

## **“Pump and Trade”: a new tool for overcoming groundwater overdraft.**

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Overdraft of groundwater is a common problem throughout California. It is endemic in parts of the San Joaquin Valley, and is a pressing problem in other regions such as the Coachella Valley, the Paso Robles area, Eastern Stanislaus County and elsewhere, especially during times of drought.

Groundwater overdraft is dealt with in a variety of ways. When all available local surface water is used, imported water supplies can relieve overdraft. Groundwater adjudication can quantify groundwater rights, and an appointed watermaster can assure that the sum of long term groundwater withdrawals does not exceed the safe yield of the groundwater basin. Overlying property owners can work together on a voluntary basis to restrict their withdrawals to the safe yield of the groundwater basin.

Groundwater planning in accordance with Water Code Section 10750 (et.seq.) (AB 3030 as amended) can help relieve overdraft. The State Water Resources Control Board can intervene in a groundwater basin whose water quality is threatened by overdraft through the use of Water Code Section 2100, but the Board has been reluctant to use this power.

Water agencies and landowners have in some cases been frustrated by the lack of ability to equitably allocate groundwater resources without resorting to the very expensive and cumbersome groundwater adjudication process. This is the “last resort” when groundwater overdraft threatens the water supply of urban areas, or when surface facilities are threatened by subsidence caused by groundwater overdraft. An adjudication of the groundwater rights in all or a large part of the San Joaquin Valley would cost tens of millions of dollars in attorney and engineering fees, and probably would take decades.

One way to fairly allocate groundwater resources without using a judicial process would be allocate the right to pump groundwater to all landowners overlying a groundwater basin on the acreage owned, and then gradually reduce the level of pumping to the safe yield of the basin, or to a tolerable level of overdraft. The right to pump would be allocated strictly by amount of land owned, regardless of the amount of previous or existing pumping by the landowner.

Some additional considerations would how to handle those who pump and transport groundwater (appropriators), and how to allocate rights who are unable due to topography to actually use what might otherwise be their share of the groundwater basin. It is critical to not impair existing rights except in the context of an overall management system serving the public interest. This will help avoid a takings claim.

This system would require complete reporting of all groundwater pumping to a central location.

During and after the period of reduction of pumping, landowners would be allowed to sell their rights to other landowners. Those who currently pump more than their entitlement, and wish to continue to do so, would have to purchase some rights to pump from others who are pumping less than their right. These purchases could be done through a locally controlled centralized market, or through private

agreements, as long as those agreements were reported. We refer to this system as “pump and trade”. While the exact nature of the transactions might remain private, it is important to report the transfer of the ability to use the groundwater basin. Any permanent transfer would probably be recorded as a restriction on the property.

Individual domestic users of groundwater could be exempt from the system, up to a certain amount of usage, as long as they are not a significant fraction of all pumping in the basin. In some basins, they would have to be regulated, since in at least one basin they are as much as 35% of all pumping.

This system would be instituted locally by the Board of Supervisors. Water districts which overlie complete groundwater basins could receive the authority to implement the system by the Board of Supervisors. The new district could be a joint exercise of power authority with the county and water districts. Counties could work together to institute this system in basins or sub-basins that exist entirely between their counties. If there is an existing appropriate agency, it could be designated as the groundwater management district.

It is logical to delegate this authority to Boards of Supervisors, since their jurisdiction will overlie any groundwater basin entirely within their county, and they can work with other counties to regulate groundwater basins they share. They would be especially important in basins where many pumpers are not within a water district.

In order to avoid a “rush to the pumphouse”, it is vital to allocate the rights to pump groundwater to all landowners who overlie the groundwater basin. If the rights were allocated solely to those who are pumping already, those who are not pumping would be incentivized to begin pumping before the “pump and trade” plan went into effect.

In order to pay for operation of this system, a small fee would be imposed on the pumping of groundwater in the regulated basin. This fee would be set to pay for the cost of recording data, overseeing pumping, settling disputes, and otherwise operating the system. This fee would meet the test of Proposition 26, which requires fees be commensurate with services and benefits to those on whom the fee is imposed. In order to begin the program, it may be necessary to bond against the future fee revenue, once the ordinance to impose the fee is established. Compliance with Proposition 218, which regulates the use of local fees, would also be required.

The fee would be based on the amount of water pumped rather than the right to pump. Basing the fee on the right to pump would become confusing as those rights were traded between individual landowners.

Another use for the fee could be to pay for the import of surface water or the development of local surface water supplies, in order to prevent continued or initiated groundwater overdraft.

Some groundwater basins have confined and unconfined aquifers. It is possible for one aquifer to be in overdraft condition while the other is not, and the question will arise as to whether the regulatory

program and the fee should apply to both. This decision should be left to the new district, based on engineering and geology considerations.

Nothing in this plan would expand or restrict the right of groundwater pumpers to sell pumped water within or outside the county. Such sales would continue to be subject to the jurisdiction of locally elected officials and, as applicable, the State Water Resources Control Board.