

**AB 707**

**Blue Ribbon Committee for the**

**Rehabilitation of Clear Lake**

**November 22, 2022**

Prepared for: The Governor of California, California State Legislature, California Natural Resources Agency, and the Blue Ribbon Committee for the Rehabilitation of Clear Lake

Prepared by: The Consensus and Collaboration Program, College of Continuing Education, Sacramento State University

**DRAFT 2023 Report to the Governor of California and California State Legislature**

**Forward by Blue Ribbon Committee for the Rehabilitation of Clear Lake Chair Eric Sklar**

ADD AFTER APPROVAL OF REPORT

 Sincerely,

Eric Sklar

Committee Chair

**Blue Ribbon Committee for the Rehabilitation of Clear Lake**

**2022 Report to the Governor and California State Legislature**

XX, 2023

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**Section 1: Background**

Clear Lake is one of the top two contributors to the local Lake County economy, according to the 2016 Lake County Comprehensive Economic Development Strategy, which cites the lake as “the cornerstone of the local visitor and recreation markets,” mainly through boating and bass fishing tourism.[[1]](#footnote-1) It is essential to the traditional cultural resources and economies of the seven federally recognized California Native American tribes of the area; the condition of the lake affects the safety of traditional ceremonies, as well as fishing and consumption of fish and other aquatic species in accordance with Tribal customs.

Clear Lake is the oldest species-rich, warm water, natural lake in North America. It supports the surrounding ecosystems of native plants and animals, as well as species introduced by the California Department of Fish and Wildlife (CDFW). Clear Lake and the surrounding environment are also a home to endangered and rare animal species. However, the lake also experiences environmental challenges such as harmful algal blooms and mercury contamination from legacy mining issues.

In light of the environmental challenges facing Clear Lake and Lake County, Assembly Bill (AB) 707 (Aguiar-Curry, 2017) was passed by the California Legislature (Legislature) and signed by Governor Jerry Brown to create a Blue Ribbon Committee (Committee) to develop strategies to clean up Clear Lake and revitalize local economies dependent on the health of the Lake. AB 707 places the Committee under the management of the California Natural Resources Agency (Resources), with the Resource Secretary or designee serving as Committee Chair. Additionally, the Legislature appropriated $5 million in Proposition 68 funding for Clear Lake-specific capital improvement projects to improve conditions in the lake. The Committee will play a significant role in determining appropriate projects for funding.

This report represents the fifth annual report to Governor Gavin Newsom and appropriate committees of the Legislature as required by AB 707. AB 707 specifically requires annual reports to identify barriers to improved water quality in Clear Lake, the contributing factors causing poor water quality, and the threats to wildlife. The report must include recommendations on solutions to these issues, estimates of cost, and a plan for involving the local, state, and federal governments in funding for and implementation of lake restoration activities.

The Committee is a multi-year process; its members are grateful for the continued support of the State of California and has experienced significant success accessing funding for its priorities to benefit the environment and communities of Clear Lake.[INSERT INFORMATION FROM MEETINGS RE: 2023 Recommended Projects and Recommendations]

**Section 2: Status of 2021 Recommendation Implementation and Progress to Date**

Nearly all recommendations included in the 2022 Annual Report and approved by the Committee were fully funded in the 2023/24 State Budget. These recommendations are focused on a continuation of research efforts, individual restoration projects, and local capacity-building efforts to provide communities with the tools needed for the long-term sustainable management of Clear Lake.

The status of each recommendation is as follows:

* Lake County Water Resources Department Airborne Electromagnetic Survey of Lake County Groundwater Basins: fully funded; awaiting contracting.
* Scotts Valley Band of Pomo Indians Scotts Valley Aquifer Evaluation: fully funded; awaiting contracting.
* Mendocino College Environmental Education Pathways Program: seeking funding sourced; fully supported and approved by the Committee.
* Tribal Ecosystem Restoration Alliance (TERA) EcoCultural Tule Restoration: fully funded; awaiting contracting.
* UC Davis Tahoe Environmental Research Center (TERC) Hypolimnetic Oxygenation Pilot Project (Oaks Arm): partially funded; grantees are seeking alternative funding sources for the remaining 50% of funding needed.
* Big Valley Band of Pomo Indians Adobe Creek Hydrology and Groundwater Monitoring: fully funded; awaiting contracting.
* Big Valley Band of Pomo Indians Groundwater Dependent Ecosystems and Wetland Restoration Analysis/Implementation: fully funded; awaiting contracting.
* Big Valley Band of Pomo Indians: Harmful Algal Bloom (HAB) and Bank Erosion Restoration: fully funded; awaiting contracting.
* Big Valley Band of Pomo Indians Web-based Clearinghouse for Data and Citizen Science: seeking funding.
* Robinson Rancheria Clear Lake Common Carp and Goldfish Management: fully funded; awaiting contracting.

A complete overview of 2022 recommendations is available in the 2022 Annual Report [here](https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Clearlake-BRC/FINAL_2021-BRC-Annual-Report-_20220112.pdf).

**Section 3: 2022 Committee Process and Progress to Date**

Committee Deliberations

This section provides a brief background on the Committee and its subcommittees, and summarizes their deliberations in 2023. Resources launched the Committee effort in June 2018 by requesting applications from local County and Tribal representatives in accordance with AB 707, including:

* The Resources Secretary or their designee (Committee Chair)
* A representative from the University of California (appointed by the Chancellor of the University)
* One member of the Board of Supervisors from Lake County or their designee
* Representatives from the seven Clear Lake California Native American tribes, appointed by their respective tribal councils include:
  + The Big Valley Band of Pomo Indians
  + Elem Indian Colony
  + Habematolel Pomo of Upper Lake
  + Koi Nation
  + Scotts Valley Band of Pomo Indians
  + Middletown Rancheria
  + Robinson Rancheria
* A representative of the Central Valley Regional Water Quality Control Board (Regional Water Board), appointed by its board
* An expert from each of the follow areas, appointed by the Lake County Board of Supervisors:
  + Local economic development
  + Agriculture
  + Environment
  + A public water supplier drawing its water supply from Clear Lake

A full list of the current membership of the Committee and their status is available in [**Appendix A**](#_Appendix_A:_Blue).

2023 Committee Process

The Committee met four times in 2022. The table below includes the meeting schedule and a brief summary statement of topics discussed at each session. Meeting summaries are available online at [https://resources.ca.gov/Initiatives/Blue-Ribbon-Committee-for-the-Rehabilitation-of-Clear-Lake](https://resources.ca.gov/Initiatives/Blue-Ribbon-Committee-for-the-Rehabilitation-of-Clear-Lake/clearlake-socioeconomic-subcommittee-meeting-1). The annual process of engagement between the Committee and the subcommittees is outlined in [Appendix B.](#_Appendix_B:_Annual) Please note, this process has been significantly updated to match the state’s fiscal year. As such, the Committee has shifted from a calendar-year schedule of proposal development to a fiscal year schedule.

At each Committee meeting, members provided relevant local updates and UC Davis research teams provided research updates.

|  |  |
| --- | --- |
| **Meeting Date** | **Summary** |
| March 23, 2023 | Funding updates on 2022 projects and introduction to new proposals for 2023. |
| May 25, 2023 | Funding updates on State Budget priorities and availability of funding for Committee approved projects. Final Committee approval of 2023 proposals. |
| September 14, 2023 | Discussion of project priorities for 2023 proposals approved in May. Local updates. Preliminary research outcomes presentations. |
| December 7, 2023 | TO BE COMPLETED FOLLOWING DECEMBER 7 MEETING |

**Table 1: 2022 Committee Schedule and Outcomes**

Technical Subcommittee Process to Date

The Technical Subcommittee is the primary venue for detailed discussions of lake science and the environmental factors impacting water quality in Clear Lake. Members include local stakeholders with a deep knowledge of lake conditions, tribal water quality experts, researchers from UC Davis, and state and federal agency representatives. A complete current roster of regular Technical Subcommittee attendees is included in [Appendix A](#_Appendix_A:_Blue). This Subcommittee is an ad hoc discussion group. As such, participation fluctuates depending on the specific subjects discussed during each meeting.

Socioeconomic Subcommittee Process to Date

Similar to the Technical Subcommittee, this group is comprised of local stakeholders with a deep understanding of socioeconomic opportunities and challenges facing Clear Lake communities. Its primary purpose is twofold: developing specific measures for Committee consideration to alleviate socioeconomic challenges, and ensuring recommendations from other subcommittees do not adversely affect the Clear Lake economy whenever possible. A complete current roster of regular Socioeconomic Subcommittee participants is included in [Appendix A.](#_Appendix_A:_Blue) This Subcommittee is an ad hoc discussion group. As such, participation fluctuates depending on the specific subjects discussed during each meeting.

Committee Support

Resources contracted with the Sacramento State University College of Continuing Education Consensus and Collaboration Program (CCP) in August of 2018 to provide neutral facilitation and process management services for the Committee. CCP works closely with Resources and Committee membership to design agendas, facilitate all Committee and subcommittee meetings, carry out routine negotiations between members over recommendations, and ensure all outreach meets the requirements of the Bagley Keene Open Meetings Act.

**Section 4: Research and Parallel Effort Updates**

Clear Lake Hitch (Chi)

In 2022, Clear Lake Hitch (known as “Chi” by the region’s Indigenous People) populations suffered serious declines. In addition to its role as a key endemic aquatic species, Chi have a special significance for the Indigenous People of the region both as a local food source and a cultural symbol.

In 2014, Chi was listed as a threatened species under the California Endangered Species Act. After years of drought, the lowest observed population counts on record prompted local tribes, the County of Lake, the State of California, and a variety of federal agencies to take significant actions to aid in Chi recovery. Thankfully and at least in part due to record precipitation in the winter of 2022/23, Chi populations have significantly rebounded. To avoid boom/bust cycles that threaten the health of the species and its critical cultural, the Committee is committed to actions that improve Chi habitat and the environmental conditions which may lead to its decline including (but not limited to):

* **Fish passage enhancement:** In 2021, the Committee asked for and received funding for the Kelsey Creek fish passage restoration project. Kelsey Creek is an important tributary for Chi spawning and rearing, but the current fish ladder at the terminus of Kelsey Creek near the Kelseyville Main Street Bridge prevents Chi from migrating up stream. Although access issues have delayed full implementation of the project, funding is available for construction and a multi-agency effort is underway to expedite its completion.
* **Tule restoration and enhancement:** In 2021 and 2022, the Committee recommended funding for a variety of tule restoration and enhancement efforts around Clear Lake. Tule provides natural refugia for Chi once they leave upstream spawning areas to avoid predation while at the same time reducing pollutants and sediment entering the Lake which may threaten fish.
* **HAB and methylmercury research and controls:** Water quality remains the Committee’s top priority and has a significant impact on fish populations. The major research efforts undertaken by UC Davis TERC and the USGS are expected to provide critical recommendations for large-scale reduction in the prevalence of HABs. UC Davis TERC also seeks to construct a hypolimnetic oxygenation pilot project expected to address low oxygen conditions, HAB production, and mercury methylation. Finally, the Committee also recommends the development of other HAB mitigation measures as discussed in Section 5 below.

Resources is also pleased to support the 2023 Clear Lake Hitch/Chi Summit, held on November 29th and 30th, 2023 by providing facilitation services for attendees. This second Clear Lake Hitch/Chi Summit was designed to facilitate dialogue between Tribal, Local, State, and Federal Agency governments to identify data gaps in Hitch/Chi research, and to identify actions to further assist in the recovery of this important species. Photographs and a brief summary of Summit outcomes is provided in [Appendix C](#_Appendix_C:_2023).

Research Efforts and Impacts to Future Committee Recommendations

UC Davis TERC has developed an in-lake hydrodynamic model of Clear Lake since 2018. When complete, the model is expected to provide significant insights into the processes driving HABs within Clear Lake itself. Like this in-lake work, USGS has also undertaken a significant monitoring and modeling effort on Clear Lake tributaries, as well as a sediment fingerprinting analysis to determine the major sources of nutrients driving HAB production in the lake. Combined, these two efforts are expected to result in recommendations for large-scale efforts to address HAB production and other serious water quality concerns in Clear Lake. Results for both efforts are expected in early/mid 2024. The Committee and its Subcommittees will work with these research teams to develop specific proposals in 2024 and beyond.

**Section 5: 2023 Committee Recommendations**

This section provides an overview of projects approved by the Committee on May 25, 2023. In 2023, the Committee identified new funding needs of $12,997,731from potential bond funding or General Fund allocations for the projects listed in Figure 5 below. Additionally, the Committee requests $1,021,515 for completion of the Lake County Storm Water Infrastructure and Program Improvement Project, approved by the Committee in 2021. In 2022, the State of California allocated $706,700 for a portion of this project to address illicit discharge and trash cleanup. Tasks utilizing the additional $1,021,515 seek to address stormwater cleanup through infrastructure improvements, local policy changes, and public outreach efforts. The total 2024 identified funding need (including all 2023 projects and the stormwater effort) is **$14,019,246**.

Completed proposals for all 2023 project are available online at [here.](https://resources.ca.gov/-/media/CNRA-Website/Files/Initiatives/Blue-Ribbon-Committee-for-the-Rehabilitation-of-Clear-Lake/Clear-Lake-BRC-Final-Proposals-Combined_v2.pdf) Additional information on the Lake County Storm Water Infrastructure and Program Improvement Project is provided in [Appendix E](#_Appendix_E:_Lake).

**PLEASE NOTE:** approval and allocation of these funds is contingent on approval by the California State Legislature and Governor of California as part of the State Budget Process and state priorities.

Figure 5A: 2023 Funding Request by Project

|  |  |  |
| --- | --- | --- |
| **Sponsor/Grantee** | **Project Name** | **Amount** |
| Lake County Watershed Protection District | Lake County Storm Water Infrastructure and Program Improvement Project | $1,021,515 |
| EutroPhix | Improving Restoration Efforts at Clear Lake with In-Lake Management of Phosphorus | $3,379,671 |
| LG Sonic | Clear Lake Harmful Algal Bloom Monitoring, Prediction, and Control System | $1,566,800 |
| AECOM | Optimization of Algae Harvesting  Technology To Prevent CyanoHABs In Clear Lake | $1,082,200 |
| UC Davis TERC | Early Warning System to Forecast Harmful Algal Blooms (HABs) in Clear Lake | $300,000 |
| USGS | Collecting data at high temporal and spatial resolution to support HABs management actions and monitoring in Clear Lake | $100,000 |
| Siegler Springs Community Redevelopment Association | Cobb Mountain Watershed Education and Restoration Program | $393,251 |
| Clear Lake Keys Property Owners Association (POA) | Revitalization and Restoration Planning and Design for the Clear Lake Keys | $2,300,000 |
| Lake County Watershed Protection District | Clear Lake Management Plan Development | $168,000 |
| Lake County Watershed Protection District | Limnological Sampling | $452,718 |
| Lake County Watershed Protection District | Enhancing Implementation of a Natural  Shoreline Stewards Program in Clear Lake | $755,091 |
| Lake County Water Resources Department | Dredging Boating Ways and Stream Mouths of Clear Lake | $2,500,000 |
|  | **Subtotal Previously Approved 2021 Projects** | $1,021,515 |
|  | **Subtotal 2023 Projects Request** | $12,997,731 |
|  | **Total 2023 Request** | **$14,019,246** |

# **Section 6: Project Implementation Updates**

In addition to the new funding requests discussed in Section 5 above, numerous projects approved between 2020 and 2023 were generously funded through General Fund and Proposition 68 grants. In some cases, contracting is still underway and implementation will begin as soon as final approval is granted by Resources. The table below provides a short overview of projects currently funded as well as their status; complete project implementation reports are provided in [Appendix D](#_Appendix_D:_Project).

PROJECT UPDATES TO BE PROVIDED PENDING SUBMISSION BY PROJECT TEAMS

# **Appendix A: Blue Ribbon Committee Member Roster**

|  |  |  |
| --- | --- | --- |
| Name | AB 707 Membership Category | Appointing Entity |
| Eric Sklar | Appointed Chair | California Natural Resources Agency |
| Rebecca Harper | Agriculture | Lake County |
| Harry Lyons | Environmental | Lake County |
| Scott Harter | Public Water Supply | Lake County |
| Jennifer LaBay | Regional Water Board | Central Valley Regional Water Quality Control Board |
| Eddie "EJ" Crandell | Lake County Board of Supervisors | Lake County |
| VACANT | Tribal Representative | Elem Indian Colony |
| Daniella Santana | Tribal Representative | Habematolel Pomo of Upper Lake |
| VACANT | Tribal Representative | Middletown Rancheria of Pomo Indians |
| Dr. Jay Lund | UC Davis | UC Davis |
| Sarah Ryan | Tribal Representative | Big Valley Band of Pomo Indians |
| Patricia Franklin | Tribal Representative | Scotts Valley Band of Pomo Indians |
| Wilda Shock | Local Economy | Lake County |
| VACANT | Tribal Representative | Koi Nation |
| VACANT | Tribal Representative | Robinson Rancheria |

**Technical Subcommittee Roster/Participants [[2]](#footnote-2)**

|  |  |
| --- | --- |
| NAME | ORGANIZATION OR INTERST |
| Charles Alpers | USGS |
| Joe Domagalski | USGS |
| S. Geoffrey Schladow | UC Davis TERC |
| Sarah Ryan (Subcommittee Lead) | Big Valley Band of Pomo Indians |
| Broc Zoller | Lake County Agriculture/Lake County Farm Bureau |
| Angela DePalma-Dow | Lake County Water Resources Department |
| Dinah Saleh | USGS |
| Alexander Forrest | UC Davis TERC |
| Alicia Cortes | UC Davis TERC |
| Alyssa Nelson | UC Davis Center for Citizen and Community Science |
| Jim Steele | Former Lake County Supervisor |
| Terre Logsdon | Lake County Climate Resilience Officer |
| Jordan Beaton | Lake County Water Resources Department |
| Mitchell Breedlove | Lake County Water Resources Department |

**Socioeconomic Subcommittee Roster/Participants[[3]](#footnote-3)**

|  |  |
| --- | --- |
| NAME | ORGANIZATION OR INTEREST |
| Alyssa Nelson | UC Davis Center for Community and Citizen Science |
| Angela DePalma-Dow | Lake County Water Resources Department |
| Daniella Santana (Subcommittee Co-Lead) | Habematolel Pomo of Upper Lake |
| Donna Mackiewicz | Redbud Audubon Society |
| Clare Cannon | UC Davis Center for Regional Change |
| Eliot Hurwitz | Cobb Area Council |
| Jonathan London | UC Davis Center for Regional Change |
| Michelle Scully | EDC Board, Tourism Improvement District Board |
| Mireya Turner | Lake County Community Development |
| Peggy Harte | UC Davis Center for Community and Citizen Science |
| Sarah Angulo | UC Davis Center for Community and Citizen Science |
| Terre Logsdon | Scotts Valley Band of Pomo Indians, Blue Ribbon Committee |
| Wilda Shock (Subcommittee Co-Lead) | Lake County Economic Development Corporation, Blue Ribbon Committee |

# Appendix B: Annual Committee Engagement and Proposal Development Process

# **Appendix C: 2023 Clear Lake Hitch/Chi Summit Outcomes**

PLACEHOLDER PENDING COMPLETION OF THE 2023 SUMMIT

# Appendix D: Project Implementation Updates

PLACEHOLDER TO BE FILLED IN PENDING PROJECT TEAM SUBMISSIONS

# Appendix E: Lake County Stormwater Planning and Management Project Letter of Support and Request for Funding

PLACEHOLDER PENDING COMMITTEE APPROVAL DECEMBER 7, 2023

# Appendix F: 2023 Clear Lake Cyanotoxin Report

PLACEHOLDER PENDING FINAL REPORT

1. <https://www.lakecountyca.gov/Assets/Departments/Economic+Development/Docs/2016+CEDS+Report.pdf?method=1> [↑](#footnote-ref-1)
2. Note the Technical and Socioeconomic Subcommittees are advisory only; participation fluctuates depending on the subject matter of each meeting and the individual availability of participants. This list is intended to show a snapshot of regular attendees only. [↑](#footnote-ref-2)
3. Note the Technical and Socioeconomic Subcommittees are advisory only; participation fluctuates depending on the subject matter of each meeting and the individual availability of participants. This list is intended to show a snapshot of regular attendees only. [↑](#footnote-ref-3)