SALT RIVER PIMA-MARICOPA INDIAN COMMUNITY

Environmental Protection & Natural Resources Division
Community Development Department

2024-2025 Annual Water Quality Assessment Report

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December 2025

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Chapter 1

SRPMIC Background

The Salt River Pima-Maricopa Indian Community (SRPMIC or Community) is a federally recognized tribe located in Maricopa County in central Arizona and was decreed by Executive Order on June 14, 1879 by President Rutherford B. Hayes.

The Salt River Pima-Maricopa Indian Community is comprised of approximately 52,675 acres covering nearly 80 square miles and is home to over 10,000 O'odham and Piipaash (Pima and Maricopa Indians). The Community is located east of the cities of Phoenix and Scottsdale, north of the cities of Tempe and Mesa, and south of the city of Fountain Hills and the Fort McDowell Yavapai Nation.

The Tribal government consists of nine elected members (President, Vice President and a seven-member Community Council) who preside over SRPMIC governmental affairs. The Community government administers public policy and social services much like a state or municipal government. The top-down administrative structure consists of a Community Manager and Assistant Community Managers who oversee various departments. The Environmental Protection & Natural Resources Division (EPNR) is organized within the Community Development Department (CDD) and is comprised of the following programs: Air Quality, Water Quality, Pesticides & Hazardous Substances, Compliance & Wildlife Management, Archaeology/NEPA, Waste Management, Range Management, and Brownfields. Via these programs, CDD-EPNR has successfully managed several Environmental Protection Agency (EPA) grants. In addition, SRPMIC's Code of Ordinances outlines the laws of the Community and include several environmental codes.

The Community is divided into two districts – the Salt River District and the Lehi District. These Districts are separated from each other by the Salt River. The Community's population density is just over 100 people per square mile. By comparison, the adjoining cities average approximately 1,000 people per square mile.

Land uses are illustrated in Figure 1. Land use practices include agriculture, commercial and industrial development, and open space/preserves. Residential areas primarily occur on land depicted as agricultural use in Figure 2. Approximately 23% of the Community lands (12,000 acres) cultivate cotton and a variety of organic vegetables. Prime commercial lands extend for nine miles along the Pima Freeway (Loop 101), which span

the Community's western boundary. Approximately 19,000 acres of the Community's northeastern region is designated as open space/preserve for future generations. Commercial developments, farm leases, two tribally owned and managed casinos, and several Tribal enterprises generate revenue for the SRPMIC. Each of the four major types of land use brings with it a unique set of nonpoint source issues and possible pollutants. Figure 1 lists the land use types and associated issues.

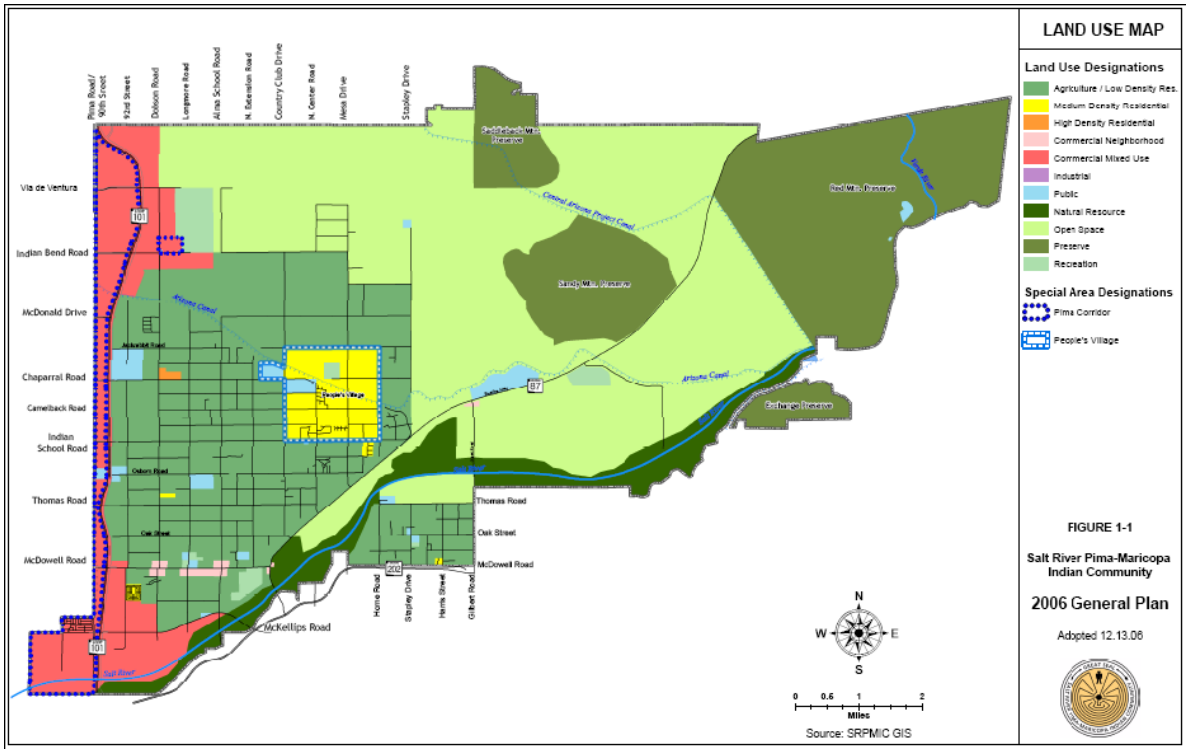

Figure 1. Approved land use map for SRPMIC

Chapter 2

Surface Water Introduction

The Salt River Pima-Maricopa Indian Community is an important environmental steward for the waters of Arizona, as it has the confluence of two major rivers within its boundaries.

The Community's surface waters are comprised of the portions of flowing, but regulated Verde and Salt Rivers upstream of Granite Reef Dam and the dry and altered Salt River downstream of Granite Reef Dam. There are numerous human-made surface water bodies throughout the Community, including irrigation delivery and return flow canals, golf-course water features, irrigation reservoirs, and livestock reservoirs. In the past CDD-EPNR's Water Quality Program (WQP) had not regularly monitored these water bodies, however in fiscal year 2012, a monitoring schedule for various irrigation ditches was developed to protect irrigation outfall areas. The WQP monitors these areas based upon funding and the fiscal year's monitoring priorities.

The Community's official surface water quality monitoring program began in 2000 with the monitoring of the Verde and Salt Rivers. The Salt River Project (SRP) and the U.S. Geographical Survey (USGS) also collect monitoring data from these rivers. There is a USGS gauging station on the Verde River on Community lands that is utilized by WQP staff to ensure flows are at a safe level prior to sampling and to examine historic flow trends.

Both the Verde and Salt Rivers flow perennially. The Verde River originates from aquifer springs, mountain precipitation, and snow melt north of the SRPMIC. Upstream of the Community, it is a high-quality surface water with low range total dissolved solids (TDS ~300 mg/L) during normal weather events and low suspended solids (SS<20 mg/L). Low level conditions and increased sunlight can lead to increased levels of bacteria during the warmer summer months.

The Salt River originates from springs, mountain precipitation, and snow melt northeast of the SRPMIC and travels through soils high in salt concentration, which, not only contributed to the name "Salt River", but also results in much higher TDS ranges (600–1,400 mg/L TDS as compared to the Verde). The Salt River is also generally lower in suspended solids (SS<10 mg/L) and nutrients. The Salt River has a high summer recreation population (persons floating and swimming in river) that contributes to seasonally-elevated bacterial contamination.

The continued monitoring of these surface waters has helped to establish baseline seasonal trends, indicate possible bacterial contamination from human recreation and cattle grazing, and warn of possible water quality changes. Long-term data sets of these surface waters provide critical information not only for the SRPMIC, but for the condition of water resources in Arizona.

The only human-made surface water bodies included in the current monitoring program are the Cottonwood and Lehi Wetlands. The wetlands receive water from irrigation, agricultural runoff and stormwater. The wetlands were created in order to improve the quality of water, especially in relation to sediment load before entering the Salt River. These nonpoint source treatment wetlands were constructed in 2003 and 2008, respectively. A draft General Wetland Quality Assurance Project Plan (QAPP) was submitted to EPA in 2016; a revision is planned for 2026.

Figure 2. Before and after aerial photographs of the Cottonwood Wetland.

Figure 3. Before and after aerial photographs of the Lehi Wetland.

Chapter 3

Monitoring Strategy

The Salt River Pima-Maricopa Indian Community has a monitoring strategy that is consistent with the EPA-approved QAPP prepared for the SRPMIC for surface water and groundwater monitoring. The Water Quality Program bases all of its surface water monitoring activities on this QAPP. For more detailed information, please refer to the SRPMIC QAPP.

Monitoring Objectives

The objective of implementing the annual monitoring strategy is to identify water quality status and trends over the years, track and report on water quality status, and identify whether action needs to be taken by comparing monitoring results to the Community's baseline water quality conditions. Identification of impaired waters, causes and sources of water quality problems, and evaluating the effectiveness of our program are key goals of the monitoring strategy.

Monitoring Design

The intent of the surface water monitoring design for performing water quality assessments is to collect data that are representative of an entire stream reach (macrolocation) over the course of four seasons and to locate sampling sites (microlocation) on a stream reach with regard to tributary inflows, man-made discharges, and stream morphology. Meeting this intent requires thoughtful selection of monitoring sites while taking into account potential pollution sources, flow conditions, site accessibility, and safety. More information on the Community's rationale for selecting surface water sampling site locations may be found in the Standard Operating Procedures (SOP). The extent of surface water quality monitoring activities undertaken by the CDD-EPNR WQP)depends upon personnel, resources, site availability, and budgetary considerations. When these criteria are met, the surface water quality monitoring is implemented as detailed.

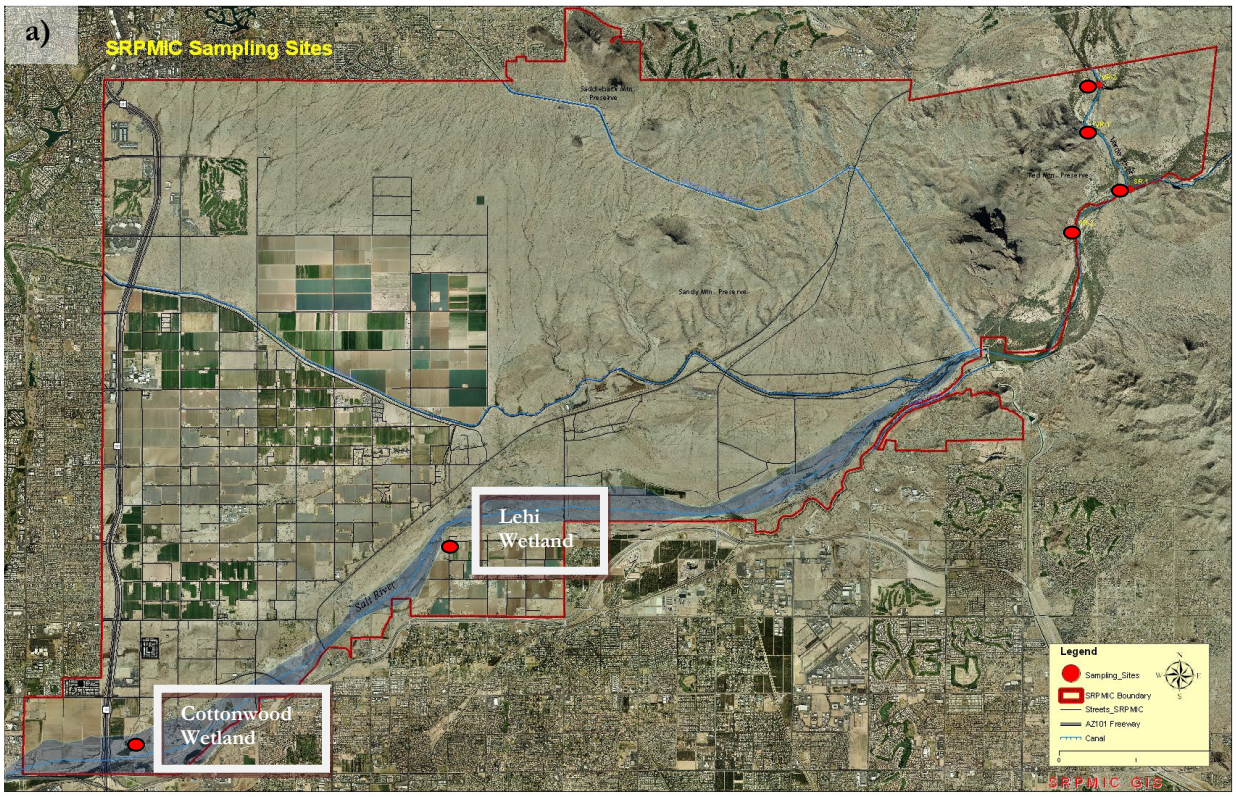

Figure 4. Map of SRPMIC showing river sampling sites and locations of Community wetlands.

Verde and Salt Rivers

There are four established sampling locations for surface water monitoring. These include:

1. Verde River, just downstream of SRPMIC boundary with Ft. McDowell (VR-2).
2. Verde River, approximately ½ mile downstream of VR-2 located at the site of the USGS gauging station (VR-1).
3. Salt River, just upstream of its confluence with the Verde River near the Phon D. Sutton Recreational Center (SR-1).
4. Salt River, just downstream of its confluence with the Verde River (SR-2).

Sampling sites VR-1, VR-2, and SR-1 measure ambient conditions associated with the Verde and Salt Rivers, respectively, whereas site SR-2 measures water quality downstream of the confluence of these two rivers. Given that much recreation in the rivers occurs upstream of these sites and that recreation on the Community itself is scattered both upstream and downstream of SR-2, sampling surface water at these sites may also provide information on the impacts of these activities on the quality of the Community's surface water resources.

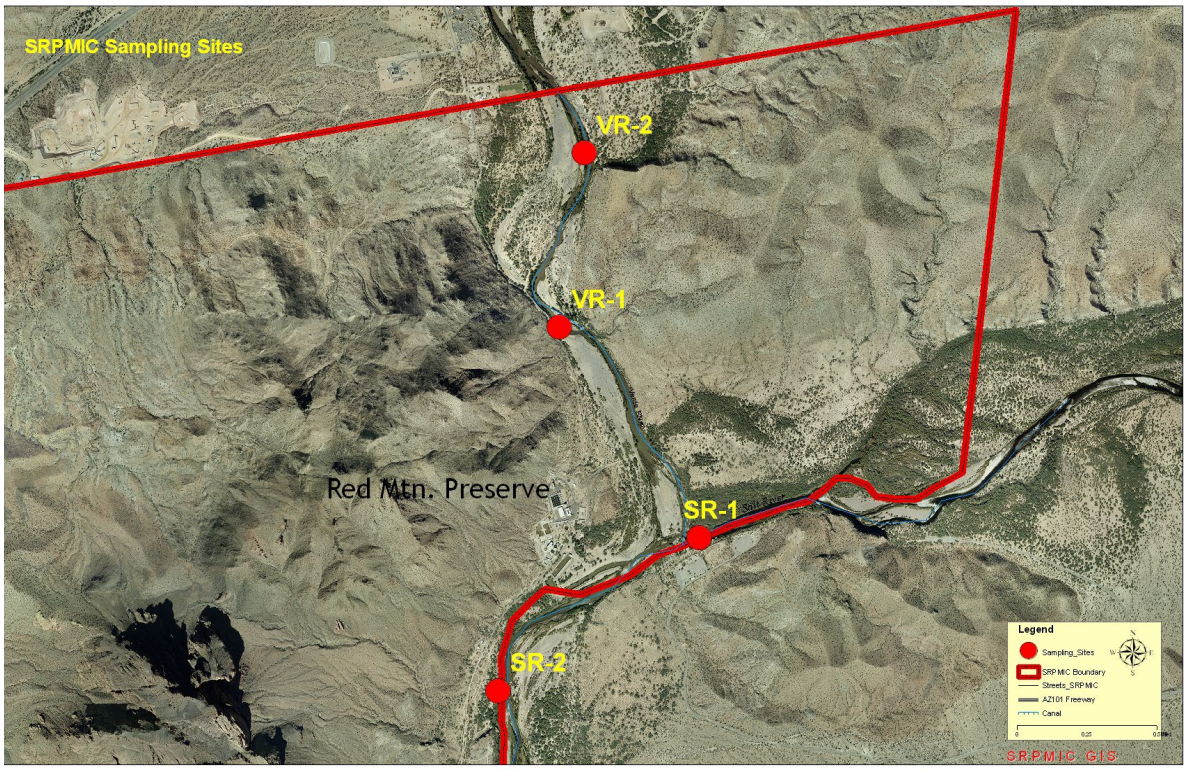

Figure 5. Close up of surface water sampling sites along the SRPMIC northeastern border.

Macroinvertebrate data is also collected along both the Salt and Verde Rivers at various sites. These sites correspond to specific site requirements outlined in the SRPMIC Surface Water and Groundwater Monitoring QAPP.

SRPMIC Wetlands

When appropriate and water is present, field measurements are typically taken on a quarterly basis and samples are collected for laboratory analysis four (4) times per year at the Cottonwood and Lehi Wetlands. Two (2) sediment gauges are also located within the wetlands to help measure sediment trapping. Each wetland is visited at least monthly, and photographs of conditions are taken. Photos of sediment gauges are captured on a quarterly basis. The Cottonwood and Lehi Wetlands currently each contain two (2) sampling locations: the upstream portion of the channel and the exit point of water from the project area. The data collected at both wetland areas depicts the quality of water entering and exiting the wetlands in order to determine how efficient the wetlands are at eliminating pollutants.

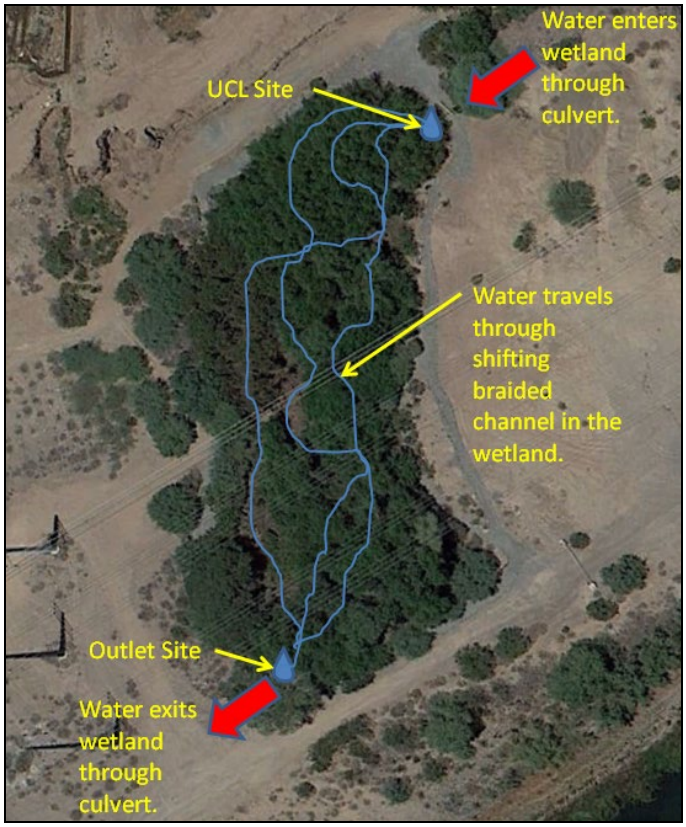

Figure 6. Locations of the Cottonwood Wetland sampling sites (UCL and OUTLET)

Figure 7. Locations showing the Lehi Wetland original sampling sites. Site 2 has become overgrown with willows and are no longer accessible. Samples are collected at sites 1 and 3 only.

Table 1. Wetland Sampling Tasks and Frequency

Task	Frequency	Data Collection per year
Water Depth and Velocity	quarterly	4
Water Field Parameters (pH, temp., DO, cond., turbidity)	quarterly	4
Sedimentation Photographs (visual and narrative records)	quarterly	4
Sample Collection (TKN, NO_x, NH_4, TSS, fecal, TOC, Grease & Oils)	quarterly	4
Sample Collection (Metals)	biannually	2

The Oasis Wetland is the third constructed wetland habitat in the Community (Figure 8). This Wetland is fed by runoff from a small facility managed by the SRPMIC Public Works Department. This Wetland also receives occasional stormwater. Native vegetation including mesquite, willows and cottonwoods were planted in several locations throughout this Wetland. Seeds from several culturally significant plants like devil's claw, arrowweed, and gourds were dispersed also. This constructed wetland area is not regularly monitored.

Figure 8. The Oasis Wetland before construction in 2011(left) and in 2016 (right) two years after construction.

Core and Supplemental Water Quality Indicators

Salt and Verde Rivers

Basic water quality parameters are measured *in situ* (pH, water temperature, turbidity, dissolved oxygen, flow, and conductivity) seven (7) times per year (March/April, May, June, July, August, September, and November). Water samples are collected in March/April and November, and sent to a laboratory for the measurement of more than fifty (50) parameters including mercury, bacteria (*E. coli*), and arsenic (Table 2). Water quality parameters or analytes that consistently are not detected will either be removed from the list or their monitoring frequency will be reduced for financial considerations. During FY15 and FY16 several parameters that had not been detected during sampling events over the past four (4) years were removed from the list of sampling parameters for the Bi-annual Sampling Events.

Monthly from May through September, water quality samples are collected to monitor bacteria and nutrient levels based upon an increase in recreation and water temperature. Additionally, biomonitoring is conducted in April and November if flow conditions meet the sampling requirements.

Table 2. Parameters measured in surface water sampling. Parameters added if desired and funds available.

Parameters			
Ammonia	Sulfide	Nickel	Cadmium*
Arsenic	Manganese	Nitrate-N	Iron*
Barium	Cyanide	Nitrite-N	Mercury (inorganic)*
Copper	Fluoride	Sulfate	Mercury*
Boron	Iron	Hardness, CaCO3	Nickel*
Cadmium	Sulfide	Sodium	Copper*
Calcium	Aluminum	Zinc	Arsenic*
Chloride	Total Phosphorous	Total Dissolved Solids (TDS)	Zinc*
Total Nitrogen	Aluminum	Dissolved Oxygen	Chromium*
Copper	Chlorine (Total Residue)	pH	Silver*
Chromium III	Chromium VI	Silver	Chromium VI*
E. coli	TKN	Electrical Conductivity	Chromium III*
Methyl Mercury	E. coli	Selenium	
Magnesium	Chromium		
Mercury (inorganic)	Lead		

Note: "*" signifies dissolved.

Cottonwood and Lehi Wetlands

When appropriate and water is present, basic water quality parameters are typically measured quarterly *in situ* (pH, water temperature, turbidity, dissolved oxygen, flow, and conductivity) and four (4) times per year water samples are collected and sent to a laboratory for the measurement of an extensive suite of parameters including mercury, bacteria (*E. coli*), chromium, and total suspended

solids. Sediment in the water is observed through the measurement of turbidity and total suspended solids. In addition to these parameters, two (2) staff gauges are located within the Wetlands in order to measure aggradation or the accretion of ground level from sediment deposition.

Table 3. Wetland Sampling and Analysis Schedule

Samples Collected for Laboratory Analysis	***December***	***March***	***June***	***September***
Total Kjeldahl Nitrogen (TKN)	X	X	X	X
Ammonia (NH_4)	X	X	X	X
Nitrite/nitrate (NO_x)	X	X	X	X
Total Suspended Solids (TSS)	X	X	X	X
Fecal Coliform (CFU)	X	X	X	X
Total Organic Carbon (TOC)	X	X	X	X
Grease and Oils (GAO)	X	X	X	X
Metals (10 metals)		X		X

Quality Assurance

Federal requirements state that water quality testing for assessment or compliance and enforcement include the collection of Quality Assurance/Quality Control (QA/QC) samples. QA/QC samples are used to check the quality of data. Data can be skewed or inaccurate due to equipment contamination, poor sample collection techniques or sample handling procedures. The WQP collects several types of QA/QC samples to ensure good data quality. Samples are collected according to the methods outlined in the QAPP. Field QC requirements include the collection of equipment blanks, travel blanks, duplicates, and splits. The two most common types of QA/QC samples collected by the WQP are duplicates and splits. The duplicate samples collected are processed by Eurofins (formerly TestAmerica) Laboratories along with the other samples. This laboratory is designated as the primary laboratory. Legend Technical Services has been designated as the laboratory to receive split samples.

Data Management

All field and laboratory surface water data gathered is stored in a database created by the SRPMIC Information Technology Department, which utilizes EPA's approved STORET-compatible format. This database stores all current data related to the Salt and Verde River sampling, as well as monitoring and sampling events conducted at the Cottonwood and Lehi Wetlands. Historical surface water data continues to be transferred from the old surface water database, which houses data from the start of the sampling program, to the new database when time allows.

Data Analysis/Assessment

Data will be used to assess SRPMIC surface water and groundwater resources for: 1) Compliance with water quality standards, and 2) identification, location, and remediation of environmental stressors.

Compliance with water quality standards

Compliance will be determined by screening data for the exceedance of surface water and aquifer water quality standards. The SRPMIC's Treatment in the Same Manner as a State (TAS) document for the CWA 303 and 401 certification programs was approved by USEPA Region IX in April 2023. Staff continues to revise the draft water quality standards and SRPMIC plans to have the water quality standards adopted by the Tribe and resent to the USEPA Region IX office for review and approval.

Identification, location, and remediation of environmental stressors

This is accomplished by plotting water quality exceedance data and potential pollution sources on maps and determining if a hydrologic connection exists. Exceedance information may be supplemented by collecting additional water quality data, if necessary, to further pinpoint the source of the environmental stressors. Non-compliance with water quality standards due to the actions of an individual or activity occurring on Community land will be dealt with by SRPMIC environmental compliance officers. Non-compliance with water quality standards due to the actions of an individual or activity occurring off Community land will be dealt with through the Community's OGC.

Reporting

USEPA requires tribes to develop the capability to assess and report on all assessments related to the surface and groundwater quality of the tribal water resources. A node-to-node data exchange is utilized to submit surface water data to the USEPA with the assistance of the SRPMIC Information Technology Department (IT). IT continues to work with the USEPA when node exchange issues arise and they must make upgrades to the internal database.

The Water Quality Assessment Report provides a management tool that can be used to look at trends in data that may show areas of concern. SRPMIC is required to submit an assessment of its water resources annually to the USEPA. Information for this report is based on any data obtained from surface water monitoring from October 1, 2024 to September 30, 2025. One (1) electronic copy of the document will be added to the SRPMIC website, and multiple hardcopies of the report may be housed in public Community locations for viewing.

For surface water, in order to perform a monitored assessment, which is the preferred type of assessment for the Water Quality Assessment Report, at least four quarterly samples with complete data sets must be collected at each sampling site within two (2) years. All data must be less than five (5) years old. An evaluated assessment, which is inferior to a monitored assessment, will be

performed when there are not enough data for a monitored assessment, when data sets are incomplete, or when data are more than five (5) years old. Cooperation with other data collection agencies may provide a more comprehensive data set for performing assessments.

Programmatic Evaluation

WQP staff are in the process of revising the draft SRPMIC Water Quality Standards. Post revision, staff will follow requirements to have standards go through public review and comment, Community Council adoption, and approval by the USEPA.

For surface water, reported values will be used to determine compliance with surface water quality standards. When a water quality standards exceedance has been detected, the sampling site may be re-sampled immediately depending upon the potential threat posed by the contamination. If any of the water quality standards exceedances pose immediate health threats to recreationists, the public will be notified. If the *E.coli* water quality standards are exceeded, immediate bacteriological sampling will be conducted until analysis yields a normalcy in data. If the water quality standards exceedance is chronic, action will be taken to locate the source of the exceedance and, if possible, eliminate the source. Analytes that have not been detected for four (4) consecutive seasonal samplings may be deleted from the list of analytes to be tested in future samplings.

Chapter 4

Water Quality Assessment Report

Reliable data is essential for assessment and reporting. The WQP takes measures to ensure the integrity of data collected. The SRPMIC Water Quality Program complies with both federal and tribal reporting requirements. Table 4 illustrates relevant quantitative information on SRPMIC's surface water resources.

Table 4. Information on SRPMIC's surface waters

Total number of stream miles	20.4
Total number of lake acres	0
Total number of wetland acres	4.0
Total number of estuary square miles	0

During FY25 all water quality sampling events along the Salt and Verde Rivers occurred as scheduled, pursuant to the QAPP. The Biannual Surface Water Sampling events were completed in December and April. In addition to the parameters listed in Table 2, several herbicides were added to the list of analytes for the FY25 Biannual Surface Water Sampling events. This data was submitted through the SRPMIC node to WQX.

The five (5) Summer Bacteria Sampling events were completed once per month during the months of May through September. Surface waters were monitored for a suite of parameters chosen from the Tribal and Federal water quality standards that would give the program adequate information to determine whether the waters are meeting their designated uses, while still remaining within the grant budget. This data was submitted through the SRPMIC node to WQX.

In FY21 the WQP began re-evaluating sampling locations and/or timelines for macroinvertebrate sampling because monitoring timelines stated in the QAPP are not allowing for ideal sampling conditions. Staff continues discussions for implementing a strategy that will allow macroinvertebrate sampling to be safely and consistently completed by staff, so that this new strategy can be incorporated into the QAPP. In FY23 staff investigated potential sampling locations over different seasons that might meet sampling requirements. These investigations continued in FY25.

Water quality samples were collected at the Cottonwood and Lehi Wetland quarterly during FY25 and data was sent through the SRPMIC node to WQX. *In-situ* water quality measurements and

photographs of the sediment gauges occurred when accessible, and photograph documentation was collected.

Chapter 5

Groundwater Introduction

The Water Quality Program establishes and enforces guidelines for wellhead protection, point source control, nonpoint source control, and sole source aquifer designation. Diligence in these matters is important as good groundwater quality is critical to the health and welfare of Community residents as it is the SRPMIC's potable water source.

The entire SRPMIC sits on tops of two (2) groundwater subbasins, which are components of the major Salt River Valley Groundwater Basin within the Phoenix Active Management Area (AMA) designed by the Arizona Department of Water Resources (ADWR). The northeastern part of SRPMIC, which covers about 10% of the entire area lies on the Fountain Hills Subbasin (FHSB), whereas the remaining 90% of SRPMIC land is associated with the East Salt River Valley Subbasin (ESRVSB). According to ADWR, while major natural sources of groundwater recharge of FHSB includes streambed recharge from the Verde River and the Salt River and their tributaries, those associated with ESRVSB appear to be from mountain front recharge (Superstition Mountains and McDowell Mountains) and river underflows (Gila River and Queen Creek).

There are about 80 active and inactive wells within the boundary of SRPMIC and most of them are located south of the Arizona Canal. Most of the active wells are for irrigation and domestic consumption including drinking, and a few of them are dedicated for various monitoring purposes.

In 1996, SRPMIC applied for and received a grant from the USEPA to assess the quality of its water resources (surface water and groundwater) and complete a Water Quality Assessment Report. In 1997, SRPMIC began developing a Water Quality Management Plan (WQM Plan) in accordance with the requirements set forth by USEPA's Clean Water Act (CWA). In March, 1998, the WQM Plan (1998) which contained an initial assessment of the quality SRPMIC's water resources was completed. The groundwater quality data in the WQM Plan of 1998 was predominately associated with drinking water wells, monitoring wells, and irrigation wells within SRPMIC.

After the completion of the WQM Plan (1998), SRPMIC applied for and received a 106 grant from USEPA to develop the Quality Assurance Project Plan (QAPP, 2000) for the implementation of a water quality monitoring program. After the QAPP was completed and approved in 2000, SRPMIC subsequently implemented the Surface Water Quality Monitoring Program with the Section 106 grant received from USEPA. Due to the lack of sampling equipment and training, staff did not resume the

Groundwater Quality Monitoring Program initially implemented in FY 2000 until FY 2008. Groundwater monitoring is conducted on a yearly basis.

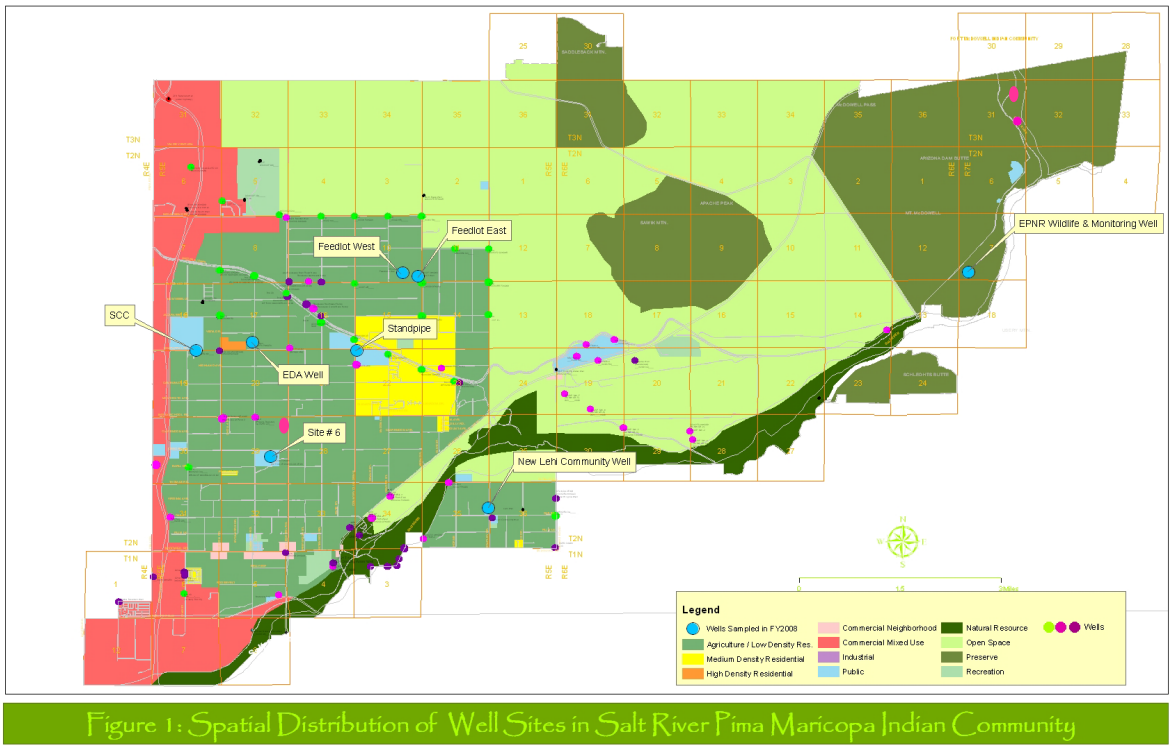

Figure 1: Spatial Distribution of Well Sites in Salt River Pima Maricopa Indian Community

Figure 9. SRPMIC wells.

Chapter 6

Monitoring Strategy

The Salt River Pima-Maricopa Indian Community (SRPMIC or Community) has a monitoring strategy that is consistent with the EPA-approved Quality Assurance Project Plan (QAPP) prepared for the SRPMIC for groundwater monitoring.

Monitoring Objectives

The 1998 WQM Plan identified several program elements that should be part of a monitoring program. In general, these elements can be summarized as primary and secondary objectives for SRPMIC.

Primary/major groundwater quality monitoring objectives are:
- To assess ambient conditions;
- To support the designated beneficial uses established for groundwater on Community lands; and
- To locate and identify stressors posing a threat to the Community environment and health.

Secondary groundwater quality monitoring objectives are:
- To enforce the Community's Aquifer Water Quality Standards using intensive survey; as a tool;
- To respond to complaints and special requests using intensive surveys;
- To support various USEPA grant programs;
- To address Community's concerns regarding groundwater quality; and
- To prepare federally mandated groundwater quality planning and management reports.

In addition to staff in EPNR's WQP the SRPMIC Public Works Department (PWD), also undertakes groundwater monitoring activities to meet their respective departmental objectives. Coordination with PWD routinely occurs to prevent the duplication of the groundwater monitoring related activities within the Community.

Given that all aquifers underneath the Community have been classified for drinking water protected uses, SRPMIC has therefore adopted aquifer water quality standards, which are in association with USEPA Safe Drinking Water Act (SDWA) Primary and Secondary MCLs since 1999. These standards were being updated until 2012 to reflect the most current federal standards. These standards have not been approved by the USEPA.

Monitoring Design

The intent of the groundwater monitoring design is to collect groundwater quality data that are representative of an entire aquifer unit (macrolocation) over a specific time interval (monthly, quarterly, bi-annual, or annual) and to locate sampling sites (microlocation) within an aquifer with regard to its characteristics such as the nature of its associated vadose zone, water table depth below the respective land surface, well physical characteristics including well depth and perforation/screen intervals, and proximity of potential pollution sources as related to specific land uses. Meeting this intent entails thoughtful selection of wells while taking into account nearby pollution sources, aquifer characteristics, well characteristics, and accessibility. The collection of groundwater samples over a specific interval, should it be possible, could minimize the effects of a random water quality standards exceedance while maximizing the non-random detection of an aquifer water quality standard exceedance.

Existing groundwater quality data or the lack of it may be the rationale to select additional wells for sampling. Duplication of efforts with respect to groundwater quality data collection is avoided by coordinating with other SRPMIC departments and enterprises which also have similar responsibilities. Such entities include, but are not limited to PWD and Salt River Landfill (SRL).

Wells are monitored at one of three (3) different frequencies. Those frequencies are every one (1) to three (3) years, every three (3) to five (5) years, or every five (5) to ten (10) years. Wells sampled every one (1) to three (3) years and every three (3) to five (5) years are used to assess impacts of potential pollution sources, whereas wells monitored less frequently are to be sampled either to supplement data collected from other wells or to assess ambient groundwater conditions.

Core and Supplemental Water Quality Indicators (WQI)

Water quality parameters or indicators which are to be tested from index wells, depend upon their intended uses, geology, historical and current land use patterns above the respective aquifers, and the associated historical monitoring data. For example, groundwater samples collected from index wells should be tested for pesticide residues and other inorganic parameters or indicators such as nitrate, phosphorous, and other plant micronutrients if the land surface above the associated aquifer is currently or historically being used for crop productions or concentrated animal feeding operations (CAFO) such as feedlots or dairies, or is near one of these areas. Groundwater samples collected from an aquifer above which the respective vadose zone currently or historically acts as a leach field of septic systems, must be tested for nitrogenous compounds and other septic system related parameters or indicators such as chloride, sulfate, and total dissolved solids (TDS).

As indicated by the SRPMIC's proposed Aquifer Water Quality Standards, "all aquifers underlying the Salt River-Pima Maricopa Indian Community shall be classified for the drinking water protected use". Therefore, the water quality parameters or indicators regulated under the federal National Primary Drinking Water Regulations (NPDWRs) of the Safe Drinking Water Act (SDWA) form the core of parameters or indicators that are to be tested in groundwater samples collected from index wells that are being used predominately as public water systems (PWS). However, not all these parameters or indicators will be tested in every groundwater sample collected from these PWS.

Parameters or indictors which consistently exceed the associated USEPA SDWA Maximum Contaminant Levels (MCLs) are closely monitored. For example, due to the very unique geology associated with the southwestern part of the United States, an elevated level of arsenic is frequently found as a naturally-occurring constituent in aquifers underneath SRPMIC. Specifically, SRPMIC has been closely monitoring the spatial distribution of nitrate-N and arsenic in its aquifers through the various groundwater monitoring activities undertaken by its agencies to enhance the ongoing remediation process established to comply with the USEPA SDWA MCL for nitrate-N (10 mg/L) and arsenic (0.01 mg/L).

In addition to the inorganic parameters or indicators commonly used to reflect the general ambient condition of an aquifer, groundwater samples collected from these index wells are routinely tested for pesticides, radiochemistry, volatile organic chemicals (VOCs), and semi-volatile organic chemicals (SVOCs).

Quality Assurance

In order to ensure the validity of monitoring activities, the field and laboratory data collected must be reviewed by staff in accordance with the processes and requirements prescribed in the SRPMIC SRPMIC QAPP. The collection of groundwater samples was conducted in accordance with the Groundwater SOP submitted to USEPA Region IX staff in FY20. A revised QAPP addressing USEPA Region IX comments was sent to the USEPA along with the FY22 4th quarter reports.

Data Management

Groundwater quality data collected for the Groundwater Monitoring Program are stored in filed electronic copies and Excel-based database called the Groundwater Quality Database (GWQDB). Collected data is input into a STORET-compatible form and uploaded to CDX. Prior to loading the data into the GWQDB, instructions for data entry and checking as described in the SRPMIC QAPP are followed. Other than the groundwater quality data, pertinent information such as groundwater depth, well depth, observation, analytical methodologies used, and respective federal and SRPMIC groundwater quality standards is also entered loaded into the GWQDB.

Data Analysis and Assessment

Groundwater data was used to assess SRPMIC groundwater resources for:

- Compliance with federal groundwater quality standards; and
- Identification, location, and remediation of environmental stressors.

Compliance with Groundwater Standards

Compliance was determined by screening data for the exceedance of either the USEPA SDWA Primary and Secondary MCLs in accordance with the procedures and requirements prescribed in the SRPMIC QAPP (2013) previously approved by USEPA.

Identification, location, and remediation of environmental stressors

This will be accomplished by plotting water quality exceedance data and potential pollution sources on maps and determining if a hydrologic connection exists. Exceedance information may be supplemented by collecting additional water quality data, if necessary, to further pinpoint the source of the environmental stressors. Non-compliance with water quality standards due to the actions of an individual or activity occurring on Community land will be managed by SRPMIC environmental compliance staff. Non-compliance with water quality standards due to the actions of an individual or activity occurring off Community land will be dealt with through the Community's OGC.

Reporting

EPA encourages tribes to develop the capability to assess and report on all assessments related to the surface and groundwater quality of the tribal water resources. The Water Quality Assessment Report provides a management tool that can be used to look at trends in data that may show areas of concern. SRPMIC is required to submit an assessment of its water resources annually. Information for this report is based on any data obtained from groundwater monitoring from October 1, 2024 to September 30, 2025. One (1) electronic copy of the document will be added to the SRPMIC website, and hardcopies of the report may be housed in public Community locations for viewing.

Programmatic Evaluation

Pursuant to the Draft SRPMIC Aquifer Water Quality Standard Ordinance, SRPMIC is required to review and revise aquifer water quality standards to respond to regulatory, environmental, or land use changes. This is to take place once every three (3) years.

For groundwater, reported values will be used to determine compliance with the proposed set of aquifer water quality standards that reflect the most current USEPA's recommendation. When a water quality standards exceedance has been detected, the well may be re-sampled immediately depending upon the potential threat posed by the contamination. If any of the water quality standards exceedances pose an immediate threat to SRPMIC's drinking water resources, such information will immediately be conveyed to relevant Community departments that are responsible for the maintenance of the public water systems (PWS) and public health issues for immediate remedy. If the water quality standards exceedance is detected repeatedly, action will be taken to locate the source of the exceedance and, if possible, eliminate the source. Analytes that have not been detected during baseline or ambient sampling may be deleted from the list of analytes to be tested in future samplings.

During FY25 one (1) well was sampled. The well was sampled for metals, bacteria, pesticides, and several ions.

Chapter 7

Conclusions

Bi-Annual Surface Water Sampling Assessments—FY 2025
The surface water quality along the Salt and Verde Rivers was found to be in good quality as no parameters exceeded the draft SRPMIC Surface Water Quality Standards. Analyses showed that there were traces of multiple parameters at all four (4) sites including, but not limited to copper, manganese, arsenic, and methyl mercury found during the Bi-annual events conducted in December 2024 and April 2025. None of these parameters were marked as "of concern" due to their detected level in comparison to the draft surface water quality standards.

Summer Bacteria Sampling Assessments—FY 2025
E. coli concentrations over the summer months, May through August, at all four (4) sampling sites along the Verde and Salt Rivers continue to trend low. Concentrations have been trending low over the past seven (7) consecutive years, which may be considered the new baseline. Low concentrations may be due to factors such as decreased occurrence of summer dam releases, decrease in large animal grazing, decrease in recreation along the Rivers, and/or an increase in pollution awareness and cleanup efforts. Staff continues to see a decreased amount of solid waste along banks within Tribal boundaries when compared to the years prior to 2018. A decrease in waste can contribute to a decrease in bacteria loading into the rivers. E. coli concentrations were remarkably under 10 MPN/100ml for three of the four sites during the May 2025 sampling event and two of the four sites during June 2025 sampling events. Concentrations increased at all four sites as the temperature rose throughout the summer, but concentrations levels were below the standard.

Due to concerns of harmful algal blooms from an upstream neighbor in FY18, an additional nutrient, phosphorus, was added to the parameter list for the Summer Bacteria Sampling events. Phosphorus and nitrogen were detected at all sampling locations during each 2025 sampling event conducted from May to September. Phosphorus levels exceeded the single sample maximum for all designated uses in one of the summer sampling events. The SRPMIC QAPP for Surface and Groundwater under the SRPMIC Check-off Sheet for Screening Surface Water Quality Standards shows the exceedance for any designated uses for a single sample maximum to be 0.20 mg/L. Phosphorus levels at SR-1 site in June 2025 detected a 0.64 mg/L result. Total phosphorus is a necessary nutrient for plants and animals but adding additional phosphorus can have adverse effects for water quality including algae blooms, accelerated plant growth, and low dissolved oxygen. Potential sources of phosphorus include soil and rocks, wastewater treatment plants, runoff from fertilized lawns and cropland, and runoff from animal manure. Despite the abundant amount of algae present along the Salt River, algal blooms were observed to be filamentous algae types. There were no indications that the algae present at any of the

sampling sites was harmful (cyanobacteria) and staff did not observe any signs of fish kills, which could be indicative of the presence of harmful algal blooms.

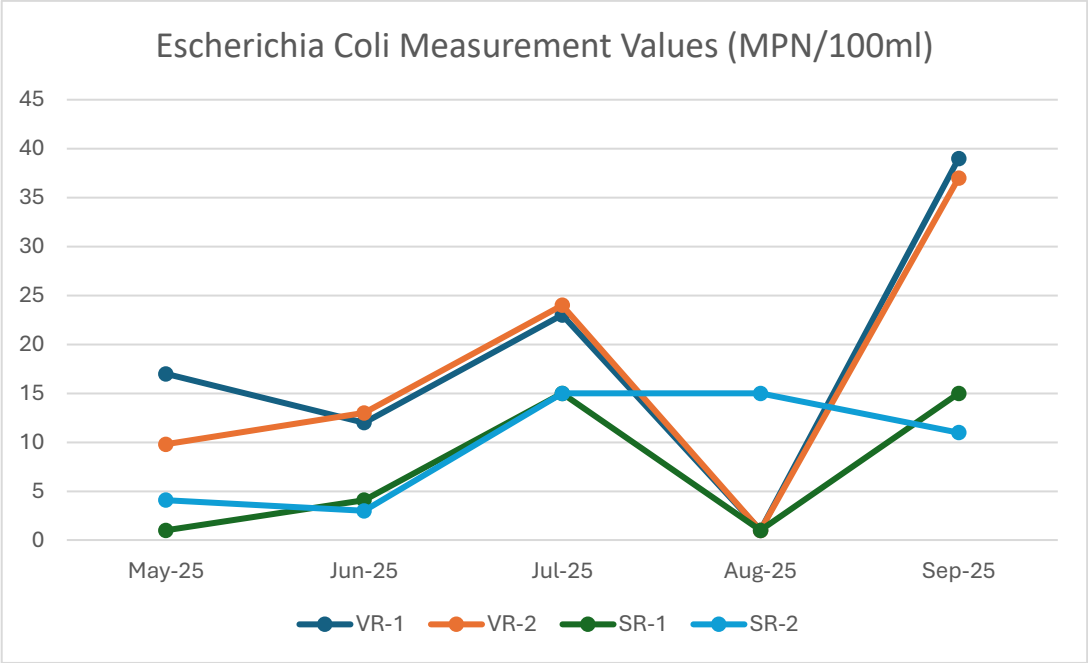

Figure 10. Graph of E. coli concentrations at river sampling sites throughout the summer months.

Macroinvertebrate Sampling Assessments—FY 2025

Requirements as outlined in the QAPP state that biomonitoring be conducted in April and September if flow conditions meet the sampling requirements. However, due to high flow conditions that occurred during the spring, sampling was completed along the Verde during the summer when river conditions allowed for the collection of macroinvertebrates as outlined in the QAPP. This year, SRPMIC conducted sampling in September; however, the laboratory previously used was unable to accept the samples. The laboratory now requires a higher number of samples than the limited specimens submitted. SRPMIC is currently seeking an alternative laboratory for the upcoming spring sampling event.

Wetland Monitoring–FY 2025

Water quality samples were collected at the Cottonwood and Lehi Wetland on a quarterly basis this fiscal year. *E. coli* concentrations at the Cottonwood Wetland sampling site UCL and Site 1 at Lehi Wetland exceeded the draft Surface Water Quality Standard for partial body contact in the first and second quarter. The Outlet sampling spot at Cottonwood Wetland also exceeded Full Body Contact in the second, third, and fourth quarters of the fiscal year. *Fecal Coliform* concentrations at the Cottonwood and Lehi Wetlands are within standards. According to the SRPMIC Wetland QAPP, the standards for fecal coliform for Partial Body Contact will be used as the criterion standard: if a single sample maximum for fecal coliform is measured above 4,000 cfu/100ml, further testing is to be done. The water within the Wetlands is not for recreation or potable use, so human risk is minimal. Since *Fecal Coliform* are within standard, no further testing is needed. *In-situ* measurements of water

quality occurred quarterly throughout the fiscal year. Monitoring of the sediment gauges located within both Wetlands were completed when water was low enough to access, and showed small changes in aggradation/degradation. Due to continuing changes and overgrowth of the wetlands, SED 1 gauge at Lehi Wetland has become inaccessible and plans to change to a more accessible location are to occur in FY26. In a similar matter, the SED 2 gauge at Cottonwood Wetland has become inaccessible and has reached the extent of its measuring ability and will need replacement or additions to the already existing sediment gauge. Occasional flooding continued to occur at Cottonwood Wetland but was not enough to make significant sediment shifts. Sediment gauges are perhaps the best *in situ* measurement of wetland function regarding improvements in suspended sediments and turbidity, since they measure continuously.

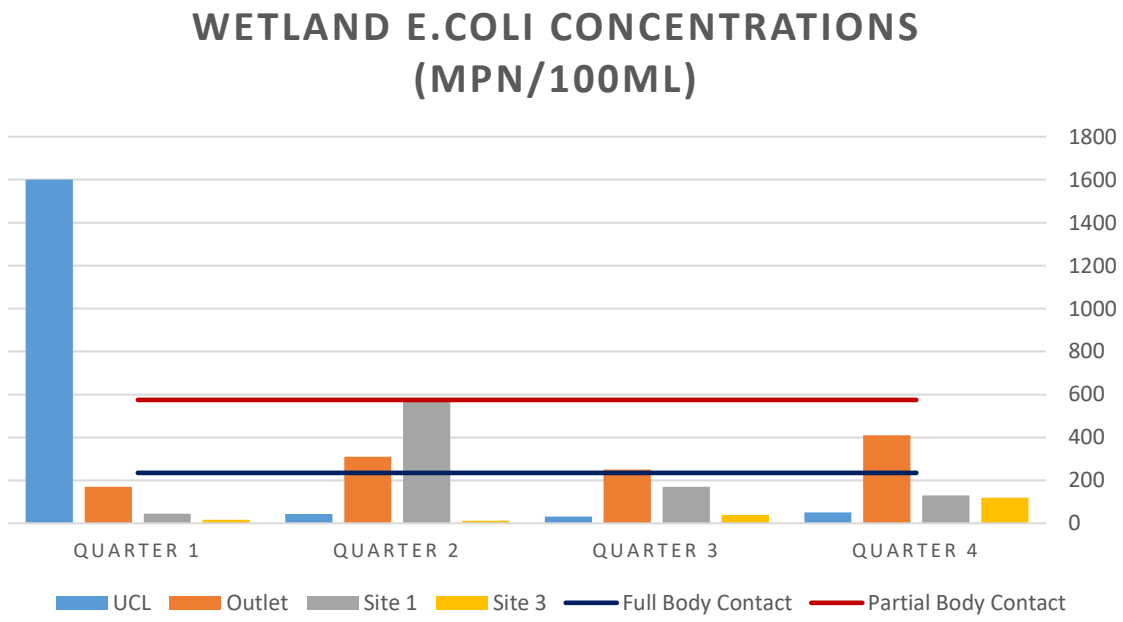

Figure 11. Graph of Cottonwood and Lehi Wetland E. coli concentrations by quarter, FY25

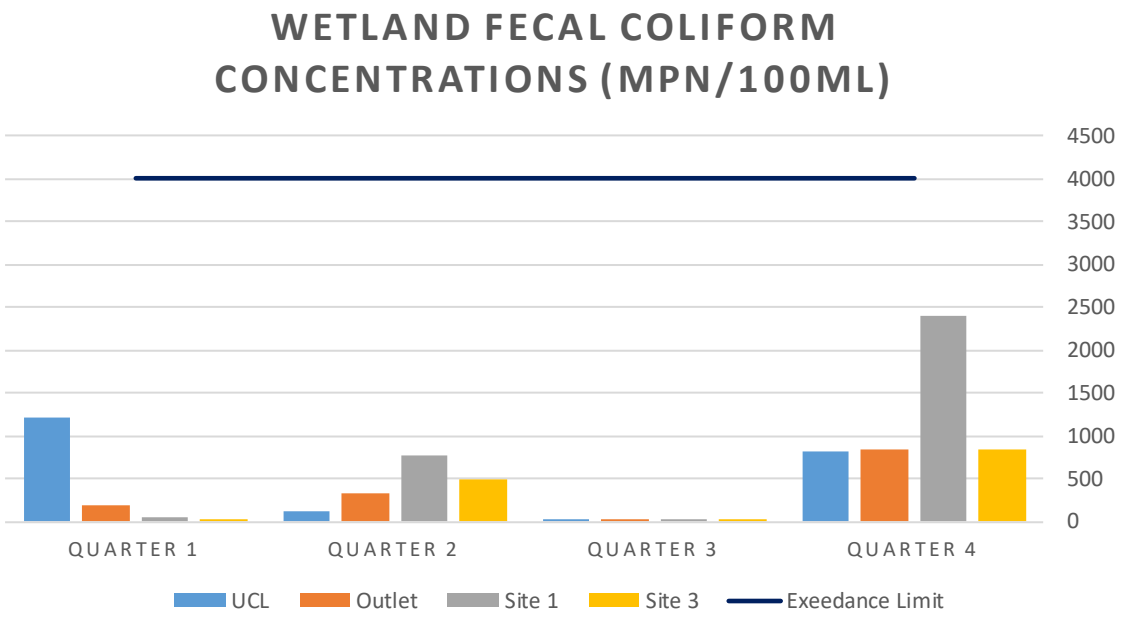

Figure 12. Graph of the FY25 quarterly Fecal Coliform concentrations at the Wetlands.

Table 6. FY25 Average Quarterly In-Situ Measurements taken at the Wetlands

Quarter	Sampling Date	Sampling Location	Temp (C°)	pH (SU)	Dissolved O_2 (mg/L)	Cond. (µS/cm)	Turbidity (NTU)
1	Dec, 2024	UCL	11.4	8.5	11.59	540	28.8
1	Dec, 2024	Outlet	10.4	8.5	10.55	460	12.4
1	Dec, 2024	Site 1	15.6	7.5	9.7	540	2.3
1	Dec, 2024	Site 3	14.3	7.75	10.47	528	6.2
2	Mar, 2025	UCL	18.9	7.5	9.41	671	4.3
2	Mar, 2025	Outlet	18.1	7.6	7.43	942	5.4
2	Mar, 2025	Site 1	18.4	6.9	7.52	1000	0.9
2	Mar, 2025	Site 3	19.7	7.4	8.78	1028	1.7
3	June, 2025	UCL	27.3	7.5	6.90	1092	5.3
3	June, 2025	Outlet	26.1	8.0	4.78	975	2.5
3	June, 2025	Site 1	24.0	7.5	7.55	1126	1.59
3	June, 2025	Site 3	24.3	7.0	10.7	1121	2.46
4	Sept, 2025	UCL	26.4	8.5	8.14	1091	27.4
4	Sept, 2025	Outlet	25.5	8.3	7.14	821	37.0
4	Sept, 2025	Site 1	24.7	8.2	6.93	1180	2.1
4	Sept, 2025	Site 3	25.2	8.5	8.5	8.99	4.5

Figure 13. Photo of the SED 2 sediment gauge at Cottonwood Wetland reaching its measuring capacity. Photo was taken in the 3rd quarter.

Groundwater Sampling Assessment—FY 2025

One (1) well was sampled by staff in September of FY25. This well, Lehi well is located in the parking lot of SRPMIC's Lehi Community Building. Approximately 150 parameters were tested, which included pesticides and volatile organic compounds. Barium, cadmium, Di (2-ethylhexyl) phthalate, chloride, chromium, copper, manganese, zinc, uranium, mercury, residual chlorine, and lead were detected. These did not exceed Maximum Contaminant Levels (MCLs) under the National Primary Drinking Water Regulation (NPDWR).

Arsenic was detected at a level above the Maximum Contaminant Level (MCL) under the National Primary Drinking Water Regulation (NPDWR). The detected level was 0.047 mg/l and the MCL

under the NPDWR is 0.010mg/l. Arsenic is found in almost all of Arizona's groundwater and can be naturally occurring. Long-term exposure to arsenic can cause thickening and discoloration of skin, neuropathy in hands and feet, risk of cancer, heart disease, and childhood developmental issues.

PW actively tests drinking water and facilitates multiple treatment techniques on drinking water prior to distribution to SRPMIC residences and buildings. These measures are conducted to ensure drinking water is safe for consumption.

Chapter 8

References

1. SRPMIC. 2022. *Draft Quality Assurance Project Plan for Water Quality Monitoring for the Salt River Pima-Maricopa Indian Community*, *Scottsdale, Arizona*. Salt River Pima-Maricopa Indian Community.
2. SRPMIC. 2022-2023. *Annual Water Quality Assessment Report*. Salt River Pima-Maricopa Indian Community.
3. SRPMIC. 2022. *Procedures Manual for Sampling Surface Water*. Salt River Pima-Maricopa Indian Community.
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