



CARD Summer Programming

Big Chico Creek Water Quality Monitoring

Operational Guide 2026

Overview

This document outlines the water quality monitoring program for five swimming holes on Big Chico Creek used by summer camps during June through August 2026. The program tracks *Escherichia coli* (E. coli) levels to mitigate health risks associated with recreational use of natural waterways and communicates findings to camp participants, partners, and the public.

Purpose and Authority

CARD has implemented this upstream monitoring program for the five Big Chico Creek swimming holes to support our summer camp operations and provide participants with water quality information. This program applies the same testing methodology and action thresholds established in the Sycamore Pool Sampling and Analysis Guidelines to give us consistent, comparable data on water conditions upstream from the pool. CARD conducts this monitoring voluntarily to inform programming decisions.

The Sycamore Pool Sampling and Analysis Guidelines were prepared by Brad Banner, Environmental Health Director, Butte County Public Health Department, September 2016, addressed to Dan Efseaff, City of Chico Park Division and guide the current approach to water quality testing by the City for Sycamore Pool.

Role of This Program: CARD tests water quality, tracks results, and modifies camp programming based on those findings. We report data to Butte County Public Health and the City of Chico Parks Division. These partners use the information to determine if public health notifications or formal actions are warranted.

Roles and Responsibilities

Chico Recreation (CARD): Collects water samples on a scheduled weekly basis, submits to laboratory, records and tracks results, communicates with camp staff and partners, and modifies camp programming based on water quality findings.

Butte County Public Health Department: Reviews test data when Red Flags are triggered, provides guidance and technical assistance, and determines whether public health notifications or formal actions are warranted.

City of Chico: Receives notification of water quality findings, coordinates with Public Health as needed, and determines and manages public communications as required by testing results.

The Five Swimming Hole Locations

Hooker Oak Park (Swimming hole near vehicle bridge, 39°45'30.8"N 121°47'43.4"W): Primary swimming hole for Camp Chi Da Ca. This location is easily accessible from the camp location.

5-Mile Recreation Area (Upstream water hole, 39°45'46.3"N 121°47'30.1"W): Secondary swimming hole for Camp Chi Da Ca, requiring a short hike upstream.

Chico Creek Nature Center (Swimming hole closest to Nature Center, 39°44'47.4"N 121°48'33.8"W): Primary swimming hole for Camp Chico Creek, located directly across the road from the Nature Center. This is the favorite hole for the camp.

Footbridge Upstream (Upstream water hole, 39.747145, -121.805966): Backup swimming hole for Camp Chico Creek, used when the primary Nature Center location is in use by the public.

Footbridge Downstream (Downstream water hole, 39.745271, -121.811760): Backup swimming hole for Camp Chico Creek, used when the primary Nature Center location is in use by the public.

Testing Protocol

CARD contracts Fruit Growers Laboratory (FGL) to conduct both field sampling and laboratory analysis for this monitoring program. CARD establishes the sampling schedule, locations, and methodology in accordance with the Sycamore Pool Sampling and Analysis Guidelines.

Sampling Schedule: Testing occurs weekly during camp season (June through August 2026). Two grab samples are collected from the most actively used area of each of the five swimming hole locations, taken from just below the water surface.

Indicator Organism: Samples are analyzed for culturable *Escherichia coli* (*E. coli*) using EPA Method 1603 or an equivalent method such as Standard Methods 9223B (Colilert/QTray). Both methods measure culturable *E. coli* and are accepted by EPA for recreational water quality assessments. Results may be reported as Colony Forming Units (CFUs) or Most Probable Number (MPN) per 100ml depending on the method used. *E. coli* has been established as a more reliable indicator than fecal coliform for predicting the potential presence of disease-causing pathogens in freshwater at bathing beaches.

Laboratory: FGL is an ELAP accredited environmental and analytical laboratory with a location in Chico, California (563 E. Lindo Avenue, (530) 343-5818) and has provided environmental and water quality testing services throughout California since 1925. Initial results are typically available within 24 to 48 hours and are used to make programming decisions. Final verified results are recorded as they become available. More information at fglinc.com.

Water Quality Standards and Action Thresholds

These thresholds are drawn from the Sycamore Pool Sampling and Analysis Guidelines and are applied consistently across all five Big Chico Creek locations.

Red Flag #1 (Single Sample Exceedance): When a single test result exceeds 235 CFUs or MPN per 100 milliliters, this indicates elevated bacteria at that location. Camp programming is modified immediately to relocate swimming to other tested-safe locations. Daily testing begins at the affected location. Note: CARD applies a threshold of 235 CFUs/MPN per 100ml on the recommendation of Butte County Public Health. This is more conservative than the 320 CFU threshold in the original Sycamore Pool Sampling and Analysis Guidelines.

Red Flag #2 (Geometric Mean Exceedance): When the rolling 30-day geometric mean (calculated from a minimum of 10 samples across at least 5 sample events) exceeds 100 CFUs or MPN per 100ml, this indicates a sustained elevation in bacteria levels. Camp programming is

also modified to relocate swimming to other tested-safe locations. Daily testing begins at the affected location.

Normal Operations: When all samples remain below 235 CFUs/MPN and the geometric mean stays below 100 CFUs/MPN, weekly testing continues without modification to programming.

Location Availability: A location becomes available for use again when both of the following conditions are met:

- no single sample exceeds 235 CFUs/MPN per 100ml during two consecutive sample events, and
- the 30-day geometric mean is below 100 CFUs/MPN per 100ml.

Once both conditions are met, the location returns to normal weekly testing.

Operational Response to Water Quality Findings

Single Location Affected: When Red Flag #1 or Red Flag #2 is triggered at one location, camp swimming relocates to other tested-safe holes. Camp Chi Da Ca moves between Hooker Oak Park and 5-Mile Recreation Area. Camp Chico Creek uses its three Nature Center area locations. Daily testing begins at the affected location.

Multiple Locations Affected: If testing indicates that conditions at most or all locations do not meet our thresholds, camp programming pivots to non-creek water activities. CARD camps have access to a range of water games and activities to keep the program engaging while creek conditions are monitored.

Partner Notification: When either Red Flag is triggered, Butte County Public Health (Public Health Officer Jarett Beaudoin, jbeaudoin@buttecounty.net) and the City of Chico Parks Division (Director of Public Works Skyler Lipski, Skyler.lipski@chicoca.gov) are notified within 24 hours with test results and the locations affected. Partners determine whether public health notifications or formal actions are warranted.

Reporting and Communication

Internal Tracking: All test results are recorded in a centralized tracking log that captures test dates, times, locations, individual sample results, calculated geometric means, Red Flag status, and notification records. The log is updated as results are received and is the primary tool for tracking trends and making programming decisions.

Public Information: The CARD water quality monitoring protocol for Big Chico Creek is published on the CARD website so that participants and the public understand how we monitor water conditions and what informs our programming decisions. During the camp season, the website will reflect whether creek swimming is currently part of camp programming.

Staff Communication: The manager sends a weekly email to camp staff with the latest test results and any programming actions for the upcoming week. This ensures staff have the information they need to run the program safely and confidently.

Communication Templates

Weekly Camp Parent Email (Section within regular camp communication):

“Each week, CARD tests the water quality at our Big Chico Creek swimming locations as part of a scheduled monitoring program. We monitor for bacteria levels using established public health

guidelines and adjust our programming accordingly. Swimming in natural waterways carries inherent risk and our testing program is designed to ensure we are making informed decisions about where and when campers swim. For full details on our testing protocol and current results, visit www.chicorec.gov/camp-swimming-information

Non-Creek Pivot Communication (Separate communication to camp families):

“Water quality testing results at Big Chico Creek indicate that swimming conditions do not meet our safety thresholds at this time. Out of an abundance of caution, camp swimming activities will shift to non-creek water activities. We will continue daily monitoring and return to creek swimming when conditions meet our standards. For more information on our water quality monitoring program visit www.chicorec.gov/camp-swimming-information .”

Partner Notification Email (Within 24 hours of Red Flag):

“Big Chico Creek Water Quality Alert: Location: [Hole Name] | Coordinates: [coordinates] | Date of Test: [date] | Test Result: [CFU/MPN count] per 100ml (threshold: 235 CFUs/MPN per 100ml) | Geometric Mean (30-day): [number] (threshold: 100 CFUs/MPN per 100ml) | Action Taken: Camp swimming relocated to other tested-safe locations; daily testing initiated. Updates will follow as conditions change.”

Data Management

All water quality test results are recorded in a centralized tracking log maintained by CARD. The log automatically calculates geometric means once sufficient samples are available (minimum 10 samples across at least 5 sampling events within a 30-day window) and flags when Red Flag thresholds are exceeded. Results are updated as they are received from the laboratory, with initial results driving immediate programming decisions.

Key Contacts

Butte County Public Health Department: Public Health Officer Jarett Beaudoin,
jbeaudoin@buttecounty.net

City of Chico Parks Division: Director of Public Works Skyler Lipski,
Skyler.lipski@chicoca.gov

FGL: loginchico@fglinc.com, (530) 343-5818

CARD: Recreation Director Erin Morrissey, emorrissey@chicorec.gov

CARD Website: <https://www.chicorec.gov/camp-swimming-information>

City of Chico Website: <https://chicoca.gov/Our-Community/Parks-Recreation-and-Experience-the-Outdoors/Bidwell-Park/Swimming/>

