



December 18, 2013

State Water Resources Control Board

Attn: Eric Oppenheimer, Gail Linck

RE: Groundwater Workplan Concept Paper

The Nature Conservancy (TNC) is pleased to see that the State Water Resources Control Water Board (Board) is tackling the issue of inadequate and inconsistent groundwater management in much of California in its Groundwater Workplan Concept Paper (Workplan). We see this as a critical issue that, if left unaddressed, threatens both the environmental and economic health of the State.

We appreciate and agree with most of the framework proposed in the Workplan including the recognition of the need for customizing management to appropriately accommodate for local conditions and the five “key elements” that are required for effective groundwater management. We also agree that effective local management has been implemented in many places across California and that those areas offer valuable models for shaping effective management.

One overarching comment on the Workplan is the lack of acknowledgement of the interaction of groundwater with surface water. The connection of groundwater management on surface flows is not limited to unique or isolated situations; lowered groundwater levels affect surface flows anywhere that surface streams overlay groundwater basins where pumping occurs, which includes the entire Central Valley, most coastal streams, and many desert basins. It is critical to recognize that, long before severe problems are evident, lowered groundwater levels reduce discharge to streams which directly impact surface flows, impairs surface water supplies, and, in extreme cases, leads to a loss of perennial flow. All of these impacts compromise groundwater dependent ecosystems, riparian vegetation, and aquatic organisms. The omnipresent connection of groundwater and surface water and its significance to appropriately managing our entire water supply should be more clearly acknowledged and addressed throughout the Workplan.

Groundwater pumping in California has already severely impacted baseflow to many streams, led to widespread lowering of the water table, and even impacted the topography of the surface of the earth through land subsidence. Environmental impacts include drastically decreased areas of wetland, shrinking riparian habitats along river corridors, and interruption of the late-summer and early-fall streamflows needed for passage of salmon and the health of other aquatic species. If we are to reverse declines in areas already impacted we must implement proactive, comprehensive groundwater management, and if we want to prevent degradation of conditions in areas where impacts have not yet been observed or documented, we must implement that management now, rather than waiting until problems and impacts are more severe.

Regarding groundwater quantity, we propose the Workplan have a stronger emphasis on the concept of “sustainable yield,” which means that the groundwater withdrawals are managed at levels that protect

the many beneficial functions of groundwater, including contributing to surface flows and supporting other groundwater-dependent ecosystems. The Workplan should include an appropriate definition of sustainable yield and require setting of sustainable yield targets for groundwater basins. This would, in turn, require that groundwater management be merged with integrated regional water management planning (IRWMP), including appropriate transparent engagement with stakeholders, since management of groundwater and surface water must be coordinated given their physical connection. In our view, the definition and application of sustainable yield water planning and demonstration projects would focus on exercising groundwater basins while protecting reasonable long-term environmental, water system operation, and human uses, including surface water supplies and water quality issues that affect these uses.

IRWMP programs, and funding to support them, should aim to implement critical infrastructure improvements by water agencies necessary to achieve rigorous integrated water management including groundwater monitoring technology upgrades, infrastructure to enable conjunctive water use projects, along with groundwater recharge and storage projects. The five elements of the Workplan would then serve to support proper groundwater management, by focusing efforts on:

- 1) Establishing and defining baseline conditions for groundwater levels and sustainable yields (“thresholds”) that maintain them;
- 2) Managing to these thresholds (“monitoring and assessment”) with appropriate public disclosure and accountability;
- 3) Ensuring proper oversight (“governance”) to achieve multiple outcomes in attaining more sustainable water management;
- 4) Providing appropriate incentives through IRWMP funding and other mechanisms to encourage innovative technology, monitoring and infrastructure investments; and
- 5) Accountability in monitoring groundwater basins ,making sure that agreed-upon actions are undertaken, and reporting outcomes to expand “best practices.”

While we agree that the situation in groundwater basins where large overdrafts already exist must be addressed, we do not think the Workplan or State should disproportionately focus on these areas. On the contrary, we think the Workplan and State should focus equally on areas where reasonably healthy surface flows still exist, even though impacts from historic and current pumping may not be as severe or immediately evident.

Ultimately, all Californians have a stake in smart, overall integrated management of surface and groundwater resources, since surface flows, and the ecosystems and water supplies that rely upon them, are directly linked to groundwater. When we overdraw groundwater, we are affecting surface water supplies, which are fully or over-allocated in many situations. Consequently, we should ensure that rigorous groundwater management is implemented to avoid undesirable impacts to these surface waters.

In addition to these overarching comments, we offer a few specific comments on the following sections of the Workplan:

Sustainable Thresholds

- In the same vein as our general comments, above, a sufficient set of sustainable thresholds must include thresholds to ensure that management to the thresholds will not result in un-acceptable impacts to surface water.

Monitoring and Assessment

- We very much endorse the Workplan's emphasis on strengthening our monitoring and assessment to support more informed and proactive groundwater management. In addition we encourage the State to more strongly emphasize the use of groundwater-surface water models as tools for management assessment. Appropriate models, built and supported by strong, ongoing monitoring programs, provide important tools for assessing conditions and the future behavior of groundwater-surface water systems. Strong modeling programs accompany nearly every successful groundwater management program in the state and contribute significantly to informed planning and management.
- We also encourage the Board to address the obvious need for more comprehensive reporting of groundwater pumping in the Workplan. In many areas of the state, pumping must be estimated through various indirect methods, which introduces unnecessary uncertainty into all monitoring, modeling, and assessment programs. Consequently, the decisions made based on these programs are similarly compromised.

Governance and Management and Oversight and Enforcement

- As acknowledged in the Plan, locally governed groundwater management has been implemented successfully in many areas of the state and can be a good mechanism for improved management in other areas. That said, if local management is the preferred governance model, it is important for the State to encourage/facilitate implementation of local groundwater management that is rigorous and that protects the multiple beneficial uses of groundwater, including protecting surface water flows and groundwater-dependent ecosystems. And, such management should be implemented in all basins where considerable pumping occurs before impacts from pumping become severe.

The Nature Conservancy thanks you for the opportunity to comment on the Workplan, and we are pleased to see the Board moving forward to address this important part of California's overall water supply system. We encourage the Board to continue to pursue sustainable groundwater management and seek input from affected stakeholders, and we would welcome the opportunity for continued dialogue on the comments that we have provided as you continue to develop your work plan for groundwater.

Sincerely,



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