

Notes: Core Stakeholder Group Meeting 8

Meeting Held: Oct. 13, 2020

Meeting in Brief

The Core Stakeholder Group discussed opportunities to apply elements of the Orange County groundwater management approach, brainstormed ramp down options, and discussed decision criteria to weigh ramp down options in the future. Next up for ramp down is for the legal committee to discuss minimum allocations and provide input to the Core Group. The goal is to have a few ramp down scenarios as working proposals in November.

Orange County Water District Presentation

John Kennedy, Executive Director Engineering/Local Resources, and Adam Hutchinson, Recharge Planning Manager, presented its groundwater management approach to pumping and replenishment. Group members liked the focus on an economic solution to groundwater management and noted the value of having a regional approach. Group members noted key differences between OPV and the situation in Orange County (OC) that make some of the specific solutions in OC hard to apply in OPV: OC is part of the Metropolitan Water District; OC has a larger population to dilute costs; and OPV has limited water supply for injection barrier projects. The full presentation is on the facilitated process website: [Link](#).

Ramp Down Concepts & Decision Criteria

Core Group members brainstormed (i.e. generated ideas without evaluating) options for the approach to ramp down. Some ideas include: establishing a linear progression to a minimum allocation and then “safe harbor;” reducing in “steps,” i.e. 5-year increments; delaying ramp down to generate more fees from pumping, then do a “cliff” drop-off in pumping; creating a variable ramp down, set in 5-year increments, with smaller initial percent reductions to allow projects to come online; allowing business owners to customize ramp down as long hitting benchmarks; providing for climatic variability in the end point based on physical location; and establishing minimum allocation + water use “ceiling.”

Group members also began discussing decision criteria that the group could use to evaluate ramp down options against one another. Some ideas include: ease of administration; legal defensibility, adaptive management tied to certainty; predictability to plan investments and business decisions, supporting group diversity, and economic impacts.

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Orange County Water District Replenishment Program Presentation

The full presentation is on the facilitated process website: [Link](#)

John Kennedy, Executive Director, and Adam Hutchinson, Recharge Planning Manager, presented the Orange County groundwater management replenishment program. Orange County has a uniform replenishment fee for all pumping. The district has implemented numerous projects to create sustainability and provide additional pumping.

Takeaways & Application of OCWD Approach in OPV

Core Group members provided perspectives on the OCWD groundwater management approach and potential application of its elements in OPV:

- Investments in projects like injection wells scale up over the years. If investing, OPV could see a similar scale up from now until the 2050s. However, the number of people in OC makes big investments more manageable than in OPV because costs are diluted.
- It would be wonderful if the alternative to the current ordinance and allocation regime was an economic-based system like in OCWD, where OPV focused more on what water costs than on pumping reduction.
- The future is about adding more water to make cities and agriculture healthier, and it sounds like the OCWD has good systems for sharing burden without freezing out growth or flexibility. It is unclear how well the GMA's surcharge structure could be viewed as analogous to the OCWD's model, but it is clear that OPV is going to have to pay more for water in the future. The question is whether OPV has the desire to work together on regional solutions and whether that makes the most sense vs. individual conservation or other approaches.
- Injection barriers would be attractive if OPV had the sources of water to work with. United can cost that out and run example scenarios with injection barriers, but the issue is the lack of water sources.
- One red flag is infrastructure investment being stranded by longer term surface water flow. Recently LA Water Keeper won a case against the State Water Control Board with regard to wastewater treatment facilities in LA County. The case concluded that simply releasing water into the LA River is not necessarily a beneficial use. Going forward, there is going to be a greater push to use wastewater and recycled water, this will have an impact on river flows. Also, OPV does not have adjudicated water like OCWD does. These risks highlight the importance of considering regional solutions.
- It is important to consider how much is possible with regional collaboration. OPV needs more information about what future collaboration with Met could look like. Access to water is a primary reason that OCWD can have an economic based model. An economic model is a much better solution, but OPV needs additional sources of water to make that possible.

- One key element is pumpers pay for how much water they want. There might be opportunity to leverage that approach in OPV. Perhaps there is a way to have choices for ramp down, with folks able to choose their ramp down slope based on the costs they are willing to pay, e.g. one ramp down path might carry \$100 acre/ft water costs; a different ramp down might carry water costs of 300\$ acre/ft.
- It is important to keep in mind that the GMA works similarly to the OCWD model in the sense that there is an allocation and if you pump more than that there is an increased cost. GMA historically has set the surcharge based on what Calleguas charges for imported water.

Ramp Down Concepts & Decision Criteria

Core Group members brainstormed options for the ramp down and decision criteria to weigh potential options against one another. Next up for advancement of ramp down deliberations is for the legal committee to discuss minimum allocations and provide input on suggestions for ramp down.

Ramp Down Concepts

Establish linear progression

Benefits: Simple, easy to understand and administer. Also, ensures ability to hit measurable objectives every 5 years.

Establish linear progression to a minimum allocation and then “safe harbor” (i.e. don’t fall below that minimum)

Benefits: Supports equitable burden sharing.

Reduce in “steps” i.e. 5-year increments

Benefits: Simple to manage and can align with project development pathway.

Delay ramp down to generate more fees from pumping, then do a cliff / dramatic reduction at 5 years or 10 years

Benefits: Allows time to generate resources for projects while maintaining enough pressure to bring folks to the table around projects.

Create variable ramp down, set in 5-year increments, with smaller percentage reduction in initial increments, e.g. 5 % at 5 years; 25 % at 10 years, etc.

Benefits: Allows time for projects to come online and to check in on progress with sustainable yield benchmarks. Even with no projects, once management plans are in place, there will be some opportunity to have more efficiencies.

Allow business owner to customize ramp down as long as owner hits benchmarks.

Benefits: Once the rules are clear around the starting point and ending point, there is value in allowing for flexibility.

Provide for climatic variability in the end point based on physical location (i.e. coastal zones vs. inland). End point would reflect that zone (and thus affect the slope of the ramp down for individual users).

Benefits: Ramp down responds to local climactic conditions and allows for different ramp down slopes depending on the user's initial allocation.

Minimum allocation + water use "ceiling" (cap water use)

Benefits: A minimum allocation is critical for ensuring that agriculture remains viable at the end of ramp down. The water use ceiling can ensure compliance with reasonable use.

Consider general categories of crops and customize ramp down to those pools of crop-types (vs. individual ramp down).

Benefits: Recognizes different water use patterns across different crop types.

Ramp Down Decision Criteria

Feasibility of Administration: The GMA board needs to have confidence that the OPV user group will be able to advance the proposed projects and hit sustainable yield milestones.

Legally Defensible: Ramp down needs to make sense in the context of CA water law and precedent.

Burden Sharing: Ramp down should equitably partition cuts and costs.

Adaptive Management tied to certainty (vs. optimism) of projects and ability to create new supply. The ramp down strategy should allow for flexibility to incorporate new data and developments around projects while being realistic about what is needed to achieve sustainability.

Predictability to plan investments and business decisions: the ramp down strategy should create a clear plan for the future that users can plan around.

Support diversity of crop types recognizing water use efficiency: Ramp down should respond to the variable needs and conditions of different crop types across the basins. Similar crop types should have a certain degree of uniformity in water use.

Economic impacts: Ramp down strategy needs to consider the multi-faceted economic impacts.

Additional Perspectives on Ramp Down

After discussing ramp down options and criteria, Core Group members shared additional perspective to inform ramp down deliberations going forward:

- There may be opportunity to focus on low hanging fruit projects during the early stages of ramp down (such as a focus on agriculture efficiency and green infrastructure) as opposed to delaying ramp down to advance projects.
- Multiple meeting participants suggest advancing a strategy that focuses on creating additional water supply.
- The initial allocation is an important factor to consider when assessing the equitability of the different ramp down options.
- It will be important to move towards a wellhead-based system as soon as possible to make sure there are not individual properties that are disproportionately burdened.

Core Stakeholder Group Members Present Arne Anselm, Jared Bouchard, Alden Broome, Dan Detmer, James Dubois, Terri L. Ferro, Rosemarie Gaglione, Jurgen Gramckow, Martin Gramckow, John Krist, Greg Lewis, John Mathews, Candice Meneghin, Lucie Munoz-McGovern, Ian Prichard, E.J. Remson, Jennifer Tribo

Appendix – Q &A with OCWD Groundwater Presenters

John Kennedy, Executive Director Engineering/Local Resources and Adam Hutchinson, PG, CHG, Recharge Planning Manager

Access to Metropolitan Water District (MWD) Water

Q: How did Orange County become part of MWD? Access to MWD water seems to provide OC valuable flexibility.

A: Some of the cities in Orange County were part of the original MWD group. The rest of the district joined MWD before there were annexation fees.

Water Pricing and Management of Funds

Q: What is the OCWD board's process for decision making on spending funds raised through user fees?

A: A significant portion of funds raised goes directly to a general fund which covers the agency's operating budget. Funds also cover routine costs such as debt service and purchasing untreated water. In cases when a new project is being considered there can be robust discussion on the board, which will start in January to ensure that the agency lands on a budget that everyone can live with by April.

Q: It seems that the Basin Equity Assessment (BEA) is designed to achieve cost parity; are there other water sources (in addition to MWD water) factored into the BEA?

A: For OCWD the BEA is strictly a function of the difference between groundwater and imported water. The only other factor that OCWD considers when calculating the BEA is the pumper's lift cost to pump water to the surface; the BEA is adjusted for pumpers based on these variable costs.

Q: How does OCWD assess demand for water when establishing the Basin Production Percentage (BPP)?

A: OCWD tracks historical demand and factors in this information when budgeting. The BPP also responds to the agency's financial circumstances.

Q: How much lead time does OCWD give pumpers when changing the BPP percentage, and how soon after does this become effective?

A: Informally the OCWD has told producers that the board is going to try to limit changes to BPP to within 5 % so that people can plan their budgets more easily. In January of a given year, OCWD puts out preliminary numbers on the expected BPP. Rates have to be set in April and become effective in July.

Q: What was the thinking behind the decision to exempt agriculture from the additional replenishment fees that were established in the 1950s for other producers?

A: The impetus to raise funds was driven by expansion in the cities. OCWD needed to create revenue to develop additional water supply to support the growth of cities, whereas the agricultural sector was not growing.

Technical Management of the Basin

Q: Are there any concerns about the loss of storage when the basin goes into overdraft?

A: Leaving a basin in overdraft for an extended period of time can lead to seawater intrusion and reduce overall storage capacity, so it is important to have a plan to recharge the basin. (It was noted that OCWD's injection barriers mitigate some of the risks of overdraft, which is different than the circumstance in OPV).

Q: How does OCWD manage uncertainties around future availability of water for recharge originating from wastewater facilities?

A: If cities upstream continue to develop their own wastewater recycling projects there would be less water available for OCWD. The river water flow has already dropped due to upstream cities developing recycled water systems. OCWD has adjudicated Santa Ana river water, with a guaranteed baseflow of 34,000 AFY, which helps offset uncertainty. It is difficult to predict river flows into the future, but OCWD currently forecasts baseflows 20 years out to be the same as today.

Q: What has been the historic level of water injected into the basin in OCWD and how effective has this been?

A: OCWD has one injection barrier in Fountain Valley and another in Seal Beach. In Fountain Valley, 30-35 mgd of water is injected in the summer, less in the winter. The wells are about 4 miles from the ocean. Only about 5 % of the water is lost, the rest falls back into the basin where people can pump it out and reuse it. OCWD has spent about 100 million dollars on injection barriers over the years—and individual deep injection well can cost 5 million dollars to inject water 700-800 ft down.

Q: If OCWD is only losing 5 % of the injected water, 95 % of the water is recovered to the basin?

A: Yes. OCWD's approach to the injection barrier is to create a freshwater mound only 3 ft above seawater level, just enough to have a small hydraulic gradient pushing out towards the ocean. Therefore, most of the water falls back to basin.

Q: Do the injection barrier operations increase the sustainable yield or just protect the coastal aquifer?

A: The injection barrier operations allow OCWD to over-draft the basin a little more. The barrier is an important factor for the amount of overdraft that can be sustained without impairing water quality.

Q: Who implements OCWD's annual capital improvement projects?

A: OCWD primarily does the project implementation.

Q: What other big projects is OCWD doing that are helpful?

A: The biggest project right now is focused on reduction of PFAS chemicals in the water supply. The department of drinking water has established low response levels that if exceeded require turning off a well. Most of the producers in the basin have levels of PFAS that would exceed the regulations, so OCWD is financing and building 40-50 PFAS treatment facilities and then "turning over the keys" to the producers.

Project Budgeting

Q: How do the costs of expanding OCWD's operation through new injection wells compare to new spreading?

A: OCWD recently built 5 new injection wells in Santa Ana for under 30 million dollars, which allows OCWD to inject 10 mgd of water. Injection wells are targeted for areas with low groundwater levels but spreading is generally much more cost effective.

Q: Is the reduction in treated water entering rivers as recharge only because of conservation? Has OCWD considered buying the treated water so that it continues to be discharged into the river?

A: Flows in the river are declining for multiple reasons: more conservation (low flow house appliances) and recycling "purple pipe projects". OCWD has considered purchasing treated water but there are complicating factors. There is a 5-member water master board that must agree if folks are to be asked to put additional water into the river. Figuring out the appropriate pricing and timing is also challenging; many agencies only want to do short term arrangements. There are also potential permitting challenges.

Q: What is the operating cost vs. capital cost for an injection barrier project like this?

A: Expensive. The initial 15-20 wells were built in the 1970s, the system has been slowly expanded to 30 wells over the years. Building facilities is expensive and you need a source of water. In the summer OCWD is injecting 30-35 mgd. A rough estimate of the operating costs would be in the 10s of millions of dollars.