

Blue Ribbon Committee for the Rehabilitation of Clear Lake

Technical Subcommittee

Meeting #8
1:00 pm-3:00 pm
March 26, 2020

Meeting Summary #8

Attendees:

See Attachment A

Action Items:

1. CPP will:
 - a. Confirm and communicate the date of the April Subcommittee meeting
 - b. Revise the March 10th Meeting Summary notes and integrate the correction made by Jim Steele.
 - c. Send Joe Domagalski a reminder email to send out the SPARROW publication links and link to SPARROW's related decision support tool in the Chesapeake Bay.
 - d. Follow-up with Resources on who is responsible for ADA compliance in website accessibility.
 - e. Plan and schedule a UC Davis presentation for the Subcommittee on remote sensing.
 - f. Update the monitoring plan spreadsheet to include monitoring sites in the City of Clearlake provided by Karola Kennedy.
 - g. Distribute updated monitoring plan spreadsheet to all Subcommittee participants, including a companion map showing approximate locations of proposed new monitoring sites.
 - h. Create and circulate an email chain with topics to be covered by Angela DePalma-Dow in the April meeting.

Welcome and Introductions

Sam Magill (Facilitator), Sacramento State Consensus and Collaboration Program (CCP), opened the Technical Subcommittee (Subcommittee) meeting. The Subcommittee is a subset of stakeholders associated with the Blue Ribbon Committee for the Rehabilitation of Clear Lake (Committee). A full list of Subcommittee meeting participants is included in Attachment A.

The Facilitator noted the primary meeting objective is a continued discussion of proposed monitoring sites and needs for calibration of a watershed model.

Confirm Meeting Minutes from February 20th Technical Subcommittee Meeting

The following edits/modifications to the February 20th Subcommittee summary include:

- The third bullet point on page 7 should be changed to read: "When the Cache Creek dam is closed, stormwater from Siegler Canyon Creek flowing into Cache Creek will then flow to Clear Lake, so Cache Creek should not be excluded from basin monitoring since the backflow may introduce additional nutrients to Clear Lake". This change will be made by CCP (**Action Item 1b**).

Sophie Carrillo-Mandel, CCP, reviewed the previous meeting's action items with the group. Unless otherwise indicated below, the action item was completed.

stated that the Lake County Fruit Frost Committee will install a rain gauge on Cow Mountain; a timeline for installation is not yet established. Charlie Alpers, US Geological Survey (USGS), shared that USGS released LiDAR data for Northern California at three different levels of resolution that may inform the Subcommittee's work; Dr. Alpers was unsure whether LiDAR flights were conducted before or after recent Lake County fires.

CCP will follow up with Joe Domagalski, USGS, to provide a link to SPARROW publications and the related decision support tool in the Chesapeake Bay (**Action Item 1c**). The remaining action items for USGS would be addressed in Dr. Alpers' presentation.

Regular Monthly Meeting Time

The Subcommittee will meet on the 4th Thursday of each month from 1pm to 3pm. However, due to a conflict with the April meeting date, the April meeting will be rescheduled to Friday, April 24th at 10am.

Report out on Funding Recommendations Discussion from March 11 Committee Meeting

The Facilitator announced that the Committee is asking for funding for all of the recommendations delineated in the Committee's 2019 report to the Governor of California and California State Legislature (Report). California Natural Resources Agency (Resources) has requested \$4.5 million for Fiscal Year 2020/21 for a continuation of Committee activities, including the development of a watershed model, comprehensive monitoring, and other actions delineated in the Report.

Eric Sklar, Committee Chair, is working with Assemblymember Aguiar-Curry and Resources to secure funding for all recommendations including socioeconomic research and ongoing work from the UC Davis Tahoe Environmental Research Center (TERC). Additional updates will be provided as available.

Discussion:

- Given the recent changes due to COVID-19, is there a concern that the State of California will go from having a budgetary surplus to having a deficit? And if so, has this changed the conversation around funding for the Committee?
 - Mr. Sklar responded the COVID-19 pandemic may impact funding, but noted since the Committee is requesting funding for a continuation of existing activities, he is confident funding will be available. He will provide additional updates as more information becomes available.
- Are Committee documents currently American's with Disabilities Act (ADA) compliant, and will accessibility issues require removing items from the Committee's website and reposted in an ADA compliant format?
 - CCP will work with Resources to determine the need and process for posting ADA compliant materials (**Action Item 1d**).

Presentation: Clear Lake Watershed Monitoring and Modeling Plan

Dr. Alpers provided a presentation on modeling and monitoring needs in the Clear Lake basin. The presentation and webinar will be posted to the [Committee Website under "Technical Subcommittee Meeting #8"](#).

Dr. Alpers noted the presentation represents collaboration between USGS and TERC, as well as local Lake County contributions. He highlighted the importance a multi-model approach to watershed modeling and briefly explained the various models (LSPC/HSPF, SPARROW and Sediment Fingerprinting). The three models are best used simultaneously to meet the Committee's goals of improving water quality, monitoring nutrients as well as measuring mercury and phosphorous in Clear Lake and the Clear Lake watershed.

The UC Davis TERC team is interested in using climate change models that measure localized precipitation and simulate the effect of runoff on sediment, nutrients, nitrogen, phosphorous and mercury. This will also provide tools to meet requirements of the Total Maximum Daily Load for Nutrients in the Clear Lake basin. When combined, these tools will provide important information for future management decisions and mitigation strategies.

Dr. Alpers noted SPARROW uses information from stream gauges throughout the Clear Lake watershed. USGS recommends adding four additional gauges throughout the watershed; the Subcommittee discussed monitoring needs for the modeling effort in detail below.

Additionally, USGS would like to implement a sediment fingerprinting program to gather sediment throughout the watershed and identify points of origin. This will enable researchers to fine-tune models to local conditions and enable better decision making.

Dr. Alpers concluded by noting more monitoring stations will provide more detailed results, but can be limited by the cost of maintaining stations and analyzing their data. To further refine the modeling and monitoring approach, USGS recommends holding a public workshop to receive input from a broader array of local stakeholders and explain the science program.

The Facilitator thanked Dr. Alpers and reminded the group that there will be additional presentations on remote sensing at a future Subcommittee meeting; CPP will schedule this with UC Davis (**Action Item 1e**).

Discussion:

- Vegetation and ground cover have changed over time around Clear Lake, resulting in more fire prone areas. Would a sample of the suburban watershed be useful to the general study? Seigler Canyon Creek use to always be clear, but runs back into Cache Creek when the Cache Creek Dam is closed, causing sedimentation issues. Is the way that the fire impacts run-off in similar areas?
 - Certainly the burned or unburned status of the landscape is an important variable to consider, alongside burn severity. Those things are being taken into account in the models.
- The Facilitator clarified that at this point the goal is to start laying out a strategy, thus the Subcommittee is invited to look at the monitoring sites and schedules provided in the presentation and discuss these to develop a monitoring plan.

- One of the proposed approaches listed is to collect sediment samples for sediment fingerprinting. Some of the creeks dry up early, when will these be sampled?
 - The research teams are thinking of sampling water in three streams in addition to the stream gauges that are already set up. Most sediment fingerprinting samples are taken in dry conditions.
- Sediment fingerprinting is an exciting tool for the modeling discussion, but can it be used for other management decisions, especially when thinking about urban runoff and storm water management. Is sampling needed every year? Or is it something that can be collected once and used for management decisions?
 - The initial intent was to use sediment fingerprinting to provide the Committee with a “snapshot” of current conditions and use this alongside the SPARROW model. But this tool can also be used to look at the effects of management decisions. In order to observe these changes, it would be necessary to continue sampling in pre-determined areas in order study the effects of management or mitigation decisions on sediment impost in the watershed. Sediment fingerprinting could be useful tool for looking at change and inform land use and management changes.

Monitoring Plan Discussion

The Facilitator asked the Subcommittee if the Monitoring Plan Spreadsheet represents an accurate list of the monitoring sites the Subcommittee wishes to consider and directed them to identify priority monitoring locations in the event the full amount of funding isn't available. CCP will update the spreadsheet in advance of the next Subcommittee meeting (**Action Item 1f**).

Discussion:

- Additional sites in the City of Clearlake should be added to the spreadsheet. USGS provided five priority sites for inclusion in “Schedule C” for the spreadsheet.
- Tule Lake is notable due to its bi-directional flow, which creates an almost tidal condition. Because it does sometimes run upstream, it would be a very interesting monitoring site to add a stream gauge.
- In major storm events Scott's Creek does flow back to Tule Lake, making this an important site. Lake County has requested funding for a new gauge at this site, but it hasn't been constructed yet.
- Adding a new Gauge on Scott's Creek can be done at a reasonable cost because a new cableway isn't required.
- USGS would like to measure turbidity at this site. Measuring turbidity may be an analog for total sediment during large events.
- The amount of sediment introduced to Clear Lake from Schindler Creek is very episodic, it sometimes runs clear and sometimes is very turbid. There are examples of erosion and introduction of material in the past due to erosion and off-road activity. Remote sensing could provide insights into creek-side bank stability.
- It may be helpful to consider bringing in a representative from the City of Clearlake to talk about placement of monitoring sites and potential benefits for the city's storm water management plan before any final determinations are made on monitoring sites.
- Schindler Creek in Clearlake Oaks has more activity than most small urban creeks due to home and road building, so it is probably a better place to put a stream monitoring site. Subcommittee members generally agreed placing a monitoring site on Schindler Creek

would be beneficial because it would indicate if management decisions result in significant benefits. There is anecdotal evidence that Burns Valley Creek in the City of Clearlake has a high amount of sediment and is impacted. Other Subcommittee members concur that Burns Valley Creek is impacted but contend this is an indication of urban run-off. There is some discussion centering on how the best monitoring site to capture an urban run-off signature is Burns Valley Creek, which is channelized and runs through vineyards as well as the downtown portion of the City of Clearlake. Meanwhile, Schindler Creek would be a good location to study run-off in a rural area affected by a highway and agriculture.

- The Subcommittee generally supported creating one additional monitoring site added to Middle Creek right before it flows into Clear Lake at Rodman Slough

Public Comment

No public comments were provided.

Adjourn

DRAFT

Attachment A: Meeting Participants

Participants		
First	Last	Organization
Charlie	Alpers	United States Geological Survey
Alicia	Cortes Cortes	UC Davis Tahoe Environmental Research Center
Angela	DePalma-Dow	Lake County Water Resources Department
Joe	Domagaliski	United States Geological Survey
Karola	Kennedy	Koi Nation
Amy	Little	State Water Resources Control Board
Conner	McVeigh	United States Geological Survey
Sarah	Ryan	Big Valley Rancheria
Dina	Saleh	United States Geological Survey
Geoffrey	Schladow	University of California Davis, Tahoe Environmental Research Center
Eric	Sklar	Natural Resource Agency Blue Ribbon Committee & California Fish and Game Commission
Jim	Steele	Lake County Resident
Lisa	Wilson	Central Valley Regional Water Quality Control Board
Broc	Zoller	Lake County Farm Bureau
Sam	Magill	California State University, Sacramento
Sophie	Carrillo-Mandel	California State University, Sacramento
Cristina	Murillo- Barrick	California State University, Sacramento