

Blue Ribbon Committee for the Rehabilitation of Clear Lake (Committee)

Meeting #8

10:00 am-2:00 pm

March 11, 2020

Meeting Summary¹

Attendees:

See Appendix A

Action Items:

1. CCP will format the Middle Creek Project Support letter, include the requested additions to areas of expected improvement, and circulate the letter for digital signature by all Committee Members
2. Ms. DePalma-Dow will revise the Prop 84 letter of support, send a copy to Asm. Aguiar-Curry's office, and send a final version to CCP to circulate for digital signature by all Committee Members
3. TERC will post on their website the animation model of three particles' trajectory around the lake
4. Ms. Krumpfen will talk with Asm. Aguiar-Curry about penning an op-ed article about the progress of the Committee
5. CCP will distribute to the Committee the publications relevant to Mr. Feyrer's work studying the Clear Lake Hitch
6. Dr. Austin will:
 - a. Follow up with Ms. Quitiquit about holding the Economic Development Workshop at Robinson Rancheria
 - b. Ask CRC's socioeconomic researchers if they took into account the effect of fires and that many homeowners might be temporarily renting
 - c. Ask CRC's researchers if or how they have explored health-related variables in their research, as requested by the Committee
 - d. Contact Ms. Ryan to discuss CRC's research
7. CCP will circulate CRC's potential Economic Development workshop dates to the Committee
8. CCP will develop a presentation on the parameters for spending Prop 68 funding
9. Dr. Dodd will send Dr. Ustin's presentation slides to CCP to distribute to the Committee

¹ Except as specifically noted, all comments reflected in the summary were derived from Committee Member statements. Where applicable, specific responses are provided to individual comments/questions.

Welcome and Introductions

Wade Crowfoot, California Natural Resources Agency (Resources) Secretary, opened the meeting, welcoming the Committee members to Sacramento and the Resources building. He thanked the Committee on the important work they are doing and California State Assemblymember Cecilia Aguiar-Curry for her advocacy and support. The Secretary acknowledged the submittal of the Committee's first Annual Report to the Governor and Legislature (Annual Report), highlighted some of the Committee's challenges, and expressed optimism that this effort will continue in the successful footsteps of similar restoration efforts for Lake Tahoe and the Salton Sea. Sec. Crowfoot introduced Eric Sklar, President of the California Fish and Game Commission, as his new designee to chair the Blue Ribbon Committee.

Mr. Sklar thanked the Secretary for his presence and continued support. Aside from his role on the Fish and Game Commission, Mr. Sklar shared that he lives in Santa Helena, near Lake County, and owns a cannabis cultivation farm at the foot of Cobb Mountain. Mr. Sklar recalled growing up on Lake Erie, and the substantial environmental effort that took place to successfully rehabilitate that water body. He said that he looks forward to being part of the rehabilitation of Clear Lake, and is orienting himself to the Committee's progress over the past year and a half. He sees himself as the Committee's partner and liaison to the legislature and since his designation has been working to secure funding for the recommendations outlined in the Annual Report.

Mr. Sklar introduced Asm. Aguiar-Curry and thanked her for her support of the Committee. The assemblymember thanked the Committee for their work. She also expressed gratitude to Secretary Crowfoot and his predecessor John Laird, the University of California (UC) Davis research teams at the Center for Regional Change (CRC) and Tahoe Environmental Research Center (TERC), and the Sacramento State University Consensus and Collaboration Program (CCP) facilitation team.

Asm. Aguiar-Curry voiced her dedication to seeking funding for the recommendations laid out in the Annual Report. She characterized Clear Lake as a critical resource for Northern California, saying that without continued investment, the progress she and all Committee stakeholders have made will be wasted, and that to ensure the recommendations are successful as part of a comprehensive effort, funding must be secured to continue the scientific research, economic development, and engagement by TERC and CRC. She noted that adding to this urgency is the overall status of Lake County. In the past five years, half the land mass of the County has been burned by wildfire, presenting immense threats to public health and the local economy. She reiterated her deepest gratitude to all agency staff and constituent volunteers involved in the process.

Committee members introduced themselves in the room and on the phone, followed by members of the public. Sam Magill, Senior Facilitator, CCP (Facilitator) reviewed the agenda for the day, noting that while the Committee strongly prefers in-person participation for quarterly meetings, because of travel concerns related to the transmission of the coronavirus disease of 2019 (COVID-19), a number of Committee representatives were calling in from Lake County.

Annual Report Submittal and Implementation Update

The Committee Chair and Resources staff updated the Committee on the process for funding the five 2019 Report recommendations:

1. Develop a distributed model of the upper watershed
2. Implement a comprehensive watershed-wide monitoring plan
3. Conduct a bathymetric survey of Clear Lake
4. Review the implementation and efficacy of existing tribal, local, State, and federal programs, Best Management Practices (BMPs), and other management requirements in the Clear Lake Basin
5. Assess the public's perceptions, attitudes, and knowledge gaps towards water quality in order to improve education and ultimately human impacts on Clear Lake

Lizzy Williamson, Resources, reviewed the current State budget cycle, in which budgets are proposed in January, and revisions are made in mid-May to be finalized by the end of the fiscal year on June 30th. She characterized the Annual Report as a sound document of recommendations to continue to refine over the years, and a helpful tool in justifying the funding requests. Asm. Aguiar-Curry noted that Sec. Crowfoot's support of this project makes a significant difference in its ability to be funded. The request for funding of all five recommendations has been submitted for inclusion in the State budget for fiscal year 20/21.

Mr. Sklar noted that of the recommendations in the Annual Report, the cost estimate for developing a model is approximately \$2.75 million over a three-year period, and implementing a monitoring strategy is estimated at \$1.3 million. The rest of the projects total approximately \$600,000. The Facilitator remarked that this is moving very rapidly for a State funding request.

The Facilitator, Mr. Sklar, and staff from both Resources and Asm. Aguiar-Curry's office responded to questions and comments from Committee and Subcommittee members:

- Will this funding come from the State General Fund, grants, or some other funding source?
Response: Aguiar-Curry's office is not concerned about the funding source. They will leave it to budget committees to decide what funding sources are most appropriate. Either Resources or the Department of Fish and Wildlife (DFW) will be responsible for administration of the funds.
- Is there flexibility in the monitoring cost estimate to accommodate more gauging stations if they are needed?
Response: Yes, the costs for multiple gauging stations are included in the estimate for a monitoring plan. It was necessary to compile preliminary cost estimates to move the funding requests forward, but the Technical Subcommittee is developing a detailed monitoring plan to share at the June Committee meeting that will provide a more detailed estimate.

Items for Committee Approval

December 11, 2019 Meeting Summary

The Committee approved the previous meeting's Summary with no modifications.

Middle Creek Project Letter of Support

Since the previous Committee meeting, representatives from the Habematolel Pomo of Upper Lake (Habematolel) attended a County Board of Supervisors meeting about the Middle Creek Flood Damage Reduction and Ecosystem Restoration Project (Middle Creek Project). Linda Rosas-Bill, Habematolel, said that the Tribe sees the project as beneficial and intends to work with Harry Lyons, Lake County Resource Conservation District, and the Middle Creek Project team to move the project forward. The Habematolel legal team is currently reviewing the letter of support.

Terre Logsdon, Scotts Valley Band of Pomo Indians, said that her Tribal Council granted her permission to sign the letter on their behalf, and asked that Asm. Mike Thompson be CC'd. Dr. Lyons relayed a request from one of his constituents that wildlife, public access, and bird habitat be highlighted in the letter as improvements expected from the implementation of the Middle Creek Project. The Committee approved the letter of support. CCP will format the letter, include the requested additions to areas of expected improvement, and circulate the letter for digital signature by all Committee Members (**see Action Item 1**).

Scheduling Revisions

The Committee approved a request for the next quarterly Committee meeting to be rescheduled to June 18th. The third quarter meeting will still be held on September 23rd, but the December 9th meeting will be rescheduled at a later date. Mr. Sklar acknowledged the schedule change request is to accommodate conflicts with his Fish and Game Commission meetings.

Proposition 84 Letter of Support

Angela DePalma-Dow, Lake County Water Resources Department (WRD), requested a letter of support from the Committee for the Proposition 84 (Prop 84) Storm Water Grant Program. Ms. DePalma-Dow manages Lake County's Stormwater Programming, in addition to her role as the County's Invasive Species Coordinator. Lake County is applying for a Prop 84 grant to update their outdated 2003 Stormwater Management Plan to include wildfire recovery, disaster preparedness, and climate adaptation measures. She stated that Lake County is unique in that its stormwater systems connect the burned areas directly to Clear Lake.

This grant would fund implementation of stormwater improvement projects, which would contribute to improved water quality and rehabilitation of Clear Lake activities directly in alignment with the charge of the Committee. The application also has support from the Cities of Lakeport and Clearlake. The County

and the two cities are in a joint program for stormwater management called the Clean Water Program. The application is due Wednesday, March 18th.

Committee members posed the following questions and comments:

- The letter's language is unclear if the County is applying for the grant and the two cities are supporting it, or if all three permittees are applying together.

Response: Lake County is writing the Stormwater Management Plan, but the grant moneys will support all three permittees under the shared Clean Water Program. Ms. DePalma-Dow will clarify that in the letter of support (Action Item 2).

- Is the stormwater ordinance referenced in the letter for the County or for all three jurisdictions?

Response: The two cities usually copy the County's ordinance and adjust the language slightly to meet their own needs. The current stormwater ordinance does not meet the needs of the County or the Cities, but it takes time and money to update.

- Please send this information to Asm. Aguiar-Curry's office. Her office is always available, when appropriate, to help provide recommendations, and can share this information with legislative decision-makers and other colleagues (Action Item 2).

- Is this funding just to update the Stormwater Plan, or is it for implementation?

Response: The grant is just for planning, not for implementation. This is especially important because there are fewer grants available for planning than for implementation, and the implementation process cannot begin until after planning is done.

The Stormwater Program is working with the Lake County Planning Department because they are submitting grants to update area plans, particularly for areas affected by wildfires. The planning will indicate where monitoring needs to be done and what infrastructure needs to be updated, to improve the stormwater runoff so that it meets the requirements of the stormwater permit. It can plan for reducing sediment load, wildfire recovery, climate adaptation, and possibly water storage such as groundwater recharge. There is a clear nexus between this and the monitoring plan that the Committee recommended in the Annual Report.

- Does the Stormwater Program need letters from other organizations to support this grant?

Response: It does not. The program allows for a maximum of three letters of support.

The Committee approved the letter. CCP will work with Ms. DePalma-Dow to update the language of the letter and circulate it to Committee members for digital signatures (**Action Item 2**).

Local/Committee Member & Research Updates

Tahoe Environmental Research Center (TERC)

Alicia Cortes Cortes, TERC, presented on TERC's latest research and findings. She said their work is intended to create predictive tools enabling stakeholders to evaluate future options for lake management. TERC is gathering massive data on the Lake, to build their theory of understanding of how the internal lake system works. This is a key element of creating, calibrating, and validating the numerical model that TERC is tasked with developing.

Dr. Cortes shared an animation illustrating how particles move throughout Clear Lake. It showed three particles of indiscriminate size (she noted they could represent algae, phosphorous-rich sediment, particulate mercury, or other constituents) starting in the center of the upper arm of the lake under Spring 2019 conditions, and over two projected weeks, one ended in the Oaks Arm, one in the lower arm, and one in the southwest corner of the upper arm. She said the random distribution of the particles highlights the complexity of the hydrodynamics of the Clear Lake system and impacts of nutrients, contaminants, and algae to water quality. In particular, TERC is interested in understanding the behavior of dissolved oxygen in the system, which they believe is a key factor to control water quality in Clear Lake. TERC will post the animation on their website (Action Item 3).

Dr. Cortes shared the locations and types of sites that TERC uses to monitor different characteristics, including temperature, weather, dissolved oxygen, sediment, stream turbidity, flow rates, multiple forms of particulate nutrients, chlorophyll, and more. She said that TERC has done preliminary work regarding cyanobacteria characterization. They have collected samples in collaboration with Big Valley Rancheria's Environmental Protection Department, and are also using radiometers and drones.

TERC's key accomplishments to date include the following:

- High-resolution data for streams, meteorology and lake
- Lake chemistry at 7 stations, 7 times in 2019
- Conducted lake current experiments
- Conducted sedimentation measurements
- Conducted lab nutrient release experiments
- First measurements of "internal" phosphorous-release due (~40% of total)
- Conducted cyanobacterial distribution measurements
- Have developed a three-dimensional model for the lake
- Commenced collaborative research with United States Geological Survey (USGS)
- Launched a public data portal: <https://terc-clearlake.wixsite.com/cldashboard>

TERC's future projected work includes the following:

- Be responsive to requests from the Blue Ribbon Committee
- Continue high-resolution measurements and water chemistry
 - Needed for model calibration and validation
- Model exploration of dissolved oxygen enhancement techniques
- Model exploration of fate of stream and culvert loads

- Model controls on cyanobacteria
- Model climate change impacts
- Continue cyanobacterial studies (funding dependent – National Institutes for Water Resources [NIWR], Commonwealth Scientific And Industrial Research Organisation [CSIRO])
- Continue watershed modeling (funding dependent – committee recommendation)
- Measurement of lake bathymetry (funding dependent – committee recommendation)
- Link 3-D model to mercury model with USGS (funding dependent)

Committee and Subcommittee members posed the following questions and comments:

- I love seeing how the work you've been doing is put together. How does this translate into recommendations for land and watershed management? What do we need to do to reduce loading in the lake internally and externally?

Response: Right now we see that adding oxygen to the system could be beneficial, and our internal lake model will help us to determine the best timing and location. We believe this will reduce the release of phosphorous from sediments, and in turn reduce growth of harmful algal blooms.

Secondly, the watershed model recommended in the annual report will help to determine the input to the lake from streams, and when connected with the lake model we can know if and where those nutrients maintain any type of residence time. When we know the impacts from the nutrients, land managers can make informed management decisions.

- These insights indicate the need for water quality monitoring throughout the year. Lake temperature and wind vary so drastically. Have you looked into having wind stations on the lake?

Response: It would be great to sample wind in middle of lake, however, there are restrictions on such installations because of boat transit. In Lake Tahoe, TERC has nine full time weather stations in the middle of the lake to measure off-shore and on-shore wind speed and direction. Marine installation of floating platforms is also expensive. Much of what we have done in Tahoe over the last 20 years has been in collaboration with the National Aeronautics and Space Administration (NASA) to set up permanent installations. Doing similar work on Clear Lake is something to consider.

- It would be useful to share this information with the public in a lay format to show what work is being done on the lake. Perhaps some of your students could create public outreach materials. It is in line with the Annual Report recommendation about informing the public. You can work with Lake County WRD, and the Tribes; they do great outreach. Something as simple as sharing photos of the TERC team on the lake would show the community that something is being done.

Response: We are happy to start doing that. Dr. Cortes and Alex Forrest, TERC, have discussed creating a diagram to explain all of the work done by TERC thus far. TERC still has a long way to go with our research, but we are in a good position to share progress and preliminary results.

- Why are your dissolved oxygen levels at 3 micrograms per liter? The standards in the basin plan are 5 and/or 7 micrograms for cold water or warm water, it doesn't say under certain depths or certain conditions.

Response: This is something that is under discussion. We have been considering the bare minimum for fish tolerance (i.e., the level fish can survive in with minimal loss).

- It's good to know that it drops below 5 micrograms often, as far as water quality and uses in the lake, but it shouldn't go below 5 parts per million because of the toxicity to fish. Is that because of natural conditions, or can we do something to change it? Will you change the stratification?

Response: UC Davis is still investigating the appropriate levels to model minimal acceptable thresholds as well as currently accepted standards.

- Have you had a chance to correlate these physical conditions with observational data, to determine a connection with, for example, fish die-off? You're not looking at a huge time window of data, but perhaps you can get closer to proving causality and influence what that appropriate level might be.

Response: We have a master's student working to couple physical conditions in the lake with the fish population, in cooperation with work by USGS on the Clear Lake hitch and other species and seeing how fish population changes over time. Hopefully that will provide some information.

The Facilitator posited that a public workshop might be appropriate to share the progress of the Committee and the two UC Davis research bodies. Tracy Krumpfen, Office of Asm. Aguiar-Curry suggested the Committee might write an op-ed piece for the local papers and offered to talk with the assemblymember about doing so, as well (**Action Item 4**). The article could state what the Committee has achieved thus far and reiterate that the Lake will not be rehabilitated overnight; it is a long process.

Fred Feyrer, USGS, introduced himself and his work collaborating with the US Fish and Wildlife Service over the last three years studying the Clear Lake hitch to determine the status of the fish under the Endangered Species Act. When the Committee has clear information on what is driving the physics and water quality of Clear Lake, it will be valuable to coordinate to ensure the greatest benefits to the ecosystem. He noted that Clear Lake is world famous for fishing of largemouth bass and catfish, as well as home to endangered fish species. Mr. Feyrer offered to present to the Committee on his research and asked that CCP distribute the publications relevant to this work to the committee (**Action Item 5**). That information is also available on the TERC website.

UC Davis Center for Regional Change (CRC)

Bernadette Austin, Center for Regional Change (CRC), UC Davis, provided an update on the progress of CRC's research, including socioeconomic analysis, Tribal engagement, and the development of a community economic development strategy. Dr. Austin's slides, which include the progress on the three tasks of the CRC, can be found embedded in the CCP Presentation on the [Committee website](#). Since the December Committee meeting, CRC has finished collecting, processing, and analyzing data to include in

its socioeconomic analysis report that will be presented in June. She encouraged Committee members to reach out to CRC to help ground truth their data.

Dr. Austin reviewed some of the CRC's collected data on housing as one example of the analysis they are conducting. She compared percentages of renters to homeowners, and home values for Clear Lake communities and their neighbors over different time periods since 2000. Some of the findings from that research include that homeownership has decreased in the last ten years and that the burden of rent cost compared to household income is highest for communities bordering Clear Lake, compared to surrounding areas.

CRC will be hosting Economic Development Workshops in April. Each workshop include an icebreaker exercise, an economic development charrette reviewing and responding to the 2018 Lake County Economic Development Strategy by Robert Eyer at Sonoma State University, and asset mapping. Dr. Austin shared potential workshop dates and times in late April, explaining that one workshop will be in Lakeport at the Mendocino College Extension and CRC is looking for a location closer to Clearlake for the other workshop. She acknowledged that social distancing requirements due to COVID-19 might necessitate postponing the workshops. Irenia Quitiquit, Robinson Rancheria of Pomo Indians, volunteered a location to host the workshop (**Action Item 6a**). CCP will circulate the potential dates Dr. Austin shared for feedback from the Committee (**Action Item 7**).

CRC's next steps for their Tribal Engagement Strategy include an April 2020 convening focusing on resources available at UC Davis for topic areas that Tribes have identified as important, such as economic development and youth education and achievement. CRC intends to hold the half-day Tribal engagement community meeting in Lake County on either April 14th or 20th, to seek feedback on what recommendations to the Committee would be valuable for the Tribal community, and input on strategies for a Fall event at UC Davis to bring students to campus.

By June, CRC will report on their socioeconomic data, provide a draft Economic Development Plan, and report back on the Tribal Engagement meeting. Committee members posed the following questions and comments:

- Does your analysis on rentals and homeownership consider the effect of fires between 2015 and 2017, and that many homeowners might be temporarily renting as their homes are rebuilt?

Response: I will ask our researchers (**Action Item 6b**). That's a valuable insight to include in the report.

- In the preliminary results slide, the last bullet says to explore health-related variables as requested by this Committee. That's not represented in this presentation. What is the status of that request?

Response: I will ask our researchers (**Action Item 6c**). This presentation focused on housing just as one example of a complete, tangible piece of research.

- Irva Hertz-Picciotto is a professor at the UC Davis Department of Public Health Sciences who is studying wildfire impacts in six Northern California counties, including Lake County. She has

both statistical data and interviews going back about two years. She is eager to contribute and engage with this group.

Response: CRC has reached out to Dr. Hertz-Picciotto.

- California Department of Public Health has a website called TrackingCalifornia.org that makes health and environmental data available for the public and policy makers. They break the data down by county and indicate end results of things they are relating to environmental conditions, and poverty. That might have useful information for the CRC effort.

Sarah Ryan, Big Valley Band of Pomo Indians, requested that CRC leadership contact her to discuss their research (**Action Item 6d**).

2020 Work Plan Review and Discussion

The 2020 Workplan includes securing funding for 2019 Report recommendations, developing specified work plans for the implementation of each recommendation, developing 2020 recommendations, and local engagement by the new socioeconomic and cultural/Traditional Ecological Knowledge (TEK) subcommittees on their respective concerns.

The Facilitator outlined the workplan schedule for the 2020 Quarterly Committee meetings:

- June: critical status updates/project check ins
 - Funding status update
 - TERC and CRC research and contract updates
- September: Review 2020 recommendations and refine the 2020 Annual Report
- December: Final review of 2020 recommendations

Funding

The five 2019 recommendations have been submitted to the State for funding consideration. The Committee Chair is working with Resources and the Legislature to secure funding for the model and the monitoring plan to be allocated by the start of the coming fiscal year (July 1, 2020) and funding for the other recommendations to be allocated by the start of the coming calendar year (January 1, 2021).

To secure the funding for the model and monitoring plan, decisions must be made by the funding Committees in advance of the Governor's 2020 May Revised Budget. If the funding is allocated by July 1st, it will still take several months to make contracting arrangements to support implementation, including amending the existing UC Davis contract, arranging for passthrough funding for USGS through UC Davis, and contracting with any other entities. The contracts would be ready by the end of 2020 at the earliest. Resources will manage contracting as well as allocation and distribution of funding. Any funding for UC Davis would continue to be through DFW.

2019 Recommendations Individual Workplan Development

The Technical Subcommittee is currently focused on developing parameters for a basin-wide monitoring plan, and USGS and TERC are collaborating on modelling proposals for consideration by the Committee and Subcommittee. Detailed workplans will need to be developed for the three remaining projects. Ms. DePalma-Dow developed a proposed methodology for the Public Assessment recommendation in 2019 that can be a basis for that workplan. Ms. Ryan has provided information that can serve as a starting point for a workplan for a review of the efficacy of existing programs aimed at water quality improvements. TERC, with support from USGS, previously provided an estimate for a bathymetric survey and has the experience to outline a workplan for that implementation. Some of these recommendations will require development of Requests for Proposals (RFPs) for consultants to carry out the recommendations.

2020 Recommendations Report

The Committee will continue to develop new recommendations for the 2020 Annual Report, beginning with the three 2019 recommendations the Committee deferred for further development:

- Remote sensing analysis of nutrients and algal blooms throughout the watershed
- Compile Clear Lake data in an accessible unified database, with database management staff
- Analyze existing Clear Lake data

The Technical Subcommittee will develop a first draft of revisions or expansions on the deferred recommendations for consideration by the Committee at the June meeting. The 2020 report will need to be written with a more refined funding request than the 2019 report, to enable a smoother transition from the development of the recommendations to the implementation stage.

Socioeconomics and Small Scale Projects

In addition to furthering the 2019 recommendations, the Committee and Subcommittees will continue to develop smaller-scale, and short-term projects in 2020. The new Socioeconomic and Cultural/TEK Subcommittees are expected to coordinate with work done by the CRC and further dialogue with the local community. The release of Dr. Eyler's Lake County Economic Development Strategy is one piece of information, expected to be adopted soon by the Lake County Economic Development Corporation, which will inform and further those efforts.

Committee and Subcommittee members posed the following questions and comments:

- How will the \$5 million of Prop 68 funds allocated to the Committee be used?

Response: That money can only be spent on shovel-ready implementation. When the research indicates what project work should be done, the Committee will decide how to allocate that funding for project implementation.

- There was a request months ago to work with the Tribes on the guidelines for spending of the Prop 68 funds. What is the status of that request? We would like to know if Tribes are eligible to use those funds.

Response: CCP will ensure a presentation on the parameters for spending Prop 68 funding, either to the Committee or perhaps developed through the Cultural/TEK Subcommittee to look into the availability of that funding to the Tribes (**Action Item 8**).

In regard to the deferred recommendations, Paul Dodd, UC Davis, shared that representatives from Australia's national labs, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), recently visited UC Davis. They have been developing a software called Open Data Cube as an attempt to democratize satellite data analysis. They've done cyanobacteria bloom analysis using satellite telemetry data and are in conversation with USGS and several California State Agencies about work in the US. CSIRO is developing a proposed work plan, to submit to UC Davis, for how to establish a California version of the Data Cube platform and Clear Lake is their first choice of UC Davis projects to work on. Matching resources from the State of California would make it easier for this group to justify to their funders in Australia why they would like to do this work in California.

Dr. Dodd noted that this might be a good way to accelerate the data analysis and reduce the cost. Initially this would just be Hazardous Algal Bloom (HAB) data, but it could be correlated with other data platforms. CSIRO and UC Davis will likely decide in a matter of months if they will collaborate, before the 2020 Annual Report is submitted. A cost estimate is not clear yet, but Dr. Dodd approximated a total cost of perhaps \$200,000 per year to pay for three staff. Dr. Forrest noted that the Data Cube has autonomous underwater vehicle (AUV) measurements, drone measurements, and satellite measurements, and to have these multiple platforms in one place could be useful for remote sensing validation. He shared that after presenting about TERC's collaborative work on Clear Lake at a recent conference, Clear Lake is at the forefront of the awareness of the remote sensing community.

The following comments were made regarding the database management and data analysis recommendations deferred to the 2020 Workplan:

- We should continue to keep an eye on the development of the State's Open Data Water Portal, it correlates with what we are doing
- There is an entity at UC Davis called DataLab that has data carpentry expertise and is used to manipulating large data sources. Though they would not be the best to manage data warehouses in the long term.
- A CivicSpark fellow could be helpful compiling the low-hanging fruit. Lake County currently has one who is very impressive.
- Remember that all accessible data from the 1950s to 2015 is already compiled on the Big Valley queryable data dashboard. The database compilation effort does not need to start from zero, it only needs to compile data from the past five years and a few data sources that Big Valley was not able to access in 2015, such as UC Davis, USGS, and California Environmental Data Exchange Network (CEDEN).

- The Committee needs to acknowledge and utilize this data-rich resource. It's been brought up at every meeting and is included in the annual report, yet feels like it's being ignored.
- Lake County does not currently have a program to calculate loads and it is not required by the Total Maximum Daily Load allocation (TMDL). Lake County recently received funding to improve their database and to add their data to CEDEN. They have large amounts of data that have not been digitized, but would like for that data to be shared online. They are currently partnered with the Habematolel tribe, and would like to coordinate their efforts with the other Tribes and all entities represented on the Committee.
- Load calculations are part of implementing USGS's SPARROW model, which is under consideration by the Technical Subcommittee as a potential modeling software.

Public Comment

The Facilitator opened the floor to public comments; there were none.

A tour of UC Davis had been scheduled for 3:00 PM after the meeting, but was canceled due to anticipated low attendance due to COVID-19 and the early end of the Committee meeting. Susan Ustin, Center for Spatial Technologies and Remote Sensing (CSTARS), was scheduled to present during the UC Davis tour. Dr. Dodd committed to sending out her slides to the group (Action Item 9).

Sophie Carrillo-Mandel, the Associate Facilitator from CCP supporting the Committee, noted she will be leaving the project for at least the next six months. She introduced Cristina Murillo-Barrick, CCP's Associate Facilitator taking her place.

ADJOURN

Committee Members Present			
First	Last	Organization	Title
Eric	Sklar	California Fish and Game Commission	President, Blue Ribbon Committee Chair
Sarah	Ryan	Big Valley Band of Pomo Indians	Environmental Director
Jennifer	LaBay	Central Valley Regional Water Quality Control Board	Nonpoint Source Program Manager
Alix	Tyler (By Phone)	Elem Indian Colony	Environmental Director
Linda	Rosas-Bill (By Phone)	Habematolel Pomo of Upper Lake	Environmental Director
Karola	Kennedy	Koi Nation of Northern California	Committee Representative
Eddie	Crandell	Lake County Board of Supervisors	Supervisor
Wilda	Shock (By Phone)	Lake County Economic Development Corporation	Committee Representative
Brenna	Sullivan	Lake County Farm Bureau	Executive Director
Harry	Lyons	Lake County Resources Conservation District	President
Jan	Coppinger	Lake County Special Districts	Administrator
Mike	Shaver	Middletown Rancheria of Pomo Indians	Environmental Director
Irenia	Quitiquit (By Phone)	Robinson Rancheria of Pomo Indians	Environmental Director
Terre	Logsdon (By Phone)	Scotts Valley Band of Pomo Indians	Environmental Director
Paul	Dodd	UC Davis	Associate Vice Chancellor

Public Attendants and Staff	
Name	Organization
Wade Crowfoot	California Natural Resources Agency
Elizabeth Williamson	California Natural Resources Agency
Cecilia Aguiar-Curry	California State Assembly
Taran Sahota	Central Valley Water Board
Jim Steele	Lake County
Scott De Leon	Lake County Water Resources Department
Angela DePalma-Dow	Lake County Water Resources Department
Tracy Krumpfen	Office of Asm. Aguiar-Curry
John Ferrera	Office of Asm. Aguiar-Curry
Alex Forrest	UC Davis
Alicia Cortez	UC Davis
Bernadette Austin	UC Davis
Clare Cannon	UC Davis
Fred Feyrer	USGS
Dina Saleh	USGS
Charlie Alpers	USGS
Sam Magill	CSUS Consensus and Collaboration Program
Sophie Carrillo-Mandel	CSUS Consensus and Collaboration Program
Cristina Murillo-Barrick	CSUS Consensus and Collaboration Program