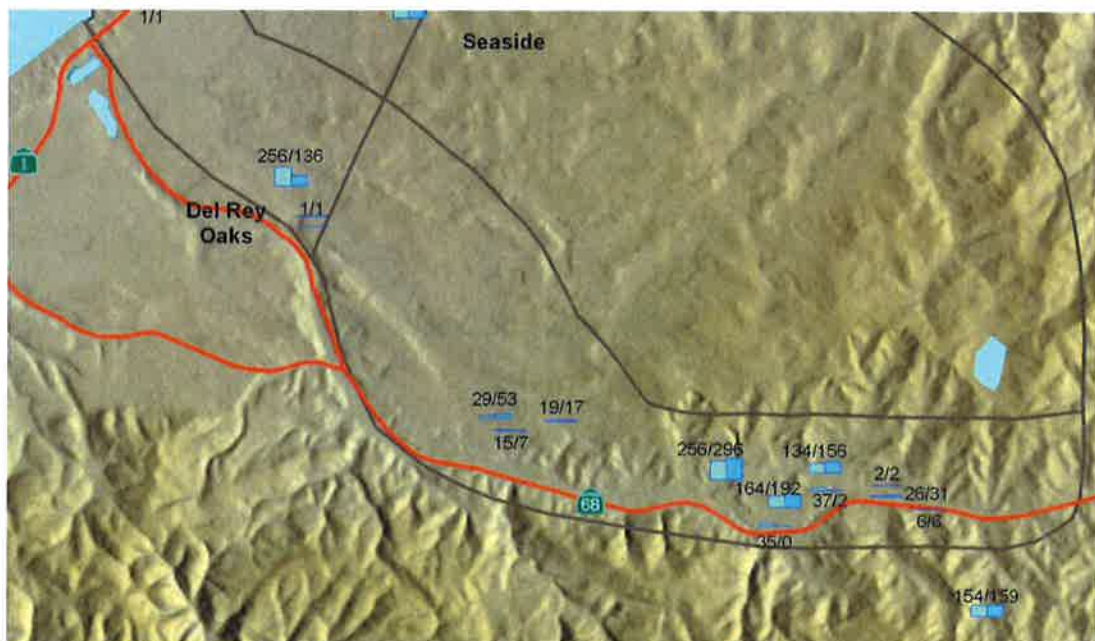
Central LSSA



Eastern LSSA



Most Pumping in Central LSSA

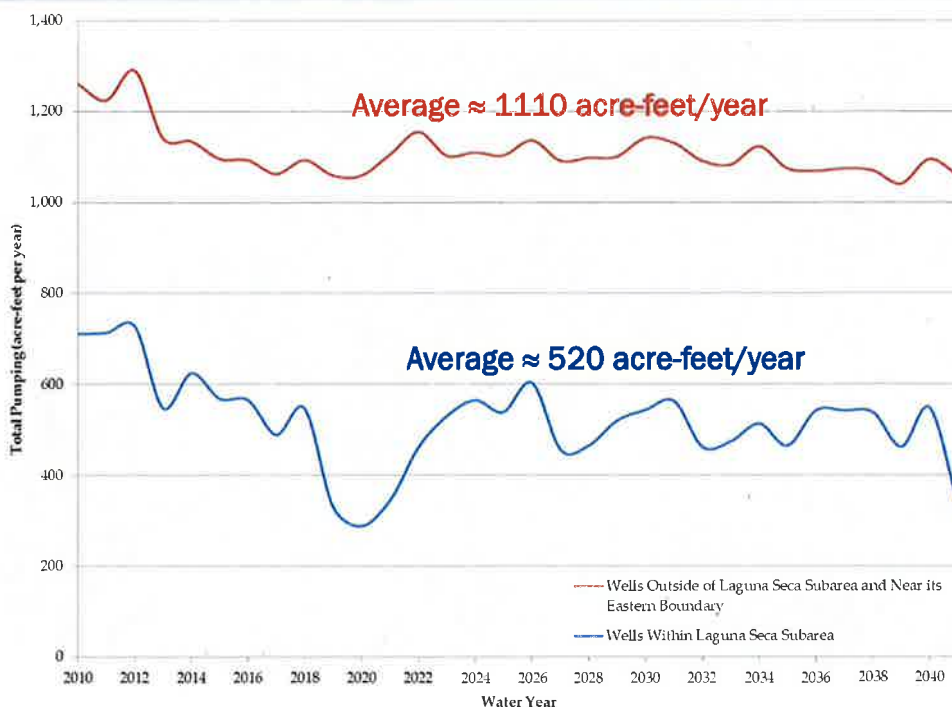


What is the impact on groundwater levels in the LSSA of pumping from outside the eastern and southeastern boundaries of the LSSA?

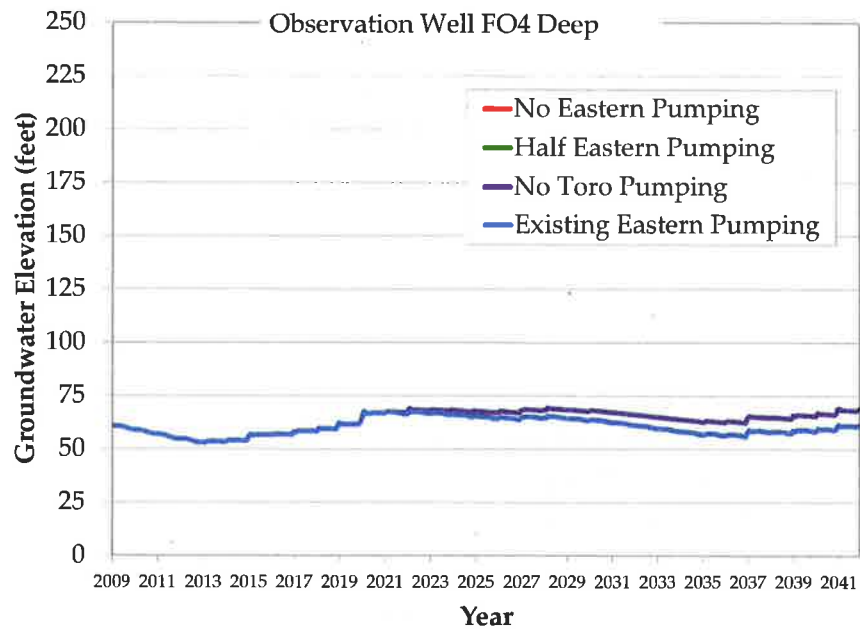
4 Scenarios:

- Existing Conditions
- No Toro Well Pumping
- Half Existing Pumping
- No Outside Pumping

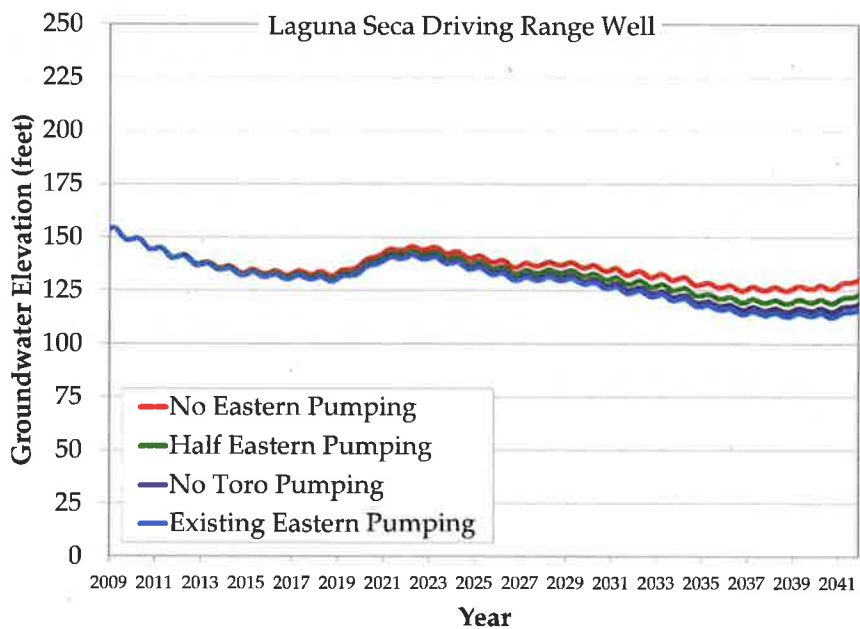
Influence from Wells East of LSSA



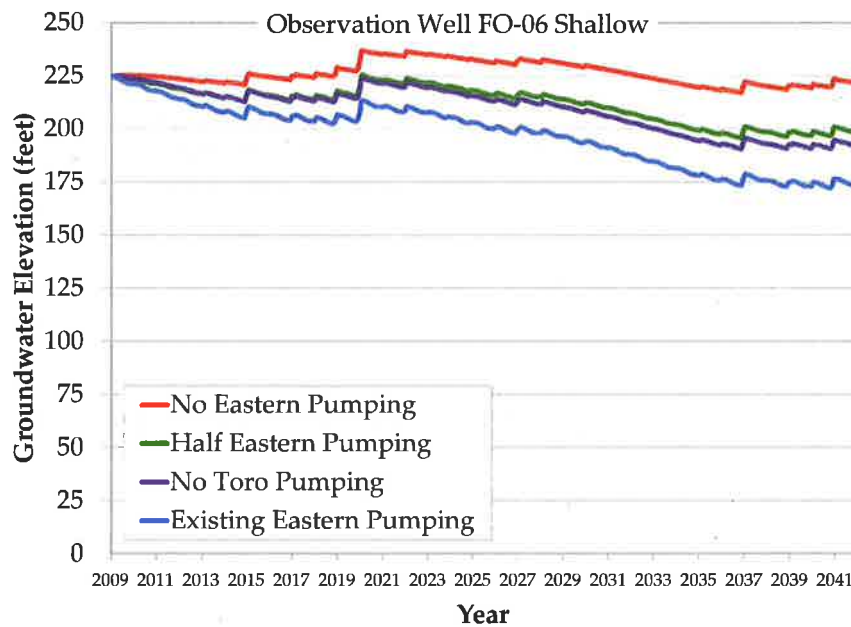
Western LSSA, Current LSSA Pumping



Central LSSA , Current LSSA Pumping



Eastern LSSA , Current LSSA Pumping



Conclusions

- LSSA Pumping is concentrated in the central LSSA.
 - Reducing LSSA pumping significantly reduces the rate of drawdown in the central LSSA
 - Reducing LSSA pumping has limited impact on the eastern LSSA

Conclusions (2)

- Pumping east of the LSSA has a significant impact on eastern LSSA groundwater elevations.
 - Both reducing total pumping and eliminating Toro pumping has similar impacts.
 - Significant reductions are necessary to prevent all groundwater elevation declines – consistent with a safe yield of approximately 250 acre-feet/yr.
 - LSSA pumping continues to control central LSSA groundwater elevations