

California Water Quality Monitoring Council
Council Meeting Notes
August 18, 2008, 10:00 AM to 3:00 PM
Cal/EPA Building, 1001 I Street, Sacramento, CA
2nd Floor, Conference Room 230

Council members in attendance:

Jonathan Bishop, Sarge Green, Rufus Howell, Parry Klassen, Sam Mowbray, Armand Ruby, Steve Steinberg, Linda Sheehan, Steve Weisberg

Workgroup members in attendance:

Brock Bernstein, Bob Brodberg, Val Connor, Shelley DuFault, Ken Harris, Terry Fleming, Rainer Hoenicke, John Hunt (scribe), Jon Marshack

Others in attendance:

Mark Martin (Little Hoover Commission), Tam Doduc (SWRCB Board Chair), Frances Spivy-Weber (SWRCB Board Member)

ITEM: #	1	Assigned to:	Time:
Title of Topic:	HOUSEKEEPING & ANNOUNCEMENTS	Jon Marshack	10:00 – 10:30
Purpose:	1) Approve summary of June 23, 2008 Council meeting 2) Review agenda for today's meeting 3) Introduce Jon Marshack, new SB 1070 Coordinator 4) Briefing on Wetlands Monitoring Council and potential CWQMC subcommittees (Val Connor) 5) CEDEN Update (Val Connor, Karl Jacobs)		
Desired Outcome:	1) Approve June 23, 1008 meeting summary. 2) Receive recommendations on potential CWQMC subcommittees.		
Attachments:	CWQMC_MtgSummary_6-23-08.pdf factsheet.pdf		
Contact Person:	Jon Marshack	(jmarshack@waterboards.ca.gov, 916-341-5876)	

Notes:	<p>Val Conner announced that the recently formed Wetland Monitoring Council (WMC) would like to be a subcommittee of the CWQMC, and would like to present at the next CWQMC meeting. WMC has similar tasks at CWQMC.</p> <p>Val gave an update on the California Environmental Data Exchange Network (CEDEN) moving from DWR to MLML.</p> <p>A SWAMP bioaccumulation monitoring fact sheet and report was presented, and the Val announced that another SWAMP bioaccumulation report presenting fish tissue data from lakes was due this fall.</p> <p>The Water Data Institute was described as a concept being proposed by SWRCB Member Wolfe, which would be an entity similar to that envisioned for CEDEN, but likely situated outside of the SWRCB. The Institute is part of the Water Boards' Strategic Plan and Information Management Strategy.</p>
Decisions:	<ol style="list-style-type: none"> 1) The summary of June 23, 2008 Council meeting was approved without change. 2) The Council approved the concept of adding the Wetlands Monitoring Council as a subcommittee of the CWQMC.
Action Items:	<p>Information items for the 10/15/08 CWQMC meeting:</p> <ol style="list-style-type: none"> 1) WMC 2) CEDEN <p>Short informational papers for the 10/15/08 CWQMC meeting:</p> <ol style="list-style-type: none"> 1) SWAMP report on bioaccumulation in lakes 2) Water Data Institute

ITEM: #	2	Assigned to:	Time:
Title of Topic:	COUNCIL ROLE AND MEMBERSHIP	Valerie Connor	10:30 – 10:45
Purpose:	<ol style="list-style-type: none"> 1) Discuss the post-December 2008 role of the CWQMC. 2) Discuss the role of other agencies/organizations not currently represented and outreach to those. 3) Discuss future Council membership. 4) Recommendations for replacement Council members representing Publicly Owned Treatment Works (POTWs) and Stormwater. 		

Desired Outcome:	<ol style="list-style-type: none"> 1) Include recommendations on the Role and Membership of the Council in the December 2008 SB 1070 Report. 2) Receive recommendations for replacement Council Member representing POTWs. 3) Receive recommendations for replacement Council Member representing Stormwater. 4) Adding an Association of California Water Agencies member. 	
Background:	Council Members Roberta Larsen and Geoff Brosseau have resigned their seats on the Council, representing POTWs and Stormwater, respectively.	
Attachments:	Larson Letter.pdf Mowbray Resume.pdf Brosseau Letter.pdf Armand Ruby Resume.pdf	
Contact Person:	Valerie Connor	(vconnor@waterboards.ca.gov, 916-341-5573)
Notes:	<p>The formal procedure proposed for membership change was for the Council Chair to submit the new members to the Secretaries under the assumption that the new members would serve until and unless their nominations were rejected.</p> <p>Other categories for representation on the Council were suggested, including a large land owner (timber or agriculture) rep, but the Council agreed to focus on the report due in December, and consider changes to the Council membership after that. The report could serve as a mechanism for making recommendations about the structure of the Council.</p>	
Decisions:	<ol style="list-style-type: none"> 1) Sam Mowbray was accepted as the replacement Council member representing Publicly Owned Treatment Works (POTWs). 2) Armand Ruby was accepted as the replacement Council member representing stormwater agencies. 3) Sarge Green was accepted as a new Council member representing California water agencies. 	
Action Items:	Jonathan Bishop will send a letter to the Cal/EPA and Resources Agency secretaries recommending that the above CWQMC membership changes be accepted.	

ITEM: #	3	Assigned to:	Time:
Title of Topic:	WEB PORTAL APPROACH	Brock Bernstein	10:45 – 11:40
Purpose:	Presentation of possible theme-based web portal structure.		
Desired Outcome:	Approve the concept and functional description of theme-based portals as linking databases rather than creating a new database.		
Background:	At the June 2008 meeting, the CWQMC suggested an approach that would present links thematically (contaminant type, source activity, habitat type, geographic location, type of impact), rather than programmatically.		
Attachments:	Theme-based portals 08-11-08.doc Web portals Presentation.pdf		
Contact Person:	Brock Bernstein	(brockbernstein@sbcglobal.net, 805-646-8369)	
Notes:	<p>Brock Bernstein gave a presentation on the concept of theme-based web portals, based on his report listing approximately 20 existing WQ information websites, and evaluating them based on the USEPA 10 monitoring program elements. His report is not to be considered a comprehensive review.</p> <p>Portal themes must meet the goals of SB1070.</p> <p>Assessment methods need to be coordinated, widely accepted by scientists and stakeholders, and transparent to users.</p> <p>Portals should allow multiple levels of data presentation to address both:</p> <ol style="list-style-type: none"> 1) High level questions of interest to the public that require report card assessments derived from synthesis of data from multiple sources, and 2) Ability for technical experts to drill straight down to the data. <p>Many databases and websites exist or are under construction for this purpose. The Council should recommend that these be coordinated (coordinate the coordinators). Data bases must grow together.</p> <p>The State of the USA website was used as an example. It is backed by the National Research Council, among others, and has funding from large foundations. It is a work in progress, with some links live and others yet to be constructed.</p> <p>The Cal Fish website was demonstrated. It allows the user to overlay different types of data on maps. It brings data together, but is not organized around questions. It has a disclaimer warning that makes no</p>		

claims about data quality. The maps are powerful tools, but can be extremely misleading, as in the case of mapping 303d impairment listings. Inferences based on this information may be misleading.

A consideration for the report is what level of protection should be offered to the user to protect against misinterpretation of the portal data?

The Heal the Bay beach pathogen website was demonstrated, as was Wetland Tracker. The HTB site is focused on a single question (Is it safe to swim?), and is geared toward a public audience. Cal Fish and Wetland Tracker bring data together and let the user answer their own questions, and are geared toward a professional audience. A consideration for the report is the target audience and the web design order of pages to address that audience.

The HTB site also uses data from just a single parameter (bacterial counts), whereas Cal Fish and Wetland tracker bring together many types of data to address a more complex problem, so it highlights data over simple assessment questions.

All three web pages represent the efforts of multiple agencies working together. The HTB site included contributions from local agencies (funding and data collection), SCCWRP (software and data management), and HTB (assessment and web site hosting). It was emphasized that it was not a smooth process getting all of this together, and the Council should not reinvent that process but learn from and adopt successful collaborative structures.

One problem that should not be repeated was the original beach monitoring effort to submit all the data directly to the SWRCB. It works better now that the data go the County health agencies first. They then get immediate use of the data, which encourages participation and organizing effort, which is necessary to sustain the portal. BEACH only started working when it produced data useful at the county level.

Different types of portals will have different institutional arrangements. Cal Fish is maintained through dedicated agency staff time.

Key point: If you start with a specific assessment question, you can ask people to submit specific data to answer it. This is much easier than asking all people to submit all data. The alternate approach is to gather data first and then look for common themes (raw data query tool).

If the assessment questions are being addressed with a useful portal, people will develop data for it. But not all data, or all QA data, is useful. The SWAMP approach to standardization may be too detailed to attract others to join in. This is being addressed in SWAMP with development of a Tiered QA approach; but this hasn't gone out to other agencies. This evolution could help others to embrace the SWAMP approach.

The overall effort can be broken down into three components:

- 1) Improve standardization of underlying data;
- 2) Agree upon assessment protocols; and
- 3) Increase access to data (i.e., via the portal concept).

The first two will take a long time to accomplish and should be long-term SB 1070 goals. Some of the third can be done now, based on data availability and should be the main short-term goal of the SB 1070 effort.

There is a need to guide people on how to organize data, a need for fundamental data management programs, which will require money. Many organizations behind current data management efforts have a fragile system of multiple funding sources that could be in jeopardy due to economic and political considerations. Continued resource contributions are needed. This kind of information is valued by the public, so continued funding is needed. Collaboration will increase efficiency.

A goal should be to answer high level questions (is aquatic life protected?) on an annual basis. The portals need to provide straightforward statements to the legislature.

The Council considered their role in accrediting the people who do the assessments. The general response was that the Council should set criteria for an acceptable assessment process, rather than certifying individual assessors. Assessments (report cards) must be accompanied by information on the assessment method.

In general, the Council should not put out requirements but should propose conventions. If they're followed, the data can be more widely used. The ability to share data with others could convince organizations to utilize the new conventions. To be successful, this needs to be a collaborative process.

The Council could raise questions or comment on the applicability of standards, but it is not the charge of SB1070. The public may have more to say about standards once they have access to some assessments.

The SB1070 requires report to address standards and assessment across the state, but the Council can decide how specific their recommendations should be.

The standardization process will take time and money.

It was proposed that the Council recommend additional funding to maintain monitoring coordination and data dissemination. The December report should address the funding that has come in the past (AB411 [1998], AB1876[?]), and recommend that it be maintained. A gradual but effective system has developed with a number of funding sources that are all in jeopardy year to year. Resources must be dedicated to monitoring. The report should lay out the resources

	<p>needed.</p> <p>Dimensions of the mission of the CWQMC (for the December report) was later proposed as:</p> <ol style="list-style-type: none"> 1) Big vision of coordinated monitoring, assessment, exchange and dissemination – a consistent stream of information to address big questions. 2) A set of example web portals to build out. 3) How long a list of web portals should be tackled.
Decisions:	<p>The Council agreed that efforts at monitoring program coordination, at least in the short-term, should be organized around the unifying concept of theme-based web portals, as outlined in Brock’s “Theme-based portals 8-11-08.doc”. Such portals should provide multiple levels of user-focused assessment information as well as access to raw data.</p>
Action Items:	<ol style="list-style-type: none"> 1) Short paper on SWAMP Tiered QA for 10/15/08 CWQMC meeting. 2) The December report should address: <ol style="list-style-type: none"> a) Collaborative processes for data sharing b) Data management and assessment conventions c) Need for disclaimers against potential misapplication of data d) Tailoring data presentation methods to user needs e) Funding currently available f) Stable resource needs for future efforts

ITEM: #	4	Assigned to:	Time:
Title of Topic:	WEB PORTAL THEMES AND EXAMPLES	Brock Bernstein	12:40 – 1:35
Purpose:	Present themes and evaluation of representative existing web portals.		
Desired Outcome:	<ol style="list-style-type: none"> 1) Select and prioritize themes for web portal. 2) Prioritize existing web portal examples that have already been evaluated. 3) List other web portals that should be prioritized. 		
Background:	Brock Bernstein has evaluated a number of existing web portals and a created a ranking system.		
Attachments:	Web portal fact sheets 08-14-08.pdf		

Contact Person:	Brock Bernstein	(brockbernstein@sbcglobal.net, 805-646-8369)
Notes:	<p>Portal evaluation</p> <p>It was proposed that the 10 EPA monitoring elements are good for evaluating programs but are not a good set of criteria for evaluating portals. The following criteria for portal evaluation were proposed:</p> <ol style="list-style-type: none"> 1) Strategy, objectives and design of underlying monitoring programs contributing data. 2) Consistency of indicators, methods and QA among data flowing to portal. 3) Data management structure. 4) Assessment endpoints (scale), techniques, agreement, transparency. 5) Reporting. 6) Sustainability – ability to maintain the information flow and dissemination. <p>These criteria may need to be weighted. A 10-point score for each of the above criteria is probably more math than useful. Each portal should just be graded high, med, and low.</p> <p>Monitoring programs and data portals should be evaluated separately.</p> <p>December report should include review of existing portals and design ideas. Water quality data representing all agencies identified in SB 1070 should be included.</p> <p>Portal themes to pursue</p> <p>Brock presented the matrix of water body types and beneficial uses as a starting point for themes (see slides 7, 8 and 9 of “Web portals Presentation.pdf”)</p> <p>General agreement that this is a reasonable set of themes to pursue, except that...</p> <p>By basing themes on beneficial uses and water body types, some important topics are missed, including: emerging contaminants, invasive species, debris/trash, warming, acidification, pollutant load, and flow. Add a new theme called “Stressors/Impacts”.</p> <p>Many stressors cross over multiple assessment questions.</p> <p>An alternate way to organize themes is under three headings: Waterways, Pollutants/Stressors, and Activities.</p> <p>These portals will involve many-to-many relationships of data, making data management structures complex. We can't possibly know all possible ways to get/combine/assess data now to be able to build the</p>	

schema upfront. Focus on low hanging fruit initially and allow the system to evolve and develop.

The portals should focus on statewide assessments, allowing status and trends to be analyzed.

Spatial drilling through habitats is a good organizing connection for the portals. But some themes do not apply to some habitats.

Selecting themes requires distinguishing between short term goal of picking low hanging fruit and long term vision of a comprehensive system to evaluate water quality.

- 1) What works now?
- 2) What do we want in the longer term (vision)?
- 3) How do we get there?

The size of the audience and political interest are important criteria for initial theme selection. Because of this, the priority should be:

- 1) Drinking water safety
- 2) Swimming safety
- 3) Fish and shellfish consumption safety
- 4) Status of aquatic life
- 5) Stressors/Impacts.

For drinking water, the idea should not be to tell individual households that their tap water is OK, but rather if their groundwater basin or watershed is OK or threatened.

Flow should be brought into the aquatic life and other assessments.

Portal sub themes

invasive species, harmful algal blooms

Portal design

Need to organize information by the ways people want to see the data. Portal features should include: downloading of data, data presentation at different scales, and mapping of data.

Start with a mockup, with many dummy links and maybe only one live link (to the HTB beach bacteria site).

Every portal should have a map on the first page. However, you can lose things (like cross cutting stressors) if the design focuses too much on geography.

Start with the theme up front.

Use different lenses to get to the same information.

In the short term, we'll have to rely on individual data streams from independent sources.

Caveats should go on the website. Provide the information with a minimum level of evaluation of data quality; allow more detailed drilling of how data were collected and organized.

Example portal

There was agreement that the Council and workgroup should build out an example portal, focusing on the SWRCB Beach Water Quality website

www.waterboards.ca.gov/water_issues/programs/beaches/beach_water_quality/, that also leads to Heal the Bay swimming report card site.

The cartoon subcommittee (Terry Fleming, Steve Steinberg, and Parry Klassen) will be responsible for designing a series of PowerPoint mockup pages of the example portal, which will then be show links to existing sites that are the best current portals. The SWRCB Beach Water Quality site will be the one live link. Put the CWQMC look and feel over links to existing sites. This should be done to allow the Council to critique at the October meeting.

This will be posted on the SWRCB website so the council can critique it. A working prototype should go out to the public relatively soon (after the report?) to get public feedback.

The SWRCB web format was viewed, and there was agreement that the CWQMC website could work within that format but should be free to eliminate unrelated links and replace them with related links. Look at the CERES design. The existing SWRCB Beach Water Quality page is text heavy.

The Council should recommend who should house and maintain the website. This will affect design constraints and potential conflicts over developing report card grades.

In front of the Beach Water Quality page, there should be two levels of web pages. The first page should present the four to five main theme questions. It's important the second page have a map, to allow users to select their level of view. Legislators can go right to their districts.

Lay people should be brought in to evaluate it.

The portals need to be updated frequently, depending on parameter. Aquatic life assessments maybe annually. Safe to fish maybe monthly, safe to swim maybe weekly or more often, like a weather report.

The subcommittee will draw up some example graphics.

The maps on a good portal have to look really good, or people will assume the data is of the same crummy quality as the maps.

Brock will work with cartoon group; Jon Marshack will work on the

	<p>SWRCB side for web design.</p> <p>Structural problems with monitoring programs: hard to fix.</p> <p>Data management problems: medium hard to fix.</p> <p>Web design problems: easy to fix.</p>
Decisions:	<ol style="list-style-type: none"> 1) Portal evaluation criteria were condensed (see above). 2) Portal priority should be: <ol style="list-style-type: none"> a) Drinking water safety b) Swimming safety c) Fish and shellfish consumption safety d) Status of aquatic life e) Stressors/Impacts 3) Portal development order should focus first on low hanging fruit. 4) Example portal for the December report will focus on swimming safety at the 3rd level, based on the SWRCB Beach Water Quality website, with two levels above addressing the main themes and maps.
Action Items:	<ol style="list-style-type: none"> 1) Brock will develop a revised set of themes and sub-themes for email distribution to Council members. 2) Brock will develop a proposed prioritization of portals, based on a revised ranking scheme focusing on those we can use now, those that need some extra enhancements, and those that are not very useful without more work. 3) Cartooning subcommittee (Terry Fleming, Steve Steinberg, and Parry Klassen), with assistance from Brock Bernstein and Jon Marshack, will design mockup portal, focusing on one live page, based on the existing SWRCB Beach Water Quality page. CWQMC will critique at the October meeting.

ITEM: #	5	Assigned to:	Time:
Title of Topic:	CWQMC REPORT	Brock Bernstein	1:35 – 2:30
Purpose:	Review and comment on annotated outline of first SB 1070 report.		
Desired Outcome:	Council comments and direction on the structure and content of the SB 1070 Report.		

Background:	Brock Bernstein has produced a draft annotated outline of the first SB 1070 Report, which is due in December 2008.	
Attachments:	SB 1070 Report outline 08-11-08.doc	
Contact Person:	Brock Bernstein	(brockbernstein@sbcglobal.net, 805-646-8369)
Notes:	<p>The report will lay out the vision: water quality data portals based on big questions, data accessible to and useable by the State of California and all others. This is the approach the agencies will use.</p> <p>This includes both</p> <ol style="list-style-type: none"> 1) integrated assessments and 2) data available for others to make assessments. <p>The report should describe the path toward organizing all the data available from all the programs, integrating it in one place, start with ways people could see all the data, show some examples, and recommend investing in immediate development of the existing portals that have the most important data and are closest to being ready (low hanging fruit).</p> <p>There was some discussion of who will do the assessments, and the answer is we don't know. Organizations that contribute data to each main question should be identified. Should a separate entity (e.g., a joint powers agency) house the data?</p> <p>One way to do a partial assessment is just to point people to the proper data, like Cal Fish. But there was general agreement that the portals need report cards.</p> <p><u>An important part of the report</u> is recommending who should do the assessments.</p> <p><u>The report should say:</u></p> <ol style="list-style-type: none"> 1) We need high level analysis of the available data to answer the most basic assessment questions (e.g., is it safe to eat the fish?) 2) We need a data management structure. 3) We need these people to maintain it. 4) We need this level of continued support. <p>Assessment is good, but we may not know what the future questions will be, so we need to make sure we assemble consistent data over time and space regardless of the questions.</p> <p>The discussions have focused on status (Is it safe to eat the fish?), but we must also address trends (Are the fish safer now than they used to be?)</p> <p>It's important to put into the report how good each portal is, so the</p>	

Council can recommend investment in some.

Describe the low hanging fruit of portals that can come online soon, then the plan for the future portals, then the structure underlying more advanced portals that synthesize and assess data from different sources.

The report should make recommendations about system architecture.

There was some confusion about the December 1, 2008 reporting requirements in the SB1070 Act. Linda Sheehan indicated that not all of the deliverables identified in SB 1070 are required to be included in the December report. The report must include "recommendations for maximizing the efficiency and effectiveness of existing water quality data collection and dissemination, and for ensuring that collected data are maintained and available for use by decision makers and the public." The strategy for achieving the above need not be part of the December report; that is the responsibility of the SWRCB with direction from the CWQMC.

Report should recommend that the SWRCB create the strategy for a statewide monitoring network. SWAMP has made progress on the water board programs. That needs to be expanded across agencies to form a comprehensive statewide program.

The water boards should create the strategy; the CWQMC should create the portals that the strategy feeds data into. The portals will also draw data from the other agencies.

The report should address the larger recommendations:

- 1) What will be the general strategy for achieving comparability?
- 2) What will the Council do?
- 3) What will the agencies do?

Report Outline

From the report outline, the phrase "Provide examples from one or two effective portals" should be its own chapter, Chapter 3.

Chapter 2 and former Chapter 3 (now 4) should replace the "10 elements" with the 6 portal evaluation features discussed in Item # 4 above.

The previous Chapter 3 (now 4) "Current portals assessed" should include theme evaluation.

The previous Chapter 4 (now 5) "Implementation plan" should talk about which portals are highest priority, where the investment should go, and how it will be maintained.

The Recommendations chapter should also address how to reduce current redundancies and how to fill gaps in information availability.

	<p>Sustainability should be covered in the Assessment and Implementation chapters (new 4 and 5).</p> <p>Council Role and Membership</p> <p>There was discussion on the future of the Council after the report. It was proposed that the Council meet twice each year to oversee implementation, including development of new portals and coordination of agency monitoring.</p> <p>SWRCB staff work will continue beyond December to address all SB 1070 deliverables.</p> <p>The report should recommend that the Council continue to oversee progress.</p> <p>The Council should have subcommittees that focus on getting other theme-based portals up to speed and present progress to the Council.</p> <p>Outreach to agency programs listed in the inventory should continue.</p> <p>The Council may recommend that a third party with stable funding take over monitoring coordination oversight. Lay out options and pros and cons.</p>
<p>Decisions:</p>	<ol style="list-style-type: none"> 1) December report outline: <ul style="list-style-type: none"> Chapter 1: The data portal concept Chapter 2: Data portal design attributes Chapter 3: Examples of one or two effective portals Chapter 4: Current portals assessed and themes evaluated Chapter 5: Implementation plan (include prioritization) Chapter 6: Recommendations 2) December report need not address all SB 1070 deliverables. 3) Council will have a continuing role after December to provide guidance to SWRCB and others. 4) Outreach is needed to all agencies who could be involved.
<p>Action Items:</p>	<p>Short informational write-up on SWAMP Business Plan to CWQMC.</p>

<p>ITEM: #</p>	<p>6</p>	<p>Assigned to:</p>	<p>Time:</p>
<p>Title of Topic:</p>	<p>MEETING WRAP-UP</p>	<p>Jon Marshack</p>	<p>2:30 – 3:00</p>
<p>Purpose:</p>	<p>1) Summarize meeting.</p>		

	<p>2) Review action items.</p> <p>3) Develop agenda items for next meeting.</p>	
Contact Person:	Jon Marshack	(jmarshack@waterboards.ca.gov, 916-341-5876)
Notes:	<p>Next Meeting Agenda</p> <p>Major focus on editing portal design and report draft.</p> <p>Short presentations on Wetlands Monitoring Council and CEDEN.</p> <p>Focus on report recommendations for implementation, council role, role of other agencies, and strategy for achieving comparability.</p>	
Decisions:	<p>The majority of the next meeting will be devoted to reviewing a draft of the December report and portal mockup.</p> <p>Hours of the next meeting were extended to 8:30 AM to 5:00 PM.</p> <p>Resources Agency representative on the Council should be briefed on the meeting.</p>	
Action Items:	<p>1) Jon Marshack will contact Resources Agency reps.</p> <p>2) Jon Marshack will disseminate hotel information near SCCWRP.</p> <p>3) SWRCB staff will send the Council members one-page descriptions of CEDEN, Tiered QA, the Data Institute, and the SWAMP Business Plan before the next meeting.</p>	

Based on notes of John Hunt and Jon Marshack