Chapter 0. Outreach and Education about Water

Outreach and Education for Water Management in California

NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Defines what Outreach and Education for Water Management is.
2. Explains how water related Outreach and Education is in managed in California.
3. Demonstrates the very different approaches to Outreach and Education based on the purpose of the effort
4. Makes case that Outreach and Education is a concern of water managers.

Please read this section for:

- ☐ Accuracy
- ☐ Accessibility of language (no jargon)
- ☐ Flow of text (does the flow generally make sense?)
- ☐ Logical segmentation (the descriptions are written by the type of management, are these the best categories to explain the management approach? What, if anything should be added, subtracted of changed?)

Outreach and Education for Water Management in California is the use of tools and practices that allow groups and individuals to contribute to good water management outcomes by:

- ☐ Adopting water wise practices
- ☐ Contributing insight to decision makers on the best approaches for water management
- ☐ Supporting activities that result in beneficial water management outcomes
- ☐ Promoting collaboration and interdisciplinary approaches to problem solving
- ☐ Resolving conflicts and addressing multiple interests and needs
- ☐ Ensuring access to water management information and decision making

The Characteristics of a successful Outreach and Education strategy are:

- Relevant – contributes to the missions, goals, and objectives of partner organizations.
- Focused – goals are measurable, achievable, and targeted toward improving social, economic, environmental, or civic conditions.
- Scale-appropriate – designs approaches at local, state, multi-state, or national scales, effectively addressing the program focus
- Innovative – integrates research findings and collegial knowledge and experience
- Collaborative – cultivates and nurtures authentic and appropriately diverse partnerships.
- Integrated or incorporating research-based knowledge and methods – brings together the components of the l knowledge system (research, education, and application) around a problem or issue
- Adaptive – develops and implements continuous feedback and improvement strategies that include strong program planning and evaluation components, and exchanges information about processes, outputs, and outcomes with colleagues at local, state, multi-state, and national levels.
- Visible – interprets processes, outputs, and outcomes in a format that is understandable and accessible to partners and decision-makers.
- Effective – achieves outcomes that meet intended and unanticipated program objectives.
- Sustainable – develops and implements mechanisms to sustain the production of impacts over time, as appropriate to the duration and priority of a public need

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The use of Outreach and Education as a Water Management tool in California has increased over time. At the time of early Water Plans and the building of California's massive water infrastructure, decisions makers primarily relied on engineering expertise as the best method to achieve positive water outcomes and resolve problems.

Overtime, as the demands on water management systems have increased and understanding of the complexity of the water systems has grown, the need for engineers and technical experts to engage others in achieving optimum results has become more apparent. This direction has been confirmed by the California Legislature and the Executive Branch through requirements for open and transparent decision making and access to public records, specific directions to convene advisory committees and conduct public outreach, and legal requirements for notification and hearings on key topics, such as prescribed in the California Environmental Quality Act.

The degree of engagement and methods used are tied to the goals of effort and the individuals involved. Outreach and Education efforts may range from informing and educating to empowering, and the tools used mirror the goals of engagement. The International Association of Public Participation (IAP2)[i] provides a broadly accepted framework on the levels of engagement as follows:

Level	Goal	Public Expectation	Tools
Inform, Educate	Provide information about problems, solutions, alternatives, opportunities, and solutions related to water in California.	Water managers will provide balanced and objective information to the public.	• Websites • Fact sheets • Open houses • e-News • Newsletters
Consult	Obtain public feedback on analysis, alternatives, and/or decisions regarding water in California.	Water managers will provide information, will listen and acknowledge public concerns and aspirations, and provide feedback on how public input influenced the decision.	• Public comment • Focus groups • Surveys • Public meetings • Social media participation
Involve	Work with the public to ensure public concerns and aspirations are understood, and considered by water managers.	Water managers will work to ensure that public input informs alternatives and provide feedback on how public input influenced the decision.	• Workshops • Deliberative polling
Collaborate	Partner with the public to develop alternatives and identify preferred solutions for water in California.	Water managers will ask for advice and ideas from the public, and will use public try to include public input when making decisions.	• Advisory Committees • Caucuses • Include plan alternatives in reviews
Empower	Provide the public the opportunity to make decisions related to water in California.	Water managers will implement or support public decisions.	• Convene forums as requested, when possible • Support local and regional action

The US EPA and others have also developed agency specific frameworks and these are widely used by public participation professionals. Similar frameworks and tools exist for water educators and public relations professionals.

The overall goal of water education is to develop more knowledgeable citizens who can participate in public discussion and debate about water issues. Information improves people's ability to examine and evaluate information presented — and the information that is not presented. With a basic understanding of water, residents can respond intelligently to issues such as the need to develop water supplies or wastewater treatment facilities, the benefits and costs of conservation, the dangers associated with leaking contaminants, the risks posed by poor water quality, the benefits and costs

of river restoration or flood control. With education, people can form their own opinions based on data and information.

Water educators also provide continuing education for water professionals in formal educational settings and through seminars, conferences and events.

Public relations professionals help refine important messages about water so they are useful to a broader group of people and assist in preparing informational materials, and placing promotional messages on key topics using all forms of traditional and social media. Another role is to assist with critical outreach on topics such as flood risk notifications to people who live in areas by substandard levees. These professionals are also routinely engaged to provide information on topics related to the need for investment in water systems.

Opinion polling and academic research is used by Outreach and Education professionals to learn more about what is important to key audiences and to identify the best practices for serving those audiences and stakeholders.

There has been significant success in using Outreach and Education to ask individuals to change simple habits, such as turning off the water when brushing teeth, installing more efficient shower heads, or altering lawn practices. Outreach and Education has also been essential to creating a better understanding of flood risk in California, the importance of not adding contaminants to storm drains, and the need to maintain and invest in our water systems. With all its success Outreach and Education could be used more broadly, delivered more efficiently, better target and reach key audiences, and better support California's understanding of critical water issues. For example, the general public has limited understanding about the watersheds they live in, where their individual water comes from and where it goes when they have finished with it, and the degree of flood risk they may be exposed to.

Outreach and Education has contributed to broader use of cross disciplinary groups to resolve water issues and been the foundation of some significant water policy decisions in California as multiple interests have worked collaboratively to solve problems.

As an extremely diverse state, Outreach and Education is not always culturally relevant and California has a relatively large number of underserved, and/or disadvantaged communities for which traditional tools are not always adequate.[ii]

The need to accelerate use of, and most effectively provide Outreach and Education is driven by the State of California's water policy for Integrated Water Management, which supports multi-function water systems that echo the ways water is integrated in the environment. The addition of this new lens requires the addition of new stakeholders and audiences and the use of the tools provided by Outreach of Education. A new emphasis on regional management also creates new demands for engagement tailored to local needs and practices.

Potential Benefits of Outreach and Education for Water Management in California

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NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Explains the benefits of using Outreach and Education as a water management strategy
2. Sets the stage for recommendations that say things like - "do more of this."

Please read this section for:

- ☐ Accuracy
- ☐ Accessibility of language (is this written in the right tone and level for the intended audience?)
- ☐ Flow of text (does the flow generally make sense? Are things presented in a logical order?)
- ☐ Are all benefits captured here?

CAPTION - Storm drain stenciling is one way community members can participate in water quality activities.

A single regulatory agency or municipal office working alone cannot be as effective in achieving optimum water management as if it has the participation, partnership, and combined efforts of other groups in the community all working towards the same goal. The point of public involvement is to build on community capital—the wealth of interested citizens and groups—to help spread the message on water goals and actions to manage, restore and protect water resources.

Public involvement also includes facilitating opportunities for direct action, educational, and volunteer programs such as riparian planting days, volunteer monitoring programs, storm drain marking, or stream-cleanup programs. Groups such as watershed groups and conservation corps teams who want to participate in promoting environmental causes should be encouraged and offered opportunities to participate in the water management agenda.

Outreach and Educations starts to build the platform for a more sustainable future, by helping people take individual and collective action that supports more sustainable water outcomes.

Significant research exists on the benefits of Outreach and Education and the collaborative and engagement methods it incorporates. While the time involved in engaging others may seem to slow down projects and programs up front, evaluations reveal that well delivered processes reduce the

ultimate time to implementation of desired goals, reduce litigation, and significantly reduce unintended consequences of water decisions. The benefits of such research is significant as it supports continued refinement and use of outreach practices. Evolving research on developing culturally appropriate outreach will also contribute better reaching communities in need of water information.

Outreach in the form of collaborative policy making results in improved decision making as agencies learn more about what is concern to stakeholders, and the full requirements of any particular watershed or system is revealed. The Delta Stewardship Agency is an example of a California state agency that has taken outreach to heart. As they grapple with writing a plan to address come of the most contentious water policy issues in California, they have made transparency and inclusion a high priority for them. The Delta Stewardship council has released five drafts of their Plan as it was being developed. They've held workshops throughout the state to inform the interested public of the state of their work. They've solicited public comment, and posted all comment and much of the correspondence they've received. They have created an mass email list to keep people informed (the Delta eNews), and held blogger availability sessions in addition to press availability sessions.

Research indicates that public education on water use has significant return on investment as children may leverage activities at home and the behavior of adults they interact with. This shift in thinking will gain growing significance as California needs:

- More participation in conservation programs.
- More equitable and just usage and distribution of water.
- Help with climate change adaptation and resilience
- More aesthetic value of water

In the absence of a concerted outreach effort, research and experience suggest that community members will form their opinions of water issues that may be influenced by inaccurate perceptions of project risks or benefits; by whether the project is viewed as consistent with the community's long term goals; by social factors, such as the degree of trust placed in the project team and government agencies; and by the perceived equity in the process for developing a project. Media coverage; word-of-mouth; and information sources, such as blogs and other electronic media, often influence how individuals form opinions. Perceptions that may seem exaggerated from a technical point of view must be taken seriously. Perceived risks are no less "real" for purposes of implementing a public outreach program. If these concerns are not addressed by water managers, they can rapidly transform into public opposition.

Potential Costs of Outreach and Education for Water Management in California

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NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Answer the question "What does it cost to do Outreach and Education?"

This section needs to illustrate:

- Raw costs of working with professionals that do this
- People who do participate, opportunity cost of people's time
- Costs of compiling and maintaining data

WE NEED HELP FROM THE GROUP TO COMPILE SOME OF THE ABOVE INFORMATION.

Summary paragraphs of the section-

The costs of doing significant, well delivered Outreach and Education are small compared to the usual costs of building and maintaining water infrastructure.

Major Issues Facing Outreach and Education about Water

NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Explains the major issues facing use of Outreach and Education in water management
2. Sets the stage for recommendations that say things like - "do this _____ to overcome this particular issue."

Please read this section for:

- *Accuracy*
- *Accessibility of language (is this written in the right tone and level for the intended audience?)*
- *Flow of text (does the flow generally make sense?*

A major challenge for Outreach and Education efforts is the current lack of understanding but water management in general. There is a significant lack of understanding by Californians about the water system. Although there is often a vague sense that water is scarce and important, even important enough to fight over, many stakeholders and the public do not have much understanding of the physical or governance system that delivers water to them. Many if not most Californians do not know how water gets to them, or the features of the water landscape around them. In a recent survey, 78% of Californians did not know what the Bay-Delta is, despite its function as the hub of California's two major water projects.[iii]

At a local level, few people are able name their particular water source or their district's board members or managers. As people become interested in water policy, they report that the state level governance structure is bewilderingly complicated, with multiple agencies parting out different pieces of water management. Because they are disengaged from these systems, they don't know how to value water in public policy disputes.

Another significant challenge relates to the varied cultural and geographic diversity of the State's residents. Outreach and Education tools are not one size fits all and many current methods do not address these more diverse needs. Much progress is being made in this area with the use of pilot projects and other innovative programs but much, much more is needed.

Adding to problems with effectiveness in Outreach and Education delivery is a lack of understanding by some agencies and decision makers of the importance of the tool and the need to build it into the overall project or policy approach rather than add it on later because of some requirement or public outcry. More and more agencies are gaining a better understanding but ultimately, with shrinking resources and often crushing timeframes for resolving urgent issues, Outreach and Education does not always gain the priority it should.

The overall approach to Outreach and Education is sometimes misguided. In some cases it would be more practical for academic institutions or non-governmental organizations to assume the role of delivering these services rather than water (including flood) agencies. This type of approach is particularly effective when significant resources and relationships already reside in the sister organizations.

In some cases there is too much information about Outreach and Education tools without a proper understanding of the best applications of the tools and/or the validity of the approaches as a best practice. For example a number of efforts have resulted in success but could have been delivered more effectively and efficiently. In other cases, selecting the wrong tools or application of tools incorrectly results in building cynicism and making future outreach even more difficult. This type of error has profound implications for issues where conflict resolution is required.

Well intentioned agencies and decision makers, looking at the wide variety of tools are known to prescribe a tool to their Outreach and Education personnel that appear to work well from all the papers, books and other materials but may or may not be the right tool for a particular effort. Without some well organized or professionally evaluated assessment of information, selection of these methods by non-professionals can have negative results.

A current issue facing water managers is a small but vocal part of the population has come to hold increasingly strong beliefs about governance and water related topics such as climate change. This active minority doubts or rejects the legitimacy of some planning efforts beyond local government and the science that supports decision making. This level of skepticism makes public policy making difficult. As this group has become more politically involved, they have disrupted public meetings, and delayed planning efforts. A mistrust of science requires evidence of fact finding beyond a level of certainty that satisfies most academics, scientists, and technical experts. New requirements for fact finding can take considerable time and money to develop. As long as this mistrust persists, education and outreach efforts may be perceived or labeled as ‘propaganda’.

An odd but real challenge is achieving success in Outreach and Education without have also considered the consequences of success. During the 2006-2009 drought, some districts who did extensive water conservation public information campaigns were caught off-guard by more response (a sharper drop in per capita water use) than they were prepared for. Some districts found that their rate structure required that people use water at their historical levels to cover the fixed costs of delivery infrastructure. When they ran an effective water conservation public information campaign, constituents weren’t buying enough water from them to cover their fixed costs. They were forced to increase their base rates, leading to the unpopular perception that people were being punished for conserving water. In cases like this, water districts weren’t prepared for their public information campaigns to be successful and change people’s water use.

A final and difficult challenge is the often bewildering complexity involved in addressing water management issues. Creating or defining a clear public message, something that can be incorporated in a 30 second sound-bite is a challenge. A simple message is inadequate for the situation; but required to reach an audience. While achieving the results of these simplified messages can be very important, it is often not enough to solve the problems. In this scenario, water managers may not understand to conduct Outreach and Education at multiple levels, at multiple times, and using multiple messages.

Recommendations to Facilitate Outreach and Education about Water

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NOTES TO REVIEWERS

This section needs to meet the following requirements:

1. Must enhance benefits or reduce cost
2. Must include actor who will implement
3. Prefer measurable recommendations

WE NEED HELP FROM THE GROUP TO COMPILE SOME OF THE ABOVE INFORMATION.

References

References Cited

California Department of Water Resources. 2005. Californian's Without Safe Drinking Water: A 2005 Update. Retrieved from http://www.waterplan.water.ca.gov/docs/cwpu2005/vol4/vol4-waterquality-californianswithoutsafewater.pdf.

International Association of Public Participation. 2007. IAP2 Spectrum of Public Participation. Retrieved from http://www.iap2.org/associations/4748/files/spectrum.pdf.

Probolsky Research. 2012. California Statewide Voter Survey: Report on Results. Retrieved from http://www.probolskyresearch.com/wp-content/uploads/2012/01/Probolsky-Research-CA-Statewide-Survey-Jan.-2012-Water-Issues1.pdf.

Personal Communications

End references for any personal communications you are citing in your text appear here.

Additional References

California Water Boards. 2011. Citizen's Guide to Working with the California Water Boards. Retrieved from http://www.waterboards.ca.gov/publications_forms/publications/general/docs/citizenguide2011.pdf.

Community at Work. Resources available http://www.communityatwork.com/resources.html.

Leighninger, Matt. 2011. Using Online Tools to Engage – and be Engaged by – The Public. Retrieved from http://www.businessofgovernment.org/sites/default/files/Using%20Online%20Tools%20to%20Engage%20The%20Public_0.pdf.

Nevada Division of Water Planning. 2011. Nevada State Water Plan: Part 3 – Water Planning and Management Issues: Section 5 – Water Planning and Management: Water Education. Retrieved from http://water.nv.gov/programs/planning/stateplan/documents/pt3-5d.pdf.

Wholly H20. Resources available http://www.whollyh2o.org/resources.html.

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[i] http://www.iap2.org, http://www.iap2.org/associations/4748/files/IAP2%20Spectrum_vertical.pdf
[ii] http://www.waterplan.water.ca.gov/docs/cwpu2005/vol4/vol4-waterquality-californianswithoutsafewater.pdf.
[iii] http://www.probolskyresearch.com/wp-content/uploads/2012/01/Probolsky-Research-CA-Statewide-Survey-Jan.-2012-Water-Issues1.pdf.