MINUTES
WATER RESOURCES COMMITTEE
Thursday, July 8, 2021, at 9 a.m.
UNITED WATER CONSERVATION DISTRICT
Boardroom, 1701 N. Lombard Street, Oxnard CA 93030

Committee Members Present:
Chair Edwin McFadden – Chair
Director Naumann – Director

Committee Members Absent:
Director Maulhardt - Director

Staff Present:
Mauricio E. Guardado Jr., General Manager
Joseph Jereb, Chief Financial Officer
Brian Collins, Chief Operations Officer
Dr. Maryam Bral, Chief Engineer
Dan Detmer, Supervising Hydrogeologist
Anthony Emmert, Assistant General Manager
Dr. Zachary Hanson, Hydrogeologist
Kathleen Kuepper, Hydrogeologist
John Lindquist, Senior Hydrogeologist
Josh Perez, HR Manager
Zachary Plummer, IT Administrator
Dr. Bram Sercu, Senior Hydrologist
Dr. Jason Sun, Senior Hydrogeologist/Modeler

Public Present: Attendance List (attached)
Greg Lewis
John Mathews
Jurgen Gramckow
Martin Gramckow
Tony Morgan
Fred Van Wingerden

OPEN SESSION: 9:00 a.m.
Chair McFadden called the Water Resources Committee Meeting to order at 9:00 a.m.

1. Public Comment
Chair McFadden asked if there were any public comments for the Water Resources Committee. None were offered.

2. Approval of Minutes - Motion

Motion to approve the June 1, 2021, Water Resources Committee meeting minutes, Director Naumann; Second, Director McFadden. Voice vote: two ayes (McFadden and Naumann); none opposed; one absent (Maulhardt), motion carries 2/0/1.

3. UPDATE: Proposed Water-Supply Projects' Impact on Water Yield and Sustainability

General Manager Mauricio E. Guardado Jr. provided updates on slides (see attached) on the pros and cons of adjudication on the basin. John Mathews asked what was the $25 per acre-foot (AF) expense of adjudication referred to during the presentation. Mr. Guardado replied that was the estimated additional legal expense that was estimated to be incurred by United during the adjudication. Director Naumann asked whether most adjudications required 10 years to resolve. Mr. Guardado said most took at least 10 years and were often followed by additional litigation.

Mr. Guardado then introduced Senior Hydrologist Dr. Bram Sercu who provided a presentation (see attached) on the summary of the initial surface water modeling results of new projects for the Oxnard and Pleasant Valley (OPV) Basins. Dr. Sercu provided an overview of how the proposed projects will work together will bring us closer to meeting our goal. Director Naumann stated there is a lot of detail included in the presentation, but the overarching message is that water is coming to help keep everything alive.

Mr. Lindquist then provided updates and slides (see attached) on the initial ground water modeling results for the suite of proposed water-supply projects that were recommended by the OPV stakeholder projects committee. Mr. Lindquist stated that the OPV stakeholders group worked for 6 months to develop these projects. He then provided a scenario of what would occur if no action were taken and subsequently showed the different ways sustainability can be achieved.

Mr. Guardado provided additional information on United's position on the adjudication filing. Director Naumann stated that United has diverted so much water and that the District is fortunate to have 700 acres of spreading grounds which percolate at rates of 10-14 acre feet per day. Additionally, he stated he is grateful to be able to recharge the aquifer which provides the opportunity to push back seawater. He added, with all the proposed projects it is creating the momentum and traction to ensure we have surplus water to put back in the ground for the future.

Mr. Guardado stated that he had a meet and greet with the U.S. Naval Base Ventura County (USNBVC) new commander and their public works officer, they discussed the need to expand and be sustainable and stated that he has been able to cultivate a great relationship with them. He stated that the Navy dedicated their onsite own resources for United to test reverse osmosis as well.

Jurgen Gramckow asked to what extent is the GMA supportive of modifying the Groundwater Sustainability Plan (GSP) to include these projects in the plan. He stated that that he believes this is what could diminish interest in adjudication. Mr. Guardado stated that his understanding is that they have been supportive and encouraging of the projects. He added, United has been afforded enough of an opportunity to present details and forecasting on what would occur to the basin. Director Naumann stated that with the changes on the GMA Board of Directors, the direction will shift. He added, United has a seat on the Board and in order to get the projects moving, we will need to have the GMA's support to get the process in place.

John Mathews asked whether United was planning to recharge recycled water from Oxnard's advanced-water purification facility (AWPF), instead of delivering it to Pleasant Valley County Water District (PVCWD) for agricultural use, because a significant investment has been made in the Hueneme Road pipeline for that purpose. Mr. Lindquist replied that recharge of AWPF water would only be considered when there was insufficient agricultural demand to use it all, like during the wet season.

Greg Lewis stated that the projects appear to be an effort between rate payers and staff, he asked how does United select which projects go forward and in what order? Is there a criterion the Board uses or how does the District decide? Mr. Guardado stated that this is decided based on a number of factors. He then stated that the Coastal Brackish Groundwater Extraction and Treatment Plant Project (CBGWET) provides a great benefit to the basin. The project will be fully funded and United has a model for analysis on the Navy Base. He then stated that it cost rate payers $150,000 to complete the initial modeling. Dr. Bral stated that a goal of prioritizing projects is to utilize existing infrastructure, for example the Article 21 water and preservation of the Freeman Diversion. The modeling shows how the projects will work together.

Mr. Guardado stated that United knows how to design, construct, and obtain grant funding. He added rate payers are supportive of the efforts and thanks to the support of the community, United is well positioned to take advantage of grant opportunities.

Fred Van Wingerden asked how quickly we will have 30,000 AF of new supplies available. Dr. Bral stated that the plan is to have the CBGWET plant up and running in 2027, this considers the processes that United will need to go through and the agreement with the Navy which feels promising.

Martin Gramckow stated that this is great work, the benefits of the CBGWET and there being 7,000 AF of actual water and the 10,000 AF we get by changing the slope of the gradient is the best news he has heard.

Supervising Hydrogeologist Dan Detmer stated that he does not believe the GMA has a negative bias on the project. He added, there may be a "reopening" opportunity for new projects in the GSP if the plans are not approved by DWR.

Tony Morgan stated that the Navy is obviously a great partner and they have a vested interested in the brackish-water project, he then asked if the cooperation comes with a claim to a portion of the product water. Mr. Guardado stated that the Navy would like 1,500 AF for their site, which is modest. Mr. Detmer stated that they currently are using water supplied by the Port Hueneme Water Agency Water (PHWA). Mr. Guardado then stated that they do not want to own and operate the facility, they just want to meet sustainability goals.

Mr. Lewis stated that he echoes Martin Gramckow's words and that while it is easy for regulatory agencies to demand water-use reductions, they now seem interested in promoting projects. He stated that the agricultural community worked hard to develop the plan, the allocation, and equity represent a small portion of the driver behind the adjudication filing. He added, he thinks certainty is a large portion of it for the agricultural community. Mr. Lewis stated that they have been operating behind three different allocation plans and it is difficult to operate a farming operation with such uncertainty. He noted that their goal is to keep control of water supplies local but is

concerned that locals could lose control (to State agencies). Mr. Guardado replied that one of United's major concerns is who will intervene in an adjudication lawsuit—experience has shown that State agencies and non-local NGOs have commonly intervened in other adjudications.

Director Naumann stated that he would like to have more discussions on this topic, and would like stakeholders to participate.

Chair McFadden asked if the presentations will be made available online. Mr. Guardado, Jr. stated that they can be.

FUTURE AGENDA ITEMS
None were mentioned.

ADJOURNMENT
Chair McFadden adjourned the meeting at 10:52 am.

I certify that the above is a true and correct copy of the Minutes of the UWCD Water Resources Committee Meeting of July 8, 2021.

Edwin T. McFadden III

Chair Edwin McFadden

The Painful Truth about Adjudication

Presented by:
Mauricio E. Guardado, jr., General Manager
United Water CONSERVATION DISTRICT

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1. Legal costs of contest adjudications

a. Mojave (1990-2000) $25 million in legal costs

b. Santa Maria (1997-2008) $50 million in legal costs

c. Antelope Valley (1999-2016) over $100 million in legal costs

d. New comprehensive adjudication statute patterned after Antelope Valley Adjudication

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2. Legal result of all adjudications

a. Determination of water rights

b. Physical solution – an injunction which imposes required pumping reductions (ramp downs) to bring basin to safe yield

c. Appointment of a watermaster

3

3. Unintended consequences – basin governance

a. Court appointed watermaster

1. No longer elected representatives
2. Court creates and appoints watermaster
3. Watermaster's bills and expenses paid by pumpers

4

4. Unintended consequences -- parties

a. Code of Civil Procedure section 835 requires notice of the adjudication served on the following:
   - State Water Resources Control Board (verify compliance with applicable water quality permits)
   - Department of Water Resources
   - California Attorney General
   - California Department of Fish and Game
   - All Fox Canyon Groundwater Management Agency's Interested parties (Wishtoyo, CalTrout, National Environmental Defense)

b. All receiving notice of adjudication may intervene

5

United Water CONSERVATION DISTRICT

Initial Modeling Results For The Suite Of Proposed Water-Supply Projects Recommended by OPV Stakeholder Projects Committee

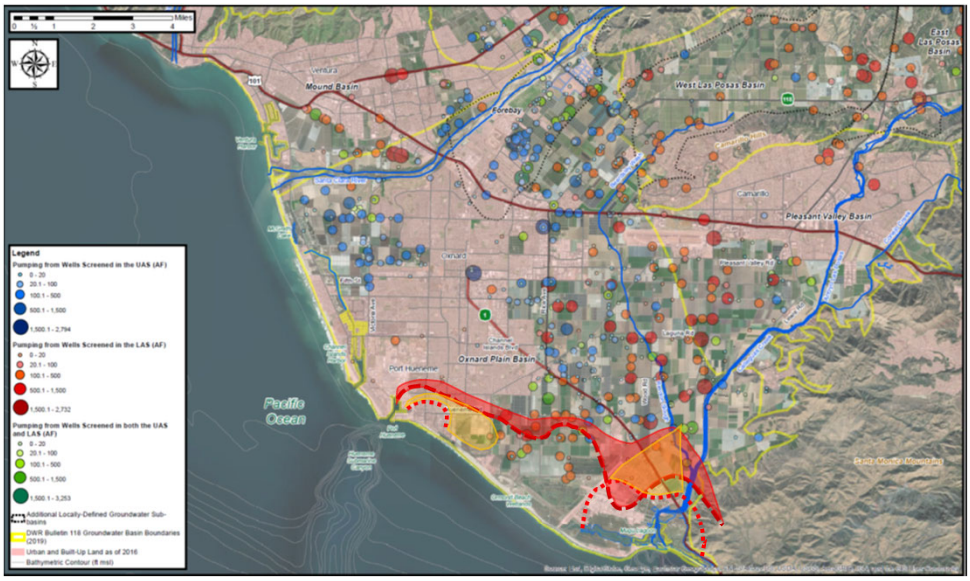
John Lindquist

July 8, 2021

1

The Primary Driver For Reducing Pumping Or Enhancing Yield In Oxnard And Pleasant Valley Basins Is Seawater Intrusion

Estimated 2016 seawater intrusion fronts in Upper Aquifer System (UAS) and Lower Aquifer System (LAS) and forecasted future seawater intrusion through 2070 if current trends continue.



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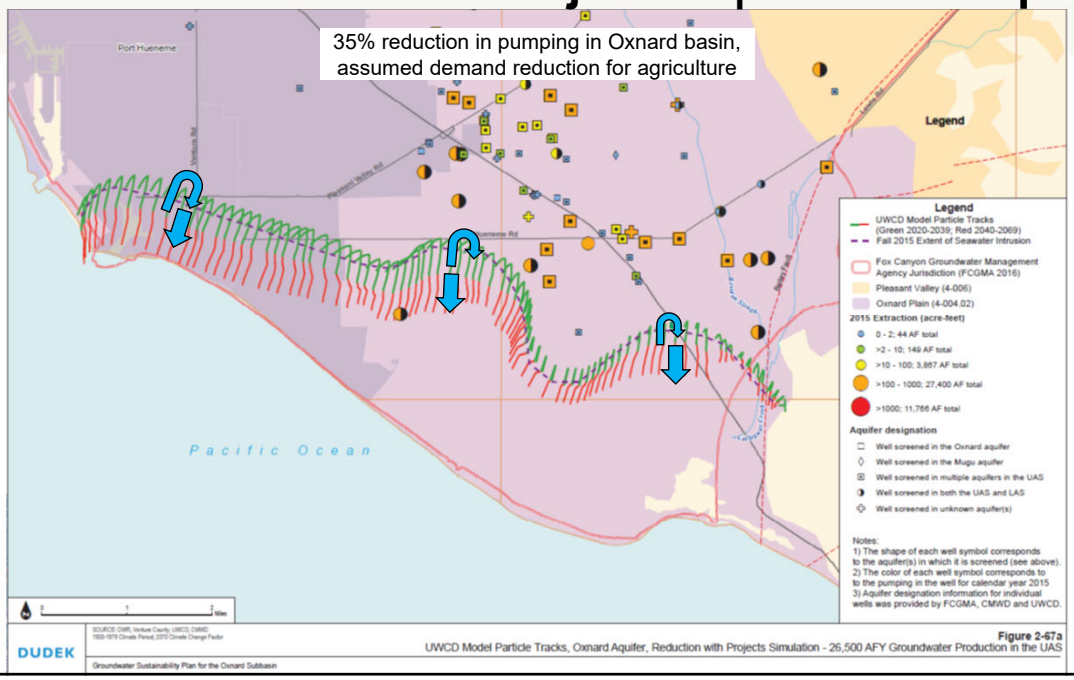
GSP "Reduction With Projects" | Oxnard Aquifer



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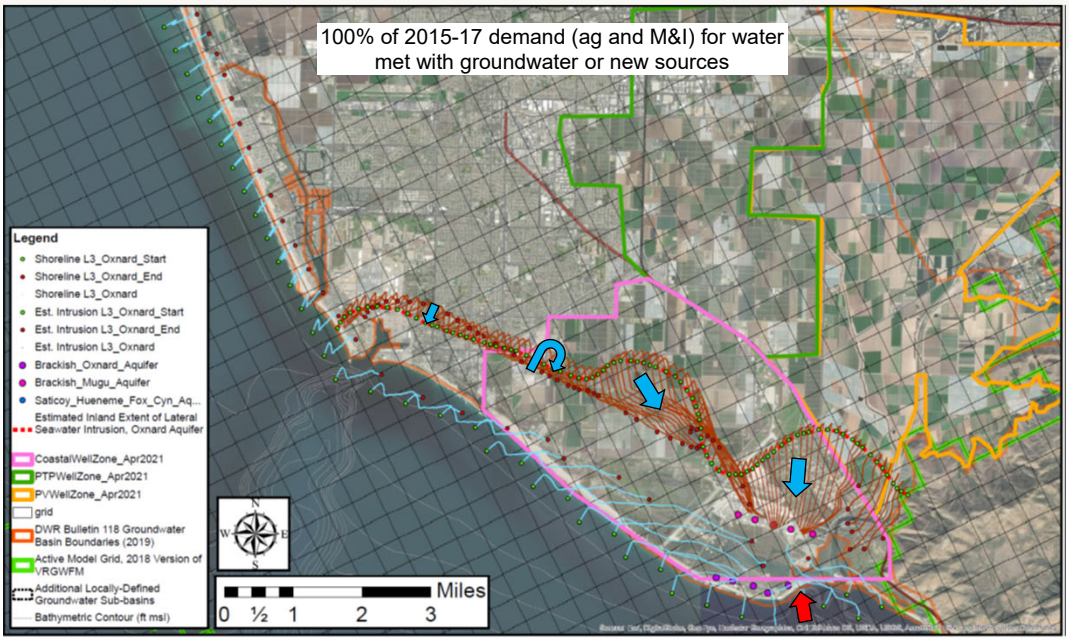
New Projects With Historical Demand | Oxnard Aquifer



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) 2020-2069 Particle Tracking, Layer 3 Oxnard Aquifer

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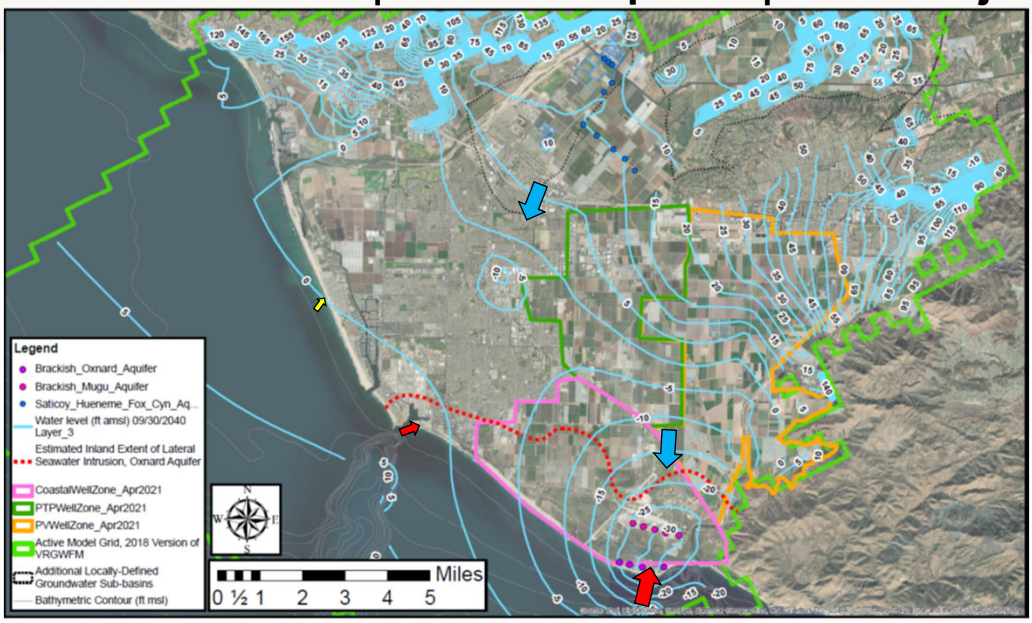
2040 GW Elevs. | Oxnard Aquifer | New Projects



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) Simulated Water Level Contour
09/30/2040 (Representative of typical dry conditions, and end of GSP implementation period)
Layer 3 Oxnard Aquifer

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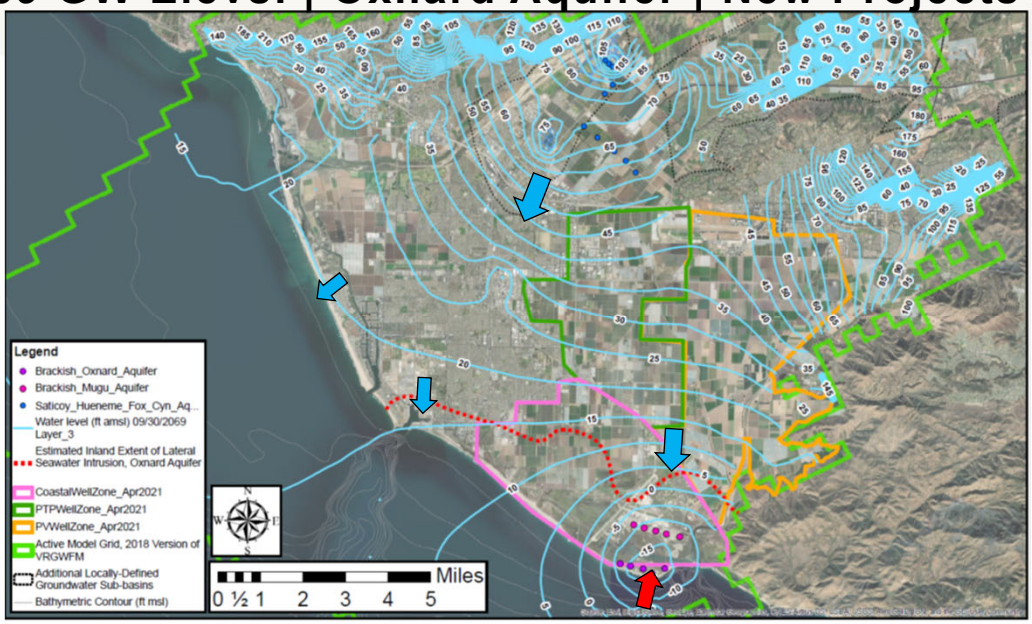
2069 GW Elevs. | Oxnard Aquifer | New Projects



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) Simulated Water Level Contour
09/30/2069 (Rrepresentative of typical wet conditions, and near end of GSP sustaining period)
Layer 3 Oxnard Aquifer

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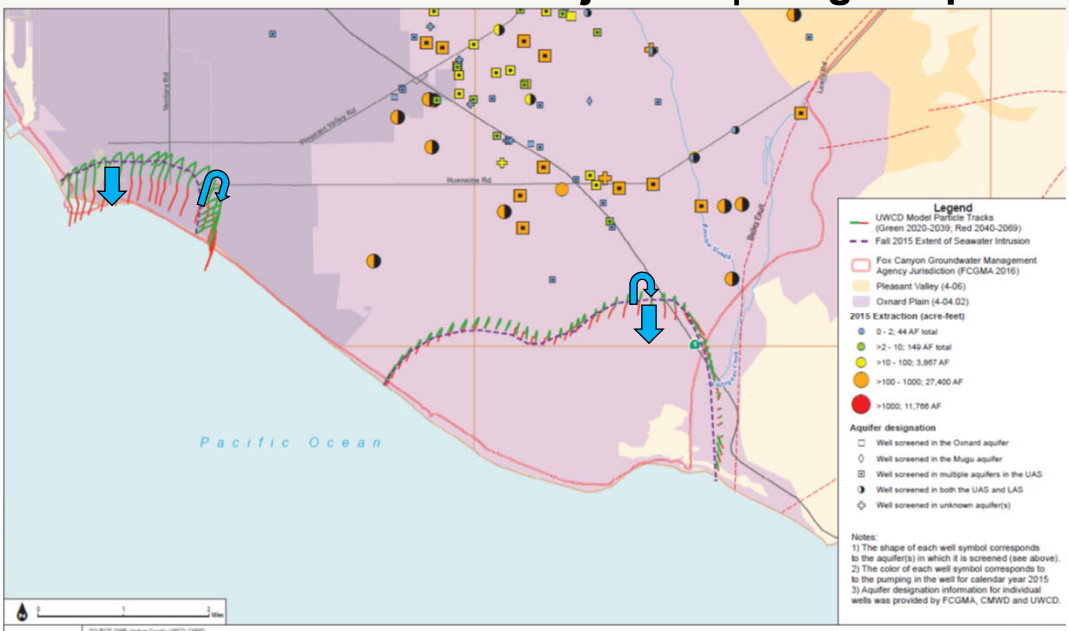
GSP "Reduction With Projects" | Mugu Aquifer



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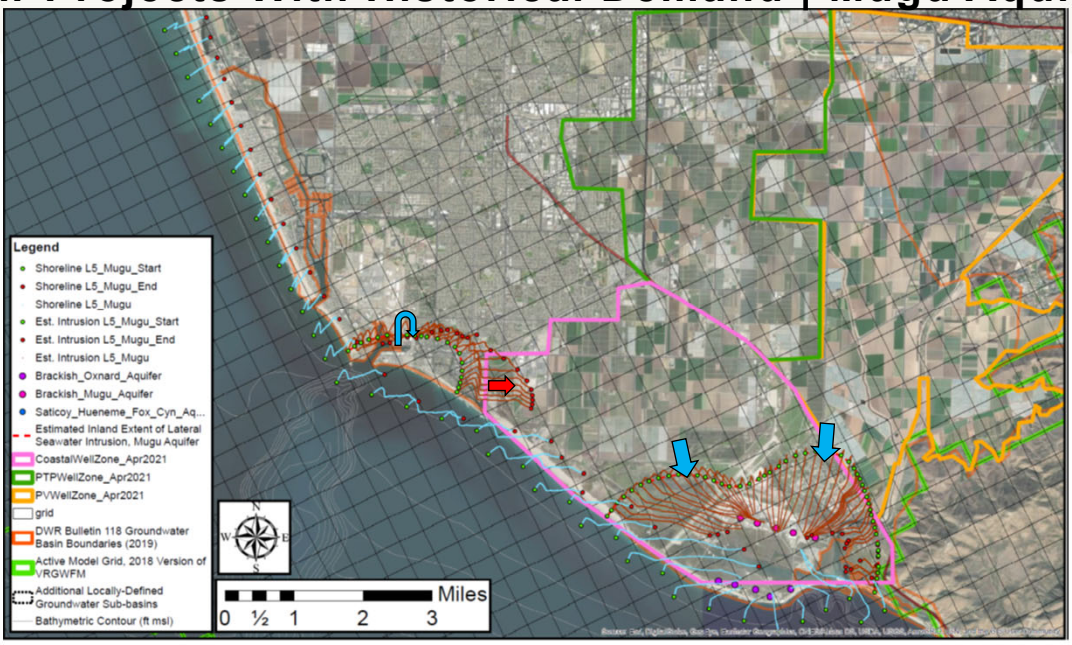
New Projects With Historical Demand | Mugu Aquifer



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) 2020-2069 Particle Tracking, Layer 5 Mugu Aquifer

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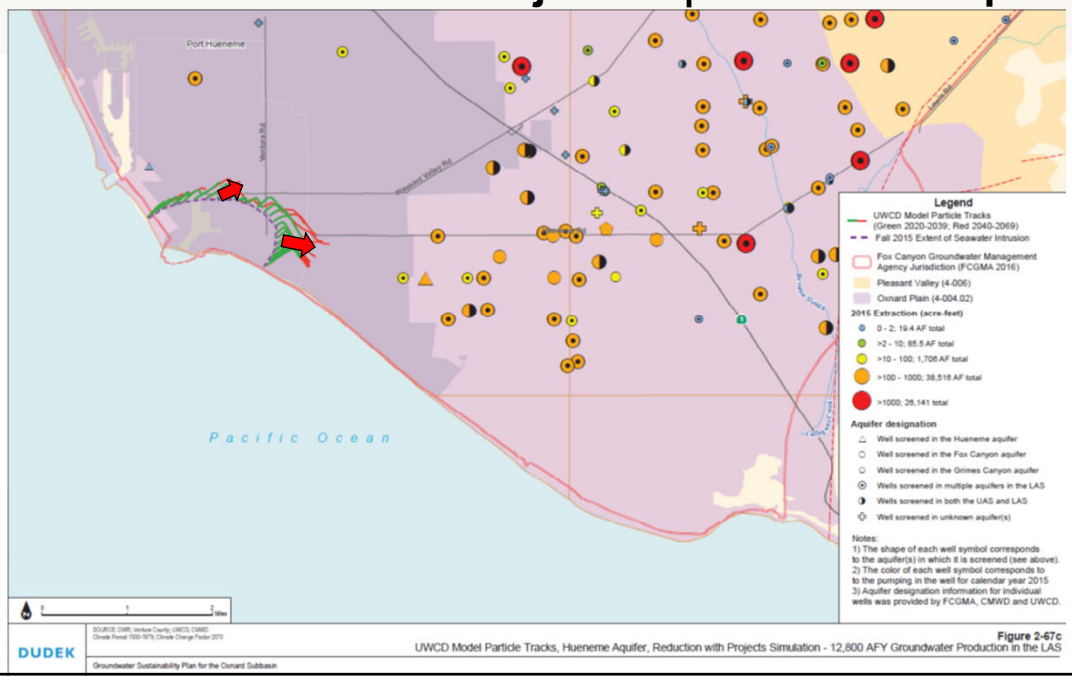
GSP "Reduction With Projects" | Hueneme Aquifer



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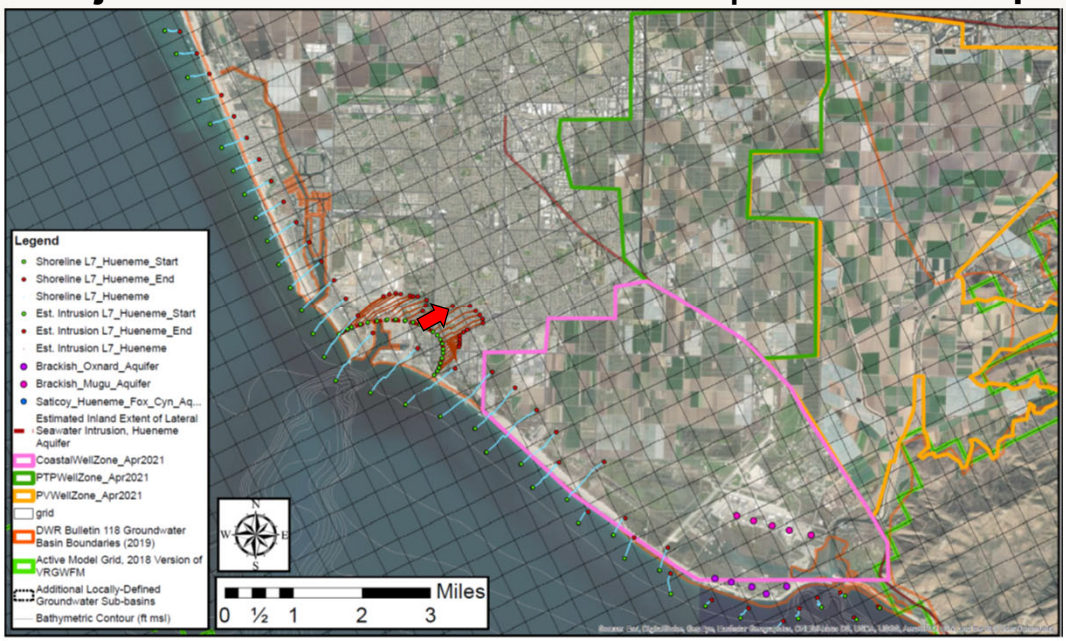
New Projects with Historical Demand | Hueneme Aquifer



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) 2020-2069 Particle Tracking, Layer 7 Hueneme Aquifer

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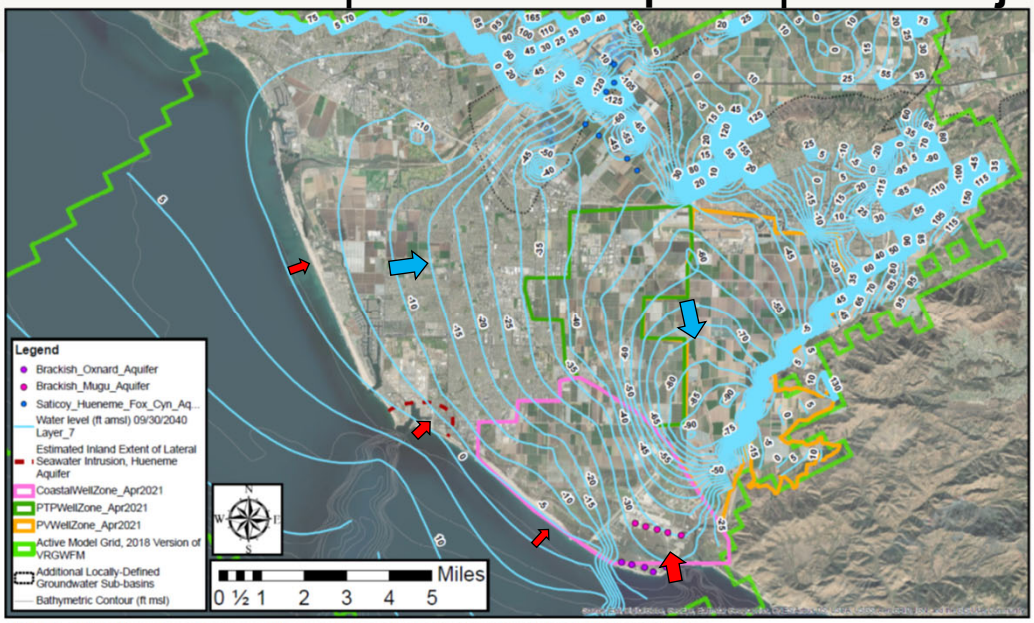
2040 GW Elevs. | Hueneme Aquifer | New Projects



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) Simulated Water Level Contour
09/30/2040 (Representative of typical dry conditions, and end of GSP implementation period)
Layer 7 Hueneme Aquifer

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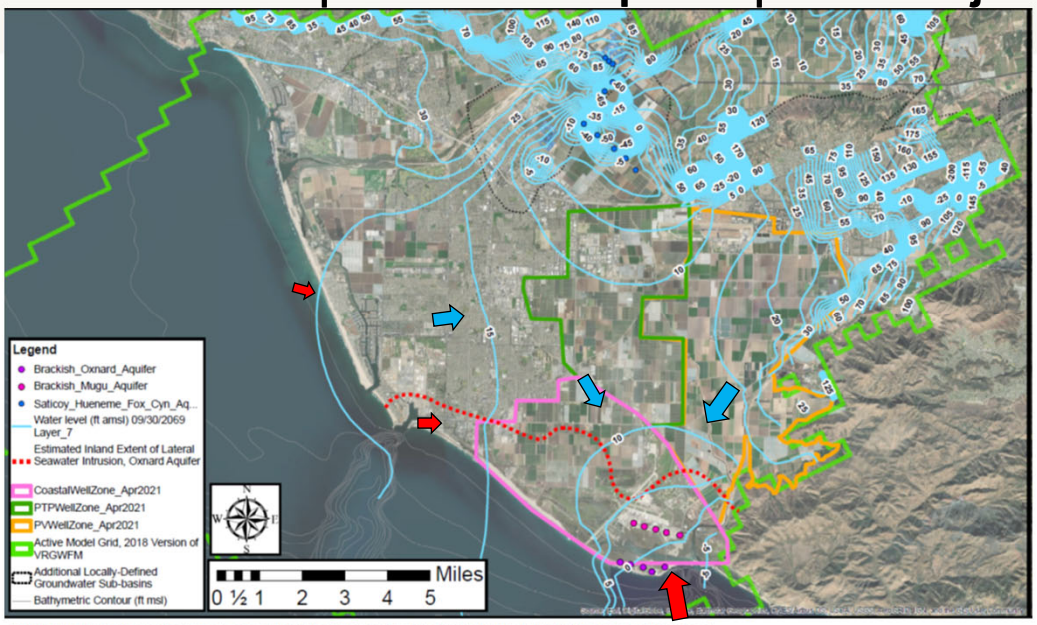
2069 GW Elevs. | Hueneme Aquifer | New Projects



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) Simulated Water Level Contour
09/30/2069 (Rrepresentative of typical wet conditions, and near end of GSP sustaining period)
Layer 7 Hueneme Aquifer

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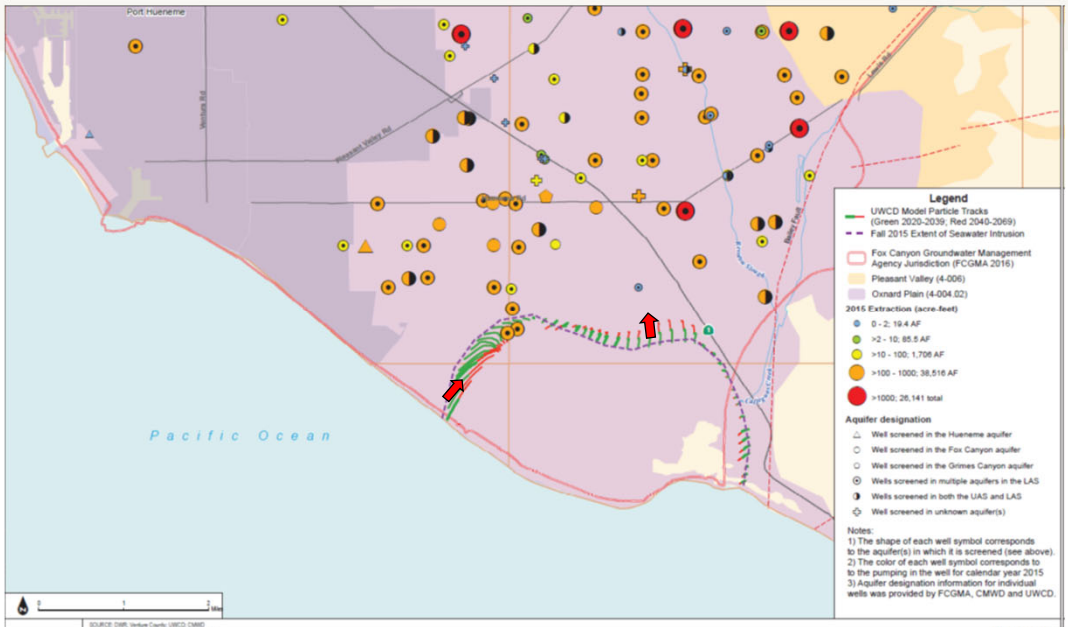
GSP "Reduction with Projects" | Upper Fox Cyn. Aquifer



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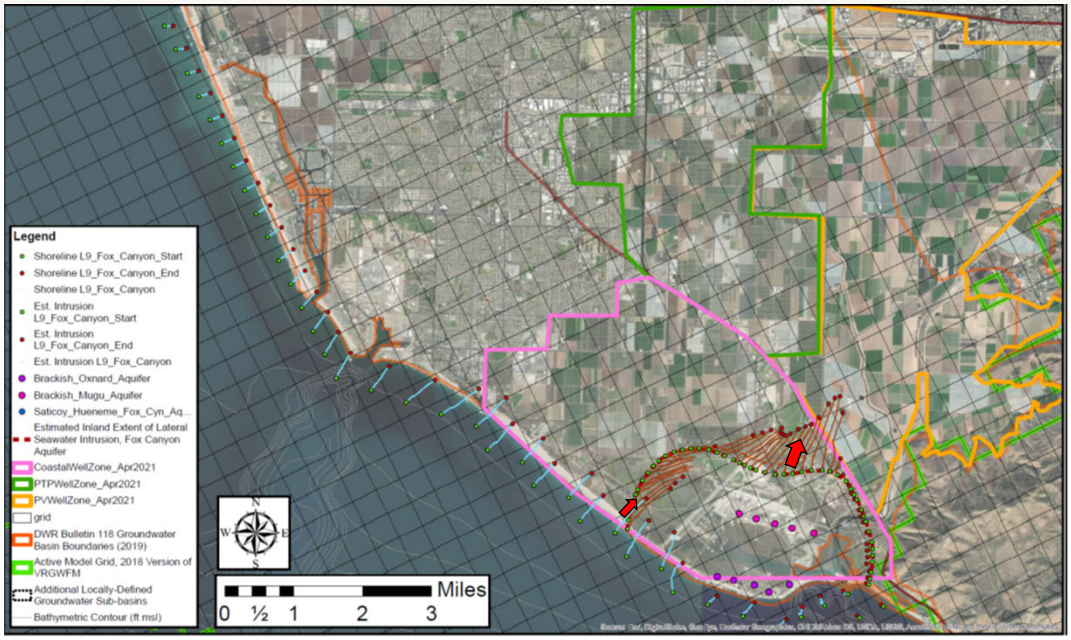
New Projects with Historical Demand | Upper Fox Cyn. Aquifer



FCGMA OPV Optimization; Scenario 4 (Histoical Demand with Projects) 2020-2069 Particle Tracking, Layer 9 Fox Canyon Aquifer

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Summary

- New projects ***mostly*** prevent seawater intrusion while meeting historical water demands, ***but***:
  - Some continuing seawater intrusion in Lower Aquifer System (LAS) at Port Hueneme and Point Mugu
- Some inefficiencies are apparent under current project configuration
  - Especially recycled water
  - New assumptions could greatly reduce "inefficiencies"

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Potential Modifications to Project Scenarios

- Adjust projects to stop seawater intrusion in LAS at Port Hueneme and Point Mugu
  - Expand brackish water extraction and treatment?
  - FCGMA looking into injection at key locations
  - Expand "no pumping" zone in southern Oxnard and PV basins?
- **This scenario was just the first iteration!**
  - It's **mostly** effective at achieving sustainability goals
  - It also meets 100% of current demand

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16

Future Projects to be Potentially Modeled

Project	Quantity (AFY)	Notes
Conejo Creek Storage (2030)	2,500?	Being developed by Camrosa MWD
M&I water market/alternative sources	???	Being developed by Curtis Hopkins
AWPF expansion for other uses	4,500?	Oxnard suggested they may have more AWPF water available in future

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Questions?

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18

United Water CONSERVATION DISTRICT

Summary of Initial Surface Water Modeling Results of New Projects, Oxnard and PV Basins

Bram Sercu, Ph.D.
July 8, 2021

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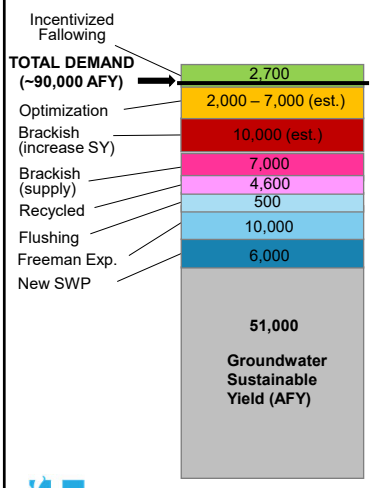
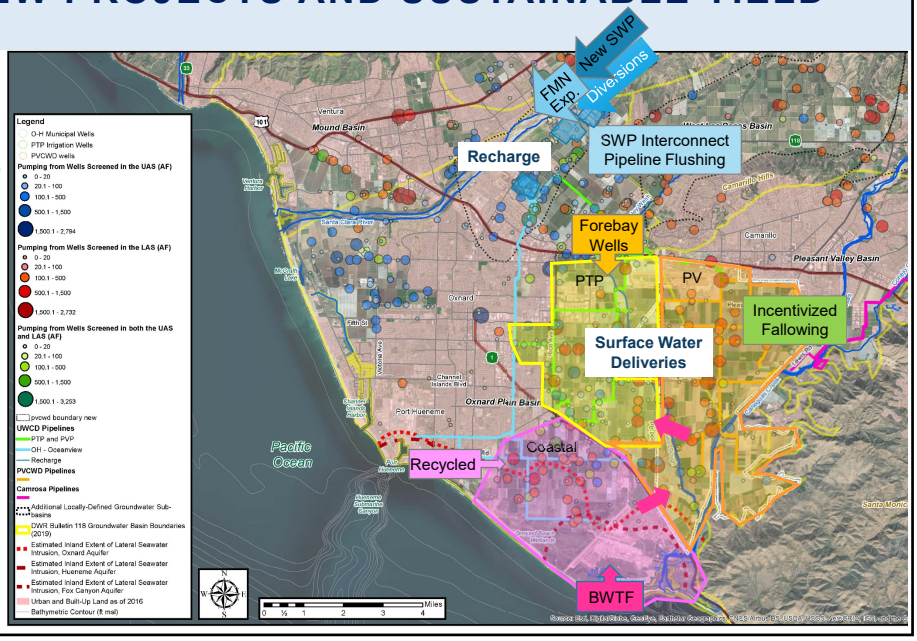
MODELING NEW PROJECTS AND SUSTAINABLE YIELD





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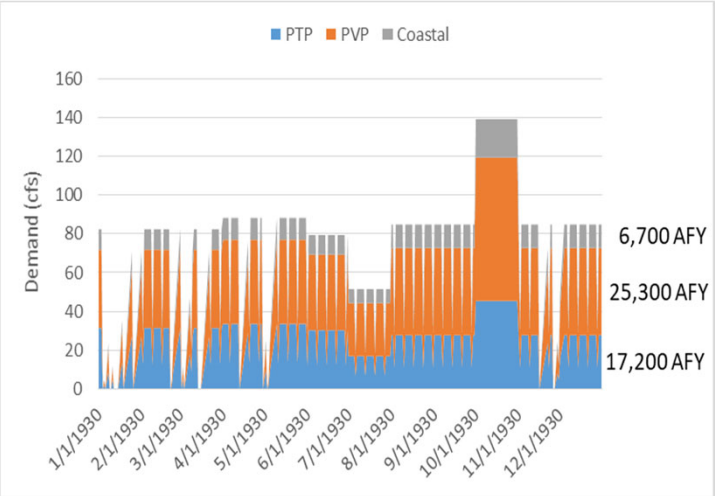
PROJECT IMPLEMENTATION ASSUMPTIONS

- Bypass flows as proposed in UWCD MS-HCP
- Water Demand
  - 2015-17 average, variable daily
  - Expansion pipelines to PTP/PV/Coastal areas
- Brackish, recycled water
  - Constant supply
  - Constant demand (24-h)
  - High water quality reduces demand



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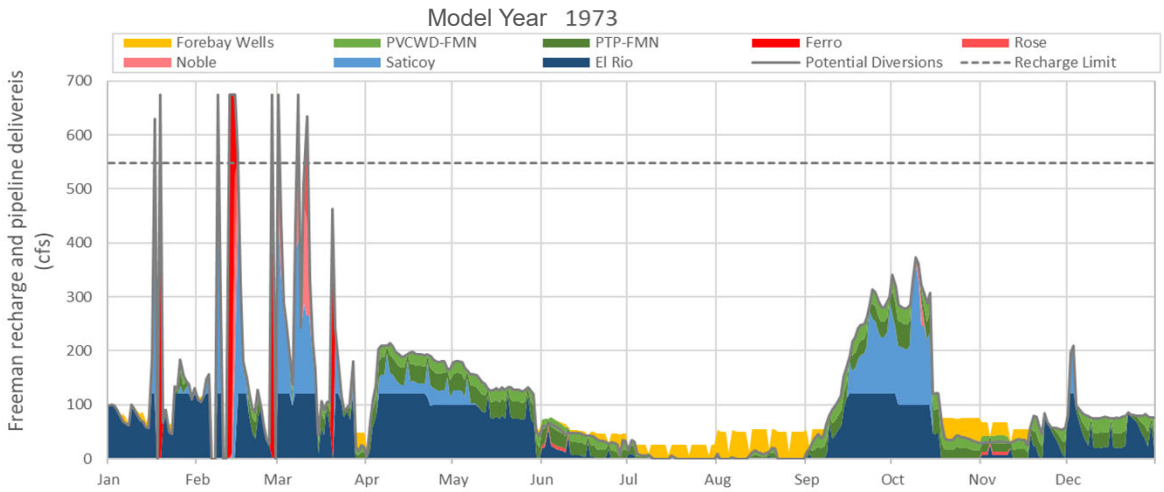
SURFACE WATER DISTRIBUTION MODEL OUTPUTS: RECHARGE AND SURFACE WATER DELIVERIES



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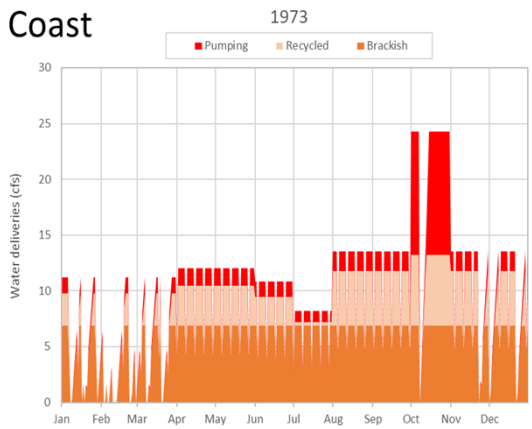
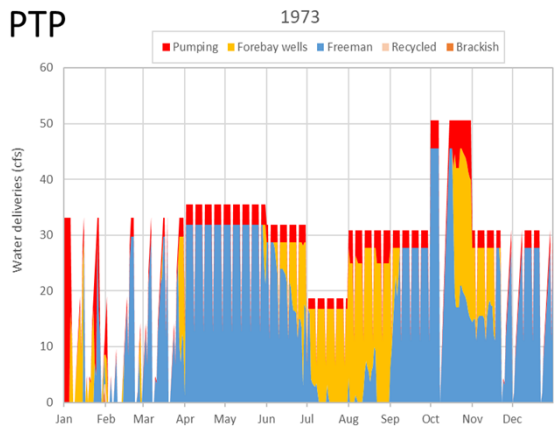
SURFACE WATER DISTRIBUTION MODEL OUTPUTS: PIPELINE DELIVERIES TO COAST AND PTP





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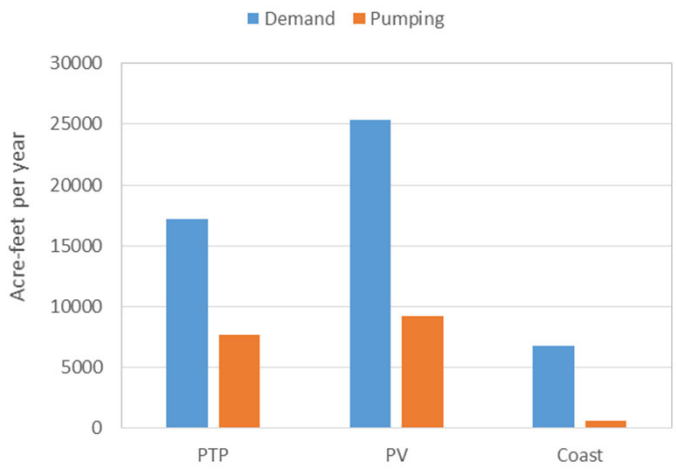
OUTCOME 1
NEW PROJECTS ACHIEVE SIGNIFICANT PUMPING REDUCTIONS

- Most of demands met by pipeline deliveries
- Pumping Coastal area almost eliminated
- Pumping used in groundwater model to assess seawater intrusion
- If additional pumping reductions required → further optimization



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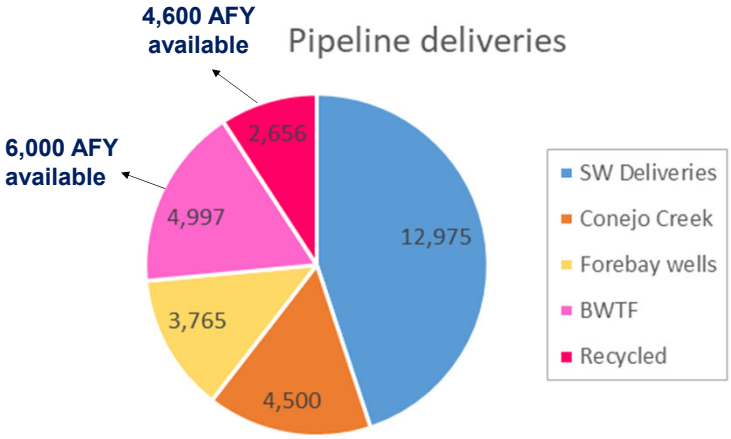
OUTCOME 2
IMPLEMENTATION OF BRACKISH/RECYCLED WATER PROJECTS SHOULD BE FURTHER OPTIMIZED

- Sometimes insufficient demand for brackish/recycled water in pipelines
- Further optimization needed to ensure water supply is fully used



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ANNUAL IRRIGATION WATER ALLOWANCE FOR THE THREE ET_0 ZONES PROPOSED BY ITRC

Includes water for salinity leaching and non-uniformity of distribution and localized deep percolation from drip systems.

	Annual Irrigation Allowance* (Inches)								
	Oxnard (Z1)			Camarillo (Z2)			Santa Paula (Z3)		
	Typical	Dry	Wet	Typical	Dry	Wet	Typical	Dry	Wet
Crop Category	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*	*Inches*
Avocado - 20% Cover	22	25	21	25	28	23	28	30	25
Avocado - 50% Cover	32	36	30	37	41	33	40	44	37
Avocado - 70% Cover	44	49	42	50	56	48	54	61	52
Blueberries - 50% Cover	32	33	31	36	37	35	39	41	38
Blueberries - 70% Cover	44	46	42	49	52	47	54	57	52
Celery - Fall	12	13	10	13	14	12	14	16	13
Celery - Spring	20	21	18	23	24	20	25	26	22
Citrus - 20% Cover	23	25	21	26	29	24	28	31	26
Citrus - 50% Cover	31	32	28	35	36	32	38	40	35
Citrus - 70% Cover	41	43	38	47	48	43	51	53	47
Lima Beans	12	13	12	14	15	14	15	16	15
Misc. Veg Greenhouse - Fall	10	10	10	11	11	11	13	13	13
Misc. Veg Greenhouse - Spr	16	16	16	18	18	18	20	20	20
Misc. Veg Greenhouse - Summer	15	15	15	17	17	17	18	18	18
Misc. Veg Single Crop - Fall	11	12	9	12	14	11	13	15	12
Misc. Veg Single Crop - Spr	19	20	18	21	23	20	23	25	22
Misc. Veg Single Crop - Summer	24	25	23	27	28	26	29	30	29
Nursery Container	53	56	51	60	64	58	66	69	63
Nursery - Flowers	54	56	52	62	63	59	67	69	64
Raspberries - Tunneled	54	54	54	61	61	61	67	67	67
Sod	48	51	47	54	57	53	59	63	58
Strawberries - Main Season	29	30	29	33	33	32	36	37	35
Strawberries - Summer	15	15	15	17	17	17	19	19	19
Tomatoes – Peppers (Summer)	27	27	26	31	31	30	34	34	32

*add 0.5 inches per frost event.

Reference: Irrigation Training and Research Center (ITRC) "Evaluation of Strengths and Weanesses of the Existing FCGMA IE Program and Specific Suggestions for Improvement, Final, Task 2.2"