

State
Water Plans

Plans Vary

Effective
Planning

Water
Development

North Dakota

South Dakota



WESTERN STATES' WATER PLANNING

THE BEST LAID PLANS: WATER PLANNING IN UNCERTAIN TIMES



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What good is planning?

The value of planning can be expressed in a few succinct words:

“If you don’t know where you’re going, how can you expect to get there?” Basil S. Walsh

“Most people don’t have a plan. That’s why it’s easy to beat most folks.” Bear Bryant

But the critiques are equally pithy:

“Prediction is difficult, especially about the future.” Yogi Berra

“Everybody has a plan, until they get punched in the face.” Mike Tyson

INTRODUCTION

STATE WATER PLANNING IN THE WEST

Among the western states, all but two (Oregon and Alaska) claim to have some sort of state water plan. Oregon is in the process of developing a plan, so Alaska will soon stand alone in the no-plan category — not surprising since it has more water than any other state. It might seem, then, that the rest of these states ascribe to the Walsh/Bryant view of planning rather than the Berra/Tyson view. However, saying that eighteen states have water plans overstates the case, because the content, scope, processes, and funding vary widely among the states, as do the plans’ implementation and effectiveness.

Perhaps a better question than “what good is planning” is “what is good planning;” or better yet, “what makes a good plan?” Simply stated, a good plan takes you where you want to go. To achieve that goal, a water plan needs to be comprehensive, balancing all aspects of water management with vision and pragmatism. Furthermore, a good plan must be flexible to cope with future uncertainties and the metaphorical punch in the face.

In terms of future water management, uncertainties abound, with climate change, domestic economic turmoil, and the shifting political and financial developments around the globe at the top of the list. An effective plan also needs to enjoy reasonably widespread support to avoid being put on the shelf or challenged at every turn; building such support usually requires an extensive public involvement and review process. Finally, the plan must be funded and implemented. This article takes a critical look at the western states’ water plans to evaluate which states appear to be best positioned to cope with the tumultuous decades ahead.

First, a disclaimer — this evaluation is at a fairly high level of generality. I have only skimmed the surface of the eighteen states’ processes and plans, and I’m sure I’ve missed many details and nuances. Furthermore, comparing these very different plans (and the states themselves) goes well beyond comparing apples and oranges to include rummaging through the rest of the fruit bowl. Information about funding is particularly difficult to find, understand, and compare, so the budget information should be considered more anecdotal than arithmetical. That being said, I invite the readers of *The Water Report* to correct any egregious mistakes.

PLANNING ON THE PLAINS

First, a quick flyover of western water plans, starting with those states that straddle the 100th meridian. Bracketing the northern and southern Great Plains, North Dakota, South Dakota, and Texas all have what can be characterized as water development plans — meaning that they emphasize planning for storage facilities and other water supply or water treatment infrastructure projects rather than holistic water resource management.

North Dakota’s plan explicitly states that “one of the most important components of this plan is identifying where water may be available for new development and use.” The plan itself consists largely of descriptions of proposed water projects, and the projects address traditional water supply and flood control needs. The climate is discussed in terms of historical background for project planning, but not as a future planning challenge. However, the state has been regularly updating its plans since 1937, so dealing with climate change will eventually be unavoidable. North Dakota’s project plans seem to be reasonably well-funded, with more than \$192 million committed for the 2011-13 biennium (though this compares to a stated need of more than \$600 million), thus enabling steady implementation of the planned projects. The funding is not just state money, but comes from a variety of sources coordinated by the state.

South Dakota’s plan consists of two parts — the State Water Facilities Plan and the State Water Resources Management System. Both contain listings of desired potential water projects, with the difference between them being that the latter document includes the particularly large and expensive

State Water Plans	<p>projects that will require state and/or federal funding. It is worth noting, however, that the listed projects go beyond traditional water storage — proposals also address: water conservation; watershed management and restoration; pollution prevention or remediation; wastewater facilities; storm sewers; and groundwater contamination. It appears that approximately \$46 million worth of projects have already been funded in 2012. As in North Dakota, this funding comes from a combination of sources.</p>
Texas	<p>Texas is the largest of the lower 48 states in geographical area (more than 260 million square miles) and second in population only to California, with over 25 million people in 2010. The Texas Water Development Board just adopted its most recent state water plan in January of 2012 (<i>see</i> Water Briefs, <i>TWR #96</i>). The plan is well-documented and extensive, but it is narrowly focused on meeting demands for consumptive uses of water. The state estimates a water shortage of 8.3 million acre-feet annually by the year 2060 unless new supplies are developed. Hundreds of different projects around the state are discussed, with a projected price tag exceeding \$50 billion dollars. These projects are not just traditional dams and water storage projects; many are creative proposals for conservation, rainwater harvesting, water reuse, desalinization, and other innovative suggestions.</p>
Creative Proposals	<p>The fact remains, however, that the plan does not address non-consumptive uses of water or broad issues of water quality, except in terms of “impacts” from the proposed water development. Nor does the Texas plan address climate change to any significant degree; the document primarily notes that specific future predictions are difficult to make. (However, the plan also reports that additional studies have been commissioned to attempt to “downscale” climate change models for use in Texas, and to determine a risk assessment methodology to build into specific project plans.) Although tens of millions of dollars have been funneled into Texas water projects in recent years, primarily through bonding, according to observers the 2012 plan remains significantly underfunded overall.</p>
Nebraska	<p>In the middle of the 100th meridian states are Nebraska, Kansas, and Oklahoma. Nebraska’s statewide water planning effort dates from 1978. However, recently the state shifted its planning framework to a river basin approach; several regional river basin commissions oversee and coordinate integrated resource management plans that are prepared by sub-basin natural resource management districts. The river basin plans differ according to the different major issues in the basins. Thus, the Platte and Missouri River Basin plans are closely aligned with federal and interstate endangered species recovery planning efforts, while other basin plans emphasize coordinating groundwater and surface water management or curtailing groundwater overdraft. The state agency focuses on several statewide issues, such as data collection — including: stream gauging; floodplain mapping; digitizing water rights; estimating water supply and demand; and determining groundwater/surface water interaction — and funding assistance for planning and for water development projects. Climate seems to be addressed primarily in terms of historical patterns, rather than future uncertainties.</p>
River Basin Approach	<p>Nebraska’s planning efforts, both statewide and locally, seem to be regularly supported with minimal state funds (a few million dollars annually), and in 2010, nearly \$80 million in project funds were awarded to natural resource projects around the state, many of which were water projects. However, future needs are noted as in the billions, and a recent citizens’ report stated that Nebraska has a “water funding crisis.”</p>
Issues Focus	<p>Oklahoma and Kansas seem to have the most comprehensive and robust state plans of the 100th meridian states. Oklahoma’s first state plan was adopted in 1980; the state is currently at the end of a five-year update process mandated by the 2006 legislature. The Oklahoma Water Resources Board adopted the updated plan in late 2011. The new plan was developed with the extensive participation of several work groups who addressed a wide range of issues including: climate change; instream flow needs; tribal water rights; water transfers; water quality; conjunctive management; and aquifer recharge — as well as the more traditional areas of water demand forecasts and water supply and infrastructure needs. Although the Oklahoma plan contains extensive discussion about implementation and funding, the discussion is in the nature of what should happen as opposed to how it will happen.</p>
Robust Plans	<p>Kansas is often mentioned as a model for thorough state water planning. Although the state has a modest population — just approaching three million in 2010 — it has a long history of planning. Water planning began in the 1950s in response to both disastrous floods and severe droughts. The early plans understandably emphasized construction of water projects for flood control and water supply. Over the years, though, the scope of the state’s water plans has expanded. The current plan, adopted in 2009, addresses: water quality as well as quantity; groundwater and surface water; and preservation and conservation of the resource as well as development. The Kansas process is specifically mandated by its legislature to incorporate continuous, adaptive planning. Although the plan doesn’t address climate change in detail, the state uses ten-year rolling averages of climate/weather information, so the coming alterations will become part of the ongoing data used in future planning. The Kansas plan includes a fair amount of detail on measurable objectives, and in 1989, the legislature established a dedicated fund for implementing the plan. The fund is supported by several designated revenue streams, including: a number of different water use fees; fees on pesticide and fertilizer use; and even sand royalties. The budget for 2012 totaled over \$14 million.</p>
Kansas	
Adaptive Planning	
Revenue Streams	

INTERMOUNTAIN STATES

State
Water PlansMontana
Politics

Leaving the half-arid Plains states and moving west brings us to the higher and drier intermountain states. A few of these states have adopted fairly comprehensive state water plans. For example, Montana's 2003 plan strove to integrate water quantity and quality management, covered surface water and groundwater, and addressed both water supply/storage and instream flow protection needs. However, the Montana plan was light on data and heavier on policy statements, and it did not address climate change. Most importantly, the plan was not self-implementing, and it depends on local watershed groups to voluntarily carry forward specific plans and projects under the state plan's policy direction. Indeed, the plan appeared to be a "one-off" document. In 2009, the legislature amended the planning statute to mandate an ongoing process of data collection, water resources inventory, and evaluation of coming challenges. This new process is now underway and appears to have been funded with approximately \$600,000 in 2010. Local groups overseen by basin councils still play the primary role in the actual planning.

Idaho

Comprehensive
Approach

Idaho, too, has broadened its focus beyond water supply project planning to address groundwater, water quality, and instream needs for fish, wildlife, and recreation. Idaho adopted its first state water plan in 1976 and the most recent version of the plan was adopted in 1996. In 2008, the state legislature broadened the planning mandate, and the Idaho Water Resource Board is currently reviewing and revising a draft issued in 2010. The 2010 draft carries forward a comprehensive approach, covering such diverse issues as: conjunctive management; aquifer recharge; water banking; endangered species; and stream channel rehabilitation. The plan also addresses the need for enhanced flexibility in future water management to cope with climate change — although the discussion is brief, it is quite specific. Idaho's plan also explicitly discusses implementation strategies and funding needs, but these portions of the plan appear more aspirational than concrete.

Nevada

Broad Scope

The Nevada legislature adopted a state water planning requirement in 1995. The state's current plan begins with this sentence: "Nevada is the driest state in the nation and one of the fastest growing." Nonetheless, in spite of this stark reality, the plan explicitly adopts a "growth-neutral" position. It "is designed to be a policy and planning guide, not a water supply plan" — with the assumption that most of the actual water supply planning will occur at the local level. That being said, the policy net was cast fairly broadly to consider: water quality as well as quantity; environmental uses for water as well as consumptive uses; and the relationship between groundwater and surface water. However, the plan doesn't appear to confront climate change directly. The plan sets forth a long series of recommendations in fourteen different broad issue areas. Ultimately, it is up to a number of different actors (the governor, the legislature, state agencies, local governments, etc.) to implement most of those recommendations on a voluntary basis, and most of them would require future funding.

Wyoming

Basin Planning

Wyoming has the smallest population of any state — not only in the west, but in the entire country — with just over 564,000 residents in 2010. Wyoming's current plan (adopted in 2007) was developed in a bottom-up process. Plans were first developed at the basin level for the state's seven river basins, and the state then compiled those documents into a statewide framework plan, also adding statewide information and observations. The state plan contains extensive description about Wyoming's water resources, including: current uses and future demands; surface water and groundwater considerations; and consumptive and non-consumptive uses. The need to address the possible impacts of climate change is acknowledged, but the plan itself doesn't provide that analysis. Although both the state plan and the basin plans contain a range of detailed recommendations, none of them address actual implementation or funding for those suggestions — or for the "water use opportunities" (development projects) identified in the basin plans.

New Mexico

Priority Areas

In New Mexico, the State Engineer's Office was directed by the State Legislature, in 2003, to prepare a state water plan and to update it every five years. Although a proposed review and revision document was issued in 2009, the update process has not been completed. The 2009 document noted some areas that received insufficient attention in the 2003 plan, including the relationship between groundwater and surface water, and the relationship between water availability and land use planning. The 2009 proposal also set priority areas to be addressed by the revised plan, which include, among other things: addressing the impacts of climate change and the energy/water nexus; giving more attention to water quality; and tending to critical infrastructure needs. Significantly, the proposal also noted that the update should include a more detailed implementation schedule than the original 2003 plan. The planning process seems to be operating on a shoestring budget of approximately \$350,000, and at least one state official described it as an "unfunded mandate."

Among the inter-mountain west states, Colorado and Utah have more traditional water development plans. For example, Colorado does not have a comprehensive plan for water management, even though it ranks fairly high among the western states in terms of population (5.03 million in 2010; fifth largest of the

State Water Plans
Colorado Conflict
Supply Initiative
Utah
Regional Plans
Arizona
Groundwater Areas
California's Scope & Scale
Non-State Groundwater Approach
Continuous Planning
Funding

lower 48 western states, following California, Texas, Washington, and Arizona). As recently as January of 2012, the Colorado Water Congress Convention hosted a panel of speakers addressing the issue of state water planning. One of the speakers noted that such planning has been difficult historically because of “mistrust between the Colorado River basin, where most of the water is, and the Front Range.” [The “Front Range” refers, colloquially, to the area east of the Front Range of Rocky Mountains in Colorado, mostly in the valley of the South Platte and Arkansas Rivers, where most of the state’s population resides.] Panelists also noted that the documents which are in place at the state level “essentially boil down to finding out how much Colorado River water is left to develop.” Chief among these documents is the Statewide Water Supply Initiative, which inventories water demands and proposed water supply development projects. Within its narrow focus, the Initiative is fairly explicit about implementation. Furthermore, the document addresses climate change in some detail. A variety of state water development funds are available, and the Colorado Water Conservation Board also provides information about additional funding sources.

Utah’s plan is somewhat dated, as it was adopted in 2001. Although the major thrust of the plan was to identify how to meet future water demand, the plan went beyond discussion of physical infrastructure and broadly considered conservation, water transfers, and conjunctive management as ways to meet those water supply needs. Utah’s plan does discuss water quality and other environmental issues, but primarily in the context of project impacts that water planners and managers “need to be aware of” and “fully consider” in their water development decisions. The regional plans prepared as part of the state plan are of more recent vintage and give somewhat more detailed treatment to environmental issues. Climate is discussed primarily in historical terms. Funding and implementation are noted as challenges that need to be met, but the plan doesn’t really confront either of these challenges directly.

Arizona is somewhat unique in that its state planning process only covers groundwater in five “active management areas” of the state, albeit the most populous areas (containing 80% of the population and 75% of the water use — though only 13% of the state’s land area). Within those constraints, however, the plans are very extensive and thorough, addressing details of allowable and prohibited water use and conservation with the goal of curtailing significant groundwater overdraft. The plans are updated every five years. Most of the specific requirements come directly from statute — the Arizona Groundwater Management Act was adopted in 1980 to address groundwater overdraft as well as limitations in pre-existing Arizona law that significantly limited the movement of water from historical agricultural and mining uses to the state’s booming municipalities. The extensive and comprehensive statute contained implementation details and set groundwater use fees and other revenues to support the management program and projects conducted thereunder. In the rest of the Arizona, the state provides funding and technical assistance for local planning.

WEST COAST STATES

Our tour now brings us to the west coast — and beyond. Perhaps not surprisingly, California leads the west in terms of the scope and scale of state water planning. Situated mostly in the dry south, with a 2010 population of over thirty-seven million people and a multi-billion dollar agricultural industry, the state is highly motivated to plan ahead to meet its water supply needs. California’s first water plan was prepared in 1957 and the plan is updated every five years. (See Water Briefs, *TWR* #24 and #48.) Both the processes and the resulting plans are the most comprehensive of the western states. The current plan (2009) is an extensive five-volume document addressing everything from traditional water supply issues to more innovative subjects such as ecosystem restoration, forest management, and land use planning. One area of omission that detracts from the plan’s otherwise comprehensive approach is groundwater. Since California does not manage groundwater at the state level, the plan’s discussion of the groundwater resource lacks authority and impact.

Because of the five-year updates and the broad scope of its planning effort, California’s planning process is essentially continuous. For instance, only a few months after the issuance of the 2009 plan, the California Department of Water Resources (CDWR) began the process of scoping and identifying deliverables for the 2014 update. CDWR conducts extensive outreach to facilitate public involvement (including in Spanish), and uses several standing advisory committees and “topic-based caucuses” to provide information and recommendations and to communicate with various constituencies. The advisory committees include a Tribal Advisory Committee, a Public Advisory Committee, and the Federal Agency Network. The caucuses cover: Environmental Justice; Groundwater; Finance; Flooding; Land Use; Water Quality; and Water Technology. The caucuses are governed by extensive charters that outline caucus procedure and member responsibilities; they are assisted by staff from CDWR.

The California efforts have been very well-funded, though the state’s ongoing budget crisis may change that. For 2011-12, the budget for continuing plan development was over \$30 million, and the proposed budget for 2012-13 was close to \$120 million. Over three hundred “personnel years” are represented in each of those annual budgets. These generous budgets support extensive technical and

State Water Plans
Hawaii
Comprehensive Process
Washington
Local Watershed Planning
Climate Impacts Researched
Columbia River Basin
Development & Mitigation
Oregon
Initial Planning Efforts
Broad Strategy
Funding Needs

research support for the plans and enable broad public involvement. On top of the planning funds, billions of dollars of project funding are available from bonding and other sources. The level of detail in the plan and the ability of CDWR to directly carry out many of its elements insure a fair level of implementation. Nonetheless, the 2013 update is planned to enhance the coverage of funding and implementation with updated strategic implementation plan and finance plan components.

Hawaii, more than 2000 miles west, may be comparatively tiny, but it also has a comprehensive state water plan, covering: water quantity and quality; preservation and use; groundwater and surface water; and land use and water use. Responsibilities are specified for the various state agencies, and Hawaii’s five counties also play a significant role in the planning. Broad public involvement is required, and the planning process is ongoing, with various components being updated currently. While the plan does address the anticipated impacts from climate change, it does not do so in much detail — instead noting the need for additional research.

Washington’s water planning effort consists of several components, including: a bare-bones state-level program plan; local watershed plans; and a comprehensive Columbia River planning process. The Washington Department of Ecology’s (Ecology’s) program plan includes biennial goals and performance measures for water resources. For example, recent goals included setting six instream flows around the state and providing technical assistance to forty-two local watershed councils. Local watershed planning is the primary planning approach; the state is divided into 62 “Water Resources Information Areas” (WRIAs) that prepare plans according to state statutory requirements. However, those requirements are not comprehensive. The plans need only address water quantity — water quality and habitat are optional elements. As to quantity, though, the plans must address both consumptive uses and instream flow needs. The University of Washington’s Climate Impacts Group carries out extensive climate change research — while this effort is separate from the state’s planning process, local governments and water utilities can use this resource voluntarily.

Most of the state has completed or has in-process plans except for some areas that are not participating for a variety of reasons, including everything from a lack of development pressure to sufficient alternative planning processes. State funding is available for the planning process and for projects identified in adopted plans. For the 2009-2010 biennium, the total budget for the program exceeded \$7.4 million.

The most intensive water planning in Washington has been done in the Columbia River Basin, which includes the bulk of the state’s land area. Ecology’s Office of Columbia River (OCR) was developed in response to 2006 legislation directing Ecology to identify and develop additional Columbia River water supply. As with the local watershed planning statute, the law requires consideration of supply for both consumptive uses and instream flows, but there are no comprehensive requirements beyond that. The emphasis is on water development projects (with appropriate mitigation), although conservation, cooperative agreements, and other supply innovations are also encouraged. The Washington legislature initially budgeted \$216 million for the OCR and Columbia Basin projects (\$200 million of this was in the form of authority to issue general obligation bonds).

Just across the Columbia River, Oregon’s recent foray into state water planning is a pauper’s project by comparison. The ongoing planning effort was mandated by 2009 legislation that directed the Oregon Department of Water Resources — in conjunction with the state’s Departments of Environmental Quality and Fish and Wildlife — to develop a state “integrated water resources strategy.” The planning mandate was funded with only \$570,000 (including two limited duration FTE personnel positions) stretched over two biennial budget periods. No project funding was included. Understandably, the strategy is very much a preliminary document. It compiles a good deal of information about the state’s water resources and the coming challenges and outlines an overarching framework for addressing the issues. *See* Water Briefs, *TWR* #84 and #90.

Nonetheless, Oregon’s strategy is very broad and comprehensive. The draft document considers: both instream and out-of-stream water needs; water quantity and quality; the relationship of groundwater and surface water; land use and water use interactions; and the climate change/energy/water nexus. Many ambitious recommendations are included to improve everything from water resources data collection to education and outreach. However, the document does not address specific projects or implementation measures, nor does it propose how the recommendations will be funded. The strategy also recommends that specific future planning should occur at the basin and sub-basin level across the state, following the statewide framework. The Oregon draft strategy is currently out for review, with a target date of August of 2012 for adoption by Oregon’s Water Resources Commission. The 2009 legislation requires the strategy to be updated every five years, but the five year reviews, concrete implementation of any of the strategy’s recommendations, and further basin-level planning will all require considerable funding — and in some cases, additional legislative action — to become a reality.

COMPARISONS & ANALYSIS

At the beginning of this article, I suggested several criteria for evaluating a state water plan as to its effectiveness at getting you where you want to go: (1) comprehensiveness; (2) flexibility to deal with future uncertainties, particularly climate change; (3) public involvement and widespread support; (4) funding; and (5) implementation. In the matrix below, I've tried to summarize the previous discussion about each of the states in order to capture in a more concrete, comparable way how the western water plans shake out using these criteria. The states are evaluated against the criteria using a simple a plus (+) or minus (-). If I could not gather enough information to determine whether a plus or minus was warranted for any of the criteria, I inserted a question mark.

I gave a state a "plus" rating on comprehensiveness if its plan goes beyond water project planning to consider water resources more broadly — including consideration of water quantity and quality, groundwater and surface water, instream and out-of-stream uses, and/or the nexus between land use and water use and between energy and water. I gave "minuses" to states whose plans only address water supply for consumptive water use. This is obviously a coarse rating system, since it doesn't really distinguish among the plans as to varying degrees of comprehensiveness, but it at least indicates those states moving toward a more holistic approach to water management. Any state with a "water-supply-only" plan also got a minus in the involvement/support category on the assumption that if the plan isn't comprehensive, then by definition it is unlikely to have broad involvement and support from the non-water-user community.

The flexibility criterion is represented by the second column labeled "Rev/CC" for review and climate change. Each state got two ratings. The first simply indicates whether the planning process incorporates regular reviews, revisions, and updates of some sort as opposed to being a one-time document. The second reflects whether the state's plan explicitly addresses the impacts of climate change in some fashion. In this sense, consideration of climate change represents a proxy for how flexible and adaptable the plan is likely to be, though it is far from a sophisticated measure of overall flexibility.

In the funding column, a state received a plus if it appears that the planning process itself, and projects or recommendations growing out of the plan, are funded at some reasonable level. The implementation column, though closely related to funding, captures slightly different information. A plus indicates that there is some mechanism to carry the plan's recommendations forward. In many cases, that mechanism will be project funding, but it might also be an explicit implementation plan or some other sort of commitment or requirement by the planning agency or others to carry out the plan's components. With this very rough set of metrics, it's possible to make a few observations about how useful the various state plans are likely to be in the next few decades.

State Plan Criteria »	Comprehensive	Rev/CC	Involvement/Support	Funding	Implementation
ARIZONA	-	+/-	+	+	+
CALIFORNIA	+	+/+	+	+	+
COLORADO	-	-/-	-	+	+
HAWAII	+	+/+	+	?	+
IDAHO	+	+/+	+	-	-
KANSAS	+	+/-	+	+	+/-
MONTANA	+	-/-	+	?	?
NEBRASKA	+	?/-	+	+	+
NEVADA	+	-/-	+	-	-
NEW MEXICO	+	+/+	+	-	+
NORTH DAKOTA	-	?/-	-	+	+
OKLAHOMA	+	+/+	+	-	-
OREGON	+	+/+	+	-	-
SOUTH DAKOTA	-	+/-	-	+	+
TEXAS	-	-/-	-	+	+
UTAH	-	-/-	-	-	-
WASHINGTON	-	?/-	-	+	+
WYOMING	+	-/-	+	-	-

I would submit that the states with narrowly-focused water development plans — including Colorado, North and South Dakota, Texas, Utah, Washington, and Wyoming — are going to be less successful in meeting future water challenges than the states with comprehensive water management plans. (Arizona's plan is classified as non-comprehensive, but that is because its sole focus is groundwater, and it only covers part of the state, so it is different from these other states.) By focusing on water supply projects, these states leave out significant issues and constituencies interested in non-consumptive uses of water. This omission may defer or delay making decisions about water use tradeoffs, but eventually the states will need to confront those hard choices, and carefully planned and hoped-for water projects may suffer the consequences. The same is true for failing to integrate quantity and quality, groundwater and surface water, land use and water use, and energy and water. Water resources are integrated and holistic by nature, and eventually the inadequacies of compartmentalized planning will catch up to the planners.

State Water Plans

Matrix Criteria

Comprehensive?

Involvement & Support

Flexibility

Funding & Implementation

Narrow Focus Plans

Challenges

State Water Plans

Climate Change Limitations

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That said, however, narrowly focused development plans can produce actual projects more readily in the short term, assuming that funding is available. For instance, Washington has been able to move forward with many on-the-ground water development projects as a result of its well-funded Columbia Basin water planning effort, while Oregon can only watch from the other side of the river. Oregon's plan is very comprehensive and ambitious, but also brand new and seriously underfunded — leaving the state years behind its neighbor in terms of implementation.

Fewer than half the states have directly incorporated climate change into their planning efforts. Yet the most detailed and well-funded plans may be for naught under future climate scenarios. Even those states who regularly review and revise their water plans may find themselves “up the paddle without a creek” if they continue to base their plans on historical water regimes rather than on the coming changes. In this regard, California, Hawaii, Idaho, New Mexico, and Oregon are headed in the right direction.

At the end of the day, however, the best-laid plans need to be funded and implemented to be worth more than the paper they're written on. Action and money can't necessarily make a mediocre plan better — silk purses and sows' ears come to mind — but without implementation and funding, a good plan is just a pipe dream. Several states have been generous with both planning and project funding, giving their plans considerable traction. The money for the planning process itself usually comes from appropriations, which are not necessarily reliable long-term. But in significant amounts at the right time, these monies can help produce very impressive planning documents — such as in California, Hawaii, and Texas.

Capital funds come from a variety of sources throughout the states. Kansas, Nebraska, and Arizona have all taken the politically difficult but worthwhile step of creating dedicated streams of revenue for water management. Other states have successfully used bonding revenue to create the necessary capital. Still others, such as North Dakota and South Dakota, have served a valuable clearinghouse and coordinating role to bring substantial federal funds to their states. Meanwhile, a few states have achieved much less traction on funding and implementation, including Idaho, Nevada, New Mexico, Oklahoma, Oregon, Utah, and Wyoming.

CONCLUSION

Putting all of these results together, which states seem to have the “best-laid” plans — meaning the most comprehensive, broadly-supported, adaptive, well-funded, and implemented? The states that appear to hit most of these marks include California, Hawaii, Kansas, Nebraska, and New Mexico, as well as Arizona, within more limited parameters. Of course, this prediction could be easily proven wrong — some amendments here, some tweaking there, and some well-placed dollars thrown into the mix — and any or all of the western states could be far more prepared to get where they want to go in their water future.

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State Water Plans Information

ADDITIONAL ONLINE RESOURCES

ARIZONA: www.azwater.gov/AzDWR/WaterManagement/AMAs/FourthManagementPlan.htm

CALIFORNIA: www.waterplan.water.ca.gov/

COLORADO: <http://cwcb.state.co.us/water-management/water-supply-planning/Pages/SWSI2010.aspx>

HAWAII: http://hawaii.gov/dlnr/cwrm/planning_hiwaterplan.htm

IDAHO: www.idwr.idaho.gov/waterboard/WaterPlanning/StateWaterPlanning/State_Planning.htm

KANSAS: www.kwo.org/Kansas_Water_Plan/Kansas_Water_Plan.htm

MONTANA: dnrc.mt.gov/wrd/water_mgmt/montana_state_waterplan/default.asp

NEBRASKA: www.dnr.ne.gov/docs/compplan.html

NEVADA: <http://water.nv.gov/programs/planning/stateplan/>

NEW MEXICO: www.ose.state.nm.us/publications_state_water_plans.html

NORTH DAKOTA:

www.swc.state.nd.us/4dlink9/4dcgi/GetSubCategoryRecord/Reports%20and%20Publications/Water%20Management%20Plans

OKLAHOMA: <http://environ.okstate.edu/owrri/waterplan/>

OREGON: www.oregon.gov/OWRD/LAW/Integrated_Water_Supply_Strategy.shtml

SOUTH DAKOTA: <http://denr.sd.gov/dfta/wwf/statewaterplan/statewaterplan.aspx>

TEXAS: www.twdb.state.tx.us/wrpi/swp/swp.asp

UTAH: www.water.utah.gov/waterplan/

WASHINGTON: www.ecy.wa.gov/programs/wr/cwp/crwmp.html and <http://www.ecy.wa.gov/watershed/index.html>

WYOMING: <http://waterplan.state.wy.us/>