Strategic Assessment and Grant Review: Hewlett's Three-Year California Drought Initiative

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Introduction

In 2015, the William and Flora Hewlett Foundation launched a 3-year, $6-million California Drought Initiative to help ensure that local communities and natural systems both have adequate and sustainable water supplies. This Board-approved action was a response to 1) approval of a $7.5-billion water bond in California, 2) landmark state legislation to create a groundwater management system and 3) a gripping 5-year drought that ended early in 2017. Now in its final year, Hewlett seeks to evaluate the strengths and weaknesses of its California Drought Initiative and understand lessons learned that are important for future California-specific and/or other investments associated with the Foundation's broader Western Conservation portfolio. Initiative funding was provided primarily to four grantees: Resources Legacy Fund (RLF), Water Foundation,[1] Trout Unlimited (TU), and the Public Policy Institute of California; much of funding awarded to RLF and the Water Foundation was subsequently redistributed for communications outreach, research, advocacy, and/or regranted directly to environmental justice or conservation nonprofits for such activities.

This report seeks to summarize:

- Policy outcomes the California Drought Initiative helped to achieve – or not.
- Opportunities for future grant-making.

Summary[2]

The California drought highlighted the need for water policy improvements, and the Hewlett Foundation and other funders, government, non-profits and industry responded to that need. This engagement contributed to several important outcomes including leadership from the Governor, new legislation related to water transfers and allocation, new use of data by state agencies and water utilities, new flood control efforts to include habitat restoration, and new funding for habitat restoration and protection in key ecosystems across the state of California.

Because of the drought crisis, and because advocates and local and state leaders were prepared to respond with much-needed solutions, advocates achieved significant water policy changes. **There are few parallel situations where so much new policy was advanced in such a short**

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[1] *From 2015-2017, the Water Foundation was an initiative of the Resources Legacy Fund, and then in 2017, the Water Foundation became a separate organization. Thus, the two organizations are now independent but were one organization during the majority of the Drought Initiative.*

[2] *Although some of the work of the grantees described in this report may reflect the passage of legislation, consistent with federal tax laws, the Hewlett Foundation does not lobby or earmark its funds for prohibited lobbying activities. The Foundation's funding for policy work is limited to permissible forms of support only, such as general operating support grants that grantees can allocate at their discretion, and project support grants for nonlobbying activities (e.g., public education and nonpartisan research).*

time. This report is a first step toward empowering Hewlett and other foundations to understand how to leverage broad public awareness opportunities to empower advocates and policy-makers to achieve Drought Initiative-like policy victories for communities and conservation.

In California, the drought and the acute public level of concern about water has changed for now, and therefore a basic premise your strategy was built around has shifted. This surely affects the odds of major legislation passing or other dramatic operational changes in how California's more than 7,000 water utilities manage water. However, there are many critical work streams that are ongoing and need the Foundation's future assistance, each of which is driven by momentum created during the drought. For Hewlett to make large new investments, you should develop a new, convincing logic model that makes clear how and why additional policy change is achievable.

Hewlett's 2015 Theory of Change

The Hewlett Foundation's internal strategy documents, written in 2015 to identify the opportunities at hand, describe the following theory of change (in bold). Here, I summarize the status of each component of the theory, based on interview feedback. The symbol inside the box indicates whether this component remains a driver for future water policy change.

☒ **Significant water policy reform only occurs during a crisis.** The drought crisis is over and the public perceives it to be over.

☑ **Natural and human systems are interlinked.** The most significant progress made by the Hewlett California Drought Initiative was related to the human use of water systems.

☑ **New constituencies will be needed to reform water policy.** The Sustainable Groundwater Management Act saw new constituencies rise to reform policy, but subsequent work has not been as successful in bringing constituencies together. Further work is needed to strengthen moderate voices in the environmental, industry, and water utility communities and more work is needed to expand expertise and organizational strength among environmental justice advocates.

☑ **We need more and better data.** This remains a work in progress. A lack of data undermines future efforts to find effective solutions.

☒ **There is a role for the federal government.** Hewlett's Initiative failed to achieve significant engagement from federal policy-makers in part because the investments in grantee organizations that work on federal policy and agency relationships was modest in contrast to investments made in grantee organizations that work on state policy and agency relationships. Other foundations however, continue to invest organizations that work on federal water policy, especially with discussions resuming around Farm Bill reauthorization.

☑ **Water policy reform is a long-term effort.** This remains the most important area for sustained investment so that water policy victories are upheld.

Accomplishments in California Water Policy

The following major actions or water policies in California were affected by Hewlett's grantees, during or before the California Drought Initiative.

PRE-HEWLETT DROUGHT INITIATIVE

September 2012: Human Right to Water Act
This legislation created a mandate to ensure universal access to safe water that is clean, affordable, and accessible. The legislation helped drive many subsequent state government actions as well as awareness among utilities and industry that there is a moral imperative around this issue and a need for response and action.

January 2014: State of Emergency – Governor's Declaration
While the Governor's across-the-board edict to cut water use by 25% in April 2015 (excluding agriculture, which faced other restrictions) was perceived as unfair to water utilities and communities that had already made reductions over many years, people generally understood there was no feasible alternative. (However, this created pressure for the Governor to ease the requirements, which he did in May 2016, which was perceived as an end to the drought, taking pressure off federal and state actors.)

January 2014: California Water Action Plan
The plan created a roadmap of goals and actions that were a priority for the state and Governor Brown and that shaped many of the subsequent steps taken in the state.

September 2014: Passage of Sustainable Groundwater Management Act
The law created Groundwater Sustainability Agencies across the state, which are now charged with creating local plans to fund themselves and regulate the use of groundwater in areas that have faced critical depletion. Major implementation milestones will occur in 2018-2020.

November 2014: Voter approval of the Water Bond
After years of work by state advocates, voters authorized $7.1 billion in bond funding for state water supply projects, storage, drinking water protection, treatment, and ecosystem protection and restoration. The Water Bond includes more than $500 million in part to help disadvantaged communities, $2.7 billion for water storage and dams, $900 million to clean up groundwater or prevent contamination, and $395 million for state flood management projects.

July 2015: Drought Water System Consolidation Budget Trailer
There are 7,600 water districts in California of which up to 400 districts have unsafe water (arsenic, nitrate, or chromium-6) or unreliable supplies. The 2015 state budget contained provisions that allow the State Water Resources Control Board to force the consolidation of small water systems into better funded water agencies. This will help address the problem of polluted or dried up water supplies for many communities. The problem affects between 200,000 and 2 million residents. One expert suggested this consolidation authority could solve

up to one-third of the problem of reliable access to freshwater. Some water agencies, counties, and cities across the state opposed this action because it is an unfunded mandate and will create new costs for water utilities, and for county and urban water districts. It also saw opposition because it centralized decision-making authority with state government.

2015: HEWLETT DROUGHT INITIATIVE LAUNCHED

The following major actions or water policies occurred after the Hewlett Foundation launched its Drought Initiative. Hewlett grantees and others played roles in providing public education, communications, scientific analysis and other strategic actions associated with these policy outcomes.

September 2016: Open and Transparent Water Data Act
Passage of this legislation provided direction for the California Department of Water Resources (DWR) to start setting data standards (protocols), consolidating data, and providing public access to various data sources around the state regarding water use. Implementation remains a work in progress as concerns have been raised about potential new regulations.

September 2016: Water and residential/commercial development
Two new laws (SB 1262 and SB1263) created more requirements for future development to carefully consider demands on surface and groundwater supplies, giving the Water Resources Control Board new authority to approve or reject development of new, small public water systems; prohibiting trucking of water to serve new developments; and linking the Sustainable Groundwater Management Act to potential limitations on future development.

March 2017: Marijuana farming water regulation
The law creates some of the strongest protections for instream river flows in the West. In some watersheds, up to 25% of flowing water (or all of it during the driest months) is now diverted for marijuana cultivation. This year's bill integrated into a comprehensive regulatory framework previous medical marijuana regulation, environmental protections built into Proposition 64, and legislation from the summer of 2016 (S.B. 837) mandating protection of instream flows for water diversions associated with cannabis. The State Water Resources Control Board (SWRCB) and other agencies are now required to set limits on pesticide use, identify and register water diversions, and protect sustainable water flows for salmon and trout in 1,000 streams and rivers in California. It requires marijuana farmers to secure cultivation licenses beginning in 2018, pay fees, prove that they have water rights, and disclose water use, and allows the revocation of licenses or criminal prosecution if instream river flows and water quality are not protected. Once fully operational, the fees are expected to generate $300 million annually for state natural resource agencies, a large portion of which will be used to restore damage caused by past marijuana cultivation. It also includes a legislative waiver of the California Environmental Quality Act (CEQA) for all work associated with water rights. SWRCB adopted emergency interim streamflow standards later in 2017.

August 2017: Central Valley Flood Protection Plan Update
For the first time, flood protection plans are prioritizing projects that create ecological benefits side-by-side with flood control benefits (e.g. 'multi-benefit'). The Central Valley Flood plan identifies up to $21 billion in future investments in flood control projects needed in the Central Valley's Sacramento and San Joaquin watersheds. This plan works in conjunction with the Water Bond (the Water Bond provides $395 million for flood projects that must also include fish and wildlife habitat enhancement). The Army Corps has abandoned many of the levees in the Central Valley and some would cause extensive and expensive damage if breeched by floods.

Deploying and Communicating Drought Initiative Goals, Strategies, and Objectives

An area of strength for the Initiative was the strategic use of coalitions of unusual bedfellows. The Groundwater Act passed with environmental, labor, and water utilities support; the Safe and Affordable Drinking Water bill has agriculture, environmental, and environmental justice support. Regardless of how centralized Hewlett-funded campaigns are in the future, a similar or greater level of attention should be put into supporting strong and diverse coalitions focused on an honest assessment of which voices are necessary to secure enduring policy gains. The most successful grantees focused on building partnerships where there were shared goals. Coalitions do not necessarily hold together after objectives are achieved, but it is not clear that they should because strategies and roles shift with each new campaign effort. For example, passage of the Groundwater Act requires a very different set of expertise and engaged organizations than implementation of the law across the state.

In terms of reporting, one challenge associated with this evaluation of the California Drought Initiative is the shifting list of goals, strategies, activities, frameworks, approaches, and objectives in grant-related documents over time. This likely reflects shifting priorities and grantee confusion over the Foundation's priorities -- or a mix of both. **Figure A** shows one set of examples associated with agricultural and groundwater strategy and how confusing Drought Initiative documents were. The graphic tracks various terms and phrases used to describe these activities through a series of documents prepared by Hewlett staff, Resources Legacy Fund and the Water Foundation. Goals, visions, and frameworks changed throughout the grant period. Actions, strategies, and outcomes changed focus and were used as interchangeable terms. Of course, opportunities will shift during a campaign, so I would recommend that Hewlett document those shifts and the implications for strategy and grant-making in future planning documents. In other cases, terminology and phrasing changed over the duration of the Initiative -- an issue that could be addressed by Hewlett providing uniform language and grant-writing guidelines for grantees. This could also be a time-saver for grantees.

One best-practice for use by Hewlett going forward is to establish regular check-ins with grantees to evaluate and adjust strategies in real time and make sure they are also reflected in Hewlett's internal paperwork.

Drought Initiative Goals and Progress

This review tracks the major goals established by the Hewlett Foundation in 2015 for the Drought Initiative (**Table A**). Those goals fall into four areas: urban conservation/safe drinking water, agricultural water reform, natural systems restoration, and capacity building. The color scheme provides a qualitative assessment of progress against each goal made by grantees during the grant period -- or anticipated in the future. This assessment is based on interviews and limited web-based research. Grantees and others achieved significant progress on more than 1/3 of the Drought Initiative's goals and I expect there will be additional progress in the near future on four additional goals as a result of progress made during the Initiative.

Goals associated with 'red' or 'little evidence of progress' accounted for another 1/3 of goals established under the Drought Initiative. Based on interviews, these are goals that 1) subsequently became less important, 2) where grantees and Hewlett determined there was no feasible strategy to achieve them, or 3) strategies simply failed to achieve the desired result.

	Significant success
	Reasonable progress or significant progress expected in the future
	Some progress or limited progress expected in the future
	Little evidence of progress

While there were many goals for which little progress has occurred since 2015, Drought Initiative documents did not indicate which of the 22 goals were most important. Based on the interviews I conducted, Hewlett should feel confident that reasonable progress was made on most of the goals of highest importance. For example, "secure… funding to improve the network of stream gauges" is a less critical activity with lower impact than the goal of getting key decision-makers to embrace the need for changes in water policy. The former is a tactical action to implement a data strategy whereas the latter is a fundamental change in attitude that would affect all policy initiatives. The largest area in which goals were not achieved concerns federal actions. It appears that grantees spent relatively little effort on these goals and probably did so in communication with Hewlett staff, even though Drought Initiative paperwork was not changed to reflect a shift. Work on water transfers did not achieve the progress that was intended at the beginning of the campaign. Feedback I received suggested that the handful of large utilities who can take advantage of the existing complicated process and costs for agencies to approve transfers were not interested in shifting the status quo. In addition, federal action in this area from the Department of Interior was not forthcoming.

The most exceptional progress was made by Drought Initiative grantees in expanding stakeholder and decision-maker support for policy reform, water data, and multi-benefit flood project support.

Table A. Major goals established in 2015 Drought Initiative Foundation and grantee documents and a qualitative evaluation of success

Urban conservation and safe drinking water	
	Encourage state action to expand supplies of safe drinking water.
	Address the barriers to providing safe drinking water to those who presently lack access.
	Accelerate the retrofit of water-efficient appliances through incentives and as a requirement of home resale.
	Secure a requirement for urban land-use plans to include a water element that links water and land use and reduces water-consuming sprawl.

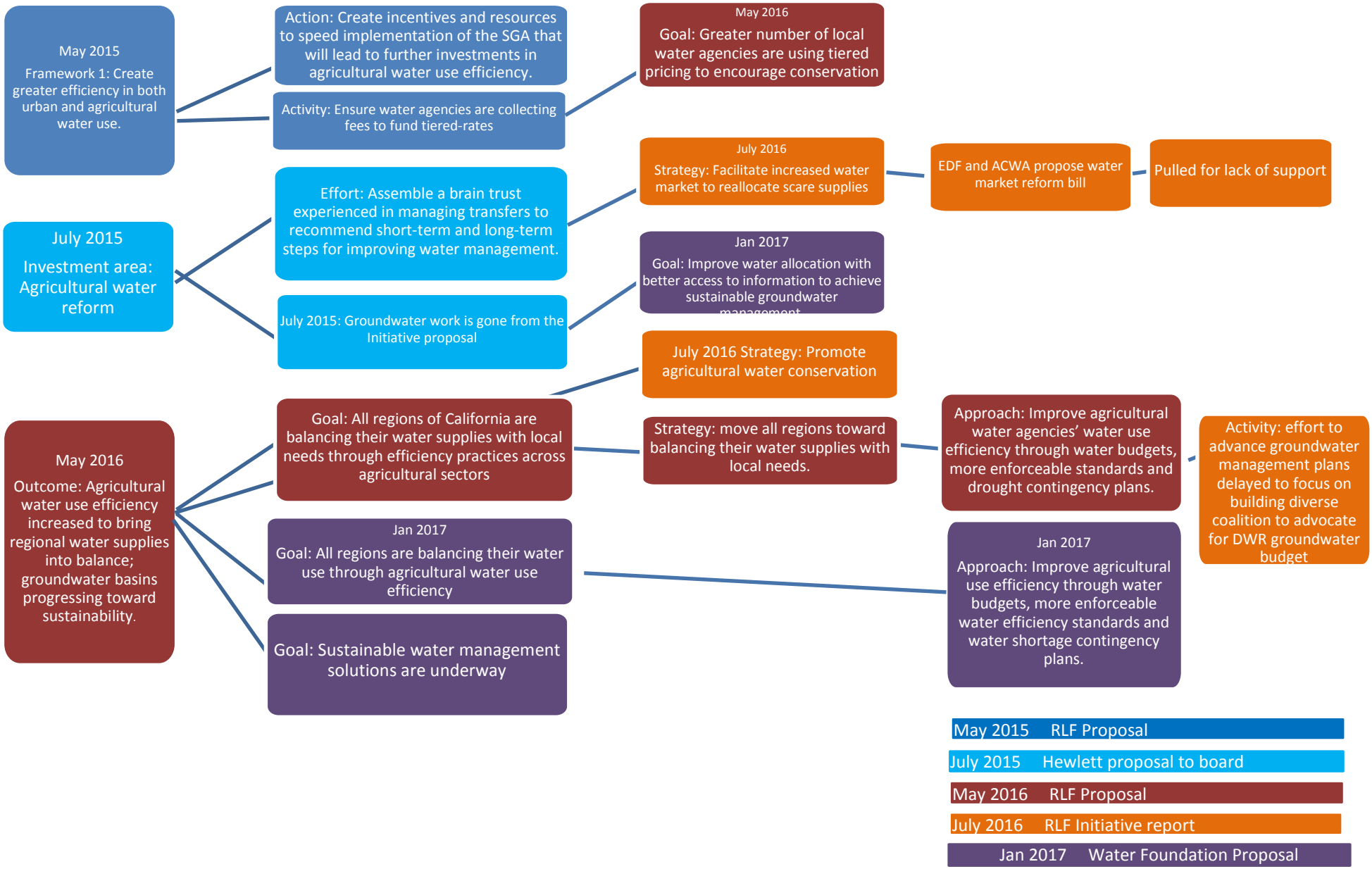
Agricultural water reform	
	Take steps to modernize statewide information on water rights and use by developing and implementing a system to collect data on usage.
	Eliminate privacy constraints on water utility data through statewide policy reform.
	Improve water rights administration, including a statewide database with more reliable information about rights and actual use and better information on stream flow in priority watersheds.
	Identify additional measures to increase water transfers in the Central Valley, and encourage the reallocation of water from low- to high-value cropland and to meet other human needs during periods of drought.
	Assemble a brain trust of water rights experts, water right holders, and government staff experienced in managing transfers to recommend short-term and long-term steps for improving water management systems and transfers.
	Facilitate water transfers from low-value to high-value uses by supporting state and federal agency efforts to coordinate guidelines for evaluating and mitigating impacts on the environment and third parties.
	Secure state and federal funding to improve the network of stream gauges in order to collect and make available stream flow information so as to evaluate the impact of water transfers.

Natural Systems	
	Protect and secure water for Central Valley wildlife refuges and wildlife-friendly agriculture to sustain the millions of waterfowl that use the area annually.

	Ensure that Central Valley refuges are receiving adequate water during the drought and that multi-benefit floodplain management projects in the Sacramento Watershed are underway.
	Work with grantees to use some of the $200 million in the existing state water bond allocated for river flows to begin restoring flows in the high priority reaches in Antelope, Deer, and Butte creeks in the Sacramento watershed and to demonstrate a model for future stream flow funding.
	Identify regulatory and financial incentives to encourage greater river flows in the Sacramento and San Joaquin watersheds.
	Ensure that Governor Brown's commitment to restore 30,000 acres of the Sacramento Delta is implemented.
	Enlist federal agencies in activities that will help restore the Sacramento Delta and will speed up permitting for a new water transportation system that minimizes impacts to the Delta.
	Secure federal agency commitments to accelerate Delta habitat restoration with new funding and by coordinating with state agencies.

Capacity Building	
	Use innovative communications, outreach, and organizing tools to build support among key stakeholders for water policy reform.
	Assemble the technical information needed to make a compelling case for water policy reform.
	Implement media and outreach strategies needed to educate key decision makers and opinion leaders of the need for change.
	Create diverse coalitions (e.g. business-labor-environmental, under-represented communities) to advance water reform.

Figure A. Terminology changes in initiative documents



Detailed feedback on goals and strategies

The following provides a more detailed review of the feedback received and synthesis of findings related to some of the most important goals that Hewlett grantees pursued and the strategies they used. These were topics on which interviewees spent the most time discussing or which Hewlett staff indicated were of particular interest.

Investing in Underserved Communities

Hewlett's investments have supported grantees in achieving policy wins that may benefit underserved communities. The new groundwater regulation system for instance will make it less likely that future droughts lead to water system failure for rural and poor communities. Northern California tribes will benefit from new, stringent requirements that protect instream flows for fish protected by treaty rights from marijuana farming impacts. Coastal counties, which became a focus of the initiative after it was underway, include some of the poorest areas of the state, and the streamflow work included in the initiative included new strategies for securing drinking water in a way that is also good for fish. Water data legislation, in theory, makes it possible to better understand and pinpoint problems of water affordability, quality, and reliability for underserved communities. Moreover, should Governor Brown prioritize passage of Clean Water Access legislation in his final year, that would fund water infrastructure improvements that benefit disadvantaged communities.

But sustained investment in policy implementation, which was not part of the Drought Initiative strategy, is needed to turn these water policy wins into tangible outcomes for communities.

Water Markets

It is unclear that any significant progress was made through the campaign on the development of water markets. Interviewees had little to say on this subject and transactions appear to be just as difficult today as they were years ago. No progress was made on federal policies that affect water trades. The original strategy included a plan to assemble a 'brain trust' of water rights experts but it is unclear whether this happened.

Engagement of environmental justice groups on water issues can be directly tied to the Water Foundation's early work to build capacity in these organizations, with support from Hewlett. A challenge that must be addressed is the tension between water trading/markets that optimize uses through market pricing and the perceived harm that trading does to local water issues (i.e. justice concerns). Trading raises local concerns because it facilitates the use of a resource elsewhere in place of putting a constraint on resource use in a local area or funding restoration or enhancement activities. For example, if farmers who need water to grow water-intensive crops simply buy that water elsewhere, the system overall may be more sustainable but level of use of local water resources maintains those impacts on communities or the environment. The available data is very poor, regarding how much water is being used by agriculture in specific areas and where groundwater is connected to instream flow of river. Thus, there are many

who doubt that trading can be done in a way that is built upon sufficient scientific consensus. In most cases, there are some situations where trading can help, but where both supporters and opponents exaggerate its potential role as a solution.

New efforts to unite water groups around strategies that would allow expanded markets to help rationalize allocation of water in California are needed. The current water rights and trading system in California is extremely complex and difficult to navigate – it benefits the largest, richest water utilities who know how to make transfers happen. Interviewees agreed that correct water pricing and markets are good, but not a panacea, and there will still be big problems that are not affected by markets.

Few Advances in Federal Policy

There is little evidence that much progress was made on federal policy by California Drought Initiative grantees, despite the stated goal in the Foundation's initial planning documents.[3] While the Public Policy Institute of California's reports had some value impact on influencing public discourse around the necessity of a drought response by the Obama Administration, most of the actions the Administration ultimately took seems to have been driven by other sources of information and advocacy and/or were funded by foundations other than Hewlett. The Resources Legacy Fund convened some potential sub-grantees to discuss federal policy work, but found that most were avoiding work on federal objectives for various reasons.

Conserving Natural Systems

Many interviewees agreed that while water supply, reliability, groundwater regulation, and related issues saw significant progress during the drought, there was little progress on ecological restoration or new funding secured for such activities. Interviewees that discussed this challenge often described the differences in strategy and priorities among environmental groups as a key barrier to campaign success; another challenge was the pressure upon policy-makers to prioritize community health and that of key industries. Environmental restoration was just seen as a lower priority when it was 'all hands-on deck' to deal with the impacts the drought was creating for California's underserved communities, agriculture, and cities. Had the community been less divided it may have been possible to identify more shared restoration and land protection priorities and to advocate for their rapid funding during the drought.

Hewlett and its partners did however prioritize the Deer/Mill/Antelope complex in the Sacramento Valley. These rivers are widely acknowledged to have good fish value and solvable problems, and were identified in the California Water Action Plan as priorities for drought action. State agencies engaged, first with "Voluntary Drought Initiative" efforts with irrigation districts, and later, with involuntary "curtailment" orders. Meanwhile, Water Foundation partners, including TU, secured grants, and there are now a full suite of projects moving

[3] *One bright spot was the Bureau of Reclamation's decision to modify its WaterSmart grant criteria to emphasize projects that create conserved water for the benefit of the environment or other water users.*

forward to redesign water supply infrastructure, improve river flows, and allow better fish passage.

Modest progress was also made through TU's work on coastal river restoration. This work has on-the-ground benefits, as well as system-wide implications: demonstrating how agricultural or rural landscapes can be retrofit for better conservation outcomes. TU is also completing a study on the restoration of instream flows.

Work by TU, RLF and others on the marijuana legislation will likely have long-term payoffs across California's coastal ecosystems, which are some of the most resilient in the state. The requirement for multi-benefit flood protection projects that result in river and floodplain habitat restoration, and funding for such projects in the 2018 Water Bond, will facilitate a shift of billions in future funding into habitat restoration and protection activities. Hewlett partners were also successful in achieving the Initiative goal of protecting and restoring water supplies for wildlife refuges in the Bay Delta, which are essential for millions of migrating waterfowl and as fish spawning and rearing habitat.

I believe perhaps the most important next step for grantee fish conservation and river protection efforts is developing a shared understanding of the highest river/fish conservation priorities and securing agreement among partners on the policies and funding needed to achieve them.

Grantees with whom I raised the specific question of whether it is possible to save Central Valley salmon in the long-term in the San Joaquin River watershed were about equally split between those who believe it is *possible* and those who think it is *impossible* in the face of climate change. I would encourage Hewlett to look more closely at this question before making any additional investments in grantee work in the San Joaquin system. It's unclear which environmental features of national importance are improved through work in that basin (although work there may have important strategic or political benefits for broader goals of the Foundation). It's more likely going forward that grantees may achieve higher-value ecological outcomes if focused on the Sacramento River system.

Water Data

The effort that led to the 2015 Water Data bill was launched to address a critical problem: water utilities had a monopoly on water data and maintained it for their own purposes while agencies and the public had little access to information on water use. The data that was collected by or shared with state agencies was largely disorganized, kept in paper files, and not useful for addressing drought response. Agencies challenged the legislation, and it's a victory for Hewlett's grantees, academics and other partners that they managed to win the narrative and public support. Securing the ability for state agencies to make more data-informed water decisions is key for industry because in the absence of data, Governor Brown's executive actions on drought punished all utilities regardless of past conservation efforts. In addition, lack of precise data from agriculture made urban districts an easier target for use restrictions. The legislation addresses both problems.

Since the legislation passed, the effort to create better water data appears to be languishing. The Department of Water Resources is going extremely slowly with the tasks they must complete. It is unclear if key deadlines will be met by the end of Governor Brown's term or beyond. Farmers believe that data is just going to be used to tighten regulation, of which they already perceive that they face an extreme burden.

Additional water conservation legislation (Senate bill 606 and Assembly bill 1668) may pass in 2018, which would strengthen requirements for water agencies to plan for droughts and increase state support to help smaller communities and utilities do so. These proposals also include requirements that would strengthen reporting on agricultural water use.

Interviewees agreed that outside help is needed, either in organizing and sponsoring more data challenges/prizes. Alternately, others suggested that the 'Parks Forward' model of bringing an outside consultant like Deloitte into the state water agencies would be an effective strategy to identify structural and bureaucratic barriers to better data development and use and solutions to allow rapid progress.

People Matter

The drought was one major catalyst for change - but the other, unappreciated catalyst, was people. Interviewees reported that Governor Brown had few water priorities other than the Bay Delta WaterFix upon entering office, but the drought changed that. He nimbly staffed up with a team that had the necessary ambition and leadership skills to accomplish big policy changes to benefit the state. Grantees advocated for the appointments of respected water experts in key positions, for example on the Natural Resources Agency and in the governor's office, and those appointments made a difference in ultimately informing state policy solutions. Many other staffing choices in the Brown Administration had a profound effect on water policy outcomes.

In my interviews, it was clear that little is known about the water priorities of future gubernatorial administrations and little work has yet gone into identifying and preparing policy ideas or recommending experts to serve in key posts affecting water policy in the next administration. Environmental justice groups are the only interviewees who spoke about an active strategy to engage boards and decision-making bodies at the local and regional level. Their effective strategy should be replicated by the environmental community writ-large and be accompanied by training so that new appointees and elected officials are not isolated and ineffective.

While it may be wishful thinking, many interviewees both in industry and other sectors hinted at changes that are coming in the mindsets of local boards, water utility staff, and others in the professional water community across California. The current results of this shift are a greater amount of collaboration within utilities and a growing sophistication to recognize and deliver more sophisticated projects. Retailers and wholesalers are working together, the industry association is working with water advocates on some legislative efforts, and shared planning and cooperation is become more routine. This is by no means uniform, but many interviewees

saw the shift as something that contributed to recent progress and might make more future progress possible.

Water Quality Negotiations

A small set of environmental groups are working to help secure voluntary agreements for each of 20 watersheds that would allow communities to meet Clean Water Act-mandated water quality goals. The main parties to those settlements are junior and senior water rights holders in each of the watersheds. Securing settlements would prevent mandatory regulation from the Water Resources Board and avoid years of legal challenges and remands that would stall implementation but the process was described to me as both a 'hail Mary' and a 'fool's errand.'

Among the 20 watersheds, hopes are highest for the Sacramento River system. The Sacramento River has far more water so trade-offs or reductions in use are easier to manage, and it has more restoration options and more stakeholders who are accustomed to working together to identify a shared solution set.

There are concerns that the San Joaquin system would not achieve a successful negotiated outcome and this watershed will likely face Water Board regulatory action in 2018. This is because the San Joaquin must make up something close to a 2-million-acre foot deficit which is extremely hard to find through voluntary cutbacks in water use. The agricultural and local government and water agency communities in the San Joaquin still resent the mandate to achieve water quality goals and are looking for a different solution that will make the problem recede. If more planning isn't done to develop a strategy for the future of the San Joaquin watershed area, its population and economy could see disruptions to workforce employment and agricultural productivity, which will have disruptive effects.

Potential Future Investments

The strategies below are the ones that came up most frequently in interviews or that I believe are essential to future progress to build a sustainable water supply in California for communities and the environment. The most important lessons of the California Drought Initiative may be that a) people matter b) more policy is possible in a crisis and c) be prepared. These factors should be considered when planning for any additional investments. Climate modelling has yielded a relatively strong consensus that California will face much warmer winters which will dramatically reduce the winter snowpack in the Sierra Nevada Mountains. The slowly melting snowpack is a critical storage service upon which summer and fall water supplies currently depend. Those models also show relatively strong consensus that California's future will include more extreme wet and dry periods. The Hewlett Foundation and other foundations need to help non-profits create capacity to respond to those predictable crises: what are the best policies or infrastructure changes needed for the next sustained drought? What are the best policies or infrastructure changes needed for the sustained period of flooding? Where are the human resources with the skills and savvy to make those things

happen? These are crucial questions that foundations, grantees and their partners should be exploring, across each of the areas of potential investment below.

The New Governor's Water Agenda

California may see a 2018 gubernatorial election between Lieutenant Governor Gavin Newsom and former Los Angeles Mayor Antonio Villaraigosa. Although both are Democrats, California's electoral system allows two members of the same party to face off in the general election. As of this report writing, neither has stated priorities on water policy reform or related conservation measures that we could assume they would take on if elected. It would be a mistake for grantees not to use their strong networks and capacity for strategic communications to try to elevate the importance of water issues in public debate as candidates shape their agendas, in a nonpartisan manner as permitted under federal tax rules. As with past successful efforts, communications work that elevates the voices and common-sense water conservation priorities of the business, environmental justice, and agriculture communities may be effective in helping to identify and frame solutions that work for multiple stakeholders.

Implementing a Vision for Water Data

Implementation of the Water Data Act and a broader agenda around water data are sorely needed. Support for pilot projects to digitize more water rights legal records, integration of water utility data into functional and real-time databases, better information on water pricing and trading, and reform of how agricultural water use data is submitted and tracked are some of the issues identified as critical needs during interviews. Just as the Obama Administration created a digital White House team of Silicon Valley experts to upgrade federal agency digital tools, a future governor may need to engage California's brightest technology minds to make rapid progress possible on data collection and sharing. Massive retirements are coming to water agencies with few people to replace the engineers and technical experts needed to manage and re-imagine California's complex water data system. An initiative to empower the next governor to build a stronger 'data team' would fundamentally shift the opportunity to make progress on water policy.

Consolidation of Water Systems

New authority for the state to mandate the consolidation of small, unreliable drinking water systems is one of the best solutions and does not require new statewide policy. I heard two estimates that consolidation could solve perhaps 1/3 of the water access problem. This 1/3 estimate was associated with areas that are near big, financially-viable water systems and therefore are places where water rates will be relatively affordable and where long-term maintenance costs for the expanded system are bearable by the utility. More analytical work is needed to define the highest-priority geographic targets for this solution and to support

environmental justice groups to figure out how to execute a strategy to achieve consolidation. These are long-term and potentially permanent policy victories because the new water supplies will be far more resilient.

Groundwater Act Implementation

Implementation of the Groundwater Act is a long play. It will take significant coordination among groups and will have an especially large impact in the San Joaquin Valley. Further efforts by Hewlett grantees could focus on creating some bright spots among groundwater management agencies that would allow them to deliver and fund ambitious plans with community and conservation benefits. Groundwater sustainability plans are due in January 2020 and must show how the new local groundwater agency will bring use to a sustainable level.

The San Joaquin needs a different kind of assistance. Philanthropy could support evaluations of the best places for new groundwater recharge areas or 'banks' and of the highest restoration areas or those that could have critical flood mitigation benefits. A Habitat Conservation Plan or other plan in the Tulare watershed or other part of the San Joaquin could help create the planning needed to manage the ecological and economic transition of some private lands from production into groundwater banks, habitat banks, or other restored features that can be used to generate economic value for landowners.

Ongoing science around groundwater recharge on agricultural lands is also important and needed; what is needed to build resilient soils with high permeability (i.e. water recharge potential)? Agriculture needs continued support to transition to lower water uses and higher value lands.

Environmental Justice Capacity-Building

Environmental justice groups are critical to implementation of the Groundwater Act and to connect disadvantaged communities to clean and affordable drinking water. In addition to general operating support, some of these community-based organizations need capacity to understand and inform potential water policy solutions. Other organizations might benefit from capacity to recruit and train new members of water agency boards.

Habitat Priorities

There was a strong agreement among interviewees that any future investments on fish should focus on the Klamath, and northern and central California coastal rivers (e.g. Eel River watershed is only 8% blocked by dams). Implementation of new laws regulating marijuana-related water use and funding coastal river restoration are a big opportunity. Work to ensure that the state fish and wildlife agency prioritizes funding to the right projects would have a big

pay-off for fish and habitat conservation, however, this is dependent on more funding for the planning and prioritization of freshwater habitat restoration projects across the state.

Training

Water commissioners, senior water officials and others need tools to develop a better understanding of climate models, how to develop flood control projects that benefit ecosystems, understanding of groundwater banking, data opportunities and other basic capacity. What could an annual technical expertise training for water officials look like?

Storage/New Dams

The Water Commission must score the 'public benefits' of new dam projects by early 2018 and will make funding decisions by June 2018 with more funding commitments required by 2020. I expect that once decisions are made, there will still be litigation to try to stop the less-popular projects, which could affect ongoing collaboration between water utilities, agriculture, and conservation groups and perhaps also labor and environmental justice groups.

Salton Sea

The Salton Sea is one of the best opportunities for a 'win' for communities and the environment in the West. In January 2018, the Salton Sea will begin to lose millions of acre feet of water, which is owned by the Imperial Irrigation District but currently diverted by them to the Sea. (That water is worth $200/acre foot per year on today's water market). That agreement ends in January and will greatly speed the shrinking of the Sea -- an estimated 100 square miles of reduction. Exposure of the seabed will exacerbate air quality problems that have already led to the highest asthma rates in the nation, affecting many of the low-income residents that live nearby. Although the Brown Administration appointed a 'czar' in 2015 to work on the Salton Sea, and made the largest appropriation for restoration in state history ($80 million), the Administration really gave it little attention until recently. How might the next governor engage?

Interviews

The following list of individuals graciously provided feedback and insights into water-related issues, activities, and decisions associated with the drought generally, and Hewlett's California Drought Initiative specifically.

Interviewee	Organization
Ann Mills	Agua Foundation (formerly USDA)
John Cain	American Rivers
Tim Quinn	Association of California Water Agencies
Gordon Burns	Cal EPA
Pat Showalter	City of Mountain View
Jennifer Clary	Clean Water Action
Laurel Firestone	Community Water Center
Alex Rodriguez	Consultant, Imperial Irrigation District
Kim Delfino	Defenders of Wildlife
Rachel Zwillinger	Defenders of Wildlife
Chuck Bonham	Department of Fish and Wildlife
Mark Cowin	Department of Water Resources (former Director)
Chuck Kovatch	EPA
Leticia Corona	Hewlett Foundation
Val Hovland	Hovland Consulting
Kevin Kelley	Imperial Irrigation District
Phoebe Seaton	Leadership Counsel for Justice and Accountability
Veronica Garibay	Leadership Counsel for Justice and Accountability
David Guy	Northern California Water Association
Reed Watson	Property Interest Research Group
Ellen Hanak	Public Policy Institute of California
Jeff Mount	Public Policy Institute of California
Corey Brown	Resources Legacy Fund
Kathy Viatella	Resources Legacy Fund
Michael Mantell	Resources Legacy Fund
Michael Scott	Resources Legacy Fund (former Hewlett)
Joya Banerjee	S. D. Bechtel, Jr. Foundation
Susan Longville	San Bernardino Valley Municipal Water District
Dee Dee Adamo	State Water Resources Control Board
Felicia Marcus	State Water Resources Control Board
Greg Gearheart	State Water Resources Control Board
Joaquin Esquivel	State Water Resources Control Board
Ashley Boren	Sustainable Conservation
Jay Zeigler	The Nature Conservancy
Brian Johnson	Trout Unlimited

Jay Lund	UC-Davis
Paul Souza	USFWS Regional Director
Richard Roos-Collins	Water and Power Law Group
Wade Crowfoot	Water Foundation
Andrew Fahlund	Water Foundation