

MEETING NOTICE AND AGENDA

TECHNICAL ADVISORY COMMITTEE OF THE SEASIDE BASIN WATER MASTER

DATE: Wednesday, October 14, 2009

TIME: 1:30 p.m.

**LOCATION: City of Seaside City Hall – Portable Buildings Conference Room
440 Harcourt Avenue
Seaside, CA 93955**

If you wish to participate in the meeting from a remote location, please call in on the Watermaster Conference Line by dialing (877)810-9415. Use the Access Code of 4560043.

OFFICERS

Chairperson: Diana Ingersoll, City of Seaside

1st Vice-Chairperson: Tom. Bunosky, California American Water Company

2nd Vice-Chairperson: Rob Johnson, MCWRA

MEMBERS

California American Water Company

City of Del Rey Oaks

City of Monterey

City of Sand City

City of Seaside

Coastal Subarea Landowners

Laguna Seca Property Owners

Monterey County Water Resources Agency

Monterey Peninsula Water Management District

Public Member (John Fischer)

Agenda Item

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C. Martin Feeney (Martin Feeney)

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6. Schedule (Bob Jaques)

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7. Set next meeting dates:

• The next TAC meeting will be a Special TAC Meeting to be held on Wednesday October 28, 2009 at 9:00 a.m. at the MRWPCA Offices Board Room.

• The next regular meeting will be held on Thursday November 19, 2009 at 1:30 p.m. at the MPWMD Offices Board Room.

In compliance with the Americans with Disabilities Act, the City of Seaside does not discriminate against persons with disabilities. Both Seaside City Hall and the Portable Office Buildings Conference Room are accessible facilities. If you wish to attend this meeting and you will require assistance in order to participate, please contact the Office of the City Clerk (831) 899-6707 at least three days in advance of the event to make necessary arrangements. If you need assistance in speaking on a specific item noted on the agenda, please inform staff as to which item you would like to comment on and arrangements will be made for you to participate. Portable microphones and assisted listening devices are available upon request.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

*** * * AGENDA TRANSMITTAL FORM * * ***

MEETING DATE:	October 14, 2009
AGENDA ITEM:	1.A
AGENDA TITLE:	Approve Minutes from September 23, 2009
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: Draft Minutes from this meeting were emailed to all TAC members. Proposed changes have been included in the attached version.	
ATTACHMENTS:	Minutes from this meeting
RECOMMENDED ACTION:	Approve the minutes

D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
September 23, 2009**

Attendees: **TAC Members**
City of Seaside – Rick Riedl
California American Water – Eric Sabolsice
City of Monterey – Norman Green
Laguna Seca Property Owners – No Representative
MPWMD – Joe Oliver
Public Member – John Fischer
MCWRA – Rob Johnson
City of Del Rey Oaks – No Representative
City of Sand City – No Representative
Coastal Subarea Landowners – No Representative

Watermaster
Technical Program Manager - Robert Jaques
CEO – Dewey Evans

Consultants
HydroMetrics LLC - Derrick Williams and Georgina King
Martin Feeney Hydrogeologist - Martin Feeney

Others:
MPWMD – Jonathan Lear
CAW – Dave Berger

The meeting was called to order at 9:05 a.m. at the MRWPCA Office Board Room.

Note: Since neither Ms. Ingersoll nor Mr. Bunosky was present (Chair and 1st Vice-Chair respectively), Mr. Johnson (2nd Vice-Chair) chaired the meeting.

1. Administrative Matters:

A. Approve Minutes from August 12, 2009 Regular Meeting

On a motion by Mr. Oliver, second by Mr. Sabolsice, the minutes were unanimously approved as presented, with Mr. Fischer abstaining as he was not present at that meeting.

B. Select Date(s) for Possible Special TAC Meeting Later in October, and for the November TAC Meeting

The time, date, and location for the October Special TAC meeting were selected as 9:00 a.m. on Wednesday October 28, 2009 at the MRWPCA Office Boardroom. At this meeting presentations will be made by HydroMetrics on both the Groundwater Model and on the scenarios that were evaluated using that Model.

The time, date, and location for the November Regular TAC meeting were selected as 1:30 p.m. on Thursday November 19, 2009 at the Seaside City Hall Portable Offices Building. [Note: That location

was subsequently found to not be available on that day and time, so the meeting was moved to the CAW Office Conference Room in Pacific Grove].

Mr. Jaques will send out an email with the information on these two meetings to alert TAC members who were not present at today's meeting, and as a reminder to those TAC members who were present.

2. Progress Reports

A. MPWMD

Mr. Oliver summarized the agenda packet materials for this item. He reported that some well water production data errors had been found and have been now corrected in the Database.

B. HydroMetrics

There was no progress report required from HydroMetrics at this meeting.

C. Martin Feeney

Mr. Feeney summarized the agenda packet materials for this item. He reported that well drilling operations at the BLM site have encountered additional problems since the agenda packet was prepared. The shallow well in the initially drilled hole was developed (referred to under bullet item No. 3 on page 11 of today's agenda packet). However, it was damaged when the second hole was being drilled approximately 10 feet away. He said that the damage occurred at a depth of approximately 580 feet. The drilling pipe was pulled and the hole has been sealed. BLM has now authorized moving to a different site on their property, a short distance away, so that the drilling operation can commence anew. The new site will only authorize one well to be drilled.

Mr. Feeney reported that a geophysical log was obtained in the abandoned drill hole to a depth of 1,380 feet, as well as geologic samples to provide lithological information. He reported that the Monterey shale is at least 500 feet deeper than previously anticipated at this location. This implies that the Santa Margarita formation is most likely thicker there than previously anticipated, but it needs to be verified that the aquifer which was encountered is in fact the Santa Margarita formation and not some other formation. All of this indicates that the geology in this area is not well understood and that the installation of this new monitoring well is beneficial.

Mr. Feeney said he did not anticipate any cost impacts to the Watermaster as a result of the well drilling problems, because his contract with the well driller is for completed work. Because the new site on the BLM property authorizes only a single well, it will now be necessary to use a nested well for that site. The log shows that there is good physical separation between the aquifers at this location, so a nested well should perform satisfactorily.

He

Mr. Jaques asked if there was TAC concurrence with making this change in location and change in the method of construction of the monitoring well, i.e. going from separate wells to a nested well. The TAC expressed its unanimous concurrence to make this change.

Mr. Oliver said there could be more water stored in this area of the Basin than originally anticipated, if the Santa Margarita formation is in fact much thicker than previously thought.

Mr. Feeney reminded the group that the BLM site had been picked for the monitoring well location because there is no well information in that part of the Basin.

C. Technical Program Manager

A. Mr. Jaques summarized the agenda packet materials for each sub-item under this item.

Ms. King reported that she is had good results using the database until yesterday when she found she was not able to get in-depth report to properly work. Mr. Oliver said he would to look into this.

B. Mr. Jaques asked Mr. Feeney and Mr. Oliver to provide a draft letter to Mr. Jaques with regard to relocating to a new location on the BLM site as soon as possible, so Mr. Jaques can begin the formal application process to authorize use of this new site by BLM.

C. Mr. Oliver said that MPWMD inspects all new well and meter installations to ensure that they conform to MPWMD's requirements, which are essentially the same as those of the Watermaster.

Mr. Riedl asked several questions with regard to the calibration process. He reported that the City of Seaside's golf course well meter began to show lower and lower production readings shortly after it had been calibrated by outside consultant. Others commented that this might be due to erosion of the meter propeller due to entrained sand in the water being pumped.

Following discussion a motion was made by Mr. Oliver, second by Mr. Fischer to approve the findings, conclusions, and recommendations contained in the agenda packet with regard to water meter calibration issues, and that based on that information none of the meters warranted being recalibrated. The motion passed unanimously.

3. Summary Report on Updating the Groundwater Model

Mr. Williams made a PowerPoint presentation to provide the report on this topic. A copy of these slides is included in these minutes at the end of this agenda item.

Mr. Williams reported that the Model does not monitor the Monterey Shale formation, because it is considered to be the "bottom" of the Model. The Paso Robles formation was broken down into three layers in the Model in some areas. Much reinterpretation of the geology of the Basin has been necessary in order to set up and begin calibrating the Model.

Some of the principal findings to date:

- The Santa Margarita and Purisima formations are not closely hydraulically connected to the ocean, which means it will be a very long time before any seawater intrusion will reach the coastal areas of these formations. Little surface recharge is likely to occur into these formations, because they are confined. However, pumped injection could be used to recharge these formations. The Paso Robles formation is connected to the ocean.
- The bottoms of the Santa Margarita and Purisima formations are much deeper in the north than had been previously believed.
- Many of the existing shallow wells do not monitor the same hydrostratigraphic zones.
- The Seaside Fault location had to be changed based on geological information compiled for development of the Model.

All of these findings are the result of putting all the existing reports and data together into a single model for the first time. It is not the result of new data, just putting all of the existing data and reports together and making them consistent with each other.

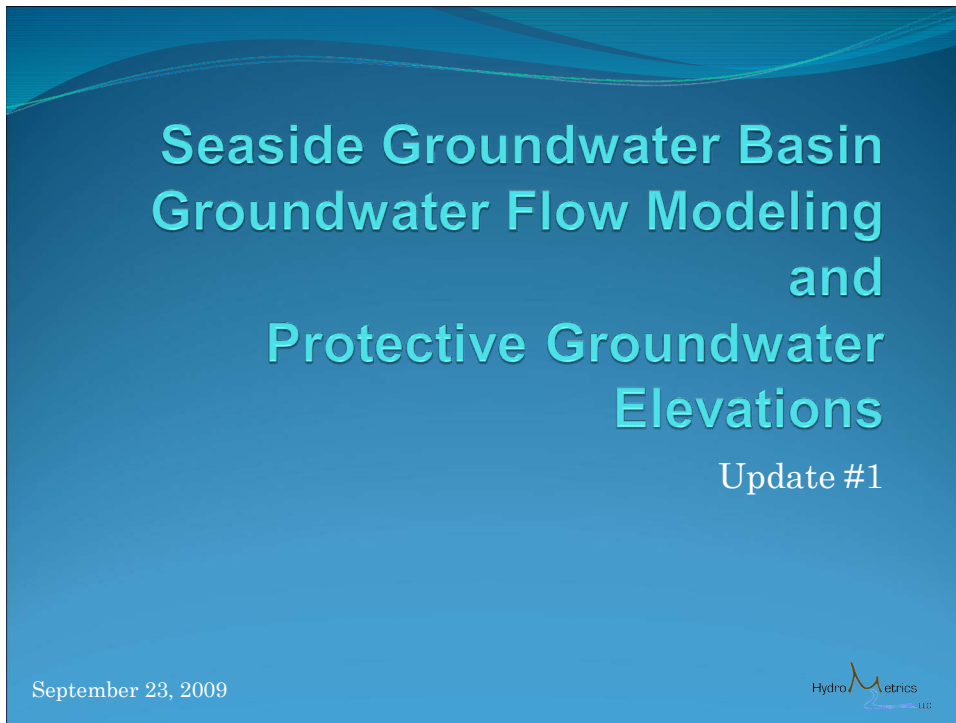
The location of the hydraulic divides in the Basin in the northern area have been slightly changed as a result of preparing the groundwater Model. In the southern areas the locations are very close to those shown in previous mapping.

The average Basin recharge rate over a 20 year period is about 3,290 acre feet per year. Allowing for some outflow from the Basin, this reduces to very close to the 3,000 acre feet per year Natural Safe Yield figure quoted in the Court Decision. This shows in the "water budget" PowerPoint slide, and is based on numerous inputs, e.g. precipitation and land use data. The analysis performed is similar to the Yates' report approach, but was refined to spatially distribute these impacts across the Basin in the Model cells.

Calibration is in progress and the initial phase has been completed. A more rigorous calibration process is now being performed. When the work is completed the Model results (simulation) vs. the observed values will track very closely to each other. Much more about the Basin is being learned through the development of the Model and as a result of running the Model. Developing the Model is producing a very good tool to help with Basin management.

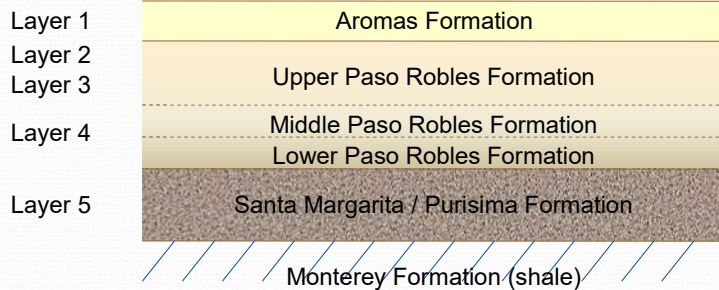
Mr. Williams reported that HydroMetrics is on track to complete all work by the scheduled milestone dates.

Mr. Fischer asked if the Model would support the Laguna Seca area representatives' contentions about their pumping not having much if any impact on the other subbasins. Mr. Williams said it was too early to render any opinion or judgment on that matter.



Groundwater Flow Model

Model Layers



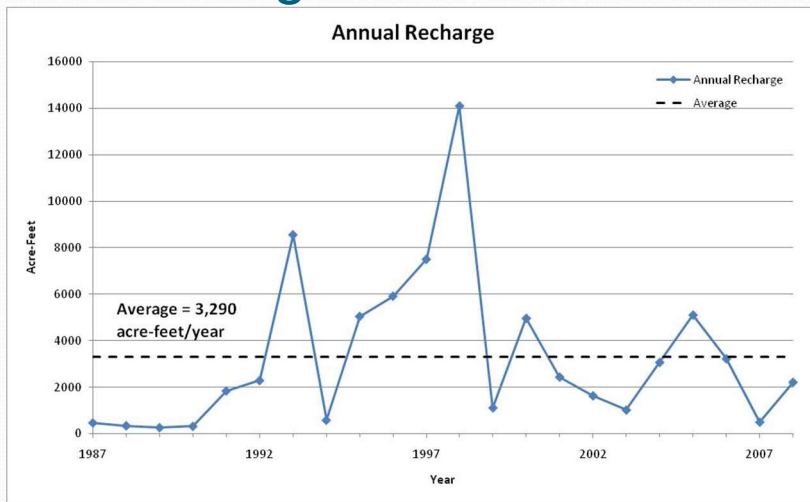
HydroMetrics
LLC

New Geologic Interpretations

- Santa Margarita and Purisima Formations are not hydraulically closely connected to the ocean
- Paso Robles Formation is connected to the ocean
- Bottom of the Santa Margarita/Purisima is much deeper in the North than previously mapped.
- Many shallow wells do not monitor the same hydrostratigraphic zone.
- Seaside Fault location change so that FO-4 is south of Seaside Fault (same hydrograph as Plumas Test)

HydroMetrics
LLC

Water Budget for Seaside Basin



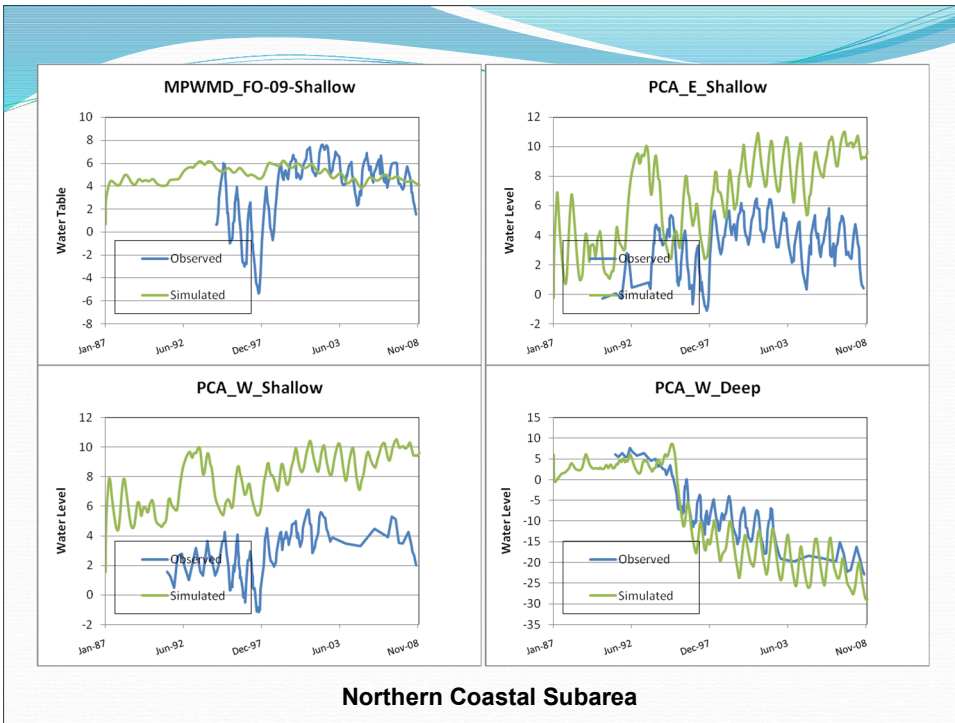
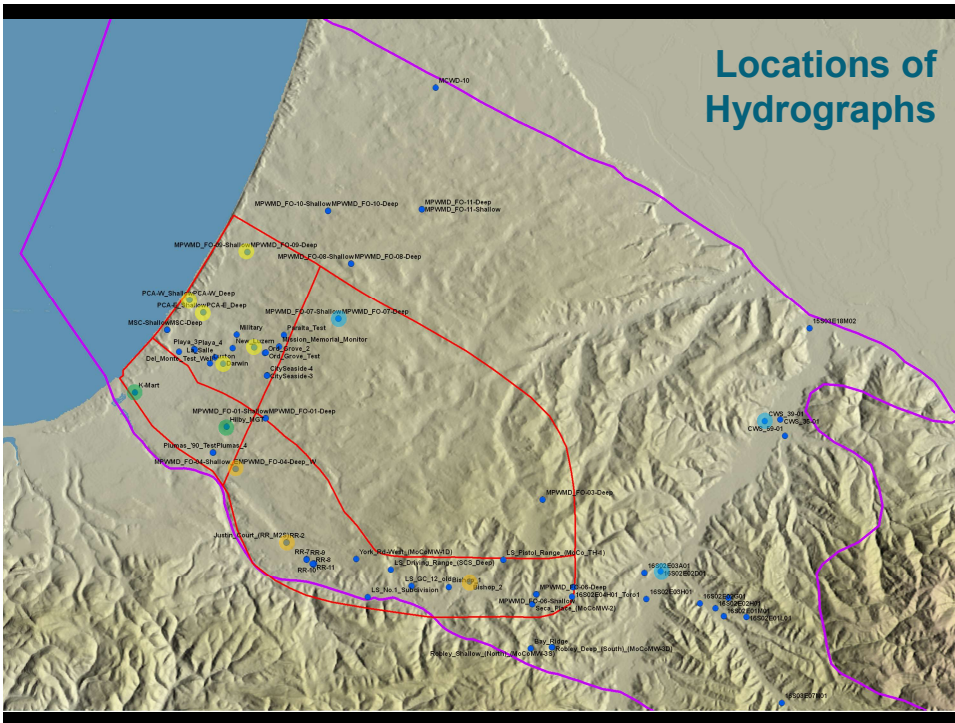
HydroMetrics LLC

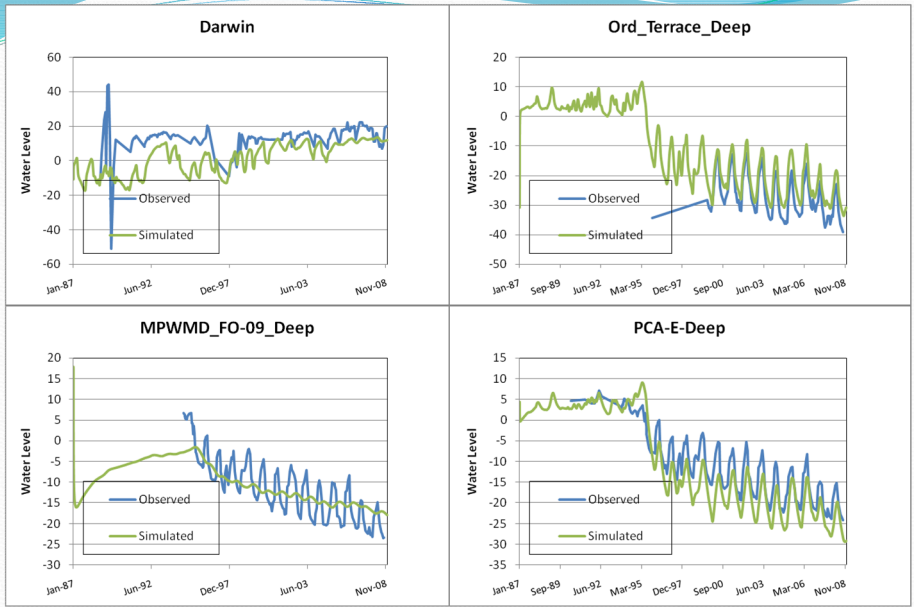
Model Calibration

- Initial calibration has been completed
- More rigorous calibration with Parameter Estimation software (PEST)

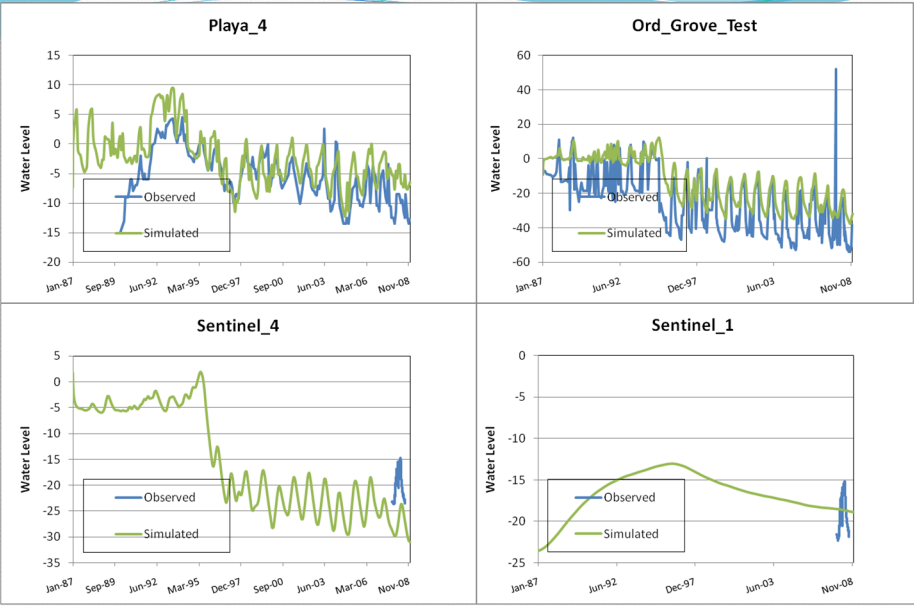
HydroMetrics LLC

Locations of Hydrographs

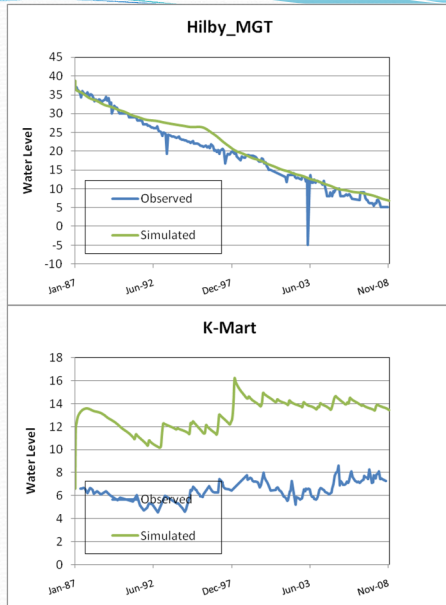




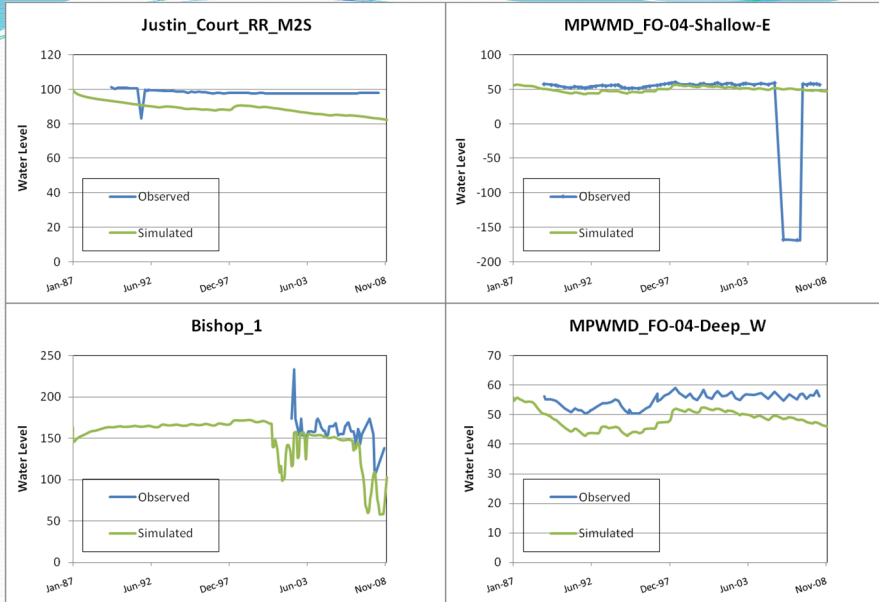
Northern Coastal Subarea



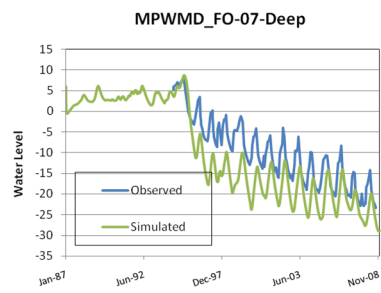
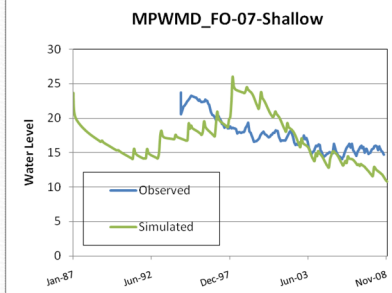
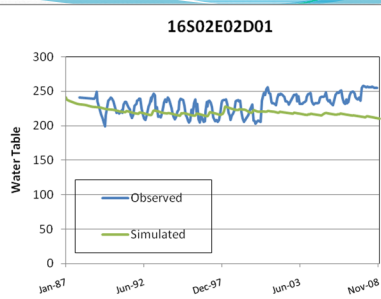
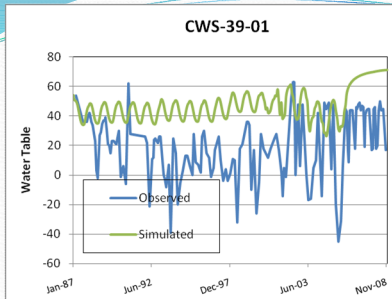
Northern Coastal Subarea



Southern Coastal Subarea



Laguna Seca Subarea

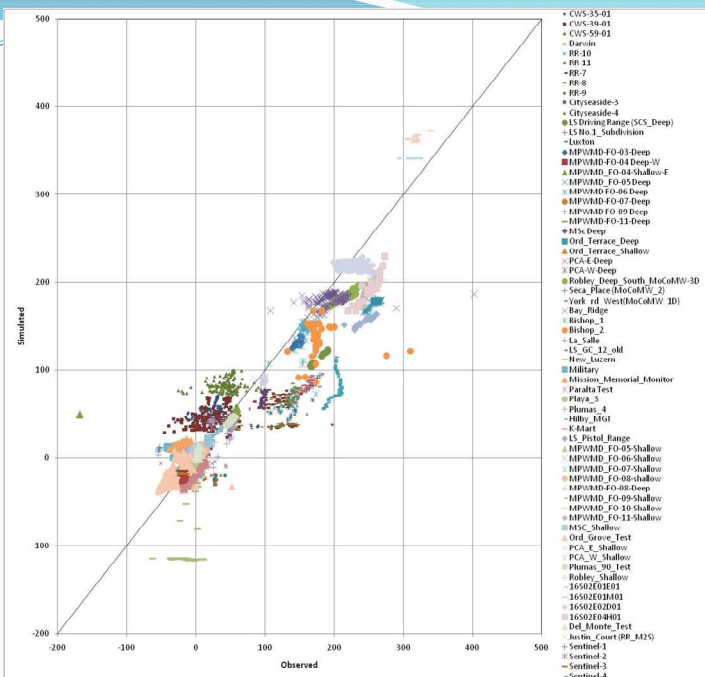
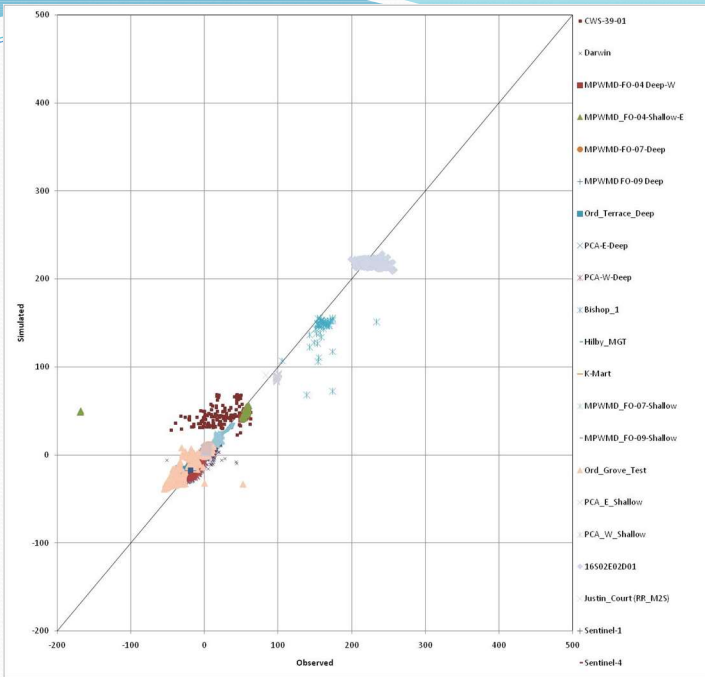


Northern Inland Subarea and outside of Basin

Calibration Statistics



Average Residuals	26.38
Mean of Residual Absolute Values	36.85
Range of Observed data	481.80
Population Standard deviation	55.40
Root Mean Square Error	61.36
StdP/Range	11.50%



Groundwater Flow Model, Final Steps

- Final Calibration with PEST
- Simulate Predictive Scenarios



Groundwater Flow Model Questions

4. Report on Protective Water Levels for the Basin

Mr. Williams made a PowerPoint presentation to provide the report on this topic. A copy of these slides is included in these minutes at the end of this agenda item.

This work involves the use of a different model than the Groundwater Model. Four cross-sections are being modeled.

Mr. Fischer asked Mr. Williams if the modeling takes into account future sea level rise. Mr. Williams responded that it does in that the model results will be correct relative to whatever mean sea level is at anytime in the future.

A decision is needed on how much of the Santa Margarita formation should be protected, for example 100 percent vs. 90 percent.

The Groundwater Model does not show that the Santa Margarita formation is connected to the ocean. However, over a very long time seawater intrusion from the ocean could occur in the Paso Robles formation and could migrate downward to the Santa Margarita formation. The protective water level model takes this into account, since it considers a very long period of time. The Groundwater Model, on the other hand, is used to look at the near-term.

Management issues can be evaluated by using both the Protective Water Level and the Groundwater Models.

Mr. Riedl asked if it would be desirable to examine the construction records of the existing coastal wells to determine whether or not they had been properly constructed to prevent cross-aquifer contamination. There was discussion of including this as a future work task in the scope of work for the Monitoring and Management Program and the budgets. Mr. Williams said that this would be a good thing to undertake.

Mr. Sabolsice asked if adopting the protective water level target values would affect pumping of individual wells. Mr. Williams responded that it could, since Basin management decisions as to how best to achieve the protective water levels could include considering making pumping changes to individual wells. There was discussion that the protective water levels are being developed to cover a very long period of time, and that some wells might need to be retrofitted or even replaced within that time period. If that were the case, that might be an appropriate time to relocate the well to an area of the Basin where protective water levels were more favorable. There was consensus that operational planning should take this into account.

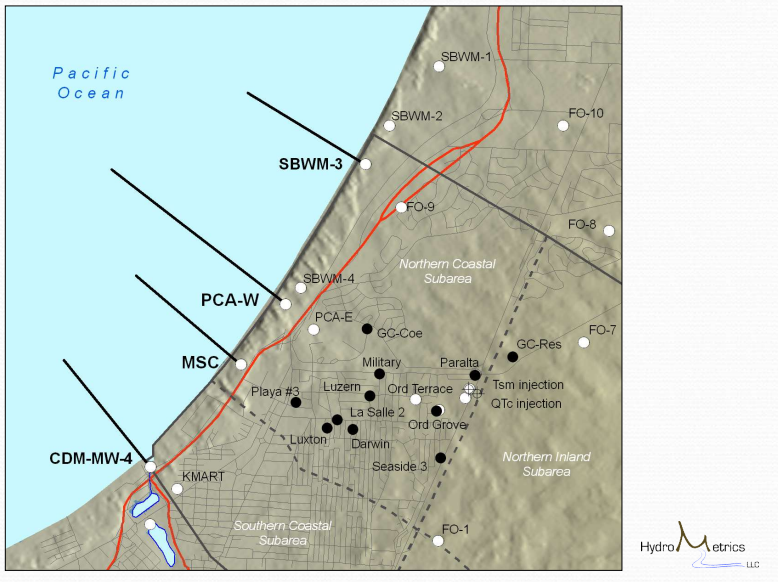
Mr. Jaques asked Mr. Williams if only 90 percent of the Santa Margarita aquifer were to be protected, would it be possible to ensure that all of the existing Santa Margarita wells are protected. Mr. Williams and Mr. Oliver said that by interpolating between the cross-sections, and projecting how far inland the projected zone will go, it would be possible to determine whether or not all of the wells would be protected.

Mr. Oliver and said he would like to evaluate other degrees of aquifer protection besides just the 90 percent or 100 percent levels described in the PowerPoint presentation, for example 75 percent, as this would lead to considerably lower protective water levels being required.

Mr. Williams said that with regard to the Uncertainty Analysis (discussed in the PowerPoint presentation) he would probably use 70 percent of the parameter sets showing protection was being provided as a reasonable target.

There was consensus that, with regard to what percentage of the aquifer should be protected, this would be a complex decision to make and should be undertaken in the upcoming fiscal year, once the Groundwater Model and Protective Water Level reports have been completed during the current year.

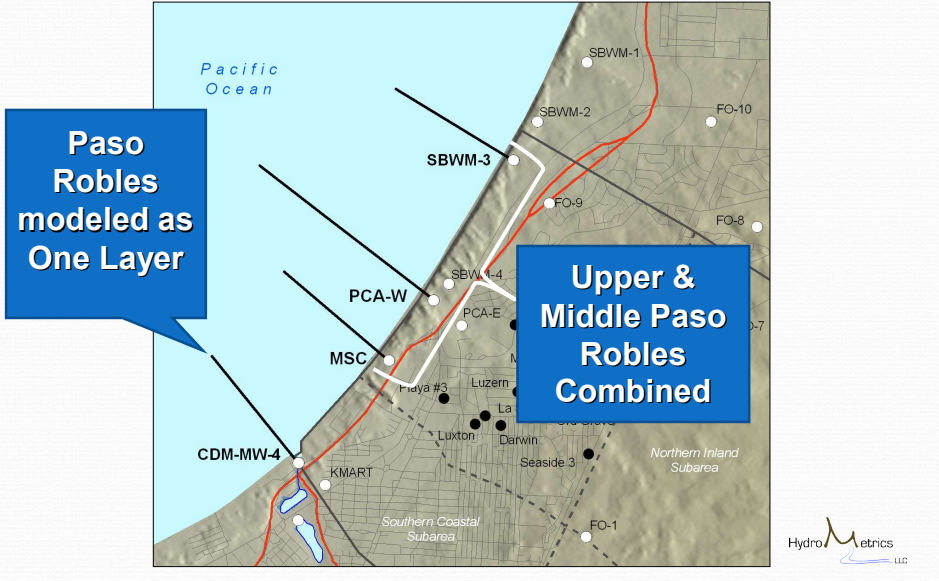
Protective Groundwater Elevations



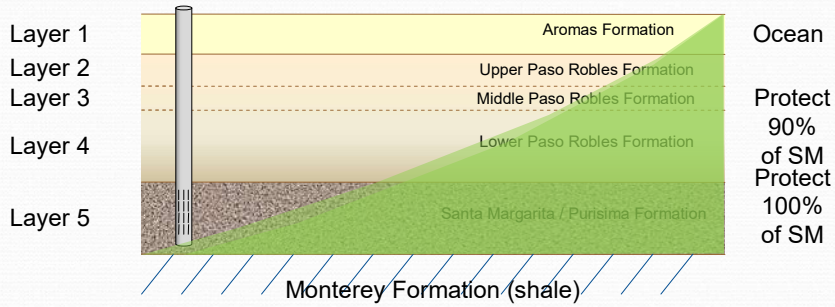
Summary of Decisions made Previously

- Depth to protect:
 - **Southern Coastal Subarea:** entire depth of the Santa Margarita Formation (or top of the Monterey Formation)
 - **Northern Coastal Subarea:** top of Monterey Formation in the southern portion of the subarea, where the Santa Margarita Formation exists. Protect to bottom of the extrapolated Santa Margarita Formation in the northern part of the subarea, where the Purisima Formation exists
- Protect inland to coastal monitoring wells
- Seawater intrusion → chloride > 250 mg/l (secondary MCL)
- Short-term offshore storage is not considered
- Uncertainty analysis is included

Additional Decisions and Insights



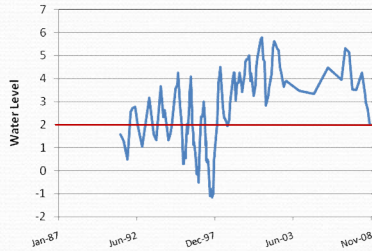
Additional Decisions and Insights



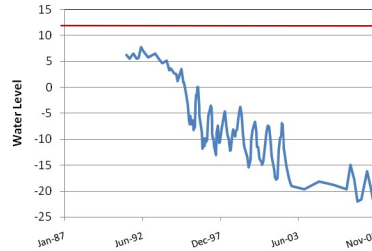
PCA-W Northern Coastal

Aquifer Unit	Protected Depth	Protective Water Elevation, feet MSL
Seabed		
Aromas	Bottom of Paso Robles	2
Upper & Middle Paso Robles		
Lower Paso Robles		
Purisima/ Santa Margarita	90% of Purisima/ Santa Margarita (-812 ft MSL)	12
Monterey	Top of Monterey (-848 ft MSL)	18

SHALLOW



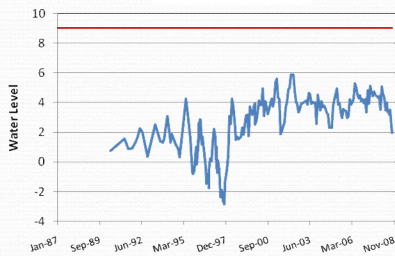
DEEP



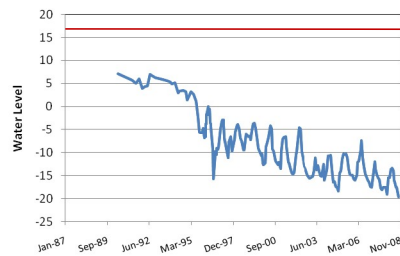
MSC Northern Coastal

Aquifer Unit	Protected Depth	Protective Water Elevation, feet MSL
Seabed		
Aromas	Bottom of Paso Robles	9
Upper & Middle Paso Robles		
Lower Paso Robles		
Santa Margarita	90% of Santa Margarita (-757 ft MSL)	17
Monterey	Top of Monterey (-769 ft MSL)	18

SHALLOW



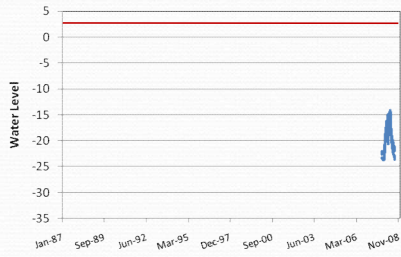
DEEP



SBWM-3 Northern Coastal

Aquifer Unit	Protected Depth	Protective Water Elevation, feet MSL
Seabed	Extrapolated Bottom of Santa Margarita (in Purisima) ~800 ft MSL	3
Aromas		
Upper & Middle Paso Robles		
Lower Paso Robles		
Purisima		

Sentinel Well 3

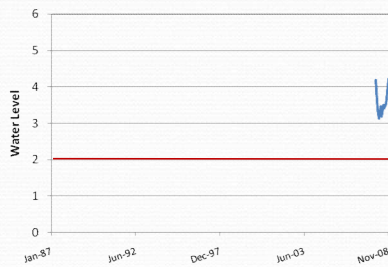


HydroMetrics LLC

CDM MW-4 Southern Coastal

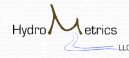
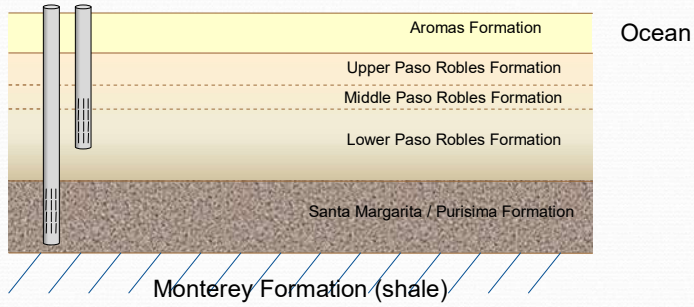
Aquifer Unit	Protected Depth	Protective Water Elevation, feet MSL
Seabed	Top of Monterey (-90 ft MSL)	2
Aromas		
Upper, Middle and Lower Paso Robles		
Monterey		

CDM MW-4

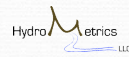
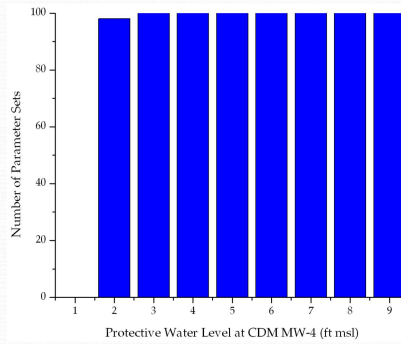
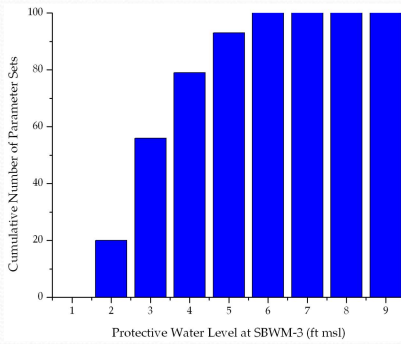


HydroMetrics LLC

Management Issues



Uncertainty Analysis



Protective Groundwater Elevation Model Questions

5. Proposed Replenishment Assessment Unit Costs for Water Year October 1, 2009-September 30, 2010

Mr. Jaques summarized the agenda packet materials on this item.

Mr. Riedl asked if the RUWAP costs were accurate. Mr. Jaques responded that he had e-mailed Brian True of MCWD to confirm the accuracy of those cost figures, but that he had not as yet received any response.

[Note: After the meeting an e-mail was received by Mr. Jaques from Mr. True confirming that the figures used for the RUWAP in the Replenishment Assessment Unit Cost Calculations were still reasonable values to use).

Following discussion a motion was made by Mr. Oliver, second Mr. Johnson, to accept the \$4,074 per acre foot unit cost for the Replenishment Assessments for Water Year 2009-2010, and to forward this to the Budget and Finance Committee for their approval. The motion passed unanimously, with Mr. Sabolsice abstaining.

6. Proposed Monitoring and Management Program Scope of Work and Budgets for 2010 and 2011, and Proposed Capital Budgets for 2010 and 2011

Mr. Jaques summarized the agenda packet materials for this item, and highlighted the principal changes from 2008 to 2009.

Mr. Riedl suggested adding a task to evaluate coastal well construction records to determine the potential for cross-aquifer contamination to occur. Mr. Johnson said it would be very difficult to estimate the costs for correcting any problems with those wells, if any problems were detected during the evaluation phase. Mr. Lear suggested that in addition to evaluating the construction records for these wells that they also be evaluated to determine whether any deterioration had occurred that might lead to cross-aquifer contamination. There was consensus to perform a well log review in fiscal year 2010, and during fiscal year 2011 to do field inspections of wells that are found to have the potential to cause contamination.

Mr. Jaques also recommended including funds in the upcoming fiscal year budget, and in the 2010 Monitoring Management Program scope of work, to perform additional work on refining protective water levels, based on the discussion under a preceding agenda item pertaining to the development of protective water levels.

A motion was made by Mr. Riedl, second by Mr. Johnson, to approve the Monitoring and Management Program and the associated budgets, with the revisions described above. The motion passed unanimously.

7. Status Report on City of Seaside Negotiations with MCWD to Obtain Golf Course Water

Mr. Riedl said that he had met with representatives of the Marina Coast Water District and that they have developed a scope of work to proceed with this undertaking. They will then prepare an agreement between the City and the District. Mr. Oliver offered to provide a copy of an agreement that was used by MPWMD for the purposes of obtaining water from MCWD for some other activities. Mr. Riedl said the City also needs to have an agreement with the golf course operating firm to accept the MCWD water. It was clear that no water from this source would be available during Water Year 2008-2009. However, water should become available during Water Year 2009-2010.

8. Schedule

Mr. Jaques summarized the agenda packet materials for this item. Some corrections and revisions were pointed out, and Mr. Jaques will make those in future versions of the schedule.

9. Other business

Mr. Jaques summarized the agenda packet materials for this item. There were no questions or discussion on those materials.

10. Set next meeting dates:

The next regular meeting will be held on Wednesday October 14, 2009 at 1:30 p.m. at the Seaside City Hall Portable Office Buildings Conference Room

The next Regular TAC meeting was set for this time, date, and location. Subsequent meeting dates in October and November were selected under Agenda Item 2.B, as discussed above.

The meeting adjourned at 1:07 p.m.

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

*** * * AGENDA TRANSMITTAL FORM * * ***

MEETING DATE:	October 14, 2009
AGENDA ITEM:	2
AGENDA TITLE:	Progress Reports
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY: As a regular part of most monthly TAC meetings, progress reports will be provided by the consultants and entities that are performing work on the Seaside Basin Monitoring and Management Program. From time to time there will also be a progress report from the Technical Program manager on related work. Attached are the progress reports for today's TAC meeting. The attached Progress Reports cover the time period since the last Regular TAC meeting held in September, 2009 to the date when this Agenda packet was prepared. Under this agenda topic TAC members are encouraged to raise any questions or issues of concern regarding these items.	
ATTACHMENTS:	Progress Reports
RECOMMENDED ACTION:	None required – information only

Progress Report from the MPWMD

Work Performed

- Assisted with discussions and coordination for relocating new Watermaster inland monitor well site on Bureau of Land Management property at former Fort Ord.
- Provided data to HydroMetrics to support groundwater model development.
- Provided data to HydroMetrics to support 2009 Seawater Intrusion Analysis Report (SIAR).
- Continued retrofitting of coastal monitor wells to allow sampling with new low-purge sampling equipment.
- Prepared updated quarterly Watermaster production report.
- Continued water-level and water-quality data entry into Watermaster database.
- Continued water-level data collection under enhanced monitoring program.

Upcoming Work

- Process data requests from HydroMetrics for groundwater model development.
- Continue data collection efforts under RFS 2009-01 and 2009-02.
- Update list of fixes/enhancements to Watermaster database.
- Continue support to Watermaster for quarterly production accounting.
- Continue to provide assistance on new inland monitor well at BLM site.
- Continue Watermaster database data compilation efforts and prepare WY 2009 annual water quality and water level monitoring report.
- Provide support for preparation of Watermaster Annual Report.
- Support Watermaster technical consultant team on document preparation efforts.
- Continue working with Zone 24x7 database consultants on time/cost estimate for future database fixes/enhancements.

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Progress Report from HydroMetrics

Work Performed

Work over the past two months has focused on refining the model layers and calibration of the flow model. Two types of calibration have been used - hand or initial calibration and the more rigorous parameter estimation (PEST).

Modeling for the estimation of Protective Groundwater Elevations has also been completed.

On September 23, 2009, we presented the initial results of both the groundwater flow modeling and protective elevation modeling to the TAC. A Technical Memorandum was prepared and submitted to the TAC a few days before the meeting.

A presentation on the final results of the protective groundwater elevation modeling was presented to the Board on October 7, 2009.

A draft version of the Seawater Intrusion Analysis Report for Water Year 2009 was completed and submitted to the Watermaster on October 8, 2009.

Upcoming Work

- Develop and run model scenarios, and
- Preparation of the draft model report.

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Progress Report from Martin Feeney

Work Performed

Due to additional problems with construction at the original well location at the BLM site, it became necessary to destroy both boreholes and constructed well. These were destroyed under County permits and supervision. After the destruction, the site was restored to original condition. Attached is the E-log from the drilling work done at this site.

Through negotiations with BLM, a new site for the monitoring well has been designated. A new application for a Right-of-Way (ROW) agreement has been submitted to BLM and is being processed. It anticipated that the ROW will be issued before 10/16/09.

The drilling contractor, Bradley and Sons, indicate that they will likely be ready to begin drilling operations the week of 10/25/09. Bradley has indicated that the County of Monterey will issue a new well permit as soon as the ROW is completed. The complications discussed above will not impact the established budget.

Attached are the Sentinel Well Water Level Data and Induction Logs through last week. Of interest is the strong drawdown signal that is apparent in all the wells. This, once again, is the response to the start-up of Cal Am's Paralta Well which occurred in mid-September. The induction logs are virtually identical to those from prior quarters, indicating no evidence of seawater intrusion in either the Paso Robles or Santa Margarita/Purisima Formations. There is some evidence of increasing (or at least fluctuating) salinity in the Aromas Sands which overlie these lower aquifers.

Upcoming Work

Completion of the monitoring well will complete all work currently assigned to this consultant and the contractor working for him.

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Progress Report from Technical Program Manager

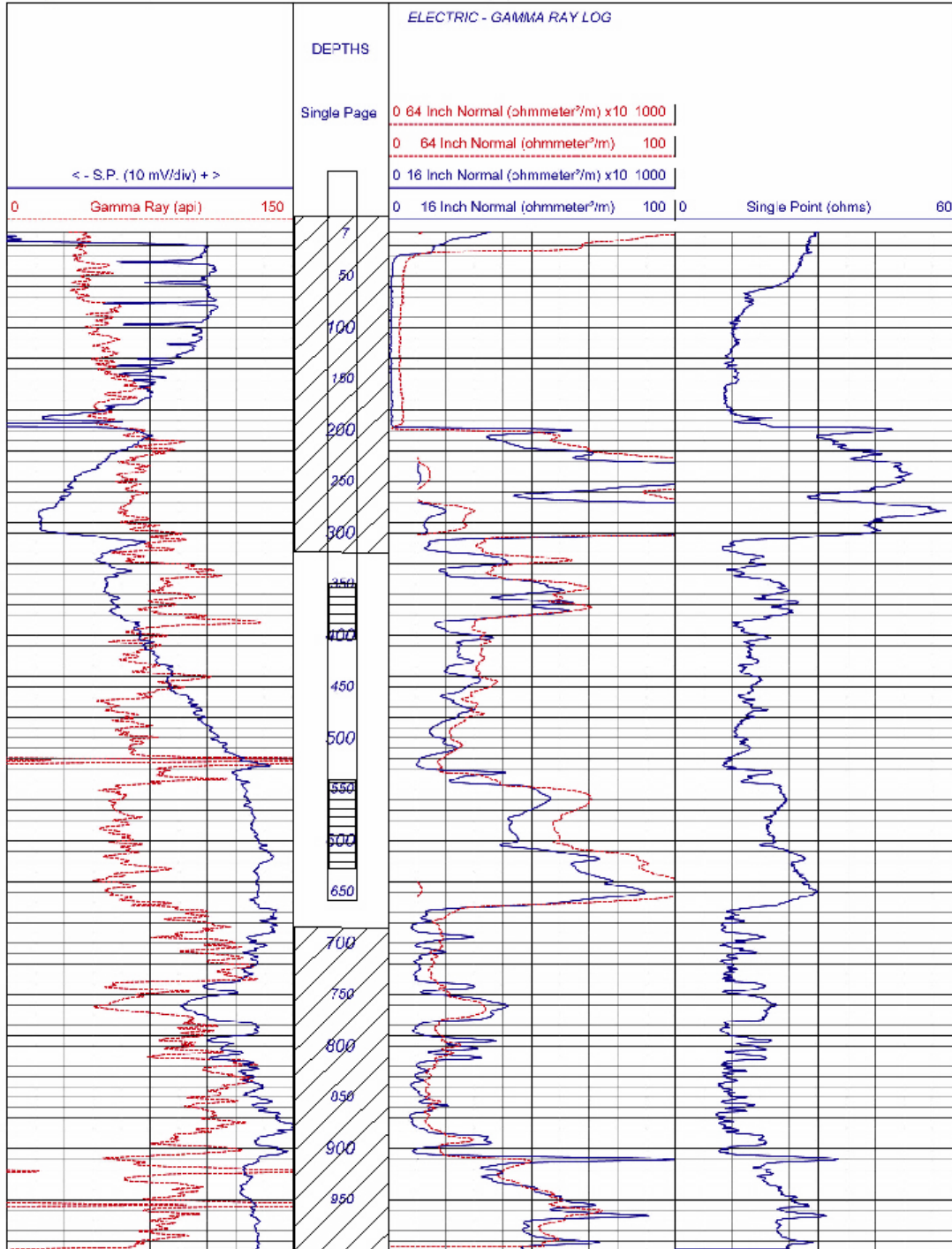
Replenishment Assessment Unit Cost: At its September 23, 2009 meeting the TAC approved using a Replenishment Assessment Unit Cost of \$4,074/AF, based on calculations that included numerous potential supplemental water sources. This recommendation was forwarded to the Budget and Finance Committee for its review and approval. That Committee felt that the only viable projects that should be considered in calculating the Replenishment Assessment Unit Cost for Water Year 2009-2010 were these three projects:

- The Salinas River Surface Water Treatment Plant (taking Salinas River water, treating it, and transporting it to the CAW distribution system)
- Regional Desalination Project (an alternative to the CAW Coastal Water Project desalination plant)
- Regional Urban Water Augmentation Project (recycled water for landscape irrigation at sites in the former Fort Ord and other Marina and Monterey Peninsula locations)

Revising the list of viable projects to only these three, and applying the same assumptions and inflation factors as the TAC approved, the revised Unit Cost is \$2,780. An email with this information was sent to all TAC members on September 29, 2009.

E-log from BLM Well Site

Bradley & Sons Drilling Seaside Basin Water Master Monitor Well 5 Sep 4, 2009 Job Ticket: 12431



welenco Phone: (800) 445-9914 Fax: (661) 834-2550 Email: welenco@welenco.com Web: www.welenco.com
CA. Contractor's License: 722973 (Prepared with Log Print, a professional software application developed by welenco, inc.)

Sentinel Well Water Levels

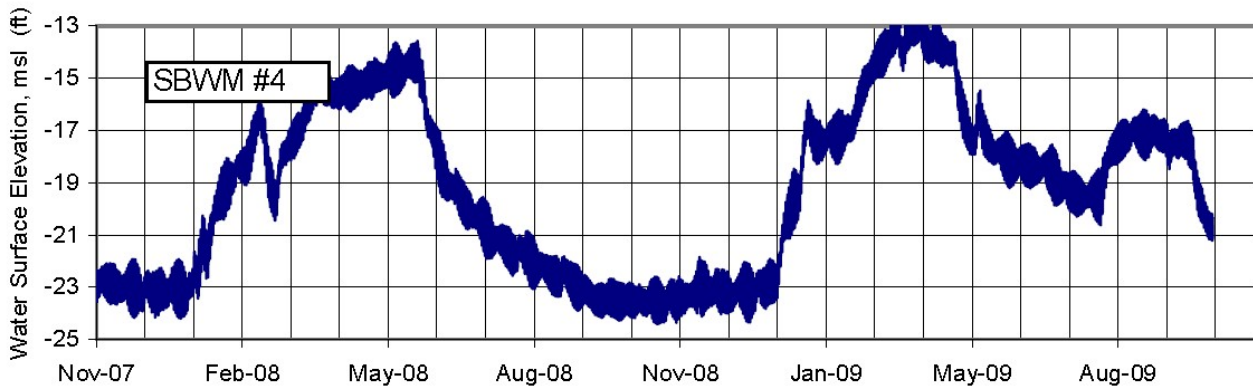
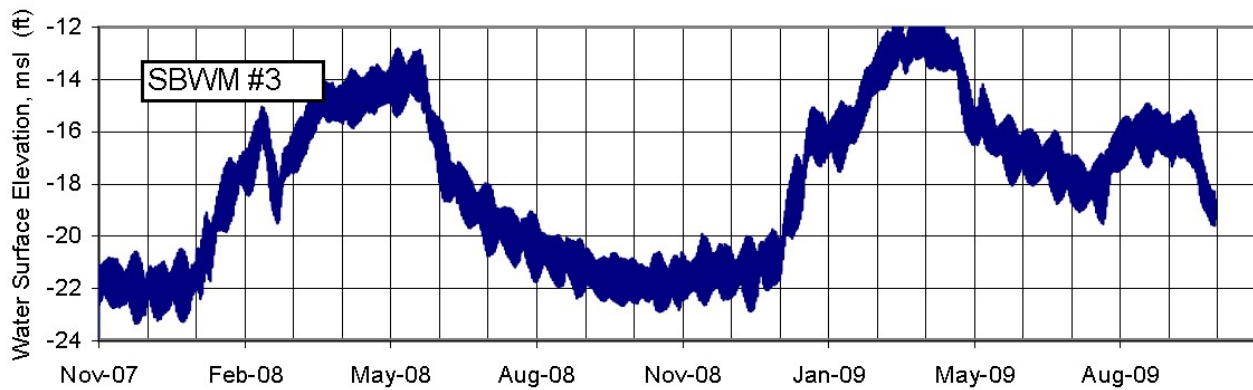
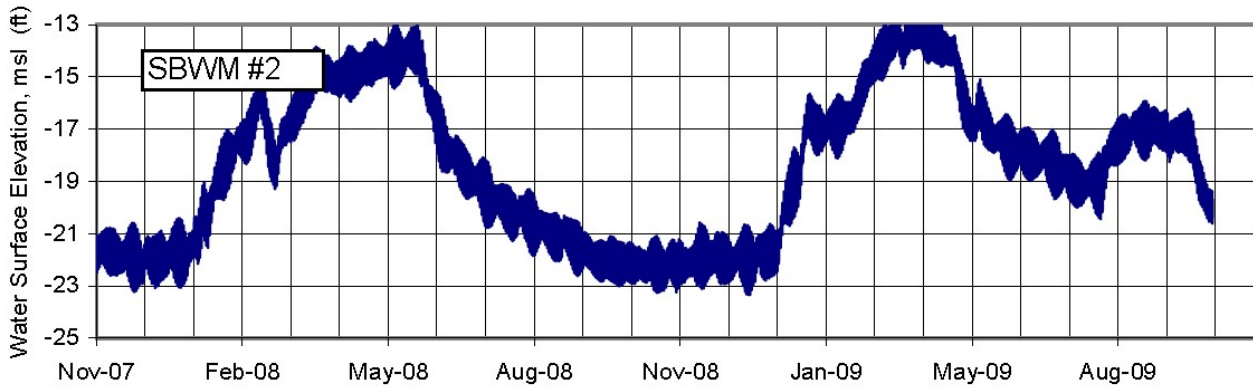
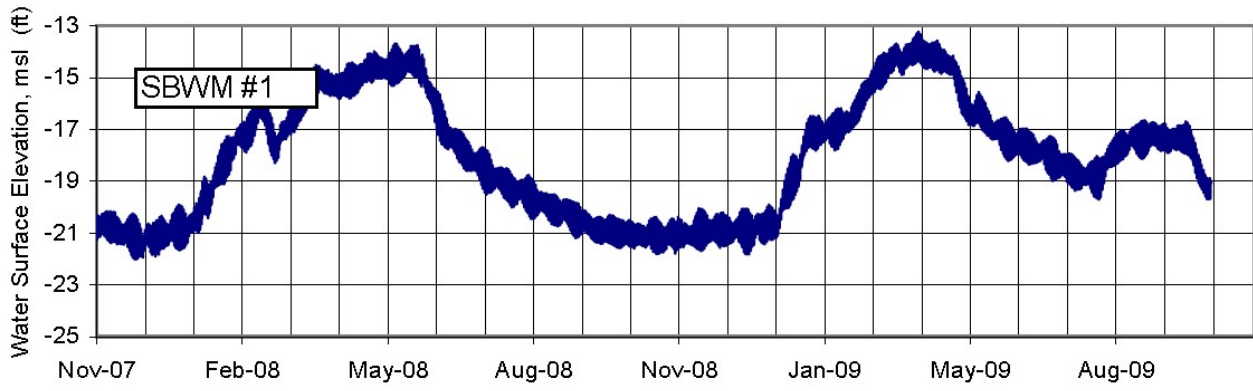
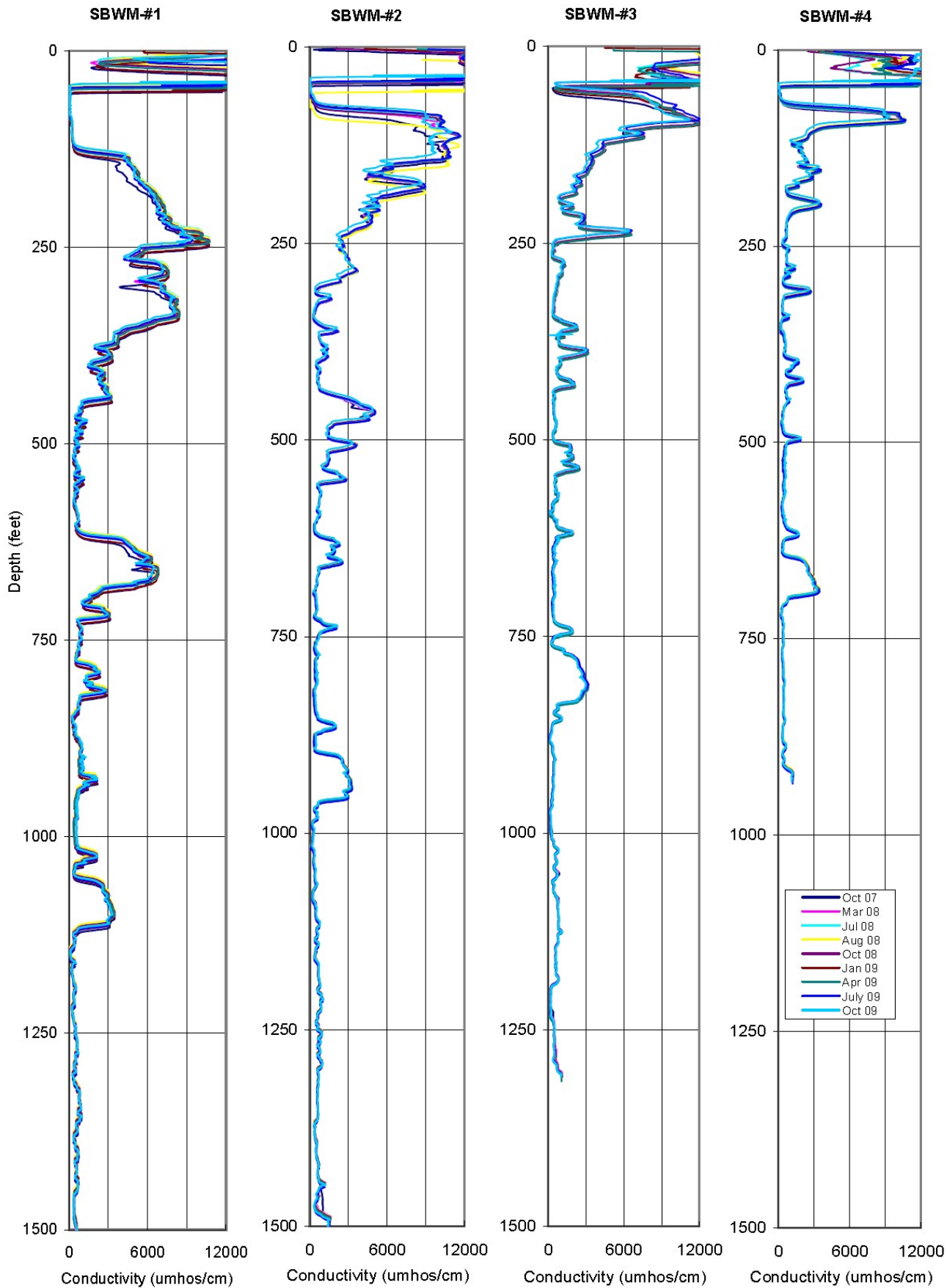


FIGURE 1
SBWM Sentinel Wells -
Continuous Water Level Record

Seaside Groundwater Basin Watermaster
Sentinel Wells
Induction Logs



**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

***** AGENDA TRANSMITTAL FORM *****

MEETING DATE:	October 14, 2009
AGENDA ITEM:	3
AGENDA TITLE:	Draft Water Year 2009 Seawater Intrusion Analysis Report
PREPARED BY:	Robert Jaques, Technical Program Manager
<p>SUMMARY: HydroMetrics has prepared a Draft Seawater Intrusion Analysis Report (SIAR) for Water Year 2008-2009. It is attached for your review prior to today's meeting.</p> <p>The key Conclusion contained in the SIAR is that depressed groundwater levels, continued pumping in excess of recharge and fresh water inflows, and ongoing seawater intrusion in the nearby Salinas Valley all suggest that seawater intrusion <u>could</u> occur in the Seaside Groundwater Basin, but in spite of these factors, no seawater intrusion is currently observed in existing monitoring wells</p> <p>Representatives from HydroMetrics will attend today's TAC meeting (via telephone) to provide a summary of the report and to respond to questions by TAC members.</p>	
ATTACHMENTS:	Draft WY 2009 Seawater Intrusion Analysis Report (a separate email attachment-not included within the agenda packet itself)
RECOMMENDED ACTION:	Discuss and either modify or approve the Draft SIAR

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

*** * * AGENDA TRANSMITTAL FORM * * ***

MEETING DATE:	October 14, 2009
AGENDA ITEM:	4
AGENDA TITLE:	Draft Watermaster Annual Report for 2009
PREPARED BY:	Robert Jaques, Technical Program Manager

SUMMARY:

The Watermaster submits an Annual Report to the Court after the end of each Water Year to fulfill one of its obligations under the Court Decision that created the Watermaster.

Since many items that must be included in the Annual Report cannot be finished until after the Water Year has ended, e.g. Production, Water Level, and Water Quality Reports, Replenishment Assessments, and the Seawater Intrusion Analysis Report, the Final version of the Annual Report cannot be completed until early November. It is at the Board's November Board meeting that the final Annual Report is approved and staff then transmits it through an attorney to the Court.

In the past this very pressing and tight time schedule to complete the Annual Report has meant that the TAC did not have an opportunity to review the Annual Report before it was submitted to the Court. This year the Draft Annual Report is being presented to the TAC for its review and input, in as complete a form as it can be as of today's TAC meeting. It is in the form of a separate attachment to the email containing the Meeting Notice and Agenda for today's meeting.

The first page of the attachment containing the Draft 2009 Annual Report is titled "Color Code Identifiers." This page identifies the meaning of each of the sections of the Draft Annual Report that are still in the process of being prepared, and who the responsible party is for completing them.

The purpose of providing this "work in progress" Draft 2009 Annual Report is to provide the TAC an opportunity to examine the entire scope of the document, and to provide input to the Technical Program Manager on any suggestions regarding contents, language, formatting, or other issues, so that this input can be taken into account as the document is finalized for presentation to the Board in early November.

ATTACHMENTS:	Draft WY 2009 Watermaster Annual Report (a separate email attachment-not included within the agenda packet itself)
RECOMMENDED ACTION:	Discuss and provide input on the Draft Annual Report

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

***** AGENDA TRANSMITTAL FORM *****

MEETING DATE:	October 14, 2009
AGENDA ITEM:	5
AGENDA TITLE:	Status Report on City of Seaside Negotiations with MCWD to Obtain Golf Course Water
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	
<p>At a meeting in mid-2009 the Board asked the TAC to continue to monitor and report on progress being made between the City of Seaside and MCWD to obtain replacement water for Seaside's golf courses from the MCWD distribution system.</p> <p>At the Budget and Finance Committee meeting held on September 29, 2009, Mr. Ray Corpuz, Chair of that Committee, commented that the City of Seaside was in the process of drafting an Agreement to be executed between the City of Seaside and the Watermaster, containing the terms and conditions under which obtaining water from MCWD for Seaside's use at its golf courses, and in turn helping to replenish the Basin, would be accomplished. A draft copy of this Agreement was handed out by Mr. Corpuz to the Board at its meeting of October 7, 2009, and a copy is attached.</p> <p>At the September 23, 2009 TAC meeting, Mr. Riedl reported that the City was also going to be drafting agreements with MCWD and with the Golf Course operations contractor pertaining to the use of MCWD water for irrigation of these golf courses.</p> <p>At today's meeting Mr. Riedl will provide an oral update on the status Seaside's negotiations with MCWD to obtain this new source of water for irrigation of the Seaside golf courses.</p>	
ATTACHMENTS:	Draft Agreement between the City of Seaside and the Watermaster
RECOMMENDED ACTION:	None required at this time

DRAFT

**MEMORANDUM OF UNDERSTANDING BETWEEN THE SEASIDE BASIN
WATERMASTER AND THE CITY OF SEASIDE**

This Memorandum of Understanding (“MOU”) is entered into between the Seaside Basin Watermaster (“Watermaster”) and the City of Seaside (“City”) (individually a “Party” and together the “Parties”) this ___ day of November, 2009 (“Effective Date”) with respect to the following:

RECITALS

A. The amended final decision (“Decision”) entered in the lawsuit, California American Water v. City of Seaside et al., Monterey Superior Court, (Case No. M 66343) governs groundwater production within the Seaside Groundwater Basin (the “Basin”).

B. The City is a party to the lawsuit and received groundwater production allocation pursuant to the Decision as follows: (1) 540 acre-feet of Alternative Production Allocation¹ in relation to the City-owned Blackhorse and Bayonet Golf Courses (“Golf Courses”); and (2) Standard Production Allocation in relation to the City Municipal Water System.²

C. The Decision provides that any party that exceeds its allocation of Natural Safe Yield is subject to a Replenishment Assessment for each acre-foot of Over-Production during each Water Year.

D. The City presently owes certain sums to Watermaster for previously accrued Replenishment Assessments.

E. The City projects that it will continue to engage in Over-Production to supply its Municipal Water System, and therefore anticipates that it will continue to incur additional Replenishment Assessment liability.

F. The Decision obligates the Watermaster to procure new sources of water for replenishment of the Basin to offset cumulative Over-Production.

G. The Parties have identified an in lieu replenishment program (“Program”) involving the Golf Courses and the City’s Alternative Production Allocation associated with the Golf Courses, which is a viable means to obtain some of the replenishment water that Watermaster is obligated to procure.

H. To implement the Program, the City will obtain water supplies from the Marina Coast Water District (“MCWD”),³ and supply the MCWD water to the City’s Golf Course for

¹ All capitalized terms used in this MOU are to be given the same meaning as set forth in the Decision, unless otherwise described.

² The Standard Production Allocation is set forth as a percentage of Operating Yield. The City’s Standard Production Allocation is roughly 10.47% of the Operating Yield.

³ The water supply from Marina Coast Water District will initially be derived from Salinas Basin

use in lieu of groundwater production from the Basin pursuant to the City's Alternative Production Allocation. The groundwater not produced will be deemed in lieu replenishment water.

I. The City desires to engage in the Program in exchange for a monetary credit against its Replenishment Assessment liability.

J. The Parties desire to enter into this MOU to memorialize the terms upon which the City shall engage in the Program, and the Watermaster shall provide the City with a monetary credit against its Replenishment Assessment liability.

AGREEMENT

The Parties agree as follows:

1. Term. This MOU shall commence upon the Effective Date and continue until the earlier of five (5) years from the Effective Date, or three (3) months following the end of the Water Year in which the Executive Director of Watermaster anticipates that the City shall have provided sufficient in lieu replenishment water pursuant to the Program to offset all of its then-accrued Replenishment Assessment liability.

2. Commencement and Scope of Program. The Program shall commence, if at all, only once the City deems it appropriate to commence the Program, in its sole discretion. The amount of in lieu replenishment that shall occur in any particular year pursuant to the Program, if at all, shall also be determined by the City in its sole discretion.

3. Accounting and Replenishment Assessment Credit.

3.1 Annual Accounting. Within one (1) month of the end of each Water Year during the term of this MOU, the City shall deliver to the Watermaster an accounting of the amount of water received from MCWD to be used in lieu of groundwater production from the Basin during the preceding Water Year. The City shall record and report the MCWD deliveries based upon accurate meter readings. All meters used for such reporting shall be regularly calibrated and maintained to ensure accuracy. If the Watermaster disputes the reported quantity of MCWD deliveries, it shall inform the City of the basis its objection within one (1) month of receipt of the City's accounting, and the Parties shall thereafter engage in good faith negotiations to attempt to resolve the dispute. Any dispute that cannot thereby be settled shall be referred to the Court for resolution.

3.2 Calculating Credit Against City's Replenishment Assessment Liability. At the end of each Water Year, the Watermaster shall determine the cumulative gross Replenishment Assessment liability owed by the City in accord with Section 6.5 of the Watermaster's Rules and Regulations. The Watermaster shall then apply a credit against the City's gross Replenishment Assessment liability, which shall equal the amount of all MCWD deliveries to the Golf Courses for irrigation during the proceeding Water Year, not to exceed the

groundwater production and later reclaimed water, once available.

City's 540 acre-feet of Alternative Production Allocation, multiplied by the amount of the effective Replenishment Assessment for that Water Year. Watermaster shall then promptly report the cumulative net Replenishment Assessment liability owed by the City.

4. Stay of Enforcement Proceedings for Unpaid Replenishment Assessments.

Watermaster shall not bring any enforcement action against the City for non-payment of Replenishment Assessments during the term of this MOU, provided that the City commences the Program within two (2) years of the Effective Date, and continues thereafter to provide at least two hundred (200) acre-feet of in lieu replenishment water to Watermaster each year thereafter pursuant to the Program.

5. Good Faith Renegotiation of Program Extension.

Upon termination of the initial term of this MOU, as set forth in Section 1 above, the Parties shall engage in good faith negotiations to determine whether the Program may be extended pursuant to mutual agreeable terms. One likely matter of negotiation for any Program extension is the method and amount of payment by Watermaster to the City for the in lieu replenished water after sufficient in lieu replenishment water has been provided to offset all of the City's prior Replenishment Assessment liability. No Party shall be obligated to commit to a Program extension or any particular term of a subsequent MOU for a Program extension.

6. Miscellaneous Terms.

This Agreement shall be governed by and construed in accordance with the laws of California, without regard to conflicts of law principles, with venue for all purposes to be proper only in the County of Monterey, California. If any actions are required to interpret or enforce the provisions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees and costs. Any failure to enforce any provision of this Agreement shall not constitute a waiver thereof or of any other provision hereof. This Agreement constitutes the entire understanding and agreement of the Parties, and there have been no promises, representations, agreements, warranties or undertakings by any of the Parties, either oral or written, of any character or nature hereafter binding except as set forth herein. This Agreement may be altered, amended or modified only by an instrument in writing, executed by the Parties to this Agreement and by no other means. Each Party waives its future right to claim, contest or assert that this Agreement was modified, canceled, superseded, or changed by oral agreement, course of conduct, waiver or estoppel.

IN WITNESS WHEREOF the Parties hereby agree to perform pursuant to the terms set forth herein.

SEASIDE BASIN WATERMASTER

CITY OF SEASIDE

Dewey Evans, Executive Director
Date: October ____, 2009

Ray Corpuz, City Manager
Date: October ____, 2009

**SEASIDE BASIN WATER MASTER
TECHNICAL ADVISORY COMMITTEE**

***** AGENDA TRANSMITTAL FORM *****

MEETING DATE:	October 14, 2009
AGENDA ITEM:	6
AGENDA TITLE:	Schedule
PREPARED BY:	Robert Jaques, Technical Program Manager
SUMMARY:	<p>As a regular part of each monthly TAC meeting, I will provide the TAC with an updated Consultants Work Schedule of the activities being performed by the Watermaster's consultants and the public entity, MPWMD, which is performing certain portions of the work, and of the Critical Program Milestones Schedule.</p> <p>Attached is the Updated Consultants Work Schedule.</p>
ATTACHMENTS:	Updated Schedule of Work Activities
RECOMMENDED ACTION:	Provide Input to Technical Program Manager Regarding Any Corrections or Additions to This Schedule

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F					
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug							
1	CRITICAL PROJECT MILESTONES ASSOCIATED WITH TAC, BOARD, AND/OR CONSULTANT WORK																			
2	2009 Administration, Operations and Replenishment Budgets Due				Completed															
3	2010 Administration, Operations and Replenishment Budgets																			
4	Prepare M&MP Draft Budgets (Same as Task 41)												Completed							
5	TAC Approves M&MP Budgets (Same as Task 42)												Completed							
6	Board Approves M&MP Budgets (Same as Task 43)																		10/7	
7	Watermaster Prepares Quarterly Water Production, Water Level, and Water Quality Reports		Completed			Completed		Completed		Completed		Completed								
32	Replenishment Assessment Unit Costs for Water Year 2010																			
33	Develop Replenishment Assessment Unit Cost for 2010 Water Year												Completed							
34	TAC Approves 2010 Water Year Replenishment Assessment Unit Cost												Completed							
35	Board Adopts and Declares 2010 Water Year Replenishment Assessment Unit Cost																		10/7	
36	Replenishment Assessments for Water Year 2009																			
37	Watermaster Prepares Replenishment Assessments for Water Year 2009												Completed							
38	Watermaster Board Approves Replenishment Assessments for Water Year 2009																		11/4	
39	Watermaster Levies Replenishment Assessment for 2009																			11/26

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F							
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug									
40	Monitoring & Management Program (M&MP) Budgets for 2010 and 2011																					
41	Prepare Draft 2010 and 2011 M&MP O&M and Capital Budgets																					
42	TAC approves Draft 2010 and 2011 M&MP O&M and Capital Budgets																					
43	Board approves 2010 and 2011 M&MP O&M and Capital Budgets																					
44	2009 Annual Report																					
45	Prepare Draft 2009 Annual Report																					
46	TAC Provides Input on Draft 2009 Annual Report																					
47	Prepare Revised Draft 2009 Annual Report (Incorporating TAC Input)																					
48	Board Provides Input on Revised Draft 2009 Annual Report																					
49	Prepare Final 2009 Annual Report (Incorporating Board Input)																					
50	Watermaster Submits Final 2009 Annual Report to Judge																					
51	MANAGEMENT																					
52	M.1 PROGRAM ADMINISTRATION (All Work Performed by Watermaster Staff)																					
53	Prepare Consultant Contracts for 2009																					
54	TAC Approval of Consultant Contracts for 2009																					

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009																	
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	F
55	Board Approval of Consultant Contracts for 2009			Completed															
56	IMPLEMENTATION																		
57	I.2.a DATABASE MANAGEMENT																		
58	I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance																		
59	Perform Data Entry (Production, Level, and Quality)																		
60	Correct Known Deficiencies in Existing Database			Completed															
61	Select New Database Host Site and Database Maintenance Firm			Completed															
62	Prepare and Issue Contracts to New Database Maintenance Firm			Completed															
63	Install Database on New Host Site				Completed														
64	Conduct TAC Test Period							Completed											
65	Compile Deficiencies in Existing Database Found From TAC Test Period								Completed										
66	TAC Approves Deficiencies to be Corrected in Database									Completed									
67	Correct Deficiencies in Existing Database Found From TAC Test Period & Activate Database on WM Website										Completed								
68	Make Improvements to Existing Database												Completed for 2009						
69	I.2.a.2 Verify Accuracy of Production Meters																		

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F									
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec					
70	Determine Which Meters Require Calibration																						Completed	
71	Select Contractor to Perform Meter Calibrations																						Not Necessary:	
72	Perform Meter Calibration and Report Results																						Not Necessary	
73	Determine and Take Followup Actions Based on Calibration Results																						Completed	
74	I.2.b DATA COLLECTION PROGRAM																							
75	I.2.b.1 Site Selection for New Monitoring Well																						Completed	
76	I.2.b.5 Monitor Well Construction																							
77	Design, Permits, CEQA. And Approvals																						Completed	
78	Construction																							
79	Pursue Conversion of Existing Abandoned U.S. Army Well for Use as an Additional Monitoring Well																						Completed	
80	I.3.a ENHANCED SEASIDE BASIN GROUNDWATER MODEL																							
81	I.3.a.1 Update the Existing Model																							
82	Prepare and Execute Contract with HydroMetrics to Update the Existing Model																						Completed	
83	TAC Identifies Questions to be Answered by Updated Model																						Completed	
84	Board Concurs with Questions to be Answered by Updated Model, or Adds Additional Questions																						Completed	◆

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F										
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec						
85	HydroMetrics Updates the Model																								
86	HydroMetrics Makes Summary Report to TAC on Updating of the Model																								
87	I.3.a.2 Develop Protective Water Levels																								
88	Prepare and Execute Contract with HydroMetrics to Develop Protective Water Levels																								
89	HydroMetrics Meets with TAC to Discuss Development of Protective Water Levels																								
90	HydroMetrics Develops Protective Water Levels																								
91	HydroMetrics Makes Summary Report to TAC on Protective Water Levels																								
92	HydroMetrics Makes Summary Report to Board on Protective Water Levels																								
93	I.3.a.3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions																								
94	Prepare and Execute Contract with HydroMetrics to Evaluate Replenishment Scenarios and Develop Answers																								
95	HydroMetrics Meets with TAC to Select Scenarios to be Evaluated																								
96	TAC Approves Scenario Selection																								
97	Board Concurs with Selection of Scenarios to be Evaluated, or Adds Additional Scenarios																								
98	HydroMetrics Evaluates Replenishment Scenarios and Develops Answers to Basin Management Questions																								

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F					
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug							
99	HydroMetrics Makes Summary Report to TAC Regarding Evaluation of Replenishment Scenarios and Answers to Basin Management Questions																		Special TAC Meeting ◆ 10/28	
100	HydroMetrics Makes Summary Report to Board Regarding Evaluation of Replenishment Scenarios and Answers to Basin Management Questions																		◆ 11/4	
101	I.3.b Complete Preparation of Basin Management and Action Plan (BMAP)																			
102	HydroMetrics Makes Presentation of Final Draft BMAP to Board and Board Adopts Final BMAP																		Completed ◆	
103	I.3.c Refine and/or Update the BMAP																		Only if Refinement or Updating is Necessary	
104	I.4.a HydroMetrics Provides Oversight of Seawater Intrusion Detection and Tracking																			
105	I.4.b HydroMetrics Analyzes and Maps Water Quality from Coastal Monitoring Wells																			
106	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																			
107	HydroMetrics Provides Draft SIAR to Watermaster																		◆ 10/7	
108	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)																		◆ 10/14	
109	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)																		◆ 11/4	
110	I.4.d Complete Preparation of Seawater Intrusion Response Plan (SIRP)																			
111	HydroMetrics Makes Presentation of Final Draft SIRP to Board																		Completed ◆	
112	CEQA Requirements for Adoption of SIRP and BMAP Evaluated																		Completed ◆	
113	Board Adopts Final SIRP																		Completed ◆	

Seaside Basin WaterMaster Monitoring and Management Program 2009 Work Schedule

ID	Task Name	2009												Jan	F					
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug			Sep	Oct	Nov	Dec	
114	I.4.e Refine and/or Update the SIRP						Only if Refinement or Updating is Necessary													