GRAVELLY FORD WATER DISTRICT GROUNDWATER SUSTAINABILITY PLAN UPDATE

AGENDA

Need for GSP Update

Changes to the Plan

Plan Progress

Q&A

GPS UPDATE NEEDS

- The GSP was approved in December 2023
- With the approval, DWR included a list of “Recommended Corrective Actions”
- Recommended Corrective Actions included changes to Sustainable Management Criteria, including groundwater levels, subsidence, and groundwater quality and the relation between SMCs.
- Recommended Corrective Actions also include coordination between GSAs and their respective GSPs.

CHANGES TO THE GSP – GROUNDWATER LEVELS

- Changes to Groundwater Level Sustainable Management Criteria. Determined by the Ludorff-Scalmanini Groundwater Model.
- There is limited information in GFWD informing the Groundwater Model.
- QK acknowledges in the GSP that the model is not fully representative of the actual historic conditions in the District and that as more information is gathered the SMCs may change in the area.
- The District is using actual data to compare Joint GSP SMCs to GFWD estimated SMCs

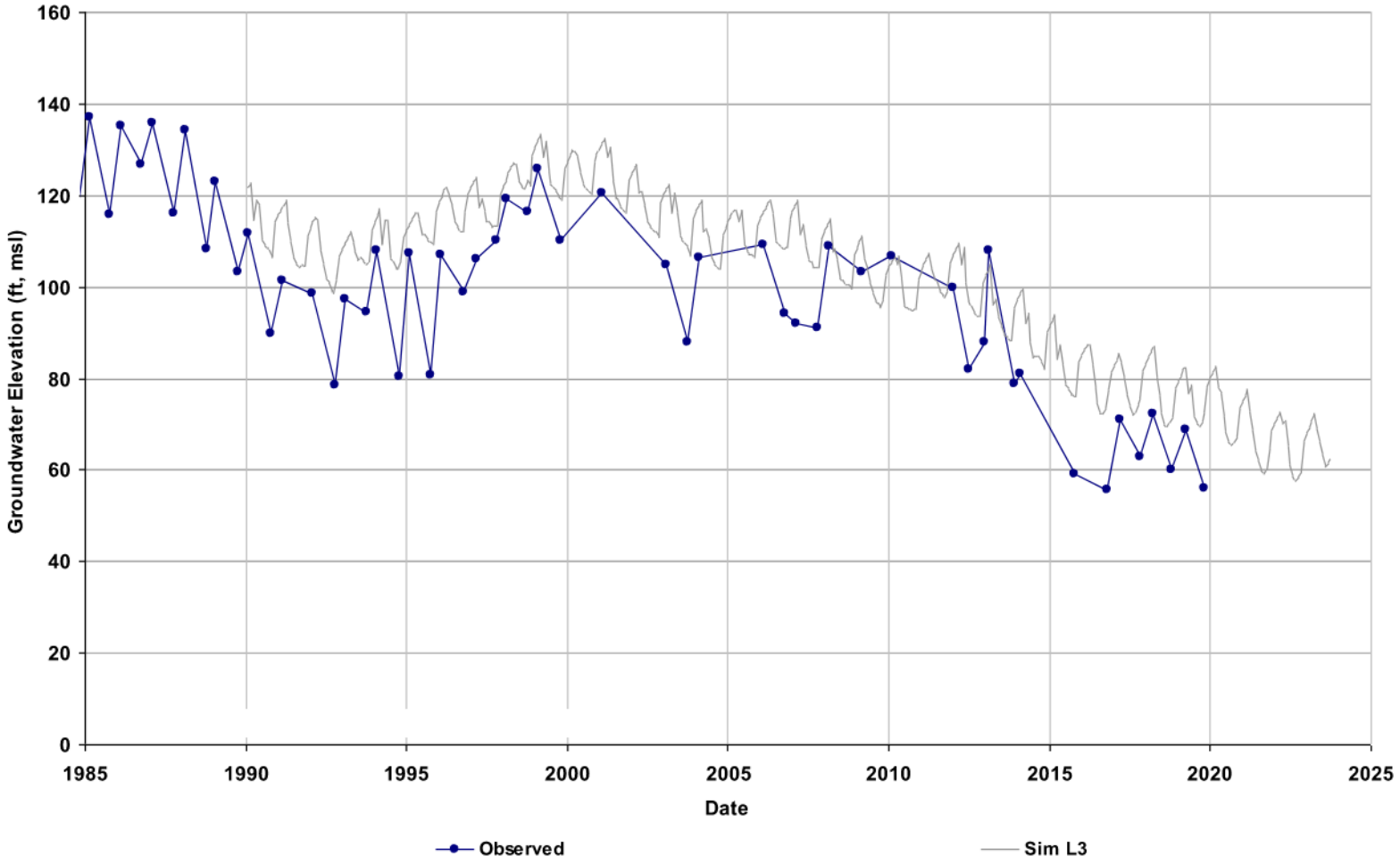
RMS ID	Aquifer	GSE (ft msl)	MO Depth (ft bgs)	MO Elev (ft msl)	MT Depth (ft bgs)	MT Elev (ft msl)	IM 2025 Depth (ft bgs)	IM 2030 Depth (ft bgs)	IM 2035 Depth (ft bgs)	IM 2025 Elev (ft msl)	IM 2030 Elev (ft msl)	IM 2035 Elev (ft msl)
GFWD 201	Composite	186	126	60	142	44	162	169	166	24	17	20
GFWD 202	Upper	190	124	66	141	49	155	162	160	35	28	30
GFWD 203	Unknown	203	116	87	134	69	154	159	157	49	44	46
GFWD 206	Composite	187	136	51	151	36	166	173	172	21	14	15
GFWD 213	Composite	182	137	45	151	31	163	170	169	19	12	13
GFWD 224	Unconfined	204	51	153	68	136	75	79	79	129	125	125

LSCE GROUNDWATER LEVEL CALIBRATION MODEL – HYDROGRAPH

Well Name: 12S16E26H001M
Depth Zone: Upper
Subbasin: Madera
GSE (ft, msl): 203

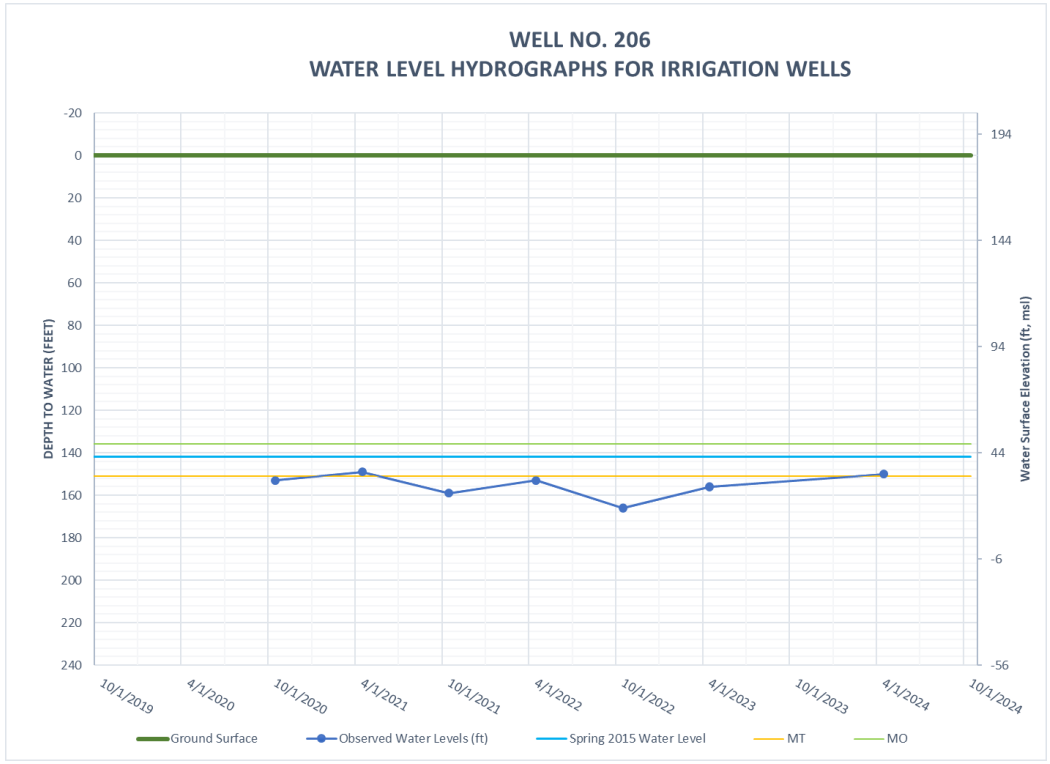
Average Residual (feet): 12.35
Layer 1:
Layer 2:
Layer 3: 12.35
Layer 4:
Layer 5:
Layer 6:

Total Depth (ft): 286
Perf Top (ft): 228
Perf Bottom (ft): 284
Top Model Layer: 3
Bottom Model Layer: 3

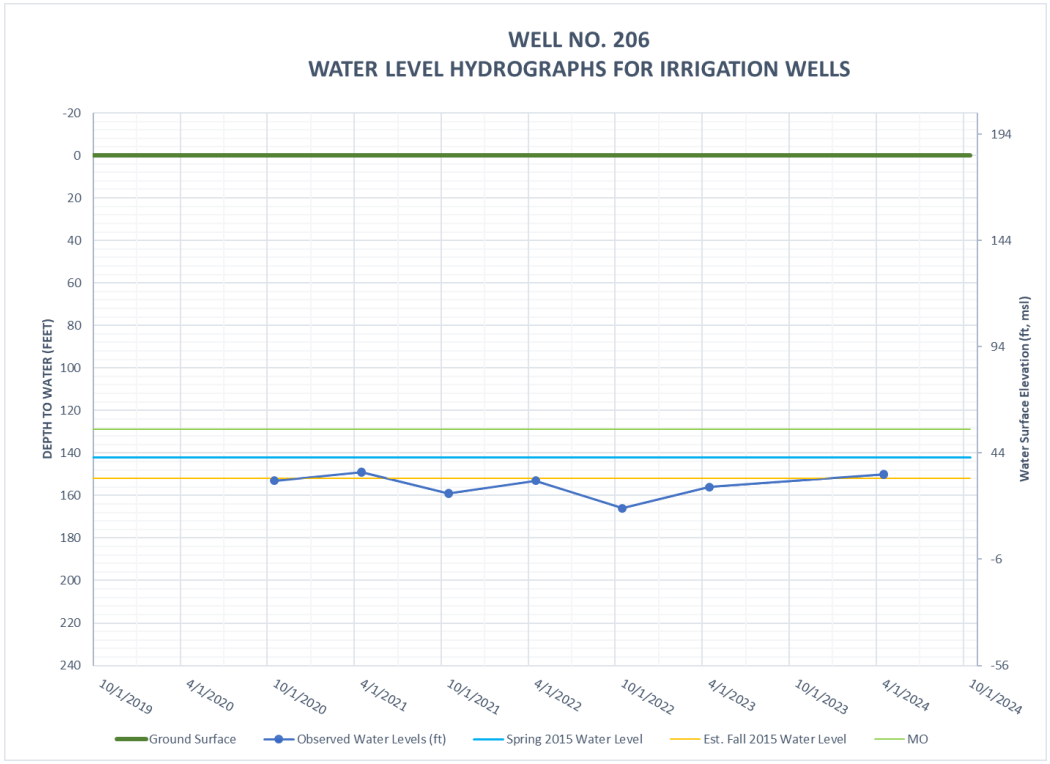


WELL 206 HYDROGRAPH – COMPARISON

Well 206 – Model SMCs

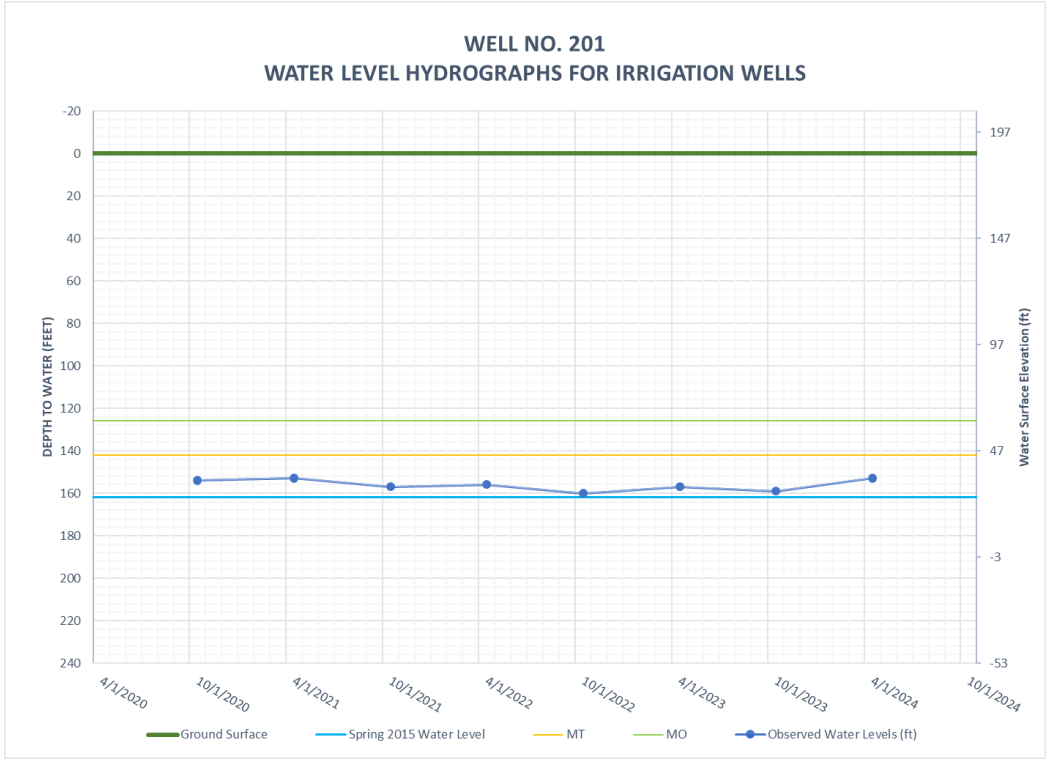


Well 206 – Spring 2015 Estimate

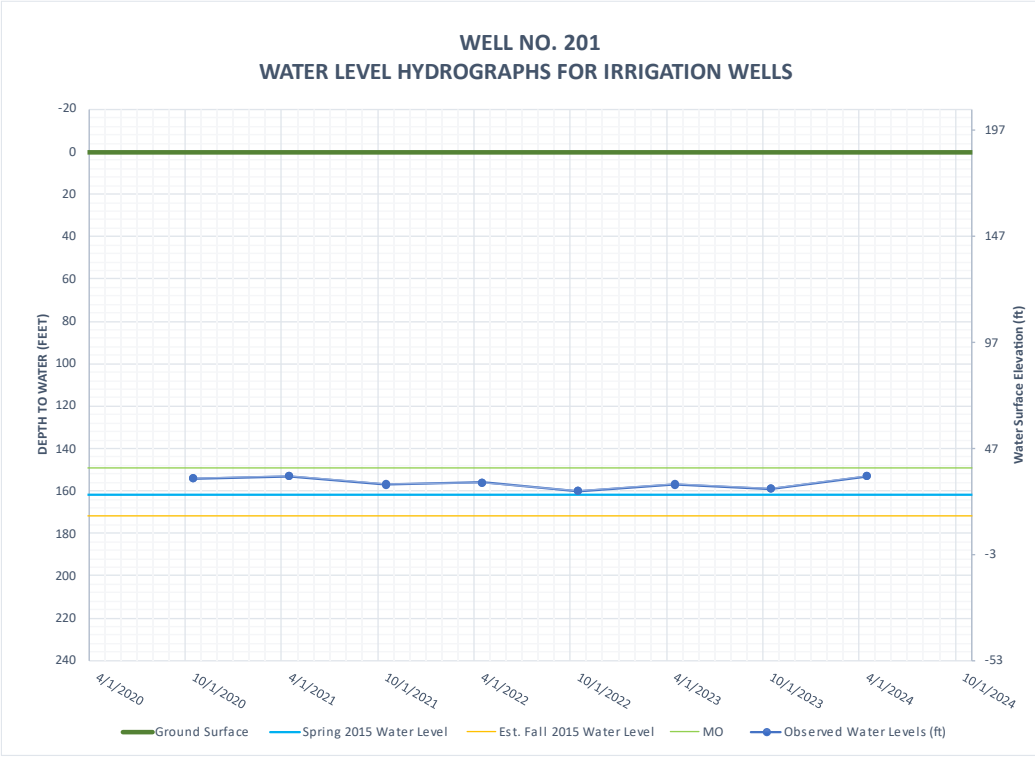


WELL 201 HYDROGRAPH – COMPARISON

Well 201 – Model SMCs



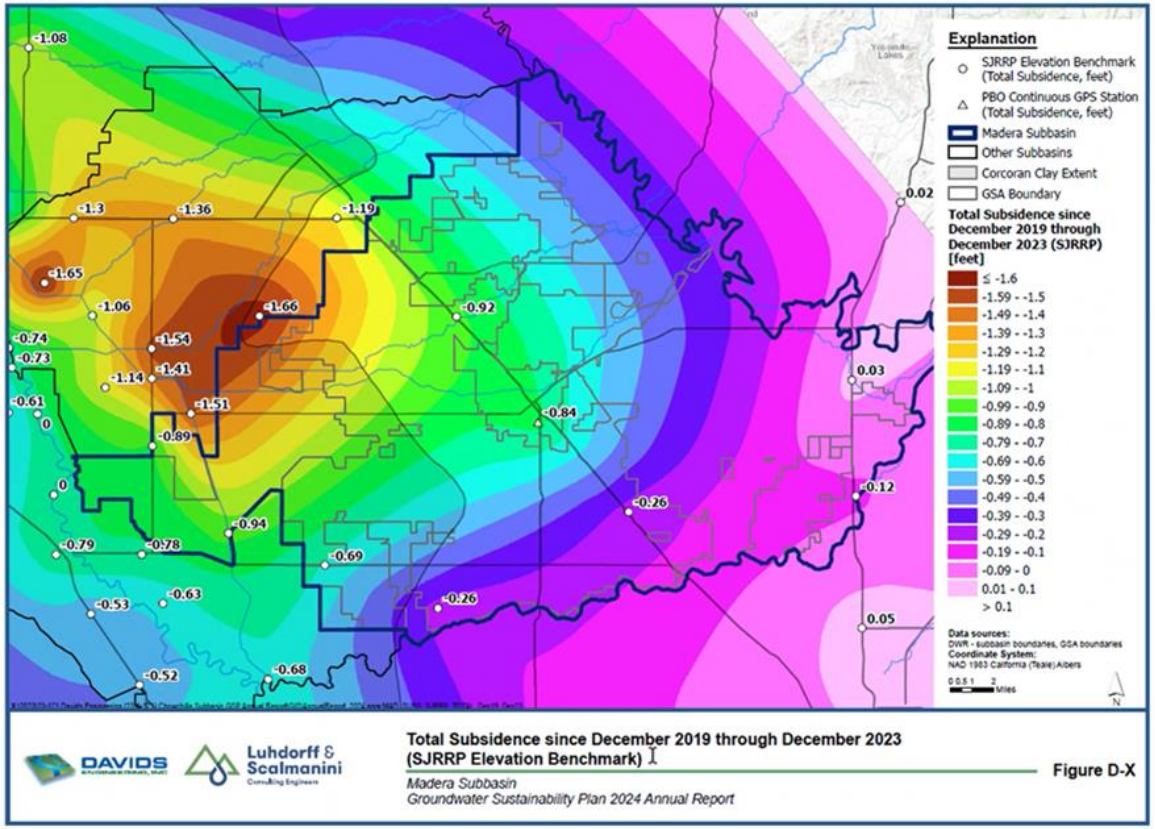
Well 201 – Spring 2015 Estimate

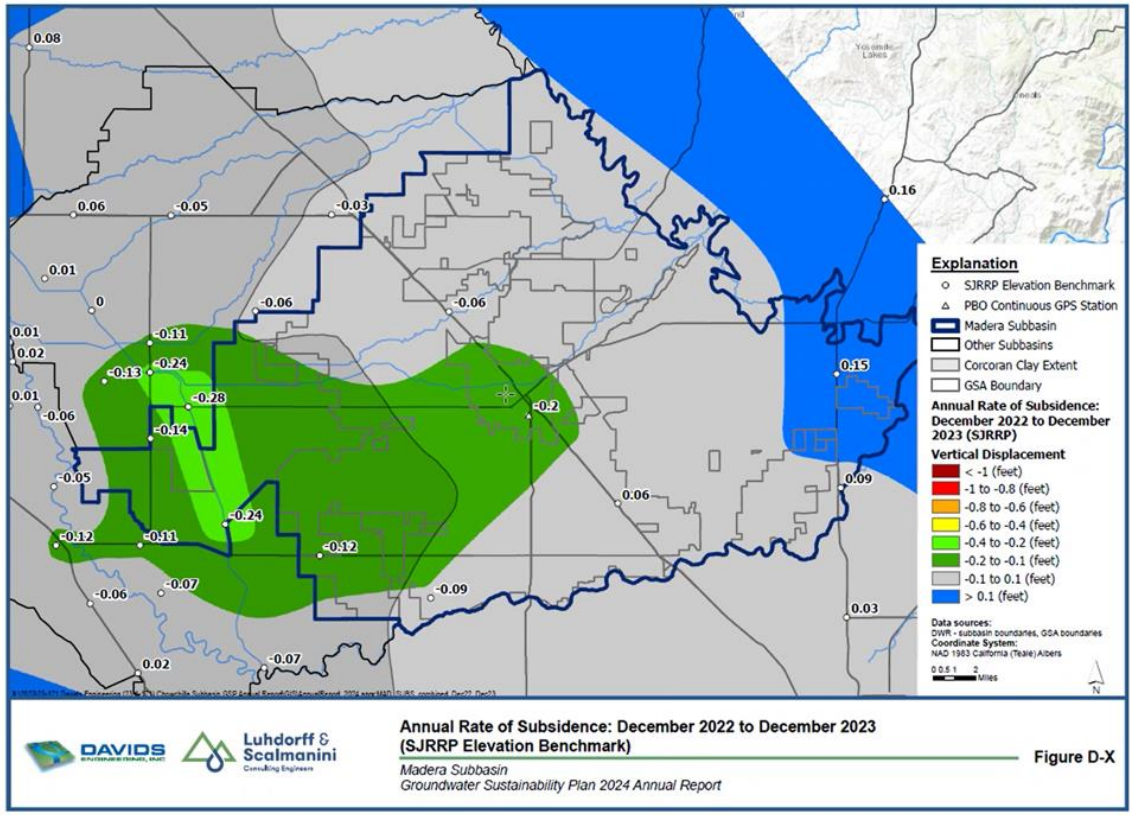


CHANGES TO THE GSP SUBSIDENCE

- Changes to Subsidence Sustainable Management Criteria. Determined by the Ludorff-Scalmanini Groundwater Model.
- There is limited information in GFWD informing the Groundwater Model regarding subsidence.
- QK acknowledges in the GSP that the model is not fully representative of the actual historic conditions in the District and that as more information is gathered the SMCs may change in the area.
- The District monitors subsidence at several agricultural wells.
- Subsidence is affected by outside factors and residual subsidence may occur even when no pumping is occurring.

SUBSIDENCE FIGURES FROM LUDORFF-SCALMANINI





PROPOSED SUBSIDENCE UPDATED SMCS – JOINT GSP

- Cumulative 5-Year Amounts of
  - 1.5 ft for 2020-2025;
  - 1.0 ft for 2025-2030;
  - 0.5 ft for 2030-2035;
  - 0.25 ft for 2035-2040.

CHANGES TO THE GSP GROUNDWATER QUALITY

- Groundwater quality is not a concern in the District
- The District plans to sample groundwater quality in October and report findings in the 2024 Annual Report.
- SMCs are based on drinking water quality standards

Groundwater Quality MT

GSP	TDS/EC	Nitrate (as N)	Arsenic	Comments
Joint	500/NA	10	10	UR = 10% of RMS; MT = greater of MCL or existing plus 20%. MT greater if exiting concentrations >MCL.
RCWD	1,200/NA	30	NA	UR not defined in GSP. Unclear reference to maintaining current conditions for residential WQ, and state/fed standards for municipal WQ.
GFWD	???	???	???	GWQ RMS/SMC not specified in GSP; reference to "irrigation suitability parameters".
NSWD	NA(1,800)/2,700	45	NA	UR = 25% of RMS. MT applicable to applied water.

Issues to Address for GWQ SMC:

1) Lack of consistency among key constituents.
2) Lack of consistency in SMC (MT in particular).
3) Different MT may lead to challenges for adjacent GSAs and Subbasins to meet their SMC (MT in particular).
4) Potential to adopt Subbasin wide approach to GWQ SMC.
5) Discuss available data to establish background concentrations.

LSCE

SUMMARY

Changes to the Joint GSP

- Updates to the Model
  - Adding Subsidence package, changes to representative period and 50-year.
- Updated SMCs
  - New groundwater levels and subsidence SMCs

Changes to GFWD GSP

- Updated Monitoring Program and locations
- Updated SMCs
  - Groundwater Level - from model and observed
  - Subsidence – utilizing similar values from other GSPs
  - Water Quality – GFWD to start monitoring

QUESTIONS AND COMMENTS

Public comments will be directed to

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THANK YOU

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