

CALIFORNIA WATER AND ENVIRONMENTAL MODELING FORUM

MINUTES OF THE ANNUAL BUSINESS MEETING 2020

General Membership Meeting of June 26, 2020

(online meeting virtual via Zoom due to health restrictions from COVID-19 global pandemic)

Key Items	<ul style="list-style-type: none">- Modeling Protocols Update Project Update- CWEMF 2020 Annual Meeting Plans- Officer Elections
Motions	<ul style="list-style-type: none">- Motion to approve CWEMF Minutes of the Annual Business Meeting 2019, made by Shyamal Chowdhury seconded by Josue Medellin-Azura, passes by vote 15-0 with 1 abstention.- Motion to appoint Tariq Kadir to fill Vice Convener vacancy for the remainder of the Spring 2019 - Spring 2021 term, made by Shyamal Chowdhury seconded by Abdul Khan passes unanimously by vote 17-0.- Motion to appoint Ben Bray to fill Secretary vacancy for the remainder of the Spring 2019-Spring 2021 term, made by Shyamal Chowdhury seconded by Stacy Tanaka passes by vote 15-0 with one abstention.
Action Items	<ul style="list-style-type: none">- Ensure that Modeling Protocols Subcommittee include adequate information or reference to information that can provide guidance on the topic of appropriate approaches for applying integrated models for water resources and environmental management. (Request to the Modeling Protocols Subcommittee through Chair Satkowski)
References Handed Out	<ul style="list-style-type: none">- Minutes of the 2019 Annual Meeting

Note: Powerpoint file CWEMF Business Meeting_SC 2020.pptx was used as a visual aid for the online Zoom meeting.

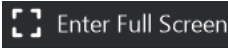
Start 9:00 AM

1. OPENING BY CONVENOR – The Convener, Shyamal Chowdhury, opened the meeting. The convener opened with the following technical support information.

- Video (webcam) is not needed to participate.
- Your microphone will be muted; if you wish to provide comments or have any questions, please use Chat instead:

<https://support.zoom.us/hc/en-us/articles/203650445>

- If you don't have computer audio, call in by phone:
(669) 900-9128, Meeting ID 97508065536#

- We recommend viewing in full screen mode: 

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- If you are having difficulties, please contact the following individuals, Josue Medellin-Azuara and Tad Slawewski (cell phone *numbers provided*):

A quorum was declared, with 20 persons in attendance. Approximately 16 to 18 individuals remained on the call with two or three individuals on for a portion of the online meeting. The organizational breakdown of attendees is as follows:

• Consultants	4
• Contra Costa Water District	1
• Dept. of Water Resources	5
• EBMUD	1
• Metropolitan Water Dist. S.C.	1
• State Water Resource Control Board	1
• U.C. Merced	2
• USACE	1
• USBR	1
• Public Members	3

The following announcements were made:

- The audio and chat of this meeting is being recorded for record-keeping purposes only.
- No video is being recorded.

Convener provided overview of agenda and thanks all for attending this meeting given the circumstances of the COVID-19 global pandemic.

2. SECRETARY'S REPORT (Shyamal Chowdhury & George Nichol) - Minutes were provided to members before the meeting. Any proposed changes are requested in the chat. None were requested or discussed. Motion to accept the 2019 minutes by Shyamal Chowdhury, seconded by Josue Medellin-Azura. Motion carries with 15 Ayes and 1 abstention.

3. TREASURER'S REPORT (Stacy Tanaka) – The mid-year fiscal report (July 1, 2019 through Dec. 31, 2019) presented representing the first half of the fiscal year to be consistent with standard practice for CWEMF business meeting reports. At that time CWEMF showed a revenue of \$10,915 that was mainly due to workshop registrations, membership interest and donation gifts. CWEMF had expenses of \$5,085 that were from annual meeting costs, workshop expenses and fees. CWEMF's account showed a net gain of \$5,830 over this period.

However, at this point in the year [June 2020] CWEMF has continued to incur expenses without any substantial source of revenue. As of May 31st CWEMF had a revenue of about \$36,000 and expenses closer to \$64,500. Therefore, for FY 2019-20, CWEMF will show a loss in the \$28k range. The additional expenses incurred were for paying out the remainder of FY 2019-20 executive director contract expenses and paying out contract expenses for the modeling protocols effort. CWEMF had no revenue coming in because our organization issued refunds for all of the annual meeting registrations. At this point the only source of revenue to the organization is the organizational membership dues.

The only other notable item is that all accounts at River City Bank were closed. All accounts were moved to Bank of America for ease of access for officers and executive director.

4. VICE CONVENOR’S REPORT (Abdul Khan) – There were two workshops held in partnership with DWR last year.

- IDC held April 30 - May 1, 2019 instructed by Dr. Can Dogrul.
The workshop was well attended with 24 participants with good feedback received.
- IWFM held June 4 - 7, 2019 instructed by Dr. Can Dogrul.
There were 21 participants, again, with good feedback. In this workshop a practitioner that is working on a GSP was invited as part of the workshop which was a highlight.

5. MODELING PROTOCOL (Rich Satkowski) – Subcommittee report out was opened with a reminder of the objective: to update the CWEMF document entitled *protocols for water and environmental modeling*. That document was developed back in the year 2000. The protocols provided guidance, best practices, to stakeholders, decision makers, and technical staff as models are used to solve California's water and environmental problems. The members of the subcommittee were recognized: Ali Taghavi, Woodard & Curran; Ben Geske, DSC; Chuching Wang, MWD; George Nichol, USACE, SWRCB (retired); Jamie Anderson, DWR; John DeGeorge, RMA; Jon Herman, UC Davis; Josue Medellin-Azuara, UC Merced; Mike Deas, Watercourse Inc.; Nicky Sandhu, DWR; Rich Satkowski, SWRCB (retired) Committee Lead; Tad Slawecki, Limnotech; Tariq Kadir, DWR; Will Anderson, CCWD). The chair noted strong participation by the members and welcomed any new members to participate.

Modeling Protocols Subcommittee Process to Date:

- Contracted with UC Davis to conduct “Phase 1” literature review and modeling study interviews in Jul 2019 through January 2020. The initial cost for this effort was \$10,000. They provided a final report that documents the findings from the Phase 1 effort. A grad student was involved in performing much of the work for this effort as well.
- Contracted with the consulting firm Tetra Tech to provide “Phase 2” technical assistance in November, 2019. The total cost for the TetraTech services is about \$86,000, and that work is still ongoing.
- Started conducting monthly meetings in about May 2019.
- Developed a revised document outline in June through Jul 2019.
- Conducted five topic-specific meetings with 70 participants to obtain their input that included modelers, technical staff, and management. These meetings occurred over the period of February through March 2020 in the following areas listed:
 1. Hydraulics, Hydrodynamics and Water Quality
 2. Groundwater and Integrated Surface/Ground Water
 3. Surface Watershed Hydrology and Reservoir Operations
 4. Biological Ecosystem Models
 5. Hydro-Economics Modeling and Economic Analysis

Modeling Protocols Subcommittee Remaining Activities

- Subcommittee plans to complete draft Phase 2 report in August 2020. In a writing or drafting phase now, putting information together including the following:
 - checklists highlighting issues that should be considered and addressed;

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- example case studies;
- references to more detailed material;
- guidance for periodic updates over time.
- Subcommittee plans to conduct public workshop to review modeling protocols, take input and discuss what needs to be updated, modified, and/or supplemented in October 2020.
- Subcommittee plans to finalize the updated modeling protocols report in December 2020.
- Subcommittee will seek Steering Committee's "acceptance" of the final report then and post the document on the organization's website in March 2021.
- Members of the subcommittee plan to present final report at the 2021 Annual Meeting in April 2021.

6. EXECUTIVE DIRECTOR'S REPORT (Paul Hutton) – Provides some highlights for the year.

2019-2020 Highlights:

- Reported on the refunds of individual membership dues and annual meeting registration fees this year due to the COVID-19 global pandemic. There was a mix of large membership or group payments and individual payments. There were inquiries about rolling over money already paid. For clean fiscal accounting purposes, it was decided to refund all of the registration fees collected.
- Worked with Steering Committee to update CWEMF Operating Policies document. There are four main elements of the document. The first covers our operating reserve fund. The second covers contracts supported by federal funds. The third category regards policies of individual membership categories and associated dues as well as annual meeting registration fees, a new addition. The fourth is a policy for requests to distribute job postings to members via the CWEMF email list serve.
- Compiled list of the workshops by CWEMF since 1995 through 2020. That list has been posted at cwemf.org.
- Worked with Treasurer to move bank accounts from River City to Bank of America.
- For workshops on IDC and IWFM, ED recognized Katherine Heidel with TetraTech whom assisted the ED in handling workshop registration.

7. OFFICER ELECTIONS (Shyamal Chowdhury) – This agenda item is necessary to fill two organizational vacancies for the remainder of their two-year term; Vice Convener and Secretary.

Shyamal Chowdhury moves that Tariq Kadir be elected to the position of Vice Convener, seconded by Abdul Khan. Motion carries with 17 Ayes.

Shyamal Chowdhury moves that Benjamin Bray be elected to the position of Secretary, seconded by Stacy Tanaka. Motion carries with 16 Ayes and one abstention.

Tariq Kadir thanked the membership for their vote of confidence and then took a moment to thank Abdul Khan for his service and commitment to the organization over the past few years.

8. CWEMF ANNUAL MEETING 2020 UPDATES (Shyamal Chowdhury) – Acknowledged annual meeting planning effort led by Will Anderson and the CWEMF subcommittee. Several different ideas for the CWEMF annual meeting were discussed summarizing discussions held at

the Steering Committee. The most likely path forward will be an online conference like many other professional organizations have moved to an online or virtual format. Convener expresses his optimism that *next* year, in 2021, our membership can get back to an in-person meeting format. Convener asks that members look for an announcement after the July Steering Committee meeting regarding the 2020 annual meeting.

9. MEMBERSHIP QUESTIONS AND DISCUSSION (open discussion) –

Abdul Khan raises a comment. Mr. Khan is glad to see the modeling protocols update project is moving forward and going well. There are several emerging issues related to modeling happening now within California, within DWR and outside DWR. One thing is integrated modeling, which is an approach that combines hydraulics, hydrology, and ecosystem analysis in one integrated, comprehensive model. Another approach, however, could be using existing models and linking them or integrating these models, but in more of a sequential approach to hydrology, hydraulics, and then ecosystem assessment. These are two emerging concepts within integrated modeling, one is more integrated, one is "sort-of" integrated. The motivation for this integrated concept approach ties into the move towards a watershed scale or basin scale approach to water resources management. How do we approach the management problem from the perspective of vulnerability assessment and action assessment for water supply and ecosystem health. This is a big question in California and thought to bring it to the attention to CWEMF. Tying back to the protocols, it would be good to have both types of approaches discussed.

Tariq Kadir: I have worked more in the former case, where we have developed IWFEM, which is more integrated or a more comprehensive surface water and groundwater model. In DWR, we are also working toward and integration of IWFEM with WRIMS to get a new reservoir operations model with an application for the Central Valley similar to CALSIM 3 ; but we are not doing water quality. CWEMF has a big responsibility of recognizing the merits of both approaches. It comes down to asking what are the objectives that are trying to be solved. What is the higher priority we are dealing with? Is it sustainability? Is it water security? Is it water quality? Then you look at the different type of approaches that can be leveraged for the need. DWR has been very fortunate that we've been able to spend a lot of time and resources developing models. With that said, please keep in mind, DWR is not in the business of developing models for the sake of developing models. Our development programs are driven by needs. The fact that DWR may not be putting resources into a much larger scale model, for example, may be a reflection that our agency may not have an immediate need for development to that type of scale or level. If DWR management were to make it a priority to take on such an effort, then I expect resources would be put onto that effort. Otherwise DWR is "model needs" driven and not "model development" driven. If part of the model can be used to fit the needs of other uses such as WRIMS in the case of Calsim or IWFEM as examples, so be it.

Rich Satkowski: Abdul Khan brings up a good point. Integration of models is an important part of the process whether directly integrating the models or sequentially linking models or modeling results. I have made a note to bring this up with the modeling protocols subcommittee to see how we might address this specific suggestion. The subcommittee may include some guidance for how to go about integrating models or provide some information about different approaches to integrate models. Suggestion is noted.

Paul Hutton: This topic has been brought up in the modeling protocols group. CWEMF SC member with the Delta Stewardship Council, Ben Geske, unfortunately not here today, would be the best person to speak to this subject. The Delta Stewardship Council's (DSC) Science Program has put together an effort he is leading up including a steering committee of experts to look into this topic and covering both ways mentioned. As part of this effort, the DSC hired a consultant team. In Paul Hutton's role at TetraTech with others, as part of that team, a very comprehensive initial report was put together for them on this issue. Ben Geske and the DSC will continue to pursue this issue and will put resources to advance this issue. It is my recommendation that CWEMF find a way to work with the DSC on this subject, probably through the Integrated Modeling Steering Committee (IMSC) because they are much better resourced for advancing this subject matter. Rich Satkowski might know better, however, we were planning on having a small section in the report on this topic but didn't want to provide a lot of detail that repeated work that has already been done. Rather we were looking to provide a link or reference to that other , more detailed information.

Rich Satkowski: In looking at the outline, there is a part of the report called *process coupling*. The plan is to refer over to what the DSC is doing in order that the topic is covered in the report.

Convener Shyamal Chowdhury takes a minute to acknowledge the team of technology experts for helping with this virtual meeting. The list is as follows: Nicky Sandhu, DWR; Tad Slawewski, LimnoTech; Josue Medellin-Azuara, UC Merced; Stacy Tanaka, Watercourse Engineering, Inc.; Benjamin Bray, EBMUD; Tariq Kadir, DWR; Chuching Wang, MWD; Jesse Jankowski, SWRCB. Convener gives a big thanks to Nicky Sandhu. Though he wasn't able to attend the meeting today, he played a big part in leading this group to learn and get familiar with the technology to help put this meeting on today.

Convener Shyamal Chowdhury closes the meeting by thanking everyone for attending and urges our members to get involved with CWEMF! Volunteer for model training workshops. Share your ideas and participate in CWEMF Steering Committee meetings.

10.ADJOURN – 9:59 AM

Respectfully Submitted,
Ben Bray, Secretary, CWEMF

ANNUAL MEETING ATTENDANCE (22 persons)

NAME	ORGANIZATION
Executive Director, Paul Hutton	Tetra Tech
OFFICERS	
Convener, Shyamal Chowdhury	U.S. Army Corps of Engineers
Vice Convener, Abdul Khan	CA Department of Water Resources
Past Convener, Tariq Kadir	CA Department of Water Resources
Treasurer, Stacy Tanaka	Watercourse Engineering, Inc.
Secretary, George Nichol	Public Member
AGENCIES/UNIVERSITIES/NON-PROFITS	

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Will Anderson	Contra Costa Water District
Tara Smith	CA Department of Water Resources
Paul Shipman	CA Department of Water Resources
Ted Swift	CA Department of Water Resources
Ben Bray	East Bay Municipal Utility District
Chuching Wang	Metropolitan Water District of S.C.
Jesse Jankowski	State Water Resources Control Board
Josue Medellin-Azura	U.C. Merced
Alex Guzman	U.C. Merced
Vanessa King	U.S. Bureau of Reclamation
CONSULTANTS	
Anne Huber	ICF
Tad Slawecki	LimnoTech
Katherine Heidel	TetraTech
Mesut Cayar	Woodard and Curran
PUBLIC MEMBERS	
Rich Satkowski	
KT Shum	