MINUTES
WATER RESOURCES COMMITTEE
Wednesday, July 5, 2023, at 9:00 a.m.
UNITED WATER CONSERVATION DISTRICT
Boardroom, 1701 N. Lombard Street, Oxnard CA 93030

Committee Members Present:
Daniel Naumann, chair
Mohammed Hasan, director

Staff Present:
Mauricio Guardado, general manager
Anthony Emmert, assistant general manager
Dr. Maryam Bral, chief engineer
Dr. Zachary Hanson, hydrogeologist
John Carman, operation and maintenance manager
Christopher Coppinger, senior hydrogeologist
John Lindquist, water resources supervisor
Murray McEachron, principal hydrologist
Josh Perez, chief human resources officer
Patrick O'Connell, senior hydrogeologist
Zachary Plummer, technology systems manager
Ed Reese, technology systems specialist
Vanessa Vasquez. clerk of the committee
Brian Zahn, chief financial officer

Public Present:
Monica Noery, Ventura Water

Call to Order – Open Session
Chair Naumann called the committee meeting to order at 9:00 a.m. The clerk of the committee called roll. Two committee members were present (Naumann and Hasan), Director Kimball was absent.

1. **Public Comment**
   Directors asked if there were any public comments. There were none offered.

2. **Approval of Minutes**
   Motion to approve the Minutes from May 2, 2023, Water Resources Committee meeting. Chair Naumann; second, Director Hasan. Voice vote: two ayes (Naumann and Hasan); none opposed; one absent (Kimball). Motion carries unanimously 2/0/1.

3. **Update on optimization of groundwater recharge at the Saticoy Facility**
   Senior Hydrologist Dr. Bram Sercu presented an Update of Optimization of Groundwater Recharge at the Saticoy Facility, which covered 2023 diversions, optimization efforts, pipeline deliveries, recharge at noble basins, recharge at Saticoy (Pond O), Freeman Diversion flushing, Saticoy wells, forebay monitoring wells, and lower forebay/Oxnard plain monitoring wells (presentation attached).

During Dr. Sercu's presentation (slide four, Pipeline Deliveries) Chair Naumann asked for clarification on the maximum pipeline delivery chart. Dr. Sercu explained there were fluctuations in the pipeline deliveries for the month of May (also represented on slide 6, Pipeline Deliveries continued). Chair Naumann requested Dr. Sercu to include more information and data regarding the District's ponds, including the rotation process, in order to provide more background for the public. General Manager, Mauricio Guardado recommended including a photo of the ponds provided by Operations and Maintenance Program Supervisor John Carman.

As Dr. Sercu continued with his presentation, Director Hasan asked whether the data being shown for recharge at Saticoy (Pond O) was being shown in real time. Dr. Sercu explained that operators don't have access during real time and to understand hourly trends, bi-weekly evaluations are done. Dr. Sercu further explained that the data collected is the result of collaborative efforts between the Water Resources and Operations and Maintenance staff. Together they decide on the best plan of action based on the data collected. Assistant General Manager Anthony Emmert offered some insight into an upcoming project that could help District staff operate the basins more efficiently. The District is looking to utilize electronic meters to detect water levels, which would send operators automated notifications. Dr. Sercu added that this would be beneficial in saving staff time and ensuring that water levels are adjusted automatically. Mr. Guardado then emphasized that staff did their due diligence in ensuring water optimization. He referred to their combined efforts as science at its best with hydrologists and operators working together. Director Hasan commended staff for their efforts and stated that it's important to have thorough information coming through so that the public can fully understand the District's process. Chair Naumann added that including the pond locations and up to date information on pipeline deliveries should be highlighted.

During Dr. Sercu's presentation (slide 14, Freeman Diversion (flushing)) the Committee discussed sand diversions and how that sand replenishes beaches downstream. Chair Naumann suggested putting a dotted line showing the contours in the water (referencing photo from slide 14, Freeman Diversion (flushing)) to demonstrate movement despite mounding. Principal Hydrologist Murray McEachron stated that this could be demonstrated through an animation. Chair Naumann added he would like to see the animation along with comments on current and projected diversions specifically referencing the upcoming 4-million-acre foot milestone the District will reach in August. This led to discussing Article 21 water projections. Chair Naumann stated that water will be available for Pleasant Valley County Water District's (PVCWD) recharge gravity flow addressing a member of the public. The member of the public, from PVCWD, responded absolutely. Chair Naumann would like the public to be aware of overall operations and suggested adding another slide regarding Saticoy and El Rio Ponds. He concluded that this was great news all around.

No additional questions or comments offered.

4. **Status of draft Extraction Barrier and Brackish Water Treatment (EBB) Water Phase 1 Monitoring and Contingency Plan**

Water Resources Supervisor John Lindquist presented on the status of draft EBB Water Phase 1 Monitoring and Contingency Plan covering seawater intrusion near Naval Base Ventura County (NBVC) in Point Mugu, the purpose of the contingency plan, what's being monitored (including planned wells, existing and new), whether EBB Extractions are causing inelastic land subsidence, where monitoring will take place, what contingencies to prepare for and how often results will be reported.

During Mr. Lindquist's presentation (slide twenty-two, Groundwater Elevation Data), Chair Naumann asked about the placement of wells and whether they would be elevated to accommodate potential future sea level rise. Chief Engineer Dr. Maryam Bral responded that staff are considering sea level rise and the placement of the wellheads. Director Hasan then asked for baseline information on the well installation. Mr. Lindquist began explaining that the design started with gathering data for the area of installation for the 18 monitoring wells. In advance to the extraction wells, there is still outstanding data that needs to be reviewed a year prior to installation. Dr. Bral and Mr. Lindquist both stated that there is more data required for the semi-perched aquifers. Director Hasan asked for this baseline information to be provided and to simplify the information for overall public understanding.

Mr. Lindquist continued with his presentation.

At the end of the presentation, Chair Naumann asked Mr. Lindquist to include phase completion dates for both phases of the EBB Water Treatment project along with a footnote regarding grant awards.

No additional questions or comments offered.

5. **Water Resources Department and GSA Activities Update**

Due to the meeting running late Mr. Lindquist asked the Committee directors if department updates would be necessary and mentioned that staff activities were all included in this month's staff report. Committee members acknowledged they read the staff report and agreed to continue the meeting without the department updates. Mr. Lindquist then moved on to staff updates. He stated that the District is in the process of hiring a hydrologist and recently hired water resources staff that start on Monday, July 10. Mr. Lindquist then welcomed two recently hired senior hydrogeologists that were in attendance.

The committee then redirected to suggestions for staff presentations. Director Hasan would like staff to focus on presenting findings but overall shared his enthusiasm for their excellent work. Chair Naumann agreed and stated he would like current and future achievements to be the focus.

No additional questions or comments offered.

FUTURE AGENDA ITEMS

No future agenda items. No questions or comments offered.

ADJOURNMENT 10:29 a.m.

Chair Naumann adjourned the meeting at 10:29 a.m.

I certify that the above is a true and correct copy of the Minutes of the Water Resources Committee Meeting of July 5, 2023.

ATTEST: Daniel Naumann

Daniel Naumann, Chair

United Water
CONSERVATION DISTRICT

ATTENDANCE LIST

MEETING DATE: Wednesday, July 5, 2023

MEETING: UWCD Water Resources Committee Meeting

The signing or registering of your name on this sign-up form is not required but is voluntary. All persons may attend the meetings of the Board of Directors of United Water Conservation District without signing or registering their names on this form.

Name (Please Print)	Representing
Monica Nieto	Ventura Waters
Patricia O'Connell	self

United Water CONSERVATION DISTRICT

4. Update on Optimization of Groundwater Recharge at the Saticoy Facility

Presented by Dr. Bram Sercu
Water Resources Committee Meeting
July 5, 2023

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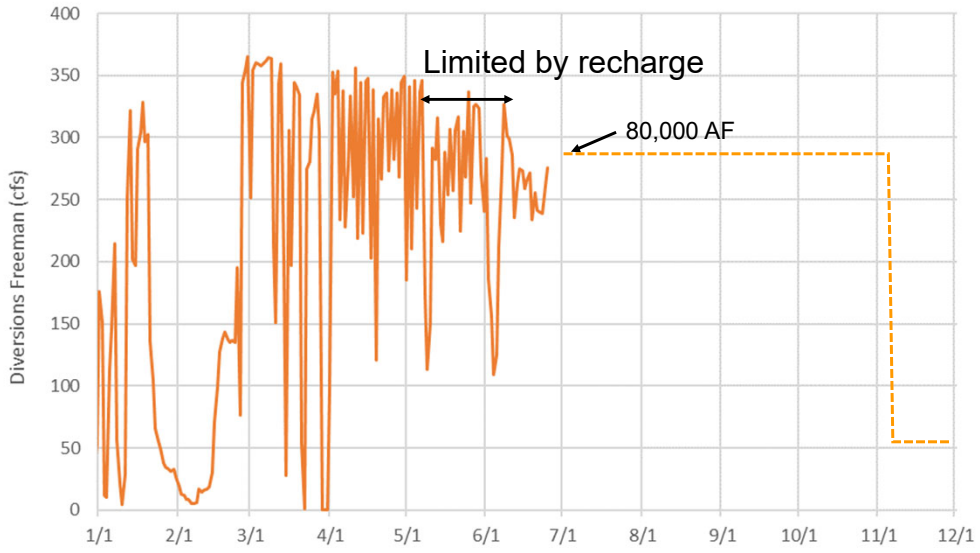
2023 Diversions



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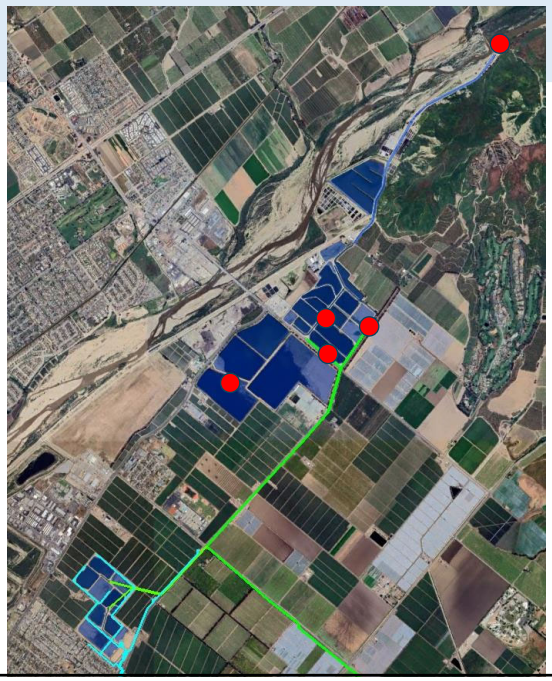

Optimization Efforts

1. Pipeline deliveries
2. Noble recharge
3. Saticoy recharge
4. Freeman flushing
5. Saticoy well field

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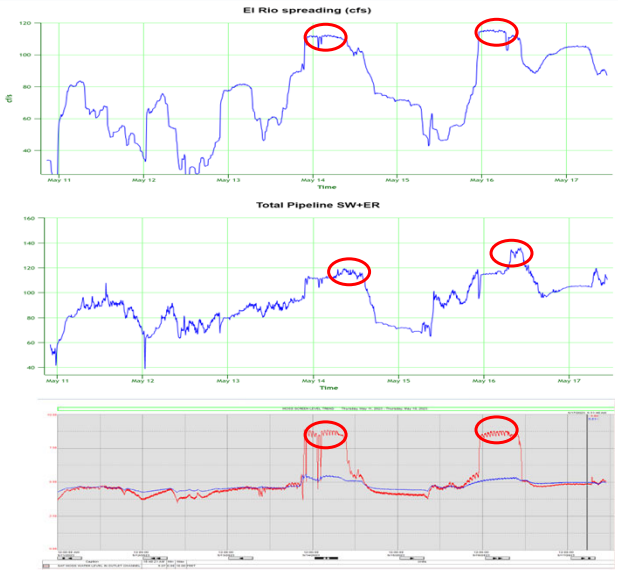
1. Pipeline Deliveries



Maximum El Rio deliveries

Maximum Pipeline deliveries

High water levels Moss screen outlet

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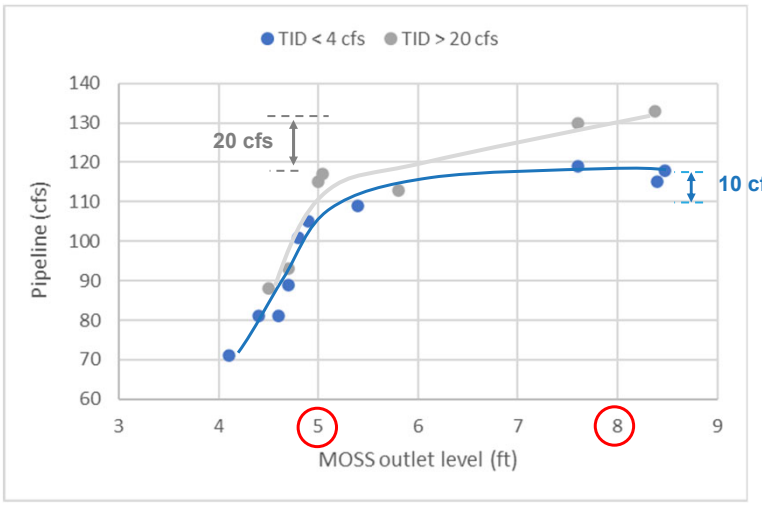
1. Pipeline Deliveries



Pipeline deliveries increase by **10-20 cfs** when operating Moss screen level at **8 ft** vs. 5 ft

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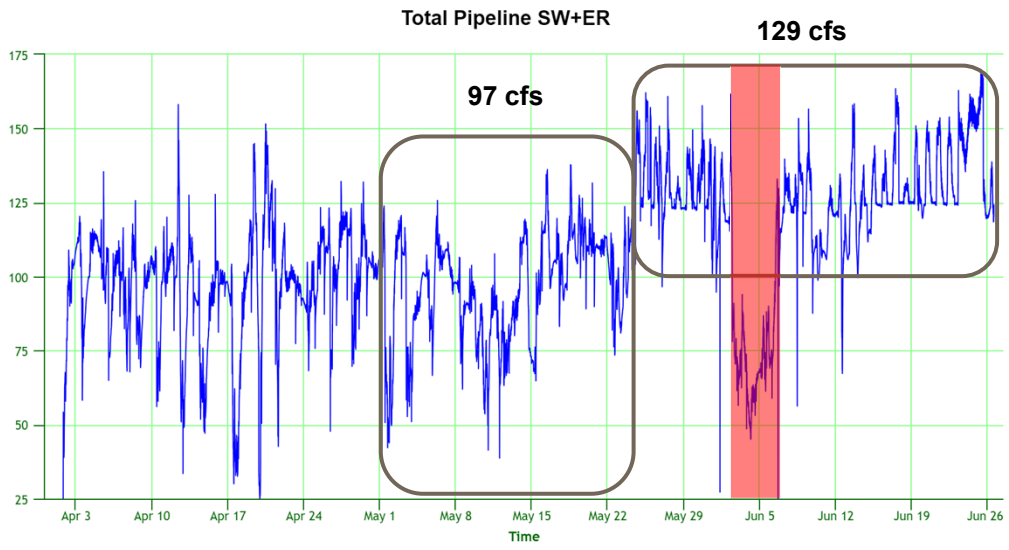
1. Pipeline Deliveries



+32 cfs on average

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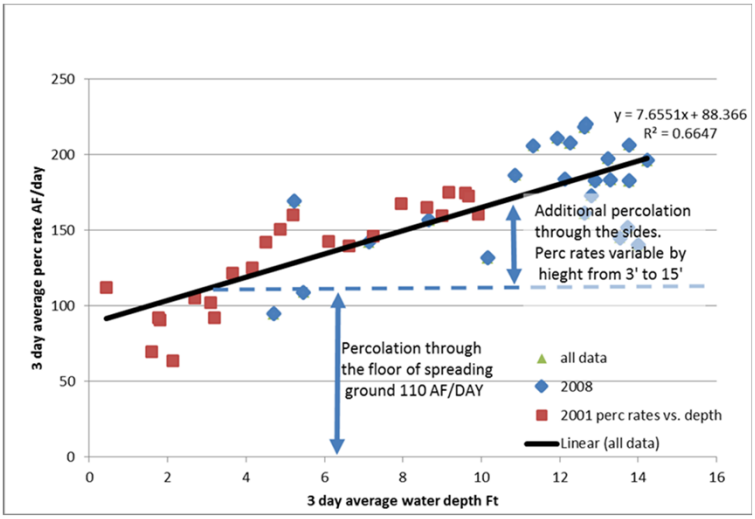
2. Recharge Noble Basins



- Significant recharge through side berms in Noble 3
- Operate basins high for maximum recharge

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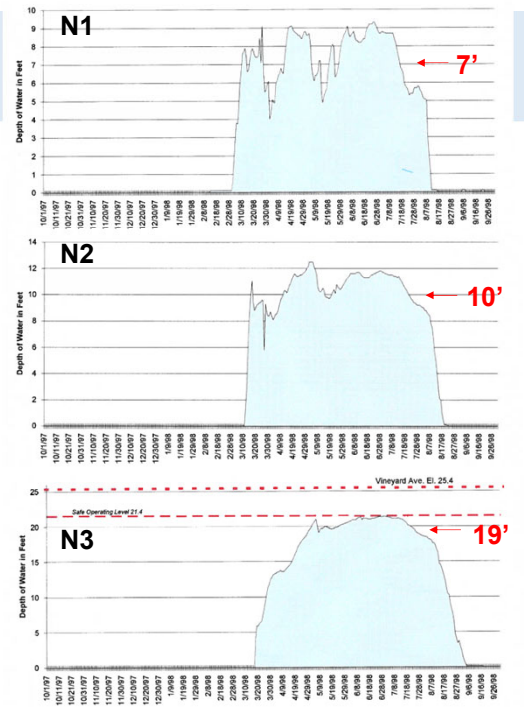
NOBLE BASINS LEVELS



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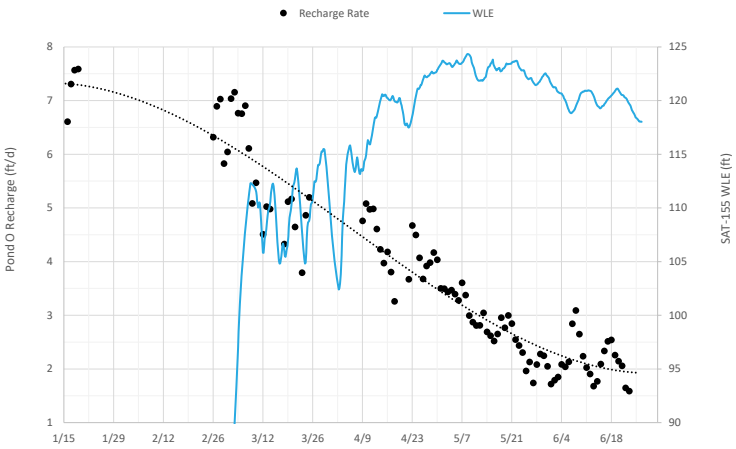
3. Recharge Saticoy (Pond O)



- Recharge significantly reduced due to mounding
- Recharge continues to decline as mound relaxes somewhat
- Basin clogging also a factor?

→ Disk basins in July

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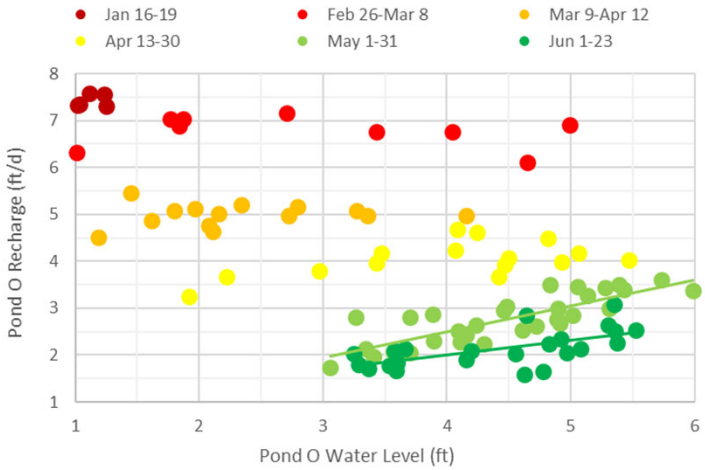
3. Recharge Saticoy (Pond O)



Increasing operating level increases recharge <u>after May 1</u>

E.g., increase 0.5 ft/d

	Pond O	All Saticoy
Area (acres)	10	85
Rate (AF/d)	+5	+43
Rate (cfs)	**+2.5**	**+21**

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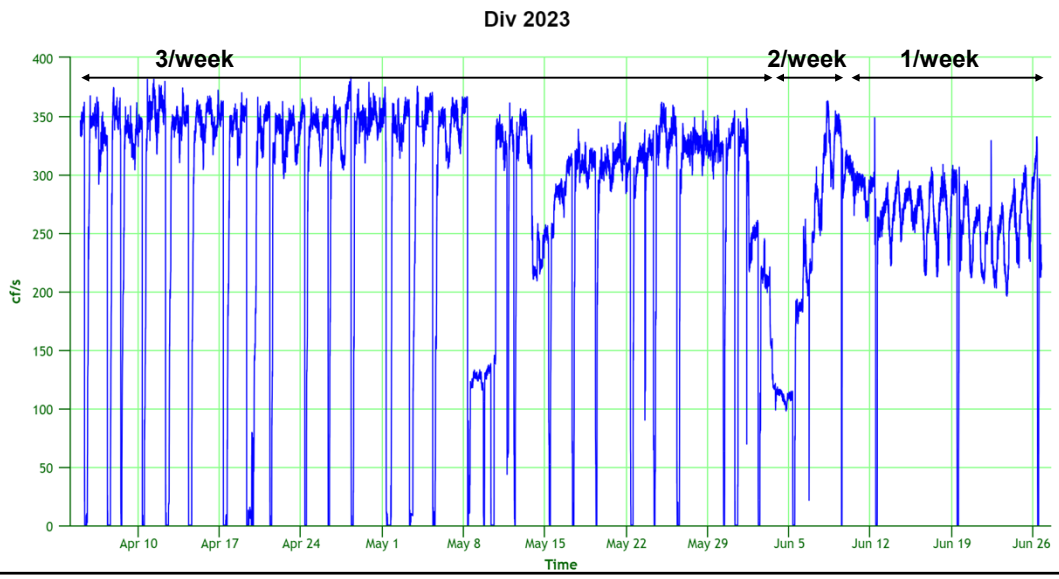
4. Freeman Diversion (flushing)



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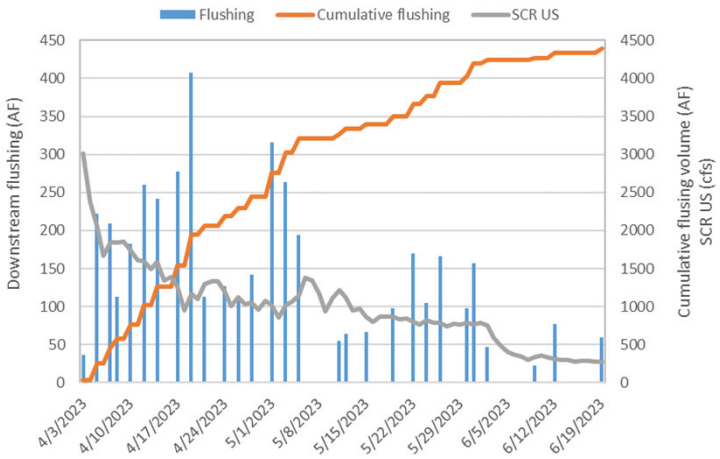
4. Freeman Diversion (flushing)



- Sediment flushing impacts yield
- Monitor to optimize flushing frequency/duration

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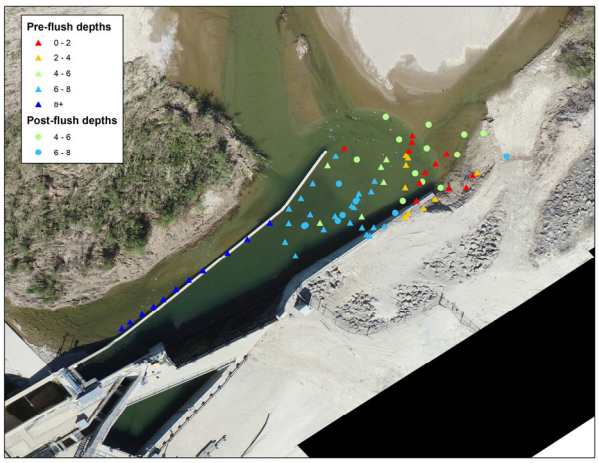
4. Freeman Diversion (flushing)



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4. Freeman Diversion (flushing)

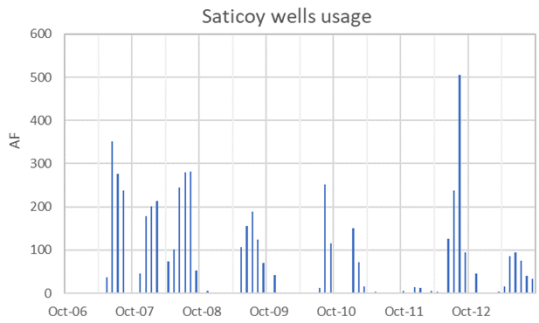
Start

End

14

14

5. Saticoy Wells



- Wells are currently operational
- May be used in Nov-Dec (if diversions < ~125 cfs)

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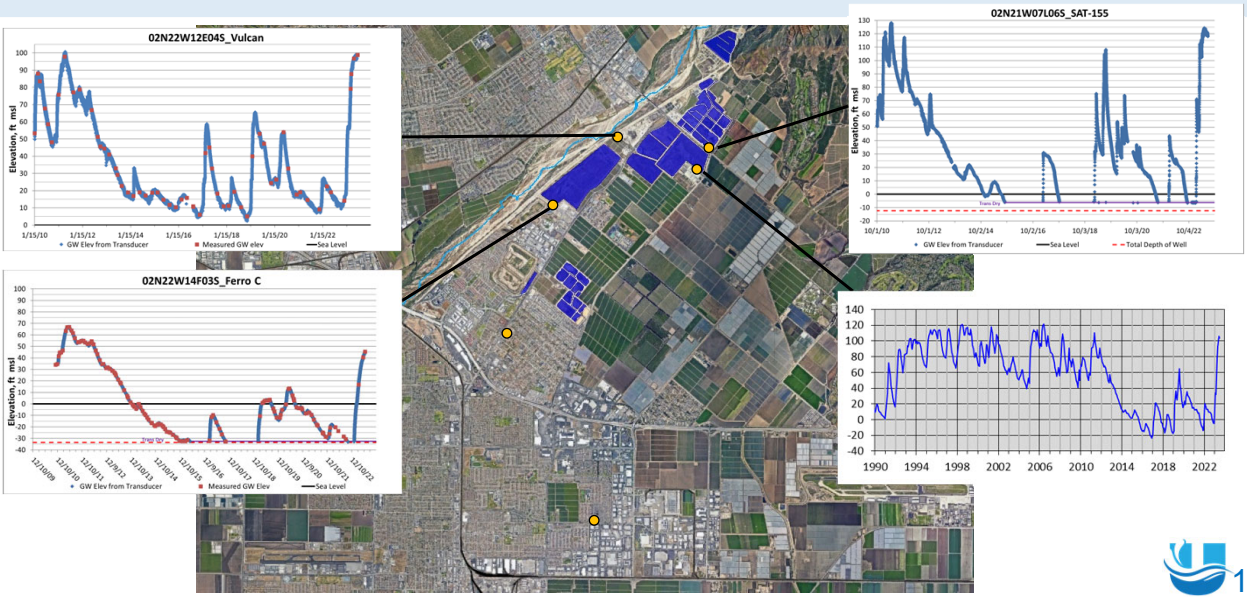
FOREBAY MONITORING WELLS



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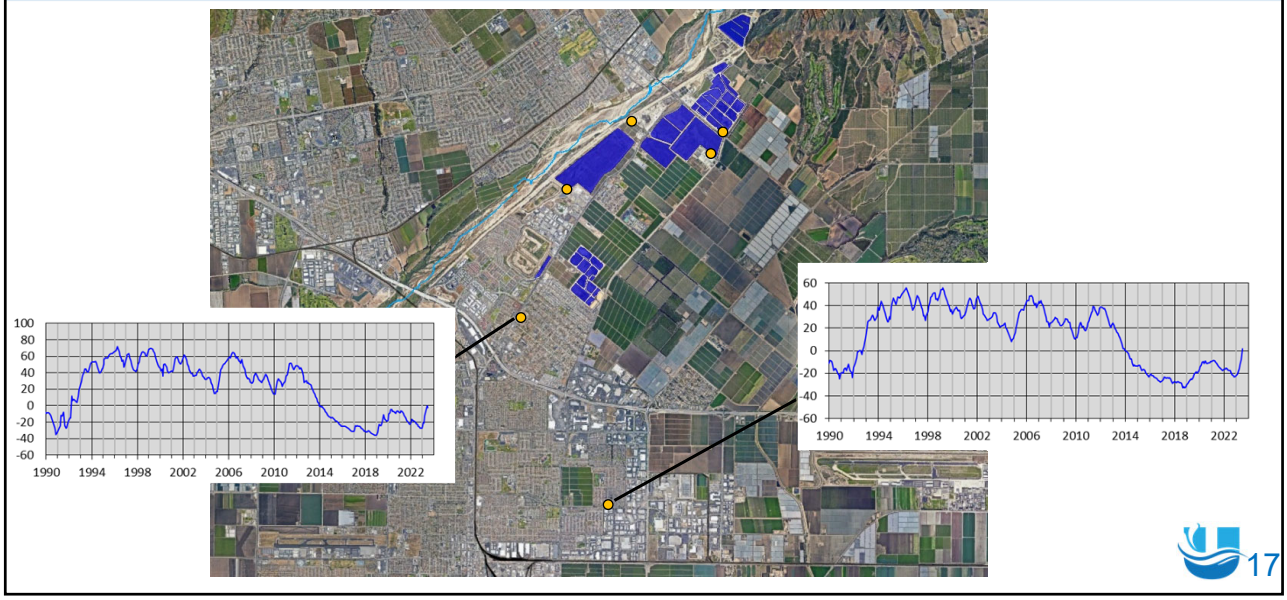
LOWER FOREBAY/OXNARD PLAIN MONITORING WELLS



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QUESTIONS?

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United Water CONSERVATION DISTRICT

5. STATUS OF DRAFT EBB WATER PHASE 1 MONITORING AND CONTINGENCY PLAN

Presented by: John Lindquist, Water Resources Supervisor
Water Resources Committee Meeting
July 5, 2023

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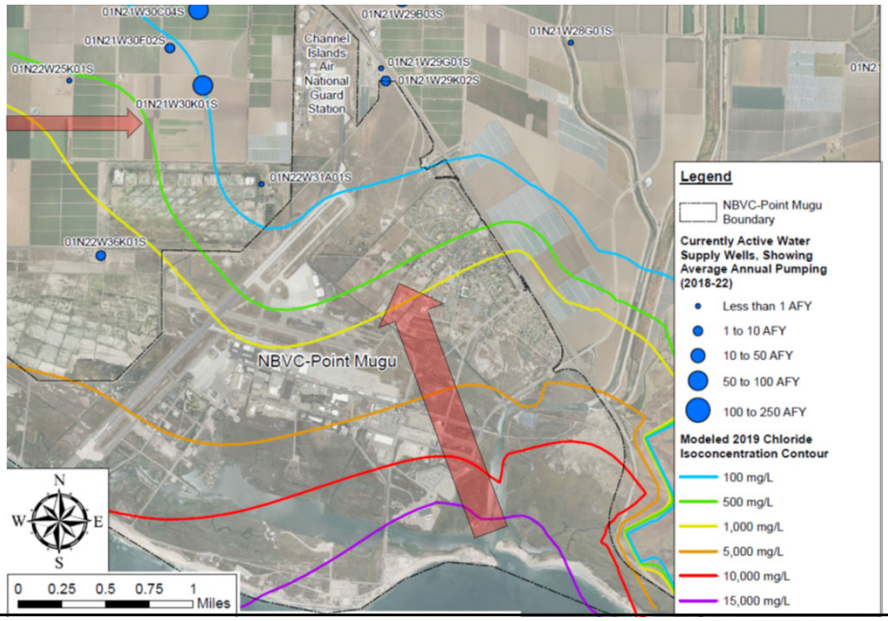
Seawater Intrusion Near NBVC-Pt. Mugu Today



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What is the Purpose of This Plan?

1. State what we intend to accomplish with this project.
   a) Capture intruding seawater
   b) Begin removing seawater that has already intruded
   c) Increase sustainable yield of the OPV basins

2. Describe how we will measure progress
   and recognize if anything happens that we weren't expecting

3. Specify potential contingency actions we will take if something unexpected happens.

3

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What Will We Monitor?

1. Groundwater elevations (and gradients)
   a) Extent of capture
   b) Effects on existing water-supply wells north of Base
   c) Drawdown relative to historical lows
   d) Vertical gradients near extraction wellfield

2. Groundwater quality
   a) Only targeting brackish to saline water during Phase 1
   b) Unexpected groundwater quality or geochemical changes
   c) Vertical migration from Semi-perched Aquifer to Oxnard Aquifer

3. Land-surface elevation changes (subsidence)

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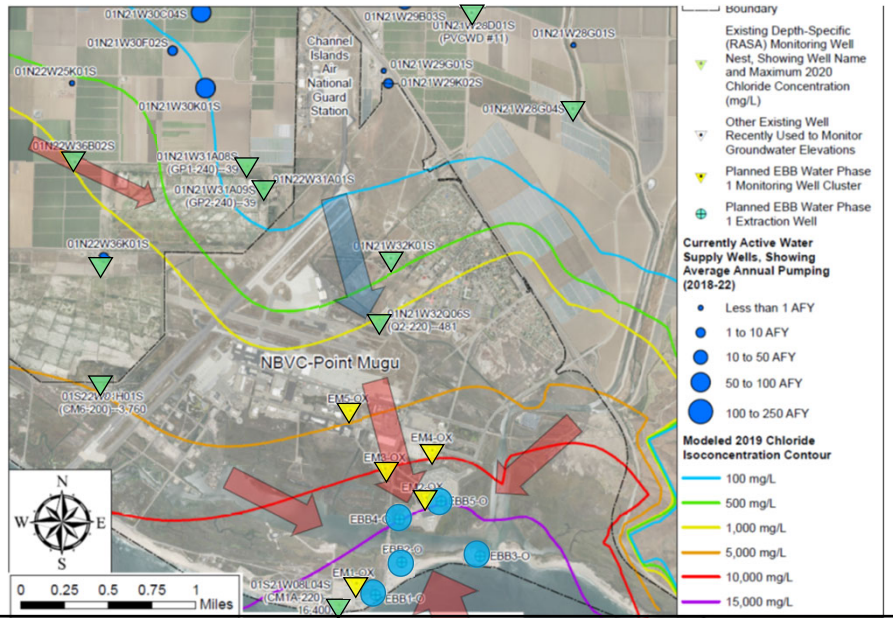
Planned New Monitoring Wells



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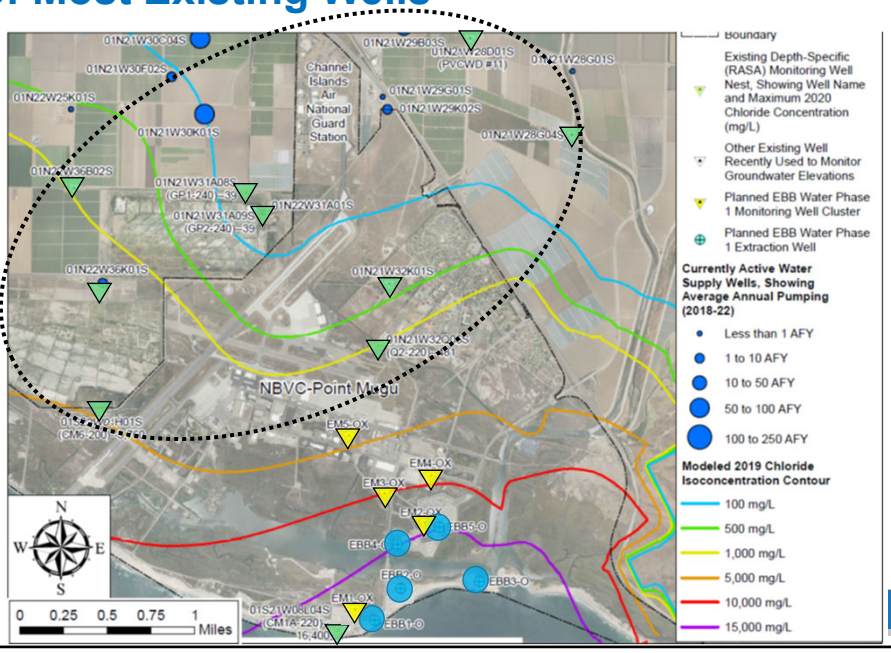
Monitoring of Most Existing Wells

GW Levels:

- Monthly for first 12 months
- Quarterly during subsequent years

GW Quality:

- Continue current schedule (quarterly to semi-annually)



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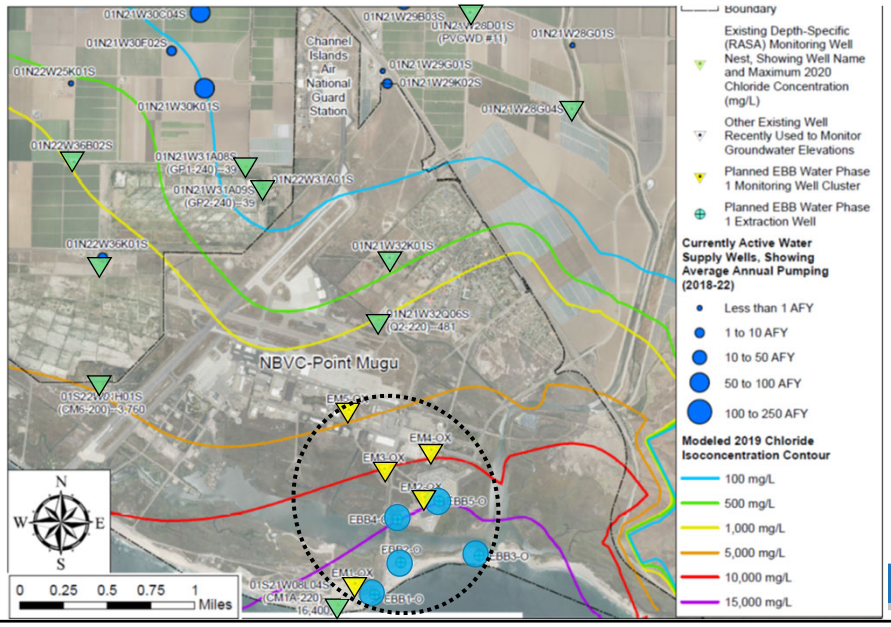
Monitoring of New Monitoring Wells and Extraction Wells

GW Levels:

- Hourly to monthly for first 12 months
- Monthly to quarterly during subsequent years

GW Quality:

- Monthly to quarterly



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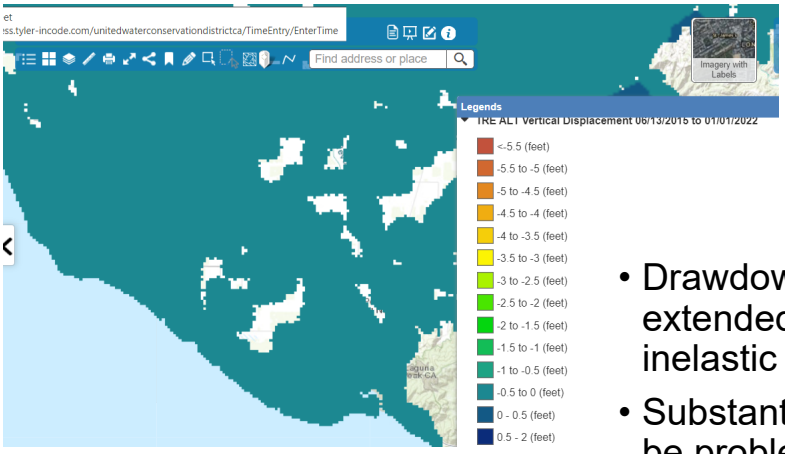
Are EBB Extractions Causing Inelastic Land Subsidence?



Total vertical displacement, June 2015 to January 2022

- Drawdown below historical lows for extended periods could lead to inelastic land subsidence.
- Substantial land subsidence could be problematic for Navy operations.

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Where will we monitor?

- Wells at margins of NBVC-Pt. Mugu (less frequently)
  - Groundwater levels
  - Salinity and major ions (same as in past)
- Wells near extraction wellfield (more frequently)
  - Groundwater levels, with special attention to vertical gradients
  - Salinity and major ions
  - Broader suite of organic and inorganic constituents

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What contingencies will we be prepared for?

1. Fresh groundwater reaching extraction wells
2. Groundwater levels dropping below historical lows
3. Downward migration of water from the Semi-perched Aquifer
4. Other unexpected changes in groundwater quality or geochemistry
5. Inelastic (permanent) land subsidence
6. Unexpected changes in groundwater levels or hydraulic gradients

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How often will we report results?

- Annually for routine reporting
- Within 14 to 30 days if a contingency action is triggered

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Questions?

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