Monterey Regional Plenary Oversight Group

Regional Urban Water Supply Evaluation

August 29, 2007

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RMC *Innovative Solutions for Water and the Environment*

Today's meeting

- Discuss evaluation approach
- Review preliminary results
  - Component Evaluation (individual projects)
  - Programmatic Evaluations (projects combined into packages)
- Provide feedback

Water Supply Needs of the Northern Monterey County Communities

Additional Water Supply Needs (AFY)

Area	Existing	Future
MPWMD	12,500	17,000
MCWD	0	2,400
Castroville	0	1,000
Salinas	TBD	TBD
Moss Landing	0	70
North County	0	4,900

Basis for Planning

Replacement 12,500 afy

Regional 25,400 afy

(Plus Salinas)

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Example of Incremental Implementation

	Component	Regulatory	Regional
1.	Conservation[1]	>200	>300
2.	Stormwater[1]	>300	>500
3.	Salinas Basin GW	-	TBD
4.	Seaside ASR	900	900
5.	Recycled Water	300	3,000
6.	GW Replenish.	2,500	2,500
7.	Conj. Mgmt.	3,200	7,800
8.	Desalination	4,400	4,400

[1] Preliminary, subject to refinement

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Programmatic Evaluations

- Supply scenarios
  - Supply necessary to meet regulatory requirements (95-10 and Seaside Adjudication)
    - **12,500 AF**
  - **Regional** supply required
    - Regulatory supply **+** future demand (includes demand both in *AND* outside of the CAW service area)
    - **25,400 AF (plus Salinas)**

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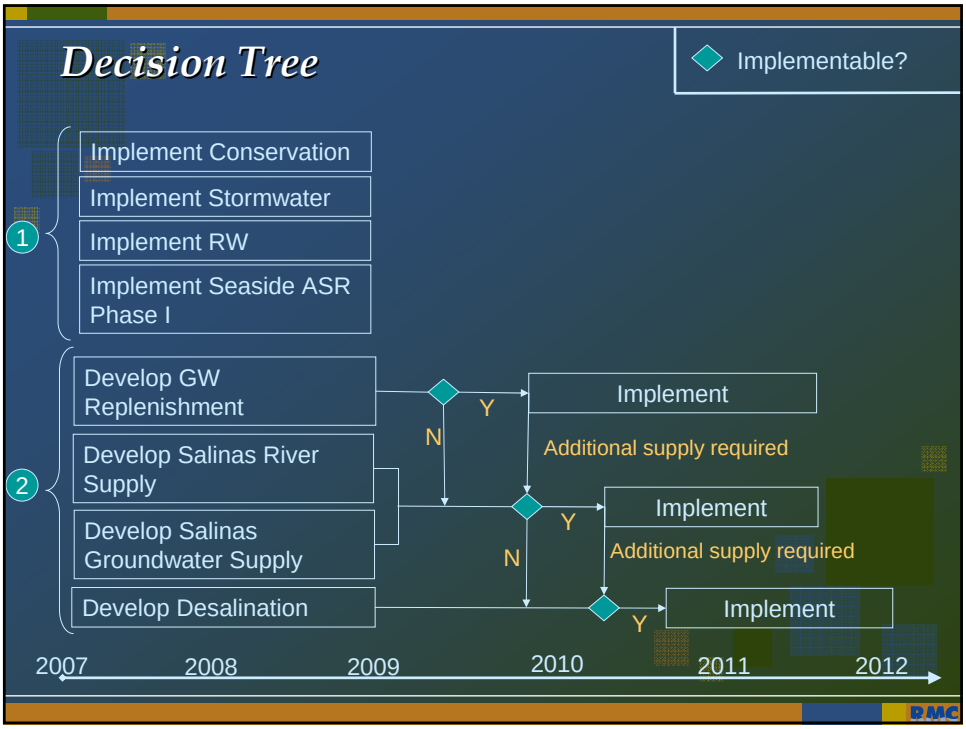
Decision Tree



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Criteria Summary

	Component Level	Programmatic Level
Schedule	X	X
Reliability	X	X
Permitting	X	X
Public Acceptance	X	X
Environmental	X	X
Regulatory		X
Additional Supply	X	X
Cost		X
Sustainability		X

Considerations for Component Criteria

- ***Schedule:***
  - Estimated year of completion?
  - Will the project be implemented in time to supply amount required?
- ***Reliability:***
  - Does supply depend on precipitation? Is supply sustainable?
- ***Permitting:***
  - Foreseen permitting issues?
  - Have all necessary permits already been acquired?
- ***Public Acceptance:***
  - Are there parties that are strongly against the project?
  - Are there parties that strongly support the project?
- ***Environmental:***
  - High energy consumption?
  - Adverse impacts to fish and surrounding habitats?

Considerations for Programmatic Criteria

- ***Regulatory:***
  - Adequate to meet required supply for 95-10
  - Responds to Seaside Adjudication?
- ***Additional Supply:***
  - Amount in AFY
- ***Cost:***
  - $$<$$$<$$$$ (estimated)
- ***Sustainability:***
  - Maximize use of fresh water sources, reduce use of desalination

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Component Evaluation – Projects Evaluated

- Water Recycling
  - Regional Urban Water Augmentation Project
  - Monterey Extension of Regional Urban Water Augmentation Project

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Component Evaluation – Projects Evaluated

- **Conjunctive Surface and Groundwater Management**
  - Seaside Groundwater Basin Aquifer Storage and Recovery (Phase I and Expansion)
  - Salinas Valley Water Project (Phases I, II, and III)
  - Salinas Groundwater Development
  - Granite Ridge Project
  - Potable Treatment Facility (Seasonal Combination of Desal/River)
  - Salinas Valley Groundwater Basin Replenishment (Desal/Intruded Groundwater)
  - Carmel River In Lieu Recharge (conceptual level)

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Component Evaluation – Projects Evaluated

- **Indirect Potable**
  - Seaside Groundwater Replenishment Project
- **Conservation Projects**
- **Stormwater Projects**

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Component Evaluation – Projects Evaluated

- **Desalination**
  - Coastal Water Project Alternative Water Source (Intruded Groundwater)
  - MCWD Pilot Desal Project
  - MCWD Regional Urban Water Augmentation Project
  - CWP Alternative Site (Basic and Regional)
  - MPWMD's Sand City Desal Project
  - City of Sand City Water Supply Project
  - Monterey Bay Regional Seawater Desalination Project (MBRSDP)
  - Seawater Conversion Vessel

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Programmatic Evaluation – REPLACEMENT SUPPLY: 12,500 AFY

Program	Water Supply (AFY)							
	Recycled Water		Conjunctive Management					
	Recycled Water (irrigation)	Groundwater Replenishment	*Seaside ASR / In-lieu recharge*	*Salinas River*	Salinas Basin Groundwater	Conservation	**Stormwater Reuse**	**Desalination**
A	>300	0	920	5,000	0	>150	300	5,830
B	>300	0	920	10,530	0	>150	300	300
C	>300	2,500	920	0	0	>150	300	8,330
D	>300	0	920	0	0	>150	300	10,830
D'	>300	0	920	0	0	>150	300	10,830

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Programmatic Evaluation – REGIONAL SUPPLY: 25,400 AFY (plus Salinas)

Program	Water Supply (AFY)							
	Recycled Water		Conjunctive Management					
	Recycled Water (irrigation)	Groundwater Replenishment	*Seaside ASR / In-lieu recharge*	*Salinas River*	Salinas Basin Groundwater	Conservation	Stormwater Reuse	Desalination
A'	3,000	2,500	>920	5,000	TBD	>300	500	7,180
A"	3,000	2,350	>920	7,200	TBD	>300	500	5,130
A'"	3,000	0	>920	5,000	TBD	>300	500	9,680
B'	3,000	2,500	>920	11,880	TBD	>300	500	300
C'	1,700	2,500	>920	0	TBD	>300	500	13,480
D"	1,700	0	>920	0	TBD	>300	500	15,980

25,400 AFY includes replacement supply of 12,500 PLUS future demands.

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Well Selection Greatly Impacts Desal Evaluations

Well Type	Source	Reliability	Permitting	Public Acceptance	Environmental	Cost per installation
Slant Wells	Ocean	◖	○	◖	◖	$1M
Collector Wells	Ocean	◖	○	◖	◖	$3.5M
Vertical Wells	Intruded groundwater	●	●	◖	●	$250,000

- These costs only include installation of an individual extraction well (i.e. no cost of pumps, desal treatment, or O&M)

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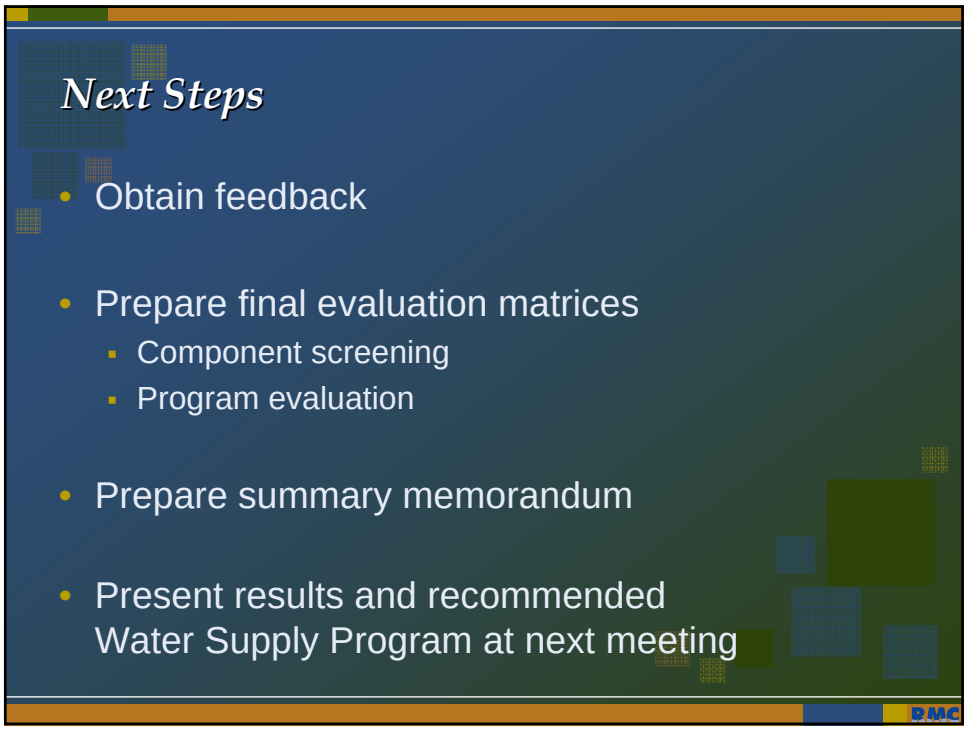
Next Steps
Obtain feedback
Prepare final evaluation matrices
Component screening
Program evaluation
Prepare summary memorandum
Present results and recommended Water Supply Program at next meeting
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