

EKI TECHNICAL PRESENTATION #18

COSUMNES SUBBASIN GSP DEVELOPMENT

17 JUNE 2020

COSUMNES SUBBASIN WORKING GROUP / TAC MEETING

AGENDA ITEM #3

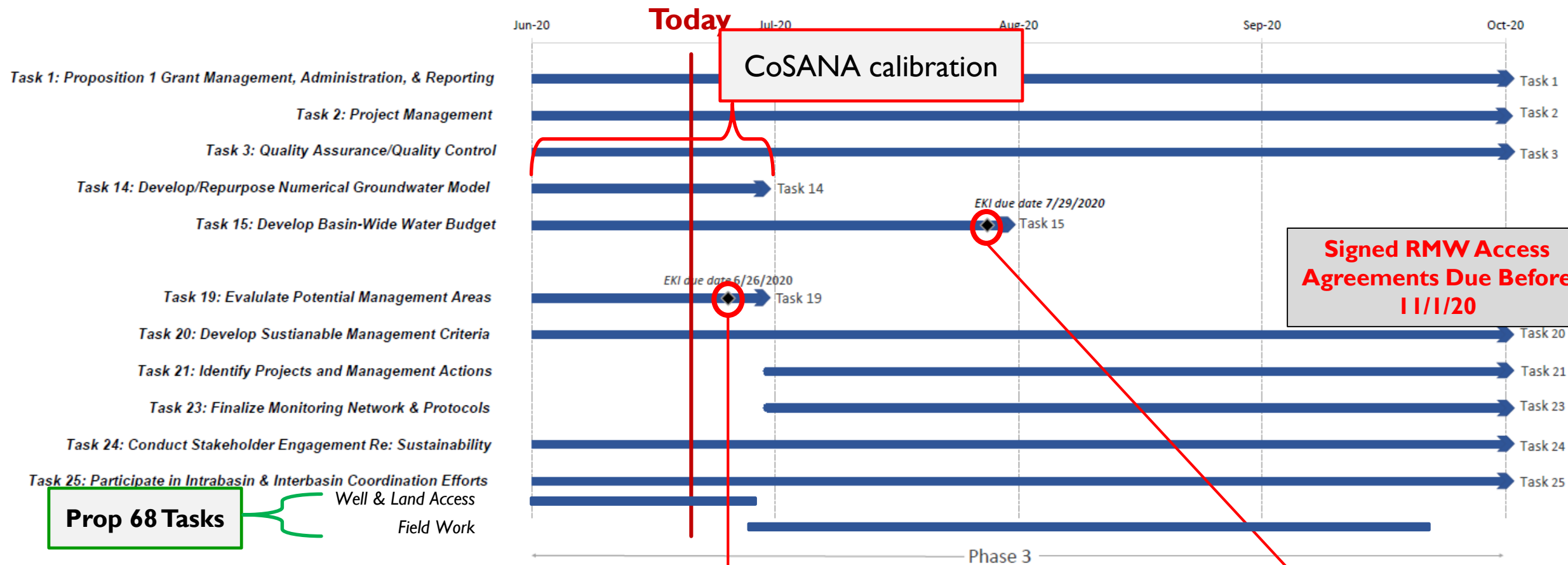
GROUNDWATER SUSTAINABILITY PLAN

TECHNICAL WORK AND PLANNING

- Three-month look-ahead (+ Prop 68)
- Groundwater Modeling – CoSANA
- Prop 68 activities
- Management Areas – Follow up discussion

GSP - THREE MONTH LOOK AHEAD

Legend
■ Current schedule
◆ Deadline



Prop 68 Tasks

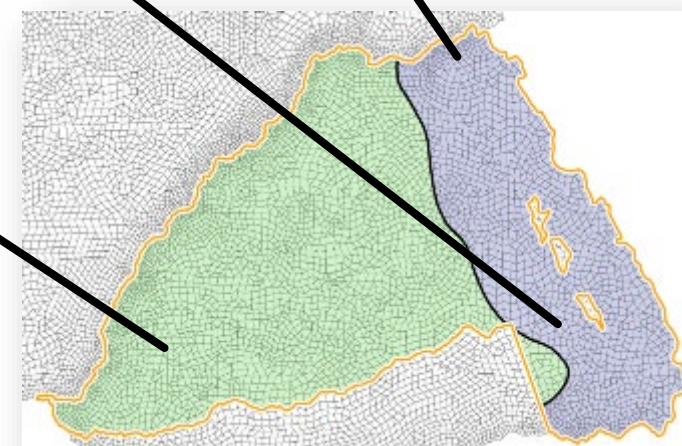
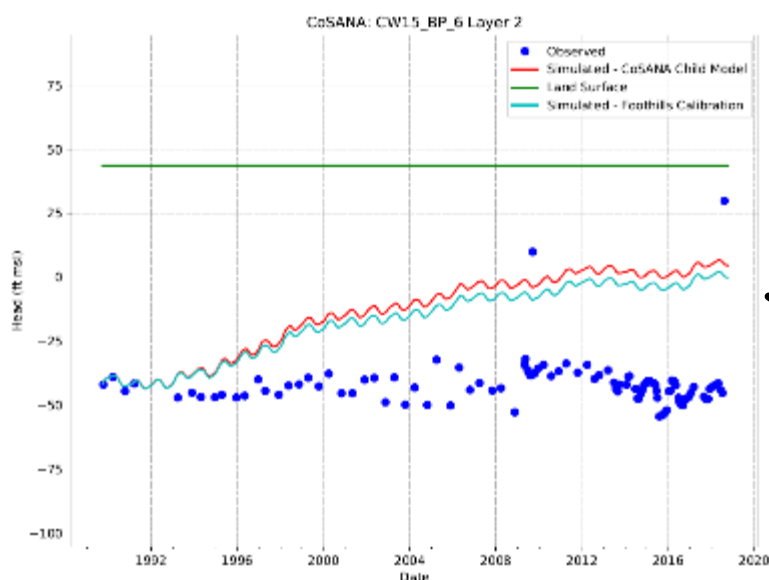
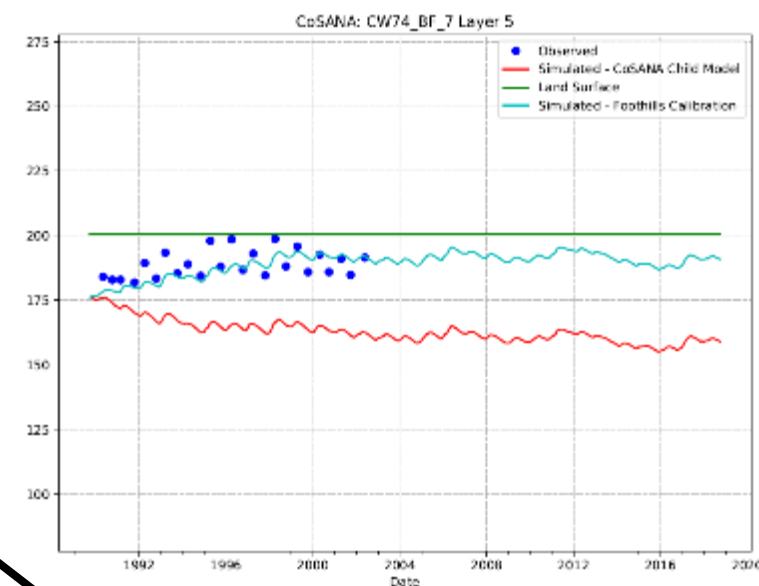
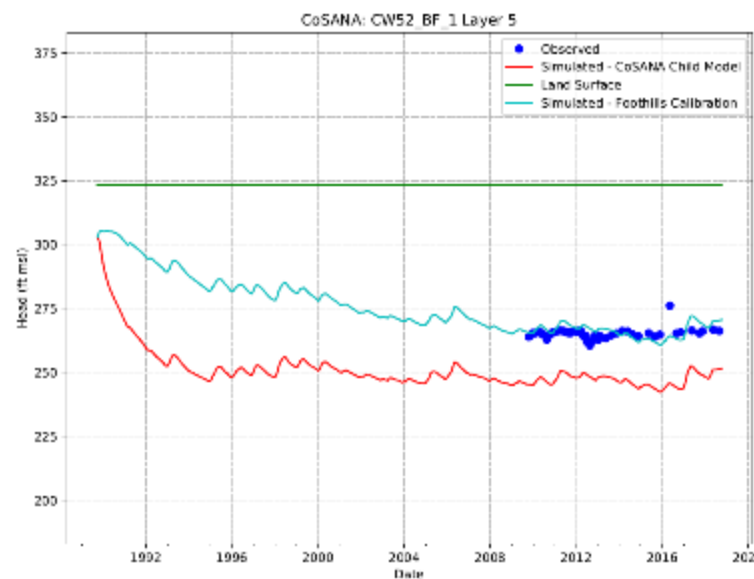
TM 10 “Delineation of Management Areas” – **reschedule** submission date dependent on direction from Working Group

EKI to submit Draft TM #8: “Water Budget and Preliminary Estimate of Sustainable Yield” dependent on completion of model calibration

CoSANA MODEL DEVELOPMENT

Calibration

- CoSANA “Child Model” created from CoSANA provided by WC (red line).
- Initial calibration “Foothills” portion of model is reasonable (blue line) but refinement needed in some areas.
- Basin Plain portion of model undergoing initial calibration.



PROP 68 SCOPE OF WORK (1 OF 6)

- Task 1: Invoicing, Quarterly Reporting, and Grant Administration
- Task 2: Project Management
- Task 3: Surface Water Advisory Group – ***CBI presentation***
- Task 4: Geophysical Investigation – ***slide 7***
- Task 5: Isotopic Recharge Characterization Study – ***slide 8***
- Task 6: Groundwater Dependent Ecosystem Verification – ***CBI presentation***
- Task 7: Voluntary Groundwater Extraction Instrumentation – ***slide 9***
- Task 8: Model Refinements
- Task 9: Monitoring Well Installation

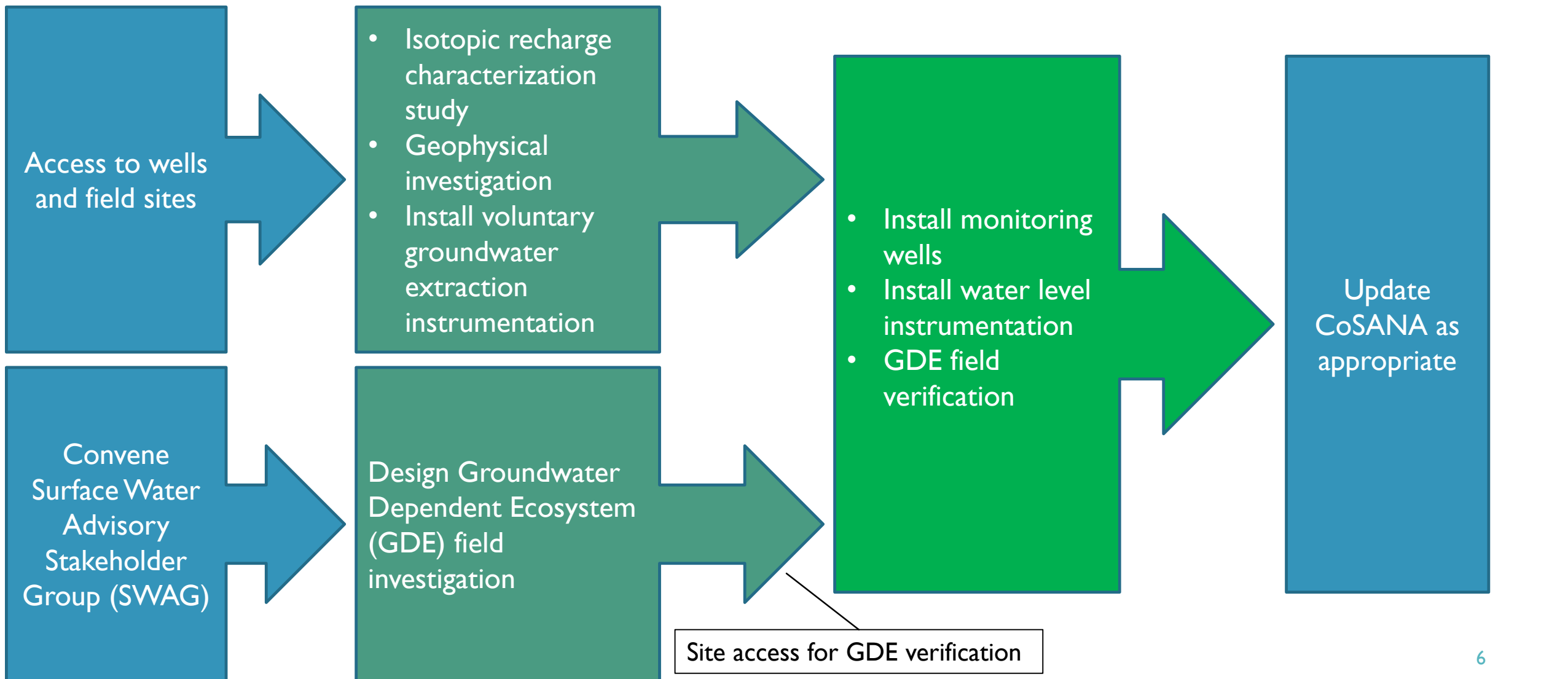
PROP 68 –WORK FLOW FOR FIELD EFFORTS (2 OF 6)

June 2020

July 2020

Aug – Nov 2020

Dec 2020 – Feb 2021



PROP 68 – GEOPHYSICAL INVESTIGATION (3 OF 6)

■ Geophysical section lines

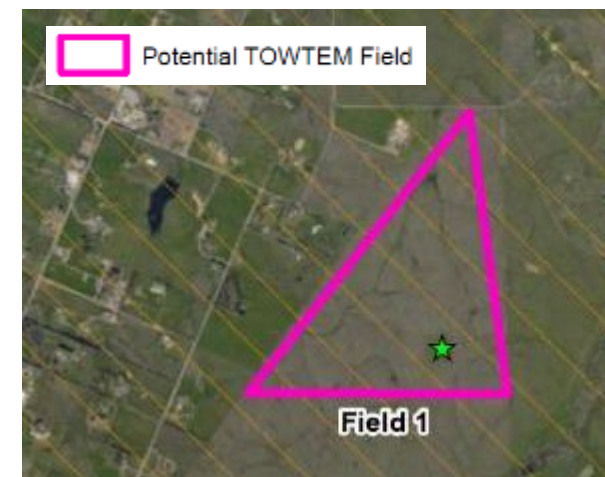
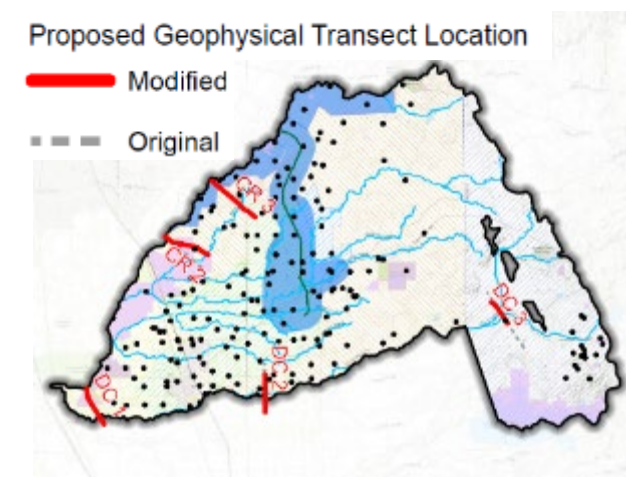
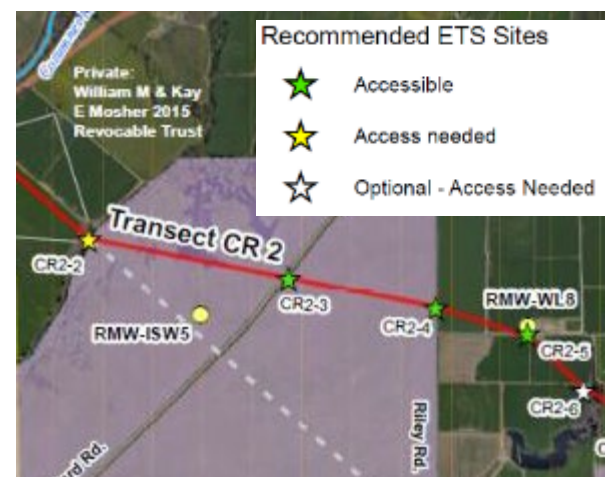
- Refined location/spacing of section lines
- Identified ETS sites located on private property and that require access
- Provided information to GSAs and ETS survey contractor

■ Geophysical field surveys

- GSAs identified potential fields for tTEM survey
- Provided site information for review by tTEM contractor

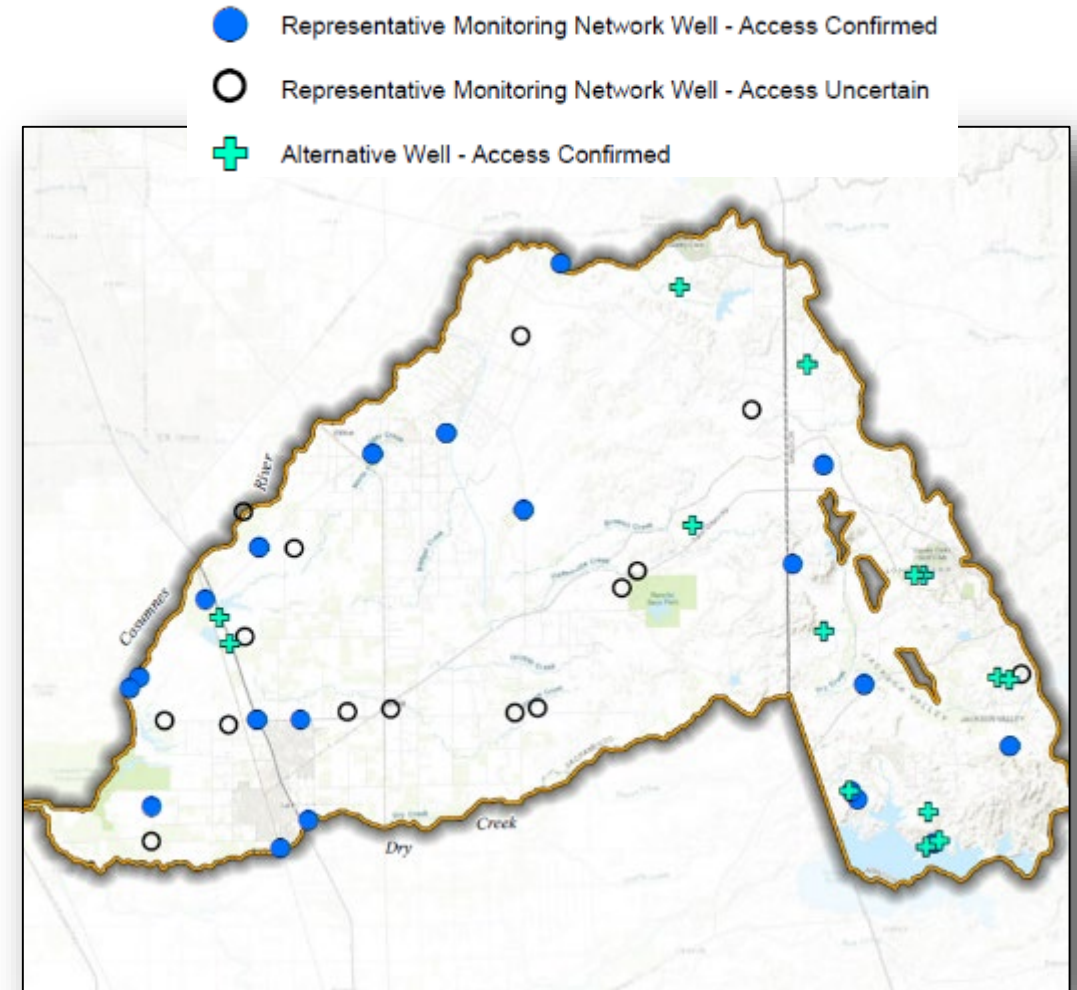
■ **Tasks to be completed by July 1st**

- **GSAs to confirm site access**
- **EKI/GSAs coordinate and finalize field campaign schedule with geophysical consultants and landowners**



PROP 68 – ISOTOPIC RECHARGE CHARACTERIZATION STUDY (4 OF 6)

- Candidate wells for isotopic sampling
 - 34 Wells with access – uneven spatial distribution
 - 15 Target Wells with access not yet confirmed
- EKI will recommend 20 wells for sampling
- GSAs will coordinate sampling visit with landowners
- EKI sampling proposed for week of July 13th to 17th



PROP 68 – VOLUNTARY GROUNDWATER EXTRACTION INSTRUMENTATION (5 OF 6)

- Four wells volunteered
- Two more potential volunteers needed
 - Ideally wells to supply aquaculture and/or almonds/walnuts
- **Need GSAs to take photos of site location and wells by July 1st**
- Site visits by EKI, well contractor and GSA representative proposed for week of **July 13th to 17th**

Network ID	GSA	Well Use	Land Use	Access
RMW-WQ9/ RMW-ISW7	OHWD	Irrigation	Vineyard – irrigated drip	Verbal
--	GID	Irrigation	Corn/Alfalfa	Verbal
--	SRCD	Ag-Res	Horse Property: Pasture/Water Trough/Arenas	Verbal
--	SRCD	Irrigation	Ag-residential	Verbal
?	?	Irrigation	Aquaculture	None
?	?	Irrigation	Almonds/Walnuts	None

SGMA MONITORING NETWORK STATUS (6 OF 6)

GSA	Number of Wells						Number of Gauges	
	WL Rep. Monitoring Sites	WL Confirmed Accessible (6/3/20)	WQ Rep. Monitoring Sites	WQ Confirmed Accessible (6/3/20)	ISW Rep. Monitoring Sites	ISW Confirmed Accessible (6/3/20)	ISW Rep. Monitoring Sites	ISW Confirmed Accessible (6/3/20)
Amador WA ¹	6	6	5	4	--	--	--	--
City of Galt	1	1	2	2	--	--	--	--
Clay WD	1	1	--	--	--	--	--	--
Galt ID	2	0	1	0	--	--	--	--
OHWD ¹	1	1	2	2	2	1	3	0
Sac County	3	2	1	0	4	2	1	0
SRCD	6	1	3	1	1	1	1	0
	20	12	14	9	7	4	5	0

MANAGEMENT AREAS (CCR §354.2) (1 OF 7)

Why Include Management Areas (MAs)?

- Can define some key GSP elements differently between MAs:
 - **SMCs (e.g. Minimum Thresholds, Measurable Objectives)**
 - Monitoring frequency
 - Projects & Management Actions (P&MAs)
- **- BUT -**
- MAs not necessary to accomplish the above
- Regardless of MAs, GSAs have the local authority and responsibility for GSP implementation

MANAGEMENT AREAS (2 OF 7)

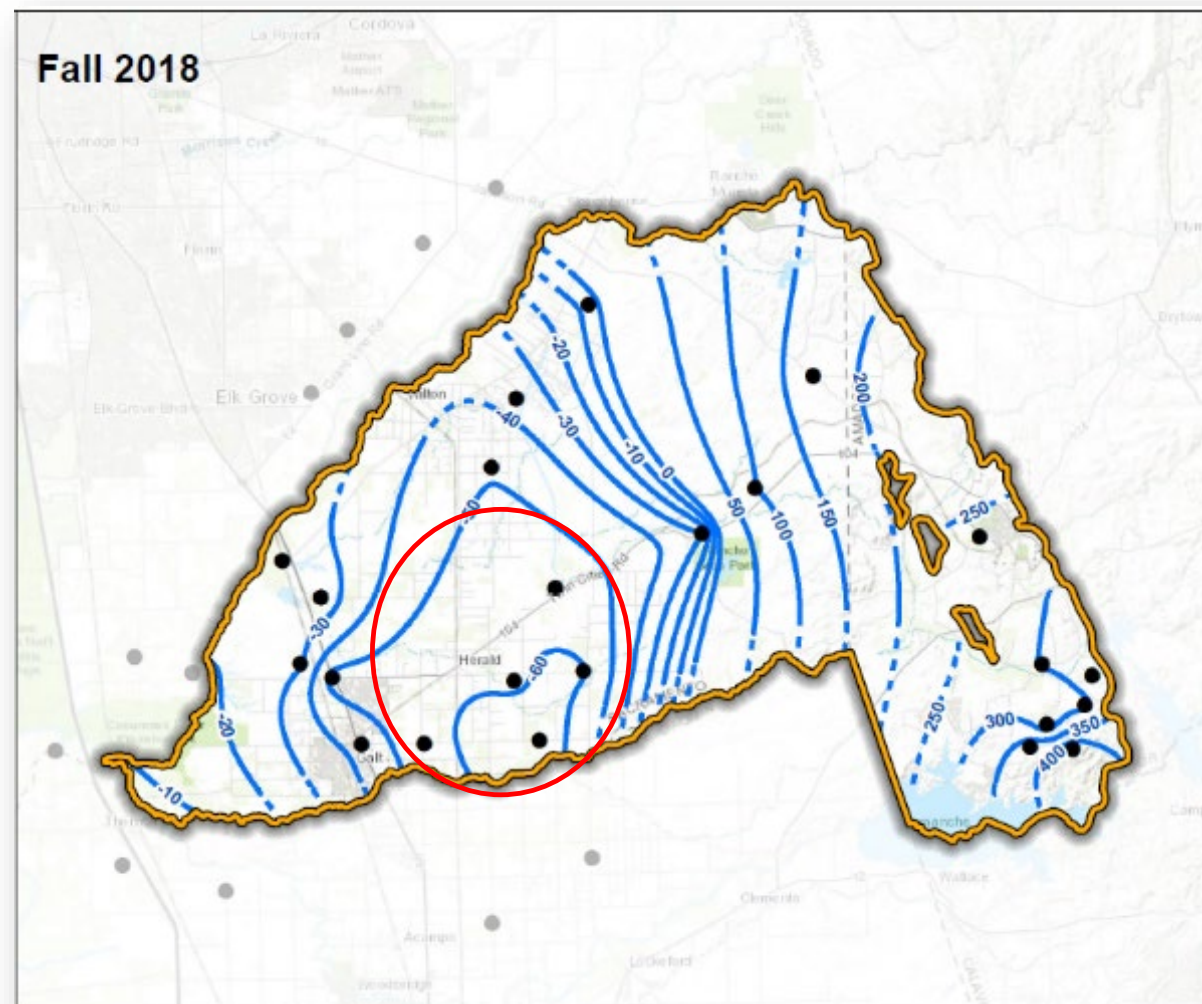
Discussion Points from January 15, 2020 Working Group Meeting

- EKI presented three potential MA options:
 - (1 MA) Basin
 - (3 MAs) Basin Plain / Foothills / River Corridors
 - (7 MAs) GSA boundaries
- GSAs suggested evaluating two additional options:
 - Cone of depression area
 - Based on GDE distribution

MANAGEMENT AREAS (3 OF 7)

Define MA Using Cone of Depression Inferred from Groundwater Elevation Contours

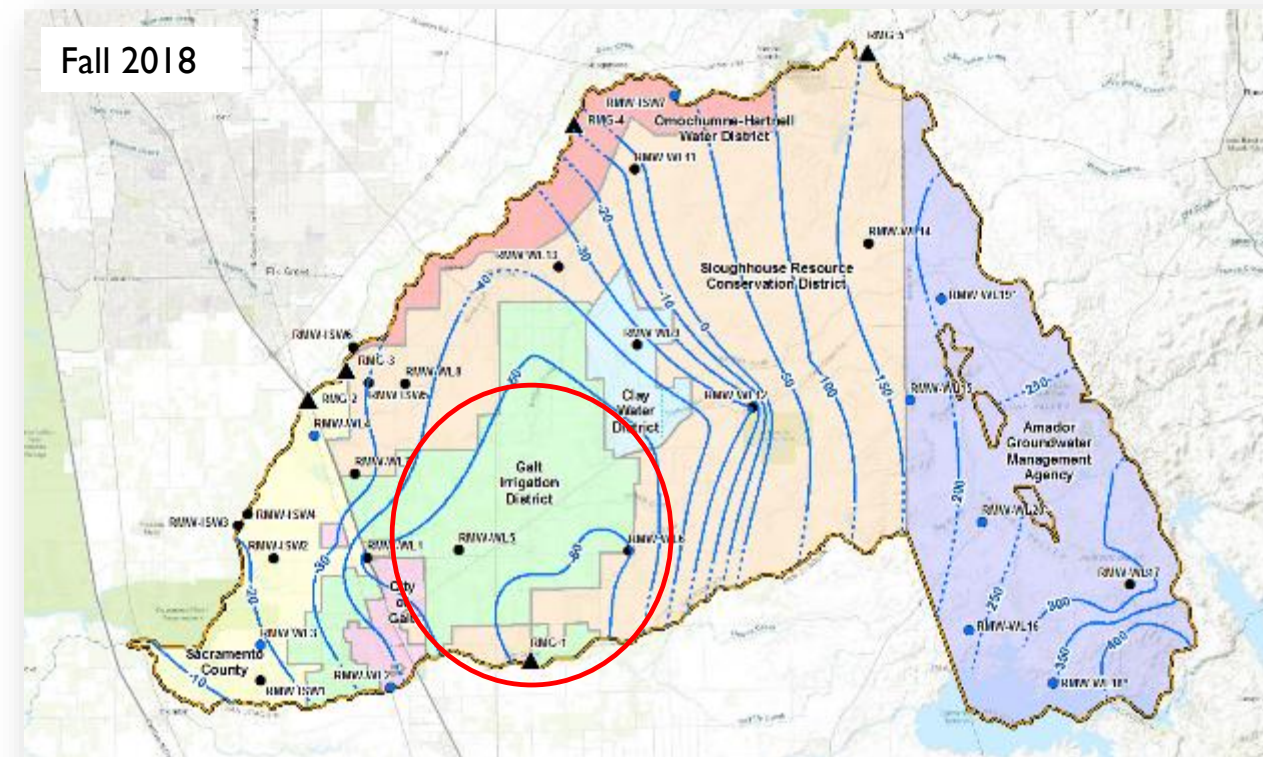
- Groundwater levels in Basin Plain are generally declining over the entire area, not just within the cone of depression
- Lowest groundwater elevations consistently occur near southern basin boundary



MANAGEMENT AREAS (4 OF 7)

EXAMPLE: MA Defined by Cone of Depression

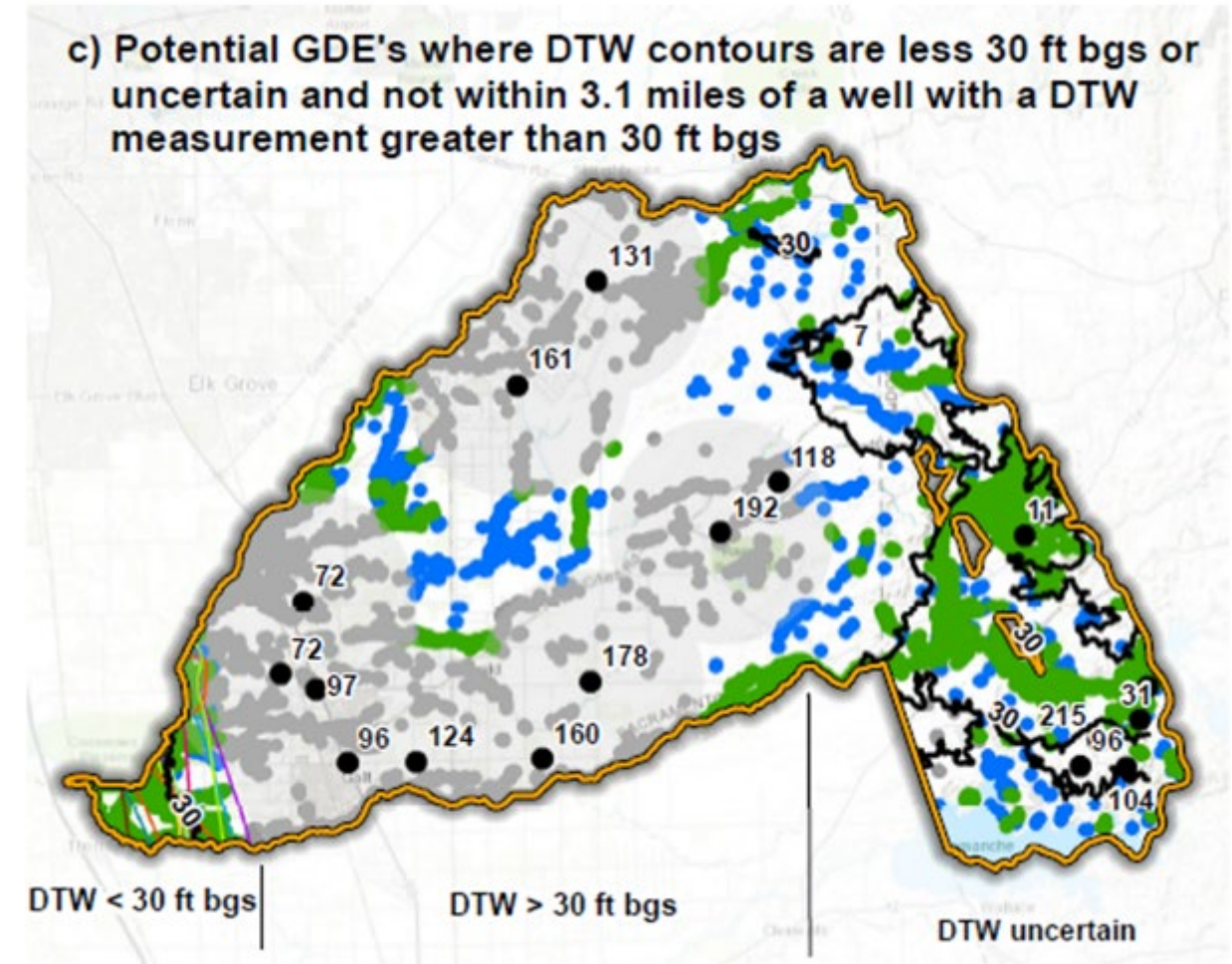
- Portions of four GSAs within the -50 ft msl contour
- Problematic approach because contours change over time and exact MA boundaries will fluctuate



MANAGEMENT AREAS (5 OF 7)

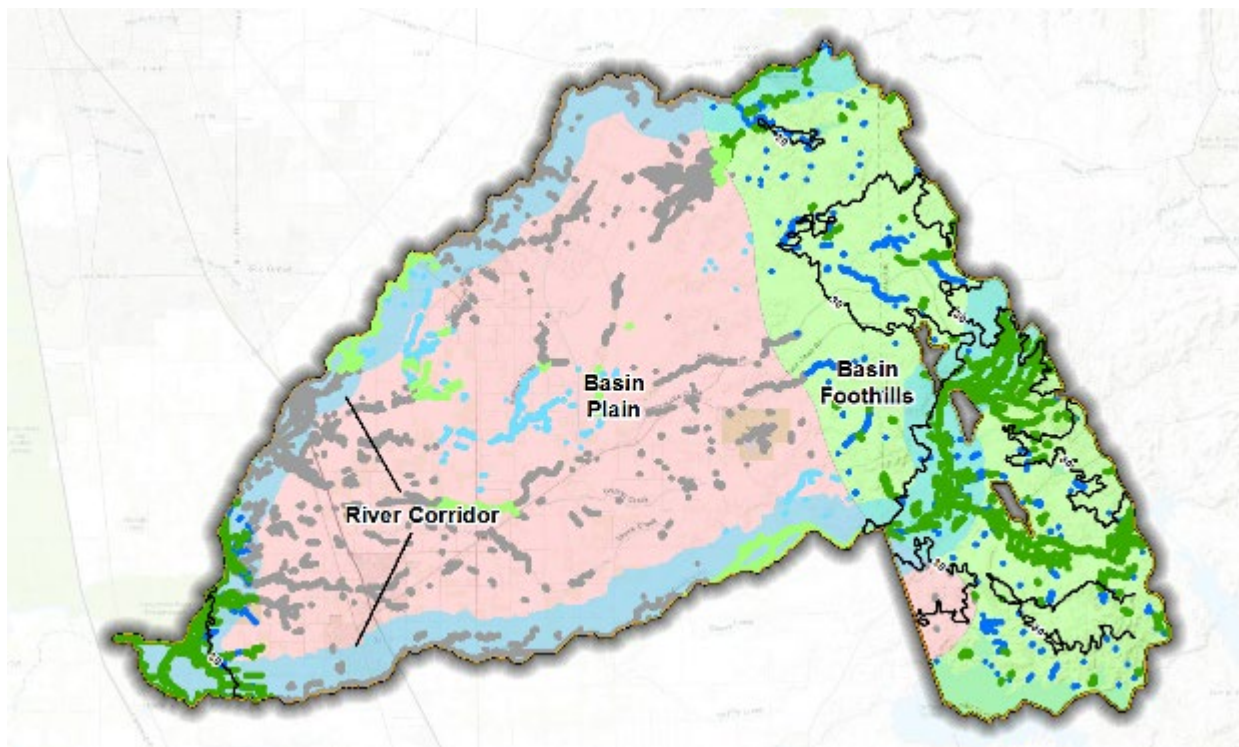
Define MA by Distribution of GDEs

- GDE distribution represented by DWR/TNC “Natural Communities Commonly Associated with Groundwater” dataset
- Potential GDE’s
 - Depth to water contours less than 30 feet
 - Within 3 miles from well with depth to water less than 30 feet



MANAGEMENT AREAS (6 OF 7)

EXAMPLE: MA Defined by GDEs



3 MAs

- Three MAs based on physiographic characteristics (i.e., Basin Plain, Foothills, River Corridor) already appear to capture GDE distribution
- SMCs for Interconnected Surface Water will consider GDE protection with input from SWAG
- Not necessary to “lead with chin” on this issue.

MANAGEMENT AREAS (7 OF 7)

Discussion Points

- What additional information, if any, do GSAs require to make a decision on the definition of MAs?
- EKI Technical Memorandum 10: “Delineation of Management Areas”
 - Need date for Working Group to decide on the use of MAs in Cosumnes GSP
 - Reschedule TM submittal based on Working Group decision

NEXT STEPS

- Continue progress on Prop 68 field activities
- Update Representative Monitoring Site list as access is confirmed and alternate wells are substituted for inaccessible wells
- Continue Sustainable Management Criteria analysis **on hold** until all Representative Monitoring Sites are confirmed