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# Improving Management Of the State's Groundwater Resources

LEGISLATIVE ANALYST'S OFFICE

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Assembly Budget Subcommittee No. 3

On Resources and Transportation

Hon. Anthony Rendon and Hon. Richard Bloom, Chairs





## Why Is Groundwater Relevant?

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### ***Groundwater Is a Major Contributor to the Water Supply.***

- In dry years, groundwater makes up 40 percent of the developed water supply (30 percent in years with average precipitation).
- About 75 percent of Californians obtain some portion of their drinking water annually from groundwater sources.



### ***Improved Management of Groundwater Resources Is a Key Option for Meeting Future Water Demands.***

- According to the Department of Water Resources (DWR), the current developed water supply will not be able to meet all of the future water demands from agricultural, urban, and environmental uses in dry years.
- Groundwater basins store excess water in wet years for later use in dry years.
- The DWR cites groundwater storage as a primary means to develop additional water supply capability at a lower cost than most other supplies, such as surface storage, water recycling, and desalination.



## Current Regulation and Management of Groundwater

***No Comprehensive, Statewide Regulation of Groundwater Use.***

- The State Water Resources Control Board (SWRCB) administers water rights statewide by issuing and reviewing permits and licenses to applicants who wish to take water from the state’s streams, rivers, and lakes (surface waters).
- However, no statewide groundwater use permitting (“groundwater rights”) system exists; entitlement to use groundwater is assumed to belong to the owner of the property overlying the groundwater basin.

***Patchwork of State and Local Rules Governs Proscribed Aspects of Groundwater.***

- As shown in the figure, groundwater laws at the state level generally either: (1) support and encourage local management, or (2) protect and monitor groundwater quality.
- Some local governments have established ordinances to ensure the availability of water supplies to users within the local jurisdiction, often by limiting the transfer of groundwater out of the area.

Selected Key State Laws Governing Groundwater		
Law Name or Purpose	Support/Incentives for Local Management	Protect or Monitor Groundwater Quality
Porter-Cologne Water Quality Act (1969)		X
The Pesticide Contamination Prevention Act of 1985		X
Local Groundwater Management Act of 1992 (AB 3030)	X	
Local Groundwater Management Assistance Act of 2000 (AB 303)	X	
Groundwater Quality Monitoring Act of 2001		X
Amendment to Land Use Laws—2001 (SB 221)	X	
Amendment to the Urban Water Management Act—2001 (SB 610)	X	
Groundwater Management Water Code Amendment—2002 (SB 1938)	X	
Groundwater Monitoring—2009 (SBX7 6)	X	X



## Current Regulation and Management of Groundwater

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- In other cases, courts adjudicate groundwater rights or local agencies develop and implement management plans.



**Disparate State Agencies Are Responsible for Different Aspects of Groundwater Management.** As shown in the figure, many state agencies have roles and responsibilities related to groundwater management.

- The Department of Public Health (DPH) currently monitors groundwater quality as part of its regulation of public drinking water systems and administers local assistance grants for groundwater supply projects. (As described below, the Governor’s budget proposes to move these responsibilities to SWRCB.)
- The SWRCB monitors groundwater quality, issues permits for pollutant discharges that impact groundwater quality, and oversees and helps fund the cleanup of groundwater contamination.

Many State Agencies Are Involved in Groundwater					
	Water Supply	Regulate to Protect Water Quality	Science and Monitoring	Cleanup	Local Financial Assistance
California Public Utilities Commission	X	X			
CalRecycle		X			
Department of Food and Agriculture			X		X
Department of Pesticide Regulation		X	X		
Department of Public Health <sup>a</sup>		X	X		X
Department of Toxic Substances Control		X	X	X	X
Department of Water Resources	X		X		X
Office of Environmental Health Hazard Assessment			X		
Pollution Control Financing Authority					X
State Water Resources Control Board <sup>a</sup>		X	X	X	X

<sup>a</sup> The Governor’s 2014-15 budget proposes to transfer drinking water activities from the Department of Public Health to the State Water Resources Control Board.



## Current Regulation and Management of Groundwater

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***Prior Legislation Added Major New Monitoring***

***Requirements.*** Chapter 1, Statutes of 2009 (SBX7 6, Steinberg), part of the November 2009 water legislation package, established a program to monitor groundwater elevation throughout the state by collecting standardized data from local agencies with groundwater management authority.

- Under the legislation, DWR is required to perform the monitoring in groundwater basins in cases where no agency voluntarily provides this information.
- Local agencies that do not perform required monitoring are ineligible for state water-related grants and loans.
- Despite this requirement, DWR has not denied funding to any local agencies applying for Integrated Regional Water Management (IRWM) grants due to failing to provide these data.



## Issues and Challenges With Groundwater Management

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- ☑ ***Disconnect Between Groundwater Law and Science.*** Current law does not acknowledge the physical connection between groundwater and surface waters.
  - State water laws create three exclusive categories of waters: surface waters, subterranean streams, and percolating groundwater.
  - Water rights are required only for withdrawals from surface waters or subterranean streams, but hydrological science demonstrates that groundwater withdrawals impact surface waters and vice versa, potentially creating water rights conflicts.
  
- ☑ ***The Contamination Problem.*** Contamination of groundwater affects water supply availability and increases costs.
  - According to SWRCB, about half of the state's population receives a portion of its water from contaminated basins that contain chemicals such as arsenic or nitrates. Treating contaminated water can be expensive, particularly for some small disadvantaged communities with limited financial capacity.
  - Contaminated groundwater sometimes results in the closure of a well, but statewide water supply projections do not always incorporate the loss of these water sources because contamination information can be compartmentalized within governmental entities.
  - Replacing contaminated drinking water supplies can be expensive if no nearby alternative drinking water source can be found.



## Issues and Challenges With Groundwater Management

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### ***Gaps in Groundwater Management Complicate Statewide Water Planning.***

- Lack of data on groundwater use and quality can lead to incorrect conclusions about groundwater availability, making it difficult to project the role of groundwater in meeting the state's water needs.
- Integrating nonstandardized and potentially conflicting data sources into supply projections is time-consuming and costly for DWR.
- Systemwide coordination cannot easily be accomplished solely through local management because groundwater flows across political boundaries.



## Governor's 2014-15 Budget Proposes Significant Changes to Groundwater Management

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***Transfer of Drinking Water Activities From DPH to SWRCB.***

- The Governor's budget proposes that drinking water regulatory and technical assistance activities be housed in a newly created Division of Drinking Water Quality within SWRCB. Administration of financial assistance programs would be consolidated with SWRCB's existing Division of Financial Assistance.
- The SWRCB would have the authority to regulate drinking water systems and the quality of the groundwater that supplies those systems.

***Overdraft Management.*** The Governor's budget for 2014-15 includes \$1.9 million (General Fund) for ten positions at SWRCB to begin to identify and potentially regulate basins that are in danger of suffering permanent damage due to overdraft, which occurs when water withdrawals consistently exceed the water entering the basin. The administration intends to propose budget trailer legislation to grant SWRCB expanded regulatory authority.

***Groundwater Elevation Monitoring.*** The budget includes \$2.9 million (General Fund) for DWR to (1) monitor groundwater elevation in basins where no local agency performs such monitoring, as required by Chapter 1; and (2) develop an information technology system so that individuals who drill wells can submit well records online.

***Drought Legislation.*** In February 2014, the Legislature passed, and the Governor signed, two drought-related bills to begin implementing some of the above proposals in the current year, including \$800,000 (General Fund) for overdraft management and \$1 million (General Fund) for groundwater elevation monitoring.





## Recommended Next Steps to Improving Groundwater Management

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### ***Phase In a Comprehensive System for Monitoring Extraction.***

- Require local water districts to submit standardized extraction data from all groundwater wells.
- Extraction data should be integrated into the California Water Plan, thereby facilitating water supply planning and management.



### ***Establish Active Management Areas (AMAs), as in Most Other Western States.***

- An AMA is a groundwater management institution with jurisdiction over a groundwater basin (that may cross political boundaries) that is especially vulnerable to contamination or overdraft. It regulates all groundwater extractions and surface withdrawals from the basin, in accordance with specific rules designed to ensure the sustainability of the area's groundwater supply.
- The Governor's budget proposal for SWRCB to identify and potentially regulate overdrafted basins could align with this recommendation. We note that the effectiveness of this proposal would depend on (1) the specific authority granted to the board, and (2) the availability of adequate groundwater quality and supply data to identify overdrafted basins.



### ***Remove the Legal Distinction Between Percolating Groundwater and Subterranean Streams.***

- Bringing law in line with modern science could serve to reduce litigation costs for both private and public entities.



## Recommended Next Steps to Improving Groundwater Management *(Continued)*

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### ***Consider Phasing In Statewide Groundwater Use Permitting.***

- Groundwater use permitting would allow for more effective management if overdraft problems continued after implementation of previous three recommendations.
- To the extent possible, groundwater use should be permitted at the basin or water district level (not at the level of individuals as with surface water rights), thereby allowing local jurisdictions some discretion over how groundwater resources are managed and used within their jurisdictional boundaries.



### ***Approve Proposal to Transfer Drinking Water Activities to SWRCB.***

- We recommend the Legislature transfer drinking water activities from DPH to SWRCB, as proposed by the Governor. It could (1) allow the state to address interrelated water issues more comprehensively, such as by enabling a more coordinated focus on the sources of water pollution and their effects on drinking water, (2) improve the performance of drinking water-related financial assistance programs, and (3) enhance accountability and transparency on drinking water issues.



### ***Require DWR to Report on IRWM Funding Eligibility.***

- We also recommend that the Legislature require DWR to report at budget subcommittee hearings this spring on how it intends to apply the eligibility requirement in Chapter 1 when awarding future IRWM grant funds. This would allow the Legislature to determine whether DWR's interpretation is consistent with legislative intent.