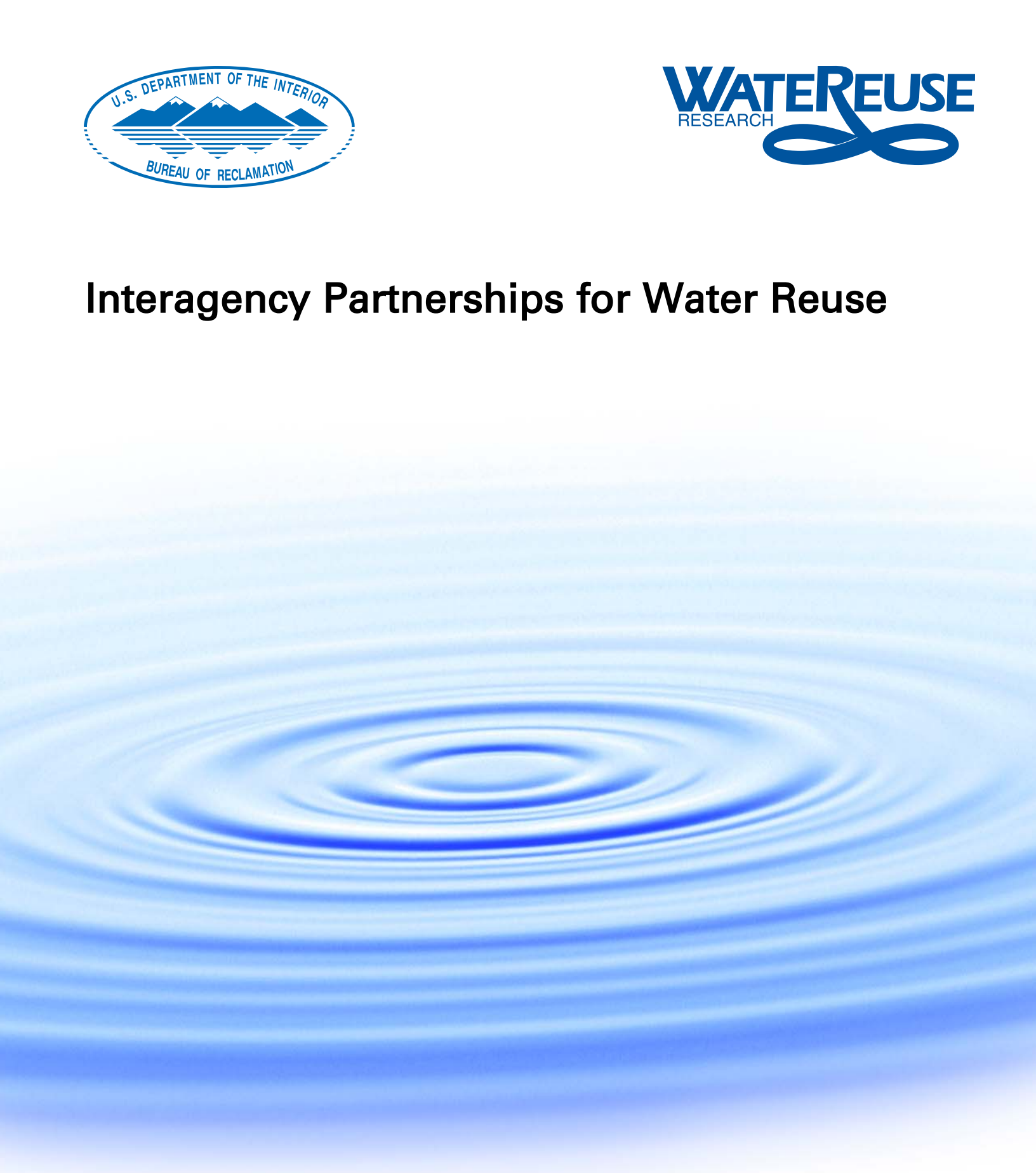
Interagency Partnerships for Water Reuse



WateReuse Research Foundation

Interagency Partnerships for Water Reuse

About the WateReuse Research Foundation

The mission of the WateReuse Research Foundation is to conduct and promote applied research on the reclamation, recycling, reuse, and desalination of water. The Foundation's research advances the science of water reuse and supports communities across the United States and abroad in their efforts to create new sources of high-quality water through reclamation, recycling, reuse, and desalination while protecting public health and the environment.

The Foundation sponsors research on all aspects of water reuse, including emerging chemical contaminants, microbiological agents, treatment technologies, salinity management and desalination, public perception and acceptance, economics, and marketing. The Foundation's research informs the public of the safety of reclaimed water and provides water professionals with the tools and knowledge to meet their commitment of increasing reliability and quality.

The Foundation's funding partners include the Bureau of Reclamation, the California State Water Resources Control Board, the California Energy Commission, and the California Department of Water Resources. Funding is also provided by the Foundation's Subscribers, water and wastewater agencies, and other interested organizations.

Interagency Partnerships for Water Reuse

Workshop Proceedings

Eric Rosenblum,
South Bay Water Recycling

Cosponsors
Bureau of Reclamation
Bay Area Water Forum
Bay Area Clean Water Agencies
Santa Clara Valley Water District
East Bay Municipal Utility District
Novato Sanitary District
City of San José
San Francisco Public Utilities Commission

WateReuse Research Foundation
Alexandria, VA

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Acronyms

ABAG	Association of Bay Area Governments
AFY	acre-feet per year
BACWA	Bay Area Clean Water Agencies
BARWRP	Bay Area Regional Water Recycling Program
BAWF	Bay Area Water Forum
CECs	compounds of emerging concern
CEQA	California Environmental Quality Act
CPUC	California Public Utilities Commission
CSD	Community Services District
DERWA	DSRSD–EBMUD Recycled Water Authority
DSRSD	Dublin-San Ramon Services District
DWR	Department of Water Resources
EBMUD	East Bay Municipal Utility District
EFAD	European Fund for Agriculture Development
IRWMP	integrated regional water management planning
JPA	Joint Powers Authority
LEED	Leadership in Energy and Environmental Design
PPCPs	pharmaceuticals and personal care products
PUC	Public Utility Commission
SBWR	South Bay Water Recycling
SCVWD	Santa Clara Valley Water District
SFPUC	San Francisco Public Utilities Commission
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
USGS	U.S. Geological Service

Foreword

The WateReuse Research Foundation, a nonprofit corporation, sponsors research that advances the science of water reclamation, recycling, reuse, and desalination. The Foundation funds projects that meet the water reuse and desalination research needs of water and wastewater agencies and the public. The goal of the Foundation's research is to ensure that water reuse and desalination projects provide high-quality water, protect public health, and improve the environment.

An Operating Plan guides the Foundation's research program. Under the plan, a research agenda of high-priority topics is maintained. The agenda is developed in cooperation with the water reuse and desalination communities including water professionals, academics, and Foundation subscribers. The Foundation's research focuses on a broad range of water reuse research topics including:

- Defining and addressing of emerging contaminants
- Public perceptions of the benefits and risks of water reuse
- Management practices related to indirect potable reuse
- Groundwater recharge and aquifer storage and recovery
- Evaluation and methods for managing salinity and desalination
- Economics and marketing of water reuse

The Operating Plan outlines the role of the Foundation's Research Advisory Committee (RAC), project advisory committees (PACs), and Foundation staff. The RAC sets priorities, recommends projects for funding, and provides advice and recommendations on the Foundation's research agenda and other related efforts. PACs are convened for each project and provide technical review and oversight. The Foundation's RAC and PACs consist of experts in their fields and provide the Foundation with an independent review, which ensures the credibility of the Foundation's research results. The Foundation's Project Managers facilitate the efforts of the RAC and PACs and provide overall management of projects.

The Foundation's primary funding partners include the Bureau of Reclamation, California State Water Resources Control Board, the California Energy Commission, Foundation subscribers, water and wastewater agencies, and other interested organizations. The Foundation leverages its financial and intellectual capital through these partnerships and other funding relationships.

The Interagency Partnerships for Water Reuse Workshop was held on Monday, October 29, 2007, at the Presidio Officer's Club in San Francisco. The workshop was convened to identify the tools and information that local elected officials and agency managers need to work together to expand the use of recycled water throughout the San Francisco Bay Area. This report summarizes the information provided and developed in these sessions along with recommendations for further research.

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Chair
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Executive Director
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This study would not have been possible without the insights, efforts, and dedication of many individuals and organizations. These include the members of the research team, the WateReuse Research Foundation's project managers, and many key individuals at the participating utilities and related organizations.

The research team would like to thank the WateReuse Research Foundation for funding this applied research project.

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Consulting Firm

Ross & Associates

Chapter 1

Introduction

The Interagency Partnerships for Water Reuse Workshop was held on Monday, October 29, 2007, at the Presidio Officer's Club in San Francisco. The workshop was convened to identify the tools and information that local elected officials and agency managers need to work together to expand the use of recycled water throughout the San Francisco Bay Area. The workshop was attended by 96 elected representatives and executive managers of city and county government and special districts throughout the nine-county Bay Area. Participation was provided at no cost, courtesy of grants from the Bay Area Clean Water Agencies (BACWA), Bay Area Water Forum (BAWF), member agencies, as well as the Bureau of Reclamation and the WateReuse Research Foundation. Appendix A includes a list of participants.

The purpose of the workshop was to enable attendees to accomplish the following objectives:

- Learn why national and state leaders say recycled water is the key to a sustainable water supply;
- Hear firsthand how some Bay Area cities have partnered to supply recycled water across jurisdictional boundaries; and
- Identify the critical issues that local agencies must address to create workable recycled water partnerships.

To meet these goals, the day's activities were divided into three parts:

1. A presentation by federal, state and Bay Area officials about the critical need for water in the West in general and in California, in particular, and the growing demand for recycled water.
2. A presentation by local water managers describing their experience with successful water recycling partnerships established during the past decade.
3. A set of "in-depth" facilitated breakout-group discussions of issues and concerns about interagency water partnerships, including understanding their benefits; identifying the roles of the partners; finding ways to share the cost of recycled water projects; the importance of coordinating recycled water use with land use planning; and how to address public attitudes about recycled water.

The workshop ended with reports from each of the breakout sessions and summary insights from three expert panelists. A copy of the workshop agenda is included as Section 1.1.

This report summarizes the information provided and developed in these sessions along with recommendations for further research.

1.1 Agenda for Interagency Partnerships for Water Reuse

Interagency Partnerships for Water Reuse
The Presidio, San Francisco, CA
Monday, October 29, 2007

1. Registration and Continental Breakfast (7:45–8:15)

2. Welcome and Introduction (8:15–8:45)

- Michele Plá, *Bay Area Clean Water Agencies (BACWA)*
- Hon. Cynthia Murray, *Bay Area Water Forum (BAWF)*
- Eric Rosenblum, *WateReuse Research Foundation representative*

3. Recycled Water: A Bay Area Solution (8:45–10:15)
Moderator: Michele Plá*, BACWA*

Panel Members

- Hon. Jared Huffman, *Chair, Environmental Safety Committee, California State Assembly*
- Larry Todd, *Deputy Commissioner, U.S. Bureau of Reclamation*
- Dr. Fawzi Karajeh, *Chief, Water Recycling and Desalination Branch, California Department of Water Resources (DWR)*
- Dr. Gary Wolff, *Vice Chair, State Water Resources Control Board (SWRCB)*

4. Networking Break (10:15–10:30)

5. Regional and Local Partnerships: Yesterday and Today (10:30–12:15)

- **Bay Area Regional Water Recycling** *Michael Carlin, San Francisco Public Utilities Commission (SFPUC)*
- **DSRSD-EBMUD Recycled Water Authority** *John Coleman, East Bay Municipal Utility District (EBMUD) and Jeff Hansen, Dublin-San Ramon Services District (DSRSD)*
- **South Bay Water Recycling** *Eric Rosenblum, City of San José and Keith Whitman, Santa Clara Valley Water District (SCVWD)*
- **Daly City Partnership** *Cynthia Royer, City of Daly City*
- **Integrated Regional Water Management Plan** *Tracy Hemmeter, SCVWD*

6. Lunch with Regional Networking Partners (12:15–1:15)
Meet with potential partners for water reuse projects at geographically arranged lunch tables.

7. Facilitated Break-Out Groups (1:15–3:15)

A. Understanding Partnership Benefits and Responsibilities
B. Valuing and Paying for Recycled Water Projects
C. Coordinating Recycled Water Use and Land Use Planning
D. Addressing Public Opinion about Recycled Water

8. Networking Break (3:15–3:30)

9. Report Small Group Work and Identify Key Issues of Concern (3:30–4:20)
Moderator: Michele Plá*, BACWA*

Panel Members

- **Phil Bobel,** *City of Palo Alto*
- **Art Jensen,** *Bay Area Water Supply and Conservation Agencies*
- **Cynthia Murray**, *BAWF*

10. Closing Remarks (4:20–4:30)

11. Reception and Networking (4:30–5:30)

Chapter 2

Welcome and Opening Remarks

Michelle Plá, Executive Director of the Bay Area Clean Water Agencies (BACWA), a workshop cosponsor, welcomed the attendees. Ms. Plá read a statement provided by U.S. Representative Grace Napolitano, Chair of the House Subcommittee on Water and Power, concerning the national importance of recycled water and the importance of a federal role in supporting local recycled water projects "to ensure that we have [an] ample, sustainable water supply—enough water for ourselves today and for our children tomorrow." In her written statement, Rep. Napolitano pledged to support pending legislation to authorize federal funding for eight additional Bay Area water recycling projects and to work to increase the amount of federal funding available through the Bureau of Reclamation Title XVI program. Rep. Napolitano's statement is attached as Appendix B.

Ms. Plá added that BACWA has been working for the past two decades to help integrate water recycling into regional Bay Area water planning. She explained that the Bay Area depends on non-local water supplies and is therefore vulnerable to drought. She also mentioned other benefits associated with water recycling including reductions in the mass loading of pollutants from effluent discharges when recycled water is used for irrigation. Ms. Plá concluded by stating that the attendees at the workshop were Bay Area leaders in managing local water resources, and she challenged them to work together to develop partnerships for water reuse by asking, "If we don't do it, who will—and what are we waiting for?"

The Honorable Cynthia Murray, Marin County Supervisor, spoke next, representing the Bay Area Water Forum (BAWF) and the North Bay Leadership Council. Supervisor Murray described the work of the BAWF over the past four years, helping to elevate public officials' understanding of water issues including water reuse and recycling. According to Ms. Murray, water reuse and recycling will play a critical role in the future, and BAWF can serve as an outreach arm by hosting public workshops and facilitating planning efforts. She encouraged workshop participants to contact BAWF if they need assistance with outreach efforts.

Eric Rosenblum, WateReuse Research Foundation Treasurer and manager of South Bay Water Recycling (SBWR), the City of San José's regional water reuse program, spoke on behalf of the WateReuse Research Foundation and read a statement by Ron Young, President of the Foundation. In his statement, Mr. Young claimed that, "We have found partnerships to be an extremely valuable tool in all aspects of water reuse…with partnerships that include legislators, stakeholders, end users, public agencies, private developers as well as the rate payers and voters to support projects and policies." Mr. Young's statement is attached as Appendix C. Mr. Rosenblum went on to explain that the WateReuse Research Foundation is an independent, nonprofit organization dedicated to furthering important research efforts in water recycling. He said that past analyses have shown that water reuse projects are more likely to be delayed by conflicts between potential partners than by technical challenges. He concluded by saying that the Foundation was proud to be a part of this workshop.

Chapter 3

Panel 1: Recycled Water—A Bay Area Solution

During this session, federal and state decision makers explained how and why they supported Bay Area water recycling. Michele Plá moderated the session. A summary of the statements by each of the panelists is provided in the following.

3.1 Panel 1 Participants Statements

3.1.1 Hon. Jared Huffman, Chair, Environmental Safety Committee, California State Assembly

3.1.1.1 Jared Huffman Background

California State Assemblymember Jared Huffman (Marin County, 6th District), sits on the Water, Parks and Wildlife Committee and the Environmental Safety and Toxic Materials Committee. Previously, he served for 12 years on the Marin Municipal Water District Board of Directors and also was a Senior Attorney for the Natural Resources Defense Council.

3.1.1.2 Jared Huffman Comments

Mr. Huffman explained that California's constant state of water crisis is so extensive that it can no longer be considered a mere drought. As an example, communities served by the San Joaquin-Sacramento River Delta are now rationing water use and putting in place other types of water cutbacks to protect the Delta smelt—cutbacks that are expected to remain in place for some time. In responding to this crisis, Mr. Huffman suggested that implementing water recycling is a "no brainer," and thus he is encouraging the Legislature to double the amount of funding proposed for water recycling, from $250 million to $500 million. He said that the Legislature should not only look at recycling, but also at the full panoply of other options, including desalination and other types of treatment, and also promote conservation "as hard as we can." However, he pointed out that when Californian's succeed at managing their demand to the point that it is stable, they will need supplies that can withstand earthquakes and that can be relied on in the worst drought years. As a result, he said that desalination, water recycling, and other treatment options will always be necessary to hedge California's water security across a range of risks. Mr. Huffman said he believed that the Legislature would be able to pass a small water recycling bill in 2007 to allow condominiums to use recycled water to flush toilets. In conclusion, Assemblymember Huffman thanked those in attendance and promised to keep advocating for water reuse, introducing a bill to support water reuse every year for the foreseeable future.

3.1.1.3 Jared Huffman Highlighted Quotation

> "Since we are in a continuous drought, perhaps we should admit that the hydrology we thought we had in California is not the real hydrology."

3.1.2 Larry Todd, Deputy Commissioner, Bureau of Reclamation

3.1.2.1 Larry Todd Background

Larry Todd is the Deputy Commissioner for Policy, Administration and Budget at the Bureau of Reclamation. His responsibilities include: Security, Safety and Law Enforcement Program and Budget; Program and Policy Services; the Chief Information Officer, Human Resources, Civil Rights; and the Management Services Office (Finance, Acquisitions and Property). He grew up in the West and has worked in federal service for more than 30 years.

3.1.2.2 Larry Todd Comments

Mr. Todd explained that the Bureau of Reclamation (Reclamation) was established 105 years ago to deliver water and power to the 17 western states, and to do what it takes to keep water and power flowing, and that these responsibilities come with particular challenges. For example, he said that the multiyear drought in the West and in the Colorado River watershed, in particular, has focused Reclamation's attention and the attention of the American people on drought. He added that drought has even penetrated areas like Georgia that were previously thought to have ample water supplies. Mr. Todd cited a recent U.S. Geologic Service (USGS) report suggesting that the current western drought has exceeded that which created the Dustbowl in the 1930s and referenced a recent article ("The Future is Drying Up" New York Times Magazine, October 21, 2007) describing how the West is both the driest and the fastest growing part of the country. He said that, according to the Pacific Institute, treated wastewater is no longer a liability but an asset. The Institute also described how water conflicts are occurring between and among states as well as between agencies, and that abundant supplies of clean fresh water can no longer be taken for granted.

As a result, Mr. Todd concluded that communities cannot afford to "put all their eggs in one basket"; they need a diverse portfolio of water resources and that they must do something different, like looking at all available sources, including reuse. He acknowledged that Reclamation's budget has been flat since the late 1990s and that he did not anticipate an increase in federal funding, but he insisted that the Bureau thinks that recycling is important. As evidence, he observed that they have tried to improve a number of processes during the past year, such as reducing duplication required between the federal and state feasibility review. In summary, he admitted that federal funding was "extremely limited" but allowed that "if a project is feasible, it is a great step in the right direction." He concluded by observing that the present conference that focused on cross-government issues was a great help toward building partnerships.

3.1.2.3 Larry Todd Highlighted Quotation

> "We all want sustainable, healthy communities, and cities with good economies. Water is a key factor in order to do that."

3.1.3 Fawzi Karajeh, Ph.D., Chief, Water Recycling and Desalination Branch, Office of Water Use Efficiency and Transfers, California Department of Water Resources

3.1.3.1 Fawzi Karajeh Background

Dr. Fawzi Karajeh manages more than 50 water recycling and desalination projects in California. He also served as executive officer for the Governor's Recycled Water Task Force.

3.1.3.2 Fawzi Karajeh Comments

Dr. Karajeh began by observing that California is fortunate to have enough water over all, but the state is challenged by financial and environmental concerns when it comes to getting the water in the right places at the right times. He said that financially, California is stretched to the limit and that the demand for water by an increasing population will continually outstrip production. In response to this challenge, Dr. Karajeh identified three basic actions that should be taken: (1) using water efficiently, (2) protecting water quality, and (3) supporting environmental stewardship. He said that these actions could best be accomplished by implementing efficient regional water management and by improving statewide water management systems. He explained that each region must diversify its water portfolio, and that one of the best options to do so is through the use of recycled municipal water. He stated that if the DWR is to achieve its statewide goal to reuse 1.4 million acre-feet per year (AFY) of recycled water by 2030 out of 6 million AFY of wastewater currently discharged, we must invest some $5 billion, at least 25% of which would come from local agencies. In addition to affordability, he cited a number of other issues that must be resolved, including establishing water quality requirements appropriate for each type of use, responding to health concerns and encouraging public acceptance of recycled water, and promulgating appropriate state and local regulations. He stated that the public is capable of making wise and prudent decisions about water reuse provided that they are involved from the beginning. He further recommended a precautionary approach that goes slow and clearly addresses issues of concern before taking next steps.

Dr. Karajeh concluded by acknowledging that the Recycled Water Task Force, convened by the Legislature in 2001, in its 2003 report recommended several actions required to increase water reuse including funding health research, considering environmental concerns, engaging the public, and adopting statewide regulations. He noted that the Department of Water Resources (DWR) has responded to this challenge with policy direction on incidental runoff and by its support for a change in the law regulating water softeners. He also remarked on the change in the symbol for recycled water, which used to be a skull and crossbones. The California Department of Public Health has issued draft groundwater recharge regulations. The Water Recycling Act of 2006 (AB371) asked all agencies to implement recommendations of the task force. The 2005 California Water Plan includes many recommendations. The state government has also taken a leadership role, and the Bay Area Recycling Program Memorandum of Understanding is a great step. AB371 and Proposition 84, which has some funds for recycling projects are forthcoming. Dr. Karajeh stated that his agency will provide whatever assistance it can, including technical and financial assistance to water recycling efforts.

3.1.3.3 Fawzi Karajeh Highlighted Quotation

> "Each year about 5 million acre-feet of water reaches our wastewater plants, and we spend between $100 and $500 to treat each acre foot. We should utilize it all to its maximum benefit."

3.1.4 Gary Wolff, Ph.D., P.E. Vice Chair, State Water Resources Control Board

3.1.4.1 Gary Wolff Background

Dr. Gary Wolff, a former member of the San Francisco Bay Regional Water Quality Control Board, is Vice Chair of the State Water Resources Control Board. He is an expert in

economics and water quality and is working to develop the Board's "Water Recycling Policy."

3.1.4.2 Gary Wolff Comments

Dr. Wolff opened his remarks by stating that efficient use of water is critical to maintaining the economy and the quality of life in California. He said that the State Water Resources Control Board (SWRCB) provides financial assistance in the form of low interest loans and grants to local agencies developing recycled water projects and that to date it has awarded $132 million in grants and $509 million in loans. He also offered that the grants are not competitive, but are awarded to local agencies based on their readiness to proceed with the work and that they should apply as soon as they are prepared to start design and construction of a recycled water project. He said that the State's Recycled Water Task Force is also working to implement a set of recommendations, such as standardizing the way economic studies are done, and that the Board has proposed to adopt a final policy in early December.

Dr. Wolff also explained that there are water rights issues associated with water reuse. He said that in most parts of the state wastewater discharged to a receiving water is subsequently used downstream by other water rights holders and thus may require their approval if it is to be recycled and not discharged. However, he said that in most cases, water reuse increases water reliability, which is its most germane economic advantage because surface water resources are simply not as reliable even for holders of senior water rights. He acknowledged that there are also environmental benefits, but that they are difficult to quantify, For example, he offered that the benefit of protecting salt marshes and two endangered species that live in them (in the case of San José) was not quantified per se, but that it was ultimately determine to be at least equal to the cost of constructing South Bay Water Recycling. According to Dr. Wolff, another significant benefit would accrue from the reuse of dry weather stormwater flows that would otherwise pollute receiving waters. He said that treating and blending stormwater would reduce salinity and reduce the size of recycled water treatment systems needed to service peak summer demand, among other benefits, as well as to save energy.

Dr. Wolff concluded by pointing out that, as far as interagency cooperation is concerned, one intangible but important benefit of recycled water is its ability to reduce political conflict. He explained that water reuse has the potential to reduce the pressure on people who would otherwise wish to execute their full (conflicting) water rights. Dr. Wolff added that, as an institutional economist, he recognizes a supply and demand for rules—in that people look for new rules when the old rules don't work. He said that establishing effective new rules is very important for solving new problems that arise, and he encouraged people to talk with each other and try to figure this out in a peaceful fashion.

3.2 Panel 1 Questions

Question 1: Does recycled water smell, or is it more like the clean water that we drink at home?

> Assemblymember Huffman responded that no odor problems have been reported with nonpotable recycled water, despite instances in which communities have mistakenly used it for potable use purposes on a temporary basis.

Question 2: The draft recycled water policy mentioned by Dr. Wolff has a 300 ppm limit for total dissolved solids (TDS). This is higher than TDS in some existing reuse projects that would have to shut down if such a limit were enforced. What can be done to change this?

Dr. Wolff responded that the interim restriction of 300 ppm TDS was based on data that SWRCB staff had available and was intended to prevent people from dumping loads of salt on the ground. He said that the limit was not intended to restrict normal behavior, and that he expected that more data would eventually inform the final policy, along with comments received, which he invited the participants to submit. Dr. Wolff added that the policy would simply restate current liability law, replicating the successful pattern already in use without increasing an agency's responsibility.

Question 3: The Bay Area's water challenges pale in comparison to the issues in places like the Middle East. Can we learn from work done there?

Dr. Wolff noted Australia is moving ahead with water recycling schemes such as the southeast Queensland plan to send recycled water inland to add to their drinking water reservoir.

Dr. Karajeh offered three examples of water reuse from that region. He reported that 18% of Jordan's total water supply comes from recycled water, mainly irrigation use and reservoir recharge, and that in Yemen the World Bank has provided funding to halt desertification by creating a greenbelt irrigated with recycled water. He also said that recycled water now accounts for 22% of water used for irrigation in Tunisia, another water-stressed country where the European Fund for Agriculture Development (EFAD) has helped create nonpotable recycled water irrigation projects.

Question 4: Local projects usually have to raise rates to pay for recycled water. Has any thought been given to funding local projects? What about raising rates for the state water projects?

Dr. Wolff responded that willingness-to-pay studies show that people are willing to pay two to four times the current cost of water to ensure a reliable supply. He added that the demand for reliable water supplies is so much greater than the increased cost of supply reliability that it should be included in all our economic analyses of the value of recycled water.

Chapter 4

Panel 2: Regional Local Partnerships—Yesterday and Today

During this session, local leaders examined past and present recycling partnerships and the reasons for their success. Bill Ross (Ross & Associates Environmental Consulting) moderated the panel.

4.1 Panel 2 Participants Statements

4.1.1 Bay Area Regional Water Recycling—Michael Carlin, San Francisco Public Utilities Commission

4.1.1.1 Michael Carlin Background

Mike Carlin is the Assistant General Manager for the San Francisco Public Utilities Commission (SFPUC). He is in charge of the Hetch Hetchy Reservoir, among other responsibilities. He also currently serves as cochair of the Bay Area Regional Water Recycling Program (BARWRP).

4.1.1.2 Michael Carlin Comments

Mr. Carlin stated that the BARWRP was created in 1992 through the Bureau of Reclamation Title XVI Program to allow 27 wholesale water and wastewater agencies to evaluate opportunities to fund and implement nonpotable water recycling projects; investigate the feasibility of water trading, pollutant trading, and environmental enhancement projects; assess regulatory requirements; and research measures to improve public acceptance. The goal of this effort was to create a diverse regional water portfolio of recycled water projects that enhance water supply reliability without impacting Bay-Delta water quality and to reduce the discharge of pollutants to San Francisco Bay that do not rely on any one particular water source. He said that the work performed by the agencies was reported to Congress in 1999 in the form of the BARWRP Master Plan that identified 240,000 AFY of recycled water demand in the Bay Area that could be served by coordinated regional projects by 2025 at a cost of about $700 million. Following the submittal of the report, the group disbanded temporally, but resumed meeting in 2003 after recognizing the advantage of working together to support ongoing recycled water projects, influence the development of regulations, and pursue additional state and federal funding.

According to Mr. Carlin, one of the main conceptual breakthroughs of the BARWRP study was the identification of recycled water pipelines that freely crossed the jurisdictional boundaries of water and wastewater agencies. He said that the distribution networks were designed to supply customers with recycled water from the closest treatment plant irrespective of agency boundaries. “This is where a lot of the regional partnerships come in,” Mr. Carlin stated. “We have to get out of the silos.” He added that partnerships could allow all the agencies to construct a regional pipeline to move recycled water around, but that for agencies to participate in such a project a real savings of potable water would have to occur that would result in an “apples-to-apples” trade. Mr. Carlin said that new legislation is

encouraging this approach, citing the law referenced by Assemblymember Huffman allowing the use of recycled water in condominiums. He also mentioned that other challenges remain, for example, funding and technical challenges such as salinity management and the removal of pollutants of concern. With respect to public outreach he said that the industry needs to work on public perception by educating individual communities through school programs. As an example, he said that recycling solid waste didn't really take off until children learned about it in the classroom and then taught their parents. He concluded by pointing out that approaches like water banking and water transfers are much more complex than people think, and that "we truly need to have regional priorities and share outreach approaches" to succeed.

4.1.1.2 Michael Carlin Highlighted Quotation

"We are no longer in a 'use it or lose it' scenario; now it is simply 'use it wisely.'"

4.1.2 DSRSD-EBMUD Recycled Water Authority (DERWA)—John Coleman, East Bay Municipal Utility District and Jeff Hansen, Dublin-San Ramon Services District

4.1.2.1 John Coleman and Jeff Hansen Background

John Coleman is Director and former Chair of the East Bay Municipal Utility District Board of Directors. Jeff Hansen is District Engineer for the Dublin-San Ramon Services District.

4.1.2.2 John Coleman and Jeff Hansen Comments

Mr. Coleman introduced the formation of the DERWA partnership between East Bay Municipal Utility District (EBMUD) and Dublin-San Ramon Services District (DSRSD) by describing how the two agencies began discussions in the mid-1990s with the goal of overcoming the obstacles that threatened to prevent their cooperation. "We barely got the votes to form the DERWA Joint Powers Authority (JPA)," Mr. Coleman recalled, but reported that the JPA was finally approved and formed in 1995. With respect to the organization, he said that the JPA has two board members from each agency and that they are responsible for looking beyond their own interests.

He said that today the DERWA project uses recycled water on parks, medians, and other irrigated areas, benefitting customers in both jurisdictions and throughout the state of California because it reduces the total amount of water drawn from potable supplies. Mr. Coleman summarized the perspective of EBMUD by stating, "This is a project that works. We have been able to lower capital and operating costs. The projects have great public acceptance. Customers pay 20% less for recycled water. We need more recycled water." He added that most users would like to expand the use of recycled water to the front yards of private homes and that, unfortunately, irrigation of back yards with recycled water appears to be legally "off limits." He further observed that "we could be doing more if we had more water, but the neighboring municipalities do not want to share their excess wastewater."

Mr. Hansen agreed that DERWA was a successful joint venture, even though it did have some "bumps" along the way. He quoted the author Victor Hugo who wrote, "There is nothing more powerful than an idea whose time has come" as he recalled DSRSD's motivation for initiating the project. "We saw that our area was growing quickly and that we could obtain a number of financial benefits by joining together," he said. He pointed out that one of the main advantages was that although the recycled water was supplied by DSRSD—a relatively a small agency—they were able to obtain "the clout, financing, and engineering" of EBMUD, a much larger agency. Mr. Hansen observed that in the course of working together,

the two agencies have had a number of differences, but that "we've worked these out." He concluded by noting that formation of a successful interagency partnership like the DERWA JPA takes the consistent vision of the board of directors to continue funding the effort even before there is a demonstrable result. He reported that to date the capital cost of the DERWA project has been about $85 million of which about $30 million came from loans and grants. Mr. Hansen predicted that DERWA "has been and will continue to be a successful partnership" and advised any of the participants contemplating such a partnership "to be honest and evaluate your area differences and what it will take to overcome them."

4.1.2.3 John Coleman Highlighted Quotation

> "The staff sometimes says, 'This is what we need for our agency,' and the JPA sometimes has to look beyond what one agency needs to define the larger good."

4.1.3 South Bay Water Recycling—Eric Rosenblum, City of San José and Keith Whitman, Santa Clara Valley Water District

4.1.3.1 Eric Rosenblum and Keith Whitman Background

Eric Rosenblum is Division Manager of South Bay Water Recycling (SBWR), a nonpotable water reuse program administered by the City of San José. Keith Whitman was Water Supply Division Manager of the Santa Clara Valley Water District (SCVWD).

4.1.3.2 Eric Rosenblum and Keith Whitman Comments

Eric Rosenblum began by thanking the Bureau of Reclamation for contributing $27 million toward the $140 million construction cost of the first phase of SBWR out of a $35 million authorization. He said that SBWR currently serves about 10,000 AFY to 550 customers and that during the summer one out of every eight gallons of water discharged by the treatment plant is recycled. He said that SBWR is a project of the San José/Santa Clara Water Pollution Control Plant, a joint powers authority of five cities and three sanitary districts, and that the project was driven by a need to protect two endangered species under the Endangered Species Act. Mr. Rosenblum recalled that the City of San José and the Santa Clara Valley Water District had discussed a partnership prior to construction of SBWR, but that they were unable to agree on terms that allowed a jointly funded project. He explained that this may have been because SBWR was first viewed primarily as a wastewater diversion project, but that it has evolved into a beneficial reuse program to augment water supplies. He went on to describe what he called a "hierarchy of drivers" for reuse, in which public values and political motives determine access to economic resources that, in turn, makes technology available to solve environmental problems. With respect to the implementation of SBWR, he explained that the City of San José set up a "revenue-neutral" wholesaler–retailer relationship in which the retailers put their meter between the recycled water system and the customer so that they could charge the customer their usual retail markup for recycled water.

In summary, he identified the following principles necessary for establishing partnerships:

- Acknowledge mutual interest
- Recognize independent missions
- Meet regularly for joint planning and management
- Share O&M costs equally
- Negotiate cost-sharing for future projects
- Establish long-term relationships

Mr. Rosenblum concluded by observing that single-agency-funded projects are much easier to implement than those requiring the cooperation of multiple agencies and that this must change if California is to meet the State Water Board goal of developing1.4 million acre-feet of recycled water by 2030. He ended his remarks by quoting the blues singer Bessie Smith: "If you can't trust nobody, you might as well be alone." He suggested that this motto is apropos, because "you can't build recycled water projects by yourself."

Mr. Whitman agreed that in contrast to his agency, the Santa Clara Valley Water District (SCVWD), the City of San José was facing strong drivers to implement water recycling. As a result, he said that the SCVWD took a more passive role in the original partnership. However, he reported that the partnership has evolved and now involves partnering on technical studies and joint funding of a part of the SBWR pipeline. He added that circumstances are continuing to evolve to the point that today the SCVWD is asking what it can do to better use this resource. Mr. Whitman said, "We have the long-term view of adding 100,000 AFY and we see a lot of possibilities. Recently we have become so energized that we need to slow down and remember to take a cautious approach." He concluded by pointing out that the partnership may not have worked perfectly, but that it is evolving with an "adaptive management" approach that will help when things change over time in response to global warming and uncertainties in the supply of water from the Delta. He said that when he compares this partnership to another partnership with the South County Regional Waste Water Authority the relationship is more direct and active.

4.1.3.2 Eric Rosenblum Highlighted Quotation

> "It's a top-down process: you can have the best technology in the world and sufficient funding, but if you don't have political support you'll never build your project."

4.1.4 Daly City Partnership—Cynthia Royer, City of Daly City

4.1.4.1 Cynthia Royer Background

Cynthia Royer is Manager of Water and Wastewater Resources for the City of Daly City.

4.1.4.2 Cynthia Royer Comments

Ms. Royer said that the partnership between Daly City, a small municipality along the border of San Francisco, and the San Francisco Public Utility Commission (SFPUC) that began in 1995 originated out of a desire to help restore water levels at Lake Merced by using recycled water to irrigate surrounding golf courses. She explained that the area surrounding Lake Merced has three golf courses—the Olympic Club, San Francisco Golf and Country Club, and Lake Merced Golf and Country Club—and that the project would replace 2.77 million gallons per day of water drawn from local aquifers. She said that the project cost about $7.5 million, mostly for infrastructure construction, and involved making the project financially feasible by turning an existing equalization basin into a recycled water storage basin. According to Ms. Royer, the design began in 1997 and that the two agencies signed a 50-year agreement in April 2002 to use recycled water for 100% of the golf course irrigation. Financing came from a variety of sources, including the State Revolving Loan Fund. She said that, to date, the project had delivered nearly 1800 AFY. In summary, she said that this partnership has benefitted both communities and the entire region. At first, people were concerned that recycled water would affect these golf courses. The water quality criteria for

the contractor were and are more stringent than regional requirements, largely because the golf experts were concerned about salts.

4.1.4.3 Cynthia Royer Highlighted Quotation

> "The key to the partnership is to talk. Keep talking. United we stand; divided we fall."

4.1.5 Integrated Regional Water Management Plan Tracy Hemmeter, SCVWD

4.1.5.1 Tracy Hemmeter Background

Tracy Hemmeter is the SCVWD Water Supply Planning Manager.

4.1.5.1 Tracy Hemmeter Comments

According to Ms. Hemmeter, "integrated regional water management planning" (IRWMP) represents a progression from the implementation of single-agency, single-funded projects to a strategy favoring projects that provide multiple benefits to a number of agencies and their constituents, including water supply, water quality, flood protection, and environmental protection. She explained that IRWMP takes a regional approach to addressing water management issues on a cooperative basis and that it is also part of the 2005 California Water Plan. She said that in order to promote this approach, the State of California passed Proposition 50 that provides $500 million for IRWMP projects and Proposition 84 that provides $1 billion for related work. She added that Proposition 1E also provides $300 million for stormwater management projects, consistent with an applicable IRWMP Plan. She reported that Bay Area agencies throughout all nine counties have collaborated to submit IRWMP-type projects for funding in a number of functional areas and that each functional area has provided its own documents on flood protection, stormwater management, recycled water, and so forth. She explained that in order to integrate the projects developed within these functional areas, representatives of the various agencies and stakeholders throughout the area meet regularly to identify their common objectives, and that their findings are presented to all the stakeholders and the IRWMP Coordinating Committee, which then developed a final plan to accomplish identified regional goals. She said that the Coordinating Committee oversees the prioritization and promotion of all possible projects that are of interest to all of the functional areas. Ms. Hemmeter concluded by stating that the Bay Area IRWMP partnership is contributing to sustainable water resources management in the Bay Area and the state, leading to greater water efficiency and public support.

4.2 Panel 2 Questions

Question 1: When attempting to retrofit infrastructure in existing communities, how do you get the community to the table and identify incentives?

> Cynthia Murray responded that in her experience, one of the keys was to leverage the existing infrastructure and use the existing facilities as much as possible. Eric Rosenblum added that San José built and paid for customer retrofits in order to connect customers as quickly as possible, and that they also discounted the price of recycled water relative to potable water. He said that a longer-term strategy would require new developments to pay for construction of facilities required to use recycled water. Keith Whitman responded that about half the water in Santa Clara could eventually come from recycled water. Jeff Hansen shared that DERWA

embraced the water recycling project not only because of a great need but because the recycled water is available at a reduced price.

Question 2: Why or why not use a JPA?

Jeff Hansen responded that a JPA seemed to be the right kind of governance for DERWA where the JPA sells water back to DSRSD and EBMUD, each of which has different delivery requirements. He said that the JPA provided flexibility in governance and operation. John Coleman added that it also gave the agencies credibility when they asked the federal government for funding.

Question 3: To what do you attribute the relationship illustrated in Eric Rosenblum's slide showing how few projects are completed when more than one agency is involved?

Michael Carlin responded that the type of partnership influences its effectiveness in producing projects. He observed that although, in some cases, the parties joined to form a JPA, in other cases they only have long-term agreements. He said that Bahman Sheikh's research [cited in Eric's slide] indicates the relative ease of implementing projects where single agencies were empowered to do projects in relatively short amounts of time, which may in the long term argue in favor of a joint powers authority.

Question 4: What are the challenges of water-to-water agency partnering?

Michael Carlin responded that local regulations are often a challenge. He said that EBMUD has a statute that prohibits it from exporting its water outside its own service area, and there are similar issues related to the use of Hetch-Hetchy water by SFPUC and restriction on its investments. He said that institutional hurdles can be substantial and that "even when you think you are doing the right thing, there will be people standing in your way." Keith Whitman added local water rights issues like surface water diversion rights can also come into play, as well as the challenge of managing water in both wet years and severely dry years.

Question 5: There are many biotech companies in the city of South San Francisco. What are the issues in using recycled water in the biotech industry?

Michael Carlin agreed that SFPUC has been looking into opportunities with South San Francisco to keep companies that need high-quality water in the area. He said that that the biotech technology industry is like the computer industry, in that the computer industry does a lot of pretreatment with reverse osmosis and then reuses water. Eric Rosenblum shared that the West Basin Municipal Water District in Los Angeles treats recycled water to a higher standard in order to supply it to oil refineries, and that in Chandler, Arizona, an industrial facility treats its own water and then returns it to the municipality for groundwater recharge. [Note, for more information please see USEPA, "Performance Track Leading Practices—Intel's Successful Water Conservation Program at Ocotillo" EPA950R09020]

Question 6: Are measures being considered that would reduce the cost of producing recycled water?

Michael Carlin responded that cost is not driven by production but by the distribution and laying of pipes. As an example, he said that there are already a lot of plants producing high-level tertiary recycled water, but to distribute it in downtown San Francisco costs more than $2 million per mile of pipe. A participant shared that the biggest challenge in nonpotable reuse is paying to put the pipes in the ground and then competing with the potable water companies—and potentially taking their revenue. He said that finding the revenue to just put the pipes in the ground is a big problem. Jeff Hansen added that in implementing either retrofit projects or new reuse projects, it may be easier to take incrementally smaller "bites" to mitigate financial exposure and test public acceptance and willingness to pay. Mr. Carlin responded that such a scenario, in which an agency providing recycled water had to compete with a water supplier, is a "poster child" for a JPA. "We have to get over competing for a revenue flow when we are addressing long-term water supply and reliability," he said. He confirmed that Bay Area agencies are currently evolving relationships. Eric Rosenblum added that water agencies can no longer think of themselves as the only agencies responsible for water supply if such JPAs are to succeed.

Chapter 5

Breakout Sessions

Workshop participants split into four groups for 2-hour facilitated breakout sessions. The sessions were divided into the following four topic areas:

- Session A: Understanding Partnership Benefits and Responsibilities
- Session B: Valuing and Paying for Recycled Water Projects
- Session C: Coordinating Recycled Water Use and Land Use Planning
- Session D: Addressing Public Opinion about Recycled Water

There were four general objectives for the breakout sessions, with some minor variation by session:

- Share stories and information about the role of public opinion in water recycling projects.
- Leave with more knowledge about how to have successful water recycling projects and partnerships.
- Identify the types of information, assistance, or research that would help to foster successful water recycling projects and partnerships.
- (Time permitting) Identify whether the state or federal government could play a role in fostering positive public opinion.

A participant from each breakout group volunteered to report on their group's outcomes to the full plenary after the sessions concluded. The following summaries incorporate the key discussion points from the breakout group discussions and the postdiscussion reports to the whole group. In addition, approximately 15 participants from two breakout sessions wrote comments or questions on 3″x5″ index cards. Their comments and questions have been incorporated, where applicable, to the respective summaries, and the physical cards have been sent to the workshop organizers as ideas for future research or follow up. Lists of breakout session attendees are provided in Appendix E.

5.1 Session A: Understanding Partnership Benefits and Responsibilities

5.1.1 Context

This group covered a broad range of topics and issues associated with increasing the number of partnerships needed to support the utilization of recycled water. Current trends in the Bay Area indicate that public understanding of the need for recycled water is growing. The actual number of projects providing recycled water is still quite small especially compared to the need for this type of supply, but the demand is increasing as reflected in many of the mid- to long-term water supply plans throughout the Bay Area. Participants (Table 5.1) collectively offered the following observations and suggestions regarding partnerships that will be needed and how to narrow the gap between current recycled water supply and future demand.

Table 5.1. Session A: Understanding Partnership Benefits and Responsibilities Participants

Last	First	Agency
Berger	Don	Central Contra Costa Sanitary District
Candlish	Al	United States Bureau of Reclamation, Mid-Pacific Region
Castle	Robert	Marin Municipal Water District
Clark	Megan	Las Gallinas Valley Sanitary District
Conners	Denise	West County Water District
Cox	Catherine	Santa Clara Valley Water District
Darling	Gary	Delta Diablo Sanitation District
Hoang	Mary Grace	San Jose Water Company
James	Beverly	Novato Sanitary District
Jensen	Art	Bay Area Water Supply & Conservation Agency
John	Pam	Santa Clara Valley Water District
McCullough	Mike	Northern California Golf Association
Michalczyk	Bert	Dublin San Ramon Services District
Nasser	Mansour	City of San José
Reid	Robert	West Valley Sanitation District of Santa Clara County
Sheikh	Bahman	Monterey Regional Water Pollution Control Agency
Tan	Andy	City of South San Francisco
Whitman	Keith	Santa Clara Valley Water District

5.1.2 Framing Potential Partnerships Productively

There are many opportunities to create feasible water recycling partnerships in the Bay Area, provided that potential partners can form a compelling vision of a specific project. However, even relatively simple partnerships that could be considered as "low hanging fruit" require a supportive structure, including the focused attention and commitment of the leadership of the potential partners. Participants who have been involved in successful partnerships also stressed the need for persistence to bring these projects to fruition. They added that outside assistance (from interested regional or state agencies) is frequently necessary to help partners begin these conversations.

A first step to creating a recycled water partnership is to frame the project goals. This clarity will enable the political leadership of the jurisdictions involved to quickly ascertain the potential benefits of the proposed project. Given that the feasibility of nonpotable projects often depends on close proximity between recycled water supply and demand, many potential partners have a history of contentious relationship (e.g., water supply and wastewater agencies). In those cases, the ability of elected officials to have productive conversations requires that they transcend such history, or at least to "check it at the door." Clearly defining a project from the beginning can help accomplish this.

5.1.3 Challenges in Building Partnerships

There are three main types of challenges to recycled water partnerships: institutional, financial, and public acceptance. Successful partnerships must be able to identify and resolve institutional issues associated with financial responsibility, operational control, and recycled water supply and demand. The complexity of these institutional issues will depend to some degree on the number of partners, the history of their previous relationships, and the political

will shown at both the executive and managerial levels. From the financial perspective, potential partners need to create cost and revenue sharing structures that ensure financial feasibility for the project for all partners. Making recycled projects "pencil out" for all parties can be quite challenging, especially when some partners are already using the revenues produced by their rates to pay for significant investments in water supply or wastewater treatment facilities. With respect to public acceptance, concerns about health risks from exposure may sometimes be addressed by limiting the use of nonpotable water to golf courses, parks, and other landscape irrigation. It is also important to ensure that recycled water treatment reliably meets standards.

5.1.4 Sharing Responsibility and Authority

A successful partnership will inevitably grapple with the question of which entity is responsible for financing, building, operating, or maintaining the recycled water system in question. Participants discussed various mechanisms that can reflect, codify, and make operational the answers to those questions. JPA were cited by many participants as an efficient way to accomplish this vital task. Advantages of JPAs include long-term institutional stability so that partnership agreements do not need to be renegotiated in response to subsequent changes in leadership; they also provide a way for the partnering boards to make decisions about recycled water and remain accountable for them. As an alternative, the group noted that agencies can delineate their respective responsibilities and authorities by contract or by memorandum of agreement. This was seen as most appropriate when the parties had determined that operational details and contract obligations could be clearly outlined.

5.1.5 Other Critical Issues in Establishing Partnerships

According to the participants of this breakout group, other issues that inevitably arise when establishing recycled water partnerships include determining how to allocate rates and revenues to fund both previously incurred costs and the cost of new facilities. They cautioned that the partner agencies' failure to share "stranded costs" in an equitable manner can derail the partnership, erode trust between the agencies, and complicate the negotiation of required agreements. The group also stressed the importance of forthrightly engaging the public in a timely fashion over the possible uses of recycled water. Although participants had varying opinions about the feasibility and necessity of potable reuse, there was a general agreement that recycled water use will increase over the long term. As a result, they suggested that partners should focus on additional uses of recycled water over the next 10 years. Participants also noted that private companies, including private water retailers, may also be potential partners, and they pondered the role of private companies in the provision, delivery, and operation of recycled water. They noted that most of the policy and institutional infrastructure developed to date has focused on public entities.

5.1.6 Suggestions for Future Information, Research, or Assistance

Participants suggested that further effort be expended to research the following topics:

- Examples of JPA agreements operating to support recycled water partnerships.
- Examples of how partnerships have addressed stranded costs and other "sticky" issues.
- Case studies describing how agencies have successfully structured initial conversations, especially those that had a history of conflict or competition.

- Model code revisions, ordinances, and other legal mechanisms to facilitate installation of retrofits in communities that use recycled water.
- Recommendations for state legislation to encourage or mandate reuse in conjunction with development and land use decision making.

Participants also stated that additional efforts—such as this workshop—should be held as necessary to keep elected officials abreast of the increasing need for recycled water and the progress of local projects.

Additional funding support from state and federal government would also help to jump-start recycled water partnerships. This support could include:

- Expanded incentives for recycled water to include private companies;
- Federal reimbursements for Central Valley Project contractors using recycled water; and
- Streamlining and expanding funding mechanisms, especially for smaller jurisdictions.

Participants said that model code revisions, or other mechanisms to increase the scope and pace of retrofitting communities to utilize recycled water, would also be useful. Several expressed support for changes in state law to promote this as well.

Participants expressed their belief that the workshop as a whole—and this breakout session in particular—was a valuable forum to begin to develop and disseminate "best practices" for creating and sustaining institutional relationships and could help stimulate the political courage needed to create partnerships for recycled water.

5.2 Session B: Valuing and Paying for Recycled Water Projects

5.2.1 Context

The purpose of this breakout session was to quantify the benefits of recycled water and identify ways to pay for projects. Participants (Table5.2) acknowledged that a number of benefits are difficult to value financially, including:

- Development of reliable, drought-proof water
- Local control of a sustainable water supply
- Diversification of the water supply portfolio
- Reduced dependence on imported water that may be unavailable during a drought;
- Reduction in wastewater discharges and the costs of managing them
- Availability of water for environmental restoration and protection

Many of these benefits cross jurisdictional boundaries so that an agency that profits from a project may not have funded it, to the extent that the sponsoring agency may not be able to recoup its costs. As a result, interagency partnerships can be a critical step to financing projects by allowing each agency to share project costs in proportion to the benefits received.

This break-out group also considered the problem that most recycled water projects are unable to generate sufficient revenues to cover their construction and operating costs. However, when the totality of project benefits are considered, recycled water may actually be a sound investment, especially when taking into account the avoided cost of meeting future wastewater discharge requirements and the value of a reliable water supply. Many

participants sought ideas on how to effectively explain the value and importance of recycled water, especially when it costs more than current water supplies. They also sought ways to form effective partnerships so that costs and benefits could be equitably shared among beneficiaries, including the utilities, customers, and others.

Table 5.2. Session B: Valuing and Paying for Recycled Water Projects Participants

Last	First	Agency
Baatrup	Greg	Fairfield Suisun Sewer District
Bobel	Phil	City of Palo Alto
Boyd	Scott	Montara Water & Sanitary District
Burgh	John	Contra Costa Water District
Currie	Richard	Union Sanitary District
Fraser	Marina	City of Half Moon Bay
Hockett	Barbara	Central Contra Costa Sanitary District
Holden	Bob	Monterey Regional Water Pollution Control Agency
Kite	Pat	Union Sanitary District
McCormick	Ed	East Bay Municipal Utility District
Murray	Craig K	Las Gallinas Valley Sanitary District
Rosenblum	Eric	City of San José & WateReuse Research Foundation
White	David T.	U.S. Bureau of Reclamation

5.2.2 Communicating Value

This group sought effective ways to communicate the value of recycled water projects to elected officials and decision makers, including the public. Participants observed that economic arguments, although relevant, rarely offered sufficient motivation to undertake a recycled water project. As one participant noted, “Numbers are the wrong way of making the argument for recycled water.”

One alternate way cited to communicate the value of recycled water was to highlight the extent to which, in the future, water supplies could be disrupted by external events (e.g., droughts, environmental requirements, diminishing supplies), and to explain how recycled water helps communities by providing a reliable, locally controlled water supply. There were reports that Bureau of Reclamation water is going to become more expensive and scarcer in the future and that the agency may never be able to deliver fully on its existing contracts. Water availability may become even more restricted after 2015 when pending dam repairs further reduce supplies. Thus, creating a reliable water supply under local control offers a way to reduce the impact of anticipated price increases and reduced access to water supplies. Others suggested framing water as a public service rather than a commodity. The public does not expect police and fire departments or libraries to pay for themselves, and water projects can be considered a public service in the same way.

Highlighting the costs and lost revenue of an interrupted water supply could also be an effective mechanism to communicate the value of recycled water projects to water wholesalers and retailers. Most in the group expected that if water supplies became severely limited, economic users of water would likely take second priority to residential and human health-related uses. Thus, it might be helpful to ask how large economic users of water

(agriculture, technology, golf courses, petroleum refineries, etc.) value an uninterrupted supply. Finally, participants noted that public awareness of the need for recycled water, as well as its benefits, uses, and safety are all essential for projects to gain acceptance. Those promoting recycled water projects need to build public awareness in advance rather than waiting until the project is seeking approval.

5.2.3 Financing Projects

The group also sought ideas and approaches for obtaining sufficient funds to construct recycled water projects. These projects typically require participation from water and wastewater agencies with different jurisdictional areas and different needs or interests. Whereas some participants described successful projects, others described situations in which the inability to equitably allocate costs and benefits had so far prevented implementation of mutually beneficial projects.

Many participants acknowledged the need to involve multiple entities in order to successfully develop and finance a recycled water project. This often meant making the project a regional effort rather than simply a local or single-entity effort. Participants suggested drawing the project area big enough to capture all the values and benefits and interests for all the potential beneficiaries of the project. Before trying to allocate costs and benefits, assess the project as if it involved a single entity (i.e., consider all the beneficiaries as if they were served by one entity), and then divide the costs among the project beneficiaries.

One participant recommended financing projects locally rather than waiting for state or federal funding. External sources of funds are uncertain, have tedious requirements, and can limit the scope of the project. By financing locally, an entity is able to take control and run the operation like a business. The proponent of this approach found that once his entity made the decision to fund locally, other funding opportunities arose to support them that might not have been available had they waited for the typical funding mechanisms (e.g., state revolving loan fund).

Participants also recommended highlighting the range of project benefits when applying for funds rather than framing the project as only a recycled water project. Often, a recycled water project has multiple components and multiple benefits and these are more likely to “sell” the project. For example, recycled water can offset use of potable supplies, reducing the need to expand potable sources.

Some also noted that the net present value of recycled water projects was often negative in part because calculations are based on a 20-year project lifespan. To make projects more financially feasible on paper, participants recommended extending the useful project life to 30 to 40 years rather than the standard 20, because this more accurately reflects the replacement period.

5.2.4 Policy Change Recommendations

Participants made the following suggestions for changing recycled water financing policies:

- California Public Utilities Commission (CPUC) regulations should be changed to allow private water retailers to recapture the cost of their stranded distribution systems.
- Federal rules should allow Central Valley Project contractors to receive federal reimbursement for recycled water used.
- Legislation is needed to let water/sewer districts sell interest-free bonds where investors receive tax credits (similar to Renewable Energy Bonds) that would provide local agencies the wherewithal to pursue recycled water projects without the administrative burden and bureaucracy of state revolving loans.
- The state should explore other financial mechanisms and incentives that are more direct and more efficient than the current IRWMP approach.

5.2.5 Suggestions for Future Information, Research, or Assistance

Participants identified the following research to provide useful information to water managers as they consider embarking on recycled water projects:

- Quantify the costs of water supply termination and the economic value of a reliable water supply, especially to economic users who could use recycled water and thus might be among the first to lose access to potable water supplies under emergency (drought) conditions. These might include the cost to replace a golf course if water supplies were interrupted or the costs to industrial water users if water supplies were interrupted.
- Assess the potential value of carbon tax and carbon trading to recycled water projects.
- Identify or support development of improved technology that could reduce costs of components involved in recycled water projects (treatment, conveyance, piping, etc.).
- Assess comparative economic values of investing in potable versus nonpotable water projects. Provide guidelines to help determine when one is more appropriate than the other.
- Provide information and guidance on "beneficiary pays" funding as a source for recycling/reuse projects.
- Elevate recycled water to the level of a water source and then create a source of funds to pay to develop this source on a bigger level—not just jurisdictions, but as a region.

In summary, the group indicated that they needed more tools and support to address two specific challenges. First, they need tools to "tell their story," recognizing that projects do not succeed on economic arguments alone. Second, they need external help to make partnerships work. They explained that even if two entities recognize that they can benefit from a recycled water project and want to work together, it can be very difficult to determine the amount of benefit from a project and relate this back to project costs. A neutral third-party analyst may be able to help assess institutional and financial components to determine the benefits and costs accruing from a project and how to allocate those costs equitably across project participants.

5.3 Session C: Coordinating Recycled Water Use and Land Use Planning

5.3.1 Context

The purpose of this breakout session was to explore the relationship between water reuse projects and land use planning. The session provided participants (Table 5.3) an opportunity to learn from and share experiences and to identify areas where subsequent activities, research, and/or resources would benefit practitioners. The following key themes emerged during the session, which are discussed in the following sections.

Table 5.3. Session C: Coordinating Recycled Water Use and Land Use Planning Participants

Last	First	Agency
Arnold	Judy	County of Marin
Ascher	Everett	Coastside County Water District
Digre	Sue	Pacifica City Council
Drekmeier	Peter	City of Palo Alto
Fritz	James D.	Novato Sanitary District
Greenfield	Russell	Las Gallinas Valley Sanitary District
Hansen	Eric	City of San José
Hosfeldt	Gregg	City of Mountain View
Kawamoto	Casey	Sanitary District No. 5 of Marin County
Maxwell	Tanya	County of Marin
Murray	Cynthia	BAWF & North Bay Leadership Council
Pierce	Barbara	City of Redwood City
Pla	Michele	Bay Area Clean Water Agencies
Scales	Ed	San Francisco Public Utilities Commission
Toy	Jennifer	East Bay Dischargers Authority
Willis	Rob	Ross and Associates
Zhu	Stanley	Santa Clara Valley Water District

5.3.2 Building Trust

A major land use planning issue that the participants identified was a lack of community trust in water recycling projects. Many land use projects fail—or worse, fail to get off the ground—because of a lack of community trust or "buy-in." Participants felt that land use planners should include stakeholders at all stages of decision making, especially where recycled water use is proposed: visioning, planning, implementation, and follow-up. By seeking and addressing community issues, planners can build trust with the community and gain acceptance of the project while also educating the public about the benefits of recycled water use.

5.3.3 Simplifying Governance

Breakout group participants stressed the importance of simplifying the process of working with multiple agencies with overlapping jurisdictions. They acknowledged that the success of a water recycling project often depends on the cooperation of three or more separate organizations, and that a significant amount of time and effort must be invested to sustain such a partnership. As a result, they expressed a desire for additional tools to help elected officials and others simplify "cross-organizational governance." Participants noted that simplified governance structures would be particularly important for end-users, for example, the land use planners and developers who are ultimately the "customers" of the government planning process. For them, a simplified governance model is more stable and responsive, and the participants offered two examples as potential models for simpler multijurisdictional governance:

- A Community Services District (CSD) is a special district created by a local community to meet a specific need, such as funding a water infrastructure project. An inadequate tax base and competing demands for existing revenues often make it hard for a city or county to provide all the services their citizens desire. When residents or landowners want new services or higher levels of existing services, they can form this type of local government district to pay for, administer, and provide them.
- JPA enables two or more public agencies to join together to provide government services or to solve a service delivery problem. A JPA is distinct from the member authorities and generally convenes a separate board of directors. A JPA board can be given a subset of any of the powers inherent in all of the participating agencies, so in setting up a JPA, the constituent authorities must establish which of their powers the new authority will be allowed to exercise.

5.3.4 Leveraging the Existing Planning Framework

Participants agreed that existing planning frameworks adequately encourage land use planners to consider and implement water recycling projects. However, they said that current legislation on the subject needs to be represented more clearly to the practitioners so they can use it. They specifically mentioned the need to more clearly explain the application of both AB32 (Global Warming Solutions Act) and SB610 (Urban Water Management Planning Act) to land use planning, and their implications for recycled water use.

While not a water recycling bill *per se*, AB32 signals a fundamental shift in water resource planning by acknowledging that global climate change poses a serious threat to California's water resources, forecasting a reduction in both water quality and quantity from the Sierra snowpack. As discussed in the workshop, a key benefit of recycled water is as a reliable water supply that mitigates the impact of an unreliable snow pack. By contrast, SB610 requires planners to include additional information about water supply in their Urban Water Management Plans. A key provision in SB 610 requires that planners perform a "water supply assessment" on any development project supplied with water from a public water system that is also subject to the California Environmental Quality Act (CEQA). Participants identified other California propositions relevant to the use of recycled water and development of recycled water projects, including Propositions 1E, 30, 50, and 84. It was also noted that water recycling should be awarded more Leadership in Energy and Environmental Design (LEED) "points" that could be leveraged by those choosing to construct LEED-certified buildings.

5.3.5 Educating Practitioners and Stakeholders

Participants stated that, for the next generation of water recycling projects to be successful, land use planners and their stakeholders must be better educated about existing regulations and the relationship between land use planning and water supply. They said that the two most important issues were multijurisdictional governance models and information about current legislation pertaining to water recycling. With respect to governance, they agreed that much could be learned by examining the governance structures used by successful projects. To educate land use practitioners about current legislations, participants recommended the development of dedicated materials for regional planners and planning councils like the Association of Bay Area Governments (ABAG). To educate stakeholders, they recommended the creation of materials for elected officials and members of organizations like the California State Association of Counties and the League of California Cities. Last, participants identified the need for outreach materials targeted to a variety of distinct stakeholder groups, including: the environmental, housing, and transportation communities; the members of the California Special District Organization; the water and wastewater managers in the Association of California Water Agencies; and the California Association of Sanitation Agencies.

5.3.6 Suggestions for Future Information, Research, or Assistance

Participants identified the following as areas of research to provide improved information for water managers as they consider the appropriateness of embarking on recycled water projects:

- Develop targeted education materials for land use planners, elected officials, and other stakeholders on regulations related to consideration of recycled water during the land use planning process, including definitions of terms used in land use planning.
- Develop templates and case studies for different types of partnerships (e.g., JPAs, CSDs).
- Provide information on available federal and state resources for small special districts.
- Provide case studies on the use of local codes to mandate recycled water use.
- Research how different development patterns impact water supply and water reuse, including transit-oriented development and small versus large development efforts.

In summary, participants said their involvement in the breakout session and the workshop was a worthwhile investment of their time and that each participant took away something of value. Many claimed to have been stimulated by other participants' ideas that they could apply to their own projects, whereas others said they learned about resources and experts they could access. All participants in this session said they would do some things differently because of what they learned from the workshop and breakout session, and agreed that it was important to continue sharing information and learning from others' successes. Finally, they said how impressed they were with the commitment, courage, and talent of all the workshop attendees, and how excited they were to be working on the "front lines" of one of the Bay Area's most pressing issues.

5.4 Session D: Addressing Public Opinion About Recycled Water

5.4.1 Context

The purpose of the public opinion breakout session was to share ideas about the role of public opinion in water reuse projects and identify areas where further research would be useful. Participants noted that public opinion varies depending on the use of recycled water, with the public accepting industrial and other nonpotable uses more readily than groundwater recharge or other potable reuse. They also recognized the important role the media plays in shaping public opinion, sometimes with factually inaccurate stories and sensational headlines. The themes discussed emerged through the group discussion.

5.4.2 Common Public Opinion Challenges

Participants (Table 5.4) identified several common concerns that inclined people to oppose water reuse:

- Risk to human health risk, particularly risk to children drinking groundwater augmented with recycled water.
- Worries about pharmaceuticals and personal care products (PPCPs), endocrine disruptors, and other compounds of emerging concern (CECs). This concern is based in part on an assumption that recycled water has more PPCPs and poses a higher risk than drinking water.
- Concern that use of recycled water will free existing potable supplies for use in new developments, promoting growth and undesirable land uses, and decrease property values.
- Fear that recycled water will decrease crop quality, lower prices, or limit market.

In addition to these concerns, participants discussed the difficulty of responding to a commonly observed “not in my back yard” attitude whose adherents routinely reject any proposed changes to their neighborhood or community. They also noted that as long as other alternative water sources are available that are perceived as “cleaner,” it will be difficult to communicate the relative benefit and value of using recycled water.

Table 5.4. Session D: Addressing Public Opinion About Recycled Water Participants

Last	First	Agency
Ameri	Alex	City of Hayward
Ashktorab	Hossein	Santa Clara Valley Water District
Foulks	Ken	East Bay Municipal Utility District
Frisbey	Bruce	City of San José
Gacoscos	Pat D.	Union Sanitary District
Gallagher	Dan	Dublin San Ramon Services District
Keene	William	Sonoma County Water Agency
Kehoe	Paula	San Francisco Public Utilities Commission
Kornder	Joe	City of Santa Clara
Lathi	Anjali	Union Sanitary District
MacPherson	Linda	CH2M HILL
Mickelsen	Chris	Coastside County WD
Munoz	Cheryl	San Francisco Public Utilities Commission
Saunders	Robin	City of Santa Clara
Swanson	Curt	Central Contra Costa Sanitary District
Tse	Rosanna	CH2M Hill
Tucker	David	City of San José

5.4.3 Terminology Matters

Participants recommended that terms like "treated wastewater effluent" should no longer be used because of deep-seated negative connotations. They observed that these terms often give rise to groups like "Citizens Against Drinking Sewage" (a real example) and others dedicated to defeating reuse projects through their association with waste, dirt, pollution, and so forth. They suggested that terms such as "project water" or "new water" (a brand used successfully in Singapore and trademarked there) are better. They also observed that the language used in existing regulations to describe recycled water often make it sound dangerous and hinder public support.

5.4.4 The Public Lacks a Basic Understanding of Water Issues

The group observed that the general public does not understand water management issues, typically takes water for granted, and assumes that potable water is cleaner than recycled water. Although recent media coverage may be increasing public awareness of water supply issues, participants believed it would take decades if not longer for the general public to gain a sufficiently strong understanding to fairly evaluate the costs and benefits associated with recycled water. For this reason, they concluded that water education from childhood is critical.

Session participants also cited examples where a few people—or in one case just one person—waged campaigns against a project and swayed public opinion. The group as a whole was acutely aware of this possibility, regardless of how promising the project. They recommended early stakeholder involvement and a proactive media strategy, including endorsements and readily available responses to predictable criticism.

5.4.5 Success Depends on Effective Early Outreach

Participants identified a number of factors that might influence public opinion toward water reuse, including type of use, project cost, and identified benefits, as well as the overall level of understanding of the general public. Often public support depends on being able to identify the relative benefits of recycled water use compared to its alternatives. Some school districts have decided to use recycled water to irrigate their fields based on cost savings, particularly when they equate these savings into familiar terms like the number of bake sales they would need to raise the same amount of money. By contrast, some golf course managers prefer to use recycled water because of its lower cost, its reliability, and the micronutrients it contains. However, participants warned that public support for a project can lag if its positive aspects are not communicated early and often, or if there is insufficient outreach on public health and safety.

In summary, they shared several ideas that might help to successfully promote public support:

- Involve stakeholders from the beginning, addressing their issues each step of the way and identifying common objectives. Be open and transparent and consider the extent to which the public has patience to really learn about water management issues. Use terms that the public can understand. Consider instituting a water recycling rating system (e.g., 1–5 stars).
- Start with small, nonthreatening projects (e.g., golf course irrigation, industrial use) and establish positive support before incrementally taking on larger, more sensitive projects. Begin with a clear problem definition (relate to a supply shortage, if possible, or sell the project on environmental benefits) then show how water recycling is a relatively attractive solution. Choose "low-hanging fruit" and leave potable use projects for the future.
- Be wary of public opinion surveys, the outcomes of which can vary substantially based on the terms used. Carefully choose the terms first, and then do surveys.
- Educate the public about how we already reuse water for particular purposes and about current technologies (e.g., reverse osmosis) and detection abilities. Focus education on kids (the future informed consumers). Make water learning fun.
- Work with media to cover accurate and more salient issues. Designate a person to be on point for media relations.

5.4.6 Suggestions for Future Information, Research, or Assistance

Participants identified areas where additional information, research, or capacity-building assistance would be useful:

- Gather information about public education (particularly children's education) in the San Francisco Bay Area, conduct a gap analysis on children's water education, then fill in the gaps.
- Indicate what works and what doesn't in public outreach. Identify terms that can successfully communicate about recycled water and investigate the extent to which public education can sway public opinion.
- Research and document the risks associated with chemicals of concern, particularly pharmaceuticals, endocrine disruptors, and other emerging chemicals that are not

currently regulated. Investigate the extent to which the public believes that recycled water is more toxic or polluted than drinking water.

- Identifying media strategies, including information to make readily available to respond to "hot ticket" media coverage. Form a regional media or public relations group, create a manual of public education "best practices," and determine how public education can support effective partnerships..

In addition, participants said their discussions heightened awareness of how public opinion can trump technical or financial feasibility, and how important it is to start with small projects that are "nonthreatening." They also agreed that they could benefit from additional ideas and information sharing as well as a more proactive regional public education strategy. Finally, they expressed a belief that water recycling has "come of age" and that they all share in a common challenge to create successful recycled water projects.

Chapter 6

Overarching Workshop Reflections

After each breakout session reported, three experts reflected on what they heard throughout the day, particularly from the breakout groups. Their comments are summarized in the following.

Phil Bobel, City of Palo Alto

Mr. Bobel observed that partnerships and collaboration came out in all four of the breakout groups. He said that inclusiveness is key to a successful partnership and that it is important to include all key stakeholders early on. Mr. Bobel concluded by suggesting that we can all now better appreciate the importance of interagency partnerships.

Cynthia Murray, Bay Area Water Forum

Ms. Murray acknowledged that the workshop produced "a huge range of information and a lot of consensus about what needs to be done." She said most of the people who attended were ready to do something about our critical water supply problem and noted that communication had been identified as an important issue. "We have heard that you need to communicate with the public early and often and not just be reactive," she said. She went on to observe that, "As hard as we have been trying, we are still not there." She cited Assemblymember Huffman's remark about hardened demand once we have "tapped out" on conservation and suggested that this fact is going to be a big driver. She stated that we need to build trust with the public and have a public dialogue, and the concept that water is a public service, like public safety, can be very powerful. "Trust is about getting to know people and building relationships," she said. "We are at a new frontier for water recycling. Can we go to potable?" She concluded by observing that the cost of recycled water is not currently correlated to the type of use, but that in time the concept of sustainability can be a huge driver.

Art Jensen, Bay Area Water Supply and Conservation Agencies (BAWSCA)

Mr. Jenson said that trust and conversations are important and that in order to keep the end users in mind—the customers and community who ultimately pay for projects—we need to "release history— just let it go." He said the workshop was unique in that "these people do not meet often and need to meet more often to solve water problems broader than recycling." Mr. Jensen said he favored paying for projects locally to the extent possible. "We do not need taxpayers in Kansas to pay for our water projects," he said, adding that "the best answer to the question, 'Did you come here for money?' is 'No!'" He stated that agencies have an obligation to speak plainly with people so that funding is transparent and "they can follow the money." He wondered whether low-interest financing is sustainable. He ended by agreeing with Michael Carlin's point about the importance of a diversified water portfolio, and said that if potable reuse is not currently feasible, we should put recycled water supplies toward the lowest value use that would be the first to be curtailed in a drought. Doing so would fulfill one of BAWSCA's goals, which is to "re-landscape" our area to be more drought resistant while still maintaining attractive

communities. “We talk about smart growth in terms of locating homes and jobs,” he said, adding that “maybe we should locate water-intensive industries near wastewater plants.”

Bill Ross, Ross & Associates

Mr. Ross shared his perspective that, from a facilitator’s perspective, what was needed was a strategic campaign that includes discussions designed to further the overall goal of creating a sustainable water supply. “The idea behind a strategic campaign is that you are in the business of providing an extremely important public service, and you want to get people to see this in this dimension. It’s about preserving existing water for its best and highest use and keeping recycled water for its best and highest use,” he observed. He noted that a single water recycling project is only the beginning of putting together an aggregate package or strategic campaign, and that until such a campaign was launched, it would remain unclear how far it would need to go. He added that just getting a “structured” conversation going would help with both economic and public acceptance issues and that structured conversations could also shorten the time required to develop partnerships. He concluded by asking the group to think about some “big picture” questions:

- Are there institutions in place to take on a strategic campaign to implement water recycling in the San Francisco Bay area?
- Should such a campaign be looked at project by project, or would it be better implemented as a regional effort?
- How should we manage all the different aspects of a strategic campaign for water recycling, including such issues as media, land use, public funding, and so forth?

“Your thoughts on these bigger-picture next step ideas will be helpful in moving regional water recycling partnerships forward,” Ross said.

Michele Plá, BACWA

Ms. Plá thanked BACWA Water Recycling Committee Chair Paula Kehoe (SFPUC) and others who helped to organize the workshop, including Cheryl Munoz (SFPUC), Eric Hansen and Eric Rosenblum (City of San José), Pam John (SCVWD), Beverly James (Novato Sanitary District), and Rosanna Tse and Linda Macpherson (CH2M-Hill). She said that following the publication of workshop proceedings, BACWA and the WateReuse Research Foundation would explore the additional research ideas shared during the day. She closed by reminding attendees that “the people in this room are the leaders, and if we will not do it, who will?”

Appendix A

Attendee List

Bay Area Water Forum
Cynthia Murray

Bay Area Clean Water Agencies
Michele Pla

Bay Area Water Supply & Conservation Agency
Art Jensen
Dan Seidel

Bayshore Sanitary District
Iris Gallagher
Mea Swanbeck

California Department of Water Resources
Fawzi Karajeh

California Public Utilities Commission
Raj Naidu

California State Assembly
Jared Huffman

Central Contra Costa SD
Don Berger
Barbara Hockett
Curt Swanson
Curtiss Swanson

CH2M Hill
Dave Ludwin
Linda MacPherson
Rosanna Tse

City of Daly City
Cynthia Royer

City of Half Moon Bay
Marina Fraser

City of Hayward
Alex Ameri

City of Mountain View
Gregg Hosfeldt

City of Pacifica
Sue Digre

City of Palo Alto
Phil Bobel
Peter Drekmeier

City of Redwood City
Barbara Pierce

City of San José
Arleen Arimura
Russell Ficklin
Bruce Frisbey
Scott Green
Eric Hansen
Mansour Nasser
Eric Rosenblum
John Stufflebean
David Tucker
Ben Yurman-Glaser

City of Santa Clara
Joe Kornder
Robin Saunders

City of Santa Rosa
Jennifer Burke

City of South San Francisco
Andy Tan

Coastside County WD
Everett Ascher
Chris Mickelsen

Contra Costa WD
John Burgh

County of Marin
Judy Arnold
Tanya Maxwell

Delta Diablo SD
Gary Darling

Dublin San Ramon Services District
Dan Gallagher
Bert Michalczyk

East Bay Dischargers Authority
Jennifer Toy

East Bay Municipal Utility District
John A. Coleman
Katy Foulkes
Ken Foulks
Ed McCormick

Fairfield Suisun Sewer District
Greg Baatrup

Las Gallinas Valley SD
Megan Clark
Russell Greenfield
Craig K. Murray

Marin Municipal WD
Robert Castle

Millbrae
Gina Papan

Montara Water and Sanitary
Scott Boyd

Monterey Regional Water Pollution Control Agency
Bob Holden
Bahman Sheikh

North Bay Watershed Association
Harry Seraydarian

North Marin WD
Chris DeGabriele

Northern California Golf Association
Mike McCullough

Novato SD
James D. Fritz
Beverly James
William C. Long

San Francisco PUC
Michael Carlin
Suzanne Gautier
Paula Kehoe
Cheryl Munoz
Cheryl Munoz
Ed Scales

San Jose Water Company
Mary Grace Hoang

Sanitary District No. 5 of Marin County
Casey Kawamoto

Santa Clara Valley WD
Hussein Ashktorab
Catherine Cox
Tracy Hemmeter
Pam John
Keith Whitman
Stanley Zhu

Sewer Authority Mid-Coast
Jack Foley

Sonoma County WA
William Keene
South San Francisco
Pedro Gonzales

State Water Resources Control Board
Claudia Villacorta
Gary Wolff

Tamalpais Community Services District
Jon Elam

Union SD
Richard B. Currie
Pat D. Gacoscos
Pat Kite
Anjali Lathi

United States Bureau of Reclamation
Al Candlish
Larry Todd
David T. White

West County WD
Denise Conners

West Valley SD
Robert Reid

Ross & Associates (Facilitators)
Bill Ross
Dan Siemann
Anna Williams
Rob Willis

Appendix B

Statement from Rep. Grace Napolitano

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Grace F. Napolitano
Congress of the United States
House of Representatives
38th District of California

NATURAL RESOURCES
WATER AND POWER–CHAIR

TRANSPORTATON AND INFRASTRUCTURE
HIGHWAYS AND TRANSIT
RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS
WATER RESOURCES AND ENVIRONMENT

CONGRESSIONAL MENTAL HEALTH CAUCUS
CO-CHAIR

CONGRESSIONAL HISPANIC CAUCUS

October 18, 2007

Dear Participants:

I wish to thank the organizers of this workshop for including me in this important event. Now that the current session of Congress has been extended, my duty to my constituents requires me to be back in Washington to vote today so I am sorry I cannot be with you in person. I also wish to thank everyone participating today, for finding the time in your busy schedules to work together on increasing the use of recycled water in northern California.

Today, you will hear from the Bureau of Reclamation, the Department of Water Resources and other participants about how federal, state and regional water authorities now need your help to ensure that we have ample, sustainable water supply--enough water for ourselves today and our children tomorrow.

California currently faces a threat to its fresh water supply. A drought cycle is upon us, warmer climate and the possible shutoff or reduction of San Francisco's Bay Delta could be devastating, not only to our health, to our economy, and to our environment, but to our way of life. Global warming is constantly increasing warm weather patterns, and so the demand for water is increasing. Aquifer contaminants must be dealt with and dealt with soon, as we will need that new cleaned water reintroduced to our rivers and aquifers. This would lessen the demand of water from rivers and dams, allowing for required water to generate electricity, and lessen the possibility of energy delivery loss leading to rolling blackouts. Water recycling and reuse projects help us stretch existing water supplies and prepare for these inevitabilities and will undoubtedly have positive effects on our water supplies of the future.

This is why I have continually stressed the need for federal support for recycled water projects, and why I supported HR 1526, which authorized funding for eight new projects in the San Francisco Bay area. Congress must work with federal agencies to direct funding and invest in innovative projects that help communities recycle water, create new supplies and restore watersheds and habitats. I will continue to work to increase funding for the Bureau of Reclamation's Title XVI program, which has provided over $350 million for recycled water projects in local communities in California, Arizona and other Western states. And I urge you to continue to work together to coordinate your local projects on a regional level to make the best use of these federal funds.

Thank you again for your participation in this workshop. I hope your efforts today are rewarded by creating new partnerships and finding new ways to work together to make the most of our limited water resources, and I look forward to seeing you in person at future events here in California or when you next come to Washington.

Sincerely,

Grace F. Napolitano
Member of Congress

Appendix C

Statement from Ron Young, President, WateReuse Research Foundation

October 25, 2007

Dear Participants:

The WateReuse Foundation is proud to sponsor the Interagency Partnerships for Water Reuse Workshop.

We have found partnerships to be an extremely valuable tool in all aspects of water reuse. Partnerships have propelled the Foundation to get tremendous financial and intellectual leverage on research projects by using federal money and people matched with state money and people matched with public agency funding and staff. These ratios are the highest in the industry and give all the partners the best "barg for the buck". The water reuse industry has flourished with partnerships that include legislators, stakeholders, end users, public agencies, private developers, as well as the rate payers and voters to support projects and policies. As partnerships grow so will reuse.

Build strong partnerships and you will have lasting projects.

Sincerely,

Ronald E. Young P.E., DEE
President

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