

# NIPOMO COMMUNITY SERVICES DISTRICT

NOVEMBER 1, 2012

1:30 P.M.

## SPECIAL MEETING NOTICE & AGENDA

### SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE

#### APPOINTED COMMITTEE MEMBERS

MICHAEL K. NUNLEY, CHAIRMAN (NON-VOTING)  
PETER V. SEVCIK, VICE CHAIRMAN (NON-VOTING)  
CRAIG ARMSTRONG (VOTING)  
DAN GARSON (VOTING)  
DENNIS GRAUE (VOTING)  
KATHIE MATSUYAMA (VOTING)  
ROBERT MILLER (VOTING)  
DAVE WATSON (VOTING)  
DAN WOODSON (VOTING)

#### PRINCIPAL STAFF

MICHAEL S. LEBRUN, GENERAL MANAGER  
LISA BOGNUDA, ASST GM/FINANCE DIRECTOR

MEETING LOCATION - District Board Room  
148 S. Wilson Street, Nipomo, California

1. **CALL TO ORDER, FLAG SALUTE AND ROLL CALL**
2. **WATER RESOURCES POLICY COMMITTEE CHAIRMAN'S REPORT**  
  
RECOMMENDATION: Receive updates and reports from the Board's Water Resources Policy Committee Chairman, Ed Eby, on items relevant to the Committee's work.
3. **REVIEW DRAFT MINUTES FROM OCTOBER 2, 2012, COMMITTEE MEETING**  
  
RECOMMENDATION: Provide revisions or corrections to meeting minutes from the October 2, 2012, Committee meeting. Accept meeting notes as revised.
4. **DISCUSS SUBCOMMITTEE PROGRESS**  
  
RECOMMENDATION: Review progress submittals provided by subcommittees and discuss.
5. **DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD**  
  
RECOMMENDATION: Discuss whether an update should be provided by the Committee to the Board. Nominate a voting member of the committee to serve as spokesperson for an upcoming Board meeting, if desired.
6. **PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE**  
  
RECOMMENDATION: Identify and propose reference documents to be used by Committee members in the evaluation. Approve or reject these documents as acceptable reference materials for conducting the evaluation.

## SPECIAL MEETING AGENDA

## SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE

**7. DEVELOP RANKING CRITERIA**

RECOMMENDATION: As directed at the October 24 Committee meeting, Committee members will determine if time is available to begin discussing the development of ranking criteria. Committee may decide to defer this item until the next meeting. If the Committee decides to proceed with this item at this meeting, Committee will develop ranking criteria for evaluating supplemental water alternatives and reporting to the Board in the final report.

**8. SET NEXT COMMITTEE MEETING DATE AND TIME****9. ADJOURN**

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE *MKN*  
CHAIRMAN

DATE: October 31, 2012



## WATER RESOURCES POLICY COMMITTEE CHAIRMAN'S REPORT

### ITEM

The Nipomo CSD Board of Directors' Water Resources Policy Committee Chairman, Ed Eby, will provide an update to the Committee on activities relevant to the Committee's work.

### BACKGROUND

The General Manager typically presents updates relevant to the Committee's work and will also respond to questions posed by the Committee to District staff at prior meetings. This is anticipated to be a standing item for each Committee meeting. Since the General Manager is on vacation, Mr. Eby will provide any updates relevant to the Committee's work.

### RECOMMENDATION

Receive the report from the Chairman of the District's Water Resources Policy Committee.

### ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE *MKN*  
CHAIRMAN

DATE: October 31, 2012



## **REVIEW DRAFT MINUTES FROM OCTOBER 2, 2012, COMMITTEE MEETING**

### **ITEM**

Review the Draft Meeting Minutes from the October 2, 2012, Supplemental Water Alternatives Evaluation Committee (Committee) meeting.

### **BACKGROUND**

According to the Bylaws, the Committee must approve the meeting minutes. Draft minutes are to be posted online. If revised by the Committee during the approval process, final minutes will be posted to replace the draft minutes.

### **RECOMMENDATION**

Provide revisions or corrections to the meeting minutes from the October 2, 2012, Committee meeting. Accept minutes as revised.

### **ATTACHMENT**

DRAFT SWAEC Meeting Minutes – October 2, 2012

# NIPOMO COMMUNITY SERVICES DISTRICT

Tuesday, October 2, 2012

1:30 P.M.

## **SPECIAL MEETING MINUTES** **SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE**

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### APPOINTED COMMITTEE MEMBERS

MICHAEL K. NUNLEY, CHAIRMAN (NON-VOTING)  
PETER V. SEVCIK, VICE CHAIRMAN (NON-VOTING)  
CRAIG ARMSTRONG (VOTING)  
DAN GARSON (VOTING)  
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ROBERT MILLER (VOTING)  
DAVE WATSON (VOTING)  
DAN WOODSON (VOTING)

### PRINCIPAL STAFF

MICHAEL S. LEBRUN, GENERAL MANAGER  
LISA BOGNUDA, ASST GM/FINANCE DIRECTOR

**MEETING LOCATION - District Board Room**  
**148 S. Wilson Street, Nipomo, California**

**1. CALL TO ORDER, FLAG SALUTE AND ROLL CALL**

Chairman Nunley called the Special Meeting of October 2, 2012, to order at 1:30 p.m. and led the flag salute. At roll call, all committee members were present.

**2. GENERAL MANAGER'S REPORT**

General Manager Michael LeBrun made himself available for questions from the Committee.

Public Comment:

John Snyder, Nipomo resident, asked to include a general item for public comment at the Committee meetings. He discussed his interpretation of an appeal hearing in the Santa Maria Valley Groundwater litigation during the previous week. He noted the Committee should look at Oxnard GREAT Program and the Pajaro Valley water projects. He also stated he would be available to provide information on the litigation issues to the Committee.

Member Garson asked if the Committee was tasked with looking at a physical water supply solution, as opposed to a legal solution. Mr. LeBrun responded that the Committee had a narrow focus on ranking physical water supply alternatives and would not need to research the current litigation. The Board would select and implement the final water supply solution and would continue to work through the current litigation.

The Committee voted to receive the report.

**3. REVIEW DRAFT MINUTES FROM SEPTEMBER 24, 2012, COMMITTEE MEETING**

The Committee approved the meeting minutes. There was no public comment.

**4. PRESENTATION OF THE ORANGE COUNTY GROUNDWATER REPLENISHMENT SYSTEM AND OXNARD GREAT PROGRAM**

Chairman Nunley provided a brief overview of the objectives, elements, and current status of the Oxnard GREAT Program. He provided a link to the City's website.

Member Garson asked how Oxnard is paying for this program. Chairman Nunley responded the funding sources included ARRA (American Recovery and Reinvestment Act of 2009) and other grant programs. He also noted the program was a multiple-year program and did not know if bonds were sold or other financing methods were pursued.

Member Woodson asked if Oxnard could find qualified staff, or whether they needed to train their staff, to operate and maintain the system. Chairman Nunley stated that was a challenge for many agencies and he did not know how the City approached it – options could include training their own staff, hiring staff with special training, or contracting with an outside entity for that work.

Member Miller asked if Oxnard had published costs per acre-foot for their water supply based on the GREAT Program. Mr. Nunley stated he did not find that information but encouraged the Committee members to research the website referenced in the presentation.

Member Miller asked if the agricultural users were willing customers and if they recognized their groundwater resources were dwindling prior to engaging in the program. Chairman Nunley stated he did not know the history of their involvement or what public relations issues may have arisen initially.

Chairman Nunley then provided a brief overview of the objectives, elements, and current status of the Orange County Groundwater Replenishment System. He provided a link to the Orange County Water District's website for the program.

**Public Comment:**

John Snyder, Nipomo resident, stated that he thought there was a groundwater settlement behind both of these programs that determined how they funded these programs and what the agencies worked out in the settlements. He recommended the Committee explore these issues further.

Member Graue asked if the Orange County program had met its goals to prevent seawater intrusion. Chairman Nunley stated future elements of the program are being planned but he did not know the level of success that had already been achieved.

Member Graue noted Carlsbad was building a large desalination program.

**Public Comment:**

General Manager LeBrun stated both programs were responding to seawater intrusion and both were adjudicated basins. He noted that similar to the District's work, he would assume there were efforts prior to each crisis to develop water supply options and prevent adjudication. The Committee voted to receive both presentations.

**5. ASSIGN ALTERNATIVES TO SUBCOMMITTEES**

Chairman Nunley presented a proposal for subcommittee members and assignments, as follows:

Subcommittee	Members	Alternatives for Evaluation
1	Armstrong Graue Matsuyama	<ul style="list-style-type: none"> <li>• State Water</li> <li>• Seawater</li> <li>• Agricultural and industrial reuse</li> </ul>
2	Miller Watson Woodson	<ul style="list-style-type: none"> <li>• Santa Maria Waterline Intertie Project</li> <li>• Surface water</li> <li>• Recycled wastewater from municipal facilities</li> </ul>
3	Matsuyama Garson Graue	<ul style="list-style-type: none"> <li>• Conservation/ Graywater</li> <li>• Local Groundwater</li> </ul>

Member Watson asked if these alternatives were the final list for evaluation, or if there would be an initial screening step prior to beginning the evaluation process. Chairman Nunley stated it was his understanding the Committee members would perform some screening of delivery options, treatment technologies, pipeline routes, etc., as they conduct the evaluations.

Member Watson recommended focusing all the alternatives on the District's long-term water supply need of 6200 acre-feet per year (AFY). He said the initial acquisition of 2500 AFY should be considered in light of ultimately delivering 6200 AFY, or within a reliable portfolio of supplies to deliver 6200 AFY.

Member Armstrong asked if the Committee was constrained by the targeted amounts and dates in the Bylaws (1000 AFY by June 2015, 3000 AFY in near future through an ultimate goal of 6200 AFY). Member Watson asked if this was a conflict between the Committee's objectives and the Bylaws.

Member Matsuyama stated the Bylaws were telling a conflicting story – the Committee has latitude for conducting the evaluation, but is tied to the delivery schedule and quantities in the Bylaws.

Member Woodson noted the Tribune article stated the District would move forward with the phased Santa Maria Waterline Intertie Project unless the Committee identified a different approach. He asked if that project would be deferred if the Committee identified desalination or another approach that would require more time but ultimately ranked higher.

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Special Meeting Minutes  
Supplemental Water Alternatives Evaluation Committee

Chairman Nunley stated the Bylaws included goals and schedules documented in the Water Master Plan and other District planning efforts. He stated the concerns of the Committee could be addressed within the evaluation process without conflicting with the District's Bylaws.

Member Matsuyama expressed concerns that the Committee's activities were too restricted by the Bylaws and would result in ranking the Phased Santa Maria Waterline Intertie Project highest by default.

Member Watson stated he believes there are other alternatives that could compete with the Santa Maria Waterline Intertie Project, and the Committee should talk about some of the alternatives that could meet the timeframes prior to addressing others that appear to take more time. In addition, several alternatives could be pursued simultaneously that would meet both short-term and long-term goals.

Member Armstrong noted there had not been enough analysis to determine if implementation schedules would meet the schedule in the Bylaws.

Chairman Nunley suggested the subcommittees could develop the implementation schedules for each alternative within their work, then the Committee could reconvene to put alternatives together that would meet the ultimate goals if one alternative would not meet all the Bylaw requirements.

Member Graue stated he thought the subcommittees would need to spend time evaluating each alternative prior to addressing likelihood of meeting the schedule in the Bylaws.

Member Miller said there was a risk that if the Santa Maria Waterline Intertie Project is selected, some members of the community might feel the outcome was decided before the process began. However, if the Committee looks at the list of alternatives it covers a broad range of water supplies and a robust analysis could call more attention to alternatives with a longer implementation schedule but greater overall benefits. He also advocated reconvening the full Committee more frequently to share information and make the entire process more collaborative and robust.

Member Graue stated that some alternatives in different groups may need to consider the same process. It would be less efficient to have different groups studying the same treatment process or technologies, but it could also help the analysis overall to have multiple groups looking at the same technologies as long as there is not too much overlap.

Chairman Nunley noted his role would be to share information among the subcommittees if useful tools or analyses are developed and the Committees could also meet more frequently.

Member Graue asked if this would constitute a sequential meeting and Brown Act violation. Chairman Nunley stated he would not carry conclusions between subcommittees, only references and/or tools developed in the work in order to prevent this from being a concern.

Member Garson suggested all the Committee members could take one alternative at a time, review it, then reconvene to discuss their analysis. At the next meeting the Committee would move onto the next alternatives.



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Member Armstrong noted that he prefers the subcommittee approach since some of the issues will require more investigation and coordination with outside entities than others.

Member Matsuyama stated all the members are connected to others in the community and could share the information among the Committee members if all members worked on the same alternatives.

Chairman Nunley responded his concerns would be that each alternative requires the full 3 or 4-month schedule, and conducting a thorough analysis would be difficult if one alternative is reviewed at a time. He suggested more frequent meetings could offer the collaboration discussed by the Committee members. He noted a professional team would require a year for this process.

Member Garson asked if this analysis would be meaningful if it could not realistically be accomplished by a professional team in less than a year. Chairman Nunley noted the one-year timeline would not be required for the Committee's work because there are more reference materials (studies, environmental documents, etc.) available now, and that he thought the 4 months would be reasonable for conducting the analysis.

Member Watson noted he thought this conversation was important in determining how to conduct the evaluation itself. He said the Committee could have each subcommittee take on an alternative, request answers to questions posed by the Committee, and then bring back the answers to the full Committee.

Chairman Nunley noted the Committee could determine which ranking criteria are higher priority to the Committee by establishing ranking criteria and then using a weighting system, for instance. This would allow the Committee to meet their own objectives while still working within the Bylaws.

Member Miller stated a hybrid approach (subcommittee work with more frequent Committee meetings) would meet address the concerns stated by the other members. He recommended this approach. Member Garson stated he agreed and this would help the Committee move forward if problems arise with getting information or answering important questions.

Member Garson also suggested the Committee could develop ranking criteria before forming subcommittees. Member Graue compared this to the "Consumer Reports" ranking and also recommended developing a similar ranking scheme.

Member Miller proposed working in parallel on the ranking criteria and the subcommittee evaluations. Chairman Nunley noted that he included a proposed approach in Item 6 that assumed these processes would be performed in parallel. He briefly provided an overview of the Item 6 "draft work plan" and suggested the Committee consider performing some of the evaluation prior to establishing ranking criteria. He also noted the outline presented in the prior meeting (September 24, 2012) was presented as an approach to organize the group's thoughts. In addition, he noted there is no time limit or schedule for completion of the Committee's work and they maintain control over the approach and the schedule.

Public Comment:

General Manager LeBrun reminded the Committee that the Board itself has limited powers and responsibilities, and cannot mandate a regional water supply solution or certain planning requirements. The Board had attempted to provide guidelines for the evaluation process so that the Committee would have a manageable work effort and also to reflect the Board's limited authority to implement or guide some water resource planning efforts (such as various regional efforts).

He noted the District Board had expressed to the County that they would move forward with a citizens' group to evaluate water supply alternatives and invited the Board of Supervisors to participate or head this effort, but no response was provided. The County also recently approved an industrial project outside of the District and noted the project could receive water from Nipomo's supplemental water project, and the General Manager cited this as an example of the District's limited authority.

Member Miller suggested moving the Surface Water alternative to the third subcommittee, but some other members responded that they would like to keep the alternative grouping as proposed. He noted that this would be acceptable to him as originally proposed.

Member Garson suggested moving forward with the subcommittee groups as proposed and the Committee could revisit the grouping later.

The Committee voted to accept the subcommittees and alternative assignments as proposed in the Staff Report.

## 6. DEVELOP WORK PLAN FOR PERFORMING ALTERNATIVE EVALUATION

Chairman Nunley presented a proposed outline (attached), schedule and work plan for consideration by the Committee.

Selection of Subcommittees and Beginning of Evaluation	October 2, 2012
Development of Alternative Analysis by Subcommittees (Including Subcommittee Meetings)	October 2 through week of November 12 <sup>th</sup> , 2012
Committee Meeting - Development of Ranking Criteria	Week of November 12 <sup>th</sup> , 2012
Completion of Alternative Analysis by Subcommittees	Through Week of January 7 <sup>th</sup> , 2013
Committee Meeting - Subcommittees to Present Alternatives	Week of January 7 <sup>th</sup> , 2013
Committee Meeting – Perform Ranking	Week of January 14 <sup>th</sup> , 2013
Committee Meeting – Review Rough Draft of Report	Week of January 28 <sup>th</sup> , 2013
Committee Meeting – Finalize Report	Week of February 11 <sup>th</sup> , 2013

Member Matsuyama noted she was concerned with the schedule for the analysis considering the holiday season, particularly since there is no deadline for the work. She requested stretching the schedule to accommodate the holidays.

Member Miller proposed modifying the outline to separate Cost from Constraints and include it after the Schedule item. Members Matsuyama and Watson expressed support. Member Watson stated the subcommittees could perform the bulk of the evaluation, without cost opinions, in the next 2 or 3 weeks. He also stated the Committee could get as much done as possible prior to Thanksgiving and various members expressed support.

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Member Miller suggested the Committee meet again during the first week of November to review progress, and the Committee members discussed meeting on November 1.

Member Watson stated the Committee may need staff to perform some analysis or help establish meetings when they regroup at the next meeting. Chairman Nunley stated he would be available to help with those efforts.

Member Watson asked if the Committee could discuss ranking criteria at the next meeting and proposed including this as an agenda item for the next meeting, in case there was adequate time to address it. If not, it could be deferred to a future meeting. Various members discussed this.

There was no public comment.

The Committee voted to modify the schedule proposed above and meet on November 1 at 1:30 PM to review draft deliverables from the subcommittees and to add ranking criteria as a topic if time allows. The subcommittees will provide a progress report by October 29, 2012 for assembly by Chairman Nunley as part of the meeting packet, no later than 24 hours prior to the meeting. The Committee also voted to revise the schedule as follows:

Selection of Subcommittees and Beginning of Evaluation	October 2, 2012
Development of Alternative Analysis by Subcommittees (Including Subcommittee Meetings)	October 2 through week of November 12 <sup>th</sup> , 2012
Committee Meeting – Progress and Development of Ranking Criteria (if time allows)	November 1
Committee Meeting - Development of Ranking Criteria	Week of November 12 <sup>th</sup> , 2012
Completion of Alternative Analysis by Subcommittees	Through Week of January 21st, 2012
Committee Meeting - Subcommittees to Present Alternatives	Week of January 21st, 2013
Committee Meeting – Perform Ranking	Week of January 28 <sup>th</sup> , 2013
Committee Meeting – Review Rough Draft of Report	Week of February 11th, 2013
Committee Meeting – Finalize Report	Week of February 25 <sup>th</sup> , 2013

**7. DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD**

Chairman Nunley noted this would be a standing item for all meetings and the Bylaws require the Committee to present the alternatives being evaluated, as well as Committee members assigned to the alternatives, to the Board of Directors.

Member Matsuyama asked if a written report would be required. Chairman Nunley stated this could be a verbal update. General Manager LeBrun noted the presentation would be the first item on the agenda and that a written report could be submitted to the Chairman for distribution to the Committee if needed.

There was no public comment.

The Committee voted for Member Matsuyama to serve as Spokesperson at the next Board meeting.

**8. PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE**

Chairman Nunley presented the standing item.

Member Woodson asked if industry standards such as professional society manuals (American Water Works Association and National Sanitation Foundation) and guidelines should be included. Chairman Nunley stated he assumed industry standard documents would be acceptable without needing to specify them. He noted that other reports, documents, etc., should be brought to the Committee as members identify them.

There was no public comment.

Member Miller noted that discussions with individuals relevant to the evaluation may end up being documented. Chairman Nunley agreed that it would be important to make sure those discussions are with individuals with the appropriate authority or knowledge.

The Committee had no action.

**9. SET NEXT COMMITTEE MEETING DATE AND TIME**

The Committee voted to meet on November 1 at 1:30 PM at the end of Item 6. Member Matsuyama noted that subcommittees would be meeting as well.

There was no public comment.

The Committee had no action.

**10. ADJOURN**

The meeting adjourned at 3:30 PM.

**ATTACHMENT:**

Revised Outline per Committee comments

NIPOMO COMMUNITY SERVICES COMMUNITY DISTRICT  
SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE

DRAFT OUTLINE – EVALUATION OF SUPPLEMENTAL WATER ALTERNATIVES – REV 10/2/12

1. Introduction (Draft by Chair)
  - a. Objectives
  - b. Supply goals
    - 1000 AFY by June 2015
    - 3000 AFY
    - 6200 AFY (Future)
2. State Water (Subcommittee)
  - a. Brief description
    - *Options considered / evaluated (from 9/24/12 Meeting Notes and other sources)*
  - b. Supply
  - c. Quality
  - d. Reliability
  - e. Required facilities
  - f. Constraints
    - Institutional
    - Legal
    - Regulatory (including permitting requirements and effluent disposal requirements, if any)
    - Capacity
  - g. Implementation schedule
    - 1000 AFY delivery
    - 3000 AFY delivery
    - 6200 AFY delivery (if feasible)
  - h. Cost range
    - Capital cost
    - Operating or ongoing cost
3. Demand Management - Conservation / Domestic Graywater (Subcommittee unless otherwise noted)
  - a. Brief description
    - Current District efforts/policies (NCSD Staff)
    - Options considered/evaluated
  - b. Goals
  - c. Institutional requirements
  - d. Legal requirements
  - e. Cost range & responsibility
4. Agricultural and Industrial Reuse (Subcommittee)

**Comment [M1]:** All alternatives would follow the same format except as noted below.

5. Santa Maria Waterline Intertie Project (Subcommittee)
6. Recycled Wastewater from Municipal Facilities (Subcommittee)
7. Local Groundwater (Subcommittee)
8. Surface Water (Subcommittee)
9. Seawater (Subcommittee)
10. Ranking (Committee)
  - a. Evaluation Criteria and Definitions
  - b. Priority and Weighting
  - c. Summary of Ranking

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE *MKN*  
CHAIRMAN

DATE: October 31, 2012



## **DISCUSS SUBCOMMITTEE PROGRESS**

### **ITEM**

Subcommittees to present a progress report on development of their alternative evaluations.

### **BACKGROUND**

In the October 2, 2012, Committee meeting, the members voted to present the progress of their work at this meeting. Each subcommittee provided notes or outlines to the Chairman on October 29, 2012, for discussion with the full Committee. The Chairman collected the notes in one slide presentation to aid in this discussion.

Each subcommittee will present their alternatives to share information and receive feedback with the other Committee members and the public.

### **RECOMMENDATION**

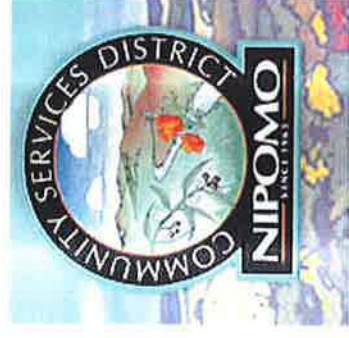
Review and discuss progress submittals provided by the subcommittees.

### **ATTACHMENT**

Subcommittee Progress report

# Progress Report by Subcommittees

Supplemental Water Alternatives  
Evaluation Committee  
November 1, 2012





# State Water Project

Craig Armstrong

Dennis Graue

Kathie Matsuyama

# State Water Project- 1

## Quantity of water available

SLO County has 17,530 AF in excess Table A amounts (table A amounts are the number of acre feet each entity has agreed to purchase and is the basis for allocating actual water deliveries). The drought buffers for CCWA and Goleta Water District total 6,400 AF (questionable if available).

## Delivery of Water

Capacity of Polonio Pass WTP is 43,900 AF plus a possible 5,000 AF in excess capacity.

The SWP pipeline has 3,900 AF in unused capacity and 5,600 AF in excess capacity (total of 9,500 AF).

Available capacity would be higher in those years when SWP is delivering less than 100% of Table A amounts.

## Reliability

Long term delivery reliability through 2029 is 61% of Table A amounts. You would need 5,000 AF in Table A amounts to get 3,000 AF and 10,300 AF in Table A amounts to get 6,200 AF.

# State Water Project - 2

## Legal constraints

Any option involving state water (except the Santa Maria pipeline) would be subject to approval by various local and state agencies.

## State Water Project (SWP) Options

- Acquire unused or excess Table A amounts
- Purchase Table A amounts from CCWA participants (i.e., Santa Maria)
- Directly participate in SWP/CCWA.
- Acquire “other” water through participants in SWP (Santa Maria pipeline)
- Reactivate 3,000 AF desal plant in Santa Barbara and exchange for SWP water

## Acquire unused or excess Table A amounts

Possible option—SLO County has sufficient Table A amounts and WTP and pipeline capacity would be sufficient except in years when 95% of Table A amounts (excluding drought buffers and turn back sales AF) is delivered. 95% based on Polonio Pass WFT capacity.

## Purchase Table A amounts from CCWA participants

Possible option

# State Water Project - 3

Directly participate in SWP.

Possible option

Acquire "other" water through participants in SWP (Santa Maria pipeline)

Possible option

Reactivate 3,000 AF desal plant in Santa Barbara and exchange for SWP water

Fails criteria--does not provide dependable 3,000 AF per year since it is unlikely that Santa Barbara would receive full Table A amount every year. Possibly could be combined with other options.

# State Water Project - 4

## Questions

Is excess capacity still available at Polonio WTF?

Have there been any updated studies regarding unused or excess capacity on the pipelines?

Do any of the CCWA members have efforts in progress to acquire a larger share of SWP water delivered by CCWA?

Do any of the SLO agencies using SWP water have efforts in progress to acquire a larger share of SWP water delivered by SLOFC& WCD?

Are CCWA and SLOFC& WCD open to NCSD (1) acquiring unused or excess Table A amounts, (2) purchasing Table A amounts from SWP participants, or (3) directly participating in SWP?

Would the City of Santa Barbara be interested in reactivating its desalination plant and entering into a water exchange agreement?

# Seawater

Craig Armstrong

Dennis Graue

Kathie Matsuyama

# Major Considerations

- Nipomo's proximity to seawater and brackish water
- Insolation of south SLO County
- Size of Santa Maria Basin aquifer
- Rainfall volumes in the future
- Price of purchased energy in the future
- Availability of land for processes requiring a lot of it, like solar distillation

# Seawater - Other Considerations

- Future rainfall volumes influence the availability of water from the aquifer and from the California Water Project
- Operating costs of membrane separation methods and most distillation methods are very sensitive to energy costs
- Amount of crude oil produced nearby as an energy source



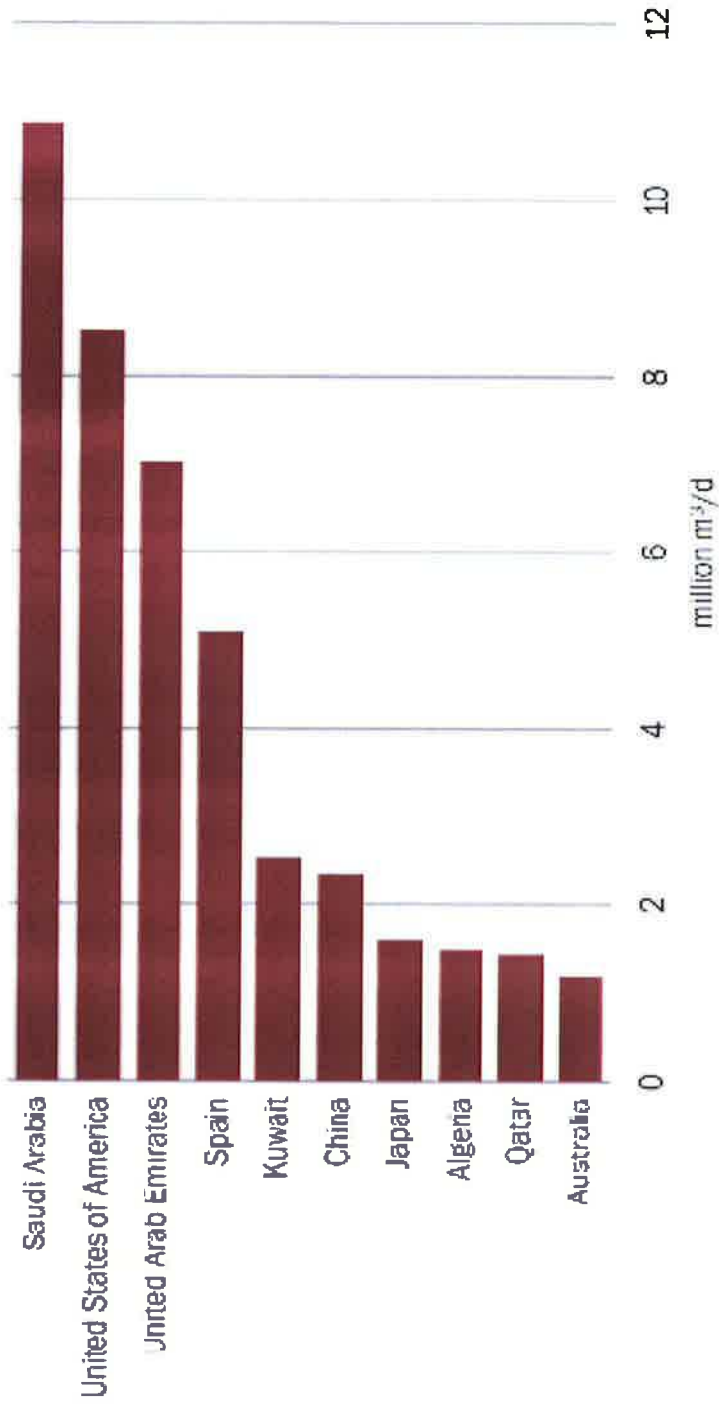
# From Wikipedia

## Water Desalination Methods: DESWARE.net

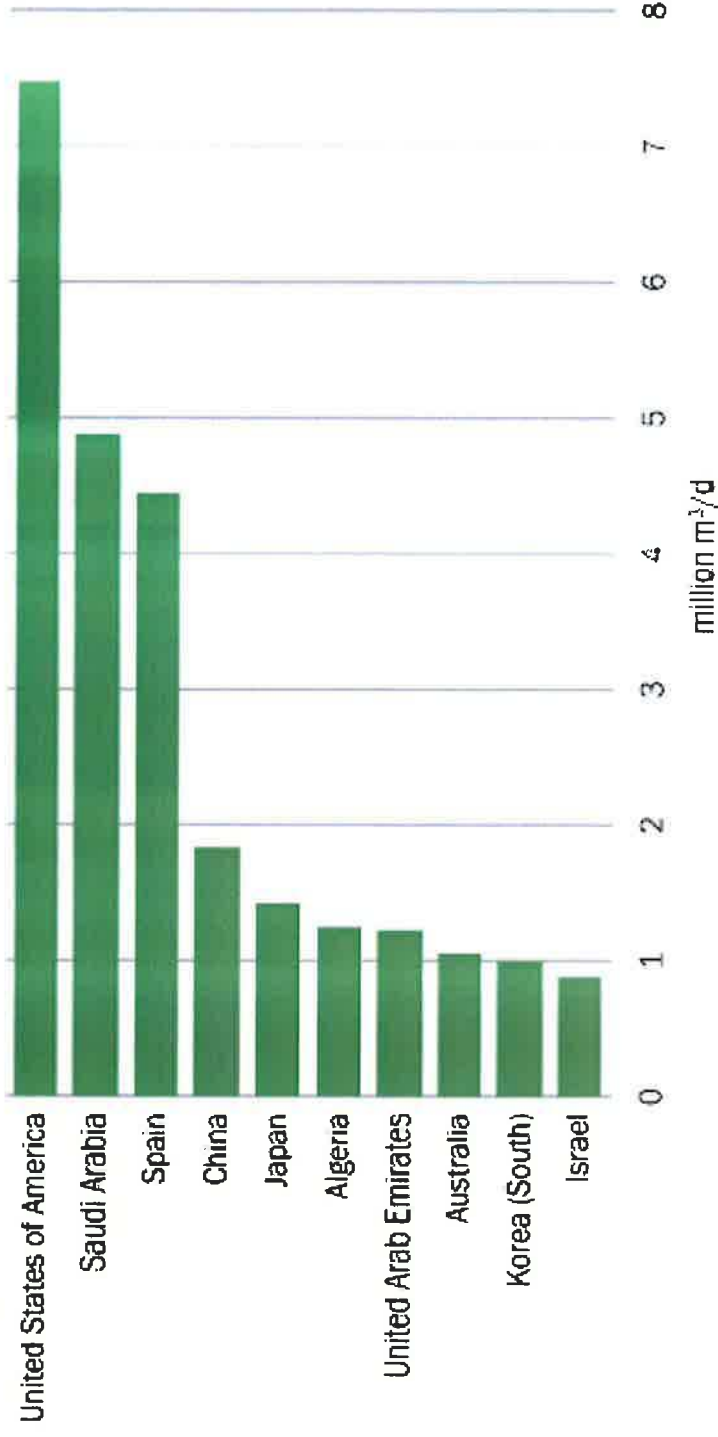
### Encyclopedia of Desalination Methods and Water Resources

- Distillation
  - Multi-stage flash distillation (MSF)
  - **Multiple-effect distillation (MED|ME)**
  - Vapor-compression (VC)
- Ion exchange
- Membrane processes
  - Electrodialysis reversal (EDR)
  - Reverse osmosis (RO)
  - Nanofiltration (NF)
  - Membrane distillation (MD)
- Freezing desalination
- Geothermal desalination
- Solar desalination
  - Solar humidification-Dehumidification (HDH)
  - Multiple-effect humidification (MEH)
- Methane hydrate crystallization
- High grade water recycling
- Seawater greenhouse

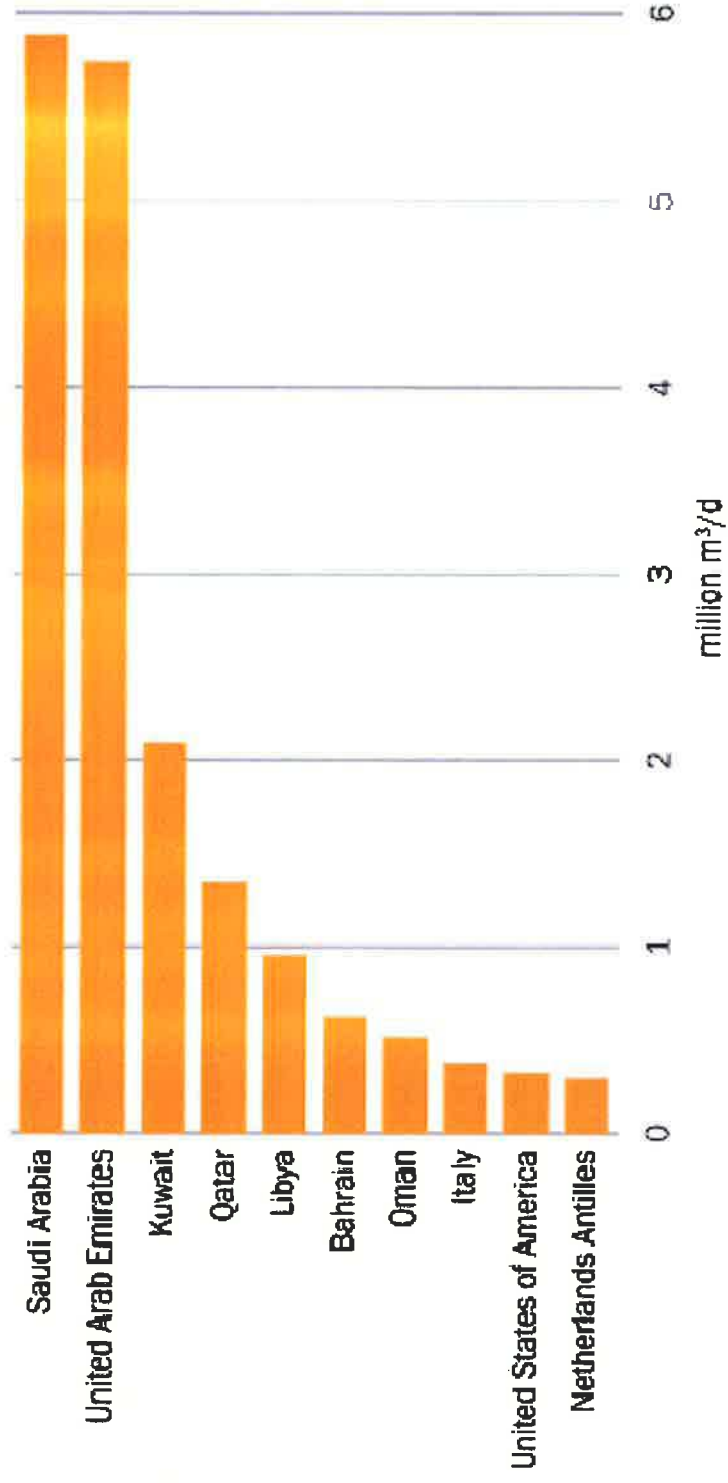
# Top 10 countries by total installed capacity since 1945 - DesalData.com



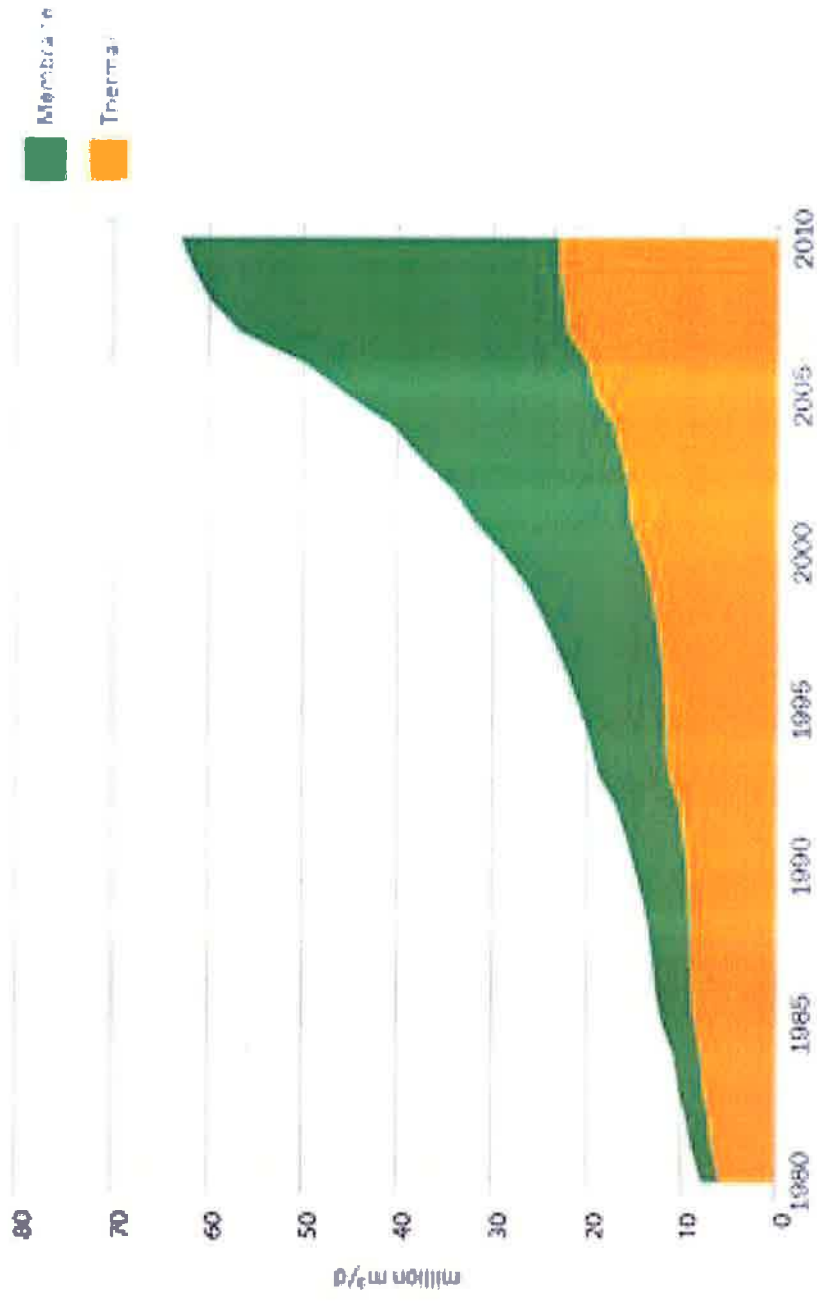
The US has led the membrane market, while Saudi Arabia and the United Arab Emirates have led the thermal market



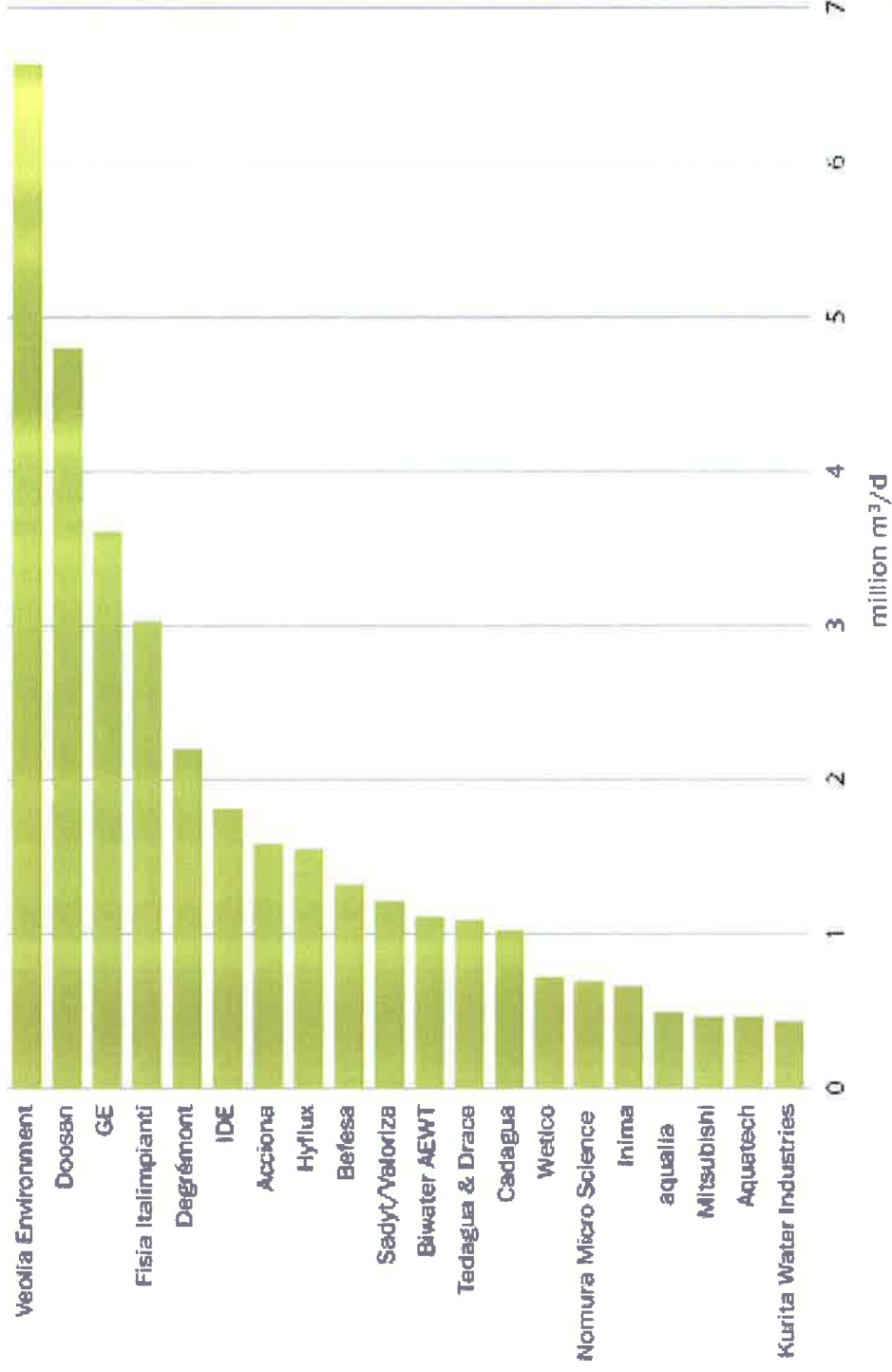
# Top 10 countries by total installed thermal capacity since 1945 - DesalData.com



# Installed membrane and thermal capacity, 1980-2010 (cumulative) - DesalData.com

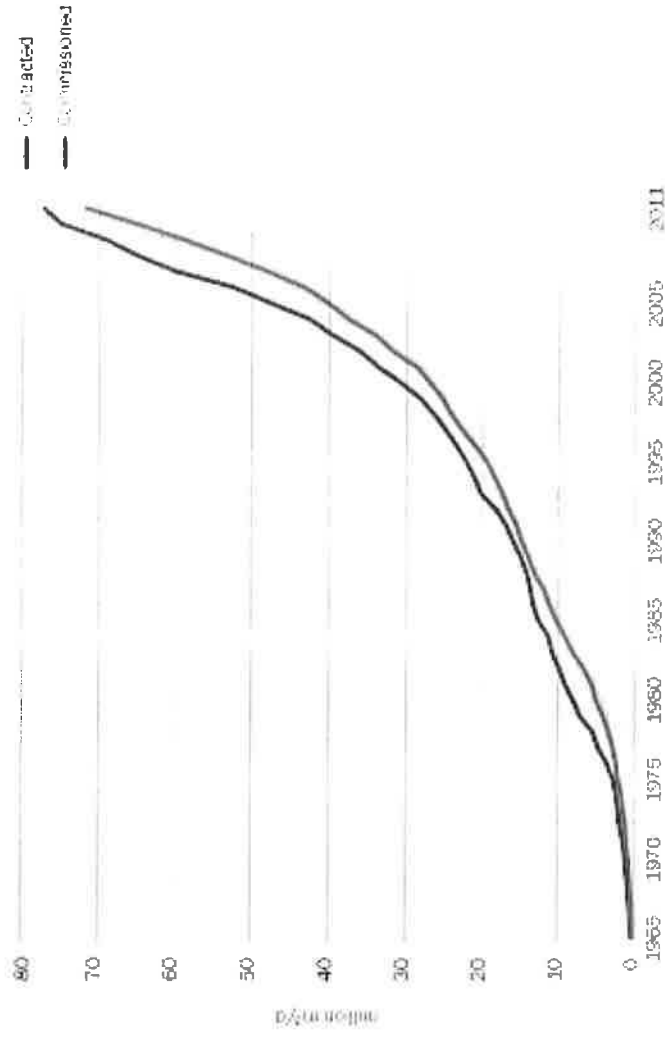


# Desalination plants as created by engineering, procurement and construction (EPC) contractors.



# Background on Reverse Osmosis

- To date over 16,000 reverse osmosis plants have been built in the world, capable of producing more than 17 million AFY of fresh water – DesalData.com



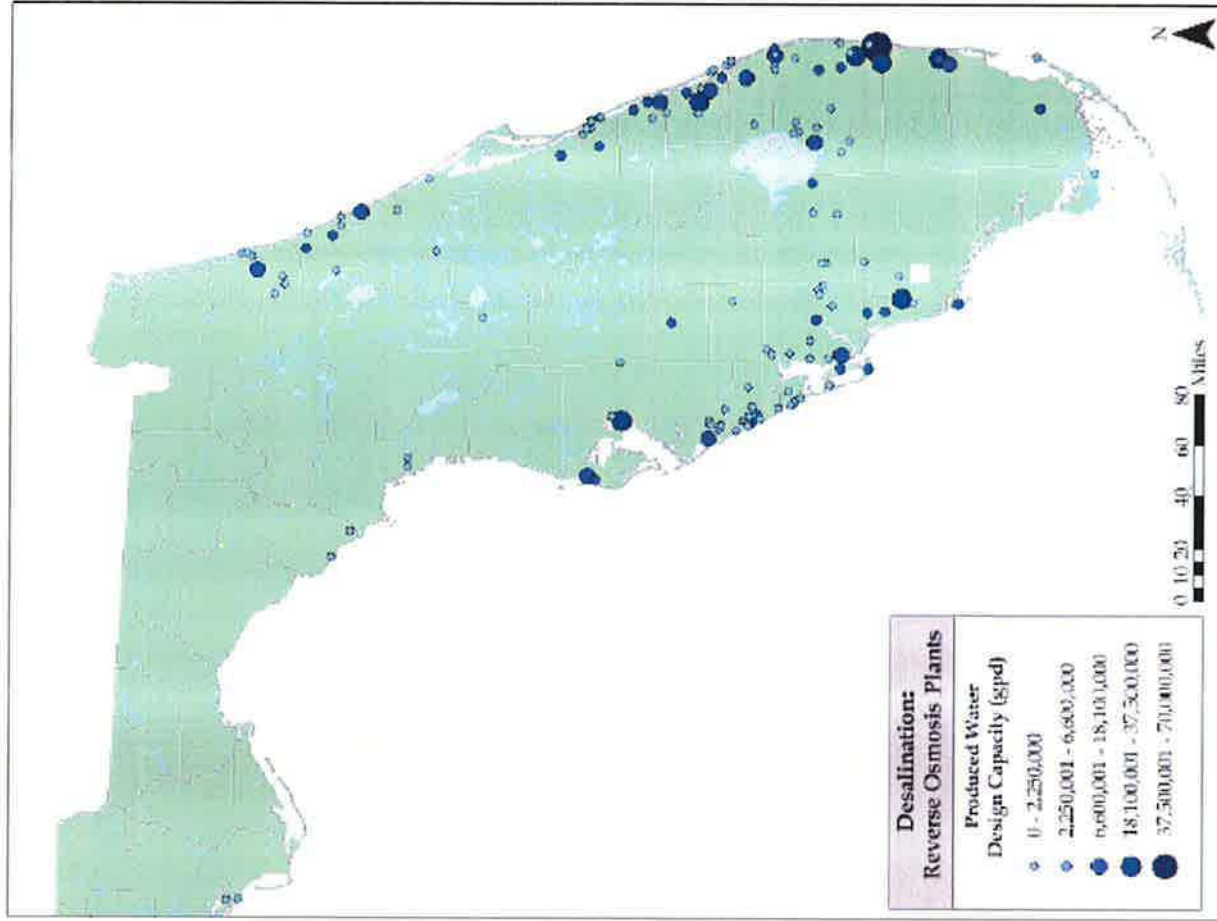


Figure 1-4. Desalination Facilities in Florida (FDEP, 2009)



# Possible Ways to Implement Desalination in Nipomo

1. Thermal using waste heat from Conoco-Phillips refinery – a possible 900 AFY
2. Other thermal applications using 1- solar distillation or 2- purchased energy (gas) to generate the heat
3. Conventional Reverse Osmosis, like Santa Barbara
4. Enhanced Reverse Osmosis using VSEP technology – a possible 170 AFY from 6 idle units in Orcutt Oil Field

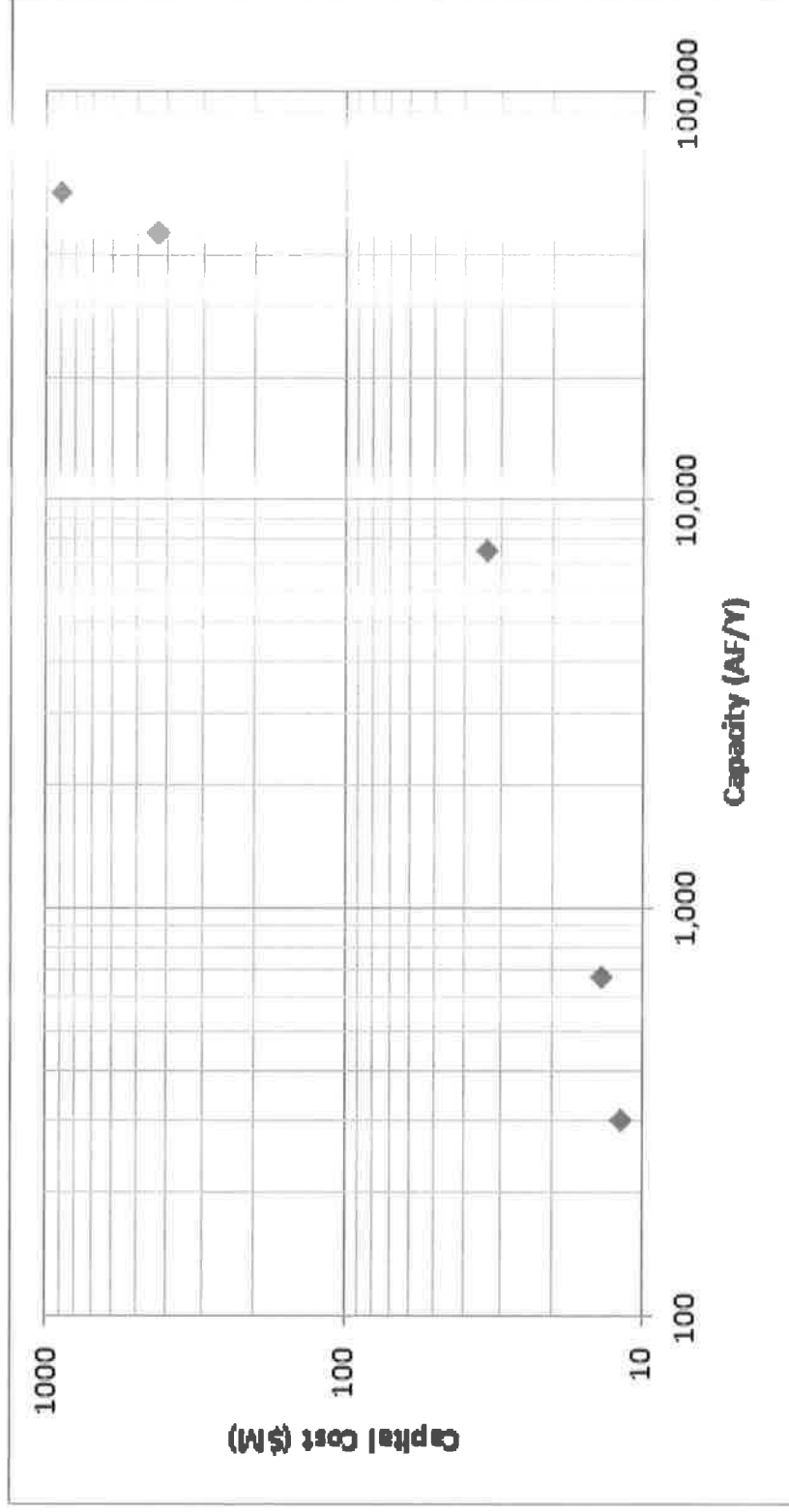
# Needed for Evaluation

1. Discussion with Conoco-Phillips regarding joint projects using their waste heat
2. Discussion with experts to narrow the evaluation of thermal and membrane methods
3. Discussion with Santa Barbara and Poseidon representatives and with experts to narrow the evaluation of membrane methods, especially RO and Membrane Distillation
4. DJG discussion with a Pacific Coast Energy representative suggests the possibility of purchasing 6 VSEP units for a possible gain of 170 AFY

# Capital & Operating Costs

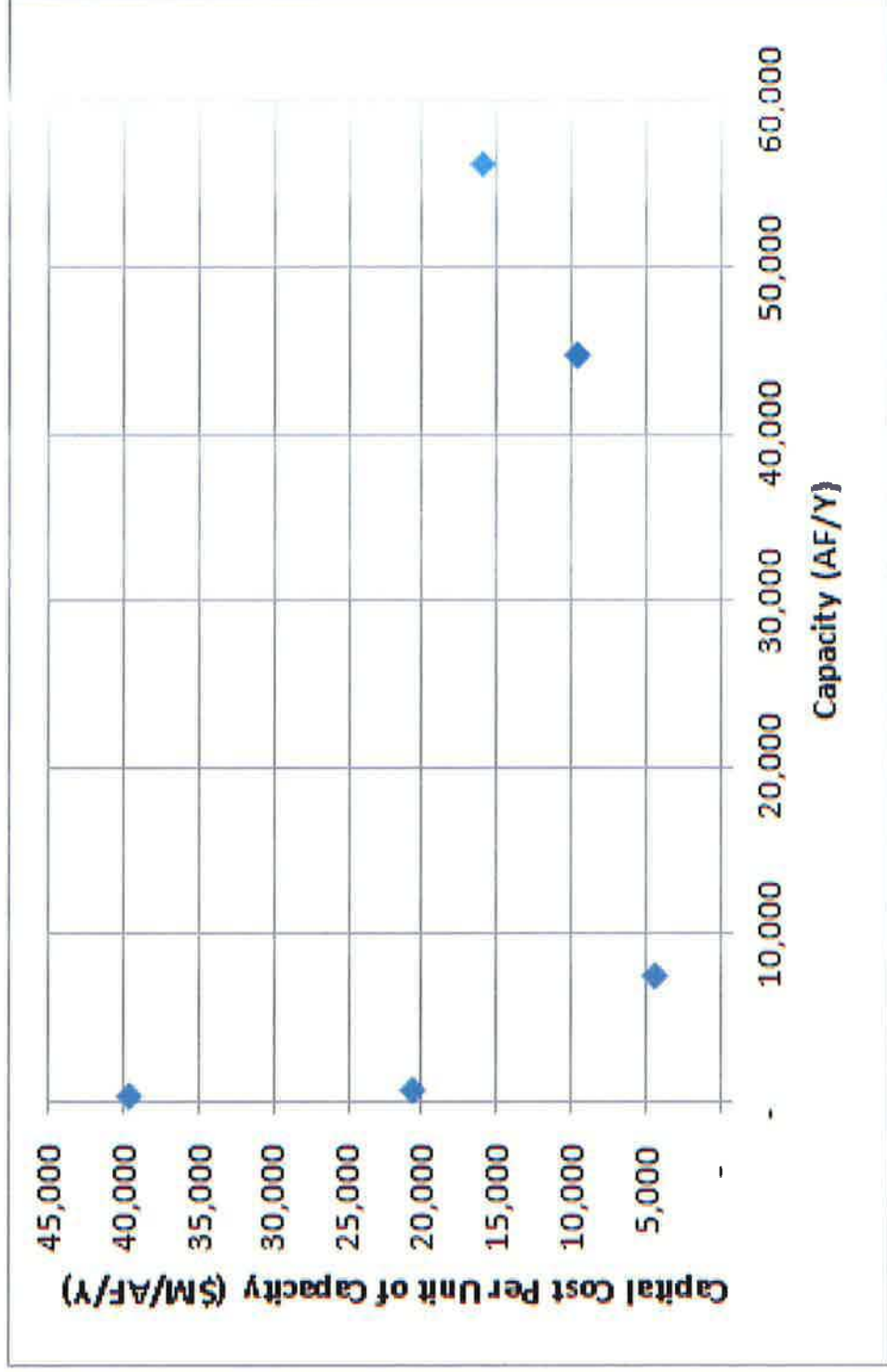
Plant	Year Built	Capacity AFY	Capacity kgpd	Cap Cost \$M	Cap Cost/AFY \$/AFY	Op Cost \$/AF	Op Cost US\$/M3
<b>Reverse Osmosis</b>							
Carlsbad - Poseidon	2012	56,048	50,000	900	16,058	2,290	1.86
London - Thames	2012	44,719	39,894	432	9,660		
Marina - Monterey		673	600	14	20,815		
Israel						654	0.53
Singapore						604	0.49
San Leandro, CA						567	0.46
Perth							
Santa Barbara	1991	7,500			34	4,533	1,918
Sand City, CA	2010	300	268	12	39,667		1.55
<b>World</b>	<b>2012</b>	<b>17,887,703</b>	<b>15,957,447</b>				
PCEC VSEPS			150				
<b>Thermal</b>							
Lakshadweep, India	2012	29,818	26600	1.1986	40	7,376	5.98

# Capital Costs in US RO Plants



Various sources: So far the data make little sense. We need more information and expert help to sort through it.

# Economy of Scale?



# Persons Interviewed

- Mr. Dick Hart, Pacific Coast Energy Company
- VSEP RO devices they have as surplus
- Mr. Pete Corboy, New Logic
- Capacity and operating characteristics of VSEPs
- Mr. Clay Bradfield, Cannon Engineering
- Learned that Cannon has no experience with solar distillation

# Agricultural and Industrial Reuse

Craig Armstrong

Dennis Graue

Kathie Matsuyama

# Santa Maria Waterline Intertie Project

Rob Miller

Dave Watson

Dan Woodson



# Santa Maria Waterline Intertie Project

- Feedback from meeting with the City of Santa Maria, including a discussion of reliability, water quality, constraints associated with direct State Water connections, future State Water purchases, and next steps.
- The City must maintain a blend of at least 50% State Water to meet water quality requirements at their wastewater treatment facility.
  - In order for the City to supply NCSD with 2,500-3,000 AFY, additional State Water Allocation must be acquired. It is estimated that this will take about 18 months for the City to complete.
  - The City can "bank" or carry over in one year up to 8,500 AF of unused water supplies, to improve reliability of City supplies and by extension, the Intertie water deliveries.

# Surface Water

Rob Miller

Dave Watson

Dan Woodson

# Recycled Wastewater from Municipal Facilities

Rob Miller

Dave Watson

Dan Woodson

# Recycled Wastewater from Municipal Facilities - 1

Recycled water from SSLOCSD and/or Pismo Beach:

- Recommend adoption of posted reports as reliable sources of information.

SSLOCSD has the potential for up to 2,250 AFY available

- Water quality is a constraint, due to high chloride and sodium levels, and therefore reverse osmosis treatment is likely.
- The capital cost at the treatment plant, including demineralization, is on the order of \$15 to \$20M, not including any distribution piping. Costs per ac-ft are in the range of \$4,000 to \$6,000, depending on the final use. The costs are reported in 2008 dollars.

Pismo has the potential for up to 1,450 AFY available.

- Water quality issues are similar to SSLOCSD.
- Pismo has plans to reuse as much recycled water as possible, with the balance conveyed to the joint outfall with SSLOCSD for discharge to the ocean. Recycled water from Pismo can be made available at Oceano.
- The capital cost at the treatment plant for irrigation-ready applications is on the order of \$4M, not including any distribution piping. Costs per ac-ft are in the range of \$2,750 plus piping costs. The costs are reported in 2012 dollars.

# Recycled Wastewater from Municipal Facilities - 2

- Groundwater recharge via percolation may be viable in the area of Mesa and Eucalyptus Roads, but the community opposition to this 24 acre site is expected to be substantial. Groundwater recharge for purposes other than disposal may require advanced treatment including demineralization and advanced oxidation.
- Additional input from the industrial group is needed on the Phillips 66 option, which was estimated to cost \$4,000 per acre-ft in 2008.
- Agricultural use is allowable, but based on local experience, may take years to develop willing users.
- Golf course use is viable with demineralization, but the overall demand is limited (three courses)
- Additional applications to parks, landscaping and Caltrans Hwy 1 and 101 parkways is possible.
- Groundwater recharge from Pismo or SSLOCSD along the coast would be beneficial in managing saltwater intrusion impacts.
- Can Nipomo receive credit for groundwater recharge applications of recycled water in the Santa Maria or Northern Cities areas?

# Conservation/Graywater

Dan Garson

Dennis Graue

Kathie Matsuyama

# Local Groundwater

Dan Garson

Dennis Graue

Kathie Matsuyama

# Local Groundwater

1. The term local groundwater may be misleading - per TM1, Local Groundwater includes water that may be available from proposed wells near the Santa Maria river (the Bonita and Hutton wells). We may need to clarify this (discussion)
2. We seem to be focusing on two areas of interest: local shallow ground water aquifer and the Dana wells per Ben-Ing Corp. We are focusing less on the opportunity to drill wells at the Santa Maria river bed as this appears to be water claimed by Santa Maria.
3. We have some concerns that these sources may not be considered legitimate sources although there is clearly water at these locations (legal concerns).
4. We are seeking to determine the quantity and quality of these two sources (quantity and quality issues).
5. Based on the information the Woodlands has received from Cleath on this water source, one would need numerous low volume wells rather than one or two large wells to avoid creating depressions (this may be fine for small producers and a valuable resource, but probably not worthy of NCSD - discussion).
6. We are looking forward to speaking in depth with the District hydrologist.



## Note

- This topic should allow us to conserve water and lessen tendencies for seawater encroachment, but it does not meet the criterion of adding to water supplies.

## Subtopic: Local Shallow Aquifer

- Have surveyed the available reports and studies
- Past studies have been piece-meal, although helpful
- The geology is the key to defining “local” and “shallow” – therefore we await the discussion with hydrogeologist Brad Newton
- Answers to the submitted list of questions should give enough information to allow us to proceed to make rankings on this topic

## Subtopic: Riverside Wells

- Riverside wells have been proposed before, e.g. Boyle TM1, Padre Figure 1
- Need to discuss with lawyer Jim Martin the questions submitted to determine legal restrictions on such well drilling
- That discussion should allow rankings to be made

## Subtopic: Dana Wells

- Dispersing the withdrawal points in the aquifer is desirable to help avoid severe local drawdowns of the air-water interface, such as that experienced currently near Blacklake Golf Course
- We need data from BenIng Company LLC regarding the physical conditions of the wells, their depths, well logs and productivities to determine whether they could be of use.
- The discussion with the lawyer Jim Martin should reveal the legal restrictions of putting those wells to use.

## Action Items

- Summarize Committee information requests
- Identify other meetings or areas for assistance by Committee Chairman or District staff

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE  
CHAIRMAN *MKN*

DATE: October 31, 2012



## **DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD**

### **ITEM**

If determined appropriate by the Committee, identify and select a member of the Committee to serve as a spokesperson for the Committee at an upcoming Board meeting.

### **BACKGROUND**

Paragraph 7A of the Bylaws requires that "The Committee will provide written reports and oral presentations to the NCSD Board of Directors". The Chairman's and Vice Chair's responsibilities do not include regular reporting and correspondence with the Board. The Committee can select a Spokesperson from among the voting members to represent them before the Board. The Spokesperson's responsibilities may include:

- Providing updates to the Board of Directors at major milestones in the evaluation process; and
- Leading the presentation of the findings of the Committee.

At the September 24, 2012, Committee meeting, the Committee decided to select a spokesperson on an "as-needed" basis, depending on whether an update should be provided to the Board at an upcoming meeting. A different Spokesperson could be selected for each update or presentation, if desired.

Also as directed at the September 24 meeting, this discussion and selection will be a standing item at each Committee meeting.

### **RECOMMENDATION**

Discuss whether an update should be provided by the Committee to the Board. Nominate a voting member of the Committee to serve as Spokesperson, if desired by the Committee.

### **ATTACHMENT**

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE  
CHAIRMAN MKW

DATE: October 31, 2012



## PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE

### ITEM

Identify and propose reference documents to be used by Committee members in the evaluation.

### BACKGROUND

The Bylaws list the following "primary" reference documents to be used in the Committee evaluation:

- 2010 Santa Maria Urban Water Management Plan
- 2010 NCSD Urban Water Management Plan
- 2010 CCWA Urban Water Management Plan
- 2007 Boyle Alternatives Analysis
- 2011 NMMA TG Annual Report
- 2009 NCSD Supplemental Water Project EIR
- 2005 Stipulation
- 2008 Court Order

The Bylaws also state that, "Other published technical analyses may be used if the SWAEC finds them to be rigorously accurate." The list was amended at the September 24, 2012, Committee meeting to include the following documents:

- 2011 Northern Cities Management Area Monitoring Report
- 2011 Santa Maria Valley Management Area Monitoring Report
- Final Supplemental Water Project Phasing Study (August 8, 2012)

As discussed in our September 5, 2012, meeting, Committee members are encouraged to bring documents to Committee meetings for their consideration as additional reference documents. The Committee would need to determine that the documents are "rigorously accurate" as required in the Bylaws.

It is assumed this will be a standing item for each Committee meeting.

### RECOMMENDATION

Identify, discuss, and vote on documents presented by Committee members for use as reference materials in the Committee's evaluation.

### ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE  
CHAIRMAN *MKN*

DATE: October 31, 2012



## **DEVELOP RANKING CRITERIA**

### **ITEM**

If the Committee decides time is available at this meeting, Committee will begin developing criteria for use in ranking the supplemental water alternatives.

### **BACKGROUND**

The Bylaws established the Committee and tasked it with evaluating and ranking supplemental water alternatives. At the September 24 meeting, the Committee established an evaluation process that included detailed evaluation of alternatives by subcommittees; development of ranking criteria by the full Committee; and ranking of alternatives by the full Committees after the subcommittees complete their studies.

At the October 2 Committee meeting, the members decided to determine whether there would be time in this meeting to begin developing ranking criteria, or if that step in the evaluation process should be deferred to a future meeting.

The Committee is welcome to propose and discuss a methodology for ranking the supplemental water alternatives. Some ranking criteria that have been discussed at prior meetings and have been addressed by the District in the past are listed below:

- Schedule – Critical milestones are 1000 AFY delivery by June 2015 and 3000 AFY delivery as soon as possible. Regulatory, legal, and institutional constraints would affect schedule.
- Reliability - Ability to deliver 3000 AFY water consistently around the year and into the future. Also could consider likelihood of contamination or damage during a seismic event, among other aspects of reliability.
- Optional Phasing – Project investment could be lower initially to deliver a smaller quantity of water, but could be phased to 3000 AFY and ultimately to 6200 AFY.
- Lifecycle Cost and/or Capital Cost
- Water Quality – Since all supplies must meet state and federal drinking water standards, other quality issues to be considered could include dissolved solids (salts) and constituents such as chlorine and sodium, which impact wastewater discharge and reuse options.

Other than selecting the ranking criteria, some questions that must be addressed include:

- Will the Committee decide to rank each alternative according to each criterion, or assign points with a weighting factor for some criteria that outweigh others?
- Should alternatives be paired or grouped together to meet the delivery goals established in the Bylaws? If so, would these be ranked separately or as an “alternative”?

The Committee members may wish to define broader categories now (as described above, for example). The approach could be detailed and refined in future meetings as the



subcommittees bring progress reports back to the full Committee. Refining the ranking criteria could also be established as a standing item for each meeting.

**RECOMMENDATION**

Determine whether the Committee members will begin discussing ranking criteria at this meeting, or will defer that discussion to a subsequent meeting. Committee to decide whether to address this item or defer it to a future meeting. If development of ranking criteria is pursued at this meeting, establish a list of ranking criteria for consideration and further refinement as the subcommittee members complete their evaluation.

**ATTACHMENT**

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY *MKN*  
CHAIRMAN

DATE: October 31, 2012



## **SET NEXT COMMITTEE MEETING DATE AND TIME**

### **ITEM**

Committee members to set the next meeting date and time.

### **BACKGROUND**

As directed by the Board, the Committee is directed to meet as needed to perform the Supplemental Water Alternatives Evaluation in an efficient and thorough manner.

### **RECOMMENDATION**

Recommend that the Committee members schedule the next meeting during the week of November 12th, if possible.

### **ATTACHMENT**

NONE