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February 27, 2025

Michelle True
Management Analyst - Utilities
City of Poway
14467 Lake Poway Road
Poway, California 92064

Subject: Lake Poway Watershed Sanitary Survey, 2025 Update
14467 Lake Poway Road, Poway, California

Dear Ms. True:

Rincon Consultants, Inc. (Rincon) has prepared the attached Watershed Sanitary Survey, 2025 Update (2025 WSS Update) for Lake Poway located at 14467 Lake Poway Road, Poway, California. This 2025 WSS Update presents the data collected during the period between January 1, 2020, and December 31, 2024 (Reporting Period) related to influent and treated water quality and provides recommendations to protect and improve the source water quality in the Lake Poway watershed. The 2025 WSS Update evaluates watershed contaminant sources, source water quality, treatment plant capabilities, and treated water quality to assess the ability to provide safe drinking water that meets all regulatory drinking water standards.

If there are questions regarding the content of this report, please contact the undersigned.

Sincerely,
Rincon Consultants, Inc.

Elsa Rafter
Assistant Project Manager

Lindsay Parker
Project Manager

Ryan Thacher, PhD, PE
Principal

2025 Watershed Sanitary Survey Update

Lake Poway
14467 Lake Poway Road
Poway, California

prepared for

City of Poway
14467 Lake Poway Road
Poway, California 92064

prepared by

Rincon Consultants, Inc.
2215 Faraday Avenue, Suite A
Carlsbad, California 92008

February 27, 2025

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Table of Contents

Tables

Figures

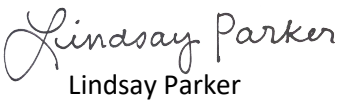
Appendices

Signatures of Environmental Professionals

This Watershed Sanitary Survey, 2025 Update for Lake Poway located at 14467 Lake Poway Road in Poway, California was prepared in accordance with generally accepted environmental practices and procedures, under the direction of the following environmental professionals with Rincon Consultants, Inc.

This document has been digitally signed by Elsa Rafter on 2/27/2025.

Elsa Rafter
Assistant Project Manager



This document has been digitally signed by Lindsay Parker on 2/27/2025.

Lindsay Parker
Project Manager

This document has been digitally signed and sealed by Ryan Thacher on 2/27/2025.

Ryan Thacher, PhD, PE
Principal

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1 Introduction

The California Code of Regulations[1] (CCR) requires public water supply systems using surface water sources to conduct a watershed sanitary survey (WSS) of the surrounding watershed every five years. A WSS involves the evaluation of watershed contaminant sources, source water quality, treatment plant capabilities, and treated water quality to assess the ability of a water supplier to provide safe drinking water that meets all regulatory drinking water standards. The purpose of this WSS is to provide recommendations to protect and improve the source water quality in the watershed.

This Lake Poway Watershed Sanitary Survey, 2025 Update (2025 WSS Update) has been prepared for the City of Poway (City) and focuses on the Lake Poway Watershed (Watershed) (Figure 1). This 2025 WSS Update covers the period beginning January 1, 2020, and ending December 31, 2024 (Reporting Period).

The City imports the majority of its water supply from the San Diego County Water Authority (SDCWA[2]) in the form of raw imported water with the remaining water demands met with recycled water purchased from the City of San Diego. The City owns and operates the City of Poway Lester J. Berglund Water Treatment Plant (WTP), which treats the raw imported water to drinking water standards for domestic, agricultural, and municipal uses.

1.1 Background

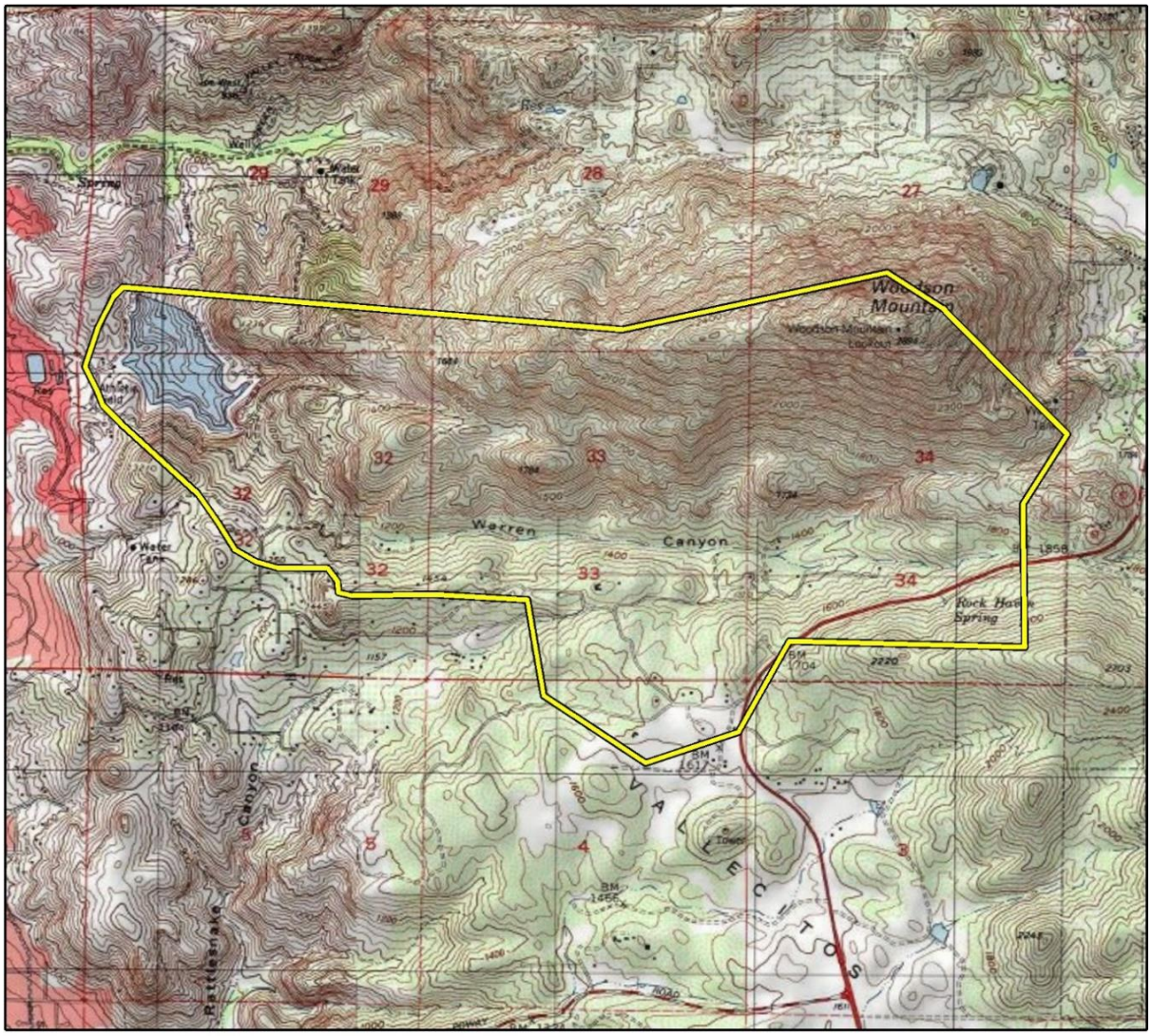
Lake Poway is a surface water body that is owned and operated by the City and was built in 1972. Lake Poway was built to provide a dependable water supply to the City, to provide storage for emergencies, and to buffer the effects of peak seasonal water demands. The majority of the water in Lake Poway is purchased from the SDCWA, which comprises water imported from the State Water Project (SWP) and the Colorado River aqueduct systems (imported water). Non-imported water sources to Lake Poway include rainfall and discharge from the Watershed. In addition, the City purchases recycled water from the City of San Diego to meet the remaining water demands. Recycled water purchased from the City of San Diego is conveyed into a recycled water reservoir located in the South Poway Business Park and distributed through a separate recycled water distribution system.

The City owns and operates the WTP, which can be operated to treat imported water from SDCWA (conveyed directly to the WTP) or water from Lake Poway. The WTP typically treats a blend of the two types of source water.

[1] 22 CCR § 64665

[2] Also referred to as “CWA” in City of Poway: L.J. Berglund Treatment Plant Monitoring Worksheets (Appendix B).

Figure 1 Vicinity Map



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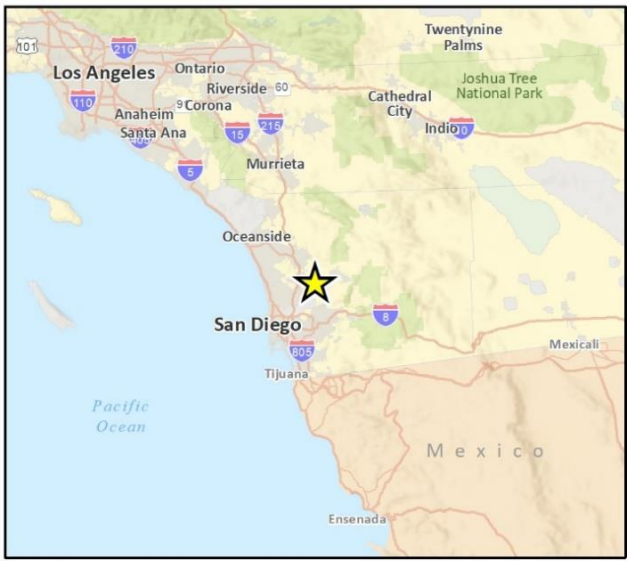


1.2 Objectives of the Update

The primary objective of the 2025 WSS Update is to assess the quality of source water to Lake Poway and the imported water to confirm the ability of the WTP to continue to provide the City's customers with safe drinking water that meets all applicable drinking water standards.

This 2025 WSS Update is intended to accomplish the following specific objectives:

- **Fulfill the California Surface Water Treatment Rule (SWTR)[3] and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)[4].** As part of the California SWTR and the LT2ESWTR, surface water agencies are required to conduct a WSS of the source water watershed once every five years. Any significant changes within the last five years that affect source water quality are to be identified in each update. In addition, it is required to comment on the appropriate level of treatment for pathogens, specifically *Giardia*, viruses, and *Cryptosporidium.*[5]
- **Assess the ability of the WTP to meet regulatory standards.** Through the review of available data and the evaluation of water quality or treatment issues at the WTP, the 2025 WSS Update provides an assessment of the ability of the WTP to meet water quality standards based on the current regulatory framework.
- **Identify potential water quality impacts from activities within the watershed.** Source water quality is subject to potential adverse impacts by several activities occurring in the Watershed. The 2025 WSS Update provides a determination of the potential for these activities to impact source water quality, and if additional monitoring or assessment is recommended to further assess potential contaminant releases resulting from those activities.
- **Identify appropriate watershed management actions to protect and potentially improve source water quality at WTP.** The 2025 WSS Update includes recommendations for watershed management actions that are economically feasible and within the authority of the City.
- **Incorporate studies pertaining to source water quality.** The 2025 WSS Update identifies and provides commentary on recent studies that may have source water quality implications.

Constituents and Potential Contaminating Activities Covered in the 2025 WSS Update

Several water quality constituents were selected for evaluation as part of the 2025 WSS Update. Table 1 presents the constituents selected for water quality evaluation along with the rationale for their selection.

[3] USEPA 2004
[4] USEPA 2006
[5] The LT2ESWTR requires that water systems collect and analyze at least 24 samples over two years to assess *Cryptosporidium* levels. A second round of monitoring is required six years after the initial assessment was completed. The second round of LT2ESWTR began in October 2015 and was completed prior to this Reporting Period. Therefore, *Cryptosporidium* data are not included in this 2025 WSS Update.

Table 1 Water Quality Constituents Selected for Evaluation as Part of the 2025 Update

Constituent	Reason for Inclusion in 2025 Update
Turbidity	Treated water turbidity levels are regulated in the SWTR.
Total Coliform	Monthly median values of total coliform are recommended for evaluation under the SWTR to determine appropriate level of treatment for *Giardia* and viruses.
E. coli	*E. coli* is a more specific surrogate for fecal contamination and is used in the LT2ESWTR to determine treatment requirements under the SWTR.
Giardia	Source water levels of *Giardia lamblia* are used to determine treatment requirements under the SWTR.
Total Organic Carbon	Total organic carbon (TOC) is a surrogate measure of disinfection by-products (DBP) precursor material in water. TOC levels in either source or treated water are used to determine treatment requirements in the Stage 1 Disinfectant/DBP (D/DBP) Rule.
Total Trihalomethanes	Total trihalomethanes (TTHMs) are DBPs formed in disinfected treated water. Treated water levels are regulated by the Stage 2 D/DBP Rule.
Haloacetic Acids	Haloacetic acids (HAAs) are DBPs formed in disinfected treated water. Treated water levels are regulated by the Stage 2 D/DBP Rule.
Per- and polyfluoroalkyl substances	Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals used in a wide range of consumer products and industrial applications. Distribution system concentrations are regulated by the fifth Unregulated Contaminant Monitoring Rule (UCMR 5).

Eight activities with potential to impact WTP source water quality were selected for review as part of the 2025 WSS Update (Section 4). These activities were selected based on their presence and/or regular occurrence in the watershed and were identified by the City as activities with significant potential to impact water quality.

- Spills
- Recreation
- Wastewater (septic tanks)
- Development
- Wildfires
- Agriculture
- Animal populations
- Algaecide use in Lake Poway

In addition, the 2025 WSS Update will review the recommendations provided in the 2020 WSS Update. The recommendations from the 2020 WSS Update are included in Table 2.

Table 2 Recommendations Provided in the 2020 WSS Update

Subject Area	2020 WSS Update Recommendations
Source Water	▪ Continue collection of lake surface samples, even when lake water is not being used as influent at the WTP. ▪ The analytical laboratory should notify the City immediately if any individual finished water Specific Ultraviolet Absorbance (SUVA) sample exceeds 2 mg/L-m. ▪ Ensure the influent turbidity sample reflects the water quality at the WTP. ▪ Continue to monitor Lake Poway for algal bloom activity and track monthly phosphorus levels.
Watershed contaminant sources	▪ The population of dreissenid mussels should continue to be monitored. ▪ Annual cleanings of the intake screen could be changed to coincide with the period in June when the water treatment plant uses water from Lake Poway. ▪ When intake and outlet screens are replaced, use a chemical coating to inhibit dreissenid growth.
Treated Water/ Regulatory Compliance	▪ Continue to optimize treatment during periods of potentially reduced source water quality – i.e. adjust coagulant dose, optimize polymers, reduce flow if possible to increase hydraulic detention times and reduce filtration loading rates, and ensure adequate disinfection contact time (CT).

2 Lake Poway Watershed

2.1 Watershed Description

Lake Poway is owned and operated by the City and was built in 1972 to provide a dependable water supply and buffer the effects of peak seasonal water demands. Lake elevation is typically maintained at 936 feet above mean sea level (msl). The elevation of the spillway is 938 feet above msl. The Lake is prevented from draining to the north by 160-foot high earthen dam (Figure 2 and Figure 3).

The Watershed encompasses 1,686 acres or 2.6 square miles, and extends southeast of the Lake Poway reservoir and includes Woodson Mountain and a portion of State Route 67 (SR 67) on the eastern edge of the Watershed. The volume of the lake has historically been reported as 3,270 acre-feet. A bathometric survey conducted in 2018 by Foth-CLE Engineering Group (Foth-CLE) concluded that the actual volume of the lake is 3,432 acre-feet (Foth-CLE 2018). The surface area of Lake Poway is approximately 62 acres.

2.2 Land Use

The City owns 770 acres of land within the Watershed (approximately 45 percent of the total area), which includes Lake Poway and Lake Poway Park. The Watershed comprises primarily open space or park preserve (59 percent), rural residential (22 percent), or vacant and undeveloped land (12 percent) (Figure 4). The residential areas are primarily located on the southeast side of the lake in the community of High Valley. No commercial land use exists within the Watershed. A summary of land use types within the Watershed is shown in Table 3.

Table 3 Land Use in the Watershed

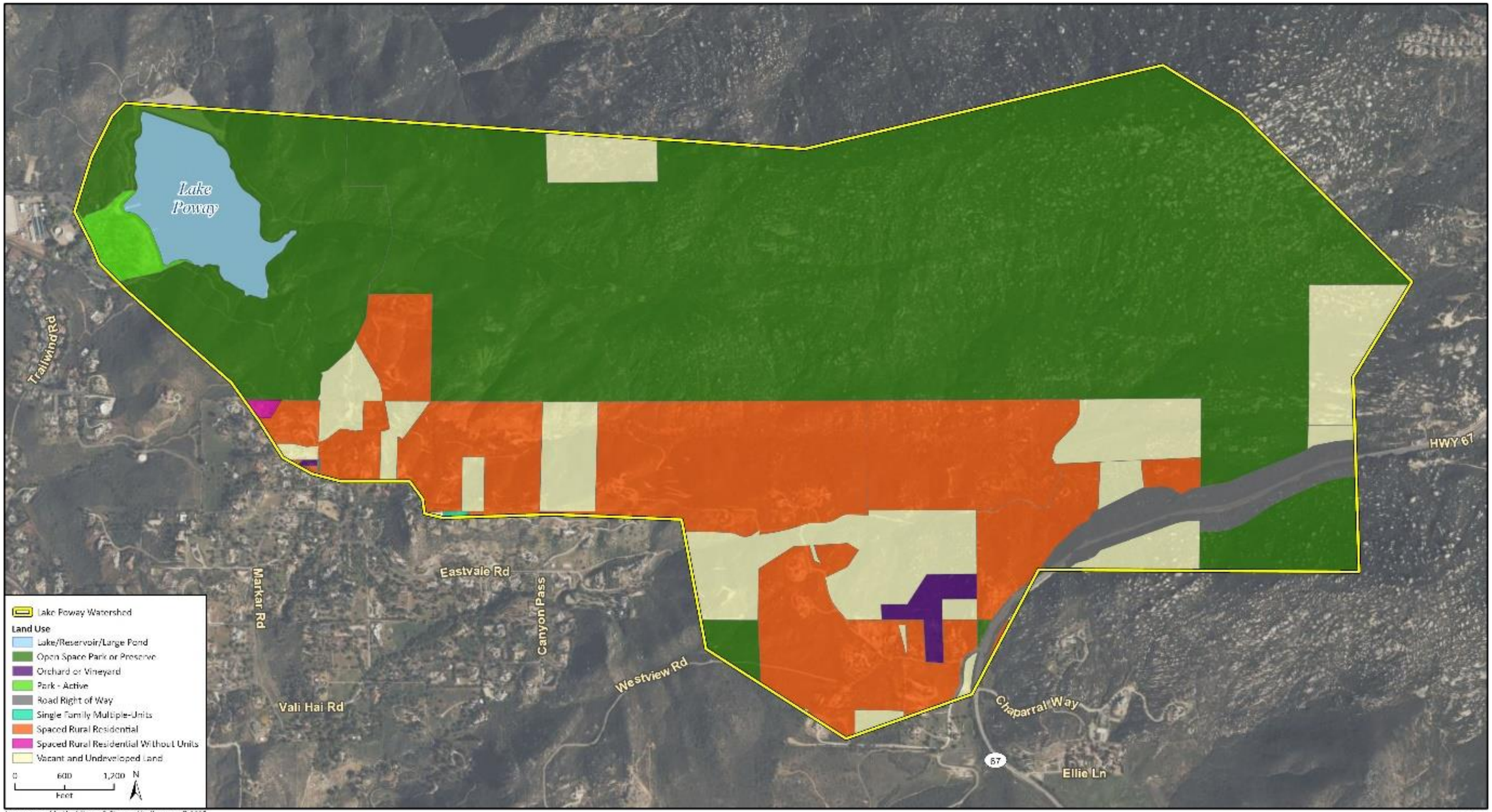
Land Use Category	Percentage (%)
Open Space Park or Preserve	59
Orchard or Vineyard	0.5
Park - Active	1
Road Right of Way	2.5
Spaced Rural Residential	22
Vacant and Undeveloped Land	12
Waterbodies	3

Source: San Diego Association of Governments (SANDAG) (2025). For additional information, see http://sdgis.sandag.org/map.aspx

Figure 2 Lake Poway Watershed

Figure 3 Lake Poway

Figure 4 Land Use Type within the Watershed



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Additional data provided by County of San Diego GIS, 2024

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2.3 Water Use

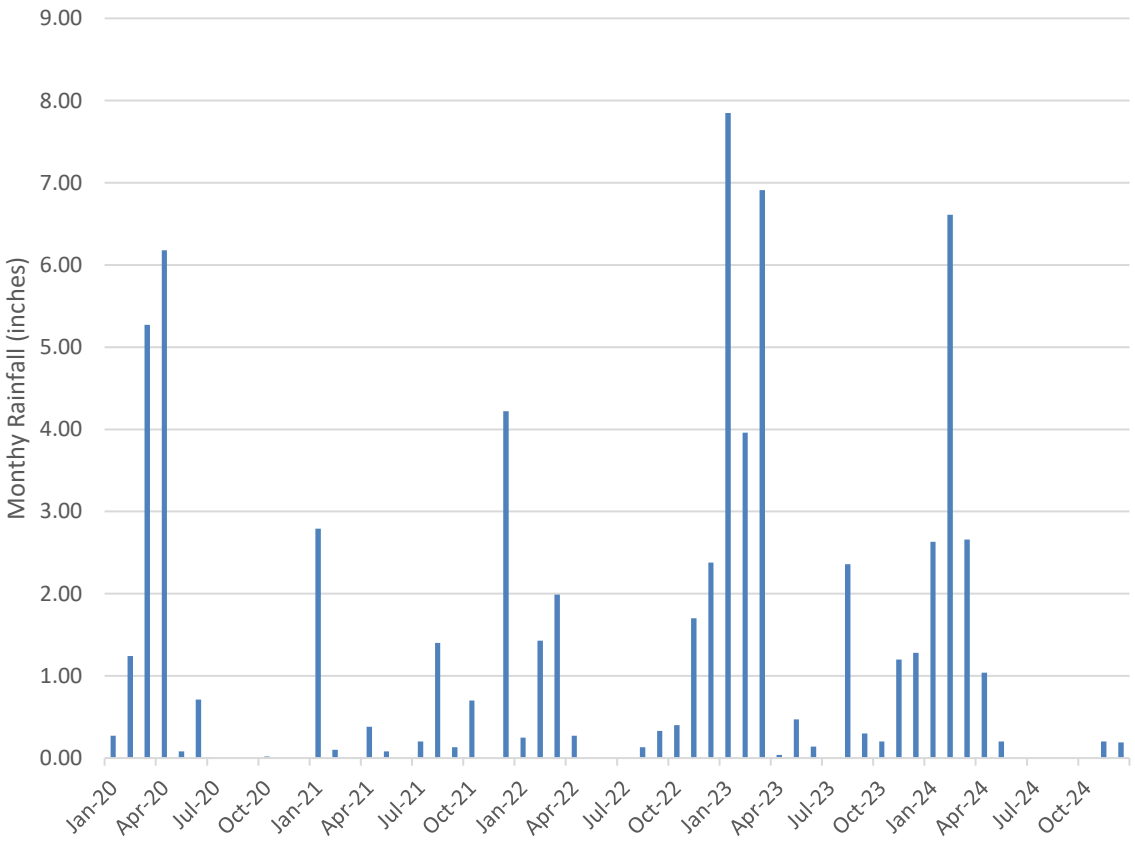
Water from the WTP is used for municipal, agriculture, and domestic supply. According to the San Diego Association of Governments (SANDAG), the estimated population of the City of Poway in 2024 was 49,888 in (U.S. Census 2025). The reported population for the City according to 2019 U.S. Census data was 49,323. As such, the population of the City has experienced negative growth at a rate of 1.1-percent over the last four years. A majority of the population of Poway is served by the water system. Only a small community in East Poway is outside of the water service area.

2.4 Precipitation Patterns

The local climate is classified as a Mediterranean type climate as defined by the Köeppen climate classification system (Kottek et al. 2006). The climate is typically characterized by warm, dry summers and cool, moist winters. Rainfall is typically concentrated in the winter months (i.e., November through April), but the frequency and intensity of rainfall per event and per winter season are highly variable. The average annual rainfall reported by the City is 14 inches (City of Poway 2025).

Figure 5 shows the total monthly precipitation from the City's rain gauge located at Lake Poway during the Reporting Period. The average annual rainfall during the Reporting Period was 14.8 inches. The highest monthly rainfall was 7.85 inches in January 2023, and the highest annual rainfall was 24.63 inches in 2023.

Figure 5 Total Monthly Rainfall at Lake Poway during the Reporting Period



3 Water Supply System

3.1 Water Supply System

The City relies on two sources of water to meet municipal, agriculture, and domestic demands: surface water from Lake Poway (comprising primarily imported water stored in the lake) and imported water conveyed directly from SDCWA. Lake Poway contains mostly imported water and receives negligible runoff from the Watershed. Table 4 shows the relative percentage of Lake Poway water and imported water treated by the WTP on an annual basis. Over the Reporting Period, the volume of stored imported and watershed lake runoff water treated at the WTP fluctuated between 7% and 14%.

Table 4 Percent of WTP Influent Flow from Lake Poway

	Percent of WTP Influent	
Year	From Lake Poway	Imported Water
2020	14%	86%
2021	11%	89%
2022	7%	93%
2023	9%	91%
2024	14%	86%

Note: All values rounded to the nearest percent.

3.1.1 Surface Water from Lake Poway

Lake Poway serves as a storage basin for imported water; however, the Watershed provides a small volume of water to Lake Poway primarily through stream flow. Table 5 shows the estimated annual flow into Lake Poway.

Table 5 Annual Estimated Flows into Lake Poway

Year	Runoff into Lake Poway (acre-feet)[1]
2020	35.01
2021	-266.19[2]
2022	20.43
2023	393.70
2024	166.16

[1]Runoff into Lake Poway is estimated by a water balance evaluation, which includes the volume of water placed into storage in Lake Poway as reported in the City's Consumption Reports, the volume of water pulled from storage in Lake Poway as reported in the City's Consumption Reports, rainfall, evaporation loss, and seepage as derived from measurements taken at Lake Poway.

[2]A negative value calculated for runoff into Lake Poway indicates an overestimate of water leaving the system (i.e., evaporation, seepage, water pulled from Lake Poway) and/or an underestimate of water entering the system (i.e., water added to Lake Poway or rainfall).

Considering the volume of Lake Poway is 3,432 acre-feet (Foth-CLE 2018), the maximum proportion of annual runoff to imported water during the Reporting Period was approximately 11 percent in 2023.

The WTP typically treats water from Lake Poway during a four to six consecutive week period beginning in early June, and treats imported water delivered directly to the WTP during the remainder of the year. The WTP may also treat water from Lake Poway if the SDCWA is performing planned and unplanned maintenance on the aqueduct, or if odor or taste concerns have been reported associated with imported water.

3.1.2 San Diego County Water Authority Imported Water Supply

The SDCWA is a wholesaler of imported water purchased from the Metropolitan Water District of Southern California (MWD). MWD imports water from Northern California and the Colorado River via the State Water Project and the Colorado River Aqueduct. Imported water is transported through five, large diameter pipelines to member agency service connections. The City is one of the 22-member water agencies of the SDCWA (SDCWA 2025). Pipelines 1 and 2 transport untreated water south of the Crossover Pipeline, Pipelines 3 and 4 carry a mixture of treated and untreated water, and Pipeline 5 carries untreated water (Bureau of Reclamation 2021). The water supply delivered to the City is a blend of raw imported SWP and Colorado River supplies.

3.2 Water Treatment Plant

The City owns and operates the WTP. The WTP is a conventional water treatment plant that has the capacity to produce 24 million gallons per day (MGD). The average daily flow is 8.2 MGD from 2020 through 2024.

The WTP intake Pump Station No. 1 (Figure 3) conveys water from the SDCWA aqueduct system to the influent structure where it gravity feeds through the WTP and Pump Station No. 2 pumps water up to the lake. Lake Poway water is gravity fed back into the WTP through a pressure regulating valve system which also gravity feeds through the WTP. The following treatment process is employed at the WTP (Figure 6):

- Chemical addition (aluminum sulfate and cationic polymer)
- Coagulation and flocculation
- Sedimentation
- Dual media filtration
- Disinfection

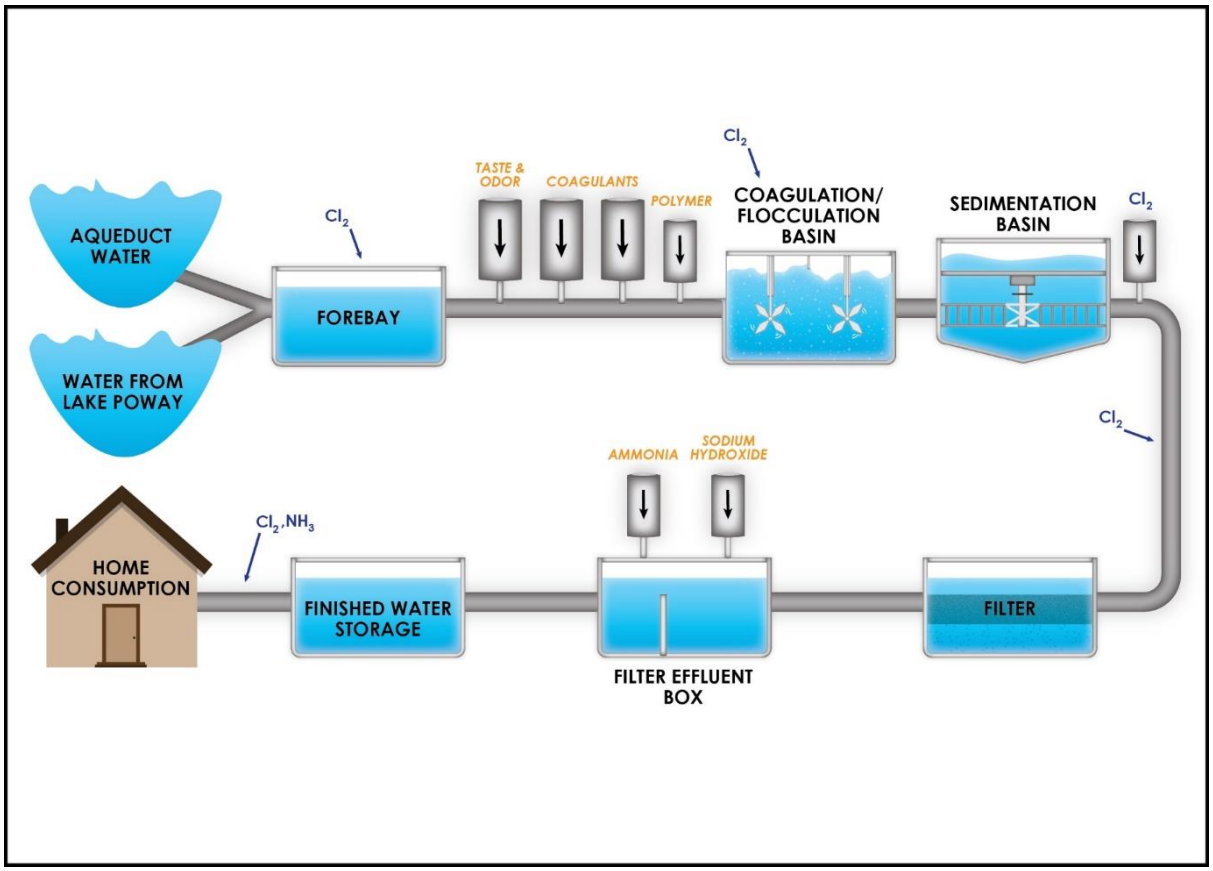
The primary coagulant for the WTP is aluminum sulfate (alum), while a cationic polymer is also used to assist with coagulation. Sodium permanganate is used as a pre-oxidant.

Rapid mixing occurs through flash mix pumps with jet nozzle injection. The WTP consists of four, three-staged flocculation basins with vertical impellers. Each flocculation basin is followed by a sedimentation basin. The detention time of the sedimentation process is dependent on the plant flowrate.

Following sedimentation, chlorine is added, water then flows through eight filters with dual media beds. Filtered water is routed to a filter effluent box where ammonia is added to the treated water to achieve chloramination. Finally, disinfected water enters the clearwell reservoir, which is the final storage system for filtered water at the WTP. Chlorine Contact Time (CT) is achieved in the filtration process at the plant.

Treated water enters the City's distribution system, which includes approximately 300 miles of water mains, 14 approved pressure zones, two 1.2 million gallon temporary clearwell tanks[6], and 18 storage reservoirs, ranging in capacity from 200,000 gallons to 2.5 million gallons that maintain adequate supplies during peak demand, for fire flow, or other emergencies (City of Poway 2013).

Figure 6 Flow Schematic of WTP



3.2.1 Quagga Mussels at the WTP Intake

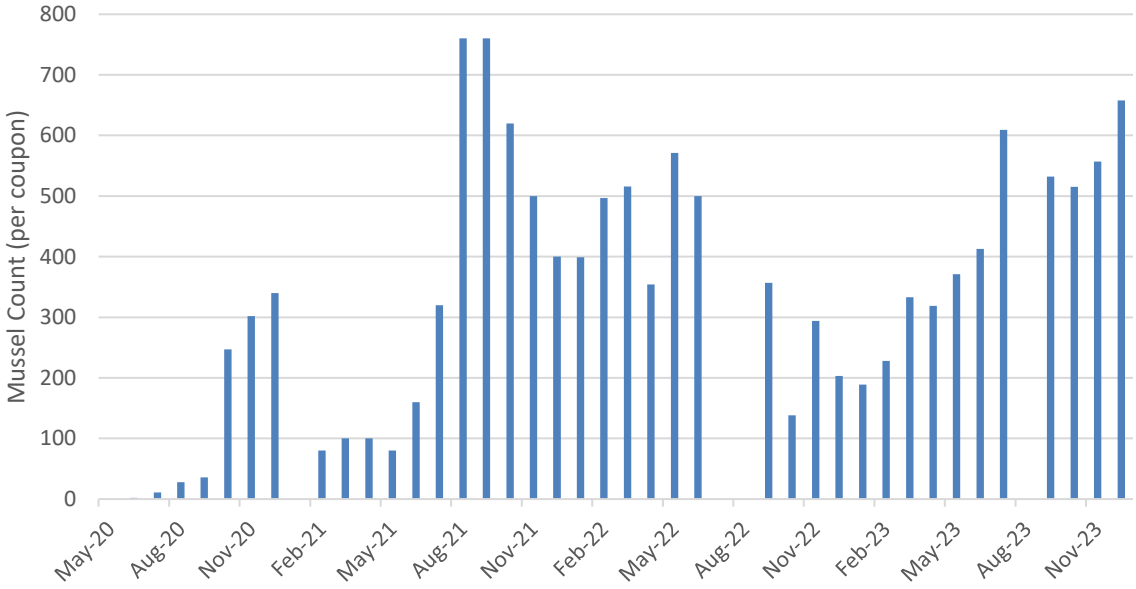
Lake Poway tested positive for both veligers (the planktonic larval lifestage) and adult quagga mussels (of the family Dreissenidae) in May 2010. Subsequently, the City developed and implemented a Dreissenid Mussel Monitoring, Response, and Control Plan (Mussel Control Plan) which was designed to provide technical and procedural guidance in the detection of both the adult and veliger stage of the quagga mussel in Lake Poway. Monitoring events associated with the Mussel Control Plan occur regularly and the population is monitored closely. Areas identified by the plan as vulnerable to infestation were intake and outtake screens in the lake, the boat dock, and fishing float. In order to manage the ongoing threat of dreissenid mussel infestation, the City continues to monitor the facilities at Lake Poway, removing dreissenids by hand methods when found in raw water supply facilities.

Monthly monitoring of the quagga mussel population began in April of 2020. Substrate coupons were submerged in Lake Poway at a depth of three feet and at the beginning of each month, staff

[6] The City of Poway is undergoing a Clearwell Replacement Project and constructing two 4-million gallon clearwells.

photograph the two substrate coupons and records the estimated population found on each of the coupons. Figure 7 shows the monthly quagga mussel count at the Boat Dock monitoring location.

Figure 7 Monthly Quagga Mussel Count at Boat Dock Monitoring Location



The population of quagga mussels has increased since 2010 (City of Poway 2019). The dreissenid population has become dense enough to substantially cover intake screens in Lake Poway, and Poway replaced intake screens #1, #2 and #3 in 2023. The quagga mussel population is expected to continue to increase in Lake Poway.

Existing data are not sufficient to address the impacts that dreissenids have on water quality in Lake Poway but in large enough populations, dreissenids can overwhelm native mussels and completely remove plankton and floating particles from the water, changing local food-webs, water clarity, and dissolved oxygen levels (Cary Institute of Ecosystem Studies 2020). At Lake Poway, the dreissenid population disrupts the water supply by clogging the intake screens to the WTP.

4 Activities with Potential to Impact Source Water Quality

Surface drinking water supplies can be adversely impacted by activities that take place within the Watershed. Eight activities that have the potential to impact source water quality were identified for review as part of the 2025 WSS Update, including spills, recreation, wastewater (septic tanks), development, wildfires, agriculture, animal populations, algaecide use. This section describes how each potential contaminant source has, or has the potential to, impact water quality in Lake Poway. In addition, this section describes regulations and source water protection activities in place to prevent and/or respond to incidents that may result in adverse water quality impacts.

4.1 Spills

A hazardous material spill or leak such as one resulting from a vehicular traffic accident, pipeline leak or spill, wastewater treatment plant spill, or other incident could impact a surface water body. In the event of a leak or spill, timely notification is critical to ensure that the water treatment operators are provided with sufficient time and information to best respond to potential treatment concerns or to plan measures to protect the water supply.

Formal notification to potentially impacted water utilities is provided by the State Water Resources Control Board (SWRCB) Division of Drinking Water (DDW). If DDW is apprised of a hazardous material spill that poses a risk to drinking water through the California Office of Emergency Services (CalOES) State Warning Center, the DDW provides formal notification to potentially impacted water utilities.

4.1.1 Seasonal Patterns

No seasonal patterns have been observed as to when spills have occurred in the Watershed.

4.1.2 Related Constituents

The most common spills impacting the Watershed involve the release of oil and petroleum products. Typical constituents of concern associated with the release of oil or petroleum products include volatile organic compounds (VOCs) and hydrocarbons. However, hazardous materials emergencies can involve any number of chemicals.

4.1.3 Reported Spills in the Watershed

Records of hazardous spills are kept by both local and statewide entities. Information was queried from CalOES, the San Diego Regional Water Quality Control Board (RWQCB), the SWRCB, and the San Diego County Department of Environmental Health (DEH).

CalOES Hazardous Materials Release database was queried for spills during the Reporting Period. Eight sanitary sewer spills (spills) were reported within the City of Poway during the Reporting Period, however none of these spills occurred within the Watershed (CalOES 2025).

The SWRCB's Integrated Water Quality System database was also queried for spills. There were no spills reported within the Watershed during the Reporting Period (SWRCB 2025).

The DEH maintains a database of complaints reported for sewage overflows from septic systems, public and private sewer lines, or directly from a trailer or vehicle. No complaints were reported for sewage overflows from a sewer, septic system, or trailer within the Watershed during the Reporting Period.

4.1.4 Related Water Quality Issues and Data Review

Watershed spills may be accompanied by a release of VOCs or Synthetic Organic Compounds (SOC) to the water body. No VOCs or SOCs were detected above the laboratory reporting limit in the source water to the WTP during the Reporting Period, with the exception of one detection of dibromochloromethane at 0.154 micrograms per liter (ug/L) in 2021[7] (City of Poway 2020 – 2024).

4.1.5 Regulation and Management

Notification to emergency response agencies is required by state and federal law when a hazardous material spill or leak of a reportable quantity occurs. A sewage spill is required to be reported if 1,000 or more gallons are released, and if any amount reaches a water of the United States. An oil or petroleum spill is required to be reported if 42 gallons or more are released. Any other hazardous material spill is required to be reported if there is a reasonable belief that the release poses a significant or potential hazard to human health and safety, property, or the environment. It is the responsibility of the owner or operator to notify the local designated emergency response agency.[8]

California Office of Emergency Services

CalOES Hazardous Management Section coordinates the implementation of statewide hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats. CalOES staff are called upon to provide state and local emergency managers with emergency coordination and technical assistance in response to any hazardous materials emergency.

CalOES State Warning Center

The CalOES State Warning Center operates a 24-hour telephone service where callers can report hazards to a single point of notification for all federal, state, and local agencies. When spill information is received, the CalOES State Warning Center will assign a spill control number to the incident that can be used to track various activities associated with the incident.

Response Information Management System

CalOES developed the Response Information Management System (RIMS) as part of the development of the State's Standardized Emergency Management System. This was developed in response to the United States Department of Homeland Security's National Incident Management System (NIMS). NIMS was developed so responders from different jurisdictions and disciplines can work together better to respond to natural disasters and emergencies, including acts of terrorism.

[7] Dibromochloromethane is a common lab contaminant. Based on the fact that no other VOCs were detected during this sampling event, no spills were reported within the Watershed during the reporting period, and because laboratories use dibromochloromethane as a reagent in analytical processes, it is unlikely that this single detection is indicative of a spill.
[8] The local response agency is the Certified Unified Program Agency.

The purpose of RIMS is to provide a single point for tracking the status and progress of hazardous materials spills statewide. Only registered users can input data into the website, but anyone can access the website to review current or archived CalOES cases.[9]

State Water Resources Control Board – Division of Drinking Water

The DDW has statutory responsibility for the regulation of public water systems to ensure that drinking water is safe for human consumption. In the event of a hazardous materials spill or threatened release which affects a public water system or source of drinking water such as a lake, river, or aqueduct, the DDW Duty Officer is notified of the impact to the water source. The DDW Duty Officer then notifies the DDW District Engineer for the impacted water source. The District Engineers maintain call down lists to assist with notifying DDW staff engineers and water utilities. District Engineers will work with the water utility to prevent contamination of the water system. The District Engineers will also issue recommendations to the public in coordination with the utility and local health department to prevent use of contaminated water.

4.1.6 Source Water Protection Activities

As part of the County-wide Hazardous Incident Response Team (HIRT), the Poway Fire Department and County Hazardous Materials Division (HMD) respond directly to spills or illegal dumping of hazardous materials. The Fire Department operates 24 hours per day, seven days per week. HIRT response includes containment and spill cleanup to avoid entry of spilled materials into surface waters or the storm drain conveyance system.

4.1.7 Summary of Findings

No hazardous material spills or leaks within the Watershed were reported during the Reporting Period.

4.2 Recreation

Recreational uses in the Watershed consist primarily of picnicking, boating, hiking, fishing, biking, and equestrian trails. Body contact recreation is not allowed in Lake Poway.

4.2.1 Seasonal Patterns

According to City staff, there are two peak recreational periods at Lake Poway. During the summer concerts in the park are popular, and in the fall and winter Lake Poway is busy during the trout fishing season.

4.2.2 Related Constituents

As body contact is not allowed, current recreational usage of Lake Poway is expected to have a minimal impact on water quality. Private boats are also not allowed. With the exception of the park ranger boat, only non-motorized (pedal and electric) rental boats are allowed in the lake, minimizing the chance of oil or gasoline being introduced into the lake.

[9] Cases can be accessed at https://w3.calema.ca.gov/operational/malhaz.nsf/$defaultview

Lake Poway Park

Fishing and picnicking are the main recreational activities for Lake Poway Park. The park is open seven days a week. The lake is open Wednesday through Sunday for boating and fishing. On weekends and holidays there is a $10.00 entry fee for all non-Poway residents. The park gates open at 6:00AM daily and are closed and locked at sunset. Overnight camping is allowed for a total of 11 weekends throughout the year. The camping sites are located throughout the park and are not within the Watershed.

The trail system within the Watershed is shown on Figure 8. The trails are the Sumac Trail, Lake Poway Trail, Mount Woodson Trail, Warren Canyon Trail, and the Fry-Koegle Trail. These trails are open for hiking, horseback riding, and biking. There is also a horse staging area in the park. However, the staging area and trails are used infrequently for equestrian use. The horse staging area is maintained by a contracted street sweeper. Owners of animals such as horses and dogs are required to pick up their waste, and the lower fisherman's trail is off limits to animals.

Table 6 provides information on the number of annual visitors to Lake Poway Park during the Reporting Period.

Table 6 Number of Visitors to Lake Poway Park during the Reporting Period

Year	Number of Visitors
2020	185,000
2021	220,000
2022	190,000
2023	200,000
2024	250,000

Source: City of Poway 2025

The maximum capacity at Lake Poway is 1,000 daily visitors. The maximum capacity at the Lake Poway Park is 7,000 daily visitors (City of Poway 2025).

Lake Poway Park has 14 pedal boats and 40 electric motor-boats available for rent, as well as two ranger boats. Personal watercraft, inflatable rafts, kayaks, and sailboats are prohibited in Lake Poway. There is a Tuffboom Waterway Barrier restricting boaters from entering the restricted zone around the inlet to the WTP (Figure 3), and the area of the lake and shoreline around the outlet tower is closed to the public.

Rental boats are cleaned daily with a wet vacuum and the water is deposited into a bin that filters large debris before returning the cleaning water to Lake Poway. The boats are brought to shore and pressure washed annually before being put back into the water. In addition, fish cleaning facilities are provided by the City and are located in the parking lot away from the Lake. The cleaning station is connected to the City's sanitary sewer.

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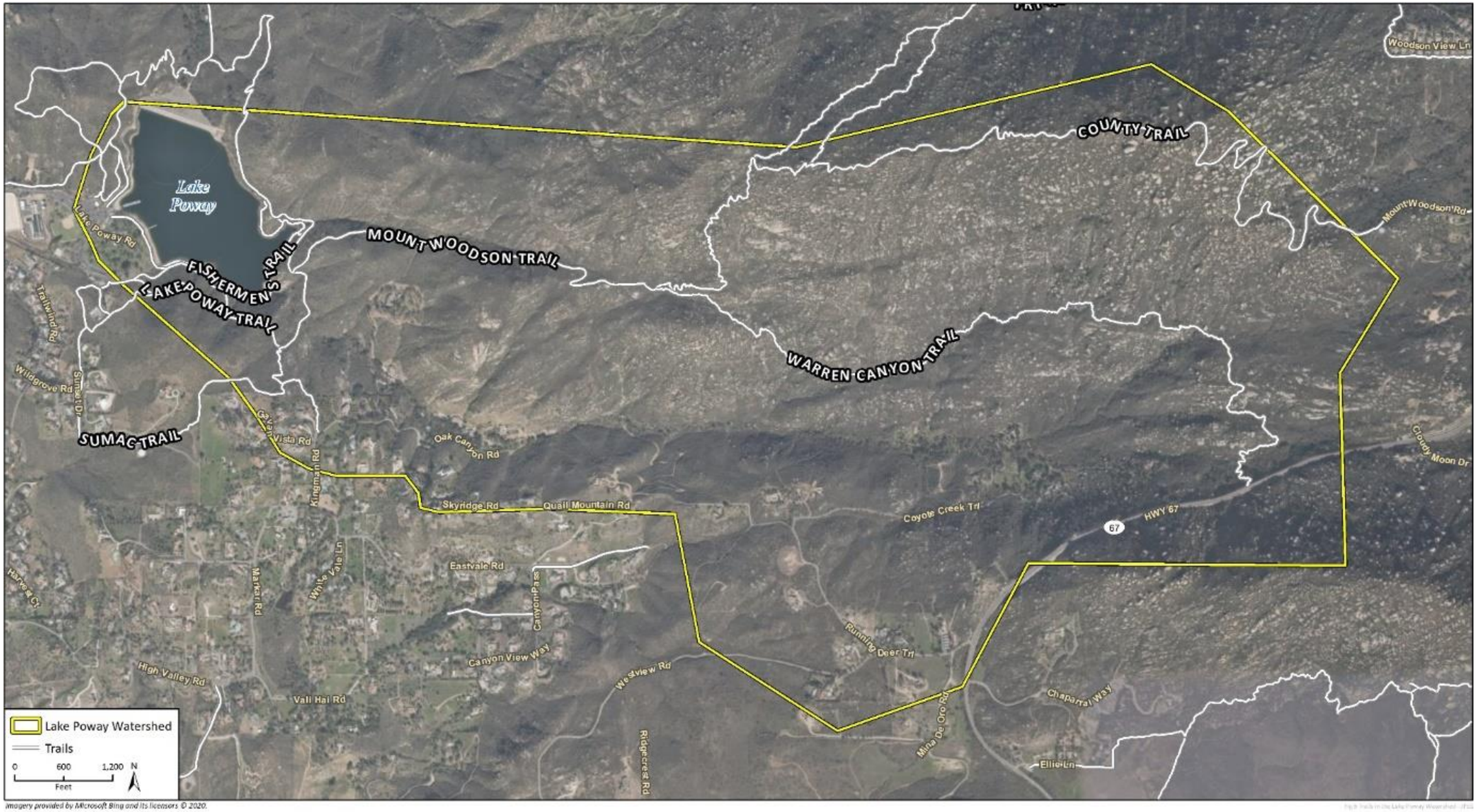
Figure 8 Trails in the Watershed



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There are five flush restrooms in the park, as shown in Table 7 and Figure 9, comprising a total of 19 men's toilets/urinals and 17 women's toilets, for a total of 36 toilets. In a letter dated August 15, 2011 the DDW determined that the flush restroom distances meet DDW's 50-foot setback requirement from the waterline. In addition, there are four portable chemical toilets located above the high-water line to provide accommodations for shoreline fishing. The portable toilets are cleaned and pumped weekly. All of the chemical toilets meet DDW's 50-foot setback requirement from the waterline.

Table 7 Number of Flush Toilets per Restroom Located in Lake Poway Park

Restroom Area	Men's Toilets/Urinals	Women's Toilets
Concession Stand	2	2
Upper Restroom	7	6
Middle Restroom	7	6
Pavilion	1	1
Ball Field	2	2
Sum	19	17

4.2.3 Related Water Quality Issues and Data Review

E. coli levels in Lake Poway water are typically very low (i.e., an order of magnitude below the 200 most probable number per milliliter [MPN/mL] trigger level). As discussed in detail in Section 5.2.1, monthly samples collected at the lake surface over the Reporting Period ranged from not detected (ND) above the analytical laboratory detection limit to 14 most probable number per 100 milliliters (MPN/100mL) over the Reporting Period, with an overall average of 3 MPN/100mL.

4.2.4 Regulation and Management

There are six part-time dock attendants, two full-time and two part-time park rangers as well as a full-time Recreation Coordinator and Senior Recreation Supervisor. Park rangers patrol the upper trail system two times per day, which includes the Lake Poway Loop Trail. Park rangers also patrol the fishermen's trail (i.e., the shoreline) every four hours and the entire reservoir a minimum of twice daily. A complete list of regulations pertaining to the lake can be found in Appendix A.

4.2.5 Source Water Protection Activities

As discussed above, the City manages recreation at Lake Poway. Regular patrols of the park and lake perimeter are conducted.

4.2.6 Summary of Findings

Recreational uses in the Watershed consist primarily of picnicking, boating, fishing, hiking, biking, and use of equestrian trails. Body contact recreation is not allowed in Lake Poway. Recreation at Lake Poway is managed by the City and subject to a high level of control and oversight. The City conducts regular patrols of the reservoir and the park. There were no known adverse impacts to water quality in Lake Poway resulting from recreational use during the Reporting Period.

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Figure 9 Location of Flush and Chemical Toilets in Lake Poway Park

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4.3 Wastewater

There are no public sewer lines within the Watershed, with the exception of the sewer lines located in Lake Poway Park. The residences located within the Watershed are served by individual septic systems. There are no wastewater treatment plants or wastewater pump stations within the watershed. Although there are various types of wastewater facilities that may impact surface waters, the focus of this subsection is residential septic systems.

4.3.1 Seasonal Patterns

Failure of a septic system may occur at any time; however, the greatest impact would occur during the rainy season when soils are saturated and septic system discharge has the potential to be transported to Lake Poway.

4.3.2 Related Constituents

Septic tank effluent typically contains high concentrations of total dissolved solids, chlorides, phosphates, nitrates, bacteria, and viruses.

4.3.3 Occurrence in the Watershed

The community of High Valley, located southeast of Lake Poway, is served by individual septic systems. The DEH does not maintain a database that quantifies the number of existing systems. The number of septic systems was estimated by quantifying the number of residential parcels in the Watershed and assuming that each residential parcel consisted of one septic system. It was estimated that 30 to 40 septic systems exist within the Watershed.

The DEH provided a list of all new septic systems installed in the City during the Reporting Period. Twenty-five new septic systems were installed within the City during the study period. Of the 25 new septic systems installed in the City, 22 were installed or repaired within the Watershed.

4.3.4 Related Water Quality Issues and Data Review

No requirements exist pertaining to septic systems and water quality monitoring. Therefore, water quality impacts of septic systems to Lake Poway could not be assessed.

4.3.5 Regulation and Management

As described in Section 4.1.5, notification to an emergency response agency is required by state and federal law when a hazardous materials spill or leak of a reportable quantity occurs. It is the responsibility of the owner or operator to notify the local designated emergency response agency; for the Watershed, the designated agency is the DEH, Hazardous Materials Division.

State Water Resources Control Board

The SWRCB adopted the Proposed Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Water Treatment Systems (OWTS Policy) in May 2013.[10] Under the OWTS

[10] Resolution Number 2012-0032, Approve a Substitute Environmental Document and Adopt a Proposed Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems. Available online at https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0032.pdf

Policy, each septic system is placed into one of four tiers, which dictate what type of action is required for each system. Refer to the OWTS Policy for detailed information on the design requirements for each tier. Existing septic systems in the Watershed belong to Tier 0, and new systems installed since May 2013 fall into Tier 1 (i.e., low-risk, standard septic systems).

County of San Diego Department of Environmental Health

The DEH does not inspect septic systems on a routine basis. Systems are inspected on a complaint-only basis. If a system fails, the DEH responds and requires the owner to fix the failed system.

The DEH is responsible for responding to sewage spills due to failing septic systems at private residences. The City works with the DEH, as needed, to ensure spills are fully remediated. Depending on the nature of the spill, the City takes action to control, contain, and clean up the discharged materials. Common corrective actions include interception and rerouting of sewage flows around the sewage line failure, recovery of sewer overflow and washdown, and cleanup of debris of sewage origin at the overflow site.

4.3.6 Source Water Protection Activities

No direct wastewater discharges have been reported to Lake Poway. Therefore, no additional source water protection activities are recommended at this time.

4.3.7 Summary of Findings

There are no wastewater treatment plants within the Watershed. The potential for impacts from wastewater to the water quality in Lake Poway is very low due to the limited number and distance of residential septic systems to the lake. During the reporting period, DEH reported in their response to an information request that 22 residential use septic systems were installed (new construction) or repaired within the Watershed.

4.4 Development

Development is generally defined as the conversion of rural or open lands to urbanized or sub-urbanized areas. In the case of the Watershed, residential homes are gradually being built on previously vacant lands. As a watershed becomes more urbanized, the amount of impervious surfaces increases, and rainfall runoff (i.e., urban runoff) volume increases.

4.4.1 Seasonal Patterns

Urban runoff occurs on a year-round basis, including wet and dry weather discharges. Dry weather runoff results from activities such as irrigation and car washing. Wet weather runoff occurs as a result of seasonal storms and occurs over a relatively short duration. Pollutant concentrations in wet weather runoff are highly variable. Generally, water quality impacts from urban runoff are greater during the wet season, and particularly following first-flush (i.e., first rainfall of the season) events.

4.4.2 Related Constituents

Urban runoff is typically associated with high turbidity and is a source of TOC, bacteria, nutrients, and other constituents such as pesticides and organic compounds (e.g., oil and grease).

4.4.3 Occurrence in the Watershed

Development in the Watershed is limited to the community of High Valley, which consists of approximately 30 to 40 homes. Not all lots within the community are currently built out.

According to the City, there are no centralized flood control facilities and no storm basins within the Watershed. On individual developed properties, storm runoff appears to be conveyed primarily through small pipes and natural drainage ditches. Pipes appear to follow the natural terrain or topography of the land and do not direct the water to a central location.

4.4.4 Related Water Quality Issues and Data Review

The City monitors water quality for dry weather flows as part of the City's municipal separate storm sewer systems (MS4) outfall monitoring program; however, no monitoring locations have been established within the Watershed.

4.4.5 Regulation and Management

State Water Resources Control Board

Pursuant to the Clean Water Act section 402(p), stormwater permits are required for discharges from a MS4 serving a population of 100,000 or more. The Municipal Stormwater Program manages the Phase I[11] and Phase II[12] Permit Program. Stormwater discharges are regulated on a statewide and regional basis. The SWRCB issued two General Permits[13] to address most of the industrial facilities and construction sites within California. The San Diego RWQCB has adopted individual stormwater permits for some facilities within their region. The RWQCB administers the SWRCB's General Permits and the RWQCB's individual permits.

Projects that disturb more than one acre of soil are required to obtain coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (CGP). Construction activities subject to the permit include clearing, grading, and disturbances to the ground such as stockpiling or excavation.

The Industrial General Permit (IGP) regulates discharges associated with industrial activities. The IGP and CGP are National Pollutant Discharge Elimination System (NPDES) permits that require the implementation of management measures that will achieve the performance standard of best available technology economically achievable and the conventional pollutant control technology. Development of a Stormwater Pollution Prevention Plan (SWPPP) and monitoring plan is required under the IGP and CGP.

San Diego Regional Water Quality Control Board

The San Diego RWQCB issued its first iteration of the San Diego MS4 Permit in 1990, and it has been significantly revised multiple times since its inception. In response, the City created a Jurisdictional Urban Runoff Management Plan (JURMP) in 2002. As required by the San Diego MS4 Permit, the JURMP was revised in 2008, 2015, and in 2019 when it was revised to the current Jurisdictional Runoff Management Plan (JRMP).

[11] Phase I Permits apply to municipalities of over 100,000 people
[12] Phase II Permits apply to municipalities of less than 100,000 people as well as nontraditional MS4s such as military bases, public campuses, and prison or hospital complexes
[13] General Industrial Activities Stormwater Permit and General Construction Activity Stormwater Permit

Order number R9-2013-0001, *NPDES Permit and Waste Discharge Requirements for Dischargers from the MS4 Draining the Watersheds Within the San Diego Region* (MS4 Permit), established requirements for discharges from MS4s in the San Diego region and is the current governing permit. Order Number R9-2015-001, which became effective on April 1, 2015, amended the MS4 Permit.[14] The MS4 Permit jointly covers 39 municipal, county government, and special district entities located in Southern Orange County, Southwestern Riverside County, and San Diego County who own and operate large MS4s which discharge stormwater and non-stormwater runoff to surface waters throughout the San Diego Region. The MS4 Permit requires the phased development and implementation of a Water Quality Improvement Plan (WQIP) for each of the Watershed Management Areas (WMAs) in the San Diego Region.

The Watershed is located in the San Dieguito River and the Los Peñasquitos WMA. The responsible agencies, which include the Cities of Del Mar, Escondido, Poway, San Diego, Solana Beach, and San Diego, developed an initial WQIP for the San Dieguito WMA in 2015. The WQIP for San Dieguito WMA was revised in 2021.

4.4.6 Source Water Protection Activities

The City has engaged in a number of activities that aim to improve water quality through the reduction of pollutants in discharges from its stormwater conveyance system to water bodies. Such activities include, but are not limited to, public education, water quality monitoring, storm water best management practice (BMP) development, inspections, and enforcement.

The City has established minimum BMP requirements for businesses, residents, construction, and land development activities, as well as City operations. In addition, the City prepared a *BMP Design Manual for Permanent Site Design, Stormwater Treatment and Hydromodification*, effective February 16, 2016. These requirements were updated in January 2022.

The City maintains an industrial and commercial facility inventory for businesses that the City determined may contribute a significant pollutant load to the stormwater conveyance system. Inspections are performed at an appropriate frequency to confirm that BMPs are being implemented to reduce discharge of pollutants to the storm drain system both for stormwater and non-stormwater discharges. A public complaint hotline allows for reported discharges to be investigated as they occur in an effort to minimize discharges in a timely manner and inquire about potential runoff sources. In addition, residents of the City are required to comply with minimum BMPs, including elimination or reduction of irrigation runoff, proper use of pesticides and fertilizers, and management of pet waste. Irrigation runoff is considered an illegal discharge.

Regular maintenance of the roads and streets is conducted such that they can collect a variety of pollutants and debris. All public roads and streets with curb and gutter are swept twice per month. The City also removes garbage, debris, and accumulated sediment from all drainage facilities annually.

4.4.7 Summary of Findings

The potential for impacts from development to the water quality in Lake Poway is very low due to the limited extent of development within the Watershed. There are currently no municipal, industrial, or commercial facilities within the Watershed, and there is no centralized storm drain system in the Watershed. Under the City's stormwater program, activities such as street sweeping, maintenance of storm drains, inspection of new construction sites, routine monitoring of the MS4 outfalls, and

[14] The regional MS4 permit expired on June 27, 2018, but remains in effect under an administrative extension until a new permit is issued by the RWQCB.

enforcement of BMPs for residential, industrial, and commercial facilities minimize the impact of stormwater runoff.

Although runoff from the residential areas in the Watershed could potentially reach Lake Poway, it is likely that a majority of the runoff will infiltrate into soil before surface runoff reaches Lake Poway. The potential for infiltration into the soil depends on factors such as topography, rainfall intensity and duration, antecedent conditions, soil type, slope, and vegetation.

4.5 Wildfires

Wildfires impact soil and water quality in a number of ways. During and immediately after a wildfire, natural vegetation is burned, and soils become denuded. Increased runoff occurs following a wildfire as a result of reduced infiltration, reduced water uptake by plants, and the presence of hydrophobic organic layer that may form on the surface of soils, effectively increasing the water repellency of soils (USGS 2018). Increased runoff results in loading of dissolved substances into streams.

The impacts of wildfire on water quality depend on characteristics of the fire such as frequency, intensity, duration, and spatial extent of burning, and their interaction with the watershed characteristics such as weather, slope, soil type, geology, land use, timing of regrowth of vegetation, and burn history. This relationship is complex and highly variable. As such, wildfires within the same watershed can burn with different characteristics and produce variable effects on water quality (Neary et al. 2005).

4.5.1 Seasonal Patterns

Wildfires occur year-round, but wildfires in the San Diego region typically occur in the early fall.

4.5.2 Related Constituents

Stormwater runoff from burned forested areas typically contain high concentrations of phosphorus, nitrogen, dissolved organic carbon, sediment, and metals such as mercury, lead, and arsenic (USGS 2020).

4.5.3 Occurrence in the Watershed

The last wildfire reported within the Watershed was the Witch Creek Fire, which occurred in 2007. According to the California Department of Forestry and Fire Protection (Cal Fire), a small wildfire named the Rock 2 Fire occurred to the east of the Watershed in 2016 (Cal Fire 2020). No wildfires were reported within the Watershed during the Reporting Period (Cal Fire 2025).

4.5.4 Related Water Quality Issues and Data Review

Denuded, hydrophobic soils resulting from wildfire are at an increased risk of erosion. Increased loading of eroded soils is anticipated following wildfire activities, especially during the first rains immediately following a fire.

4.5.5 Regulation and Management

Wildfires in the Watershed are managed cooperatively by Cal Fire, California Highway Patrol, the San Diego County Sheriff's Department, and the respective local fire agencies. In addition, the National Interagency Fire Center has developed the *Interagency Standards for Fire and Fire Aviation*

Operations, which is revised annually. This document states, references, or supplements policy for the U.S. Bureau of Land Management, the U.S. Forest Service, the U.S. Fish and Wildlife Service, and the National Park Service.

4.5.6 Source Water Protection Activities

No source water protection activities are recommended at this time.

4.5.7 Summary of Findings

No wildfires have been reported within the Watershed during the Reporting Period.

4.6 Agriculture

A variety of small agricultural-related activities occur within the Watershed, including keeping of domestic animals, vineyards, and orchards.

4.6.1 Seasonal Patterns

Agricultural activities occur year-round; however, agricultural operations are most likely to impact source water quality during and after rain events as runoff can entrain sediment and pesticide residuals and can transport pollutants to surface waters.

4.6.2 Related Constituents

Fertilizers and pesticides associated with agricultural activities may contain a variety of chemicals, the most common of which are nitrogen and phosphorus-based compounds.

4.6.3 Regulation and Management

Environmental regulations for agricultural and equestrian activities are limited to commercial uses. No regulations specific to water quality protection have been established for residential agricultural activities or domestic animal ownership.

4.6.4 Source Water Protection Activities

No source water protection activities are recommended at this time.

4.6.5 Summary of Findings

Minimal agricultural activities occur within the Watershed, and no known impacts to water quality from agricultural activities occurred during the Reporting Period.

4.7 Animal Populations

Animals associated with agricultural activities are kept, to a limited extent, on residential properties associated with agricultural activities.

4.7.1 Seasonal Patterns

Animals associated with agricultural activities are present in the Watershed year-round.

4.7.2 Related Constituents

Horse waste, including manure can carry pathogens, nutrients, and oxygen demanding substances to surface waters.

4.7.3 Related Water Quality Issues and Data Review

High quantities of nutrients in water from industrial crop fertilizers and animal waste can cause excessive plant growth, or eutrophication (USEPA 2020). Eutrophication can lead to hypoxia, resulting in a decrease in aquatic life.

4.7.4 Regulation and Management

The City's ordinance 17.32.010 Section (B), Keeping of Animals, states that all lots shall have a minimum of 10,000 square feet for the keeping of large animals. Table 8 shows the maximum number of animals allowed on a property unless a minor conditional use permit or conditional use permit is obtained.

Table 8 Maximum Number of Large Animals Allowed per Parcel for City of Poway

Square Footage of Parcel	Maximum Large Animals Permitted
10,001 to 15,000	2
15,001 to 17,000	3
17,001 to 20,000	4
20,001 to 25,000	5
25,001 to 30,000	6
30,001 to 35,000	7
35,001 to 1 acre	8
Greater than 1 acre[1]	10 per acre

Source: City Code 17.32.010, section B
[1] With minor conditional use permit or conditional use permit

4.7.5 Source Water Protection Activities

No source water protection activities are recommended at this time.

4.7.6 Summary of Findings

Animals associated with agricultural activities are small in number within the Watershed and pose an insignificant threat to water quality in Lake Poway.

4.8 Algaecide Use

Aquatic pesticides are used to treat algal blooms at Lake Poway to manage the lake resources and maintain beneficial uses within the Watershed. Copper sulfate pentahydrate, a liquid form of copper

sulfate, is the algaecide used for treatment of algal blooms at Lake Poway, and it is applied in accordance with the City's Aquatic Pesticide Application Plan (APAP). Copper sulfate pentahydrate is generally applied over the entire reservoir surface from a boat. Applications are performed using BMPs described in the APAP by licensed personnel in accordance with Pest Control Recommendations issued by a California Department of Pesticide Regulation contract Pest Control Advisor. City of Poway employes a licensed aquatic pesticide application vendor who samples Lake Poway before and after application of the algaecide. The vendor also provides a report after each application and completes the Annual NPDES Report that is provided to DDW.

4.8.1 Seasonal Patterns

The frequency with which copper sulfate pentahydrate is used for algae control at Lake Poway depends on the frequency and timing of when algae blooms occur. Typically, algae blooms occur, and are treated with copper sulfate pentahydrate, once per year between April 1 and October 30.

4.8.2 Related Constituents

Copper sulfate pentahydrate is an inorganic salt that is highly soluble in water. The United States Environmental Protection Agency (USEPA) considers copper sulfate pentahydrate to have moderate to low toxicity, with no carcinogenic effects.

4.8.3 Related Water Quality Issues and Data Review

The City monitors copper concentrations in Lake Poway after algaecide treatments are complete.

4.8.4 Regulation and Management

Application of copper sulfate pentahydrate and other aquatic pesticides is covered by the SWRCB Water Quality Order No. 2013-0002-DWQ Statewide General NPDES Permit for Aquatic Weed Control Applications, General Permit No. CAG 990005. In compliance with this order, the City developed an APAP (Clean Lakes Inc. 2014).

4.8.5 Source Water Protection Activities

Source water is protected through implementation of the City's APAP which requires monitoring, reporting, and BMP implementation in compliance with provisions of the SWRCB Order No. 2013-0002-DWQ Statewide General NPDES Permit for Aquatic Weed Control Applications, General Permit No. CAG 990005.

4.8.6 Summary of Findings

Algaecide use is monitored through the City's APAP and does not pose a significant threat to the water quality in Lake Poway.

5 Water Quality

This section provides a review of the water quality data available for Lake Poway and the WTP. The purpose of this review is to assess the relationship between source water quality and finished water quality and to demonstrate that source water quality has not impacted the WTP's ability to meet applicable water quality regulations. To show this, Rincon reviewed water quality data from Lake Poway, imported water quality data, and treated water quality data relative to applicable water quality regulations.

5.1 Drinking Water Regulations

Drinking water is regulated by DDW to protect public health. Water is regulated for primary and secondary maximum contaminant levels (MCLs) as well as unregulated constituents with notification levels. Drinking water regulations described in this section include the Safe Drinking Water Act, SWTR, the Interim Enhanced SWTR (IESWTR) and LT2ESWTR. Applicable targets or MCLs for select constituents as defined by these regulations are included for influent and effluent in Table 9.

Table 9 Applicable Drinking Water Regulations and Targets

	Applicable Target/MCLs for Treated Water						
Regulation	**Viruses**	***Giardia***	***Crypto-sporidium***	**Turbidity**	**Total Coliforms**	**HAAs**	**TTHMs**
SWTR	4-log removal[1]	3-log removal[2]	NA	CFE ≤ 0.5 NTU CFE Max: 5 NTU	5%[3]	NA	NA
IESWTR	4-log removal[1]	3-log removal[2]	2-log removal[4]	CFE ≤ 0.3 NTU CFE Max: 1 NTU	5%[3]	NA	NA
LT2ESWTR	4-log removal[1]	3-log removal[2]	< 0.075 oocysts/Liter	CFE ≤ 0.3 NTU CFE Max: 1 NTU	5%[3]	NA	NA
DBP Stage 1 and Stage 2	NA	NA	NA	NA	NA	60 µg/L	80 µg/L

[1] Compliance monitoring required to ensure that treatment technology installed to treat drinking water reliably achieves 99.99 percent inactivation or removal or viruses.

[2] Compliance monitoring required to ensure that treatment technology installed to treat drinking water reliably achieves 99.9 percent inactivation or removal of Giardia

[3] No more than 5 percent of samples collected per month may show positive results for total coliform

[4] Compliance monitoring required to ensure that treatment technology installed to treat drinking water reliably achieves 99 percent inactivation or removal of Cryptosporidium

CFE – Combined Filter Effluent

DBP – Disinfection Byproduct

Max – maximum

NA – Not Applicable

NTU – Nephelometric Turbidity Unit

Safe Drinking Water Act

The Safe Drinking Water Act authorizes the USEPA to set standards for contaminants in drinking water supplies in the United States. The USEPA was required to establish primary regulations for the control of contaminants that affect public health and secondary regulations for compounds that affect the taste or aesthetics of drinking water. Under the provisions of the Safe Drinking Water Act, the DDW has the primary enforcement responsibility. DDW establishes California MCLs based on public health goals established by the Office of Environmental Health Hazard Assessment (OEHHA). Public health goals include concentrations of drinking water contaminants that pose no significant health risk if consumed for a lifetime. MCLs are health-protective drinking water standards that account for factors such as contaminant detectability, treatability, and cost of treatment.

National Interim Primary Drinking Water Regulation and Phase I, II, and V Regulations

The National Interim Primary Drinking Water Regulations (NIPDWR) provide a comprehensive set of drinking water standards applicable to all public water systems in the United States. MCLs for chemical contaminants are defined in various phases of the NIPDWR. Phase I, II, and V define MCLs for synthetic organic chemicals and inorganic chemicals and provides guidance for monitoring of unregulated contaminants.

Surface Water Treatment Regulations

The purpose of the Surface Water Treatment Regulations (SWTRs) is to reduce illnesses caused by pathogens in drinking water. The disease-causing pathogens include *Legionella, Giardia lamblia, and Cryptosporidium.* The SWTRs require water systems to filter and disinfect surface water sources.

Surface Water Treatment Rule

The SWTR applies to all public water systems using surface water sources or groundwater sources under the direct influence of surface water. The SWTR establishes maximum contaminant level goals for viruses, bacteria, and *Giardia lamblia.* In addition, the SWTR set turbidity requirements, which have since been made more stringent by the IESWTR and LT2ESWTR.

Interim Enhanced SWTR

The IESWTR applies to all public water systems using surface water that serves 10,000 or more people. The IESWTR sets a minimum 2-log reduction requirement for *Cryptosporidium*. In addition, the IESWTR requires continuous monitoring of individual filter effluents (IFE) and combined filter effluent (CFE). Turbidity requirements in the IESWTR are more stringent than those included in the SWTR, requiring that turbidity in the CFE not exceed 0.30 NTU in 95 percent of monthly measurements and individual measurements not to exceed 1 NTU.

Long Term 2 Enhanced SWTR

The LT2ESWTR was published in the Federal Register on January 5, 2006 and adopted by DDW in 2013. This rule links *Cryptosporidium* removal or inactivation requirements to *Cryptosporidium* levels in the source water. Under the LT2ESWTR, water systems must conduct source water monitoring for *Cryptosporidium*. Filtered systems will be classified in one of four risk bins based on their monitoring results.

The LT2ESWTR requires *Cryptosporidium* or *E. coli* monthly source water monitoring for 24 months. Source water bin classification to be dependent on maximum running annual average of monitoring results. If average *Cryptosporidium* value is >0.075 oocysts/liter, bin classification will require additional action (which could be additional log reductions or other actions, including source water protection). The LT2ESWTR also requires disinfection profiling and benchmarking if significant changes are made to disinfection processes. A second round of source water monitoring is to be conducted six years after initial bin classification.

Stage 1 Disinfection/Disinfection By-Product Rule

The Stage 1 D/DBP Rule sets a treatment technology for DBP precursor removal (enhanced coagulation) based on source water TOC levels. Varying levels of removal are required if the source water concentrations are greater than 2 milligrams per liter (mg/L). The MCLs for TTHMs and HAAs are set at 80/60 micrograms per liter (µg/L), respectively, in the distribution system as system-wide running annual average (RAA). The bromate MCL is set at 10 µg/L.

Stage 2 Disinfection/Disinfection By-Product Rule

The Stage 2 D/DBP Rule requires compliance of the distribution system with MCLs for TTHMs and HAAs based on locational running annual average (LRAA). In stage 2, compliance is based on an LRAA of 80/60 µg/L. Initial distribution system evaluations must be completed to identify long term routine monitoring locations, and compliance schedules depend on system size and source type. For combined distribution systems, all compliance systems will be on the schedule of earliest system.

Unregulated Contaminant Monitoring

The Safe Drinking Water Act includes requirements for monitoring unregulated chemicals. UCMR 5 includes a list of 29 contaminants that may pose a risk to human health but are not currently subject to drinking water regulations. UCMR5 sampling is required for water systems serving 10,000 people or more over a five-year cycle. The UCMR5 period began in 2023 and will continue through 2025. UCMR5 focuses heavily on emerging contaminants like per- and polyfluoroalkyl substances (PFAS).

5.2 Water Quality Review

This section provides a review of the constituents of interest, including an explanation for their selection and a summary of water quality data collected during the Reporting Period for each constituent. In addition, this section contains an evaluation of the WTP water quality, as well as an evaluation of the plant's ability to meet SWTRs as well as other existing regulations. Selected raw water data from the imported water, Lake Poway, the influent to WTP, and treated water are included in Table 10.

The only constituent present in the raw water that consistently requires additional treatment is TOC.

Table 10 Summary of Water Quality Data

Constituent	Units	Minimum	Maximum	Average	Median	95th Percentile
Imported Water						
Total Coliform[1]	MPN/100mL	ND	1,120	84.5	9.00	412
E. coli[1]	MPN/100mL	ND	3.00	1.43	1.00	2.70
Water from Lake Poway						
Total Coliform[2]	MPN/100mL	ND	2,420	250	30.5	1,577
E. coli[2]	MPN/100mL	ND	14.0	3.00	2.00	11.7
WTP Influent						
Total Coliform[3]	MPN/100mL	1.00	1,990	227	5.00	1,151
E. coli[3]	MPN/100mL	1.00	7.00	3.67	1.00	6.10
TOC[4]	mg/L	2.48	3.77	2.88	2.89	3.23
Alkalinity[4]	mg/L	2.06	3.16	2.57	2.63	2.93
Turbidity[5] – SDCWA	NTU	0.47	1.44	0.80	0.75	1.25
Turbidity[5]– Basin	NTU	0.24	0.74	0.41	0.41	0.62
Treated Water						
Turbidity[5] – CFE	NTU	0.03	0.05	0.04	0.04	0.04
TOC[4]	mg/L	2.06	3.16	2.57	2.63	2.93
Total Coliform[6]	MPN/100mL	ND	ND	ND	ND	ND
E. coli[6]	MPN/100mL	ND	ND	ND	ND	ND

Sources:

[1] Based on weekly data provided by the City of Poway for the "Aqueduct Water" sample location

[2] Based on weekly data provided by the City of Poway for the "Lake Water" sample location

[3] Based on weekly data provided by the City of Poway for the "Combined Raw (Source)" sample location

[4] Monthly data from Quarterly SUVA Alternative Compliance Reports

[5] Daily average data from City of Poway: L.J. Berglund Treatment Plant Monitoring Worksheets. SDCWA data is listed as “CWA”.

[6] Based on weekly data provided by the City of Poway for the "Combined Filtered (Effluent)" sample location

5.2.1 Selected Constituent Review

The constituents selected for further review include waterborne pathogens including total coliform, *E. coli*, *Giardia*, *Cryptosporidium*, turbidity, and TOC. These constituents were selected based on several criteria including existing or upcoming regulatory standards, critical operational evaluation parameters, and relevance to significant potential contaminating activities. The general characteristics, seasonal and historic trends, and significance with respect to existing and potential future regulations are presented for each constituent, along with data analysis and evaluation.

Table 11Table 11 shows the relationship between potential contaminating activities and water quality constituents.

Table 11 Relationship Between Potential Contaminating Activities and Water Quality

Water Quality Parameter	Wastewater	Recreation	Pesticide/ Herbicide Use	Spills	Wildfire	Development	Agriculture	Animal Populations
Turbidity	X	X	X	X	X	X	X	X
Waterborne Pathogens	X	X	–	X	X	X	X	X
TOC	X	–	X	X	X	X	X	X

Turbidity

General Characteristics and Background

Turbidity is the measurement of light scatter in water and provides an indication of the degradation of water clarity. High turbidity levels in surface water sources, such as creeks and lakes, are typically the result of erosion and sediment transport during precipitation and high flow events. It is common for turbidity in a water body to vary throughout the year as a result of seasonal weather patterns within the watershed. High turbidity can mask the presence of harmful particulates and interfere with the disinfection of waterborne pathogens. Turbidity is assumed to be an indicator for the presence of *Giardia* and *Cryptosporidium* (LeChevallier and Norton 1992). However, turbidity alone is not a reliable indicator of the presence of pathogens. As a result, Rincon reviewed turbidity measurements as well as direct measurements of *Giardia* and *Cryptosporidium* in the untreated water.

Turbidity was selected for further evaluation because most utilities, including the City, optimize pretreatment processes to maximize turbidity removal in order to reduce the potential load of pathogens, such as *Giardia* and *Cryptosporidium*, to the WTP. The NIPDWRs require combined filtered effluent be less than 0.3 NTU in 95 percent of monthly measurements and that turbidity never exceed 1 NTU. Continuous turbidity monitoring for individual filters is required. Turbidity has also been indirectly regulated in drinking water as part of the Filter Backwash Rule. This rule requires recycled waste streams return to the plant headworks upstream of all chemical feed systems and recommends return at a controlled, small percentage of total flow (less than 10 percent) to ensure the chemical feed is adjusted for blended water quality, including potential increases in turbidity caused by recycle streams.

Evaluation

The monthly turbidity reports submitted to the DDW were reviewed for this analysis. These report the four-hour turbidity measurements of the CFE, as well as peak daily influent, and peak daily settled turbidity (see Appendix B for compiled turbidity data). A review of the monthly reports show CFE turbidity was within regulatory limits, with all monthly averages below 0.3 NTU (Figure 10). Discrete turbidity measurements collected during the Reporting Period are shown in Figure 11.

Figure 10 Monthly Average Treated CFE Turbidity at WTP

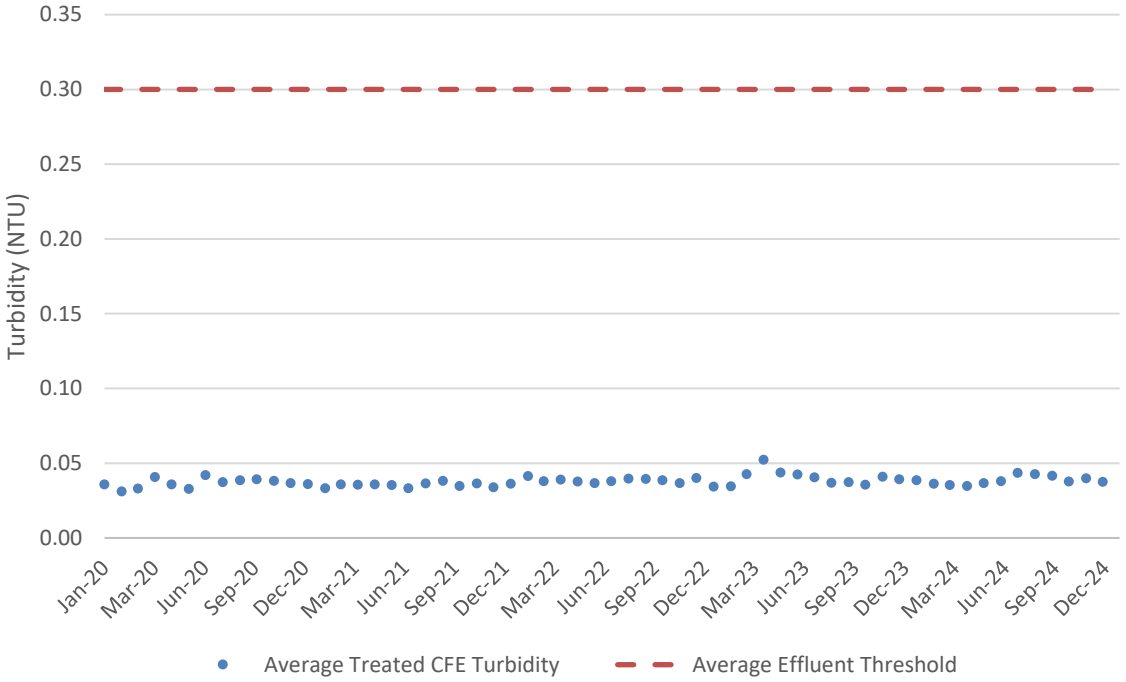
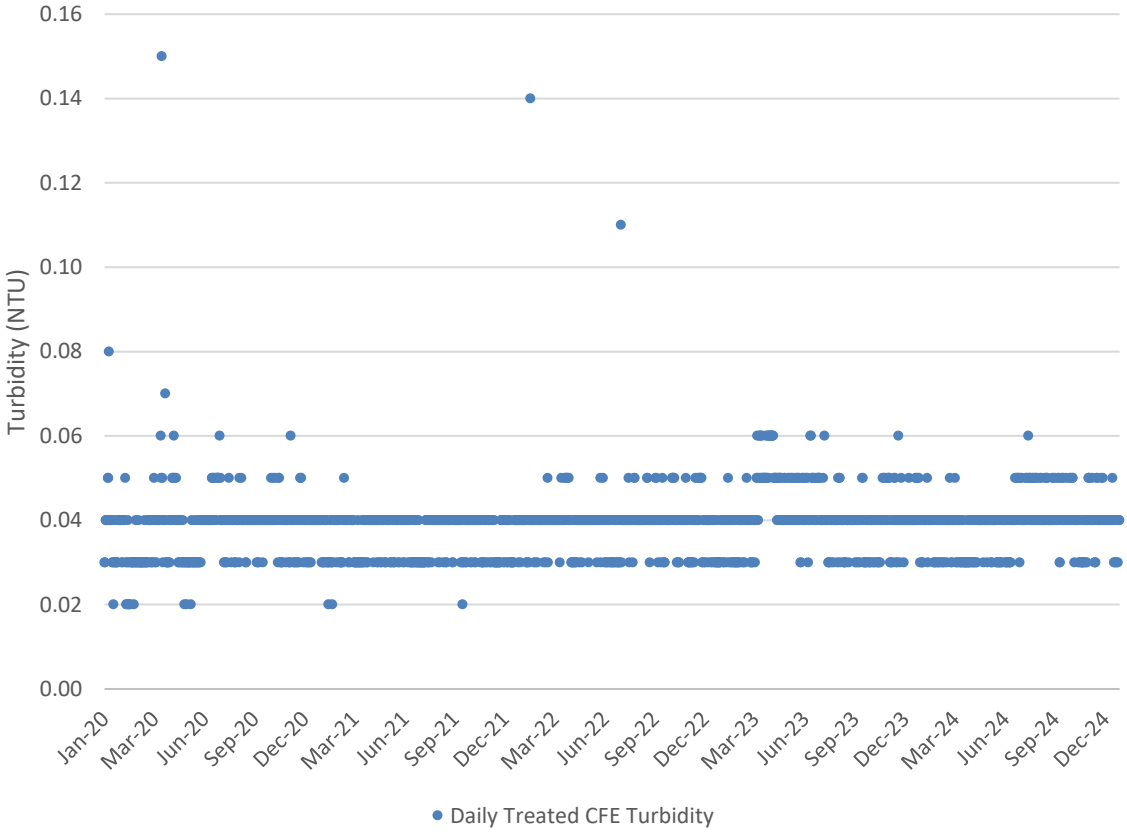


Figure 11 Discrete Treated CFE Turbidity at WTP



Note: Turbidity measurements are collected every four hours

Summary of Results

INFLUENT TURBIDITY

Influent turbidity levels at the WTP are generally low. Monthly averages at the CWA sampling location range from 0.47 to 1.44 NTU, while monthly averages at the Basin sampling location range from 0.74 to 0.24 NTU.

TREATED EFFLUENT TURBIDITY

All CFE turbidity data collected during the Reporting Period met the turbidity treatment technique limit and were below 0.3 NTU with the exception of one sample on February 5, 2022 which had a turbidity of 0.62 NTU. The average turbidity level for the CFE was 0.06 NTU. Solids removal through the plant averaged 93.5 percent, exceeding the 80 percent goal for conventional treatment.

Microbial Constituents

General Characteristics and Background

The major microbiological constituents of concern include total coliform, *E. coli, Giardia,* and *Cryptosporidium.* Generally speaking, pathogenic organisms carried by mammalian species may be infectious to humans. Some types of animals, such as birds, may be vectors for human pathogens. Each of these constituents was identified for further evaluation because they are currently regulated. The presence of these constituents in the raw water governs the overall treatment requirements for the WTP.

Coliform and *E. coli* have been used to indicate the potential presence of pathogenic microorganisms in source waters (USEPA 2024). Although coliform levels have not been shown to correlate well with pathogenic microorganisms, they continue to be used as indicators due to the lack of affordable and reliable direct analytical methods for detecting pathogens (USEPA 2012). The USEPA has determined that the most practical surrogate for protozoa at this time is *E. coli*, as identified in the LT2ESWTR. Potential sources of coliform bacteria include general watershed runoff, recreation, wastewater, urban runoff, and animal populations (including equestrian facilities (USEPA 2002). Coliform levels in treated water are currently regulated directly through the Total Coliform Rule, to ensure the effectiveness of the disinfection process throughout the distribution system (USEPA 2024).

Giardia lamblia is a species of the protozoa genus *Giardia* that infects humans and can cause the gastrointestinal disease giardiasis (Center for Food Security and Public Health 2012). *Giardia* is found in the environment as a cyst from the feces of humans and animals; both wild and domestic animals may be hosts (CDC 2024). Sources close to waterbodies have the most potential to introduce viable cysts to the source water (USEPA 2000). The cysts may be destroyed naturally in the environment by desiccation and/or heat and are effectively inactivated using chlorine disinfection (USEPA 2000). *Giardia* is currently regulated by the SWTR and the IESWTR. Surface water supplies must provide for 3-log reduction of *Giardia* through physical removal and chemical inactivation. Additional reduction may be required for impaired water supplies. The USEPA provided guidance with the SWTR that indicated additional reduction would be appropriate if measured *Giardia* levels in the source water were greater than 0.01 cysts per liter. However, in the 1980s there was no practical means to measure *Giardia*, therefore the DDW prepared guidance under the SWTR that indicated that 3-log reduction would likely be appropriate when monthly median levels of total coliform in the raw water were less than 1,000 MPN/100 mL. In recent years DDW has allowed for the substitution of fecal coliform or *E. coli* levels in raw water since they are more specific indicators. The DDW have set the guidance level

for increased treatment at raw water monthly fecal or *E. coli* median levels greater than 200 MPN/100 mL, based on the historic ratio of five total coliform to one fecal coliform.

Cryptosporidium parvum is a species of the protozoa genus *Cryptosporidium* that infects humans and can cause the gastrointestinal disease cryptosporidiosis. *Cryptosporidium* is found in the environment as an oocyst principally from the feces of wild and domestic animals. Like *Giardia*, *Cryptosporidium* oocysts may be destroyed naturally in the environment by desiccation and/or heat. Once in the source water, however, viable oocysts are very resistant to traditional chemical inactivation using chlorine. Stronger disinfectants such as ozone or ultraviolet (UV) light are required to inactivate these pathogens. *Cryptosporidium* may be carried in urban runoff and wastewater sources or may be contributed directly from animal defecation. *Cryptosporidium* is currently regulated through the IESWTR, which require 2-log reduction, and the LT2ESWTR which potentially requires additional log action based on source water monitoring results for either *E. coli* or *Cryptosporidium*, depending on system size. Under the IESWTR, well-operated conventional and direct treatment plants are granted a 2-log removal credit for *Cryptosporidium* if they meet all treated water turbidity standards. The LT2ESWTR further regulates *Cryptosporidium* and requires additional action (treatment or protection) if the source water quality is determined to be impaired based on direct *E. coli* or *Cryptosporidium* monitoring of the source. If the *Cryptosporidium* running annual average levels are greater than 0.075 oocysts per liter, additional action must be achieved based on bin classification of the source.

The WTP currently receives reduction credit for 2.5-log *Giardia*, 2.0-log viruses, and 2-log-*Cryptosporidium* for physical removal. Disinfection with free chlorine provides 0.5-log reduction credit for *Giardia* and 2.0-log credit for viruses. The City has a Bin 1 classification based on *Cryptosporidium* monitoring data for the LT2ESTWR. LT2ESTWR monitoring took place from October 2015 through September 2017.

Evaluation

The City monitors influent water for total coliform and *E. coli* on a monthly basis at the WTP influent (see Appendix C for compiled total coliform and *E. coli* data). Weekly samples from the imported water and lake surface are also collected for total coliform and *E. coli.* Data for coliform and *E. coli* from the WTP influent during the Reporting Period are presented in Figure 12. Similarly, data for coliform and *E. coli* from the Lake Poway surface during the Reporting Period are presented in Figure 13.

Concentrations of *E. coli* in the imported water are generally low. The levels of total coliform and *E. coli* are higher at Lake Poway compared to the WTP influent[15]. The highest single *E. coli* sample for Lake Poway was 14 MPN/100mL[16]. There is no apparent or obvious seasonal trend in the *E. coli* data, likely due to the overall low levels. Total coliform tends to be higher in the February/March and August/September/October time periods for lake surface samples.

Monthly medians for *E. coli* and total coliform were also examined, as DDW can require an additional log reduction for *Giardia* and viruses if the monthly median for *E. coli* is consistently greater than 200 MPN/100mL, or the monthly median for total coliform is consistently greater than 1,000 MPN/100mL. Monthly median concentrations of *E. coli* at the Lake Poway surface did not exceed 200 MPN/100mL; however, monthly median concentrations of total coliforms at the Lake Poway surface exceeded 1,000 MPN/100mL in 2 of the 57 months sampled.

[15] The WTP treats water from Lake Poway during a six-week period each year. A majority of the water treated by the WTP is imported water.
[16] The monthly Lake Poway samples are collected at the surface which may lead to higher results compared to when the WTP is treating lake water, as the lake water is withdrawn below the surface.

The second round of sampling for *Cryptosporidium* was completed during the last Reporting Period (i.e., the period between January 1, 2015 and December 31, 2019). Therefore, no sampling for *Cryptospiridium* was conducted during the current Reporting Period.

Figure 12 Imported Water Total Coliform and E. coli during the Reporting Period

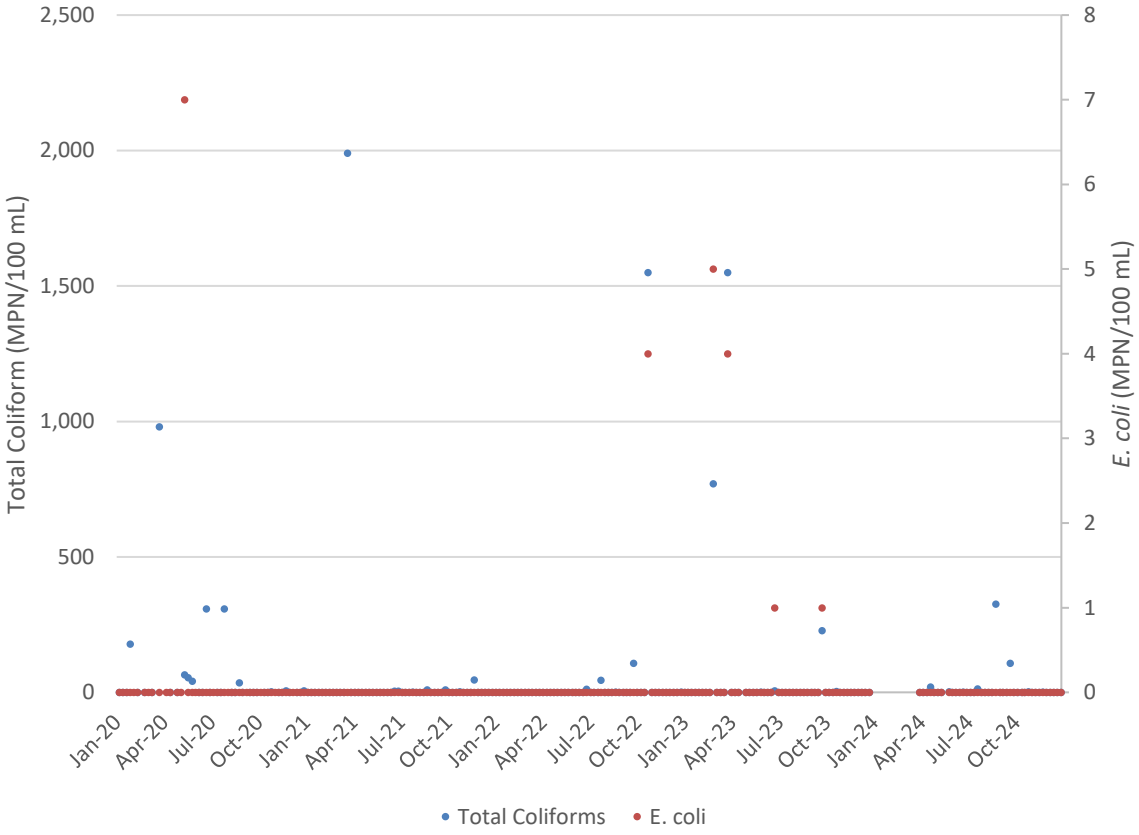
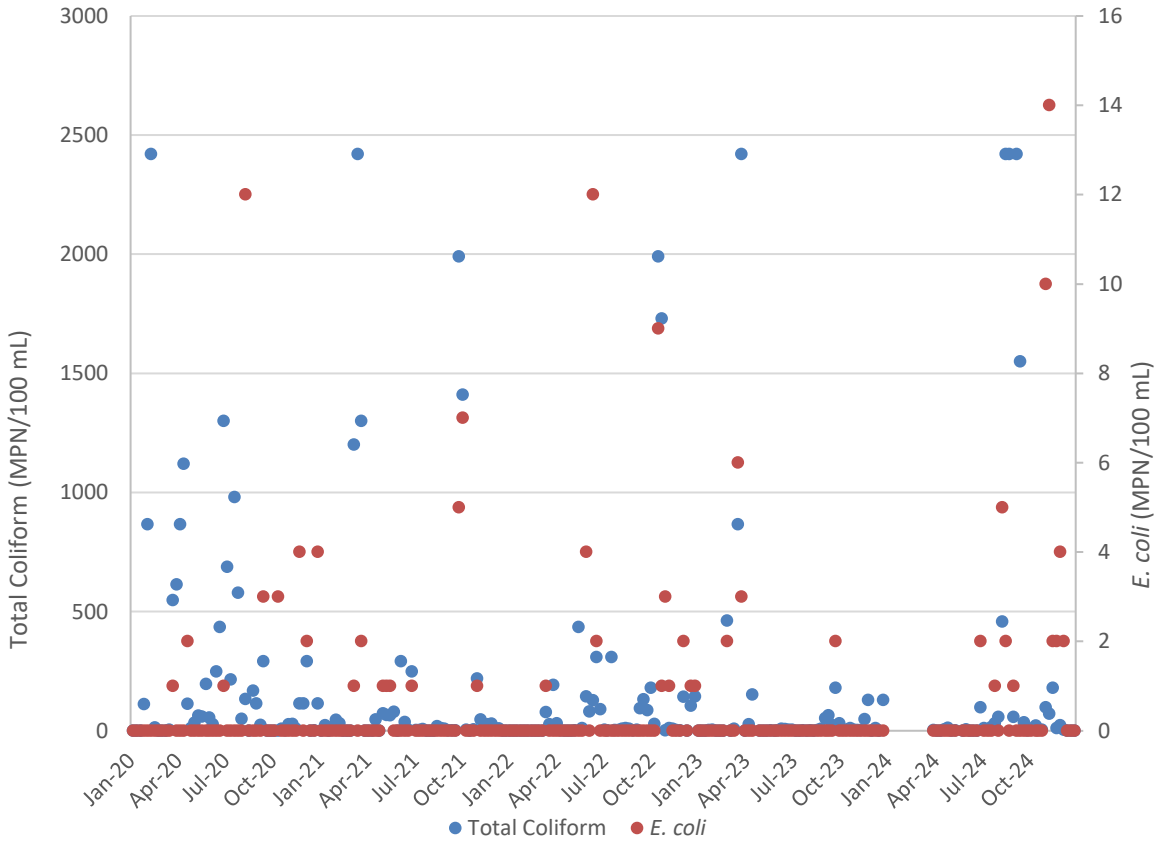


Figure 13 Lake Poway Surface Water Total Coliform and E. coli during the Reporting Period



Although concentrations of total coliform exceeded the 1,000 MPN/mL trigger during several months, concentrations of *E. coli* never exceeded the 200 MPN/mL trigger. This may indicate that the source of high total coliform is not related to fecal contamination. Therefore, an additional log reduction for *Giardia* and viruses is not warranted.

Summary of Results

INFLUENT MICROBIAL CONSTITUENTS

E. coli data show infrequent detection and very low counts in both imported water and water taken directly from Lake Poway. Weekly samples had a median value of 1.0 MPN/100 mL for the imported water and 2.0 MPN/100 mL for the Lake Poway surface water. Ninety-five percent of samples were less than 2.7 MPN/100 mL for the imported water and less than 11.7 MPN/100 mL for the Lake Poway surface water. No seasonal trends were apparent for *E. coli* based on a review of the data during the Reporting Period.

Total coliform was detected more frequently and at higher counts than *E. coli*. Weekly samples had a median value of 9.0 MPN/100 mL for the imported water and 30.5 MPN/100 mL for the Lake Poway surface water.

Although total coliform counts during several months exceeded 1,000 MPN/100 mL, *E. coli* did not exceed 30 MPN/100 mL, indicating that the source of high total coliform is not likely related to fecal

contamination. Total coliform counts tend to be higher during the spring (i.e., during the months of February/March) and fall (i.e., during the months of August/September/October) in the Lake Poway surface water.

The WTP is classified as Bin 1 under the LT2ESWTR, based on sampling performed from October 2015 through September 2017. No additional sampling was required during the Reporting Period.

TREATED EFFLUENT MICROBIAL CONSTITUENTS

Distribution system monitoring for coliforms is performed as part of the Total Coliform Rule and is reported in annual Consumer Confidence Reports. Only one sampling event during the reporting period had a detection of total coliforms (February 2020), with only 2-percent of results showing a positive result. The coliform MCL is 5-percent of monthly samples, therefore, there were no violations during the reporting period.

Based on the *E. coli, Giardia,* and *Cryptosporidium* data presented, 4-, 3-, and 2-log reduction, respectively, continue to be appropriate reduction requirements for the WTP. Of the 57 months included in the Reporting Period, no monthly median influent *E. coli* concentrations exceeded 200 MPN/100 mL at the WTP.

The WTP currently receives reduction credits for 2.5-log *Giardia*, 2-log viruses, and 2-log *Cryptosporidium* for physical removal. Disinfection with free chlorine provides 0.5-log credit for *Giardia* and 2-log credits for viruses. These credits meet the current microbial removal/inactivation requirements in the SWTR and IESWTR.

Total Organic Carbon

General Characteristics and Background

DBPs are formed when disinfectants added to water react with naturally occurring organic matter or other constituents, such as bromide (SWRCB 2010). TOC is the key precursor for DBPs. The most common DBPs are TTHMs, which are suspected carcinogens (SWRCB 2010). Potential sources of these organic precursors are plant matter, animal matter, and soil, which can be contributed by general watershed runoff, urban runoff, algal blooms, recreation, wildfires, spills and wastewater. TOC was selected as a constituent for further evaluation due to its significance in the formation of DBPs and because it is a general indicator of organic contamination in water. Table 12 presents the percent TOC removal required by the D/DBP Rule with varying levels of percent removal based on the concentration of TOC in the raw water and water alkalinity.

Table 12 TOC Enhanced Coagulation Removal Requirements (Percent)

	Alkalinity as $CaCO_3$ (mg/L)		
TOC (mg/L)	0 - 60	> 60 - 120	> 120
> 2.0 – 4.0	35%	25%	15%
> 4.0 - 8.0	45%	35%	25%
> 8.0	50%	40%	30%

The source water average TOC for the WTP was 2.9 mg/L, however TOC values ranged from 2.5 mg/L to 3.8 mg/L during the Reporting Period. The source water average alkalinity for the WTP was 114 mg/L, however alkalinity values ranged from 85.9 mg/L to 138 mg/L during the Reporting Period.

Based on the source water TOC and alkalinity concentrations, the percent TOC removal required at the WTP is 15 or 25 percent.

The Stage 1 D/DBP Rule requires varying levels of TOC removal if the source water TOC concentrations exceed 2 mg/L.

Evaluation

The City monitored TOC levels in the source and filtered/treated effluent monthly during the Reporting Period (see Appendix C for compiled TOC data). Monthly source TOC levels were consistently higher than 2 mg/L and therefore required treatment for removal per the D/DBP Rule (Figure 14).

The RAA of raw TOC levels was calculated quarterly, and alkalinity averaged quarterly, to determine the percent TOC removal required. The RAA of treated effluent TOC levels was also calculated quarterly and compared to the RAA of raw TOC levels to determine if the percent TOC reduction target had been met. The TOC RAA and percent reduction, as well as alkalinity and Specific Ultraviolet Absorbance (SUVA) measurements are shown in Table 13 (see Appendix D for compiled SUVA data).

Figure 14 Monthly WTP Influent TOC during the Reporting Period

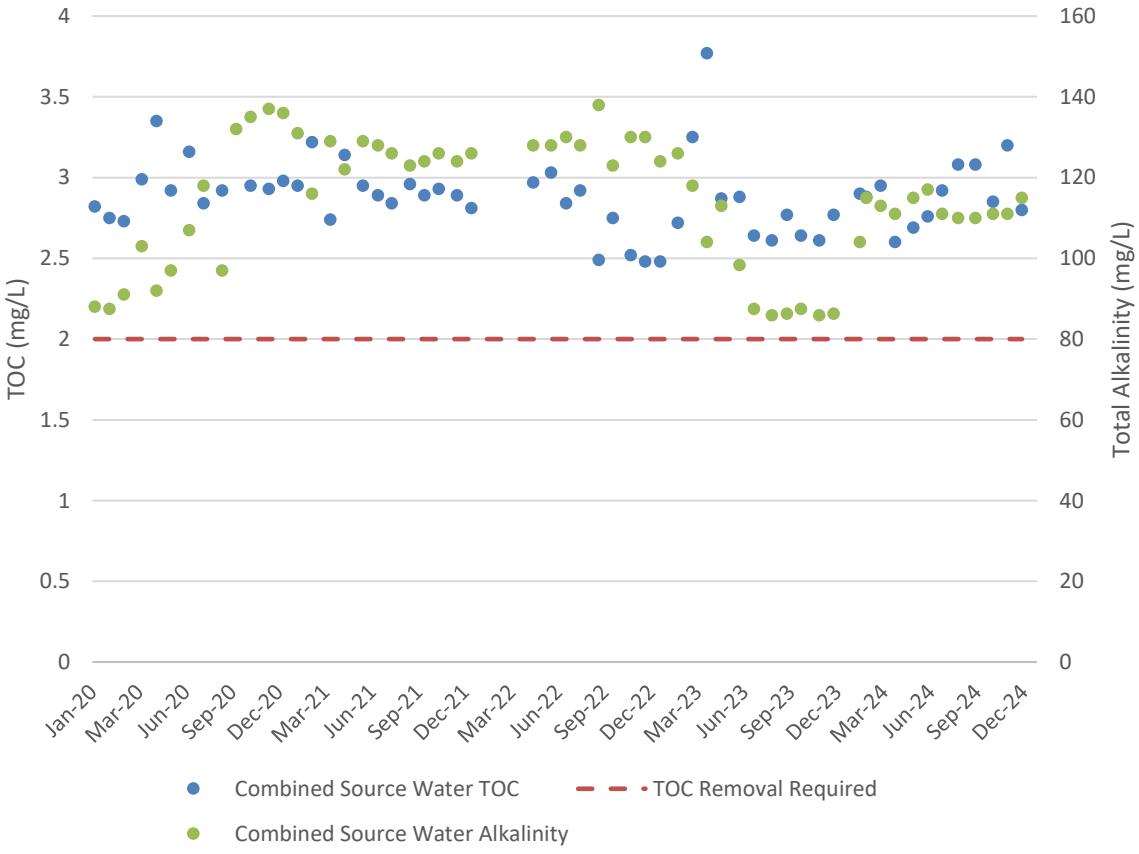


Table 13 Quarterly TOC and SUVA Measurements in WTP Influent and Treated Effluent

Year	Quarter	TOC RAA (mg/L)		Alkalinity (mg/L)	Percent TOC Reduction		SUVA (mg/L-m)
		Source Water (Influent)	Filtered Treated Water (Effluent)	Source Water (Influent)	Required	Achieved	Settled Water (Effluent)
2020	Q1	2.77	2.30	88.8	15%	**17%**	1.55
	Q2	3.09	2.66	97.3	15%	14%	1.34
	Q3	2.97	2.66	107	15%	11%	1.16
	Q4	2.94	2.74	135	25%	7%	1.09
2021	Q1	3.05	2.80	128	25%	8%	1.17
	Q2	2.94	2.79	127	25%	5%	1.18
	Q3	2.90	2.70	126	25%	7%	1.16
	Q4	2.90	2.71	125	25%	7%	1.05
2022	Q1	2.81	2.67	126	25%	5%	1.05
	Q2	3.00	2.75	128	25%	8%	1.06
	Q3	2.75	2.60	132	25%	5%	1.14
	Q4	2.58	2.38	128	25%	8%	1.28
2023	Q1	2.82	2.47	123	25%	12%	1.22
	Q2	3.17	2.73	105	15%	14%	1.36
	Q3	2.67	2.14	86.6	15%	**20%**	1.27
	Q4	2.67	2.14	86.6	15%	**20%**	1.73
2024	Q1	2.91	2.36	111	15%	**19%**	1.83
	Q2	2.68	2.42	114	15%	10%	1.83
	Q3	3.03	2.73	110	15%	10%	1.90
	Q4	2.95	2.70	112	15%	8%	1.91

Notes:

RAA calculated quarterly for compliance

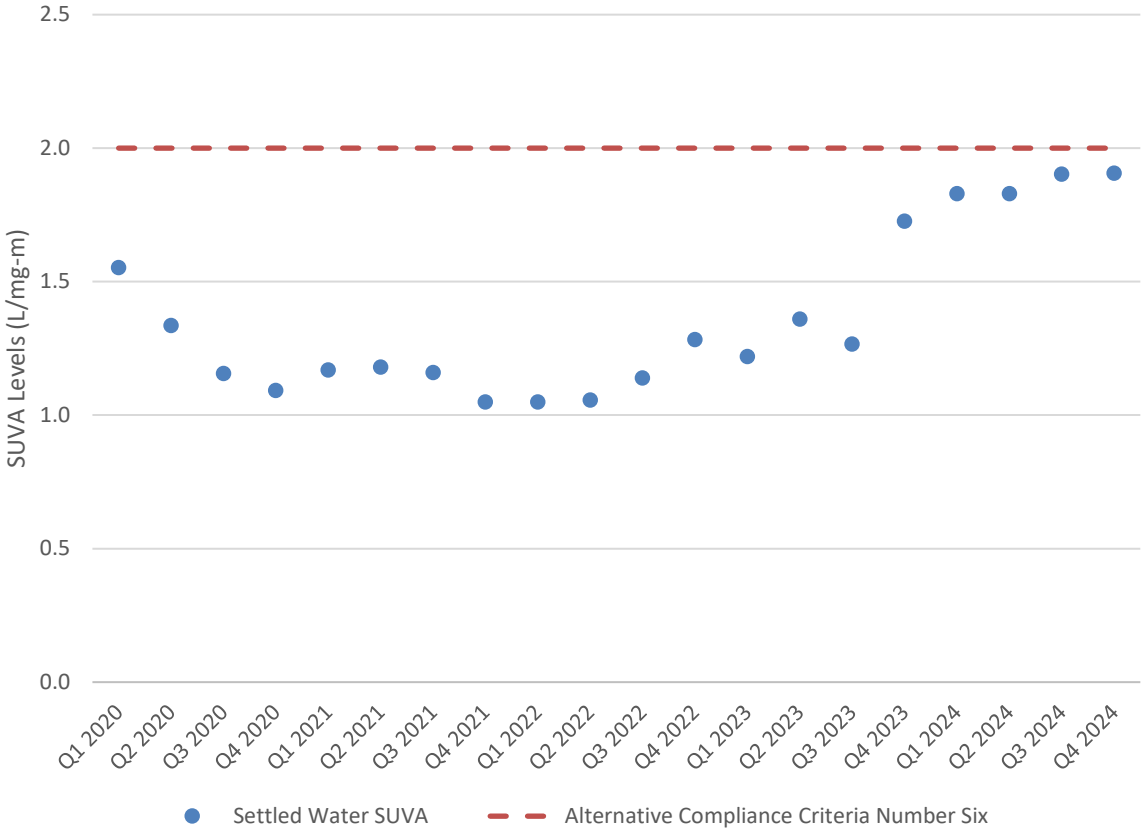
If TOC > 2 mg/L, TOC removal ratio was calculated based on alkalinity

Bolded values indicate TOC removal rates that met the requirements based on alkalinity concentrations.

Out of the 20 quarters during the Reporting Period, TOC removal was met in only four quarters (Q1 2020, Q3 and Q4 2023, and Q1 2024). Therefore, in lieu of not meeting the percent TOC reduction requirements set by the D/DPB Rule, the City opted to comply with alternative compliance criterion number six (i.e., finished water SUVA level). This compliance alternative requires analyzing treated effluent water for dissolved organic carbon with a spectrophotometer using ultraviolet light at 254 nanometers (UV254) to calculate the SUVA level in the treated water.

Alternative compliance criterion number six requires the quarterly RAA of SUVA levels in treated effluent to be less than 2 mg/L. This criterion was met in all quarters for which SUVA level data was available during the Reporting Period (Figure 15).

Figure 15 Running Annual Average SUVA Levels at WTP During the Reporting Period



Summary of Results

The City monitored TOC concentrations in both raw and treated water on a monthly basis during the Reporting Period in order to determine compliance with the TOC treatment technique of the Stage 1 D/DBP Rule. The WTP intake had an average TOC concentration of 2.88 mg/L and a treated water average TOC concentration of 2.57 mg/L over the Reporting Period.

The City has opted to comply with the Stage 1 D/DBP Rule treatment technique through alternative compliance criterion number six. This criterion requires that SUVA concentrations not exceed 2 L/mg-m. This criterion was met in all quarters during the Reporting Period.

Disinfection By-Products Stage 2 D/DBP Rule

As the WTP primarily treated imported water during the Reporting Period, changes in source water TOC concentrations are due to changes in the blend of State Project Water and Colorado River water. The TOC concentrations in the WTP source water ranged from 2.48 to 3.77 mg/L with average concentrations of 2.88 mg/L.

The City converted to eight Stage 2 D/DBP Rule monitoring sites in November 2012. Of the eight monitoring sites, three were existing Stage 1 sites[17] and five sites were newly established as part of Stage 2 D/DBP compliance.

[17] Sagewood Lane, Poway Road, and Iavelli Way

Primary and Secondary Constituents

The City sampled eight sites in the distribution system for TTHM and HAAs on a quarterly basis for Stage 2 D/DBP Rule Monitoring (Figure 16).

TTHM LRAA ranged from 17.2 µg/L to 65.1 µg/L (see Appendix E for compiled TTHM and HAA data). All LRAAs were well below the primary MCL of 80 µg/L (Figure 16). HAA LRAAs ranged from 2.6 µg/L to 35.3 µg/L (Appendix F). All LRAAs were well below the primary MCL of 60 µg/L (Figure 18).

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Figure 16 Stage 2 D/DBP Monitoring Sites

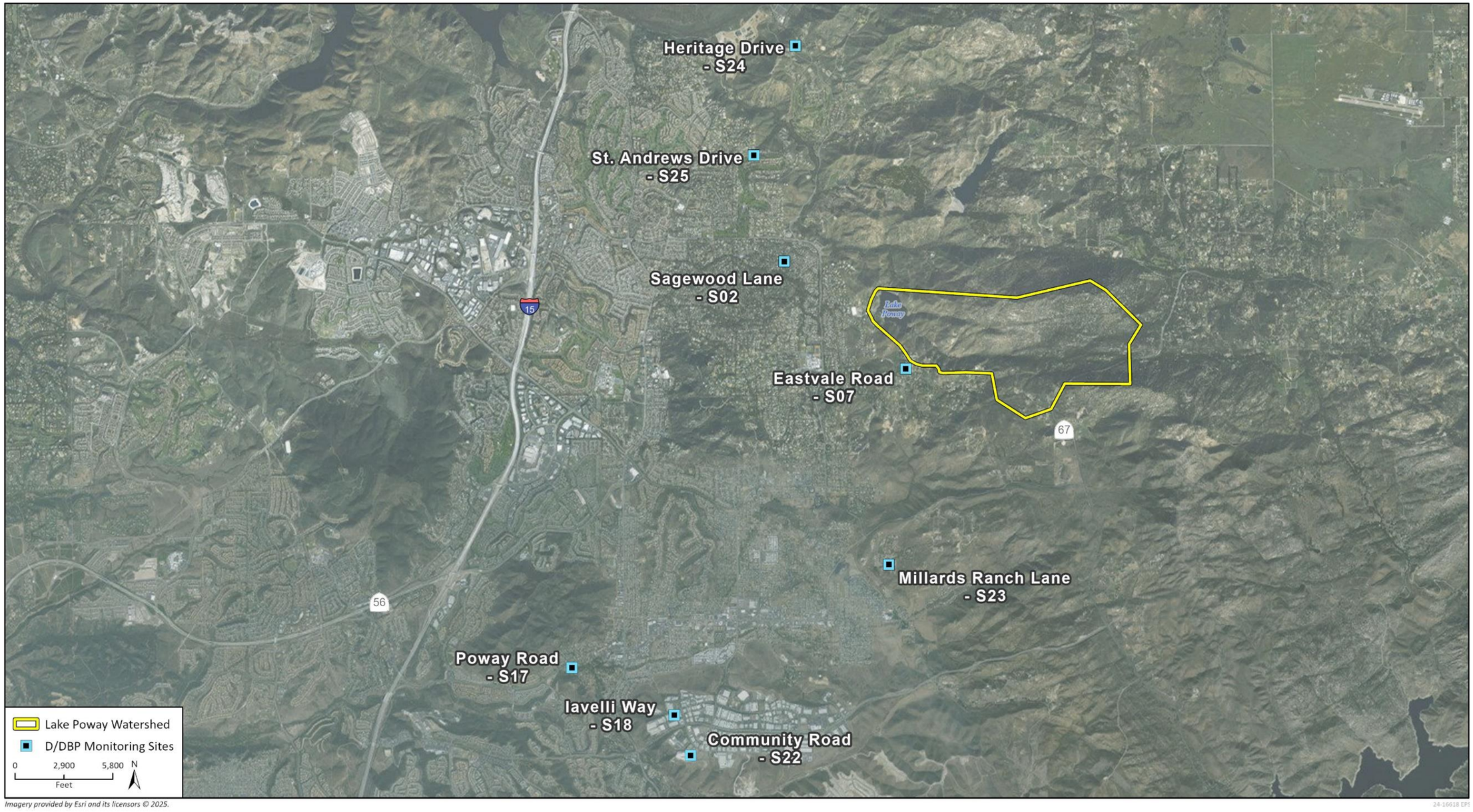

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Figure 17 Quarterly TTHM Concentrations at Monitoring Sites During the Reporting Period

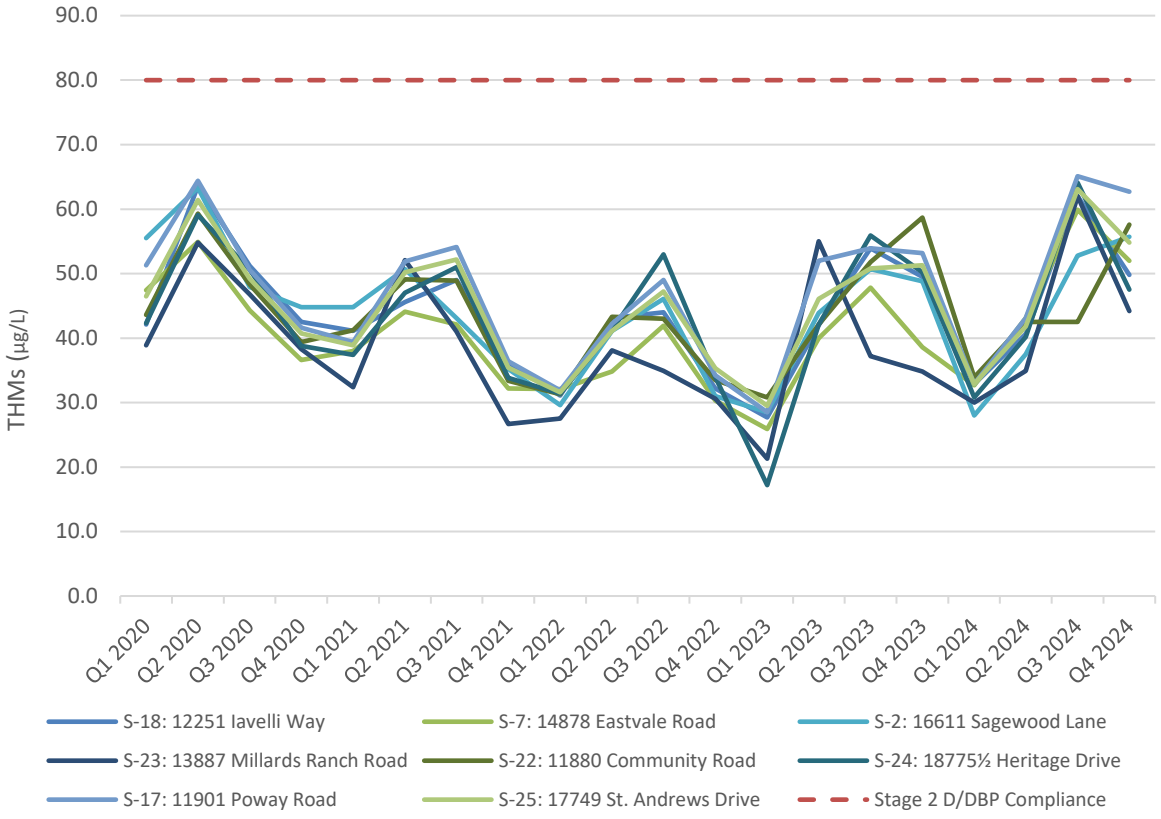
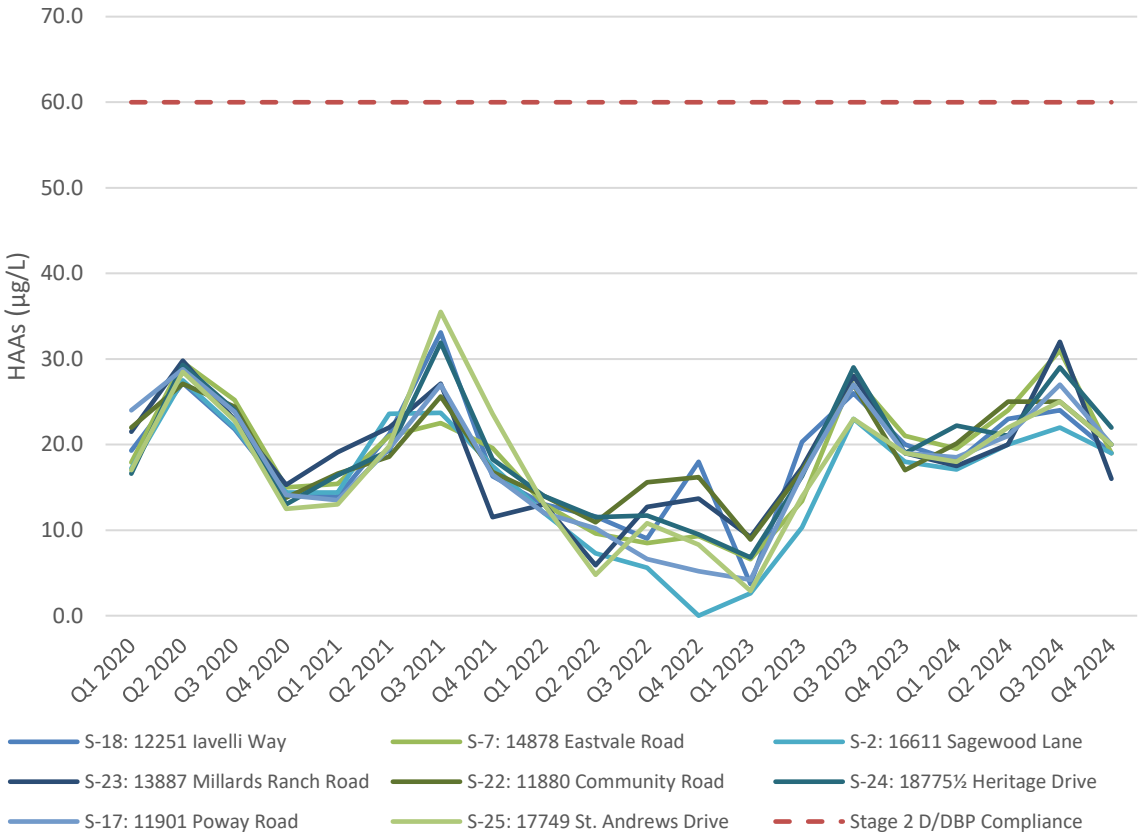


Figure 18 Quarterly HAA Concentrations at Monitoring Sites During the Reporting Period



UCMR5

The 1996 Safe Drinking Water Act amendments require that once every five years the USEPA issue a new list of no more than 30 unregulated contaminants to be monitored by public water systems. UCMR 5 was published in the Federal Register on December 17, 2021. UCMR 5 requires monitoring for chemical contaminants between 2023 and 2025 using analytical methods developed by the USEPA and consensus organizations.

UCMR 5 sampling occurred during the fourth quarter of 2024 (see Appendix F for complete UCMR 5 sampling data). Samples were collected from treated water at the entry point of the distribution system. Of the chemicals, HAAs, indicators, and cyanotoxins sampled at the T-10 Effluent, only lithium was detected above analytical reporting limits. Concentrations of chemicals included in the UCMR 5 quarterly sampling at the T-10 Effluent are included in Table 14.

Table 14 Results from Quarterly UCMR 5 Monitoring for City of Poway

Constituent	MRL (µg/L)	November 2024 Result (µg/L)
Lithium	9	44.6
Perfluorooctanesulfonic acid (PFOS)	0.004	<MRL
perfluorooctanoic acid (PFOA)	0.004	<MRL
hexafluoropropylene oxide dimer acid (HFPO-DA) (GenX chemicals)	0.005	<MRL
perfluorohexanesulfonic acid (PFHxS)	0.003	<MRL
perfluorononanoic acid (PFNA)	0.004	<MRL
perfluorobutanesulfonic acid (PFBS)	0.003	<MRL
perfluorobutanoic acid (PFBA)	0.005	<MRL
perfluorohexanoic acid (PFHxA)	0.003	<MRL
perfluorodecanoic acid (PFDA)	0.003	<MRL
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	0.005	<MRL
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	0.005	<MRL
1H, 1H, 2H, 2H-perfluorohexane sulfonic acid (4:2 FTS)	0.003	<MRL
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	0.005	<MRL
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	0.003	<MRL
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9ClPF3ONS)	0.002	<MRL
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	0.02	<MRL
perfluoro (2-ethoxyethane) sulfonic acid (PFEESA)	0.003	<MRL
perfluoro-3-methoxypropanoic acid (PFMPA)	0.004	<MRL
perfluoro-4-methoxybutanoic acid (PFMBA)	0.003	<MRL
perfluorododecanoic acid (PFDoA)	0.003	<MRL
perfluoroheptanesulfonic acid (PFHpS)	0.003	<MRL
perfluoroheptanoic acid (PFHpA)	0.003	<MRL
perfluoropentanesulfonic acid (PFPeS)	0.004	<MRL
perfluoropentanoic acid (PFPeA)	0.003	<MRL
perfluoroundecanoic acid (PFUnA)	0.002	<MRL
n-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	0.005	<MRL
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	0.006	<MRL
perfluorotetradecanoic acid (PFTA)	0.008	<MRL
perfluorotridecanoic acid (PFTrDA)	0.007	<MRL

Notes:
Samples were taken from T-10 Effluent, the entry point of distribution system
<MRL – Below minimal risk level
MRL: Minimal Risk Level

5.3 Regulatory Compliance Evaluation

The City has been monitoring the raw and treated water at the WTP for the required Title 22 compliance constituents. Table 15 lists the existing drinking water regulations and a compliance evaluation for these standards at the WTP.

Table 15 Regulatory Compliance Evaluation of the WTP

Regulation	Targeted Compound	Key Issues and Compliance Status
Phase I, II, and V	Inorganic Compounds (IOCs), VOCs, SOCs	Review of Consumer Confidence Reports shows no primary MCLs were exceeded.
SWTR	Microbial and Turbidity	Data supports 3/4-log reduction requirement for *Giardia*/viruses. All operations, monitoring and reporting requirements are met, and all treated water turbidity standards are met.
IESWTR	Microbial and Turbidity	All turbidity standards met for both CFE and IFE. 2-log reduction credit for *Cryptosporidium* applicable.
LT2ESWTR	Microbial	*Cryptosporidium* monitoring completed in 2009 resulted in a Bin 1 classification. Second round of sampling took place from October 2015 through September 2017.
Stage 1 D/DBP Rule	Disinfection and Disinfection By-Products	TOC > 2.0 mg/L in the WTP raw and treated water. Compliance with treatment technique alternative compliance criterion number six was met throughout study period.
Stage 2 D/DBP Rule	Disinfectants and Disinfection By-Products	Current TTHMs/HAAs LRAAs for Stage 2 were below drinking water standards (<80/60 µg/L, respectively).

6 Conclusions and Recommendations

6.1 Significant Changes Since 2020 Watershed Sanitary Survey

Overall, there has been little change in the Watershed since 2020. Lake Poway and the imported water generally exhibit excellent water quality. The influent is treated to meet primary drinking water standards using conventional filtration processes.

6.2 Recommendations for the 2025 Update

The following recommendations have been developed for the 2025 WSS Update, listed by subject area (Table 16). These recommendations should be implemented by the City as resources are available.

Table 16 Recommendations Provided in the 2025 WSS Update

Subject Area	Recommendations
Source Water	▪ Continue collection of lake surface samples, even when lake water is not being used as influent at the WTP. ▪ The analytical laboratory should notify the City immediately if any individual finished water SUVA sample exceeds 2 mg/L-m. ▪ Verify the influent turbidity sample reflects the water quality at the WTP. ▪ Continue to monitor Lake Poway for algal bloom activity and track monthly phosphorus levels.
Watershed contaminant sources	▪ The population of dreissenid mussels should continue to be monitored. ▪ Annual cleanings of the intake screen could be changed to coincide with the period in June when the water treatment plant uses water from Lake Poway, or when dreissenid mussel levels are notably increased month over month. ▪ When intake and outlet screens are replaced, use a chemical coating to inhibit dreissenid growth.
UCMR5	▪ Continue quarterly sampling events for chemicals under UCMR5 ▪ If UCMR5 chemicals, and specifically PFAS compounds, are detected at concentrations in exceedance of the minimal risk level (MRL), the City may consider additional treatment to reduce concentrations to an acceptable level. ▪ The City may consider additional treatment for removal of lithium, including ion exchange, reverse osmosis, activated carbon filtration, electrodialysis, additional coagulation and filtration, adsorption using hydrous titanium oxide or other adsorbent media, or electrocoagulation.
Treated Water/ Regulatory Compliance	▪ Continue to optimize treatment during periods of potentially reduced source water quality – i.e. adjust coagulant dose, optimize polymers, reduce flow if possible to increase hydraulic detention times and reduce filtration loading rates, and ensure adequate disinfection CT.

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Appendix A

City Regulations Related to Lake Poway

Chapter 9.48
COMMUNITY SERVICES FACILITY – RULES AND REGULATIONS

Sections:

Article I. City Community Services Facilities

Article II. Preservation of City Community Services Facility Features and Public Health and Safety

Article I. City Community Services Facilities

9.48.010 Definitions.

For the purposes of this chapter, the following definitions shall apply:

A. “Camp” means to reside in or use a park for living accommodation purposes, as exemplified by remaining for prolonged or repetitious periods of time not associated with ordinary recreational use of a park with one’s personal possessions (including but not limited to clothing, sleeping bags, bedrolls,

blankets, sheets, luggage, backpacks, kitchen utensils, cookware and similar material), sleeping or making preparations to sleep, storing personal belongings as above defined, regularly cooking or consuming meals, or living in a parked vehicle. These activities constitute camping when it reasonably appears, in light of all the circumstances, that the participants, in conducting these activities, are in fact using the area as a living accommodation regardless of the intent of the participants or the nature of any other activities in which they may also be engaged.

B. “Community Services facility” includes parks, recreation facilities, and cultural facilities owned by, leased by or under the control of the City and used as defined herein.

C. “Community Services site employee” means any person employed by the City whose position is assigned to the Community Services Department with duties conducted in or around any indoor or outdoor City park, recreation facility, or cultural facility or area.

D. “Cultural facility” shall include City buildings and outdoor areas that are primarily used for the purpose of arts, education and nature exploration, including all land, water, road improvements, parking, and facilities therein.

E. “Director” means the Director of Community Services or a designated representative.

F. “Other wheeled recreational device” means nonmotorized bicycles, scooters, in-line skates, roller skates, or wheelchairs.

G. “Parks” are designated as City parks, recreation areas, and reserves by the City Council including all land, water, road improvements, parking, and facilities therein.

H. “Recreation facility” is any building that is primarily used for the purpose of recreation and leisure activities including all land, water, road improvements, parking, and facilities therein.

I. “Scooter” means any wheeled device, motorized or not, that has handlebars and is designed to be stood or sat upon by the operator.

J. “Skateboard” means a board of any material that lacks a handle mechanism, has wheels attached and such wheels may be used for moving or propulsion.

K. “Skate park” means any facility that is designed and maintained for the purpose of recreational skating. The skate park shall include the fence and the entire area within the fencing surrounding the skate facility, if the immediate skate facility is fenced. (Ord. 782 § 2, 2015)

9.48.020 Director to operate Community Services facilities.

A. The operation of all City Community Services facilities shall be under the control of the Director subject to the supervision of the City Council.

B. Each Community Services site employee is responsible for enforcing the provisions of this chapter and the rules and regulations of the Director, and shall take appropriate action in the case of any violations thereof.

C. Any peace officer shall have the power to make arrests for violations of the provisions of this chapter and to issue citations for such violations as provided in Chapter 1.12 PMC. (Ord. 630 § 2, 2005)

9.48.030 Rules and regulations.

The Director shall promulgate rules and regulations for the operation of City Community Services facilities, and fees and charges for the use of City Community Services facilities, which shall be effective from the time they are approved by the City Council. Such rules and regulations, or excerpts thereof, shall be posted in City Community Services facilities if such posting is feasible in the opinion of the Director; irrespective of posting, copies of such rules and regulations shall be available to persons desiring copies thereof at the office of the Director during business hours. No person shall violate and no person shall fail to comply with such rules and regulations. (Ord. 630 § 2, 2005)

Article II. Preservation of City Community Services Facility Features and Public Health and Safety

9.48.040 Hours of operation for City parks.

Except as otherwise posted, City parks shall be open to the public between sunrise and sunset. Except by special permit, no person shall be present in any City park at any time that the park is not open to the public. (Ord. 630 § 2, 2005)

9.48.050 Camping.

No person shall camp, lodge or sleep overnight, or between sunset and sunrise, except in areas specifically designated for such purpose and as may be permitted by the Director. (Ord. 630 § 2, 2005)

9.48.060 Plants.

No person shall pick, dig up, mutilate, destroy, injure, disturb, move, molest, burn or carry away any plant or vegetation, or portion thereof, including aquatic plants. (Ord. 630 § 2, 2005)

9.48.070 Mistreating animals.

No person shall trap, kill, wound or maltreat any wild or domesticated bird or animal, and no person shall permit any pet to pursue, trap, kill or wound any wild or domesticated bird or animal. (Ord. 630 §

2, 2005)

9.48.080 Geological features.

No person shall destroy, disturb, deface or remove earth, sand, gravel, oil, minerals, rocks or fossils, features of caves, or any parts thereof. (Ord. 630 § 2, 2005)

9.48.090 Special permits.

The Director may grant a permit to remove, destroy or otherwise disturb plants or animals or geological, historical or archaeological materials upon finding that such will be in the best interests of the City. (Ord. 630 § 2, 2005)

9.48.100 Defacement prohibited.

No person shall in any way deface, mutilate or remove any sign, tree, fence, wall, building, railing, playground equipment, camp or picnic structure, monument or any other object or structure within a City Community Services facility. Removing a “reserved” sign or willfully occupying and holding a camp site, area, building or facility which has been reserved and for which a valid permit has been issued, is prohibited. Users or permittees will be personally responsible for any damage to a building or facility and shall be responsible for reimbursing the City for any loss or damage to City property caused by such use. (Ord. 630 § 2, 2005)

9.48.110 Rubbish.

No person shall leave, dispose of or throw away any garbage, refuse, cans, trash, ashes, bottles, broken glass, or like substances, or any animal carcass, in any place except containers provided for that purpose; nor shall any person bring any such substance, except litter accumulated in the course of automobile travel, into a City Community Services facility for the purpose of disposal thereof in City Community Services facilities. (Ord. 630 § 2, 2005)

9.48.120 Weapons and firearms.

No person shall use, transport, carry, fire, or discharge any firearms, air gun, archery device, slingshot, or explosive of any kind across, in or into a City Community Services facility; provided, however, this prohibition shall not apply to activities permitted by the Director of Community Services nor the possession or use of any archery device in or upon a City archery range. (Ord. 630 § 2, 2005)

9.48.130 Fire hazard.

No person shall ignite, or permit to be ignited, a fire in any location in a City Community Services facility except in a campfire or cooking area provided by the City. No person shall throw away any lighted tobacco product, or any burning or combustible material or other matter that could set fire to

grass, shrubs, buildings or any other combustible substance. Burning tobacco materials may only be disposed of in proper ashtray or receptacle provided for such purpose.

An exception may be approved by the Director for standard cake candles less than four inches that are intended to be easily blown out, and standard “Sterno” cans used only for heating chafing dishes. (Ord. 769 § 2, 2014)

9.48.140 Barbecues.

No person using a barbecue shall permit such barbecue to remain in an untidy or unsanitary condition, nor shall any such person fail to clear away therefrom all cooking and eating utensils and waste matter after use thereof. Any person who uses a barbecue shall, when such use is completed, deposit the coals in the hot ash coal container. (Ord. 630 § 2, 2005)

9.48.150 Toilet facilities.

No male person shall resort to nor loiter about any toilet facilities set apart for women and no female person shall resort to nor loiter about any toilet facilities set apart for men; provided, this shall not apply to children accompanied by their father, mother or guardian. (Ord. 630 § 2, 2005)

9.48.160 Water pollution.

No person shall place any garbage or other waste, or any soiled eating or cooking utensils or anything similar, in any stream, lake, pond, pool or at any hydrant for the purpose of cleaning the same, nor shall any person use any stream, lake, pond, pool or hydrant for washing or bathing, or for disposal of refuse, or for any activity which would tend to cause the pollution thereof. (Ord. 630 § 2, 2005)

9.48.170 Horses and other animals.

A. No horse or other animal shall be hitched to any tree or shrub or structure in a manner that may cause damage to Community Services facility property. No person shall ride, drive, lead or keep a saddled horse or other animal in any City Community Services facility, except on such roads, trails or other areas as the Director may designate and subject to such regulations as the Director may promulgate.

B. No person shall hitch any horse within a Community Services facility except for the duration of the visit to such Community Services facility or pursuant to special permit issued by the Director of Community Services. No person shall leave or hitch any horse on any driveway or at any other place except at such place or places as are designated as places for hitching horses. (Ord. 630 § 2, 2005)

9.48.180 Animals – Presence.

A. Subject to the conditions set out in this section, animals are permitted in City parks and outdoor areas during the hours that such areas are open to the public.

B. Notwithstanding the provisions of subsection A of this section, no person shall bring a dog into, permit a dog to enter into or remain in, or possess a dog in any City Community Services facility without first having obtained a valid license for such dog. Evidence of such valid license shall be presented by the person responsible for such dog when required by a Community Services site staff employee.

C. Except in an area specifically set aside and designated by the Director of Community Services as a “dog park,” all animals in City Community Services facilities shall be physically restrained at all times, either by being attached to a substantial leash no more than six feet in length, or by being confined in a tent, trailer, or other appropriate structure.

D. No dogs, horses, or other animals are allowed within 100 feet of Lake Poway.

E. Controlled and supervised animal shows may be allowed with prior written approval of the Director of Community Services and are subject to all conditions and fees stated in the City’s Facility Rules and Regulation Policy.

F. Except as provided in subsections C and E of this section, no person shall bring an animal into or permit an animal to enter and/or remain within, or possess an animal within, any structure in a City Community Services facility other than the Lake Poway Animal Facility.

This subsection shall not apply to an assistance dog accompanying or assisting an unsighted or disabled person there present, or therapy pets when present in facilities occupied by the Poway Senior Center during such times as permitted by an existing facilities use agreement. For purposes of this section, “assistance dog” is one that has been specially trained as a guide dog, signal dog or service dog, and “therapy pet” is one that is trained along with its handler(s) to achieve specific physical, social, cognitive, and emotional goals with patients and individuals.

G. No person shall keep or permit within a City Community Services facility a noisy, vicious or dangerous animal, or an animal which disturbs other persons within the boundaries of a City Community Services facility after having been directed by a Community Services site employee to remove such animal.

H. Any person bringing an animal into a City Community Services facility is solely responsible for the actions of such animal. Any injury inflicted by such animal upon any person or any damage caused by such animal to any real or personal property shall be reported to a Community Services site employee.

I. The Director may further regulate animals in, or may exclude animals from, any City Community Services facility or section of a City Community Services facility where the Director finds that the presence of animals substantially conflicts with the general use and enjoyment of such Community Services facilities. (Ord. 703 § 2, 2010)

9.48.190 Closing hours.

No person shall remain upon the grounds of a City Community Services facility or occupy the grounds of such Community Services facilities, or any part thereof, or use any of the facilities or equipment therein, or permit any vehicle to remain therein after closing time, as posted, unless authorized by the Director. The Director may designate and enforce an earlier closing time, which shall be posted, for such grounds or facilities and for the use of such equipment. (Ord. 630 § 2, 2005)

9.48.200 Washing or repairing cars.

No person shall engage in the washing, cleaning, polishing, repairing, renovating or painting of any vehicle within a City Community Services facility, except that emergency repairs immediately necessary to render such vehicle safe may be made. (Ord. 630 § 2, 2005)

9.48.210 Speed limits.

No person shall drive a vehicle within a City Community Services facility other than in a reasonable and prudent manner and with due regard for traffic and road conditions. In no event shall a vehicle be driven at a speed, which endangers the safety of persons, property or wildlife. No vehicle shall be driven at a speed greater than 10 miles per hour in camp, parking lots, picnic, utility or headquarters area and areas of general public assemblage, and no vehicle shall be driven at a speed greater than 20 miles per hour in other areas. (Ord. 630 § 2, 2005)

9.48.220 Parking.

No person shall park any vehicle at any City Community Services facility except for the duration of the visit to such facility or pursuant to special permit issued by the Director of Community Services. No person shall leave or park any motor vehicle on any driveway or at any other place except at such place or places as are designated as places for vehicle parking. (Ord. 630 § 2, 2005)

9.48.230 Children.

No person shall permit any child under the age of seven years to play in any playground area, or fish, swim or play in or near any lake or pool, unless such child is attended by an adult. (Ord. 630 § 2, 2005)

9.48.240 Soliciting, selling and advertising.

A. Except and only as expressly permitted in Chapter 5.22 PMC, no person shall sell or offer for sale any goods, wares, articles or merchandise; or practice, carry on, conduct or solicit for any trade, occupation, business or profession within a City Community Services facility without the authorization of the Director. Nothing in this provision shall prohibit sales of articles or solicitations by nonprofit organizations that are otherwise allowed by law.

B. No person shall distribute, circulate, give away, or throw or deposit any commercial handbill, circular, pamphlet, tract or advertisement in any Community Services facility within the City. It is not unlawful for any person to hand out or distribute, without charge to the receiver thereof, any noncommercial handbill to any person willing to accept it. No person shall post or affix to any pole, tree, car, fence or structure situated therein any kind of handbill, circular, pamphlet, tract or advertisement. Nothing herein shall prohibit the posting of an advertisement on any community bulletin board maintained by the City for that purpose. Nothing herein shall prohibit the placement and maintenance of signs and/or banners by the City in connection with community activities or by facility use permittees in connection with permitted activities. (Ord. 826 § 2, 2019; Ord. 630 § 2, 2005)

9.48.250 Entertainment.

No person shall set up or maintain any exhibition, entertainment device, animal ride, show, performance, lecture, oration or concert without written permission to do so from the Director. (Ord. 630 § 2, 2005)

9.48.260 Peace and quiet.

No person shall disturb the peace and quiet of a City Community Services facility by any loud or unusual noise, or by the sounding of automobile horns or noise-making devices, or by the use of profane, obscene or abusive language or gesture. (Ord. 630 § 2, 2005)

9.48.270 Alcoholic beverages.

A. No person shall transport into a City Community Services facility, or consume upon the premises of a City Community Services facility, any intoxicating liquors having an alcoholic content in excess of 20 percent by volume.

B. No person shall consume any alcoholic beverage at any time at the archery range, in facility parking lots, or a playground area of a City park.

C. Except as expressly provided below, no person shall consume any alcoholic beverage in any other indoor or outdoor area of a City Community Services facility between 9:00 p.m. and 10:00 a.m.:

1. On Lake Poway or within the high water line or concession balcony of Lake Poway during the established operating hours; or

2. At the Poway Center for the Performing Arts; or

3. Pursuant to permit issued by the City for a special public event.

D. No person shall consume any alcoholic beverage at any City Community Services facility during times that it has been rented, with or without remuneration to the City, to house a youth event. Youth events include rite of passage celebrations such as bar mitzvahs, bat mitzvahs, quinceaneras, “sweet 16” and other birthday parties, in addition to youth sports team games and parties, and all events involving social groups whose participants and/or members are primarily under the age of 21 years. (Ord. 769 § 3, 2014)

9.48.280 Pedestrian walkways.

No person shall ride, operate or use any vehicle, skateboard, bicycle, scooter, roller skates or roller blades in any area of a City Community Services facility designated and posted as a pedestrian walkway. This prohibition shall not apply to Community Services site employees or City authorized personnel in the course of their duties. (Ord. 630 § 2, 2005)

9.48.290 Glass prohibited.

No person shall possess any glass container in any indoor or outdoor area of a City Community Services facility except pursuant to a permit issued by the City. (Ord. 630 § 2, 2005)

9.48.300 Lawful directives of staff.

No person shall fail to obey any lawful directive of a Community Services site employee. (Ord. 630 § 2, 2005)

9.48.310 Directive prohibiting presence in park.

A. Any person who violates any provision of this chapter which protects the health or safety of any other person, and, after being directed by Community Services site personnel to cease and desist from such conduct, refuses or fails to do so, shall remove himself from the Community Services facility if so directed by a Community Services site employee. No person who is ordered excluded from a Community Services facility shall remain upon or return to the Community Services facility property during the period covered by the order.

B. The directive excluding a person from a Community Services facility for a period no longer than 72 hours may be in verbal form and reported to the Director. Directives exceeding 72 hours shall be in writing, signed by the Director of Community Services or designee, and shall not exceed 180 days. Directives may be appealed to the City Manager or designee. Appeal may only be commenced by a written request for a hearing filed in the office of the City Manager during the period that the person is excluded from the Community Services facility. The appeal shall be conducted promptly. Formal rules

of evidence shall not apply. The hearing officer shall issue the decision in writing. The decision of the hearing officer shall be final. (Ord. 769 § 4, 2014)

9.48.320 Skate parks.

It is unlawful and punishable as set forth in PMC 1.08.010 for any person:

A. To ride a skateboard or other wheeled recreational device within the fenced area surrounding the skate facility in a skate park owned or operated by the City, whether supervised or not, unless that person is wearing a helmet, elbow pads and kneepads which are in serviceable condition and properly fastened in accordance with the manufacturer's recommendations for such equipment;

B. To operate motorized equipment in the facility;

C. To perform stunt, trick or luge maneuvers in or around the skate park, or in the skate park parking lot;

D. To consume any food, beverage, alcoholic beverage or drugs in or upon the skate park;

E. To use tobacco products within the skate park;

F. To possess glass within the skate park;

G. To use the skate park under wet conditions;

H. To possess or use unauthorized ramps, jumps or obstacles in the skate park;

I. To fail to wear the protective equipment required by this section and to remain at the skate park after having been directed to leave by City of Poway staff or any peace officer for that reason;

J. To enter or to return to the skate park for the purpose of using the skate park unless said person is wearing the protective equipment required by this section;

K. To use the skate park when under the age of 12 unless accompanied by a parent or guardian;

L. For a parent, guardian or other adult person having custody of a minor under the age of 18 years to allow such minor to use the skate park unless said minor is wearing the protective equipment required by this section.

City of Poway staff, Sheriff's Department personnel and similarly authorized individuals are exempted from the provisions of this section when their presence is in conjunction with the performance of their

duties.

The City shall erect and maintain regulatory signs at all skate parks owned and/or operated by the City. Such signs shall give notice that any person riding a skateboard or other wheeled recreational device in the facility must wear a helmet, elbow pads, and kneepads, and that any person failing to do so will be subject to citation under this section. In addition, said sign will give notice that a violator's skateboard or other wheeled recreational device may be impounded subject to an impound fee in an amount that shall be established by City Council resolution from time to time.

Any peace officer, public safety volunteer, or park ranger shall have the authority to seize and confiscate any property, thing or device which is located in the skate park and which is used in violation of this section. The property may be impounded and seized as evidence of the violation. If property is impounded, an impound fee in an amount that shall be established by City Council resolution from time to time will be charged. (Ord. 782 § 3, 2015)

9.48.330 Unauthorized vehicles.

Operation of an unauthorized automobile, truck, trailer, or vehicle of any description other than upon designated open and paved roads or in other than designated parking areas is prohibited. (Ord. 630 § 2, 2005)
