

IRVINE RANCH WATER DISTRICT
POLICY PRINCIPLES ON
INCREASING WATER LEVELS IN THE
ORANGE COUNTY GROUNDWATER BASIN

October 25, 2016

Issue Summary:

The Orange County Water District (OCWD) operates the Orange County Groundwater Basin (Basin) within a narrow band of 0 AF to 500,000 AF of accumulated overdraft to avoid serious adverse impacts to the Groundwater Producer Agencies and the Basin. OCWD has developed plans and policies to prevent the Basin from becoming adversely over-drafted. Currently, OCWD is maintaining the Basin at approximately 379,000 AF of accumulated overdraft. At this level, the OCWD Groundwater Management Plan (updated in 2015) lists the following adverse impacts as being in effect:

- Reduced supply of water in storage available for dry years;
- Increased pumping costs;
- Increased risk of seawater intrusion;
- Some production wells inoperable because of low water surface elevations;
- Increased risk of land subsidence;
- Potential risk of vertical migration of poor quality water;
- Need to increase purchases of imported water; and
- Difficulty in maintaining a stable Basin Pump Percentage (BPP).

These adverse impacts can be mitigated by OCWD taking actions consistent with its existing plans and policies. This paper has been prepared to help guide IRWD in advocating for OCWD to take actions to increase groundwater levels and to implement programs that will result in more water stored in the Basin.

Background:

OCWD's Basin Management Policy:

In 2013, the OCWD Board of Directors adopted a policy to establish a stable BPP with the goal of achieving and maintaining a 75% BPP. In pursuit of its goal and to sustainably manage the Basin for future generations, OCWD has established within its Groundwater Management Plan the storage management actions presented in the following table:

Orange County Water District Groundwater Basin
Storage Management Actions

Accumulated Overdraft	Basin Management Actions to Consider
Less than 100,000 AF	Raise BPP.
100,000 to 300,000 AF	Maintain and/or raise BPP towards 75% goal.
300,000 to 350,000 AF	Seek additional supplies to refill basin and/or lower the BPP.
Greater than 350,000 AF	Seek additional supplies to refill basin and lower the BPP.

At the current accumulated overdraft of approximately 379,000 AF, the existing OCWD Groundwater Management Plan stipulates that OCWD should be preparing to purchase additional imported water supplies and should lower the BPP. By following this plan, OCWD could quickly improve Basin conditions and reduce accumulated overdraft to within 150,000 AF.

Direct Basin Recharge Using Imported Water:

The Groundwater Management Plan states that OCWD's purchases of imported water from the Municipal Water District of Orange County will help OCWD maintain the BPP and assist with managing the Basin within a safe operating range. OCWD should consider optimizing its purchases of imported water over a period of time that provides the most benefit to the Basin. One example of how this could be done is for OCWD to budget to purchase enough imported water supplies to fill the basin over a three-year period of time, with the goal of achieving an accumulated overdraft of 150,000 AF. IRWD Recommends that OCWD set its Replenishment Assessment (RA) to support such imported water purchases while augmenting its Water Reserve Fund. Any funds not used to purchase water in any fiscal year due to above-average flows in the Santa Ana River or Metropolitan Water District of Southern California (MWD) implementing its Water Supply Allocation Plan could be carried over into the next year in the Water Reserve Fund to purchase greater amounts of water in later years. Once the 150,000 AF goal is achieved, OCWD could use the RA to maintain a healthy Water Reserve Fund to support maintaining stable overdraft conditions. Funds budgeted for the purchase of imported water should not be repurposed for other reasons.

In Lieu Basin Recharge Using Imported Water:

To ensure the ability to optimize the annual purchase and recharge of imported water into the Basin and to take full advantage of existing imported supplies, OCWD should resume offering a voluntary multi-year in-lieu recharge program that reimburses participating Groundwater Producers to make the cost of participation equivalent to the cost of producing groundwater. Under such a program, the participating Groundwater Producers would use imported water from MWD in-lieu of producing groundwater. This would increase the amount of water that OCWD could recharge in a year while increasing that amount of groundwater available in the Basin. OCWD has historically offered water to the Groundwater Producers through an in-lieu recharge program. OCWD should offer an in-lieu program to interested Producers and budget and maintain its Water Reserve Fund accordingly.

In-lieu Exchange Program:

OCWD should pursue other new programs that will increase water levels in the Basin while reducing the adverse effects of accumulated overdraft conditions. One such concept is to implement an In-lieu Exchange Program in a way that is cost neutral to OCWD while benefitting the Producers. Under such a program, interested Groundwater Producers could voluntarily purchase Tier-1 treated water from MWD in-lieu of pumping groundwater. The reduction in pumping by the participating agencies would result in additional water being stored in the Basin. The Producer agencies that participate in this program would receive credits for the stored water in exchange for the reduced pumping. Producer agencies participating in the program would also pre-pay OCWD the RA at the time the In-lieu

exchange occurs, thereby compensating OCWD for the resulting lost sale of water. The credits would allow the participating agencies to recover the stored water in the future, having already pre-paid the RA. Through such an In-Lieu Exchange Program, Producer agencies could choose to invest in storing water that can be recovered at a later date, while also avoiding future increases in the RA. Under such an exchange program, OCWD would be cost-neutral.

Cost Effective Water Supplies:

OCWD should seek to participate in cost-effective projects and programs that make water available to increase recharge and reduce accumulated overdraft in the Basin at a cost not to exceed the cost of Tier-1 treated water from MWD. Such programs and projects should provide flexibility in the management of water and should not displace lower-cost supplies.

Green Acres Project Supply Source:

IRWD is interested in pursuing discussions with OCWD to establish a program whereby IRWD could provide a high-quality and reliable non-potable supply of water to OCWD's Green Acres Project throughout the year. This would subsequently increase the amount of water available to OCWD for treatment in the GWRS and subsequent recharge into the Basin.

Policy Principles:

Based on the background information provided above, the following principles define IRWD's policy for supporting methods to increase the amount of water available within the Orange County Groundwater Basin:

1. OCWD should, at a minimum, follow its own policies and Groundwater Management Plan for advanced overdraft conditions by reducing the BPP and taking the necessary steps to purchase additional imported supplies from MWD;
2. OCWD should financially budget to purchase enough imported water supplies to fill the basin over an optimized number of years with the goal of achieving an accumulated overdraft of 150,000 AF. OCWD should set its Replenishment Assessment (RA) to support such imported water purchases while augmenting its Water Reserve Fund.
3. Every year, OCWD should adjust its purchases of imported water and the BPP accordingly to maintain an accumulated overdraft of 150,000 AF and to build a healthy Water Reserve Fund;
4. Any funds budgeted by OCWD for imported water purchases that are not used in any fiscal year due to unavailability of water should be dedicated within OCWD's Water Reserve Fund for use in future years when additional import water is available and should not be re-purposed for some other use;
5. OCWD should resume offering a voluntary multi-year in-lieu recharge program where Groundwater Producers could use treated imported water from MWD in-lieu of pumping

groundwater. The program should be implemented whereby participating Groundwater Producers pay a net cost equivalent to the cost of producing groundwater and OCWD should budget accordingly;

6. OCWD should implement creative new programs that would increase water levels in the Basin while reducing the adverse impacts of accumulated overdraft conditions. One such concept would be to implement a voluntary in-lieu exchange program that is cost neutral to OCWD;
7. IRWD supports OCWD's cost-effective participation in projects and programs that make water available to increase recharge and reduce accumulated overdraft in the Basin at a cost not to exceed the cost of Tier-1 treated water from MWD. Such projects and programs should provide flexibility in the management of water and should not displace lower-cost supplies; and
8. IRWD is interested in partnering with OCWD in developing a program through which water from the IRWD non-potable water system can be provided to OCWD as a source for the Green Acres Project, thereby increasing available supplies for GWRS for recharge purposes.