

The **Santa Ana River** Watershed Workshop

PRESENTED BY

National Water Research Institute

IN COLLABORATION WITH

Santa Ana Watershed Project Authority

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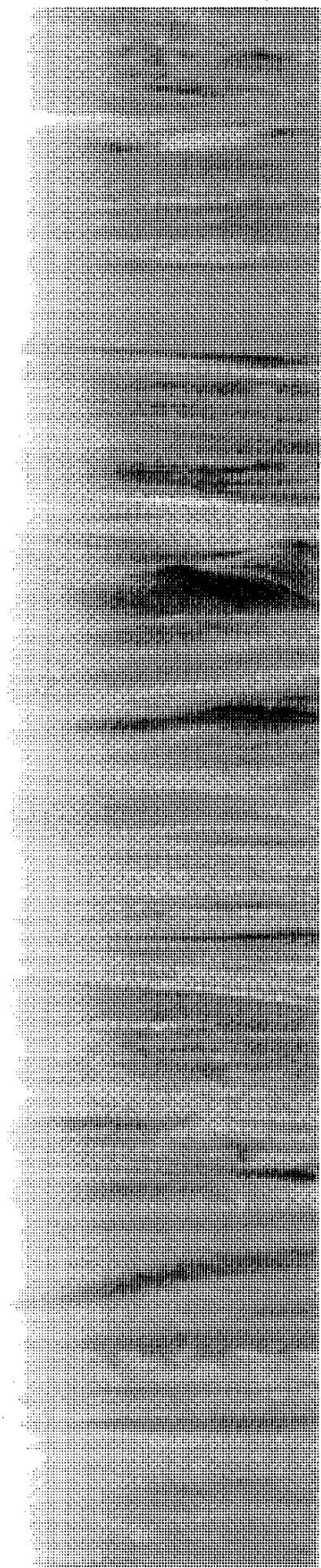
City of San Bernardino Water Department

City of Riverside

Western Municipal Water District

Orange County Water District

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Patricia Linsky

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Kellogg West Conference Center/Hotel
California State Polytechnic University
3801 West Temple Avenue
Pomona, California 91768

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by

NATIONAL WATER RESEARCH INSTITUTE
10500 Ellis Avenue
P.O. Box 20865
Fountain Valley, California 92728-0865

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FOREWORD

Water reclamation is not a new concept in the Santa Ana River Watershed. However, when it was cast in the framework of the 1995 Basin Plan Revision it became clear that re-evaluation was necessary so that a cost-effective water reclamation program could be included in the revised Plan. This need served as the catalyst for Santa Ana Watershed Project Authority (SAWPA) to request that the National Water Research Institute (NWRI) organize and conduct a Nominal Group Technique (NGT) workshop to build consensus on water reclamation issues among interested individuals and organizations within the watershed.

This report contains the results of the workshop which addressed the question, *What are the most significant impediments to implementing a cost-effective water reclamation program for the Santa Ana River Watershed?* Eighty-three issues were identified and presented by the participants whose names are listed as the originators. After consolidation, 27 major issues were distilled from the original 83 and are presented in priority order as ranked by the 28 participants.

This report comprises two parts. Part 1 presents the results of the NGT workshop and is made up of three sections. The first section is an introduction that describes how the workshop was conducted and provides a preliminary analysis of the results. The second section presents each of the eighty-three responses to the workshop question grouped under 27 major issue headings that appear in the table of contents. The third section comprises appendices which contain a more detailed analysis of the ranking of the issues by the participants, including an analysis of the rankings and strength of feeling of four sub-groups of participants.

Part 2 contains the reports of the Working Groups that prepared a preliminary action plan to begin addressing the ten highest priority issues. The Working Groups, comprised from two to four participants, presented their report and enlisted discussion and recommendations for enhancements from the other participants. Immediately following the ten reports is an appendix that contains copies of the guidance documents used by the Working Groups.

We want to acknowledge the insightful and substantial contributions made to this workshop by the participants themselves. The staff of the Kellogg West Conference Center provided excellent accommodations and support. The workshop staff also deserves our thanks, including; Lucy Bravo, Victoria Morrell and Gerald Harper, word processors; Joseph Pezely graphics; Mike Morrell, graphics assistant; Patricia Linsky, editor; and Teresa Taylor, photographer.

We were gratified by the insightful and forthright presentations made by all of the participants. We were especially pleased with the sense of cooperation and understanding that emerged during the workshop. The issues identified and addressed have deep roots in the traditions of organizations and the minds of individuals who manage water in the Santa Ana River Watershed. We believe that the spirit of cooperation that emerged from the workshop can be continued to the benefit of this generation and future generations. We were pleased to play a role in this step forward.

RONALD B. LINSKY

*Executive Director
National Water Research Institute
Workshop Secretary*

WILLIAM S. GAITHER, PH.D., P.E.

*Gaither & Associates
Workshop Chair*

C O N T E N T S

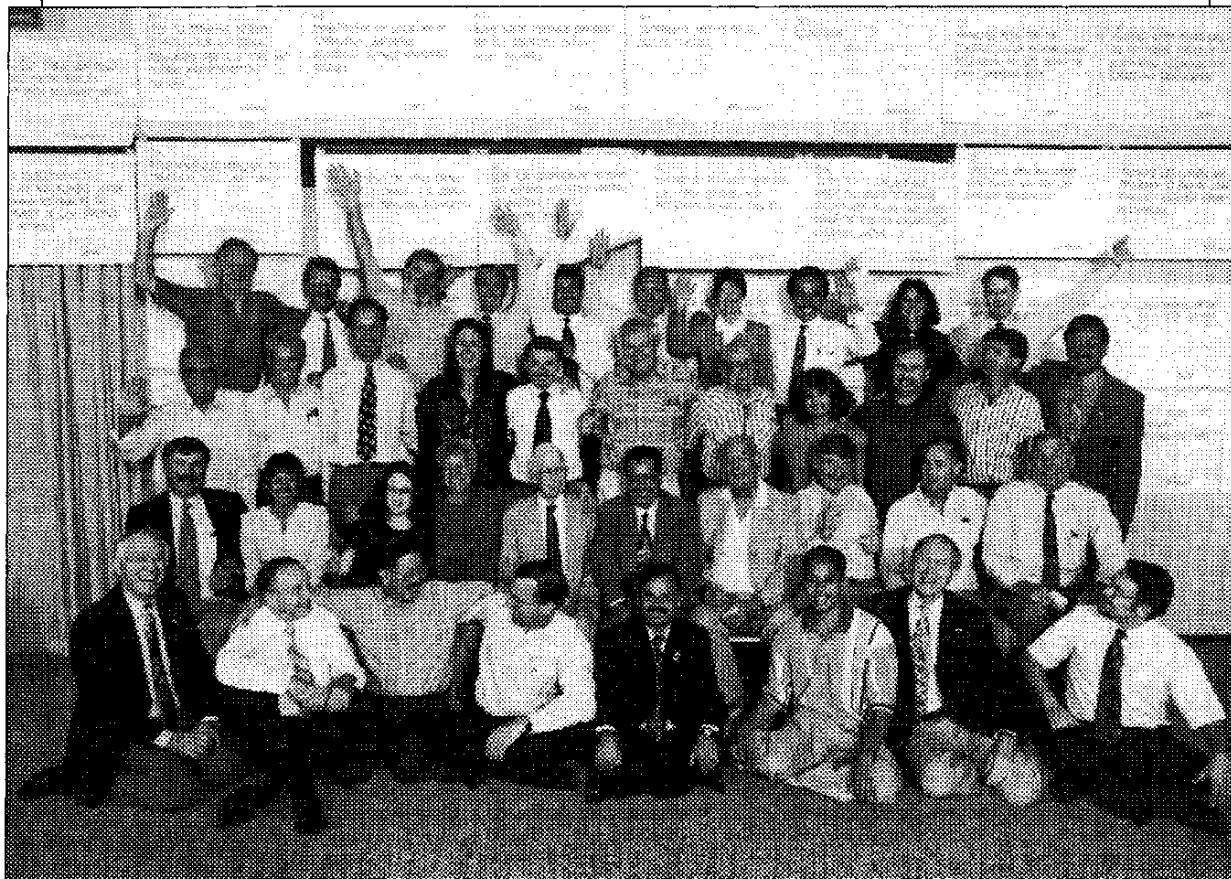
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PARTICIPANTS



TOP ROW (LEFT TO RIGHT): Bill Mills, Ken Kules, Jerry King, Ed James, Mark Kinsey, Joe Grindstaff, Traci Stewart, Armando Muñiz, Gail McPherson, Burnie Cavender.

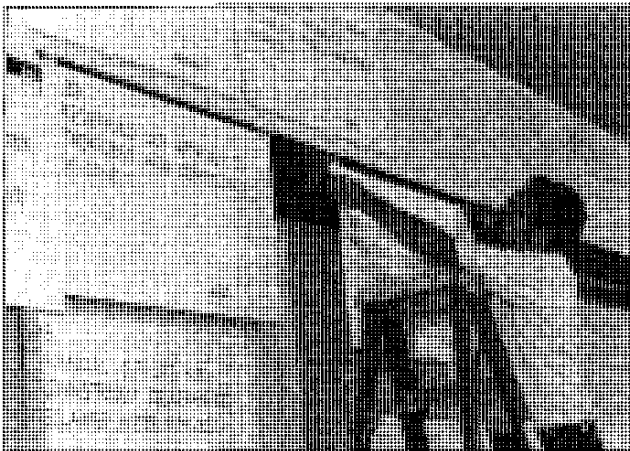
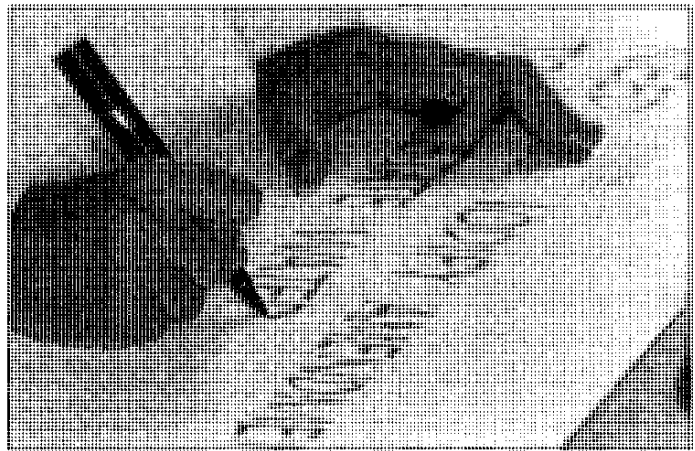
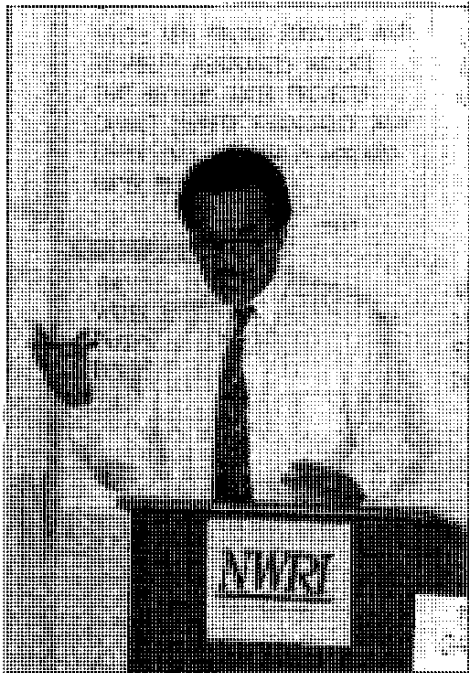
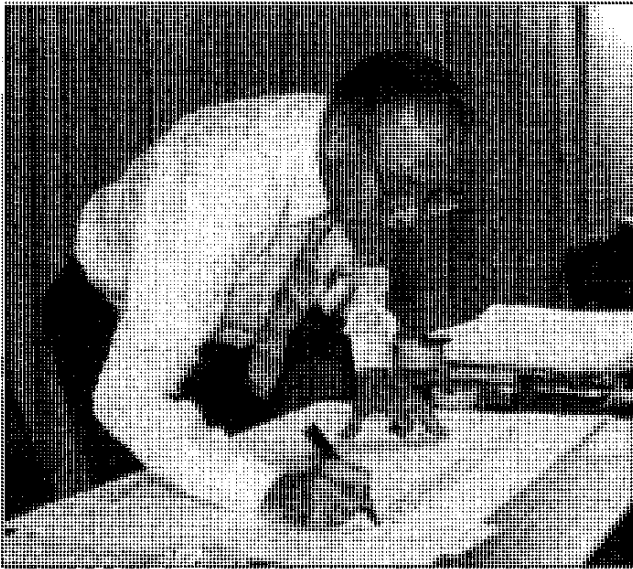
STANDING: Dick Hall, Harold Willis, Joe Zoba, Cheryl Tubbs, Don Harriger, Don Owen, Bill Vaughan, Zahra Panahi, Gerry Thibeault, David Lopez, P. Ravishanker.

SEATED: Bob Hultquist, Lucy Bravo (*Coordinator, Word Processing*), Victoria Morrell (*Word Processor*), Patricia Linsky (*Editor*), George Osborne, George Aguilar, Orville Strickland, Bernie Kersey, Lou Fletcher, Joe Schenk.

FLOOR: Ron Linsky (*Secretary*), Joe Pezely (*Graphics*), Gary Yamamoto, Marty Rigby, Narayan Thadani, Gerald Harper (*Word Processor*), Bill Gaither (*Chair*), Mike Morrell (*Graphic Assistant*)

PART 1

NGT Workshop



WORKSHOP ORGANIZATION

Preparations

In early 1995, the National Water Research Institute (NWRI) was asked by officials of the Santa Ana Watershed Project Authority (SAWPA) to organize a program that would bring together a group of high-level individuals from the watershed to identify and discuss critical issues connected with water reclamation and its role in watershed planning. A workshop organizing committee comprising representatives of the four sponsoring organizations was appointed to work with the Executive Director of the NWRI. This committee helped frame the question to be addressed at the workshop and identified a list of invitees. Invitation letters were mailed on June 30, 1995 (See Appendix I) to over 65 individuals from water agencies in the basin and regulators, both county and state. Thirty-eight individuals accepted. On August 3rd confirmed participants were sent workshop materials (See Appendix J), including a background paper attached to this report as Appendix B.

Participants arrived at the Kellogg West Conference Center on the afternoon of Wednesday, August 23rd. Following dinner the participants assembled in the workroom where Ron Linsky, Executive Director of NWRI, introduced Neil Cline, General Manager of SAWPA, who made brief welcoming remarks.

Mr. Linsky then turned to Bill Gaither to brief the participants on workshop procedures. Workshop Guidelines (Appendix K) and the Final Agenda (Appendix L) were reviewed. Dr. Gaither explained that the process followed was a modified version of the Nominal Group Technique (NGT) developed by Professors Delbecq and Van de Ven of the University of Wisconsin in the late 1960s (Ref. 1). After a question and answer period participants were encouraged to return to their rooms to complete any unfinished homework.

Agenda

On August 24th, breakfast was served at 6:30 a.m. and the workshop began promptly at 7:30 a.m. The starting time was moved up from the 8:00 a.m. time listed in the preliminary agenda to accommodate the greater number of individuals expected as participants. The second day (Thursday) was divided into three phases:

- 7:30 A.M. – 12:30 P.M. Identification and Posting of Issues
- 12:30 P.M. Lunch
- 1:15 P.M. – 5:30 P.M. Consolidation of Issues into Major Issue Groups
- 5:30 P.M. – 6:00 P.M. Individual Participant Ranking of Major Issue Groups
- 6:30 P.M. – 7:30 P.M. Dinner
- 7:45 P.M. Briefing on Part 2: Working Groups

During dinner the workshop staff compiled the results of the rankings that had been completed by each participant during the NGT workshop. The top Ten Priority Issues were posted on the walls of the workroom, and Working Groups were appointed to refine and amplify these issues for presentation the following day (Friday). More will be said about this in Part 2 of this report.

Issue Identification

Participants were seated in alphabetical order starting with George Aguilar in the front row right facing the lectern and Joe Zoba in the left rear of the room.

Starting with Aguilar, each participant, in turn, was invited to the lectern to present his or her highest priority response to the workshop question which was posted on the front wall of the workroom. Three minutes were allowed for each participant to identify an issue, to describe why it is important, and to suggest an approach to resolving the issue.

At the conclusion of each presentation, the speaker was asked by the secretary to repeat the title to ensure that the twenty word maximum title lettered and posted on the workroom wall represented, as clearly and succinctly as possible, the intent of the originator.

If the title proposed by the presenter represented clearly the ideas outlined in their oral presentation, the secretary accepted it without comment. If, in the opinion of the secretary, the problem title did not represent what the presenter had just said, a modified title was proposed by the workshop secretary in the language of the presenter. This title could be accepted or rejected by the presenter.

Questions of clarification to the presenter were allowed from the other participants. Neither challenges nor suggestions to modify the thrust of the oral presentation were allowed by the chair. If a participant had in mind a variation on what a presenter had proposed, the chair encouraged her or him to write that up as an issue and present it as a discrete issue at their next turn.

At the conclusion of each three-minute (or less) presentation, the agreed upon title was lettered by the secretary on a 3"× 5" card, numbered, the originator's name noted, and the card taken to Joe Pezely working at the rear of the room. The title was then quickly lettered on a 35"× 22" sheet of paper, and posted on the wall of the workroom. The lettering was of sufficient size that the most distant participant could read it with ease. By 11:30 a.m., 83 issues had been presented and posted. This averaged nearly three issues per participant, a typical production for the NGT process.

The Issue Identification Form (See Appendix M), on which the originator had prepared a detailed write-up, was assigned a sequential number, edited, and delivered to the word processing room for input into the format of this report. A draft was returned to the originator in the workroom for review. Originators were responsible for editing and approving the text of what they had written.

Consolidation

After all identified issues were posted on the workroom wall, the process of consolidation was started. The goal was to aggregate the issues presented into groups so that when the priority ranking phase was reached at the end of the session, participants would not be confronted with major issues presented in duplicate or triplicate which might confuse the ranking process. The goal of consolidation was to ensure that each issue would be put into a distinctive cluster of related ideas grouped under one overarching issue title.

Obviously, there are many ways in which a set of 83 issues can be grouped. The goal, as explained by the chair, was to strike a balance between subsuming too many titles under one heading and “burying” important ideas, and keeping each idea as a discrete title at the risk of confusing the participants with too many similar options to vote for. The consolidation phase goal is to reduce the total number of ideas remaining on the workroom wall to between one-quarter and one-third of the total number proposed. In the case of this workshop, 83 ideas were merged into 27 discrete major issue groups with seven of the 27 standing alone as unique issues. In the case of this workshop, 83 issues were merged into 27 major issue groups, or to 32.5 percent of the original number.

During this phase of the NGT workshop considerable debate and discussion takes place. To facilitate this process, each participant who originated a problem was asked to maintain a Consolidation Worksheet (See Appendix N) throughout the problem identification phase. When a similar, or complementary, issue was presented, the originator was responsible for noting its number on the worksheet. The chair alerted each originator at the start of the workshop that they would be called upon in the consolidation phase to lead the discussion of how they would propose to cluster their issue with other issues into a distinct major issue group.

Each issue originator was assured by the chair that they would retain the absolute right to either merge their issue into a group of similar issues, or to insist that their issue stand alone. Similarly, each originator was assured that they retained the absolute right to title their issue in the way they thought to be most accurate and to edit their text the same way.

Whenever issues were subsumed under a major issue group title, the texts of all issues included under that overarching issue title were included in their entirety in the final report.

Ranking

The final step in the process was to ask each participant to rank the top ten issues remaining on the workroom wall in descending order of priority as they saw the issue being responsive to the workshop question. A sample copy of the Ranking Sheet used is included as Appendix O. The results of these individual ranking sheets established an order of importance of the 27 issue titles left on the workroom wall following the consolidation step. That order is how the body of this report is organized.

Text Approval

As noted earlier, as soon as prepared text was entered into the word processors, a draft was returned to the originator for further editing. Some originators continued making improvements and required several drafts before they were satisfied. With each participant's approval in hand at adjournment time, it was possible to begin preparing this report.

PRELIMINARY ANALYSIS OF RESULTS

The results of this workshop were analyzed to determine what differences in priorities existed among the four sub-groups of participants. This was done by taking the data from the Ranking Sheets (Appendix O) and compiling with members of the same group. The subgroups into which the participants were divided include (1) elected officials, (2) general managers, (3) technical managers, and (4) regulators. No category could contain only one individual or the confidentiality of the ranking process would be compromised. Fortunately, the smallest group in this workshop contained three individuals and the largest two groups contained nine.

Listed below are tables which give titles of the top ten priorities as established by the four subgroups listed above. The first table gives the ranking of all 28 participants and is in the same order as the table of contents. Subsequent tables represent the priorities of the four subgroups.

In Appendices D, E, F, G, and H, complete rankings are given for each group. In those appendices three other items of information are given, including (1) the number of times the issue was picked, (2) the total points received by every issue, and (3) the strength of feeling expressed as a percentage. A more complete explanation of these data, and how they are computed, is given in Appendix C of this report.

Top Ten Issues Ranked by All Participants (28)

1. Need for Comprehensive Integrated Water Resources Plan
2. Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers
3. Insufficient Public Confidence and Acceptance of Water Supplies Created from Reclaimed Water
4. Policy Makers and Elected Officials Must be Committed to a Goal of Implementing Water Reclamation Programs
5. Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must be Fairly and Equitably Distributed Among All Program Beneficiaries
6. Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality
7. Rights and Obligations Under the 1969 Judgement
8. Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries, and Resultant Regulatory Activities
9. Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, Subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits
10. Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed.

Top Ten Issues Ranked by Elected Official Participants (9)

1. Policy Makers and Elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs
2. Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers
3. Need for Comprehensive Integrated Water Resources Plan
4. Possible Restructure of SAWPA
5. Beneficial Uses of Water Supply and Cost-Sharing of Reclamation Throughout Region Lacks Equity
6. Rights and Obligations Under the 1969 Judgement
7. Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries
8. Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality
9. Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water
10. Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies

Top Ten Issues Ranked by General Manager Participants (7)

1. Need for Comprehensive Integrated Water Resources Plan
2. Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers
3. Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries
4. Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water
5. Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities
6. Rights and Obligations Under the 1969 Judgement
7. Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed
8. Policy Makers and Elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs
9. Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, Subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits
10. Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source

Top Ten Issues Ranked by Technical Manager Participants (9)

1. Need for Comprehensive Integrated Water Resources Plan
2. Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water
3. Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers
4. Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries
5. Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality
6. Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, Subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits
7. Policy Makers and Elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs
8. Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities
9. Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed
10. Unwillingness to Tackle Issue of Equity without First Solving Technical Issues Once and for All

Top Ten Issues Ranked by Regulator Participants (3)

1. Policy Makers and Elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs
2. Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers
3. Need for Comprehensive Integrated Water Resources Plan
4. Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities
5. Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries
6. Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water
7. Rights and Obligations Under the 1969 Judgement
8. Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality
9. Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, Subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits
10. Possible Restructure of SAWPA

P R I O R I T Y R A N K I N G O F I S S U E S

Notes:

1. The following 27 issues are presented in descending order of importance as ranked by all (28) participants.
2. Priority issues often comprise several issues proposed by individual participants. Wherever that occurs, one lead participant is designated by the chair to compose not only a new title, but also a new statement of importance, objectives, and/or approach, if appropriate. The individual issues subsumed under the new title are presented alphabetically by author name.



PRIORITY RANK 1

Need for Comprehensive Integrated Water Resources Plan

ORIGINATORS:

Ravishanker on behalf of himself, Grindstaff, Kules, Lopez, Panahi, and Zoba

The following issues were subsumed under the above priority title:

ISSUE: **Lack of a tool to perform basin-wide analysis of costs and benefits which could lead to the development of a water supply plan.**

ORIGINATOR: Grindstaff

Importance:

No one has developed (to my knowledge) a framework for an overall regionwide cost benefit analysis. Identifying the overall cost, reliability, and quality of water supplies as part of a watershed water supply plan will give us a foundation to deal with equity issues.

Objective:

Develop a water supply plan for the watershed.

Suggested Approach:

Have SAWPA develop a tool to analyze options.

ISSUE: **How should financial subsidies for reclamation be viewed in terms of shortage allocations? Are the reclamation goals realistic?**

ORIGINATOR: Kules

Importance:

Metropolitan has adopted a reliability goal that relies, in part, on reclamation to avoid shortage conditions. If stated reclamation goals are not realistic, failure to achieve reclamation goals during shortage will detract from regional reliability and make allocation of available imported supplies problematic.

Objective:

Meet reliability goals. Identify an equitable allocation of imported supplies during imported supply shortage that takes into account reclamation supplies developed by member agencies with substantial financial support from Metropolitan.

Suggested Approach:

Conduct ongoing review and adjustment of IRP goals and supply mix, as necessary. Include Metropolitan-financed reclamation as a supply available to offset shortage of imported supplies.

ISSUE: **Development of local and/or interagency watershed reclaiming potable and non-potable sources.**

ORIGINATOR: Lopez

Importance:

Reliable water source.
Less dependency on imported water sources.
Ensure quality.
Reclamation of a basin that was abandoned.

Objective:

Short-range objective: safe, reliable water supply for the local customers.
Long-range objective: exportation of nitrates, TDS and other constituents harmful to groundwater sources.

Suggested Approach:

Form an Executive Task Force to review, interview, and select water treatment technologies.

ISSUE: **Need for cooperation to fund and expedite integrated watershed management planning administered by SAWPA.**

ORIGINATOR: Panahi

Importance:

Tasks would contain many of the issues addressed by participants.
Show the need for additional supply and how much.
Address water quality and management plans which will maintain/improve quantity and quality of water supplies

Objective:

To develop a comprehensive watershed management plan(s) which will consider land use, water supply, water quality, protection of resources, and legal and institutional issues.

Suggested Approach:

Agencies to expedite development of an integrated watershed management plan.

ISSUE: Long-term planning can alleviate cost constraints among many other issues.

ORIGINATOR: Panahi

Importance:

Funding for long-term comprehensive planning would save much higher expenditure in the future which may result from mismanagement due to lack of long-term plans.

Objective:

Develop long-term plans for watershed management, water supply, etc.

Suggested Approach:

Combination of several issues addressed this morning.

ISSUE: Need for comprehensive water resource planning.

ORIGINATOR: Ravishanker

Importance:

Cost-effective and a regionally-acceptable solution for future water needs could be achieved through the integration of all water resources. This will increase reliability, political acceptability, and reduce the cost of water.

Objective:

Develop a cost-effective water supply by integrating surface, ground, imported and reclaimed waters for the Santa Ana Watershed user.

Suggested Approach:

- Identify SAWPA as the lead agency.
- Provide and/or help with adequate resources.
- Form an integrated water resource planning work group with all water/wastewater agencies.
- Identify all water resources/demands.
- Develop a water supply plan.
- Identify constraints/hurdles.
- Develop institutional, financial and implementation plans.
- Aggressively promote plans with all agencies affected and/or involved.
- Implement IWRP.

ISSUE: **Achieving equity throughout the watershed with a regional approach.**

ORIGINATOR: Zoba

Importance:

Restrictions on the upper watershed make the use of reclaimed water very difficult even though it is drastically needed.

The upper portions of the watershed characteristically have high quality water supplies; unfortunately the supply is limited.

In order to maximize local supplies, and not rely on imported water, agencies must utilize reclaimed water.

The impediment of using reclaimed water is that the Basin Plan promotes unjustified restrictions on reclaimed water users in the upper portion of the watershed. This leads to a perceived unfairness of the application of standards throughout the watershed.

Objective:

Develop comprehensive basin plans that are based on a strong scientific foundation and adequately represents the conditions of the watershed and the future direction of water suppliers, to encourage inter-agency cooperation.

Suggested Approach:

- Address water quality and supply issues over the long-term to ensure reliable sources in the future. Combine all available resources and local supplies to maximize their use on a regional basis.
- Facilitate regional implementation plans and discussions between agencies to reduce the water quality constraints over the long term.

PRIORITY RANK 2

Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers

ORIGINATORS:

Lopez on behalf of himself, Grindstaff, Hall, James, Muñiz, Strickland, and Thadani

The following issues were subsumed under the above priority title:

ISSUE: Stakeholders have different goals, objectives, and values that are often conflicting.

ORIGINATOR: Grindstaff

Importance:

Without some agreement on common objectives, each stakeholder will seek to meet their own goals and may block others from completing their objectives. For example, as long as the upstream people believe downstream users want large volumes of high quality water at no cost, they will not cooperate to achieve that objective. They may well develop projects that do not make sense economically for the whole basin and cost the overall economy more. If common goals and objectives could be determined, appropriate projects could be developed that meet everyone's objectives.

Objective:

We should set common objectives that all the major players will agree on and that all stakeholders will see as addressing their issues.

Suggested Approach:

Follow through with the plans developed at this workshop.

ISSUE: Lack of the "County of Santa Ana."

ORIGINATOR: Hall

Importance:

Financial.

Objective:

A single economic unit.

Suggested Approach:

Joint powers agency.

ISSUE: Lack of local institutional cooperation.

ORIGINATOR: James

Importance:

Chino Basin Municipal Water District (CBMWD) produces over 50,000 acre feet of treated effluent each year but only reuses less than 2,000 acre feet each year. CBMWD has been working on developing a cost-effective water reclamation system for over sixteen years but has yet to construct any project. The biggest impediment to constructing the reclamation system is the institutional issues. Until it is decided who will own the reclaimed water, who will finance the project, and who will take the risk, construction of the reclaimed water system will continue to be delayed.

Objective:

The wastewater and water agencies need to decide if the main purpose of the reclamation system is to develop an alternative water supply or to reduce sewer treatment costs.

The wastewater and water agencies need to decide who is going to finance and operate the reclamation system.

Suggested Approach:

- The wastewater agencies need to waive their right of first purchase to the reclaimed water. The right of first purchase has not been a benefit to the wastewater agencies since they are not utilizing the reclaimed water.
- CBMWD should be responsible for the construction and operation of all regional facilities. Each individual agency should be responsible for their own separate facilities.
- CBMWD should not try to recoup its sewer treatment cost through the sale of reclaimed water. The costs of the reclaimed water should just cover the costs to develop the reclamation.

ISSUE: The need to abandon traditional institutional views.

ORIGINATOR: Lopez

Importance:

Unless we overcome the upstream versus downstream conflict and agree to engage in dialogue, a comprehensive water management plan which includes water reclamation will never be realized. Such a plan would include: (1)purpose, (2)objectives, (3)goals, and (4)acceptance.

Objective:

Establish equity shares, i.e., treating wastewater to higher standards. Determine who will pay and who will benefit.

Suggested Approach:

- Dialogue, workshops, computer models projecting and forecasting, quality and quantity flows.
- Building trust among policy makers, regulators, and managers (upstream and downstream).

ISSUE: Collective goals and objectives by all agencies.

ORIGINATOR: Muñiz

Importance:

Any agency connected to the Santa Ana River Watershed must be able to be a part of the reclamation program. If an agency cannot participate due to interest or capability because of its infrastructure and goals, then the reclamation program cannot be 100 % successful. Need for useable water in the future will be greater than available water in the future.

Objective:

To work for all water agencies to be a part of the reclamation project as a priority above individual agency differences.

To have a common goal.

Suggested Approach:

All shareholders and beneficiaries must belong to one agency that makes water reclamation the priority.

ISSUE: Cooperative attitude by all entities involved.

ORIGINATOR: Strickland

Importance:

Fighting and working at cross purposes do not solve problems.

Objective:

I am encouraged by the Cal Fed program, and perhaps that concept could be applied at the regional level.

Suggested Approach:

Try to get people to compromise.

ISSUE: Recognize your limitations.

ORIGINATOR: Strickland

Importance:

We are all ignorant, but on different subjects.

Objective:

Listen to what other experts have to say and suggest.

Suggested Approach:

Understanding other points-of-view leads us to cooperation.

ISSUE: The lack of inter-agency cooperation and coordination to achieve regional solutions.

ORIGINATOR: Thadani

Importance:

Water reclamation programs may not be achievable in the first place without multiple-agency participation.

There is an economy-of-scale in reclamation programs which can be enhanced by multiple-agency participation.

A valuable resource is being thrown away.

Objective:

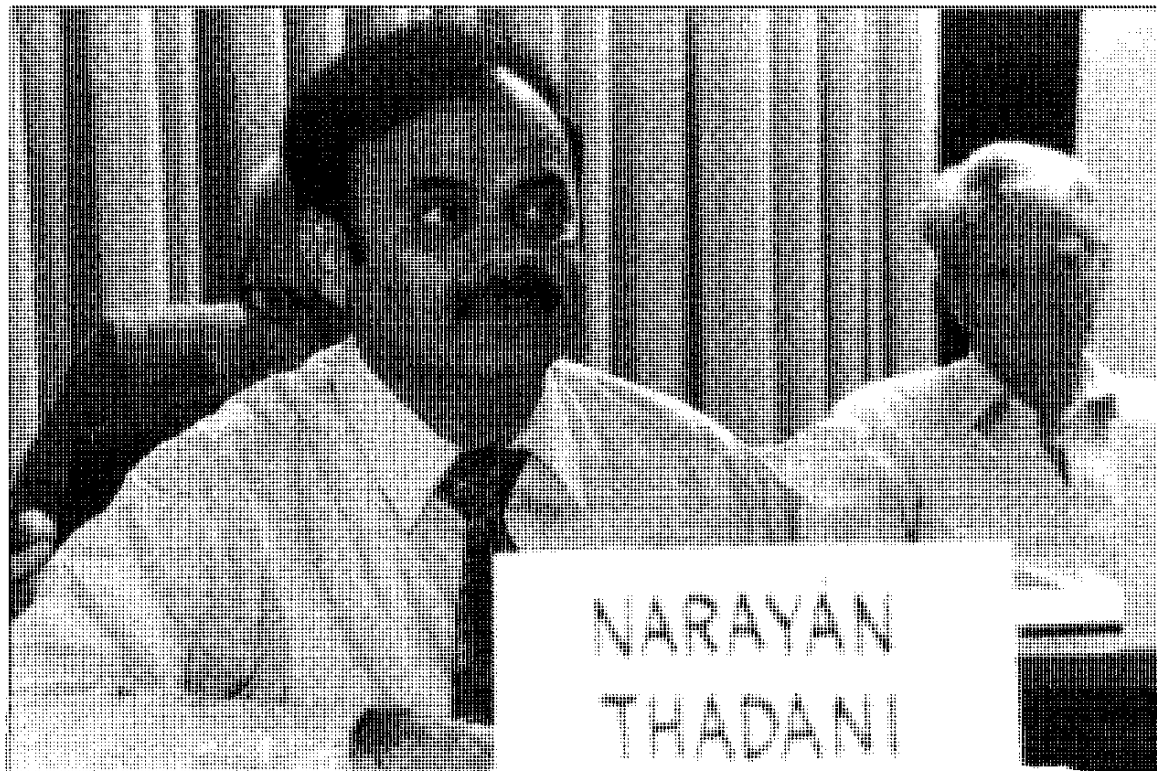
To provide more of a scarce resource (hopefully at lower rates).

To bring “wayward” agencies back into the fold of the greater water “brotherhood.”

To ensure that needy agencies, that have not always been treated with the sensitivity and empathy they deserve, receive a fair break.

Suggested Approach:

- Prove to agencies the value of water reclamation (from an economic, environmental point of view).
- Encourage cooperation between agencies.
- Suggest/design possible water reclamation projects and “sell” these to the individual agencies.





PRIORITY RANK 3

Insufficient Public Confidence and Acceptance of Water Supplies Created from Reclaimed Water

ORIGINATORS:

Hultquist on behalf of himself, Cavender, Panahi, Rigby, Schenk, Strickland, and Vaughan.

The following issues were subsumed under the above priority title:

ISSUE: Lack of public acceptance.

ORIGINATOR: Cavender

Importance:

Until the general public accepts that technology exists to purify wastewater, there will be continued reliance on imported water, which is an unreliable supply. With population doubling by the year 2015, imported and watershed-natural supplies will be inadequate. Conservation and reclamation will be the only sources for additional water. Conservation may provide 10-20 % of the new demands. Reclamation will have to do the rest.

Objective:

Develop and implement a water reuse education and information program so that the general public will accept using wastewater for domestic purposes.

Suggested Approach:

Implement the following in the order listed:

- Convince community leaders that the technology exists.
- Concurrently, convince owners/editors of local and regional newspapers so they will support publishing educational articles.
- Prepare and publish a series of articles on effective reuse of water emphasizing the existing technology and safeguards.
- Describe how reuse of wastewater is a cost-effective use of total water resources in the watershed.
- Describe local and regional potential programs/projects for use of reclaimed wastewater.

ISSUE: **Insufficient public confidence in public water supplies created from reclaimed water.**

ORIGINATOR: Hultquist

Importance:

Public distrust of treatment technologies and public agencies have occasionally resulted in excessive requirements or project rejection.

Objective:

Foster public confidence.

Suggested Approach:

- Develop a reasonable response to every concern raised by consumers.
- Public education.
- Assure aesthetic quality of the resulting supply to avoid triggering public concern.

ISSUE: **Need for a regional water reuse guideline.**

ORIGINATOR: Panahi

Importance:

Gives direction for reuse on a regional basis; defines reuse objections for watershed considering agencies' interests; demonstrates the long-term benefits to all agencies; and, aids in selling the idea to the public and politicians.

Objective:

To develop a general guideline for the watershed with flexibility for incorporation of local (agencies) objectives.

Suggested Approach:

Develop a general reuse guideline on a regional basis to address the issues of concern including costs, public education, etc.

ISSUE: Public attitudes toward wastewater reuse.

ORIGINATOR: Rigby

Importance:

Public attitudes toward water reclamation can have an adverse impact on development of alternative water supplies.

Objective:

Provide effective mechanisms for public participation throughout the lifecycle of a reclamation project.

Suggested Approach:

To first evaluate and understand public attitudes toward water reclamation and then develop appropriate educational programs that directly address these concerns.

ISSUE: Public perception of health impacts of reclaimed water.

ORIGINATOR: Schenk

Importance:

Unless reclaimed water is accepted by the end user, other alternatives will be chosen, i.e., bottled water, home treatment, etc.

An economic market needs to be created where costs are not forced upon citizens.

Objective:

Clearly enumerate the health standards being met and the frequency of testing to sell the safety issue.

Suggested Approach:

- Direct an educational approach at the ultimate user through convincing arguments using simple language and examples of current use and health standards being met.
- Direct an educational approach at the area political body and any recommended technical committees/commissions to gain support of the use.

ISSUE: Recognize that recycled water is useful.

ORIGINATOR: Strickland

Importance:

The opposition to using recycled water is long standing. We must continue educating the public to overcome this opposition.

Objective:

It is very costly to duplicate water systems to use reclaimed water in each locality, but returning it to the river and the watershed is less expensive and should require no pumping.

Suggested Approach:

Get the regulatory agencies to accept reclaimed water into the river and the watershed.

ISSUE: Lack of voter/constituent support of taxation or assessments to pay for the Reclamation Project.

ORIGINATOR: Vaughan

Importance:

Sooner or later, this issue must be addressed on a political basis. Politicians will be asked to support the Reclamation Project.

Objective:

Obtain public support and trust that the project is needed and can be accomplished within reasonable financial constraints.

Suggested Approach:

Educate the public of the need and the cost of the Reclamation Project. Keep the public well informed of what is happening and of the support needed.

ISSUE: Public support of reclamation projects.

ORIGINATOR: Vaughan

Importance:

The participation from cities and other areas will be needed if the project is to be successfully funded on a local basis.

Objective:

Obtain local support for projects.

Suggested Approach:

Form or organize grass root groups to address the economics and needs of the project. These groups would gain support of the project from the public.





PRIORITY RANK 4

Policy Makers and Elected Officials Must be Committed to a Goal of Implementing Water Reclamation Programs

ORIGINATORS:

Willis on behalf of himself, Stewart, and Yamamoto

The following issues were subsumed under the above priority title:

ISSUE: Lack of participation by policy makers/elected officials.

ORIGINATOR: Stewart

Importance:

Policy makers and elected officials have no incentive to work toward a solution. Many are very responsive to press or media coverage of activities perceived as good and worthwhile. Currently, media focus (and that of elected officials) is on reducing short-term costs. If a task force is formed to facilitate development of a basin-wide plan, it should routinely include media representatives. One of the task force's objectives should be to gain more status and recognition for policy makers and elected officials who do participate in working toward a solution.

Objective:

Form a task force that has as one of its primary objectives fostering an increase in status and recognition of policy makers and elected officials for working toward securing a more reliable, higher quality water supply.

Suggested Approach:

Educate/include the media first, work with them to foster needed recognition.

ISSUE: City policy makers must be educated in the importance of water reclamation.

ORIGINATOR: Willis

Importance:

Policy makers provide much of the money to utilize this water and really are the builders of these facilities. This fact is demonstrated by our meeting today. Bill Vaughan and I are the only city representatives present at this workshop today — I may not be aware of others who may be here.

Objective:

Since the politicians really build the facilities and provide the funds, they must be aware of its importance.

Suggested Approach:

Policy makers and elected officials must be educated to the tremendous economic and social importance of reclaimed water. They must be made aware of the funds required to develop reclaimed water.

ISSUE: A crisis in water supply is needed or a strong commitment of managers and policy makers toward reuse.

ORIGINATOR: Yamamoto

Importance:

- Cost of reclaimed water is greater than the cost of potable water.
- Players (reclaimed water producers, reclaimed water distributors, potable water systems, and users) need to be unified toward a goal of using reclaimed water when available.
- Subsidies received from the 1990's drought resulted in projects in the L.A. basin for reclaimed water.

Objective:

- Additional funding for reclaimed water projects.
- Public policy of furthering reclaimed water use.
- New construction should be done so the use of reclaimed water can occur easily.

Suggested Approach:

- Community work groups should be formed.
- Master plan for reclaimed water use in Santa Ana River watershed should be developed.





PRIORITY RANK 5

Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must be Fairly and Equitably Distributed Among all Program Beneficiaries

ORIGINATORS:

King on behalf of himself, Aguilar, Grindstaff, Kinsey, Kules, Owen, Schenk, Strickland, and Zoba

The following issues were subsumed under the above priority title:

ISSUE: Fairness or lack of fairness.

ORIGINATOR: Aguilar

Importance:

Is it fair to make upper dischargers clean water to a 400 TDS standard just to dump it into the Santa Ana River without having beneficiaries of this water help pay for the clean up? Cost will amount to \$20M annually. Is it fair to make the poorest cities in southern California pay outrageous monthly fees? Many people in San Bernardino (40 % are on welfare and 20 % are retired) cannot afford an increase in fees.

Objective:

Allow San Bernardino Valley Metropolitan Water District to send only required amounts of water down river. Over that amount, downstream users must pay for treated water.

Allow San Bernardino Valley's water discharger to sell their water to other users, if downstream users are unwilling or unable to pay for water.

Suggested Approach:

If everyone feels that they are being treated fairly, then solutions and answers will follow.

ISSUE: Stakeholders have different goals, objectives, and values that are often conflicting.

ORIGINATOR: Grindstaff

Importance:

Without some agreement on common objectives, each stakeholder will seek to meet their own goals and may block others from completing their objectives. For example, as long as the upstream people believe downstream users want large volumes of high quality water at no cost, they will not cooperate to achieve that objective. They may well develop projects that do not make sense economically for the whole basin and cost the overall economy more. If common goals and objectives could be determined, appropriate projects could be developed that meet everyone's objectives.

Objective:

We should set common objectives that all the major players will agree on and that all stakeholders will see as addressing their issues.

Suggested Approach:

Follow through with the plans developed at this workshop.

ISSUE: Achieving equity in the approach to treatment cost that require participation of all members of the water family.

ORIGINATOR: King

Importance:

- Point source dischargers are currently burdened with the major cost of treatment for river discharges to downstream beneficiaries.
- Non-point source waters have not been addressed sufficiently, and as a result river water quality is negatively impacted. Current activities are aimed at correcting this situation.
- Older agencies with low cost or special rates have little incentive to join in a program that results in increased cost of water, reclamation and reuse, especially where cheap, fresh water is available.

Objective:

Define a progressive program that requires mandatory membership and a commitment to a stepped program addressing treatment standards and cost sharing that result in an overall improved water quality in the basin.

Suggested Approach:

Conduct focused meetings that work toward a goal of achieving reasonable standards, a shared cost, and a reasonable time frame.

ISSUE: **Financial support for downstream deliveries of reclaimed water supplies.**

ORIGINATOR: Kinsey

Importance:

The 1969 judgement established an upstream discharge obligation of 42,000 acre-foot annually. Once this obligation was met, Orange County water agencies essentially began receiving a "free" water supply. Implementation of increasingly stringent upstream discharge requirements with implementation costs potentially in the 100's of million dollars and costs to be paid by the upstream agencies further support the need for financial support for the deliveries.

Objective:

Concurrence with the quantity/quality obligation established in the 1969 judgement.

Financial support for reclaimed water deliveries above the 42,000 acre-foot obligation.

Suggested Approach:

Establish an agreed upon methodology to determine "value" associated with discharges above the 1969 judgement provisions.

ISSUE: **How should financial subsidies for reclamation be viewed in terms of shortage allocations? Are the reclamation goals realistic?**

ORIGINATOR: Kules

Importance:

Metropolitan has adopted a reliability goal that relies, in part, on reclamation to avoid shortage conditions. If stated reclamation goals are not realistic, failure to achieve reclamation goals during shortage will detract from regional reliability and make allocation of available imported supplies problematic.

Objective:

Meet reliability goals. Identify an equitable allocation of imported supplies during imported supply shortage that takes into account reclamation supplies developed by member agencies with substantial financial support from Metropolitan.

Suggested Approach:

Conduct ongoing review and adjustment of IRP goals and supply mix, as necessary. Include Metropolitan-financed reclamation as a supply available to offset shortage of imported supplies.

ISSUE: **The future cost-effective wastewater reclamation may be threatened by the perception of equity.**

ORIGINATOR: Owen

Importance:

Politics and economics may force upstream areas to turn to more expensive treatment schemes to achieve “equity” or to “protect” water rights.

Objective:

To overcome future impediments before they increase the cost and feasibility of less-effective water reclamation.

Suggested Approach:

Let’s negotiate.

ISSUE: **Equitable distribution of cost shared by generators, recreational users and end users. No free ride.**

ORIGINATOR: Schenk

Importance:

Water use should be considered as a privilege, not a right. The old days’ concept of free water is no longer economically viable, and citizens should contribute to their fair share of use. It also is the responsibility of each user to maintain and not degrade quality – or if degraded, pay for returning quality to the level received.

Objective:

Create a system to recover the costs of treatment and maintenance of water quality through each use, from source through final use.

Suggested Approach:

There is no simple answer. Whatever user fee is considered should be correlated to the amount of degradation caused. Currently, not all citizens pay for treatment or distribution of wastewater.

ISSUE: Recognize your limitations.

ORIGINATOR: Strickland

Importance:

We are all ignorant, but on different subjects.

Objective:

Listen to what other experts have to say and suggest.

Suggested Approach:

Understanding other points-of-view leads us to cooperation.

ISSUE: Achieving equity throughout the watershed with a regional approach.

ORIGINATOR: Zoba

Importance:

- Restrictions on the upper watershed make the use of reclaimed water very difficult even though it is drastically needed.
- The upper portions of the watershed characteristically have high quality water supplies; unfortunately the supply is limited.
- In order to maximize local supplies, and not rely on imported water, agencies must utilize reclaimed water.
- The impediment of using reclaimed water is that the Basin Plan promotes unjustified restrictions on reclaimed water users in the upper portion of the watershed. This leads to a perceived unfairness of the application of standards throughout the watershed.

Objective:

Develop comprehensive basin plans that are based on a strong scientific foundation and adequately represents the conditions of the watershed and the future direction of water suppliers, to encourage inter-agency cooperation.

Suggested Approach:

- Address water quality and supply issues over the long-term to ensure reliable sources in the future. Combine all available resources and local supplies to maximize their use on a regional basis.
- Facilitate regional implementation plans and discussions between agencies to reduce the water quality constraints over the long term.



Failure to Recognize the Need for Long-term Planning and Implementation of Programs to Protect Water Quality

ORIGINATORS:

Thibeault on behalf of himself, King, Kules, Panahi, and Ravishanker

The following issues were subsumed under the above priority title:

ISSUE: Redefining our approach to treatment with constituency in mind.

ORIGINATOR: King

Importance:

Currently:

- We accept Colorado River water with higher TDS levels than we might expect because upstate dischargers are not held to standards consistent with California's standards at the end of the pipe.
- Water supply agencies blend to achieve TDS standards without treatment that again result in cheaper source water than reclaimed programs can produce.
- Publicly-owned treatment plants and downstream users bare a disproportionate burden for treatment as a result of cumulative impacts.

Objective:

- Look beyond California for standards that result in better source water.
- Understand that the results could lead to reduced treatment costs in the state and realistically discuss standard setting within the basin, meaning reduced cost for treated water.

Suggested Approach:

- Find the banner that forces political participation of elected officials starting at the local level.
- Utilize legislative and/or government affairs committees' lobbies to reach state and federal officials.

ISSUE: Imported source water TDS quality reliability.

ORIGINATOR: Kules

Importance:

The success of reclamation is constrained by an inability to regulate the TDS content of source supplies.

Objective:

Develop realistic TDS lower limit objectives in imported water supplies to provide reliability to reclamation planning.

Suggested Approach:

Source control (Colorado River Salinity Control Program, Delta improvements, State Water Project aqueduct pumpback policy) and State Water Project/Colorado River blend policy.

ISSUE: Water quality constraints are impediments to reclaimed water reuse.

ORIGINATOR: Panahi

Importance:

- Need to consider and plan for long-term and reliable water supplies for all agencies within the watershed.
- Need to evaluate alternative/potential opportunities for additional supplies with quality considerations, such as maximum use of storm waters and reuse of local reclaimed water.

Objective:

Optimizing use of local resources, as a watershed approach, is a key for long-term reliable water supply and a way to maintain/improve quality.

Suggested Approach:

Conduct a feasibility study for optimizing the use of local waters within the watershed, considering both water quality and quantity in the basin. The study should include:

1. forecasting total additional supply needs
2. maximum use of storm waters
3. evaluating alternative additional sources of supply
(local surface water, groundwater, and reclaimed water)
4. costs
5. reliability of supply

ISSUE: Lack of recognition by the agencies to implement salinity management/control programs.

ORIGINATOR: Ravishanker

Importance:

Preserving the quality of the local groundwater resources is essential to ensure longevity of reclamation.

Objective:

Continued success of reclamation relies heavily on protecting source water quality. Sources include: surface, ground, imported and reclaimed waters. Programs have to be developed and implemented to prevent any further degradation of water quality.

Suggested Approach:

- Continue to perform long-range planning to protect water quality.
- Identify and prioritize specific projects.
- Develop institutional, financial and implementation plans.
- Promote the need for the projects and seek financing.
- Implement programs on time.

ISSUE: Failure to recognize need for long-term planning and protection of water quality.

ORIGINATOR: Thibeault

Importance:

Wastewater dischargers and potential reclaimers develop projects which are least costly for their agencies without adequate recognition or consideration of associated costs to the environment or their constituencies (long term). As we have noted within the Santa Ana River Watershed, there are significant costs associated with addressing water quality degradation resulting from historic activities and decisions. In spite of significant current regulatory restrictions, water quality continues to deteriorate. Long-term planning and decisions to protect the resource for the future are necessary to slow or stop water quality deterioration.

Objective:

Achieve recognition that a long-term view must be practiced within the Santa Ana River Watershed which results in wastewater and water supply decisions which protect water quality for both present uses and those of the future. Such decisions should not be made based upon the limited viewpoint of determining least-cost alternatives by failing to account for long-term costs which result from continuing water quality degradation. Decision makers must look beyond what is simply least costly to rate payers in the short term. As an example, a reclamation project which causes long-term degradation of water quality will result in increased costs for those who later wish to use the resource.

Suggested Approach:

Employ a watershed-wide (i.e., less parochial) approach to water resources development and management. Recognize how upgradient activities affect downgradient, and recognize the need for watershed-wide management and protection. Make decisions which protect and sustain the resource for the long term. Most importantly, recognize that extraordinary protection measures are necessary in the Santa Ana River Watershed which has a population of approximately five million, existing widespread significant water quality problems, and inadequate local water resources.



Rights and Obligations Under the 1969 Judgement

ORIGINATORS:

Kinsey and Owens on behalf of themselves, and Harriger

Importance:

The upstream agencies believe the 1969 judgement established an upstream discharge obligation of 42,000 acre-foot annually, and there is no obligation for delivery beyond this quantity. The downstream agencies believe the upstream area has a right to make use of water but not to export from the watershed.

The judgment only becomes an impediment to reclamation when the upstream and downstream parties choose to use it to argue the question of whether or not the beneficiary of reclaimed water has any obligation to pay part of the cost of treating or transporting the wastewater. Such arrangements would be made with mutual consent of parties to the 1969 settlements.

Objective:

- Concurrence with the quantity/quality obligations of the 1969 judgment.
- Downstream support or compensation in lieu of expanded water reclamation upstream of Prado Dam.
- Financial support for reclaimed water deliveries above the obligations defined in the 1969 judgment.

Suggested Approach:

Over time the downstream parties could negotiate payment to upstream parties in lieu of the upstream benefits otherwise derived from reclamation.

The negotiations should result in an arrangement wherein the net benefits associated with the proposed upstream reclamation project are paid to the upstream party by the downstream party in exchange for continued discharge to the river.

The following issue was subsumed under the above priority title:

ISSUE: Reluctance of downstream beneficiaries to pay a part of upstream costs.

ORIGINATOR: Harriger

Importance:

In an effort to help recover the increasing costs of treating wastewater to meet river discharge requirements, upstream dischargers will seek alternatives to river discharge which may result in a water management practice that is not regionally cost effective and does not provide maximum benefit of local resources. The effort to deny potential downstream beneficiaries of continuing benefit may prove to be institutionally and politically disruptive. This could lead to litigation and a breakdown of the tenuous cooperative spirit currently existing among water agencies on the river.

Objective:

Two possible objectives:

First, to maximize use and reuse of water resources at minimum cost with minimal institutional and politically unrest.

Second, to provide assurance to downstream users of a dependable supply of adequate quality reclaimed water in exchange for a commitment on the part of the downstream users to help pay to upstream parties the cost of providing such benefit.

Suggested Approach:

- Identify the most region-wide cost effective physical plan to maximize reuse of water.
- Agree on a plan to share the costs among all beneficiaries.
- Agree on a structure for brokering reclaimed water.
- Agree on a pricing structure that:

encourages implementation of the physical plan identified above;

provides reclaimed water to downstream users at less cost than alternative supplies; and

shares the cost of in-stream ecological and recreational benefits between discharger and downstream water user.

Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-basin Boundaries, and Resultant Regulatory Activities

ORIGINATORS:

Thibeault on behalf of himself, Kersey, Kinsey, McPherson, and Willis

The following issues were subsumed under the above priority title:

ISSUE: A flawed Basin Plan.

ORIGINATOR: Kersey

Importance:

Waste discharge and reclamation requirements are prepared by the RWQCB to implement the Basin Plan. Requirements written based on a flawed plan may be too onerous or not protective of beneficial uses. Basin Plan objectives for groundwater are based on a small and geographically limited groundwater quality data set that shows significant bias from extreme hydrologic events — the January and February 1969 storms. It has been demonstrated that this data is not representative of the spatial and temporal groundwater quality conditions in the watershed. The Santa Ana River is divided into reaches with each reach having different water quality objectives. Reach 2 is immediately downstream of reach 3 and runs from 17th Street in Santa Ana to Prado Dam — the Santa Ana River recharge area in the Orange County Basin. Reach 3 starts at Prado Dam and runs upstream to Mission Boulevard in Riverside. Reach 2 and reach 3 TDS objectives are inconsistent; the reach 2 objective being much less stringent and more reasonable than the reach 3 objective.

Some sub-basin boundaries are hydrologically inconsistent — Riverside, Bunker Hill Pressure and Orange County Pressure. This leads to compliance strategies that are onerous, not cost effective and not likely to be implemented.

Models used to develop and evaluate the effectiveness of the Basin Plan were originally developed in the late 1960's and have been continuously revised to reflect contemporary water quality issues. The models' geometric and time increments have been shown to be too coarse to yield reliable calibrations results. The nitrogen transport model is incorrect. The models cannot reliably predict future TDS and nitrogen concentrations in groundwater.

Compliance monitoring for groundwater is done based on these groundwater model projections. Groundwater model projections are consistently higher in TDS and nitrogen concentrations than real groundwater quality data indicate. For the Santa Ana River, compliance monitoring is inconsistent from reach to reach. For example, it is possible to violate the TDS objectives in reach 3 without violating the objectives in reach 2 even though reach 3 flows into reach 2 without significant other inflow.

All these issues result in overly restrictive waste discharge and reclamation requirements for water agencies in the upper watershed. Reclamation requirements based on the current Basin Plan will require huge investments to mitigate TDS and nitrogen impacts. Therefore reclamation agencies must have a scientifically defensible Basin Plan before they can responsibly commit public money to reclamation.

Objective:

Develop new Basin Plan based on scientifically defensible data, assumptions, and methods.

Suggested Approach:

Conduct studies described in Conceptual Study Design prepared by Wildermuth and Moore, March 24, 1995.

ISSUE: Regulatory practices significantly limit upstream reclamation.

ORIGINATOR: Kinsey

Importance:

Since the issue involves the development of a watershed-wide reclamation program, permitted reclamation must be at least equally shared between the upper and lower watershed. A second cycle of upstream use is prudent water management and is beneficial to the entire watershed. Existing regulations render this aspect of the program unfeasible. Regulations must change; minor basin-wide degradation accepted; and, any mitigation costs equally shared.

Current regulatory practices do the opposite - they are becoming more restrictive and costly for agencies to comply with, and these practices continue despite significant scientific data which would support relaxation of these restrictions.

Objective:

Significantly increase permitted reclamation within the upper watershed.

Suggested Approach:

- Modify basin plan objectives.
- Provide financial incentives to promote reclamation.
- Establish upstream reclamation; defer implementation of any required mitigation until financially feasible.

ISSUE: Assumptions of little or no assimilative capacity for certain pollutants precludes reclamation.

ORIGINATOR: McPherson

Importance:

New information may indicate that some of the original data and modeling assumptions may have given an inaccurate picture of groundwater quality in the area. Such errors can result in regulations that are under- or over-protective and discourage best use of resources.

Objective:

Fully protect existing and potential beneficial uses. Where water is already better than necessary to protect beneficial uses, set objectives to preclude degradation beyond a specified baseline. Water quality objectives must be based on the best available data.

Suggested Approach:

- Validate key assumptions in the basin planning model.
- Look at new and recent data.
- Rerun model with alternative assumptions.
- Assess compliance with water quality criteria at the point of use.
- Develop more direct measures of "impairment."
- Calibrate monitoring tools which correlate upstream sampling data with trends in downstream quality.

ISSUE: Questions concerning the validity of the water quality objectives and findings of assimilative capacity contained in the Basin Plan.

ORIGINATOR: Thibeault

Importance:

Wastewater dischargers and reclaimers continue to raise questions concerning the validity of the Basin Plan. They suggest that a complete review of objectives and an update of modelling results might demonstrate that objectives could be made less restrictive and that the number of basins with assimilative capacity would be increased. It has been claimed that the current objectives in the Plan and findings relating to assimilative capacity severely restrict opportunities for reclamation. This is correct. Without salt mitigation (i.e., desalting), reclamation in many of the most heavily used basins within the watershed would cause violations of water quality objectives.

Objective:

Settle the issue of Basin Plan validity. Focus could then be placed on the requirements necessary to meet the provisions of the Plan rather than to engage in less productive discussion concerning what could be done if the Plan were different.

Suggested Approach:

Those who question the validity of the Plan should provide the resources necessary to evaluate the sections of the Plan about which they have questions. If the Plan validity is an issue which is central to reclamation considerations, then the Plan should be expeditiously reviewed. If resources are not available, or if agreement within the regulated community concerning the Plan cannot be reached, then the issue of the Plan should be laid to rest. Decisions concerning reclamation projects should then be made in conformance with the Plan and current State policies and regulations. There is no question that within this watershed, Plan provisions are restrictive. There is also no question that water resources within the watershed are inadequate to meet the needs of the current population, and that water quality continues to deteriorate even under current regulatory practices.

ISSUE: Environmental demands on reclaimed water should not exceed benefits.

ORIGINATOR: Willis

Importance:

Funds for developing reclaimed water come from the tax payer; however, in today's economy, there is a need for tax restraint.

Objective:

Be realistic regarding the environment and weed out the theoretical which may not be factual or effective on a cost benefit basis.

Suggested Approach:

This should be encouraged by the constituents of all levels of government starting from the United States Congress through state and local regulating agencies.

P R I O R I T Y R A N K 9

Develop Local Cost-effective Reclamation Programs Considering Local Water Production and Rate-payer Costs, Subsidies and Grants, Privatization, Supportive Land-use Planning, and Assured Supply Benefits

ORIGINATORS:

Mills on behalf of himself, James, Kinsey, Rigby, Stewart, and Thadani

The following issues were subsumed under the above priority title:

ISSUE: Land use developers need to centralize their non-potable water use demand to promote the development of cost-effective non-potable water sources.

ORIGINATOR: James

Importance:

The use of reclaimed water is limited to certain non-potable uses. If places that can use reclaimed water are spread out over a large area, then the cost to deliver the reclaimed water is no longer cost effective. Reclaimed water needs to be considered as “new water.”

Objective:

Distribution systems become economically feasible when large amounts of reclaimed water is delivered over a short distance.

Suggested Approach:

Centralize sources and demands to maximize the water demand but minimize the cost.

ISSUE: Initial subsidation of long-term reclamation programs or projects.

ORIGINATOR: Kinsey

Importance:

Brief discussion regarding Carbon Canyon Project.

Project Benefits:

Long-term water supply.

Comply with Basin Plan objectives (industrial export, and use within areas of rising groundwater within the Chino groundwater basin).

Reduces demand on Metropolitan providing additional supplies for use within the region.

Many retail agencies do not support the concept, or are unwilling to politically support the concept of initial subsidation of program costs, even though long-term project costs will be lower than alternative water supply sources.

Objective:

Develop a uniform approach to assist agencies in demonstrating long-term cost effectiveness of reclamation projects.

Suggested Approach:

Establish a watershed-wide working group to develop alternative approaches to subsidize reclamation projects during initial years of operation.

ISSUE: Cost of reclamation exceeds the price that local pumpers are willing to pay for the recycled water.

ORIGINATOR: Mills

Importance:

Experience in implementing recycling projects, even if tertiary treatment is not considered a reclamation cost, has shown that distribution costs range from \$500/acre-foot to \$650/acre-foot (no desalting cost included). Pump stations and pipeline costs to reach limited end users drive the costs upward. Water recycling is a market driven process which is widely dispensed, thus causing high distribution costs.

Objective:

Develop a basin-wide cost allocation so that high reclamation costs can be spread over all water users.

Suggested Approach:

Modify adjudications to allow incremental costs of reclamation to be added to pump tax.

ISSUE: **Lack of understanding of the economic benefits of assured water supplies.**

ORIGINATOR: Rigby

Importance:

Strong economies result when intelligent management practices are merged with appropriate infrastructure support systems.

Objective:

To develop a deeper understanding of the relationship between assured water supplies, and economic development and environmental quality improvement.

Suggested Approach:

Develop strong liaisons between water supply agencies and those interested in regional economic development and environmental enhancement.

ISSUE: **The need to implement cost-effective “local” programs.**

ORIGINATOR: Stewart

Importance:

All local entities have a responsibility to pursue least cost alternative water supplies. If the cost per acre-foot of obtaining an adequate supply from a watershed-wide perspective is less than the cost per acre-foot of developing local supplies, the watershed-wide solution can gain support.

Objective:

Develop a watershed-wide, least-cost proposal.

Suggested Approach:

Present the proposal to all potential participants.

Demonstrate how this cost is less than the cost per acre-foot than the proposed program for that entity. Seek formal involvement (using signed agreements to participate) and assist local entities with development of rate structures and/or other ordinances, etc., necessary to ensure success.

ISSUE: **Money...lack thereof.**

ORIGINATOR: Thadani

Importance:

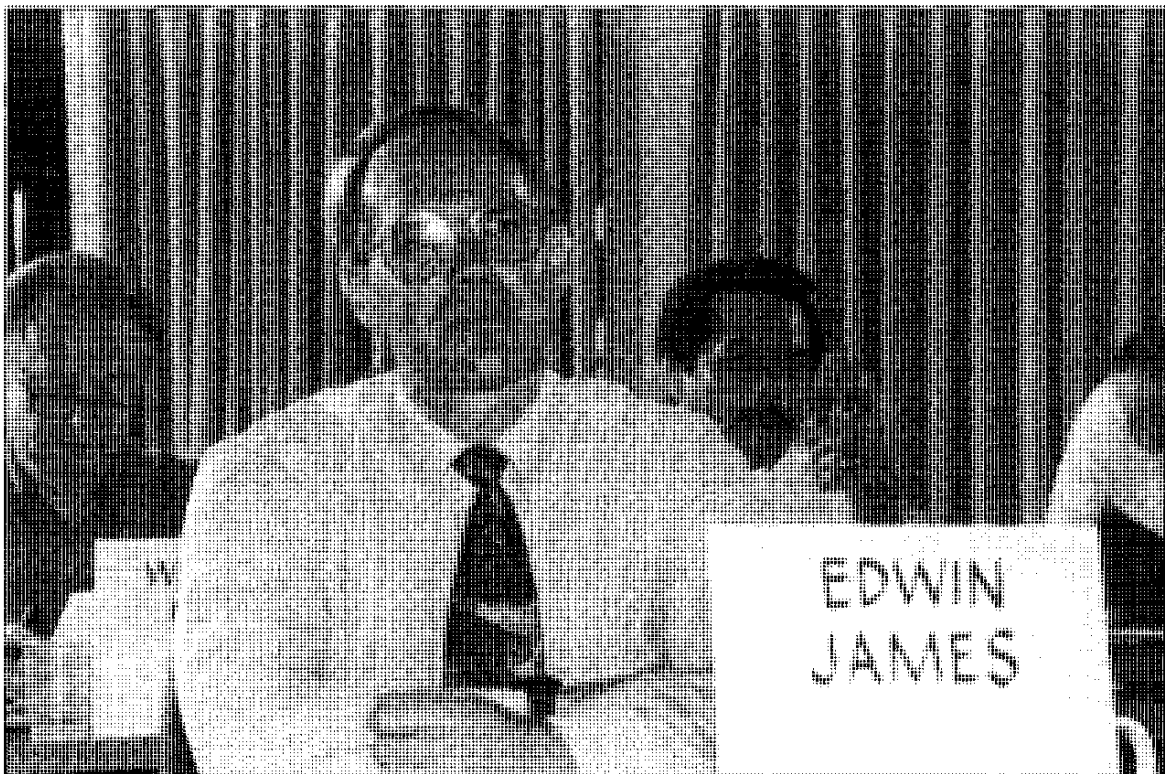
Cannot accomplish anything without it.

Objective:

Raise funds.

Suggested Approach:

- Tap richer agencies (SAWPA, OCWD) to subsidize these programs.
- Look for money from other sources (federal, state programs).
- Do not impose additional fees. Everybody is sick of higher water/sewer rates.
- Consider "privatization."



Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-degradation are Barriers to Reclamation. Clear Guidance is Needed

ORIGINATORS:

McPherson on behalf of herself, Cavender, and Kersey

The following issues were subsumed under the above priority title:

ISSUE: Inconsistent application of regulations that result from not having standards for threshold decision making.

ORIGINATOR: Cavender

Importance:

Many regulations contain decision thresholds that affect wastewater management. Although the threshold exists, the specific method for determining when the threshold is violated is not defined. For example, how is “ambient water quality” defined? Because this phrase is not defined, it is almost impossible to know with certainty when or if water quality is degraded by an action. Other terms like “assimilation capacity,” “impairment,” “fully protected,” “anti-backsliding,” and “measurement for beneficial use” are similarly ill-defined.

Objective:

Develop standards for threshold-type terms to permit consistent application of regulations.

Suggested Approach:

Organize a task force to identify the terms and phrases, then negotiate consensus definitions with regulators.

ISSUE: Need to establish detailed definitions for all critical regulatory terms in the state and federal anti-degradation policies.

ORIGINATOR: Kersey

Importance:

The state and federal anti-degradation policies are the single greatest legal impediment to greater reclamation in the Santa Ana watershed. The presumed lack of “assimilative capacity” in most groundwater basins means that recharging effluent into those basins will be illegal without prohibitively expensive salt offsets. Little or no reclamation will occur under these conditions. If that is to be the case, then we must be certain that there is, in fact, no assimilative capacity and that reclamation would cause degradation. In order to make such determinations, we need crystal clear definitions for what constitutes ambient water quality. What are the minimum data requirements and what analytical methods should be applied? If it is agreed that no assimilative capacity exists, and that reclamation would degrade water quality without impairing beneficial uses downstream, then we need detailed guidance for how to make the necessary social and economic demonstrations called for in the state anti-degradation policy. What does the phrase “necessary to accommodate important social or economic development” mean? When is development unimportant? What distinguishes accommodation from actively encouraging or merely tolerating? Without unequivocal guidance, the anti-degradation review process can become highly subjective and inconsistent. Most important, it discourages reclamation, whether it was intended to or not.

Objective:

Just as this workshop was deemed necessary to clarify issues, it is essential that we clarify the primary state policy which governs reclamation: non-degradation. Available guidance is inadequate (especially for groundwater issues), and a consensus is needed to develop more useful tools for conducting non-degradation reviews.

Suggested Approach:

We should develop formal regional guidance policies for conducting anti-degradation reviews with special emphasis on the application of these policies to reclaiming municipal effluent via groundwater recharge. We should review the available scientific literature, legal precedents, and regulatory guidance from throughout the country to establish appropriate definitions and analytical methods. We should define an acceptable procedure BEFORE we begin collecting or analyzing water quality data. It is the only way to assure consistent, objective, and equitable decision-making.

ISSUE: No clear guidance exists for reclamation projects that are specific to the Santa Ana Watershed.

ORIGINATOR: McPherson

Importance:

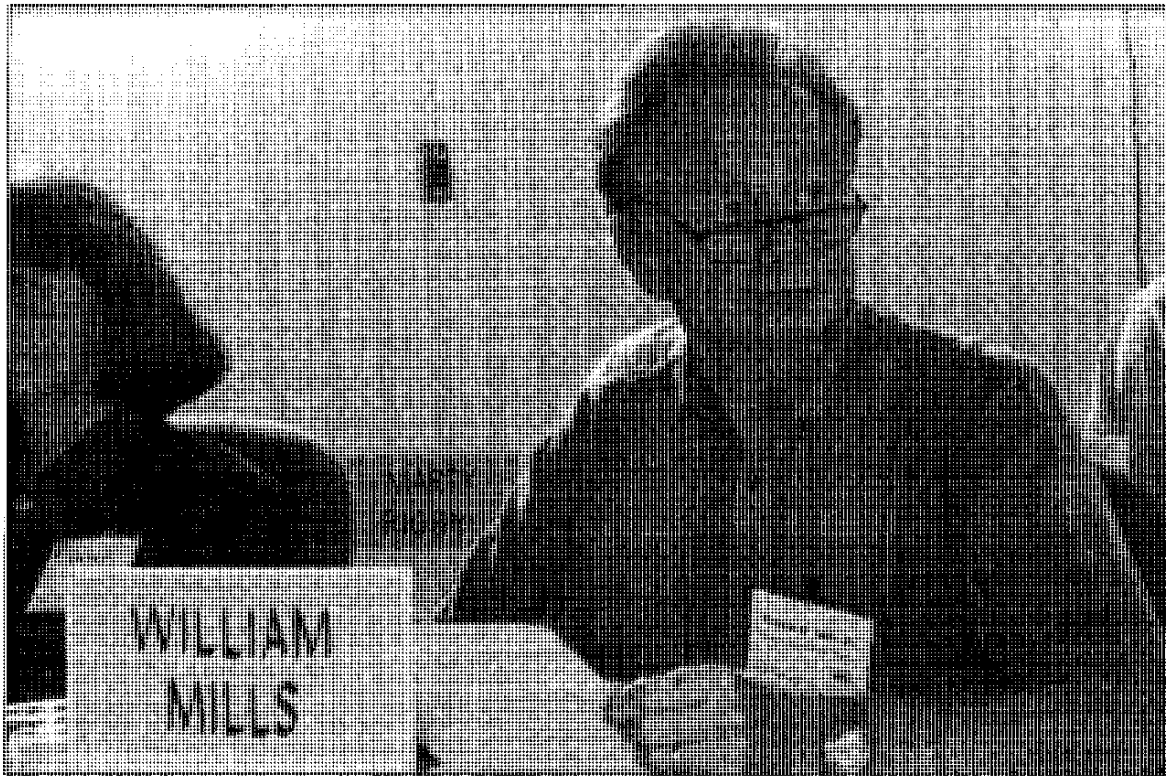
The Basin Plan speaks to the value of reclamation to meet watershed goals but falls short of specific criteria. The Department of Health Services is considering regulations related to recharge of wastewater into MUN-designated groundwaters. Costs and uncertainty make water reclamation risky. Existing obligations to protect uses and inhibit degradation are clear, but exceptions are vague. Regulating on a case-by-case basis is arbitrary and undermines relationships necessary to develop long-term solutions.

Objective:

- Burden of proof that a project will cause no harm without clear guidance is costly, risky and unpredictable.
- Explicit and objective approval/disapproval criteria for reclamation/recharge projects is needed.

Suggested Approach:

- Adopt a total watershed management approach that encourages inter-agency cooperation and practical water quality criteria.
- Look for maximum benefit to “people of California” when developing reclamation criteria.
- Allow non-structural alternatives such as regional bubble, offsets, credits, exchanges, to meet basin requirements and achieve compliance at least cost while preserving stream flow.



A Lack of Comprehensive Water Quality Standards to Define Potable Water, Regardless of Source

ORIGINATORS:

Hultquist on behalf of himself, Mills, Rigby, and Yamamoto

The following issues were subsumed under the above priority title:

ISSUE: **A lack of comprehensive water quality standards to define potable water, regardless of source.**

ORIGINATOR: Hultquist

Importance:

- Existing potable water standards address contaminants found in traditional ground and surface sources, not in municipal wastewater.
- Draft indirect potable reuse criteria enable numerous safe projects but rely on the conservative application of best available technologies.
- Water quality standards may allow less expensive projects.

Objective:

Identify objective standards for all contaminants of public health concern, or suitable surrogates.

Suggested Approach:

Research.

ISSUE: **Health-related issues for wastewater reclamation via SAR in Orange County groundwater may jeopardize the current operation.**

ORIGINATOR: Mills

Importance:

Current SAR reclamation in Orange County far exceeds any permitting guidelines by the State Department of Health Services. Increases in wastewater flow into the river exacerbates the problem. To ensure that health effects of the current program are not adverse or becoming unhealthful, OCWD has embarked on a three-year, \$6 million health effects study. What would happen if this effect is adverse?

Objective:

Must ensure that wastewater reclamation anywhere in Orange County is healthful.

Suggested Approach:

Do more research.

ISSUE: **Need to develop a much more sophisticated health effects database.**

ORIGINATOR: Rigby

Importance:

Lack of information hampers development of appropriate regulations.

Objective:

Provide project proponents and regulators with the scientific data necessary to adequately address any health concerns.

Suggested Approach:

Reclaimers need to actively support health effects studies conducted by water research institutes and foundations.

ISSUE: **Insufficient research into health effects of use of reclaimed water for groundwater recharge.**

ORIGINATOR: Yamamoto

Importance:

The State Department of Health Services needs answers on health effects before it can confidently approve projects; otherwise, it must set conservative standards.

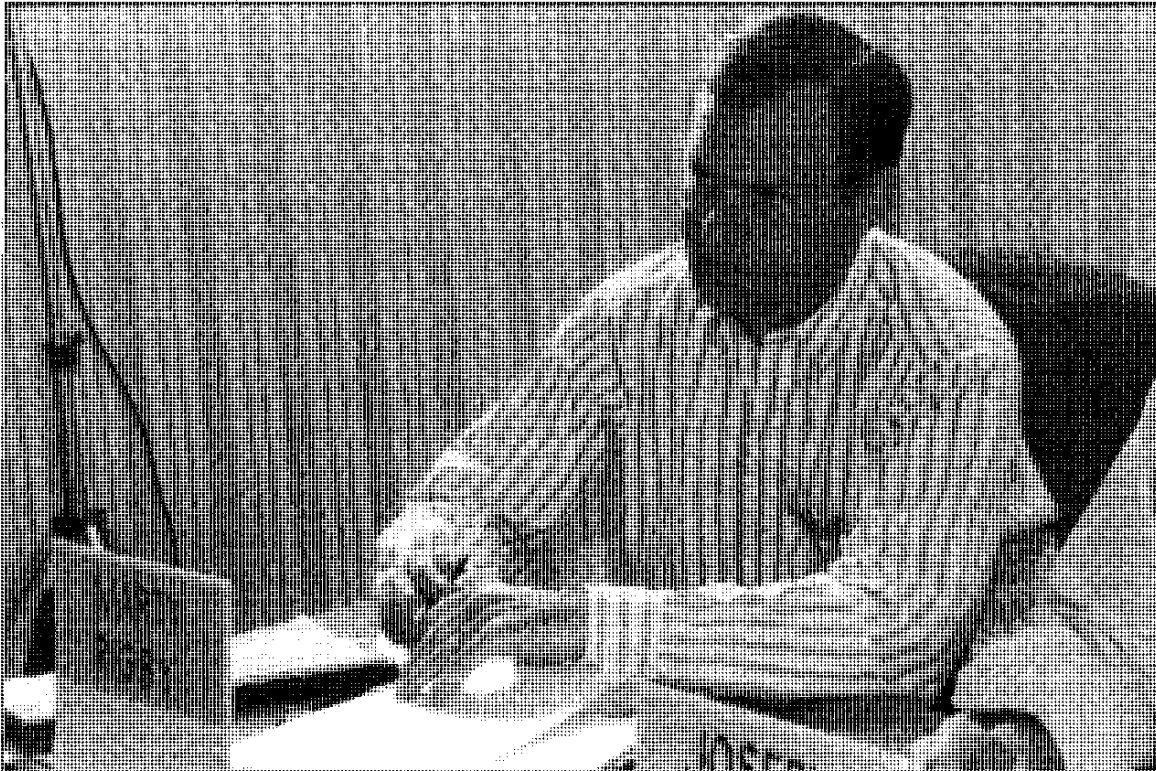
Objective:

Identify research needs.

Work with AWWARF on research projects.

Suggested Approach:

Provide research fundings.





Current Water Supply Picture Limits Incentives to Act now on Programs that Provide Future Cost-effective Supplies.

ORIGINATORS:

Tubbs on behalf of herself, and Muñiz

The following issues were subsumed under the above priority title:

**ISSUE: Solutions and actions for known problem in future must be acted
 on today to avoid greater problems and costs in the future.**

ORIGINATOR: Muñiz

Importance:

The need for future water is obvious. We know that future costs will be greater. Those who gain today by not cooperating with the needs of today must recognize the future need for the larger number of people who will rely on us to provide potable water.

Objective:

As entities with the answers and the ability to unite, we must act on the obvious and work to ensure water reclamation is not a problem in the future.

Suggested Approach:

Consider water reclamation different and apart from current consideration and unite 100 % with respective entities to plan now for a feasible water reclamation program which will offset future use of potable water with reclaimed water for non-potable water uses.

ISSUE: **Availability of local supply in upper SAR Basin and availability of imported water at “relatively affordable” costs.**

ORIGINATOR: Tubbs

Importance:

The need for development of “new” water supplies is not perceived as critical. Because of the availability of local and imported supplies, a recycling mind set has yet to evolve. Therefore, efforts to develop new sources (e.g., pursue reclamation) are not supported to a level of significance. This is a short-sighted approach to water management supply; assuming growth will continue throughout the basin, it will not represent the reality of the future. If actions toward water reclamation programs are not forthcoming, future costs of the water supply will be quite unaffordable.

Objective:

Develop consensus among basin water industry representatives that the time for action plans focused on water reclamation is at hand. Acquire commitments from the industry and local governments to pursue and develop reclamation, recycling and reuse projects. Educate the public.

Suggested Approach:

- Implement public education programs through SAWPA regarding present and future water supply demands and sources.
- Use the media extensively to gain public support for water reclamation to increase local water supply.
- Increase and improve SAWPA member agencies’ awareness of the need for achieving consensus and educating the public with the same message throughout the basin for consensus building.

Beneficial Uses of Water Supply and Cost-sharing of Reclamation Throughout Region Lacks Equity

ORIGINATORS:

Owen on behalf of himself, and Tubbs

The following issues were subsumed under the above priority title:

ISSUE: **Sharing of reclamation cost by users of existing water supply is necessary for augmentation of total supply.**

ORIGINATOR: Owen

Importance:

Why spend \$500/acre-foot when local supplies cost only \$200/acre-foot?

Objective:

N/A

Suggested Approach:

Integrate the cost of reclamation with local water prices.

ISSUE: **The Orange County War of 1936 and the SAR's Berlin Wall of 1969.**

ORIGINATOR: Tubbs

Importance:

We refer to it as the North versus the South, the Hatfields and McCoys, the argument that sat in court for 33 years. California has seen many changes since the 1930's, when upstream and downstream water rights were debated. Today's water resources managers do not share their grandfather's views; a more cooperative approach is desired. Competition still exists, however, for the resources of the Santa Ana River Basin. Cost and benefit issues must be solved for economic benefit of all citizens within the SAR Basin, as well as every local and county government.

Objective:

Tear down the wall; improve efficiency of the basin planning process; establish water quality objectives that result in equal costs, benefits, and water quality from one end of the river to the other; and, develop a means to share the costs and benefits of water reclamation.

Suggested Approach:

Basin planning efforts need to address equity on a regional basis. Comprehensive and equitable standards that are economically viable and reasonable are possible. Comprehensive planning that addresses cost sharing and equal benefit needs to eliminate the “war” that still goes on. The RWQCB — Santa Ana Region needs to take a regional perspective of the basin as one economic and environmental unit. Neither humans, plants, fish, nor businesses behave within the confines of River reaches.



Possible Restructure of SAWPA

ORIGINATORS:

Hall on behalf of himself, Aguilar, Lopez, Osborne, and Ravishanker

The following issues were subsumed under the above priority title:

ISSUE: Too many chiefs, not enough indians.

ORIGINATOR: Aguilar

Importance:

With so many agencies, cities, and regulators, it is almost impossible to reach an agreement.

Objective:

Consolidate agencies and create a Santa Ana watershed management authority.

Suggested Approach:

Give up power in order to gain control.

ISSUE: Restructure SAWPA

ORIGINATOR: Hall

Importance:

Use SAWPA as a tool to cure institutional problems.

Objective:

Finance project.

Suggested Approach:

Develop a cost/benefit ratio for each project; all members participate per ratio.

ISSUE: Financing plan for the construction of regional water reclamation projects within the SAR Basin.

ORIGINATOR: Lopez

Importance:

- Establish a “regional water reclamation capacity fee” to fund approved regional reclamation studies, programs, and projects.
- Develop urban markets for reclaimed water.
- Avoid developing or importing new water sources.

Objective:

Require new development and existing users to pay for their fair share of water, wastewater, and water reclamation projects.

Suggested Approach:

Develop a nexus “Santa Ana Watershed Water Reclamation Impact Fee” for new and existing users, including downstream users. (Regional nexus in compliance with A.B. 1600.)

ISSUE: Water interests upstream from Prado Dam appear to be extensively Balkanized.

ORIGINATOR: Osborne

Importance:

With so many players with conflicting agendas, progress is slow and ponderous.

Objective:

Strengthen and give greater support to SAWPA. Take an oath that no matter what happens, there will always be a SAWPA.

Suggested Approach:

As to the Balkanization, I have no approach to suggest.

ISSUE: Identify a mechanism to assure adequate funding for a regional planning agency.

ORIGINATOR: Ravishanker

Importance:

In order to develop consensus on the water issues faced by all of the stakeholders in the basin, water resources planning should be undertaken by one regional agency. Such an agency should be provided with adequate human and financial resources to complete its mandate in a timely and efficient manner.

Objective:

Provide financial resources for water resources planning by a regional agency.

Suggested Approach:

- Educate the various public agency representatives with the importance of regional planning.
- Develop a mechanism to share the cost of planning equitably.



Unwillingness to Tackle Issue of Equity Without First Solving Technical Issues Once and For All

ORIGINATOR:

Harriger

Importance:

We will never address all of the technical issues to the satisfaction of all.

Objective:

Address equity between discharger and water supply beneficiary then address technical issues.

Suggested Approach:

Put more emphasis on equity issue.



Existing Water Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surfacewater and Groundwater

ORIGINATORS:

Owen on behalf of himself, and Mills.

The following issues were subsumed under the above priority title:

ISSUE: Adjudications do not encourage water recycling.

ORIGINATOR: Mills

Importance:

In adjudicated basins with individual water rights, new demands must be met with imported water, which is at a price comparable to recycled water. Most areas in the SAR watershed do not have individual adjudicated water rights, allowing for additional groundwater extractions to be supplied by additional replenishment water paid for by a gross pump tax.

Objective:

Spread reclamation costs over a large production base to reduce costs to individual producers.

Suggested Approach:

Adjudications should be modified such that reclamation costs can be included in a gross pump tax.

ISSUE: Existing water rights agreements did not foresee the value of reclamation in conjunction with surfacewater and groundwater.

ORIGINATOR: Owen

Importance:

Reclaimed wastewater does not receive adequate benefits like the judgement in either OCWD versus Chino (1969) or Chino judgement (1978).

Objective:

Stimulate reclamation.

Suggested Approach:

Change judgement.

Promote Legislation and Programs to Ensure Low Cost Financing and Subsidies Needed for Reclamation

ORIGINATOR:

Ravishanker

Importance:

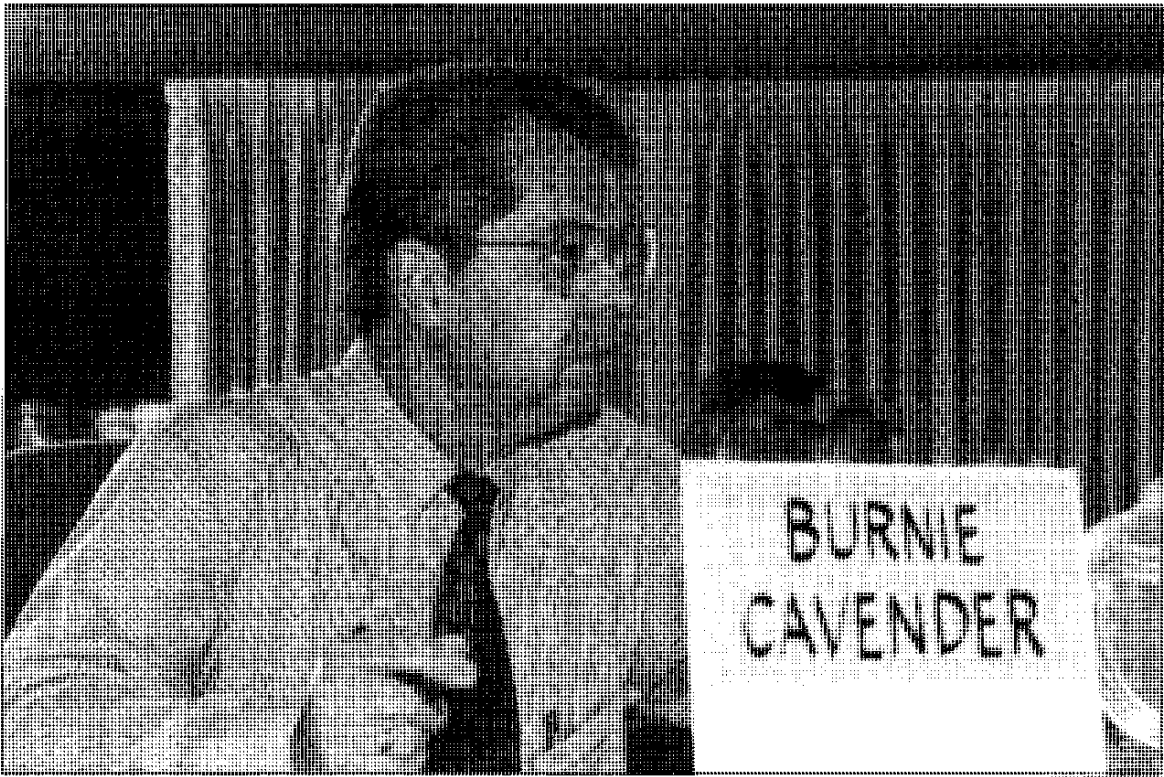
Reclamation and related management programs are capital intensive, and the price of other sources of water is not presently conducive to implement programs with conventional financing. The success of these programs will be heavily reliant upon the availability of subsidies and low- cost financing.

Objective:

Promote low interest loans, grants and other subsidy programs through legislation and/or other means.

Suggested Approach:

Educate legislators on the importance of these programs and actively participate in protecting the existing programs and in the creation of new ones.



Long-range, Land-use Planning has Yet to Recognize the Need for Development of Local Water Resources

ORIGINATORS:

Tubbs on behalf of herself, and Cavender

The following issues were subsumed under the above priority title:

ISSUE: Competition for land will affect the ability to recharge groundwater basins which could reduce the effective availability of reclaimed water.

ORIGINATOR: Cavender

Importance:

In the Santa Ana River Watershed, many agencies want to make use of riparian lands. Water resource agencies want to spread and sink water to recharge the basin. Flood control agencies, however, want to hard side/bottom the channels to move water as fast as possible, reducing recharge potential. Additionally, recreation and park agencies want to restore the riparian habitat for nature trails and hiking, while environmentalists want the area isolated for threatened and endangered species. Further, developers want to use the areas to mine for sand and gravel. Ignoring this competition could result in the loss of existing or future water resource management facilities.

Objective:

Implement a program to identify and protect lands best suited for water resource management facilities, including groundwater basin recharge with reclaimed water.

Suggested Approach:

Organize and implement a riparian lands coordinating forum to identify and resolve land conflicts affecting water resource management.

- Identify recharge requirements.
- Develop GIS overlays and riparian areas, wetlands, threatened and endangered species habitats, recreation areas, natural resource deposits, and soil characteristics.
- Identify lands best suited for water resources.

- Obtain zoning changes to protect the use of those lands.
- Purchase land as needed.

ISSUE: Long-range, land-use planning has yet to recognize the need for development of local resources to meet local growth demands.

ORIGINATOR: Tubbs

Importance:

Local government land-use planning and water resources management are undertaken as two separate functions, while in reality, they are symbiotic. Regional and local economies are dependent upon growth and the availability of resources needed to meet growth demands. If growth is to continue in the Santa Ana River Basin, and be economically viable, land-use planning must address the fact that local water supplies are threatened, and importation is no longer the optimum long-term solution.

Objective:

Encourage local and regional cooperation (or mandates) for planning efforts to include water resource development programs. Local government and the water industry must focus on long-range issues and establish goals, objectives, and programs jointly. The key objective is to focus on water reclamation programs that provide for economic bases that are self supporting. (Create incentives for reclamation.)

Suggested Approach:

Establish a regional task force to include county and city planners and key water industry officials. The task force will establish long-range plans and programs for adoption by governments and implementation via water agencies' master plans (or a regional plan, e.g., via SAWPA) and general plans.

If the task force approach fails, mandates may be necessary.

Current MET Subsidy for Reclaimed Water is of Questionable Long-term Reliability; Needs Revision to Accommodate new MET Pricing Policy

ORIGINATORS:

Osborne on behalf of himself, Mills, and Owen

The following issues were subsumed under the above priority title:

ISSUE: **MWD's new pricing structure and reliability assurances indicate that recycled water projects cannot compete financially and offer only marginally improved water reliability.**

ORIGINATOR: Mills

Importance:

MET's IRP process indicates that even replenishment water (an interruptible supply) is available in large amounts in eight of ten years. If replenishment water pricing discount is lowered, as proposed, it is less costly to purchase MWD water than to implement wastewater and groundwater reclamation programs.

Under MET's new water pricing program, the commodity charges for MET water have now been lowered by substituting a number of fixed charges, such that MET water is much less costly than reclaimed water, and MET has assigned a higher reliability value for imported water than previous experience would indicate or justify.

Objective:

- Ensure that MET's IRP program accurately reflects imported water reliability.
- Ensure that MET's Local Project's Incentative program is appropriately structured.

Suggested Approach:

- Monitor MET's IRP carefully.
- Modify MET's pricing structure/incentatives to make reclamation comparably priced.

If these fail, secede from MET and join SBVMWD - State Contractor.

ISSUE: Current subsidy for purchase of reclaimed water is of questionable long-term reliability.

ORIGINATOR: Osborne

Importance:

Groundwater reclamation projects depend on sale of water for financing. Reclamation costs exceed value of product; hence the need for subsidy. Currently, MWD offers the main subsidy but retains the right to change the subsidy level for an operating project.

Objective:

Make subsidy level a contractual obligation.

Suggested Approach:

Request policy from MET Board to assure financial soundness of subsidized project.

ISSUE: MET distracts from broad reclamation through its local project program.

ORIGINATOR: Owen

Importance:

Everyone waits for MET's approval and practically cannot proceed without it. We should remember that MET sees reclamation as a competitor in the sale of water at all times except during drought.

Objective:

To remove the local political obstacles to build wastewater reclamation projects without MET approval.

Suggested Approach:

MWDSC should either increase the local project facilities approval or get out of the business.

Some Waste Discharge Standards are Not Restrictive Enough — Higher Discharge Standards Facilitate Cost-effective Reclamation

ORIGINATOR:

Owen

Importance:

Tertiary treatment required to reclaim wastewater would be less expensive. Implementation of the Porter-Cologne Act sets the objective of the Basin Plan, and the Basin Plan is probably not adequate. Current water supplies are gradually degrading.

Objective:

Economics of wastewater reclamation would be improved.

Suggested Approach:

The Regional Water Quality Control Board should set higher standards.



Lack of Interconnecting System for Water Conveyance to Areas of Need

ORIGINATORS:

Fletcher on behalf of himself, and Kersey

The following issues were subsumed under the above priority title:

ISSUE: Lack of interconnecting system for water conveyance to areas of need.

ORIGINATOR: Fletcher

Importance:

Reclamation is costly, but for some areas like Santa Barbara, reclaimed water at, for example, \$600/acre-foot looks cheap compared to the over \$1,000/acre-foot they are faced with now. However, Santa Barbara cannot avail themselves of \$600/acre-foot reclaimed water because of the institutional barrier restricting conveyance system use (DNR Aqueduct, MWD Aqueduct, etc.).

Objective:

Help create as broad a market as possible for reclaimed and other surplus water such that benefits of reclamation and salvage of water will be greater than the cost of said reclamation and salvage.

Suggested Approach:

Change state laws on use of water conveyance systems that prevent optimum management of water resources.

ISSUE: Need to modify Amendment 12 to the State Water Project contract.

ORIGINATOR: Kersey

Importance:

Amendment 12 prohibits MWD agencies from purchasing any supplemental water to meet their needs from non-MWD agencies. This provision has effectively restricted our water reclamation markets when there is a definite long-term shortage of water supply in southern California.

Objective:

Modify the requirement so that if reclaimed water from non-MWD agencies is the most cost-effective and reliable water supply alternative, it should be allowed.

Suggested Approach:

Understand the basics of the amendment is to protect capital investment, but let water marketing occur.

Additional new Regulatory Constraints Will Act as a Catalyst for Cooperation to Solve Common Problems and Avoid Costs in the Future

ORIGINATORS:

McPherson on behalf of herself, and Muñiz

The following issues were subsumed under the above priority title:

ISSUE: **Additional new regulatory constraints may preclude expanded reclamation.**

ORIGINATOR: McPherson

Importance:

The Endangered Species Act is an example of regulations that are in conflict with most citizens understanding of what is of “maximum benefit to the people of California.” Projects are needed to increase reliable supply while meeting all regulations. Cooperation is critical because these regulations take away local control from both the upstream “poormouthers” or the downstream “waterhogs.”

Objective:

Water quality and quantity concerns to meet population needs are “moot” if the issues specific to arid watersheds are not considered when adopting and applying new regulations. Local control of resources will require superior efforts to cooperate.

Suggested Approach:

- Define regional watershed goals of highest value.
- Promote reclamation projects that preserve stream flow.
- Ensure costs are shared by beneficiaries.
- Redefine basin management units, boundaries, and objectives.

ISSUE: Solutions and actions for known problem in future must be acted on today to avoid greater problems and costs in the future.

ORIGINATOR: Muñiz

Importance:

The need for future water is obvious. We know that future costs will be greater. Those who gain today by not cooperating with the needs of today must recognize the future need for the larger number of people who will rely on us to provide potable water.

Objective:

As entities with the answers and the ability to unite, we must act on the obvious and work to ensure water reclamation is not a problem in the future.

Suggested Approach:

Consider water reclamation different and apart from current consideration and unite 100 % with respective entities to plan now for a feasible water reclamation program which will offset future use of potable water with reclaimed water for non-potable water uses.

Separation of Waste Discharge Treatment from those Already Responsible for Water Supply is an Impediment

ORIGINATOR:

Owen

Importance:

The separation leads to constant turmoil as to responsibility to pay for treatment.

Objective:

Cost effective wastewater treatment.

Suggested Approach:

Consolidation.

Technology will Solve the Cost Impediments

ORIGINATOR:

Mills

Importance:

Salinity build up in groundwater basins, due to overlying uses, i.e., agriculture, landscape, etc., continues to degrade critical and valuable groundwater resources in the watershed. We cannot rationally increase salinity loading on this resource.

At the same time, new desalting technologies (such as thin-film composite reverse osmosis membranes for desalting and micro-filtration membranes for pretreating wastewater prior to desalting) are currently available and being tested and evaluated. Experience has shown that existing technologies have dramatically lowered the cost and increased efficiency with continued market development.

Objective:

Need to expand our use of new technologies so that market place forces and competition will prevail, and manufacturers will develop more cost-effective products and will provide additional health assurances.

Suggested Approach:

Commit as a watershed to go forward with small-scale desalting projects to expand the market and build operation and maintenance experience.

Finance with basin-wide assessment.

The Existing Cost-effective Reclamation of all Discharge Above Prado Dam is Being Threatened by Upstream Perception of Equity

ORIGINATOR:

Owen

The following issues were subsumed under the above priority title:

ISSUE: **Above Prado Dam, flood control storage is required to reclaim the last 10% of upstream discharges. All other flows are reclaimed.**

ORIGINATOR: Owen

Importance:

Other upstream reclamation projects may change the place of use but will not promote "cost effective" water reclamation. The only new reclamation is the waste discharge that goes to the ocean on the back of flood flows.

Objective:

Promote cost-effective reclamation.

Suggested Approach:

Provide flood storage at Prado Dam.

ISSUE: **The future cost-effective wastewater reclamation may be threatened by the perception of equity.**

ORIGINATOR: Owen

Importance:

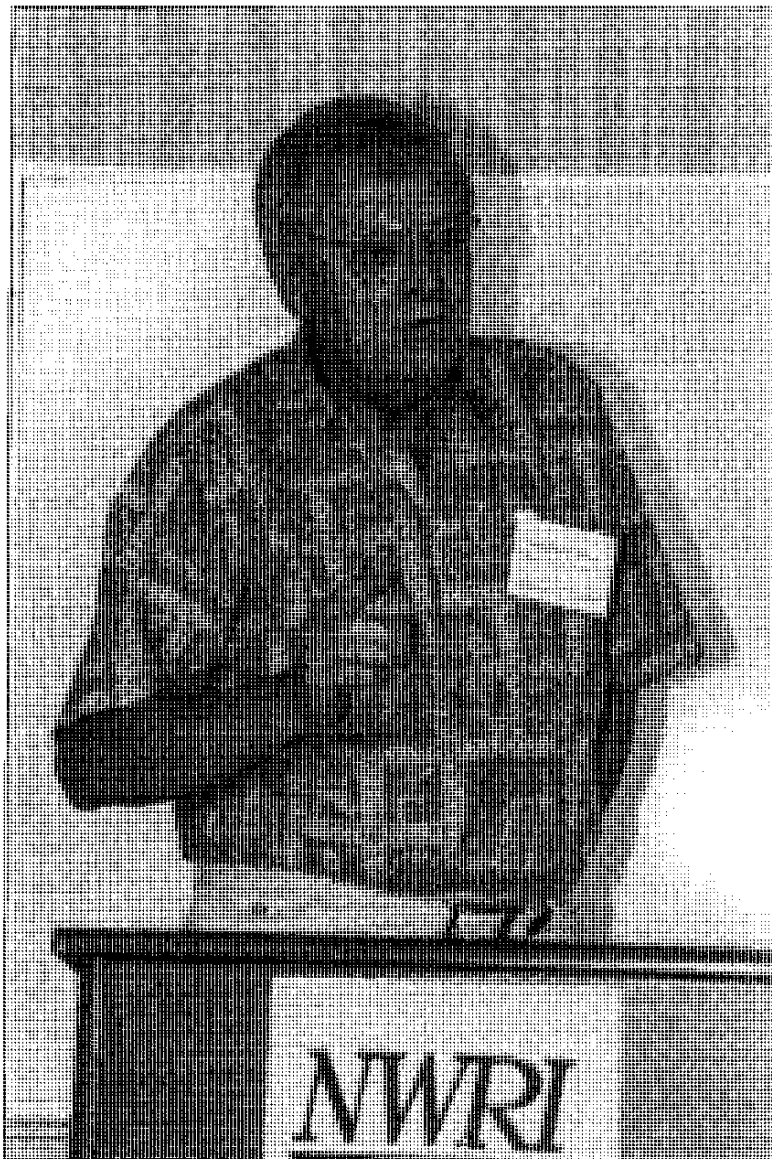
Politics and economics may force upstream areas to turn to more expensive treatment schemes to achieve "equity" or to "protect" water rights.

Objective:

To overcome future impediments before they increase the cost and feasibility of less-effective water reclamation.

Suggested Approach:

Let's negotiate.



Stop the Use of Greedy Water Professionals

ORIGINATOR:

Aguilar

Importance:

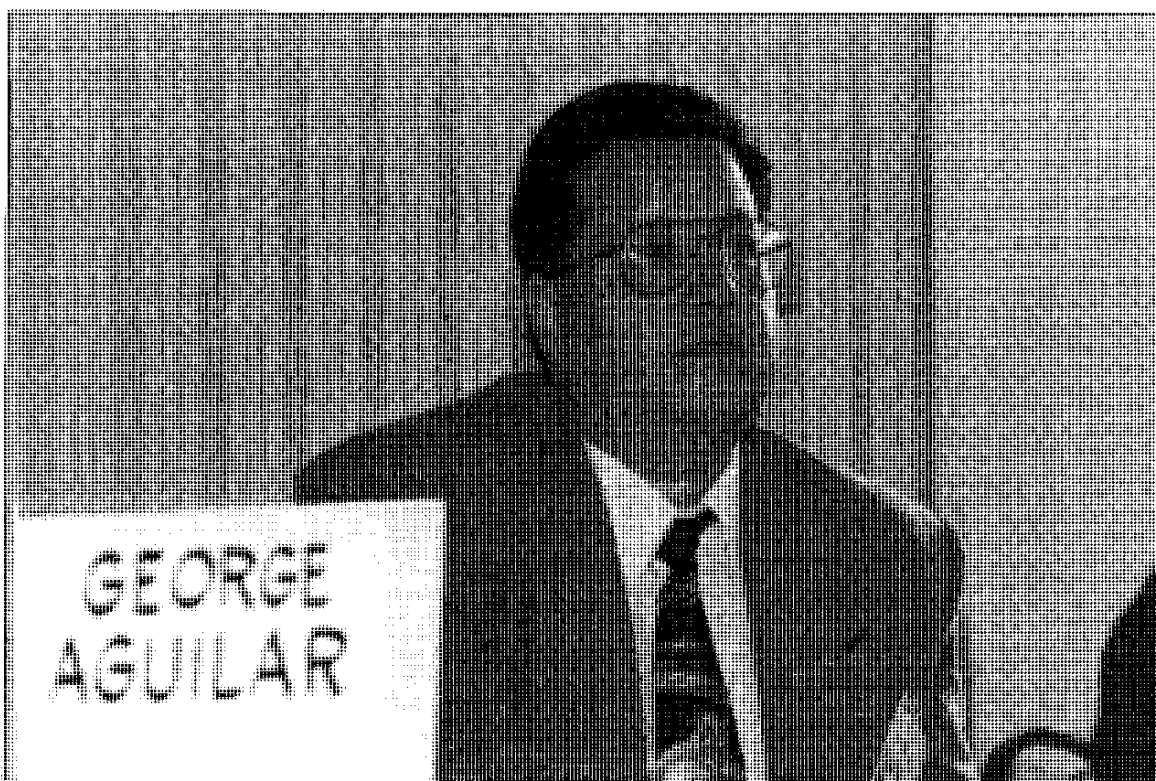
Professionals (biologists, engineers, lawyers) receive huge financial gains when we all fight or when they impede new processes which cost less than current processes.

Objective:

Keep them out of meetings and the problem-solving process.

Suggested Approach:

Do not pay by the hour but rather by their success in solving problems. Realtors do not get paid if they cannot solve problems or overcome objectives, or close a sale.



It is No Longer Economically Feasible to Treat all Water to a Level of Human Consumption

ORIGINATOR:

Aguilar

Importance:

The cost of reclaiming all water to drinking standards makes water and sewer treatment unaffordable to a large segment of the population.

Objective:

Change way of thinking concerning treatment of water (both sewer and potable).

Suggested Approach:

Change level of treatment of majority of water in order to make it affordable. Thus, everyone could afford to share cost.

LIST OF WORKSHOP PARTICIPANTS

Mr. George Aguilar
Director
San Bernardino Valley MWD
1350 South "E" Street
San Bernardino, CA 92412
909/387-9214
909/875-8411 FAX

Mr. D. Burnell "Burnie" Cavender
Deputy Manager
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503
909/785-5411
909/352-3422 FAX

Mr. Neil M. Cline
General Manager
Santa Ana Watershed Project Authority
11615 Sterling Avenue
Riverside, CA 92503
909/785-5411
909/785-7076 FAX

Mr. Louis Fletcher
San Bernardino Valley MWD
P.O. Box 5906
San Bernardino, CA 92412
909/387-9200
909/387-9247 FAX

Mr. P. Joseph Grindstaff
General Manager
Monte Vista Water District
10575 Central Avenue
Montclair, CA 91763
909/624-0035
909/624-4725 FAX

Mr. Dick Hall
Eastern Municipal Water District
P.O. Box 8300
San Jacinto, CA 92581
909/925-7676
909/929-0257 FAX

Mr. Don Harriger
General Manager
Western Municipal Water District
450 Alessandro Blvd.
Riverside, CA 92517
909/780-4170
909/780-3837 FAX

Mr. Robert Hultquist
Senior Sanitary Engineer
California Dept. of Health Services
2151 Berkeley Way
Berkeley, CA 94704
510/540-2149
510/540-2181 FAX

Mr. Edwin D. James
General Manager
Jurupa Community Services District
8621 Jurupa Road
Riverside, CA 92509
909/685-7434
909/685-1153 FAX

Mr. Bernard C. Kersey
General Manager
San Bernardino Municipal Water Dept.
P.O. Box 710
San Bernardino, CA 92402
909/384-5091
909/384-5215 FAX

Mr. Jerry A. King
Board Member
Regional Water Quality Control Board
2010 Iowa Ave, Suite 100
Riverside, CA 92507
714/759-0669
714/759-0157 FAX

Mr. Mark Kinsey
Chino Basin Municipal Water District
P.O. Box 697
Rancho Cucamonga, CA 91729-0697
909/357-0241
909/357-3870 FAX

Mr. Ken Kules
Metropolitan Water District
P.O. Box 54153
Los Angeles, CA 90054
213/217-6792
213/217-6949 FAX

Mr. David D. Lopez
General Manager
Rubidoux Community Services District
3590 Rubidoux Blvd.
Rubidoux, CA 92509
909/684-7580
909/369-4061 FAX

Ms. Gail Briggs McPherson
City of Riverside
5950 Acorn Street
Riverside, CA 92504
909/351-6183
909/687-6978 FAX

Mr. William R. Mills, Jr.
General Manager
Orange County Water District
P.O. Box 8300
Fountain Valley, CA 92728-8300
714/378-3220
714/378-3371 FAX

Mr. Armando Muñiz
President - BOD
Rubidoux Community Services District
3590 Rubidoux Blvd.
Rubidoux, CA 92509
909/684-7580
909/369-4061 FAX

Mr. Jack Nelson
Yucaipa Valley Water District
P.O. Box 730
Yucaipa, CA 92399-0730
909/797-5119
909/797-6381 FAX

Mr. George Osborne
Orange County Water District
P.O. Box 8300
Fountain Valley, CA 92728-8300
714/378-3200
714/378-3373 FAX

Mr. Langdon W. Owen
Director
Orange County Water District
P.O. Box 8300
Fountain Valley, CA 92728-8300
714/752-9082
714/752-8286 FAX

Zahra Panahi, Ph.D.
Principal Water Engineer
City of Riverside - PUD
3900 Main Street
Riverside, CA 92522
909/782-5612
909/369-0548 FAX

Mr. P. Ravishanker
Eastern Municipal Water District
P.O. Box 8300
San Jacinto, CA 92581
909/925-7676
909/929-0257 FAX

Martin G. Rigby, Ph.D.
Associate General Manager
Orange County Water District
P.O. Box 8300
Fountain Valley, CA 92728-8300
714/378-3202
714/378-3373 FAX

Mr. Joseph Schenk
Director of Public Works
City of Norco
P.O. Box 428
Norco, CA 91760
(909) 270-5627
(909) 270-5622 FAX

Ms. Traci Stewart
Chief of Watermaster Services
Chino Basin Watermaster
9400 Cherry Avenue, Building A
Fontana, CA 92335
909/357-0241
909/357-3870 FAX

Mr. Orville E. Strickland
Director
San Geronimo Pass Water Agency
P.O. Box 520
Beaumont, CA 92223
909/845-2577
909/845-0281 FAX

Mr. Narayan Thadani
Director of Utilities
City of Corona
815 W. Sixth Street
Corona, CA 91720
909/279-3590
909/736-2496 FAX

Mr. Gerard J. Thibeault
Executive Director
CA Regional Water Quality Control Board
Santa Ana Region
2010 Iowa Avenue, Suite 100
Riverside, CA 92507
909/782-3284
909/686-8016 FAX

Ms. Cheryl Tubbs
San Bernardino Valley Water Conservation
District
P.O. Box 1839
Redlands, CA 92373-0581
909/793-2503
909/793-0188 FAX

Mr. William Vaughan
Councilman
City of Norco
P.O. Box 428
Norco, CA 91760
909/270-5623
909/270-5622 FAX

Mr. Harold W. Willis
President, Board of Water Commissioners
San Bernardino Municipal Water Dept.
P.O. Box 710
San Bernardino, CA 92402
909/384-5091
909/384-5215 FAX

Mr. Gary Yamamoto
South Coastal Section Chief
CA Dept of Health Services
Drinking Water Field - Op Branch
1449 W. Temple St., Room 202
Los Angeles, CA 91206
213/580-5748
213/580-5711 FAX

Mr. Joseph B. Zoba
General Manager
Yucaipa Valley Water District
P.O. Box 730
Yucaipa, CA 92399-0730
909/797-5119
909/797-6381 FAX

NWRI WORKSHOP STAFF

Ms. Lucy A. Bravo
Administrative Assistant
National Water Research Institute
P.O. Box 20865
Fountain Valley, CA 92728-0865
714/378-3278
714/378-3375 FAX

William S. Gaither, Ph.D.
Workshop Facilitator
Gaither & Associates
3601 Baring Street
Philadelphia, PA 19104
215/386-6800
215/386-3164 FAX

Mr. Gerald Harper
Word Processor
Apple One Employment Services
5237 Arrow Highway, Suite B
Montclair, CA 91763
909/625-7576
909/625-7389 FAX

Mrs. Patricia L. Linsky
Editor
467 Esther Street
Costa Mesa, CA 92627
714/650-3431
714/650-3681 FAX

Mr. Ronald B. Linsky
Executive Director
National Water Research Institute
P.O. Box 20865
Fountain Valley, CA 92728-0865
714/378-3278
714/378-3275 FAX

Mr. Mike Morrell
Graphics Assistant
3149 Skyview Ridge
Chino Hills, CA 91709

Ms. Victoria Morrell
Word Processor
Apple One Employment Services
5237 Arrow Highway, Suite B
Montclair, CA 91763
909/625-7576
909/625-7389 FAX

Mr. Joseph Pezely
Industrial Designer
Business Proposals/Corporate Graphics
728 Bent Lane
Newark, DE 19711
302/368-5931

Ms. Teresa Taylor
T. Taylor Photography
13772 Goldenwest, Suite 234
Westminster, CA 92683
714/898-9581
714/898-4912 FAX

REFERENCES

1. Delbecq, Andre L., A. H. Van deVen, and D. H. Gustafson, *Group Techniques for Program Planning - a guide to nominal group and delphi processes*, Green Briar Press, 6612 Green Briar Road, Middleton, Wisconsin 53562, 1975: 174p.
2. Cavender, Burnell D., *Water Resource Management: Is There a Need to Recycle Water?*, Background Paper Prepared for NGT Workshop, Kellogg West Conference Center, California Polytechnic University, Pomona, California, 23-25 August 1995: 6p.
3. Gaither, William S., *How Organizations and Individuals Can PLAN TOGETHER*, Gaither & Associates, 3601 Baring Street, Philadelphia, PA 19104-2332, 10 February 1995: 33 p.

APPENDICES

APPENDIX A

Glossary of Abbreviations and Acronyms

AWWARF	American Water Works Association Research Foundation
CBMWD	Chino Basin Municipal Water District
DHS	Department of Health Services
DNR	Department of Natural Resources
EMWD	Eastern Municipal Water District
GIS	Geographic Information Systems
IRP	Integrated Resources Plan
IWRP	Integrated Water Resources Plan
MET	Metropolitan Water District
MUN	Municipal Supply
MWD	Metropolitan Water District
MWDSC	Municipal Water District of Southern California
OCWD	Orange County Water District
RWQCB	Regional Water Quality Control Board
SAR	Santa Ana River
SAWPA	Santa Ana Watershed Project Authority
SBVMWD	San Bernardino Valley Municipal Water District
SWP	State Water Project
TDS	Total Dissolved Solids

APPENDIX B

Water Resources Management: Is There a Need to Recycle Water?

by

D. Burnell Cavender, AICP

Santa Ana Watershed Project Authority

While there is no doubt that the key ingredient to the future of Southern California is jobs, another element is often overlooked, an element that if not solved could displace jobs as the key to economic survival. Water. Although the 4 million people who live in Southern California usually think about survival in economic terms, water is an integral part of economic survival. 'Will there be enough water to provide services?' 'If there is no water, will I be able to keep my job?' 'Will there be a job to come back to tomorrow?'

The availability of water is what permitted Southern California to transform from a desert to an urban, industrial giant. Los Angeles began its quest for an external water source to support industrial expansion more than 80 years ago. San Diego's more recent growth was also made possible by imported water. The same is true for the Santa Ana River watershed, with the growing metropolitan areas in San Bernardino, Riverside, and Orange Counties. Historically, the water source for this area was the ground water associated with winter rain and snow melt from the San Gabriel, San Bernardino, and San Jacinto Mountains. But, the ground water levels were drastically reduced from heavy demands that exceeded natural replenishment. Further, some other groundwater basins were impaired from at least 100 years of increasing agricultural intensity making much of the water unusable for human consumption without expensive treatment to remove heavy concentrations of nitrates and salts to meet both environmental and health standards. As the demand for water continued to increase, significant dependency developed in the watershed for imported water from Northern California sources and Colorado River Water. Recently, however, environmental issues have made imported sources both more expensive and less reliable. The task now for water resource managers is to develop more reliable supplies while keeping the cost of water as low as possible by optimizing the use of all water resources. That effectively means reducing dependency on imported water and reclaiming, recycling, and reusing locally generated water resources.

Because recycling water seems to be an obvious answer, why have agencies developed such a reliance on imported water and not made more use of local resources? Although the excellent climate in Southern California is the most likely genesis for population and development increases, the availability of water quickly became the potentially restrictive element.

Beginning with significant land development that occurred in Orange County by the late 1920s, demands for water in Orange County had increased such that ground water basins were overdrafted to a level resulting in seawater intrusion. Actions were taken to off-set

the intrusion by diverting Santa Ana River water to ponds and percolating the water to replenish the groundwater basin. Capturing the River water for an additional use became one of the first examples of a major program to reclaim water. In the 1930s, devastating floods brought flood control structures that enabled Orange County to continue land development, which further mushroomed during and after World War II, and subsequently became the home to more than 2 million people. As this rapid growth occurred, the large demand for water was fulfilled initially from ground water sources, and then supplemented with imported Colorado River water purchased from the Metropolitan Water District of Southern California when the aqueduct was finished in the 1940's. However, the combined demands for development, agriculture and seawater intrusion exceeded available water supplies. As growth also expanded upstream, officials in Orange County believed that upstream agencies were diverting too much of the River water, thereby reducing the amount available to Orange County. As a result, in 1933, the Orange County Water District was organized to bring suit against nearly all the municipalities and water agencies upstream of the Prado Narrows, asserting that upstream agencies were using more than their fair share of the water. The suit was argued for 36 years. In 1969, the parties agreed to an adjudicated settlement of the water quantity in the River, with certain water quality requirements measured at Prado Dam. This stipulated judgment has been a major factor affecting water resource management for the past 26 years.

Although the judgment guaranteed a minimum flow of water through Prado Dam to Orange County, the actual amount of water reaching Orange County has consistently exceeded that minimum. The River flow at the time of the judgment was about 40,000 AF/yr; whereas, the flow today exceeds 120,000 AF/yr. The difference is from wastewater discharged to the River by upstream publicly owned treatment plants after water had been used to accommodate increased land development and population demands. Most of the water to support additional development in the upstream areas came from ground water in the cities of San Bernardino, Riverside, Hemet, and some of the upland areas in the Chino Basin. Additional demands were met from increased amounts of imported water. In Orange County, demands were served by capturing the additional River flow and supplementing with imported water for both replenishment and direct delivery. During those years, imported water was plentiful and the cost was low. Further, in many areas upstream of Prado Dam, imported water was preferred to local ground water because the quality of ground water in many basins had deteriorated from the build up of nitrates and salts after many years of citrus and other agriculture, including dairies and associated field crops. In many instances, imported water was cheaper to acquire than to pay the high energy and technological costs associated with pumping and treating ground water to remove the contaminants. Consequently, the only reclaiming of water was the capturing of River water in Orange County, some in the Bunker Hill Basin in San Bernardino County and some limited activity in the Chino area. Otherwise, there was no strong incentive to reclaim water for additional uses.

Concurrently, water resource planners were relying on the use of imported water for water supply and long term improvements to the quality of groundwater basins. The first Santa Ana River Water Quality Control Plan (Basin Plan) was developed in 1974 by the Santa Ana Watershed Planning Agency (now Santa Ana Watershed Project Authority/SAWPA) under contract to the State of California Water Quality Control Board, Santa Ana Region (Regional Board). This plan outlined water quality problems in the

watershed and suggested actions to resolve those issues. Some of the assumptions used in that first plan illustrate the reliance on imported water:

- Salinity control programs and projects on the Colorado River will commence by 1985;
- The State Water Project peripheral canal will be operating by 1985;
- Allocation of imported water among users in Southern California will result in delivery of the quantities as needed;
- State Water Project replenishment water for use in the Santa Ana Forebay may be delivered above Prado Dam, improving the quality of flow in the Santa Ana River.

The Basin Plan also identified management practices to reduce the contamination of ground water. However, the primary method was by desalting the brackish ground water and replenishing the groundwater basin with the desalted water or with good quality imported water. The high cost of treatment prevented much of this type of ground water improvement. Although the Basin Plan was revised in 1983, the reliance on imported water was still the centerpiece of water quality improvement planning.

Enter the age of increased environmental awareness. New rules and regulations to protect human health and the aquatic environment from inadequately treated wastewater discharges to surface waters were implemented. As a result, the cost of treating wastewater to be discharged to streams and rivers increased significantly. That new cost caused some agencies to consider other means of discharging wastewater. However, any other method of discharge could result in less River flow, which would also reduce the amount of water available for capture and percolation downstream. Further, concerns about the availability of water to support populations of threatened or endangered species in Northern California and intense competition for Colorado River supply have reduced the amount of water available for export to Southern California. Consequently, political, health and environmental issues have the potential to drastically affect the cost and availability of water, particularly the areas that rely heavily on imported water. In those areas where wastewater is already being reclaimed as a supplemental water supply, the effect could be doubled. Such impacts would be especially significant in the Santa Ana River watershed because the economy is already depressed and is among the nation's regions with the highest unemployment rate. It is, therefore, essential to keep the cost of water as low as possible and optimize the use of all water resources.

Why has there not been more emphasis on reclaiming, recycling, and reuse of water? Because imported water was both cheaper and available to meet demands. Additionally, however, the cost to treat wastewater to meet increasingly more restrictive health and environmental rules was another deterrent to making more use of locally generated water resources. Now, however, the reliability of imported water is uncertain and the cost to obtain that uncertain supply is increasing. Further, that increasing cost is making the cost to pump and treat brackish ground water or reclaim wastewater much more competitive. Some have predicted that the cost curves will cross by year 2000 and recommend water resource managers begin planning now to make more use of local resources. Although there is general agreement that the water supply focus needs to shift from imported to local sources, there is not agreement on how to implement an effective program to reclaim water for additional beneficial uses.

One of the earliest recognitions of the need to change focus began in 1988, when many water resource agencies joined together to study the extent of contamination from nitrates and salts, or total inorganic nitrogen (TIN) and total dissolved solids (TDS), in both the groundwater basins and surface water discharges in the Santa Ana River watershed. This 3-year study, managed by SAWPA, revealed that there was not enough imported water available to clean up the ground water. Further, the study determined there was no fiscally feasible way to clean up the ground water. Instead, the study recommended constructing facilities to only halt the deterioration of water quality with actual clean up to be included in projects designed for using the water. Replenishment water for the groundwater basins would have to meet the basin water quality objectives from some source, probably desalted water if imported water was not available. Following the study, the Regional Board staff proposed maximum TIN and TDS loadings for discharging agencies as a mechanism to halt the deterioration. Although the dischargers objected, stating that non-point sources, and sometimes source water, were equally at fault for causing the higher levels of nitrates and salts, the limits for TIN were implemented in 1991 by a Basin Plan Amendment. Limits for TDS, however, were deferred until a study was completed on attainment of beneficial uses (Use Attainability Analysis/UAA) in the Santa Ana River.

The UAA was initiated because the U.S. Environmental Protection Agency concluded in 1990 that the Santa Ana River was contaminated from metals being discharged into the River by several publicly owned treatment plants. The UAA study team included many of the same members of the 1988 TIN and TDS study. This study, also managed by SAWPA, revealed conclusively there was no contamination from metals, and new water quality objectives were warranted for cadmium, copper, lead, and un-ionized ammonia. The results of the UAA were then incorporated into the 1995 Basin Plan Revision, which included a TDS discharge allocation for each discharging agency.

During review of the proposed 1995 Basin Plan Revision, discharging agencies again objected to the previous language related to TIN and the new language on TDS limits, particularly to the language that seemed to restrict the ability to use more reclaimed water, arguing that the 1995 Basin Plan Revision still relies on imported water to solve watershed water quality issues. The Regional Board staff and study team reached a compromise: allow the 1995 Basin Plan Revision to be implemented without formal objection, and a follow-on study would re-evaluate the discharge load allocations for TIN and TDS and specifically review the issues related to the use of reclaimed water for additional beneficial uses. Further, the Regional Board staff agreed to be full participants in a committee to develop the study scope for the re-evaluation.

The committee met several times during the past year to identify concerns, discuss problems with the TIN and TDS projections and allocations from the 1988 study, and convert the concerns to study tasks. The committee developed a study objective, "Determine whether the regulatory limitations for TIN and TDS are reasonably protecting (neither over or under protective) water quality and the beneficial uses of the Santa Ana River watershed, and if not, to develop and submit appropriate recommendations to the Regional Water Quality Control Board for implementation." A list of consultants was reviewed and a team selected to prepare the actual study methodology and cost estimate. The study methodology was generally accepted but the cost needed more scrutiny. As a result, a sub-

committee was formed to review the relationship of cost to task. The sub-committee determined the study lacked an overall goal; for example, what issue would be resolved by conducting the study? The sub-committee concluded that the objective and the technical elements identified to be studied were directly related to an inability to reclaim water for subsequent beneficial uses. The sub-committee further determined the technical issues associated with reclaiming water, particularly regarding TIN and TDS, had been adequately outlined by the scoping committee. However, the legal and institutional barriers to implementing a cost-effective program had not been identified. The sub-committee recognized that decisionmakers were needed to help identify these significant barriers and that doing so needed to be expedited in a consensus building workshop. The Nominal Group Technique was selected and the issue to be resolved was defined as: "Identify the most significant barriers to implementing a cost-effective water reclamation program for the Santa Ana River watershed." Armed with the knowledge of what the barriers are, the sub-committee will direct the study methodology and cost be revised to ensure the significant barriers to reclaiming water for additional beneficial uses are addressed.

Is there a need to reclaim, recycle, and reuse water? Will imported water provide the reliability desired at an affordable cost to sustain economic development in the watershed? If the answer to the second question is "no," the answer to the first question must be "yes." To implement a cost-effective program to reclaim, recycle, and reuse water will require a watershed-wide effort. It must start with a cooperative approach to identify and prioritize the barriers that need to be overcome. Then, there must be sufficient resolve to put ideas into action.

APPENDIX C

Explanation of Priority Ranking System and Data Analysis

Appendices D, E, F, G, and H present detailed analyses of priority ranking data derived from the ranking sheets (Appendix O) that were completed by each participant as the final phase of the workshop. These appendices contain three types of information, in addition to the title of the problem.

First, the numerator of the fraction in the first column (i.e., Times Picked/Pts.) is the number of times which that problem was selected by the participants from the group, or subgroup, identified at the top of the page.

The second piece of information, the denominator of the fraction, is the total number of points the issue received based on a number one (highest) rank being given ten points, a number two rank nine points, and so on down to the tenth ranked issue being given one point. All other issues not selected received zero points.

The third item of information in the three following appendices is given in the column titled Strength of Feeling. This is simply the percentage obtained by dividing the total number of points received by the total number of points which the issue could have been given if everyone had selected that issue as their first priority.

Since there were 28 participants, the denominator in Appendices D, E, F, G, and H (All Participants) is 280. If every participant awarded a particular issue their highest rank, (i.e., a one), then the Strength of Feeling would be 100 % (i.e., $28 \times 10 = 280$, then $280/280 \times 100 = 100\%$). If all rankers selected another issue as their second highest priority, its Strength of Feeling would be 90 %. If no one selected a particular issue, its Strength of Feeling would be 0 %.

As an example, the highest ranking issue selected by all participants (shown in Appendix D) received 141 points. Thus, the Strength of Feeling is computed as $141/280 \times 100 = 50.4\%$.

APPENDIX D

All Issues (27) Ranked by All Participants (28)

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
1.	Need for Comprehensive Integrated Water Resources Plan	22/141	50.4 %
2.	Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers	21/136	48.6 %
3.	Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water	17/121	43.2 %
4.	Policy Makers and elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs	17/118	42.1 %
5.	Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries	18/117	41.8 %
6.	Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality	18/95	33.9 %
7.	Rights and Obligations Under the 1969 Judgement	13/84	30.0 %
8.	Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities	14/83	29.6 %
9.	Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits	14/76	27.1 %
10.	Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed	13/69	24.6 %
11.	Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source	11/68	24.3 %
12.	Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies	13/66	23.6 %
13.	Beneficial Uses of Water Supply and Cost-Sharing of Reclamation Throughout Region Lacks Equity	11/56	20.0 %
14.	Possible Restructure of SAWPA	11/53	18.9 %
15.	Unwillingness to Tackle Issue of Equity without First Solving Technical Issues Once and for All	7/39	13.9 %
16.	Existing Water Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surfacewater and Groundwater	10/36	12.9 %
17.	Promote Legislation and Programs to Ensure Low-Cost Financing and Subsidies Needed for Reclamation	8/31	11.1 %

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
18.	Long-Range, Land-Use Planning Has Yet to Recognize the Need for Development of Local Water Resources	9/30	10.7 %
19.	Current MET Subsidy for Reclaimed Water Is of Questionable Long-Term Reliability: Needs Revision to Accommodate New MET Pricing Policy	9/29	10.4 %
20.	Some Waste Discharge Standards Are Not Restrictive Enough — Higher Discharge Standards Facilitate Coswte-Effective Reclamation	4/17	6.1 %
21.	Lack of Interconnection System for Water Conveyance to Areas of Need	5/14	5.0 %
22.	Additional New Regulatory Constraints Will Act as a Catalyst for Cooperation to Solve Common Problems and Avoid Costs in the Future	3/13	4.6 %
23.	Separation of Waste Discharge Treatment from Those Already Responsible for Water Supply Is an Impediment	5/12	4.3 %
24.	Technology Will Solve the Cost Impediments	3/10	3.6 %
25.	The Existing Cost-Effective Reclamation of all Discharge Above Prado Is Being Threatened by Upstream Perception of Equity	1/9	3.2 %
26.	Stop the Use of Greedy Water Professionals	2/9	3.2 %
27.	It Is No Longer Economically Feasible to Treat All Water to a Level of Human Consumption	1/8	2.9 %

APPENDIX E

All Issues (27) Ranked by Elected Official Participants (9)

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
1.	Policy Makers and elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs	6/42	44.7 %
2.	Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers	5/36	40.0 %
3.	Need for Comprehensive Integrated Water Resources Plan	7/35	38.9 %
4.	Possible Restructure of SAWPA	4/35	38.9 %
5.	Beneficial Uses of Water Supply and Cost-Sharing of Reclamation Throughout Region Lacks Equity	6/35	38.9 %
6.	Rights and Obligations Under the 1969 Judgement	5/36	38.9 %
7.	Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed	5/34	37.8 %
8.	Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality	6/30	33.3 %
9.	Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water	3/25	27.8 %
10.	Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies	5/24	26.7 %
11.	Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source	4/22	24.4 %
12.	Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits	2/14	15.6 %
13.	Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed	3/13	14.4 %
14.	Current MET Subsidy for Reclaimed Water Is of Questionable Long-Term Reliability: Needs Revision to Accommodate New MET Pricing Policy	4/13	14.4 %
15.	Existing Water-Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surface and Groundwater	3/13	14.4 %
16.	Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities	3/12	13.3 %
17.	Unwillingness to Tackle Issue of Equity without First Solving Technical Issues Once and for All	3/11	12.2 %

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
18.	Additional New Regulatory Constraints Will Act as a Catalyst for Cooperation to Solve Common Problems and Avoid Costs in the Future	2/11	12.2 %
19.	Some Waste Discharge Standards Are Not Restrictive Enough — Higher Discharge Standards Facilitate Cost-Effective Reclamation	2/10	11.1 %
20.	The Existing Cost-Effective Reclamation of all Discharge Above Prado is Being Threatened by Upstream Perception of Equity	1/9	10.0 %
21.	Stop the Use of Greedy Water Professionals	2/9	10.0 %
22.	It Is No Longer Exonomically Feasible to Treat All Water to a Level of Human Consumption	1/8	8.9 %
23.	Promote Legislation and Programs to Ensure Low-Cost Financing and Subsidies Needed for Reclamation	2/7	7.8 %
24.	Long-Range Land-Use Planning Has Yet to Recognize the Need for Development of Local Water Resources	2/5	5.6 %
25.	Technology Will Solve the Cost Impediments	1/3	3.3 %
26.	Separation of Waste Discharge Treatment from Those Already Responsible for Water Supply Is an Impediment	2/3	3.3 %
27.	Lack of Interconnecting System for Water Conveyance to Areas of Need	1/1	1.1 %

APPENDIX F

All Issues (27) Ranked by General Manager Participants (7)

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
1.	Need for Comprehensive Integrated Water Resources Plan	7/38	54.3 %
2.	Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers	6/33	47.1 %
3.	Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries	4/32	45.7 %
4.	Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water	5/31	44.3 %
5.	Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities	4/27	38.6 %
6.	Rights and Obligations Under the 1969 Judgement	4/27	38.6 %
7.	Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed	4/26	37.1 %
8.	Policy Makers and elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs	3/24	34.3 %
9.	Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits	6/23	32.9 %
10.	Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source	3/22	31.4 %
11.	Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality	4/19	27.1 %
12.	Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies	3/19	27.1 %
13.	Beneficial Uses of Water Supply and Cost-Sharing of Reclamation Throughout Region Lacks Equity	4/19	27.1 %
14.	Existing Water-Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surface and Groundwater	3/10	14.3 %
15.	Current MET Subsidy for Reclaimed Water Is of Questionable Long-Term Reliability: Needs Revision to Accommodate New MET Pricing Policy	1/9	12.9 %
16.	Promote Legislation and Programs to Ensure Low-Cost Financing and Subsidies Needed for Reclamation	2/7	10.0 %

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
17.	Unwillingness to Tackle Issue of Equity without First Solving Technical Issues Once and for All	1/6	8.6 %
18.	Lack of Interconnection System for Water Conveyance to Areas of Need	1/6	8.6 %
19.	Possible Restructure of SAWPA	3/3	4.3 %
20.	Separation of Waste Discharge Treatment from Those Already Responsible for Water Supply Is an Impediment	1/3	4.3 %
21.	Technology Will Solve the Cost Impediments	1/1	1.4 %

APPENDIX G

All Issues (27) Ranked by Technical Manager Participants (9)

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
1.	Need for Comprehensive Integrated Water Resources Plan	6/53	58.9 %
2.	Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water	7/52	57.8 %
3.	Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers	7/48	53.3 %
4.	Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries	7/37	41.1 %
5.	Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality	6/37	41.1 %
6.	Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits	5/31	34.4 %
7.	Policy Makers and elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs	5/30	33.3 %
8.	Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities	5/29	32.2 %
9.	Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed	5/25	27.8 %
10.	Unwillingness to Tackle Issue of Equity without First Solving Technical Issues Once and for All	3/22	24.4 %
11.	Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source	3/20	22.2 %
12.	Long-Range Land-Use Planning Has Yet to Recognize the Need for Development of Local Water Resources	6/18	20.0 %
13.	Promote Legislation and Programs to Ensure Low-Cost Financing and Subsidies Needed for Reclamation	4/17	18.9 %
14.	Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies	3/16	17.8 %
15.	Rights and Obligations Under the 1969 Judgement	3/12	13.3 %
16.	Existing Water-Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surface and Groundwater	2/10	11.1 %
17.	Possible Restructure of SAWPA	2/7	7.8 %

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
18.	Lack of Interconnection System for Water Conveyance to Areas of Need	3/7	7.8 %
19.	Current MET Subsidy for Reclaimed Water Is of Questionable Long-Term Reliability: Needs Revision to Accommodate New MET Pricing Policy	3/6	6.7 %
20.	Technology Will Solve the Cost Impediments	1/6	6.7 %
21.	Separation of Waste Discharge Treatment from Those Already Responsible for Water Supply Is an Impediment	2/6	6.7 %
22.	Some Waste Discharge Standards Are Not Restrictive Enough — Higher Discharge Standards Facilitate Cost-Effective Reclamation	1/4	4.4 %
23.	Additional New Regulatory Constraints Will Act as a Catalyst for Cooperation to Solve Common Problems and Avoid Costs in the Future	1/2	2.2 %

APPENDIX H

All Issues (27) Ranked by All Regulator Participants (3)

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
1.	Policy Makers and elected Officials Must Be Committed to a Goal of Implementing Water Reclamation Programs	3/22	73.3 %
2.	Need to Abandon Traditional Institutional Views and Consensus-Build Among Policy Makers	3/19	63.3 %
3.	Need for Comprehensive Integrated Water Resources Plan	2/15	50.0 %
4.	Need to Evaluate the Validity of Basin Plan Water Quality Objectives, Assimilative Capacity, Sub-Basin Boundaries and Resultant Regulatory Activities	2/15	50.0 %
5.	Upstream Treatment Costs Allocated with Reclamation Programs within the Santa Ana Rivershed Must Be Fairly and Equitably Distributed Among All Program Beneficiaries	2/14	46.7 %
6.	Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water	2/13	43.3 %
7.	Rights and Obligations Under the 1969 Judgement	1/10	33.3 %
8.	Failure to Recognize the Need for Long-Term Planning and Implementation of Programs to Protect Water Quality	2/9	30.0 %
9.	Develop Local Cost-Effective Reclamation Programs Considering Local Water Production and Rate-Payer Costs, subsidies and Grants, Privatization, Supportive Land-Use Planning, and Assured Supply Benefits	1/8	26.7 %
10.	Possible Restructure of SAWPA	2/8	26.7 %
11.	Long-Range Land-Use Planning Has Yet to Recognize the Need for Development of Local Water Resources	1/7	23.3 %
12.	Current Water-Supply Picture Limits Incentives to Act Now on Programs that Provide Future Cost-Effective Supplies	2/7	23.3 %
13.	Lack of Standards, Inconsistent Application of Regulations, and No Clear Definition of Regulatory Terms for Anti-Degradation Are Barriers to Reclamation. Clear Guidance Is Needed	1/5	16.7 %
14.	Lack of Comprehensive Water-Quality Standards to Define Potable Water, Regardless of Source	1/4	13.3 %
15.	Some Waste Discharge Standards Are Not Restrictive Enough — Higher Discharge Standards Facilitate Cost-Effective Reclamation	1/3	10.0 %
16.	Existing Water-Rights Agreements Did Not Foresee the Value of Reclamation in Conjunction with Surface and Groundwater	2/3	10.0 %

RANK	TITLE	TIMES PICKED/PTS.	STRENGTH OF FEELING
17.	Beneficial Uses of Water Supply and Cost-Sharing of Reclamation Throughout Region Lacks Equity	1/2	6.7 %
18.	Current MET Subsidy for Reclaimed Water Is of Questionable Long-Term Reliability: Needs Revision to Accommodate New MET Pricing Policy	1/1	3.3 %

APPENDIX I

NWRI

National Water Research Institute

10500 Ellis Avenue, P.O. Box 20865, Fountain Valley, CA 92728-0865

(714) 378-3278 Fax (714) 378-3375

Ronald B. Linsky
Executive Director

June 30, 1995

Board of Directors
Orange County Water District
Langdon W. Owen

Irvine Ranch Water District
Peer A. Swan

County Sanitation Districts
of Orange County
Victor Leipzig

Municipal Water District
of Orange County
William F. Davenport

San Juan Basin Authority
John V. Foley

Dear Participant:

It is my pleasure to invite you to participate in a Nominal Group Technique (NGT) workshop co-sponsored by the Santa Ana Watershed Project Authority (SAWPA) and the National Water Research Institute (NWRI) to be held on August 23-25, 1995.

The purpose of this workshop will be to address the question, "What are the most significant impediments to implementing a cost-effective water reclamation program for the Santa Ana River Watershed?" In search of answers to this question, we are inviting a small representative group of stakeholders from the watershed to attend the day and a half workshop. A preliminary list of invitees is enclosed.

All participants will convene for a reception and dinner at 6:00 P.M. on August 23rd at the Kellogg West Conference Center located on the campus of California State Polytechnic University, Pomona, California (see map enclosed). The Thursday session will begin at 8:00 A.M. and run until 5:00 P.M. The Friday session will again commence at 8:00 A.M. and will adjourn at noon.

The workshop will be underwritten by the sponsors. Hotel accommodations and all meals will be provided by the Kellogg West Conference Center.

Would you please complete the enclosed *Invitation to Participate* form and mail or FAX it upon receipt of this letter, but no later than August 1, 1995. Also, please return a one-page summary of your interest in and experience with the Santa Ana River Watershed. We plan to distribute these summaries to participants, along with other materials, prior to your arrival at the workshop. The results of the NGT workshop will be published as a report within 72 hours following the close of the workshop and will be mailed to each participant.

Looking forward to your participation.

Sincerely,

NATIONAL WATER RESEARCH INSTITUTE

Ronald B. Linsky
Executive Director

Enclosures

APPENDIX J

NWRI

National Water Research Institute

10500 Ellis Avenue, P.O. Box 20865, Fountain Valley, CA 92728-0865

(714) 378-3278 Fax (714) 378-3375

Ronald B. Linsky
Executive Director

August 3, 1995

Board of Directors
Orange County Water District
Langdon W. Owen

Irvine Ranch Water District
Peer A. Swan

County Sanitation Districts
of Orange County
Victor Leipzig

Municipal Water District
of Orange County
William F. Davenport

San Juan Basin Authority
John V. Foley

Dear Participant:

Thank you for accepting our invitation to participate in the Nominal Group Technique (NGT) workshop co-sponsored by the Santa Ana Watershed Project Authority (SAWPA) and the National Water Research Institute (NWRI) on *"What are the most significant impediments to implementing a cost-effective water reclamation program for the Santa Ana River Watershed?"*

The participants will convene on Wednesday, August 23, 1995, at the Kellogg Center at the California State Polytechnic University, 3801 West Temple Avenue, Pomona, California. The evenings agenda includes registration, reception, dinner and workshop orientation. The intensive session of the workshop will begin at 8:00 a.m. on Thursday, August 24, 1995 and be completed by 5:00 p.m. On Friday, August 25, from 8:00 a.m. until noon the workshop will be devoted to developing an Action Plan.

Costs associated with your attendance will be underwritten by the sponsoring agencies and include hotel, meals and reimbursable mileage. Travel reimbursement forms will be provided upon your arrival. Please submit your Hotel Arrangement Form no later than August 14, 1995.

Enclosed is information which will help you to be a more effective workshop participant. Please allow yourself at least two hours to review this material and to prepare for the workshop before arriving. The background paper may be especially interesting. It is imperative you attend the entire workshop (Wednesday night, Thursday and Friday) and do not depart before it is finished.

Please read the workshop Guidelines and Procedures we plan to follow during the workshop. We need to adhere to these so that we can complete our work before adjournment time. Of particular importance is the Issue Identification Form. Please prepare a full write-up on each topic which you plan to propose. You may propose as many topics as you wish.

If you have not forwarded your resume or personal experience summary, please do so as soon as possible.

Also enclosed is a parking permit which needs to be displayed from the rear view mirror of all cars using the Kellogg West parking lot during daytime hours.

We are looking forward to your participation at the workshop and to producing a useful report on the results of your efforts. Thank you again for accepting the invitation to participate in this workshop.

Should you have any questions prior to the workshop, please do not hesitate to contact me at (714) 378-3278.

Sincerely,

NATIONAL WATER RESEARCH INSTITUTE

Ronald B. Linsky
Executive Director

RBL:lb

Enclosures

SANTA ANA RIVER WATERSHED WORKSHOP ---

GUIDELINES AND PROCEDURES

The workshop will be conducted employing the Nominal Group Technique to ensure that; (1) each participant's time and talents are used effectively, and (2) a useful report will result. Please observe the following guidelines:

- ◆ The workshop will begin at 6:00 p.m. on Wednesday, August 23rd at the Kellogg Center and will conclude at 1:00 p.m. on August 25, 1995.
- ◆ If you cannot stay for the entire workshop, please do not attend.
- ◆ Come prepared with each of your proposals written up on an **Issue Identification Form**. You will be free to modify, improve or add to your write-ups as the workshop progresses.
- ◆ The workshop will consist of four distinct parts:
 1. **Issue Identification.** Each individual will be asked in turn to identify for the group his/her highest priority issues. Three to five minutes of uninterrupted time will be allotted to describe its importance, the objective of the research or development project, and the hypothesis or suggested approach. Discussion will be limited to questions of clarification. The title will be written in large letters on paper, numbered, originator noted, and posted on the wall. This process will continue until all topics are identified.
 2. **Consolidation.** All proposed issues will be reviewed. When agreed upon by consensus, those with similar themes will be consolidated. An ad hoc working group will be formed to generate a substitute statement which incorporates the concepts embodied in those being subsumed.
 3. **Priority Ranking.** Each individual will be asked to rank in priority order his or her top 10 issues. Each ranking sheet must be signed.
 4. **Text Approval.** As the last step in the workshop, each participant will be asked to proofread and approve his or her final text. The workshop results will be published and distributed to the participants shortly after the close of the workshop.

APPENDIX L

NATIONAL WATER RESEARCH INSTITUTE

The Santa Ana River Watershed NGT Workshop

August 23-25, 1995

Kellogg West Center, California State Polytechnic University
Pomona, California

FINAL AGENDA

WEDNESDAY, AUGUST 23, 1995

5:00	P.M.	Registration	Foyer
5:30	P.M.	Reception	Dining Room
6:00	P.M.	Dinner	
7:30	P.M.	Workshop Orientation	Valley Vista Room
9:00	P.M.	Individual Preparation	

THURSDAY, AUGUST 24, 1995

6:30	A.M.	Breakfast	Dining Room
7:30	A.M.	Issue Identification	Valley Vista Room
12:30	P.M.	Group Picture/Lunch	Dining Room
1:15	P.M.	Consolidation	Valley Vista Room
5:30	P.M.	Priority Ranking	
6:00	P.M.	Reception	Dining Room
6:30	P.M.	Dinner	
7:30	P.M.	Working Groups Action Planning	Valley Vista Room

FRIDAY, AUGUST 25, 1995

7:00	A.M.	Breakfast	Dining Room
8:00	A.M.	Working Groups Action Planning (con't)	Valley Vista/Dining Rm
9:00	A.M.	Working Group Report Presentations (10 to 6)	Valley Vista Room
10:15	A.M.	Break	
10:30	A.M.	Working Group Report Presentations (5 to 1)	
12:00	P.M.	Luncheon & Adjournment	Dining Room

APPENDIX M

SANTA ANA RIVER WATERSHED WORKSHOP _____

ISSUE IDENTIFICATION FORM

Name: _____

Workshop question: *"What are the most significant impediments to implementing a cost effective water reclamation program for the Santa Ana River Watershed?"*

Limit to space provided below and to a three-minute presentation at the workshop.

Issue Title: (20 words maximum)

Importance: (What is your rationale? Why is solving this issue important?)

Objective: (Define clearly so that a useful result can be obtained)

Suggested Approach: (How would you attack this issue?)

APPENDIX N

SANTA ANA RIVER WATERSHED WORKSHOP _____

CONSOLIDATION WORKSHEET

Your Issue # _____

Other Issues which could be consolidated with this one:

Originator _____

Originator _____

APPENDIX O

SANTA ANA RIVER WATERSHED WORKSHOP _____

ISSUE RANKING SHEET

(1 = Highest to 10 = Lowest)

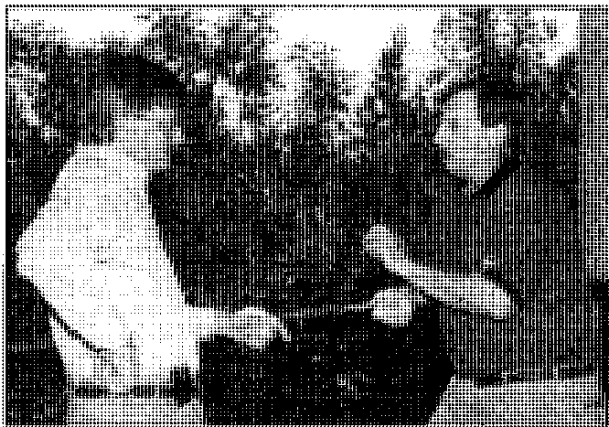
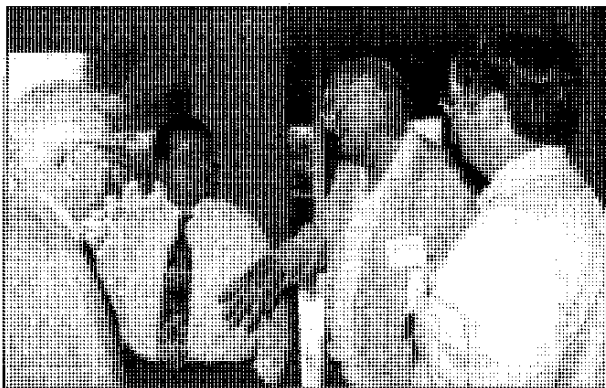
<u>Your Issue Rank</u>	<u>Issue Number</u>
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____
7	_____
8	_____
9	_____
10	_____

Name (Please Print): _____

Signature: _____

PART 2

Action Planning



ACTION PLANNING

Goal of Action Planning

The NGT workshop participants identified and aggregated issues into major categories. Each issue generated was typically part of a larger issue or concept. This is born out by the fact that 20 of the 27 issues which remained after the consolidation step subsumed two or more issues. The greatest number of issues subsumed under a single issue was nine and the average was nearly four.

The action planning phase began immediately following Part 1 of the workshop to capture the participants' ideas, and products of their discussions that had just taken place. Stated differently, the action planning step was designed to "jell" the participants' thinking and to elicit additional thoughts from all participants after "sleeping on it."

The action planning process produced useful results that are presented in this section. Each of the top ten priority issues was addressed by a small Working Group comprising two to four individuals who contributed issues. The following sections, augmented by appendices, describe the process.

Appointment of Working Group

Immediately after completion of the priority rankings, the workshop secretary and chair compiled and analyzed the results. This process involved entering into a computer program the ranking data by each of the 28 participants who were classified into four subgroups described in Part 1 of this report.

Working Groups were formed for each of the top ten priority issues. Working Group membership comprised individuals who had proposed one of the issues subsumed under that priority issue. Once a participant was assigned to the highest priority Working Group to which he or she contributed, they were not assigned to a lower priority issue Working Group. This meant that several of the lower priority issue Working Groups comprised participants who had not contributed to that particular issue. In the following Working Group reports, the names of the Working Group members are listed.

Working Group Deliberations

As soon as workshop participants convened in the workroom after dinner on the second day, the top ten priority issue titles were posted on the wall with the names of Working Group members listed below each. Bill Gaither, the workshop chair, then reviewed the Working Group Action Plan Guidelines that are shown in Appendix P following this part of the report. A chair was designated for each Working Group.

Working Groups were assigned meeting spaces and asked to convene immediately. While most Working Groups met for at least one hour before retiring, some discussed their issue and planned their presentation for several hours. Working Groups were also given format guidelines for the scope and length of their written reports. These guidelines are shown in Appendix Q. Immediately following breakfast on the third day, Working Groups reconvened and continued their discussions and preparations.

Agenda

The agenda followed for Part 2 of this workshop began after dinner on the second day of the workshop and concluded at noon on the third day.

Thursday, August 24, 1995

- 7:45 P.M. – 9:00 P.M. Participants convene and Working Groups deliberate
- 9:00 P.M. Adjourn for the day

Friday, August 25, 1995

- 7:00 A.M. – 8:00 A.M. Breakfast
- 8:00 A.M. – 9:00 A.M. Working Groups deliberations and preparations
- 9:00 P.M. – 10:15 A.M. Priority Issues 10 through 6 presented and discussed
- 10:15 A.M. – 10:45 A.M. Break
- 10:45 A.M. – 12:00 P.M. Priority Issues 5 through 1 presented and discussed
- 12:00 P.M. Lunch and Adjourn

Working Group Presentations and Discussions

At 9:00 a.m. on the third day, Working Group presentations began with Priority 10. Each group was allowed five minutes for their presentation followed by ten minutes for discussion. Five presentations were completed before a break, concluding with Priority Issue 6. After the break Priority 5 was presented, concluding with Priority 1 before adjournment at noon.

During the ten-minute discussion period that followed each presentation, participants were encouraged to make recommendations that would enhance the Working Group report. Participants were provided Working Group Presentation Comment Forms shown in Appendix R. Each written comment submitted is reproduced after each Working Group Report.

The Next Step

The NGT Workshop with issue identification and prioritization elements, as well as the action planning component, has laid the groundwork for the further development of water reclamation as a significant part of an Integrated Water Resources Plan (IWRP) for the Santa Ana Watershed.

The recommended next step is for the organizing committee of stakeholders to determine which of the priority issues identified at the Workshop need to be developed in

greater detail to guide the further development of the IWRP. Indeed, the information contained in this report may prompt further consideration of the issues into fewer than ten, or for that matter, more than ten.

After the critical issues have been selected, Task Groups should be formed comprising eight to ten individuals. It is important to the success of the Task Groups that they be legitimate in the eyes of all potential critics. Appointment to a Task Group must be an official action by an organization or regional authority within the watershed because the work of each will require support from many of these same organizations.

The Task Groups will require several weeks to meet as needed to prepare individual reports on their assigned issue. These reports should be brief and focused, but should contain greater detail than the Working Group reports contain. The most important aspect of Task Group reports that distinguishes them from the Working Group reports given in this document concerns estimates of resources necessary to resolve the issues. Guidelines for Task Groups are given in Appendix S.

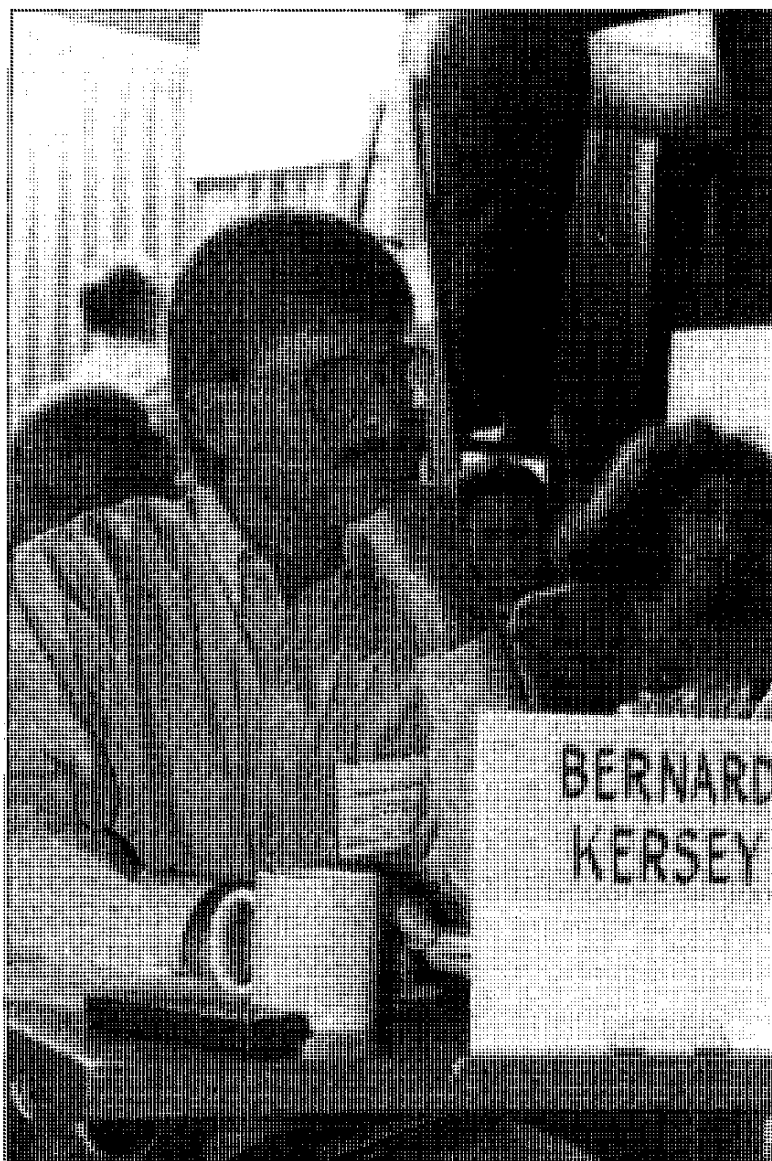
The presentation of Task Group reports at a major regional Issues Conference will provide a forum to involve many interested groups who could not attend or participate earlier. It will also provide an excellent opportunity to involve the media. This one-day conference should be able to accommodate as large an audience as can be attracted.

For a complete discussion of the process that will lead from this report to the strategic and operational plan envisioned as the IWRP, please refer to the booklet cited as Reference 3. Phases 2 and 3 outlined in that booklet describe the actions required. Copies can be obtained from the NWRI office.

WORKING GROUP REPORTS ON THE TEN HIGHEST PRIORITY OF ISSUES

Notes:

1. The following ten reports were prepared by ten separate Working Groups. Membership of each Working Group is given at the beginning of each report.
2. Signed recommendations for the enhancement of each report are presented after those reports that elicited written comments. Two reports did not elicit any recommendations for enhancement.



Need for a Comprehensive Integrated Water Resources Plan for the Entire Santa Ana Watershed

WORKING GROUP MEMBERS:

Grindstaff, Ravishanker, and Nelson (for Zoba)

Importance:

The majority of the current water demand is being met by local resources. To ensure continued availability, these resources must be protected from any further degradation or depletion.

Water demand will continue to increase, and the reliability of the imported water is uncertain. In order to meet these rising demands, plans have to be developed to maximize the use of all available waters.

A thorough understanding of the geographical distribution of demands and supplies will help in the selection of appropriate cost-effective programs from a regional perspective. This will help allocate these resources equitably for the benefit of the water users in the watershed.

The plan will provide a vehicle for the policy makers to address the financial political and regulatory implications related to the various levels of reliability of water supply and quality.

The plan will help identify and resolve inter-agency conflicts in the watershed.

Suggest an Approach to the Resolution of the Issue:

- Identify SAWPA as the lead agency to develop a comprehensive Integrated Water Resources Plan (IWRP) for the Santa Ana Watershed.
- Provide the financial resources needed to develop and continue to maintain the plan from “all” the stakeholders in the watershed
- Form an “IWRP Work Group” and invite all stakeholders to participate.
- All stakeholders should actively participate in the formation of the work group, development of the plan, setting target dates, and promoting the plan in their respective agencies.
- The plan should include institutional, financial and implementation elements.

- Implement plan.

Recommended Task Group Membership:

- All SAWPA member agencies.
- All large wastewater agencies, not represented in SAWPA.
- RWQCB.

Comments:

“Task force work group should include major water supply agencies who retail water to customers.” — Bernard Kersey

View Graphs Used In Working Group Presentation

Need for a comprehensive integrated water resources plan for the entire Santa Ana Watershed

Importance

1. Protect resource
2. Maximize use of water
3. Select cost-effective programs
4. Vehicle for policy makers
5. Helps resolve conflicts

Approach

1. Identify SAWPA as lead agency
2. Financing
3. Work group formation
4. Set schedule
5. Develop institution, financial, implementation element
6. Implement

Task Group Members

1. SAWPA agencies
2. Major wastewater agencies
3. RWQCB



Set Aside Traditional Institutional Views and Develop New Pro-active, Consensus-building Attitudes Among Area Agencies, Managers, and Policy Makers

WORKING GROUP MEMBERS:

Hall, Lopez, and Thadani

Importance:

- Water reclamation programs will only be achieved with participation and cooperation of contributing agencies to the Santa Ana River Watershed.
- Need to determine the financial and operational responsibilities for the regional reclamation systems.
- Economy-of-scale and cost-effectiveness can be achieved by greater participation.
- Create an understanding of other points-of-view; create an aura of sensitivity and empathy; build trust.
- Encourage cooperation between neighboring agencies.
- Have common collective objectives and goals that all players agree on (consensus building).
- Take advantage of establishing a single economic unit for this program.
- Fighting and working at cross-purposes do not solve problems.
- Overcome the upstream versus downstream attitudes.
- Become part of a comprehensive water management plan for the whole Santa Ana River region.

Suggest an Approach to the Resolution of the Issue:

- Form an executive task force composed of agencies contributing to the flow including all sub-agencies, such as cities, water and wastewater providers. Break into sub-groups which are not based on geographic locations in the region.
- Have a neutral third party facilitator move the process forward.

- All parties should enter the process with an open mind.
- Ulterior motives should be set aside; resolve the fairness/equity problem.
- Encourage dialogue, workshops, evaluation of alternatives.
- Demonstrate positive benefits of program so it can be easily “supported/endorsed” to each participant.

Recommended Task Group Membership:

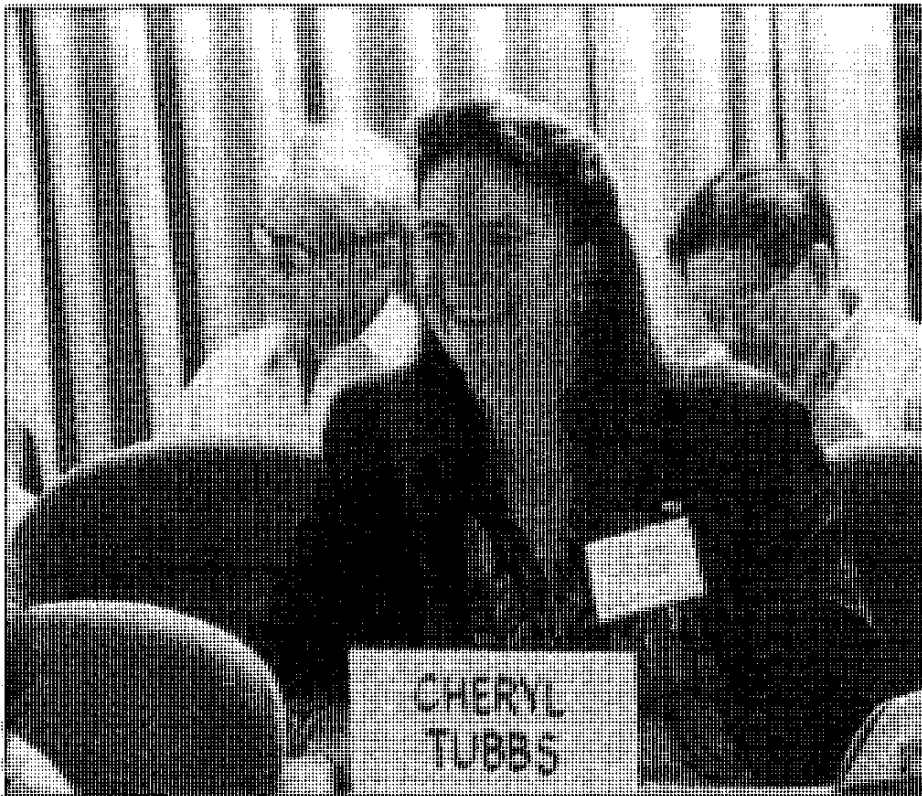
- Regulatory agencies:
 - Regional Water Quality Control Board
(Executive Director, one Senior Staff Member, and Chairman of the Board)
 - State Department of Health Services
(Executive Director and one Senior Staff Member)
 - Water/Wastewater Districts:
 - Eastern, Western, Chino Basin, San Bernardino, Orange
(Chairman of the Board and General Manager)
 - Community Services Districts:
 - Jurupa, Rubidoux...
(Chairman of the Board or General Manager)
- Cities:
 - Riverside, Corona, Norco...
(Mayor or Council Member and Director of Utilities, Water Wastewater Departments)
- Counties:
 - Riverside, San Bernardino, Orange...
(Chairman or Member of Board of Supervisors and County Public Works or Utilities Director)
- Flood Control Agencies

Comments:

“The lengthy list of institutions should include SAWPA - or at least define SAWPA’s role in this process.” — Neil M. Cline

“Watermasters and/or groups with needs to replenish groundwater basins are potential users of reclaimed water. For example, Chino Basin Watermaster’s Chairman of the Advisory Committee and Chief of Watermaster services should be included when invitations are extended to participate on the task force.” — Traci Stewart

“Without resolution of this impediment, no accomplishments from this workshop will be forthcoming. The other nine issues and their proposed plans for resolution mean very little without the ability to set aside the aforementioned “traditional news” and move off the battlefield. Although ranked Number 2, an action plan for consensus building among upstream and downstream representatives has to occur before any of the other issues can even be further discussed or their action plans undertaken. The last thing anyone needs or desires is a dust-collecting document. The restructuring of SAWPA to again become an JPA that moves forward on a project or program only upon unanimous vote should be pursued. Policy makers and industry managers must be involved - another workshop similar to this one — to provide direction to SAWPA. The last 24 hours of intense effort will hopefully (if nothing else) lead to resolution of Priority Issue #2 (1!).” — Cheryl Tubbs



View Graphs Used In Working Group Presentation

Issue

Set aside traditional institutional views and develop new pro-active consensus-building attitudes among area agencies, managers and policy makers

Importance of Issue

Water reclamation programs will only be achieved with participation and cooperation of contributing agencies to the Santa Ana River Watershed.

Needed to determine the financial and operational responsibilities for the regional reclamation systems.

Economy-of-scale and cost-effectiveness can be achieved by greater participation.

Create an understanding of other points-of-view; create an aura of sensitivity and empathy; build trust.

Encourage cooperation between neighboring agencies.

Have common collective objectives and goals that all players agree on (consensus-building).

Take advantage of establishing a single economic unit for this program.

Fighting and working at cross-purposes does not solve any problems.

Overcome the upstream vs. downstream attitudes.

Become part of a comprehensive water management plan for the whole Santa Ana River region.

View Graphs Used In Working Group Presentation

Task Group Membership

- Regulatory agencies
 - Regional Water Quality Control Board
Executive Director and one Senior Staff Member and Chairman of the Board
 - State Department of Health Services
Executive Director and one Senior Staff Member
- Water/Wastewater Districts
 - Eastern, Western, Chino Basin, San Bernardino, Orange
 - Chairman of the Board and General Manager

- Community Services Districts
 - Jurupa, Rubidoux...
 - Chairman of the Board of General Manager
- Cities
 - Riverside, Corona, Norco...
 - Mayor or Council Member and Director of Utilities (Water, Wastewater Departments)
- Counties
 - Riverside, San Bernardino, Orange...
 - Chairman or Member of Board of Supervisors and County Public Works or Utilities Director
- Flood Control Agencies

Approach

Agencies contributing to the flow form an executive task force to include all sub-agencies, such as; cities, water and wastewater providers. Break into sub-groups which are not based on geographic location in the region.

Have a neutral third party facilitator move the process forward.

All parties enter the process with an open mind.

Ulterior motives be set aside; the fairness/equity problem be resolved.

Encourage dialogue, workshops, evaluation of alternatives.

Demonstrate positive benefits of program so it can be easily "supported/endorsed" to each participant.



Insufficient Public Confidence in and Acceptance of Water Supplies Created from Reclaimed Water

WORKING GROUP MEMBERS:

Hultquist, Vaughan, and Cavender

Importance:

Until the general public accepts that technology exists to purify wastewater, there will be continued reliance on imported water, which is an unreliable supply. With population doubling by the year 2015, imported and watershed natural supplies will be inadequate. Conservation and reclamation will be the only sources for additional water. Conservation may provide 10-20 % of the new demands, but reclamation will have to provide the remainder.

Public attitudes toward water reclamation can have an adverse impact on development of alternative water supplies.

The participation from cities and other areas will be needed if a water reclamation program is to be successfully funded on a local basis.

Unless reclaimed water is accepted by the end-user, other alternatives such as bottled water will be chosen at a higher cost to the user.

Public distrust of treatment technologies and public agencies has occasionally resulted in excessive requirements or project rejection.

Suggest an Approach to the Resolution of the Issue:

- Conduct a survey to determine public attitudes toward water reclamation and then develop appropriate educational programs that directly address the concerns obtained from the survey.
- Develop education programs aimed at the user utilizing simple language, examples of current projects, and health standards being met. Types of users to be considered include municipal, commercial, industrial, agricultural, and individual members of the community.
- Develop an educational approach directed at the area political leaders, major commissions, and technical committees.

- Concurrently, convince owners/editors of local and regional newspapers so they will support informational and educational articles.
- Prepare and publish a series of articles on effective reuse of water, emphasizing existing technology and safeguards.
- Prepare fact sheets on local and regional potential programs and projects using reclaimed wastewater.
- Form or organize grass root groups to address the economics and needs of projects, and gain public support.
- Prepare a layman's guide (pamphlet) describing that reclaiming, recycling, and reusing wastewater is an effective use of total water resources in the watershed.

Recommended Task Group Membership:

One representation will be needed from each of the following categories:

- Elected Government Official - Bill Vaughan (Norco)
- Elected Official from a Water Agency - Don Owen (OCWD)
- Health Regulator - Gary Yamamoto (DOHS-LA)
- Water Quality Regulator - Jerry Thibeault (RWQCB-8)
- Public Affairs - Dick Hall (EMWD)
- Water/Wastewater Manager - Gail McPherson (City of Riverside)
- Water Reclamation Agency - Irvine Ranch Water District Rep
- Agricultural Group - Farm Bureau Rep
- Environmental Group - Gary Bell (Nature Conservancy)
- Consumer Advocacy Group - Marilyn Anderson (League of Women Voters)

View Graphs Used In Working Group Presentation

Priority 3

Insufficient Public Confidence
and Acceptance of Water
Supplies Created From
Reclaimed Water

One representation will be needed from
each of the following categories:

- Elected Government Official
Bill Vaughan (Norco)
- Elected Official from a Water Agency
Don Owen (OCWD)
- Health Regulator
Gary Yamamoto (DoHs-LA)
- Water Quality Regulator
Jerry Thiebeault (RWQCB-8)
- Public Affairs
Dick Heil (EMWD)
- Water/Wastewater Manager
Gail McPherson (City of Riverside)
- Water Reclamation Agency
Irvine Ranch Water District Rep
- Agricultural Group
Farm Bureau Rep
- Environmental Group
Gary Bell (Nature Conservancy)
- Consumer Advocacy Group
Marilyn Anderson (League of Women Voters)

Importance

- Demand for water growing:
 - imported and local supplies inadequate
 - conservation, provides 10-20%
 - reclamation must make up the rest... if the public will accept it
- Public attitudes determine success of reclamation
- Public distrust results in:
 - excessive requirements
 - project rejection
- Policy makers will not impose reclamation without public support

Approach

- Understand public attitudes
- Focus education on concerns
 - simple language
 - identify health standards met
 - examples of existing projects
- Grass root support development
- Get good press
- Show reclamation cost effective
- Fact sheets on local projects



Upstream Treatment Costs Allocated with Reclamation Programs within Santa Ana Rivershed must be Fairly Distributed Among all Program Beneficiaries

WORKING GROUP MEMBERS:

King, Aguilar, and Schenk

Importance:

Upstream treatment could produce opportunities for sales to customers other than downstream agencies, especially if there were no incentives or shared cost in the treatment overhead.

Downstream agencies demand a no net loss of Santa Ana River water and solicits regulatory assistance to achieve 100 % treatment prior to discharge to the river.

High treatment cost for inland agencies results in reduced discharges to the Santa Ana River. Water in excess of the court settlement is diverted from the river to save cost.

Failure to acknowledge “value” for treated water in excess of the 1969 requirement results in diverted water and potential failures in achieving reliability goals and disrupts the planned water allocations of Metropolitan.

Future storage opportunities in Seven Oaks Dam and the new/improved Prado Dam will provide storage opportunities for upstream agencies and will result in water marketing that does not presently exist for water in excess of court-mandated releases.

Suggest an Approach to the Resolution of the Issue:

- Identify a third party skilled in conflict resolution to identify issue differences and to negotiate trade-offs that will result in new but fair agreements benefitting both upstream and downstream agencies.
- Negotiate a scaled pricing system to recover the cost of treatment for waters in excess of the 1969 court order that results in incentives and scheduled revenues for treatment plants.
- Create water marketing opportunities for upstream agencies that result in equitable valuing of water, cost recovery and introduce a competitive pricing system based on demand.

Recommended Task Group Membership:

- Elected/Staff
 - SAWPA
 - Chino Basin
 - Eastern Municipal Water District
 - Western Municipal Water District
 - San Bernardino Valley Municipal Water District
 - RWQCB #8
 - Western Regional JPA
 - Orange County Water District
- Cities
 - City of Corona
 - City of Riverside
 - City of Redlands
 - City of Yucaipa
 - City of San Bernardino
 - City of Rialto
 - City of Colton
- Facilitator
 - Robert Rausch

View Graphs Used In Working Group Presentation

TITLE: Upstream treatment costs allocated with reclamation programs within Santa Ana Rivershed must be fairly distributed among all program beneficiaries

WORKING GROUP MEMBERS:

Jerry King
George Aguilar
Joseph Schenk

Importance

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Downstream agencies demand a no net loss of Santa Ana River water and solicits regulatory assistance to achieve 100% treatment prior to discharge to the river.

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Future storage opportunities in Seven Oaks Dam and the new/improved Prado will provide storage opportunities for upstream agencies and result in water marketing that does not presently exist for water in excess of court mandated releases.

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Identify a third party skilled in conflict resolution to identify issue differences and to negotiate trade-offs that will result in new but fair agreements benefitting both upstream and downstream agencies.

Negotiate a scaled pricing system to recover cost of treatment for waters in excess of the 1969 court order that results in incentives and scheduled revenues for treatment plants.

Create water marketing opportunities for upstream agencies that result in equitable valuing of water, cost recovery and introduces a competitive pricing system based on demand.

Recommended Task Group Membership:

Elected/Staff

SAWPA
Chino Basin
Eastern Municipal Water District
Western Municipal Water District
San Bernardino Valley Municipal Water District
RWQCB #8
Western Regional JPA
Orange County Water District

Cities

City of Corona
City of Riverside
City of Redlands
City of Yucaipa
City of San Bernardino
City of Rialto
City of Colton

Facilitator

Robert Rausch



Policy Makers and Elected Officials Must be Committed to a Goal of Implementing Water Reclamation Programs

WORKING GROUP MEMBERS:

Willis, Yamamoto, and Stewart

Importance:

It is very important to include highly respected policy makers from within the watershed who are committed to the development of water reclamation programs on a task force. This is important because policy makers are the chosen leaders of the public, and the public has entrusted them with the responsibility of securing and developing a reliable source of water for the future. Reclaimed water is the only new guaranteed source that the watershed can rely on. It is prudent to optimize the use of any valuable resource by recycling it to the maximum extent possible. Policy makers control the disposition of funds which are used for building facilities, hiring staff to implement programs, and developing plans to implement policy. Policy makers can raise funds to build facilities, develop policies, resolutions, goals and objectives, and adopt ordinances.

Suggest an Approach to the Resolution of the Issue:

A task force of policy makers and elected officials should be formed to facilitate development of a Santa Ana River Watershed water reclamation program.

Policy makers and elected officials must be educated to the tremendous economic and social importance of reclaimed water. They must be made aware of the significance and importance of developing reclaimed water as an alternative supply. Policy makers should not be short sighted. They should look at the future value of reclaimed water when making decisions regarding proposed projects.

Policy makers currently have very little incentive to work towards long-term solutions. However, they are responsive to press or media coverage of activities perceived as good and worthwhile. Staff members from organizations represented on the task force should work to educate media representatives for their areas prior to the first formal meeting of the task force. Media coverage of this first formal meeting as well as of several subsequent meetings should be encouraged. The objectives of the task force should be to involve other policy makers and elected officials in the development of water reclamation programs, development of a list of funding sources to finance the programs, and to promote legislation necessary for implementation of the programs.

Recommended Task Group Membership:

George Aguilar—San Bernardino Valley Municipal Water District
Dick Hall—Eastern Municipal Water District
Bill Hill—Chino Basin Municipal Water District
Wayne Holcomb—Western Municipal Water District
Dave Lessor—City of Yucaipa
Roger Loebbs—Regional Water Quality Control Board
John Longville—City of Rialto
Ron Loverage—City of Riverside
Armando Muñiz—City of Rubidoux
Bob Neufeld—Cucamonga County Water District
Don Owen—Orange County Water District
Harold Willis—San Bernardino Municipal Water Department

Comments:

“Agree with premise, however, that the action plan is too general. A more specific program, similar to EMWD’s, would be preferable.” — Neil Cline

“Not clear how this issue will be accomplished. Need to clarify.” — Gail McPherson

“Elected officials task force should undertake the responsibilities of communication with public officials as defined in Issue No. 9. Group could also input into any special district consolidations that may be suggested.” — William R. Mills, Jr.

“Dave Lessor is with Yucaipa Valley Water District, not City of Yucaipa. Still a good recommendation, however, as Dave is familiar with both city and Water District issues.” — Jack Nelson (for Joe Zoba)

View Graphs Used In Working Group Presentation

ISSUE: Policymakers and elected officials must be committed to a goal of implementing water reclamation programs.

How to get Policymakers Committed to Reclaimed Water Programs:

Educate them.

Use media.

Develop task force.

Develop list of funding sources and promote legislation.

Policymakers and Elected Officials:

Entrusted by people with responsibility to have enough water.

Control disposition and collection of funds.

Decide goals, policies, resolutions.

Adopt ordinances.

Task Force Membership

Dick Hall, Eastern MWD

Bill Hill, Chino Basin MWD

Wayne Holcomb, Western MWD

Dave Lessor, City of Yucaipa

Roger Loebs, Regional Water Quality Control Board

John Longville, City of Rialto

Ron Loverage, City of Riverside

Armando Muñiz, City of Rubidoux

Bob Neufeld, Cucamonga County WD

Don Owen, Orange County WD

Harold Willis, San Bernardino MW Dept.



Failure to Recognize the Need for Long-term Planning and Implementation of Programs to Protect Water Quality

WORKING GROUP MEMBERS:

Kules, Panahi, and Thibeault

Importance:

Too often, decisions concerning reclamation and other water supply or wastewater projects are made with only a very limited term in mind.

A limited-term perspective may result in excessive long-term present worth costs for constituencies.

Long-term socioeconomic health requires an ability to provide services, including a high quality water supply (and adequate wastewater treatment capacity).

Suggest an Approach to the Resolution of the Issue:

Alternative Approaches:

Either develop and implement an integrated water supply and water quality management plan for the Santa Ana River watershed (voluntary approach); or,

Use the Basin Plan if a comprehensive water supply and water quality management plan is not developed or implemented (regulatory approach).

Recommended Task Group Membership:

- SAWPA
- RWQCB
- Other stakeholders:
 - Counties
 - Cities
 - MWD
 - DHS
 - DWR/SWP Contractors
 - Colorado River states

Comments:

“‘Alternatives’ - ‘The comprehensive, integrated watershed management plan developed by major stakeholders (voluntary)’ needs to be qualified by text to reflect it is water quality and supply planning, but not land use or other forms of comprehensive planning.” — Burnie Cavender

“Alternatives, either: comprehensive, integrated water management plan developed by major stakeholders (voluntary); or, use of Basin Plan if comprehensive WMP is not developed or implemented.” — Bernard C. Kersey

“Clarify water quality and water supply plan, not a regional planning document. Is long-term planning not looking at broader issues of land use? Clarify how this is different from current Basin Plan. How will this improve long-term planning? How is #9 related or incorporated into this plan?” — Gail McPherson

View Graphs Used In Working Group Presentation

Issue

Failure to recognize the need for long-term planning and implementation of programs to protect water quality.

Importance

- Too often, decisions concerning reclamation and other watersupply or WW projects are made with only a very limited term in mind.
- Limited-term perspective may result in excessive long-term PW costs for constituencies.
- Long-term socioeconomic health requires an ability to provide services, including a high quality water supply (and adequate WW treatment capacity).

Alternatives

- Comprehensive, integrated watershed quality management plan developed by major stakeholders (voluntary).
- Use of Basin Plan if comprehensive WMP not developed or implmented.

Task Group

- "SAWMA" (water suppliers/POTW's)
- RWQCB
- Other stakeholders
 - Counties
 - Cities
 - MWD
 - DHS
 - DWR/SWP Contractors
 - Colorado River states



Rights and Obligations Under the 1969 Judgement

WORKING GROUP MEMBERS:

Owen, Harriger, Kinsey, and Cline

Importance:

The upstream agencies believe the 1969 judgement established an upstream discharge obligation of 42,000 acre-foot annually, and there is no obligation for delivery beyond this quantity. The downstream agencies believe the upstream area has a right to make use of water but not to export from the watershed.

The judgment only becomes an impediment to reclamation when the upstream and downstream parties choose to use it to argue the question of whether or not the beneficiary of reclaimed water has any obligation to pay part of the cost of treating or transporting the wastewater.

Suggest an Approach to the Resolution of the Issue:

Upstream agencies should develop reclamation programs which are cost effective. A format should be established to develop procedures wherein downstream parties could negotiate payment to upstream parties in lieu of the upstream benefits otherwise derived from reclamation.

An approach should also be developed to establish a pricing structure concerning the financial support for upstream agencies' deliveries above the 42,000 acre-foot obligation of the 1969 judgment.

The negotiations should result in an arrangement wherein the net benefits associated with the proposed upstream reclamation project are paid to the upstream party by the downstream party in exchange for continued discharge to the river. Such arrangements would be made with mutual consent of parties to the 1969 judgment.

Recommended Task Group Membership:

Managers of districts party to the 1969 settlements.

Comments:

"Group must understand in minds of old time water folks that judgment and hard feelings still remain. Solution: Work more on changing views to make it a positive instead of negative." — George Aguilar

"Discussion should reflect that the 1969 stipulated judgment is not a direct impediment; it is a perception only. However, the judgment does affect reclamation as a component of total supply.

Title should be revised to say: The perception of rights and obligations under the 1969 judgment affects water reclamation programs.” — Burnie Cavender

“The project-by-project response by Orange County seems too small to alleviate upstream user concerns. A broader response is probably necessary.” — Joe Grindstaff

“Add to title — Perception of rights and obligations...” — Bill Vaughan

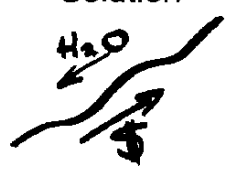
View Graphs Used In Working Group Presentation

Title:

Rights and obligations under the 1969 judgement.

The Judgement is not the real problem

Solution



Evaluation of Assumptions and Data in the Current Basin Plan, with Particular Attention to Water Quality Objectives, Assimilative Capacity, Sub-basin Boundaries and Resultant Regulatory Activities

WORKING GROUP MEMBERS:

Rigby, Kersey, and Muñiz

Importance:

Wastewater dischargers and reclaimers continue to raise questions concerning the validity of the Basin Plan. A complete review of objectives, new information, and an update of modeling results might demonstrate that objectives could be made less restrictive and that the number of basins with assimilative capacity could be increased. The Basin Plan is the basis of requirements for waste discharge and water reclamation requirements. Requirements written based upon a plan that may be inaccurate may be too onerous or not protective of beneficial uses.

The models used to develop and evaluate the effectiveness of the Basin Plan were originally developed in the late 1960's and have been continuously revised to reflect contemporary water quality issues. The models' geometric and time increments have been shown to be too coarse to yield reliable calibration results. In particular, the nitrogen transport model is incorrect. Model projects are consistently higher for TDS and nitrogen than real groundwater quality data indicate.

Suggest an Approach to the Resolution of the Issue:

- Develop a new Basin Plan based upon scientifically defensible data, assumptions and methods. Those who question the validity and have a stake in the outcome should provide the resources necessary to evaluate sections of the Plan about which there are questions. The Plan needs to be reviewed expeditiously due to discharge requirements being imposed in permits that once imposed and met cannot be relaxed. Political buy-in of an agreement-consensus will be essential.
- Suggested approach to do the work is as follows:

Task 1 - Develop regulatory guidance for water reclamation in the Santa Ana Watershed.

Task 2 - Develop descriptive hydrology.

- a) Insure that there is a large representative data base.
- b) Analytical data base.

- Task 3 - Develop analytical methodologies to investigate watershed hydrology.
a) Validate key assumptions in the basin planning model.
b) Review model with alternative assumptions.
- Task 4 - Develop methods to assess socioeconomic impacts.
- Task 5 - Support the regulatory process to revise the Basin Plan.

Recommended Task Group Membership:

Nitrogen/TDS Working Group
San Bernardino Valley Municipal Water District—Sam Fuller
Orange County Water District—Ray Herndon
Western Municipal Water District—Don Herriger
City of San Bernardino—Bernie Kersey
City of Riverside—Gail McPherson
Eastern Municipal Water District—P. Ravishanker
Chino Basin Municipal Water District—Mark Kinsey
Rubidoux CSD—Dave Lopez
Jurupa CSD—Ed James
City of Redlands—Mike Hufsteter
Santa Ana Regional Water Quality Control Board—Hope Smythe
City of Rialto—Bill Freels
SAWPA—Burnell Cavender

Comments:

“Task 1 on the “Approach” would include much of what was described in Issue #10 on clarifying ambiguous language in 68-16.” — Burnie Cavender

“Without an agreement on data, we’ll never really settle this issue.” — Neil Cline

“Really, this comes after #1 and #2 and should be integrated with them.” — Joe Grindstaff

“Task 1 is related to Report #10 on policy issues relating to anti-degradation. Institutional issues need to be resolved up front to begin the project and follow-up ‘policy’ decision team must be in place to resolve issues and ensure consensus. An implementation team should also be selected for final consensus at the end of the project so change can result where appropriate.” — Gail McPherson.

“Need to incorporate a parallel tract that sets the political objectives so that a solution can be acceptable to all parties. The process as described will not result in consensus if the political process is not well defined; in other words, the described process will no doubt result in law suits over the uncertainties in data, models, etc.” — William R. Mills, Jr.

View Graphs Used In Working Group Presentation

WORKING GROUP 8

Evaluation of assumptions and data in the current basin plan, with particular attention to water quality objectives, assimilative capacity, sub-basin boundaries and resultant regulatory activities.

Approach to the Resolution of the Issue

Upstream agencies should develop reclamation programs which are cost effective.

A format should be established to develop procedures wherein downstream parties could negotiate payment to upstream parties in lieu of the reclamation project.

Develop an approach for financial support for upstream deliveries above 42,000 acre-foot obligation of the 1969 judgement.

Task 1

Develop regulatory guidance for water reclamation.

Task 2

Develop descriptive hydrology.

Task 3

Develop analytical methods to investigate watershed hydrology.

Task 4

Develop method assess socioeconomic impacts.

Task 5

Support regulatory process.



Lack of Local Programs which Maintain Reasonable Water Rates and Optimize Future Reclamation Opportunities

WORKING GROUP MEMBERS:

James, Strickland, and Mills

Importance:

Reclamation projects are substantially more expensive than local water production costs. If financed by locals, water costs would increase substantially. Steps must be taken to lower reclamation costs to locals and to educate locals on economic benefits of increased reliability.

Suggest an Approach to the Resolution of the Issue:

Approach 1:

Objective: Maximize future water reclamation opportunities through local land use planning.

Action: Educate local planning officials on the importance of developing local resources to minimize costs by:

Grouping reclamation uses (regional park, industrial parks, etc.).

Developing ordinances that require dual piping systems in new construction.

Approach 2:

Objective: Maintain local water production costs and rate-payer costs at reasonable levels using subsidies (including up-front loading), grants, low interest loans and water rights exchanges.

Action: Promote subsidies from MWD, State and Federal Government.

- Organize “power block” of MWD and SAR MET directors.
- Participate in bureau’s Southern California Waste Water Reclamation Study.
- Seek SRF funding through a central clearing house.

Develop innovative approach to exchanges of wastewater for groundwater rights.

- Develop agreements for exchange and sale of groundwater rights to highest bidder.
- Possible modification of adjudications.

Recommended Task Group Membership:

SAWPA
Watermasters
WateReuse Association and ACWA
Local elected officials

Comments:

“This issue, as described, now encompasses Issues #26 and #54 as presented by Tubbs and Cavender, respectfully, yesterday.” — Burnie Cavender

“Regarding financing, identifying possible sources of funds from federal and state sources seems unrealistic in today’s environment of shrinking budgets. Also, loans, such as state revolving funds, need a payback source of funds. More focus should be on developing (sharing) costs on the regional (user) level.” — Jack Nelson (for Joe Zoba)

View Graphs Used In Working Group Presentation

<u>Issue Title</u>	<u>Why Important?</u>
The lack of local programs which maintain reasonable water rates and optimize future reclamation opportunities.	Reclamation projects are substantially more expensive than local water production costs. If financed by locals, water costs would increase substantially. Steps must be taken to lower reclamation costs to locals and to educate locals on economic benefits of increased reliability.

View Graphs Used In Working Group Presentation

Suggested Approaches-1

Objective: Maximize future water reclamation opportunities through local land use planning

Action: Educate local planning officials on the importances of developing local resources, and to minimize costs by:

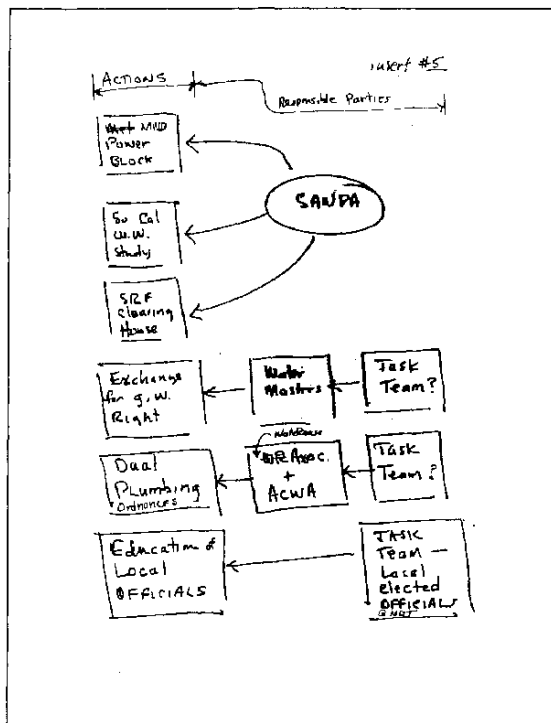
- grouping reclamation uses (regional park, industrial parks, etc.)
- develop ordinances that require dual piping systems in new construction

Suggested Approaches-2

Objective: Maintain local water production costs and ratepayer costs at reasonable levels using subsidies (including up front loading) grants, low interest loans and water rights exchanges

Action:

- Promote subsidies from MWD, State and Federal Government.
- organize "power block" at MWD of S.A.R. met directors
- participate in Bureau So. California Waste Water Reclamation study
- seek SRF funding through central clearing house
- Develop innovative approach to exchanges of W.W. for G.W. rights
- develop agreements for exchange and sale of G.W. right to highest bidder
- possible modification of adjudications





No Clearly Defined Terms for Standard Application of Anti-degradation and Resolution 68-16 Decision Rules and Policies

WORKING GROUP MEMBERS:

Osborne, McPherson, and Tubbs

Importance:

Current anti-degradation regulations and SWRCB rules (i.e., Resolution 68-16) are vague and lack clear definition of terms. This results in inconsistent application of policy. More importantly, the regulations discourage water reclamation and, in effect, impact the ability to effectively manage the water supply.

Clear and concise definitions are needed for terms such as “ambient quality,” “maximum benefit,” “significant degradation,” “full protection,” “assimilative capacity,” “threshold levels,” and “important socioeconomic development.” These terms are used throughout the policy, yet left to interpretations during implementation. Therefore, their application occurs on a project-by-project basis. Thus, project approval is inconsistent.

Suggest an Approach to the Resolution of the Issue:

Let us go back to 1968 when we were preparing to orbit the moon. Nixon was elected; the Watts riots ended; personal computers were a thing of the future; and, the SWRCB adopted policy for maintaining high quality of waters in California (Resolution 68-16). The resolution contained many undefined terms such as “full protection” and “maximum benefit.” Today, we face anti-degradation regulations that are also riddled with undefined terms leading to inconsistent application of the regulations. The inherent vagueness leads to the discouragement of water reclamation projects. Definition of terms (via consensus building) is the first step to resolving this impediment. On developing clear definitions, the implications of selecting one definition over another must be shown.

Secondly, clear decision rules must be developed that will lead to a site-specific decision criteria in the form of a guidance document for recharge and reclamation in the Santa Ana Watershed. The guidance document must also define which events trigger anti-degradation review. We suggest state policies developed for Colorado and Arizona be reviewed for incorporation into guidelines for the Santa Ana River Watershed because of likeness in watershed environments.

Finally, the anti-degradation policy, in order to be effective and become a tool for effective water resources planning and protection, must recognize the need for and even encourage water reclamation. We believe there is a place for anti-degradation

policy in California water law as it reinforces the intrinsic value of “clean water.” However, policy statements from the 1960’s will not produce “maximum benefit” to the people of California during the next century. We have gone to the moon, invented personal computers, and abandoned disco; now it is time to develop an up-to-date anti-degradation policy to provide for water reclamation, environmental protection, and continued economic growth.

Recommended Task Group Membership:

Players: Anti-Degradation Definitions Task Force

Gerard Thibeault, RWQCB
Tad Foster, SWRCB
Tim Moore, Risk Sciences
Rod Cruz, City of Riverside
Bill Mills, OCWD

Players: Anti-Degradation Policy Task Force

Kathy Keebler, SWRCB
Jerry King, SAR RWQCB
Gerard Thibeault, SAR RWQCB
Tad Foster, SWRCB
Mark Piefer, WESCAS
Harlan Agnew, ARIZONA

Comments:

“New title implies issue is simply anti-degradation. Introduction to issue described lack of definition to terms in 68-16; perhaps 68-16 should be in the issue title. Perhaps part of the importance is in reference to the changes that have occurred since 1968.” — Burnie Cavender

“The ‘approach’ potentially invites the dischargers to utilize a ‘reclamation’ project as a means, in fact, of reducing treatment costs at the expense of downstream users.” — Neil Cline

“Think about the bigger picture than just the regulation. How does anti-degradation fit into the big picture. Give examples of projects that would be viable with this change.” — Joe Grindstaff

View Graphs Used In Working Group Presentation

Priority 10

No Clearly Defined Terms
for Standard Application of
Anti-Degradation Decision
Rules and Policy

Importance

Anti-degradation regulations
are vague.

Discourages water
reclamation projects.

Application of regulations
inconsistent.

Approach

Definitions of terms.

Establish clear decision rules.

Institutionally recognize the
need for reclamation in the
anti-degradation policy.

Define which events trigger
anti-degradation reviews.

Players: Anti-Degradation Definitions Task Force

Gerard Thiebeault, RWQCB

Tad Foster, SWRCB

Tim Moore, Risk Sciences

Rod Cruze, City of Riverside

Bill Mills, OCWD

Players: Anti-Degradation Policy Task Force

Kathy Keebler, SWRCB

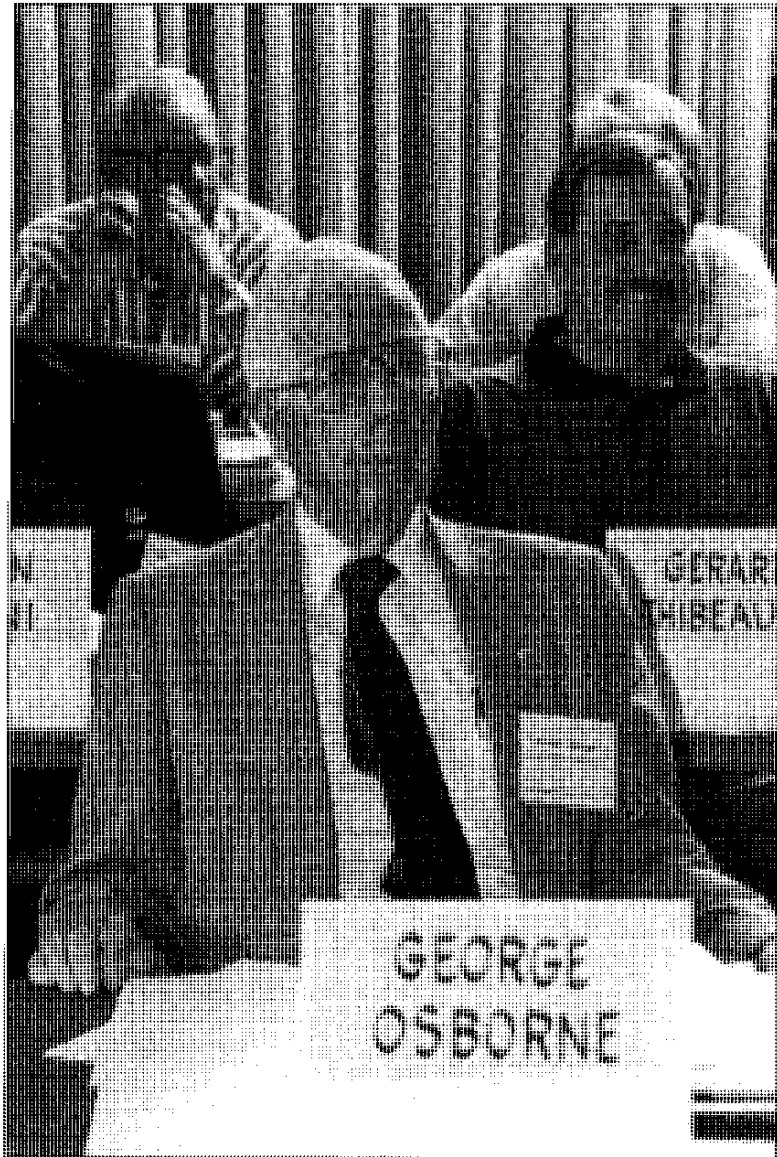
Jerry King, SAR RWQCB

Gerard Thiebeault, SAR RWQCB

Tad Foster, SWRCB

Mark Piefer, WESCAS

Harlan Agnew, ARIZONA



APPENDICES

APPENDIX P

SANTA ANA RIVER WATERSHED WORKSHOP ---

WORKING GROUP ACTION-PLAN GUIDELINES

Workshop question: *"What are the most significant impediments to implementing a cost-effective water reclamation program for the Santa Ana River Watershed?"*

Purpose of Guidelines

These guidelines are to encourage uniformity of working group preliminary report presentations. Each working group is requested to distill, clarify, and focus information developed in the NGT workshop, and to recommend task groups' memberships and strategies to attack one of the ten highest priority issues at subsequent task group meetings. A Task Group comprises stakeholders who will prepare a detailed action plan to resolve an identified issue and present its report at a subsequent Issues Conference.

Each working group is asked to complete its preliminary write-up on the three-page worksheet provided. This will be entered by word processors and returned to the working group for editing. These working group reports will be included as Part 2 of the NGT workshop report.

Issue Write-Ups

Each working group will prepare their issue write-up by providing text for the following sections. Please limit your write-up to the space provided on the three-page worksheet.

- Priority Issue Title
- Importance: Recast and amalgamate the reasons why this issue is an important impediment.
- Suggest an approach to the resolution of the issue. Use outline format.
- Recommend members for the Task Group best able to address this issue (list names, addresses and expertise for each individual).

Presentation Viewgraphs

Working groups will be allowed five minutes to present their preliminary reports. No more than four viewgraphs should be prepared to enhance each oral presentation. Viewgraphs should include:

- Revised Issue Title
- Importance of Issue (use bullets)
- Suggested Approach of Resolving Issues (use bullets)
- Recommended Task Group Membership (list names and affiliations)

Written Comments

Working Group presentations will be limited to five minutes. Ten minutes will be allowed for discussion of each presentation. Written recommendations to enhance the report will be solicited at the conclusion of each working group presentation discussion. Signed recommendations will be printed in the *Issues Workshop Report*

APPENDIX Q

SANTA ANA RIVER WATERSHED WORKSHOP ---

WORKING GROUP REPORT GUIDELINES

Workshop question: *"What are the most significant impediments to implementing a cost-effective water reclamation program for the Santa Ana River Watershed?"*

Names of Working Group Members

Priority Issue Title *(Working group may improve title but keep 20 word max.)*

Importance *(Recast and amalgamate the reasons why this issue is an important impediment -- Do not exceed space provided below)*

Suggest an Approach to the Resolution of the Issue *(Do not exceed space provided below)*

Recommended Task Group Membership *(Do not exceed space provided below)*

APPENDIX R

SANTA ANA RIVER WATERSHED WORKSHOP _____

WORKING GROUP PRESENTATION COMMENT FORM

Priority Issue #: _____

Recommendations to enhance Working Group report:

Name *(please print)*: _____

Signature: _____

APPENDIX S

TASK GROUP GUIDELINES

Preparations for Issues Conference

Date and Location to be Determined

Purpose of Guidelines

These guidelines are intended to encourage uniformity of detail for the high priority issues reports to be submitted no later than one week before the Issues Conference. Each specified section should be addressed as directly and succinctly as the allowable space will permit.

Typeface and Margins

Standard letter-size paper (8-1/2 x 11") must be used with 2.5 cm (1 inch) margins and 12 point *Times* typeface single spaced. Page limits given below must include all figures, tables, and graphs as well as text. Appendices will be counted as additions to the page limits specified. All appendix materials must be submitted in reproducible form.

Issues Write-ups

Each task group should prepare their issue write-up by providing text for the following sections:

- Executive Summary (0.25 page max.)
- Why Issues is Important (Use data to support argument, cite references where appropriate) (1.0 page max.)
- Suggested Approach to the Resolution of the Issue (2.0 pages max.)
- Budget Cost Estimate of Implementing Suggested Approach to Resolution of Issue-Years 1 through 5 (1.0 page max.)
- References (1.0 page max.)

Budget Guidelines

Cost section of write-up is particularly important. The Budget Cost Estimate should include the following items:

- Personnel Costs, Including Staff Time
- Space Required and Cost to Occupy
- Equipment Required, Purchase or Lease
- Capital Costs
- Supplies
- Travel
- Communications
- Printing and Postage
- Other

Submission Deadline

Task Group write-ups will be due in the SAWPA Office no later than one week before the Issues Conference so that they may be reproduced and distributed on campus before the Conference.

Illustrations and Visual Materials

Illustrations used in the text of Task Group reports should be reproducible in black and white using xerographic processes. Visual materials used by Task Groups at the Issues Conference should be placed on transparencies for use with an overhead projector. No more than 10 viewgraphs should be used during the 10 - 15 minute period allowed for presentation by the each task group.

