

FPBGSA Special Board Meeting - 06 May 21

Item 3A - Draft Sustainable Management Criteria

• SMC Matrix

• Stakeholder Discussion / Input on Draft SMC

Lowering GW Levels

Reduction of Storage

Seawater Intrusion

Degraded Quality

Land Subsidence

Surface Water Depletion

DBS&A

Daniel B. Stephens & Associates, Inc.

SMC	Undesirable Results	Metric	MT	MO	Summary	Comments
GW Elevation	Loss of ability to pump GW	GW elevation	WL declines below the base of well screens in more than 25% of representative wells	GW levels at 2011 high WL		maximizes range between MT and MO
GW Storage Reduction	inadequate GW storage to last through multi-year drought without GW extraction limitations	GW elevation	WL declines below the base of well screens in more than 25% of representative wells	GW levels at 2011 high WL		maximizes range between MT and MO
SW Depletion	Surface water flow declines due to GSP implementation that interfere with the beneficial use and users	Rising GW rates at the Fillmore-Piru basin boundary (Fish Hatchery) / Depth to GW at the Fillmore - Piru basin boundary	No DOM, MUNI, IRRIG or REC beneficial users or uses of surface water are materially impacted by implementation of the GSP. GDEs addressed through trigger program.	GW levels at 2011 high WL		The GSP does not propose projects or management actions that would change the operational regime of the basins. Therefore, implementation of the GSP does not cause significant and unreasonable effects.
Land Subsidence	Land subsidence amounts that interfere with infrastructure operations	Subsidence rates	Total inelastic subsidence of 1ft/yr or 1ft over 5 yrs	Inelastic subsidence rates within +/- 0.05 ft/yr as determined by InSAR		Monitor subsidence amount - InSAR data from DWR; study to identify susceptible infrastructure (e.g., long-span bridges, gravity sewage systems) for 5 yr GSP update
Degraded WQ	Water quality degradation that impairs the beneficial use of the resource	WQ values	Water quality parameters established in existing or future regulations	FPBGSA is not a water purveyor and lacks regulatory authority for WQ compliance, but will cooperate with appropriately empowered entities		
Seawater Intrusion	NA	NA	NA	NA		

Guiding Thoughts...



- ✓ GW extractions:
 - ✓ Do not eliminate rising GW during normal or wet periods
 - ✓ Do reduce/eliminate rising GW rates during severe drought periods
- ✓ Select stream reaches are naturally subject to isolation (i.e., losing reaches upstream and downstream)
- ✓ Surface water flows are not naturally maintained along all SCR stream reaches
- ✓ A primary water source for GDE areas near the basin boundaries is rising GW
- ✓ Droughts are a primary driver for rising GW reductions

Guiding Thoughts...



✓ Del Valle area

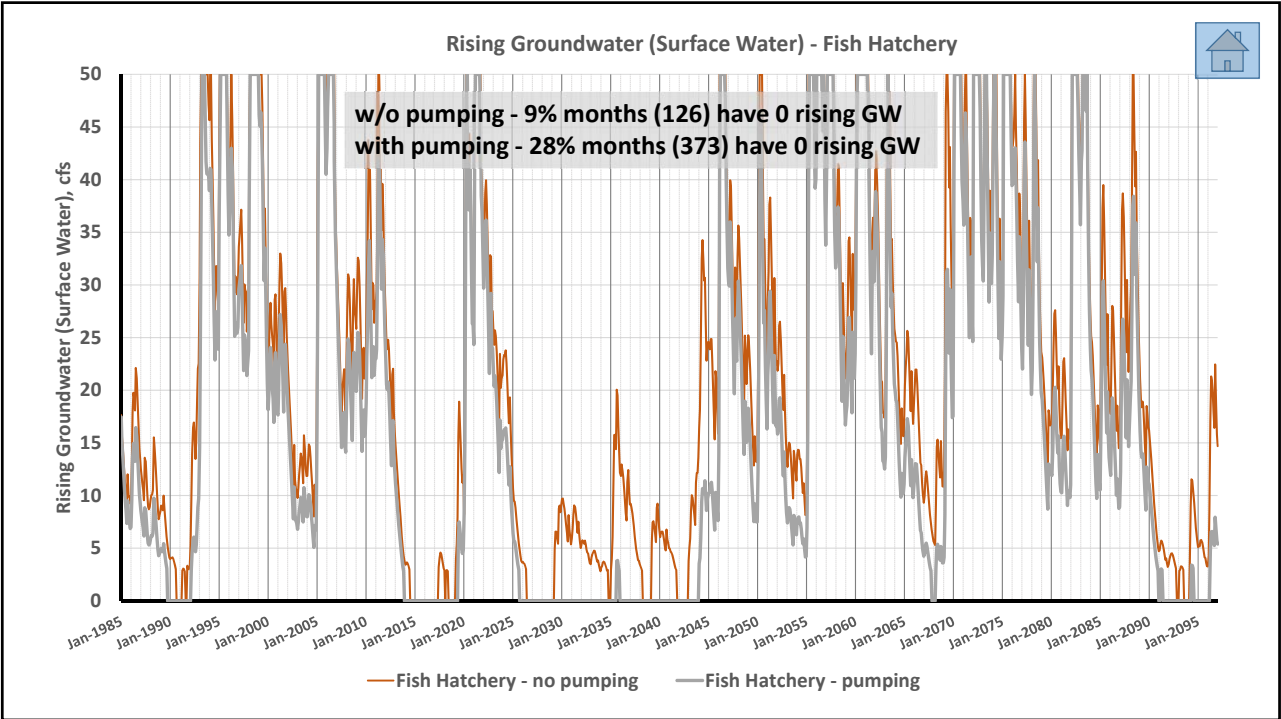
- Shallow depth to water
- SW supported by effluent from upstream WWTPs
- Limited GW extractions in this area
- Management actions deemed not necessary

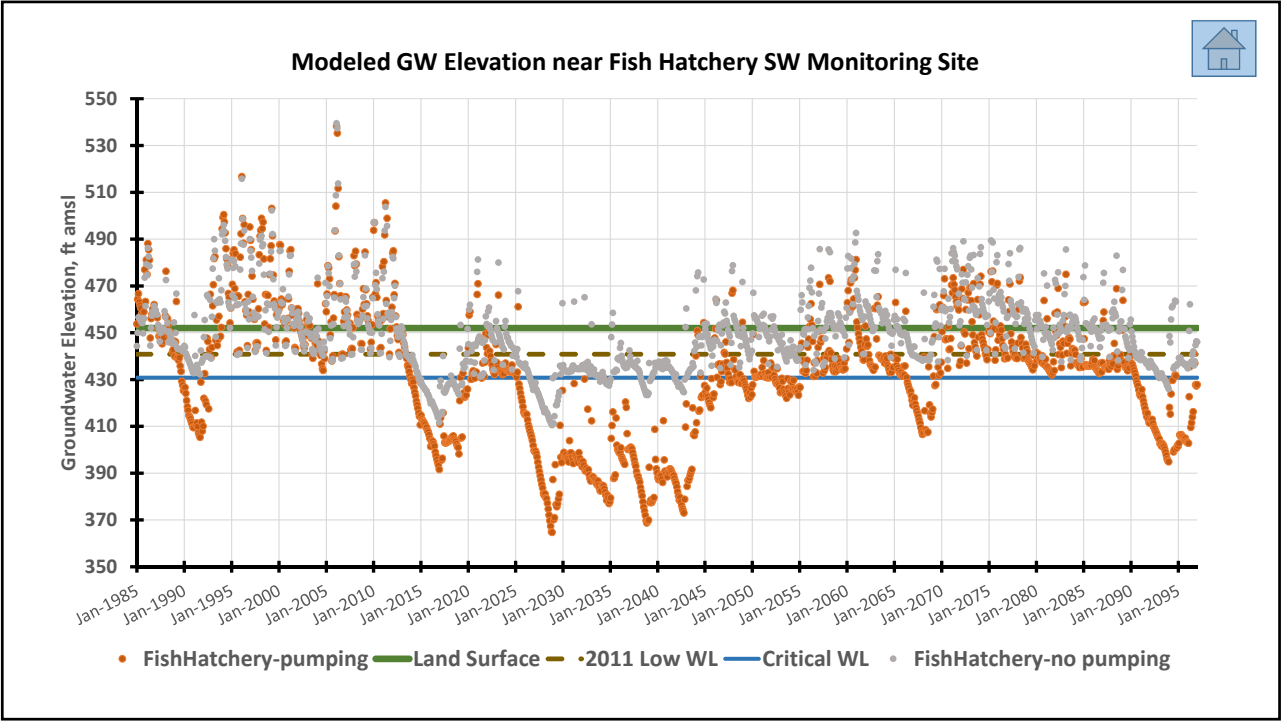
Guiding Thoughts...



Cienega / Fish Hatchery area

- ✓ Rising GW is primary source of SW flows and shallow groundwater
- ✓ Future climate change impacts rising GW rates, although the average change is only about 1.3 cfs
- ✓ Rising GW rates are totally depleted (zero) during severe droughts *even when GW extractions are dramatically reduced (~50%)*
- ✓ Maintaining rising GW during severe droughts *will require GW extractions to be reduced greater than 50%*. Massive reductions will impact agriculture, cities (Fillmore, Piru), domestic wells, and disadvantaged communities

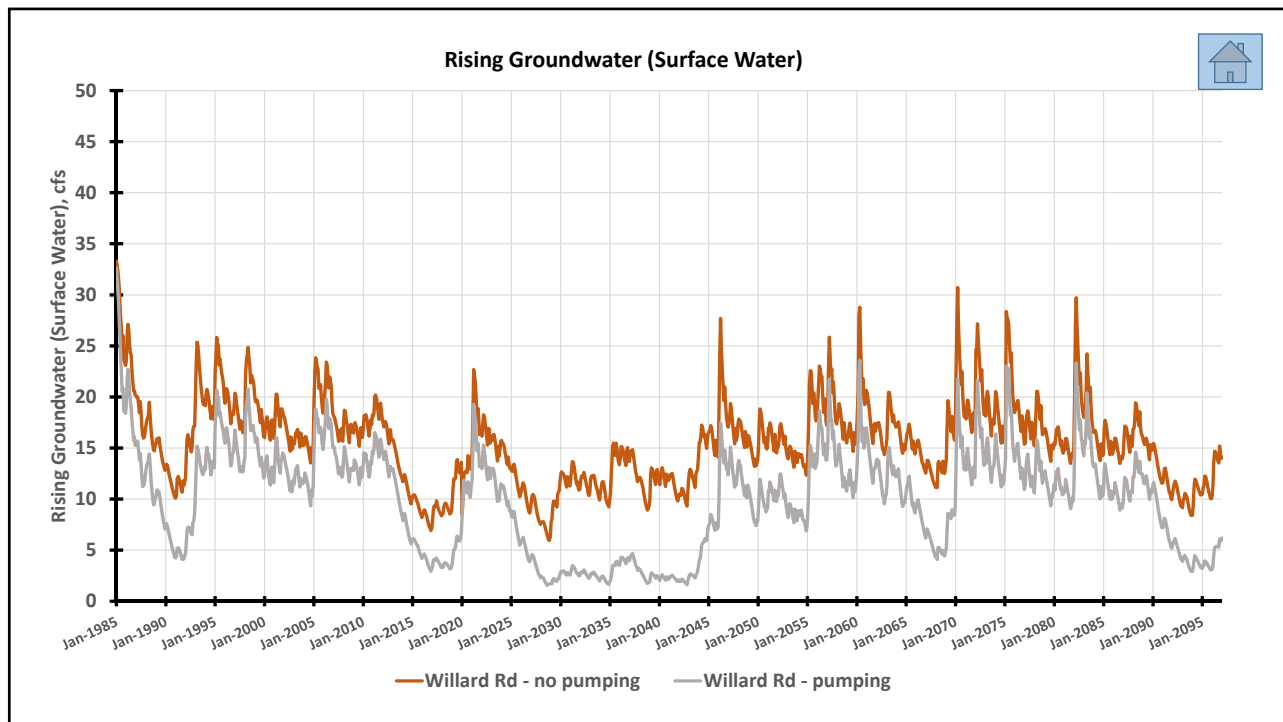




Guiding Thoughts...

✓ East Valley / Willard Road area

- SW (rising GW) not totally depleted during severe droughts
- Rising GW rates are decreased during droughts
- Refuge area for GDEs during severe droughts



Summary...

- ✓ **Del Valle** - *no management actions*
- ✓ **Cienega / Fish Hatchery** - *cannot prevent dewatering of shallow GW or material reductions in rising GW (even with extreme pumping reductions) in severe droughts / consider mitigative actions at this location?*
- ✓ **East Valley / Willard Road** - *rising GW reduced by GW pumping but not eliminated / bolster this area as refuge for GDEs in severe droughts?*

Possible Mitigative Actions...



✓ Cienega / Fish Hatchery -

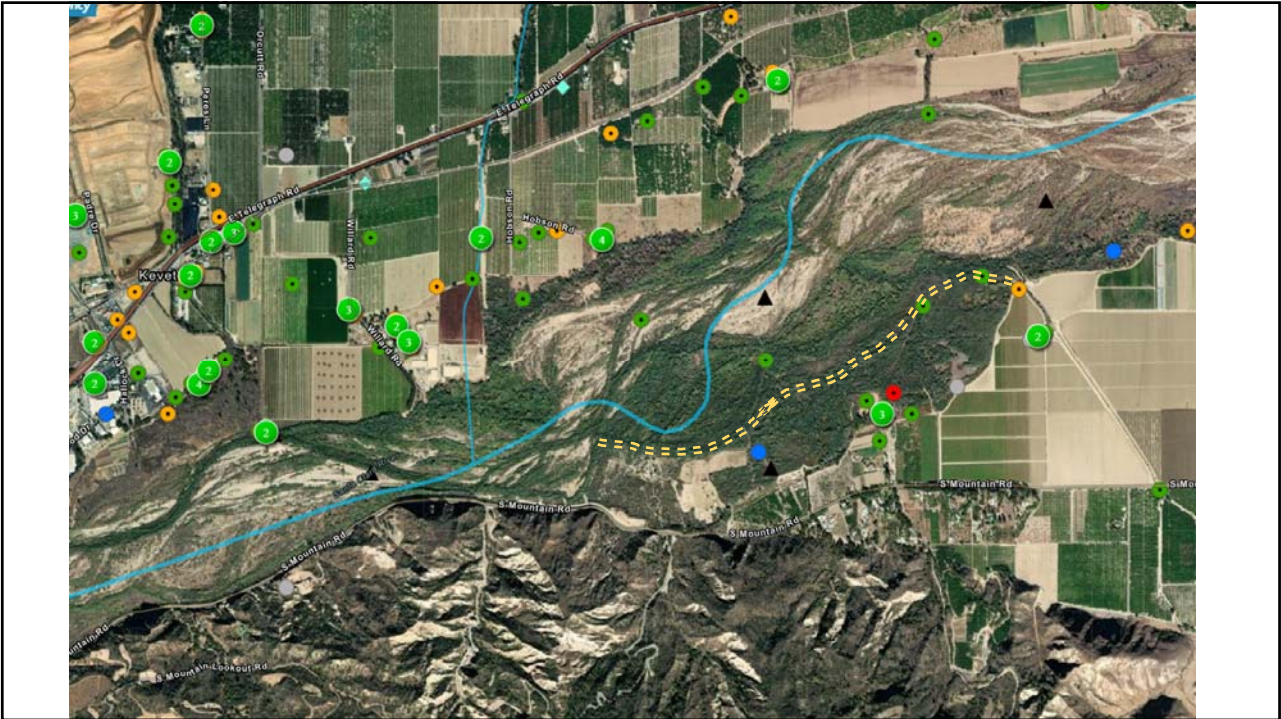
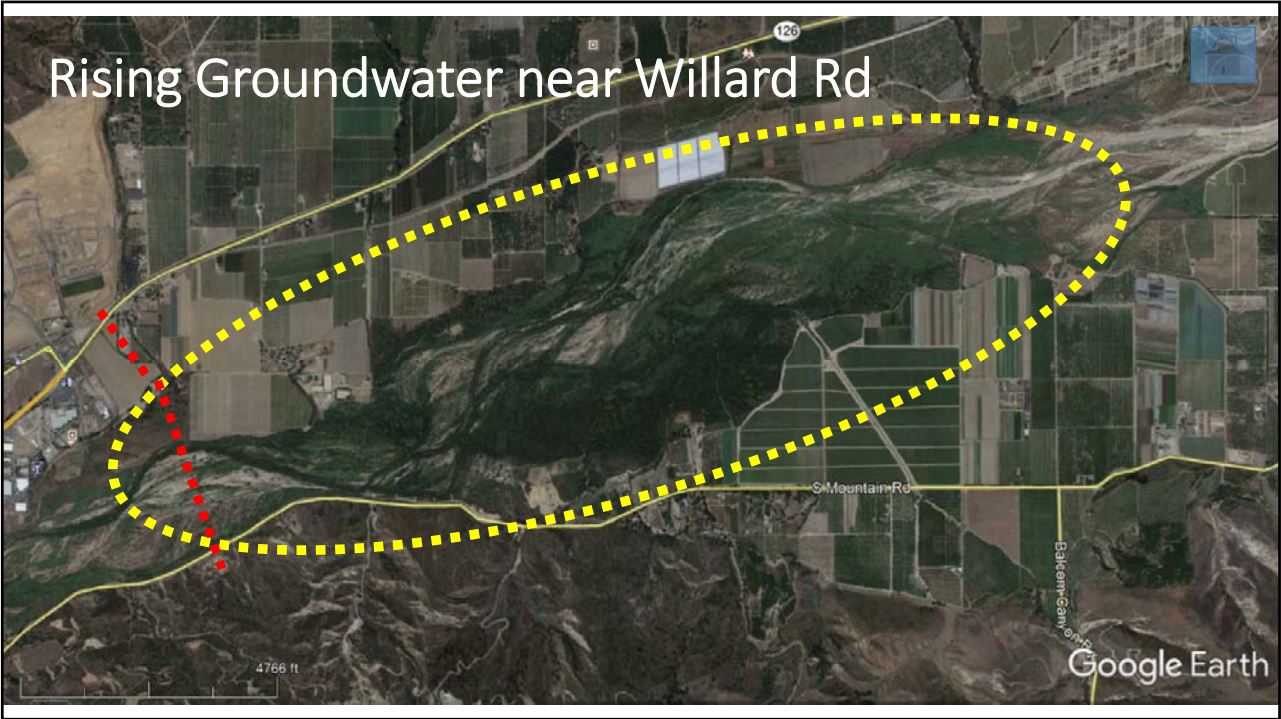
- Support the Cienega project
 - Financial support
 - Construction costs
 - Grant support or assistance
 - Matching funds
 - Other support
 - Letters of support for grant applications
- Support other related projects
 - Arundo removal
 - Purchase supplemental water

Possible Mitigative Actions...

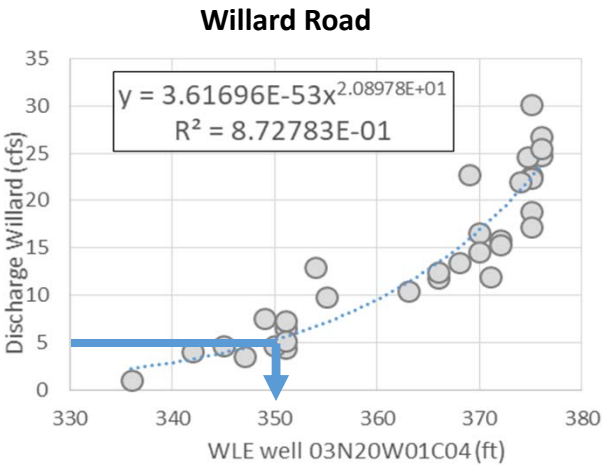


✓ East Valley / Willard Road -

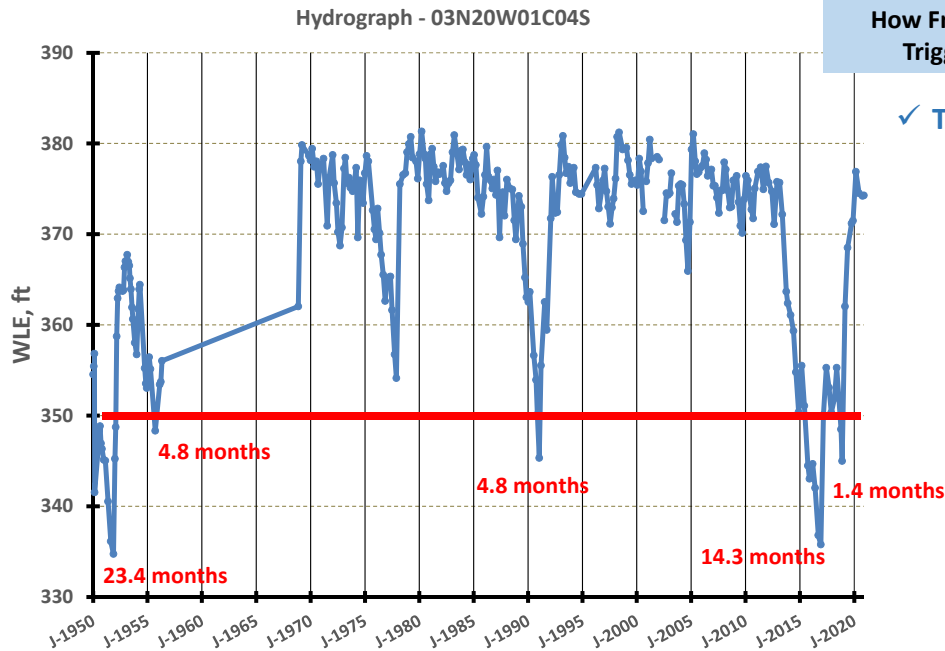
- Support the “Lost Creek refuge area”
 - Monitor SW depths
 - Background data - 6X or 4X/yr
 - Measure SW depths at 3-4 defined locations
 - If SW depths less than 50% of norm - add water until norm re-established or **trigger** no longer applicable



Water Level - Stream Flow Cross Over Analyses

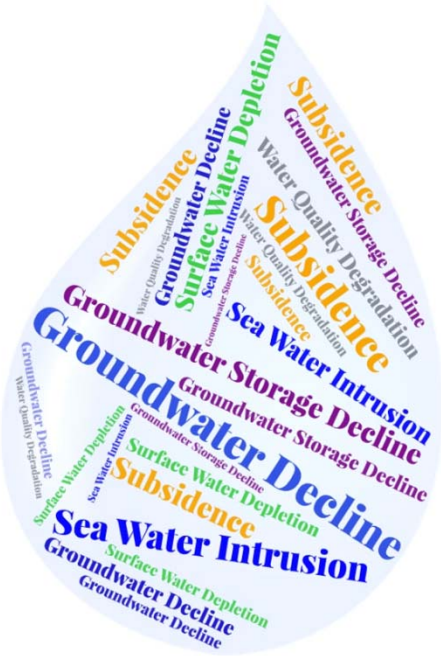


- ✓ **Trigger** - WLE equivalent to 5 cfs at Willard Rd
- ✓ **Trigger Action** - FPBGSA staff will survey SW depths at monitoring locations and compare to seasonal norms
- ✓ **Mitigation Action** - If SW depths at monitoring locations are less than 50% of norm, then add supplement water to the Lost Creek area from existing well(s)



How Frequently Would GDE Triggers be Activated?

- ✓ **Trigger Activated**
 - ~48.7 months out of ~850.5 months (5.7%)
 - only during severe droughts



Questions

