TRIBAL CWA 106 REPORTING REQUIREMENTS

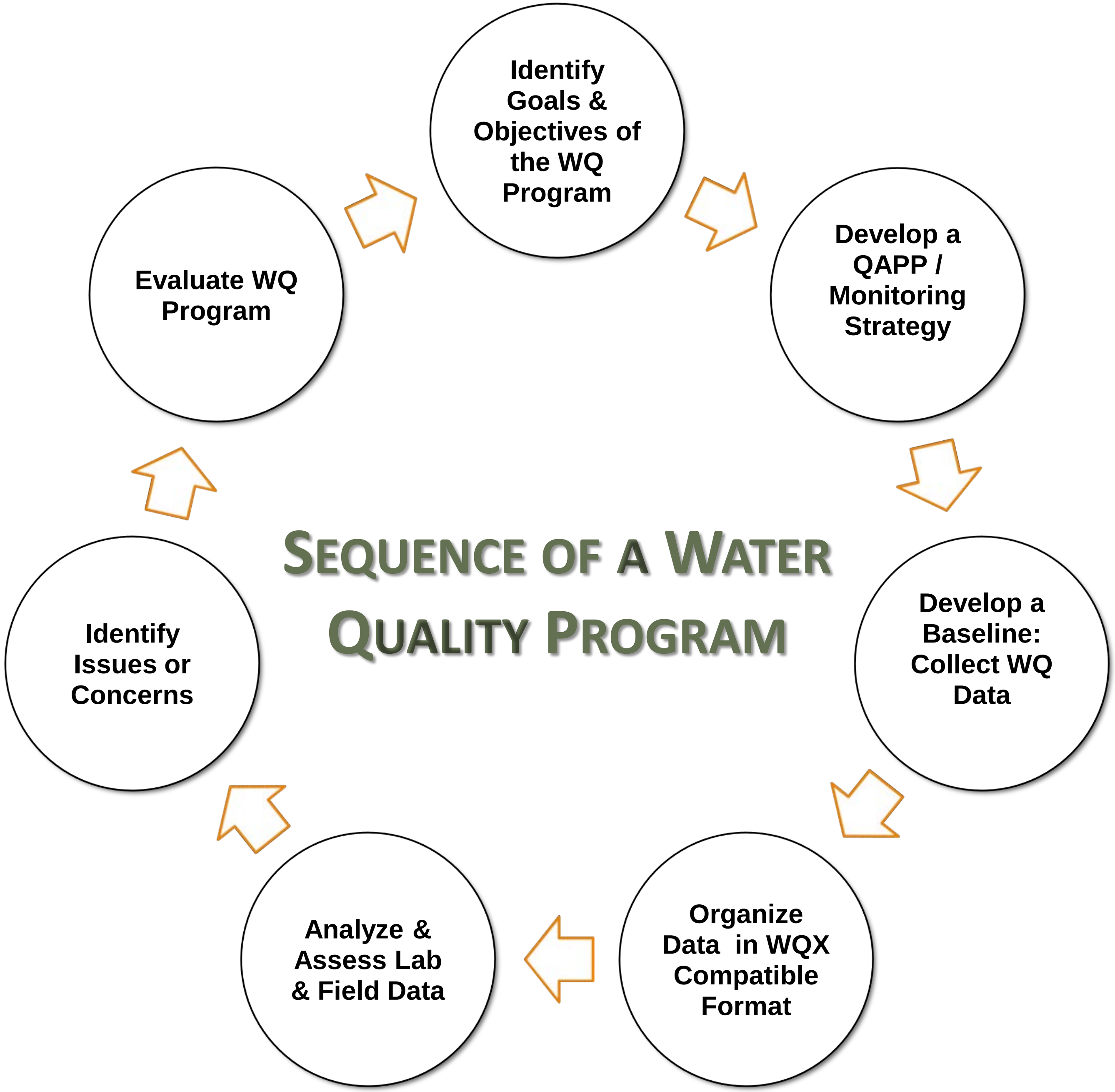
RTOC

OCTOBER 22, 2025

Presentation Overview

1. CWA 106 Reporting Requirements
2. Water Quality Monitoring
   - QAPP Requirements and Methods
   - Data Reporting and Retrieval
3. Assessment Reporting and Results
   - Region 9 Template
   - ATTAINS Project
4. Tools and Guidance

SEQUENCE OF A WATER QUALITY PROGRAM



CWA Section 106 Reporting Requirements

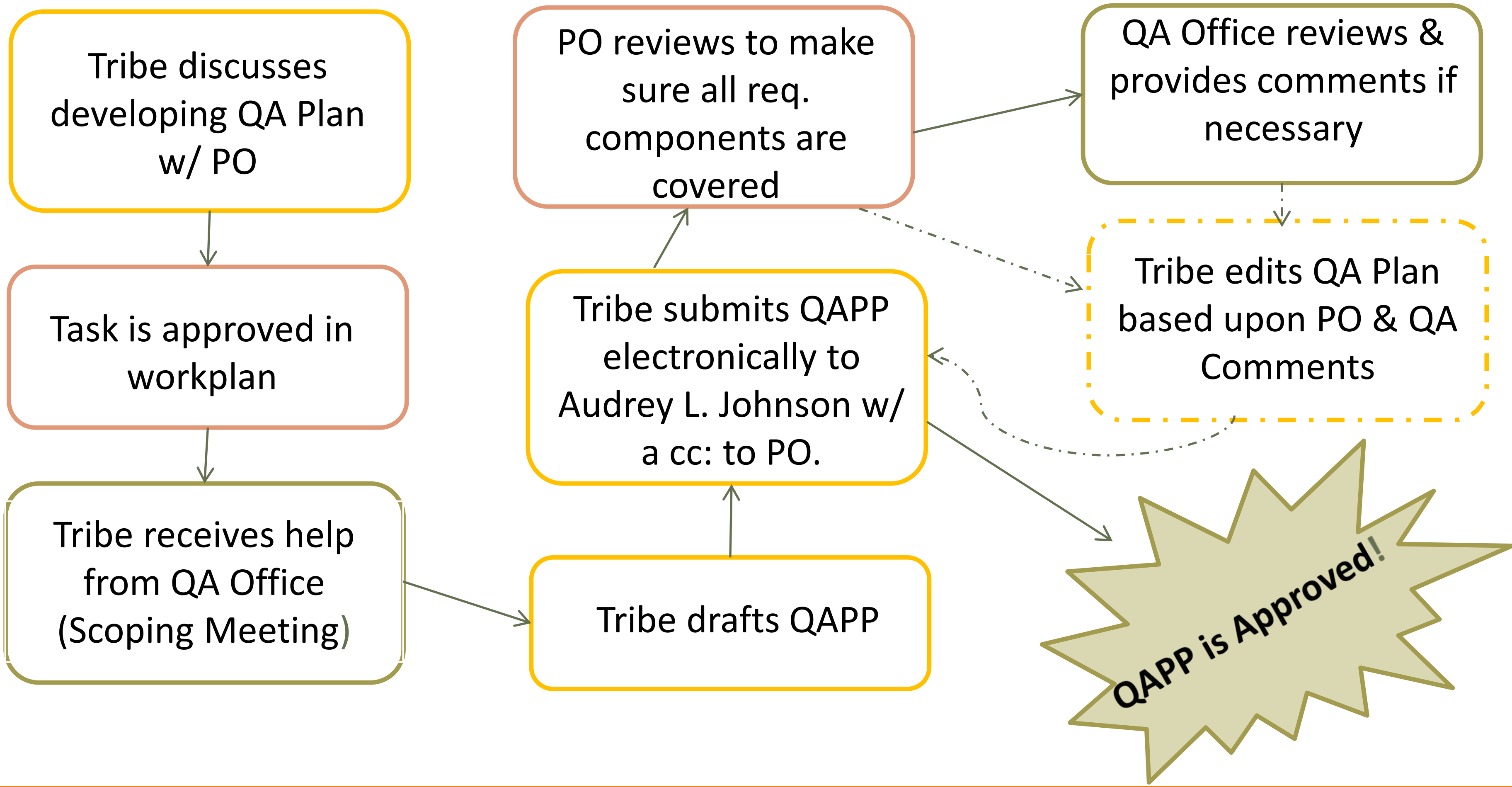
1. Monitoring Strategy/QAPP
2. Water quality data submitted into EPA's Water Quality Exchange (WQX)
3. Water Quality Assessment Report (WQAR)

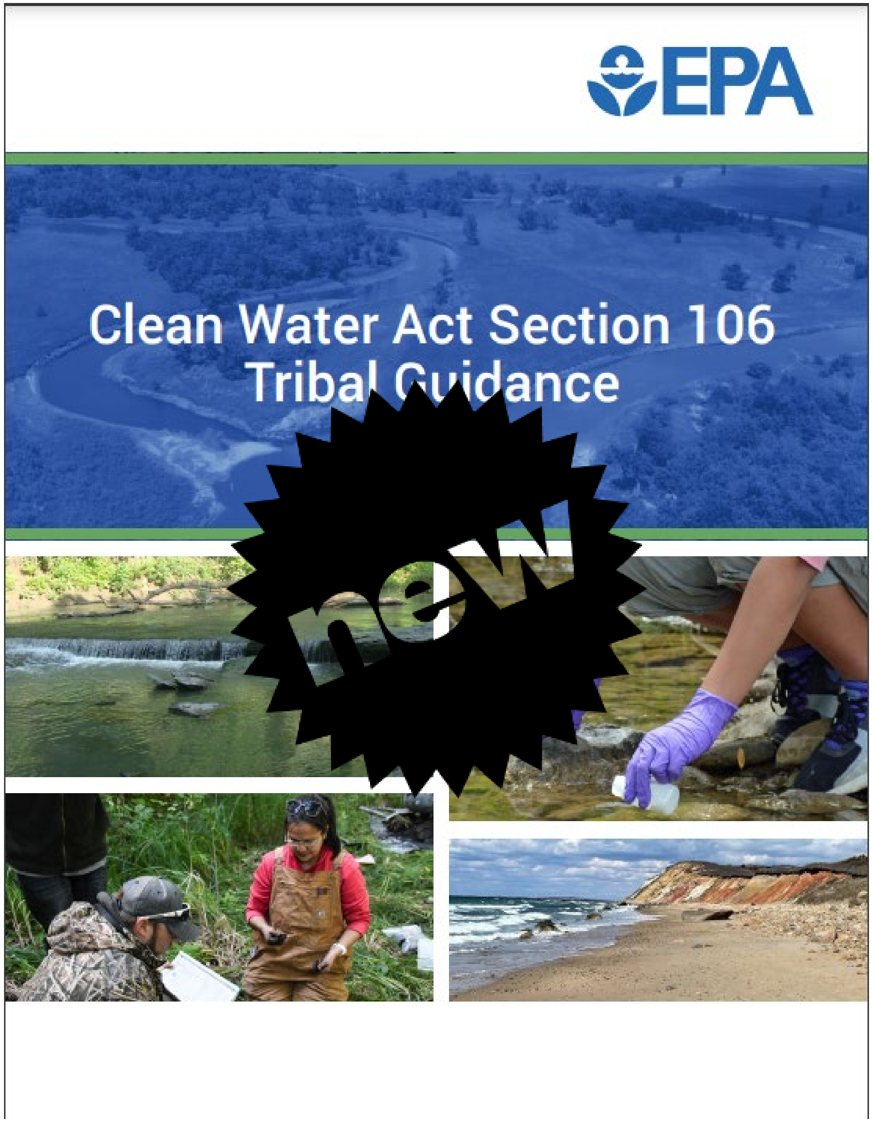
Quality Assurance Project Plan

- All EPA-funded grant projects which include the collection of environmental data **MUST** have an EPA-approved Quality Assurance Project Plan (QAPP) **BEFORE** any monitoring can begin.
- QAPP usually includes monitoring strategy (i.e. rationale for monitoring)
- **Note:** EPA recently updated its QA requirements so updating a previously approved QAPP will involve more edits than usual
  - https://www.epa.gov/system/files/documents/2024-04/quality_assurance_project_plan_standard.pdf
  - https://www.epa.gov/quality/quality-assurance-project-planning-epas-pacific-southwest-region-9

QAPP Approval Process

- Orange: Tribe
- Red: Project Officer
- Green: QA Office





Water Quality Exchange (WQX)

2023 CWA 106 Tribal Guidance:

Water quality data submitted into EPA's Water Quality Exchange (WQX)

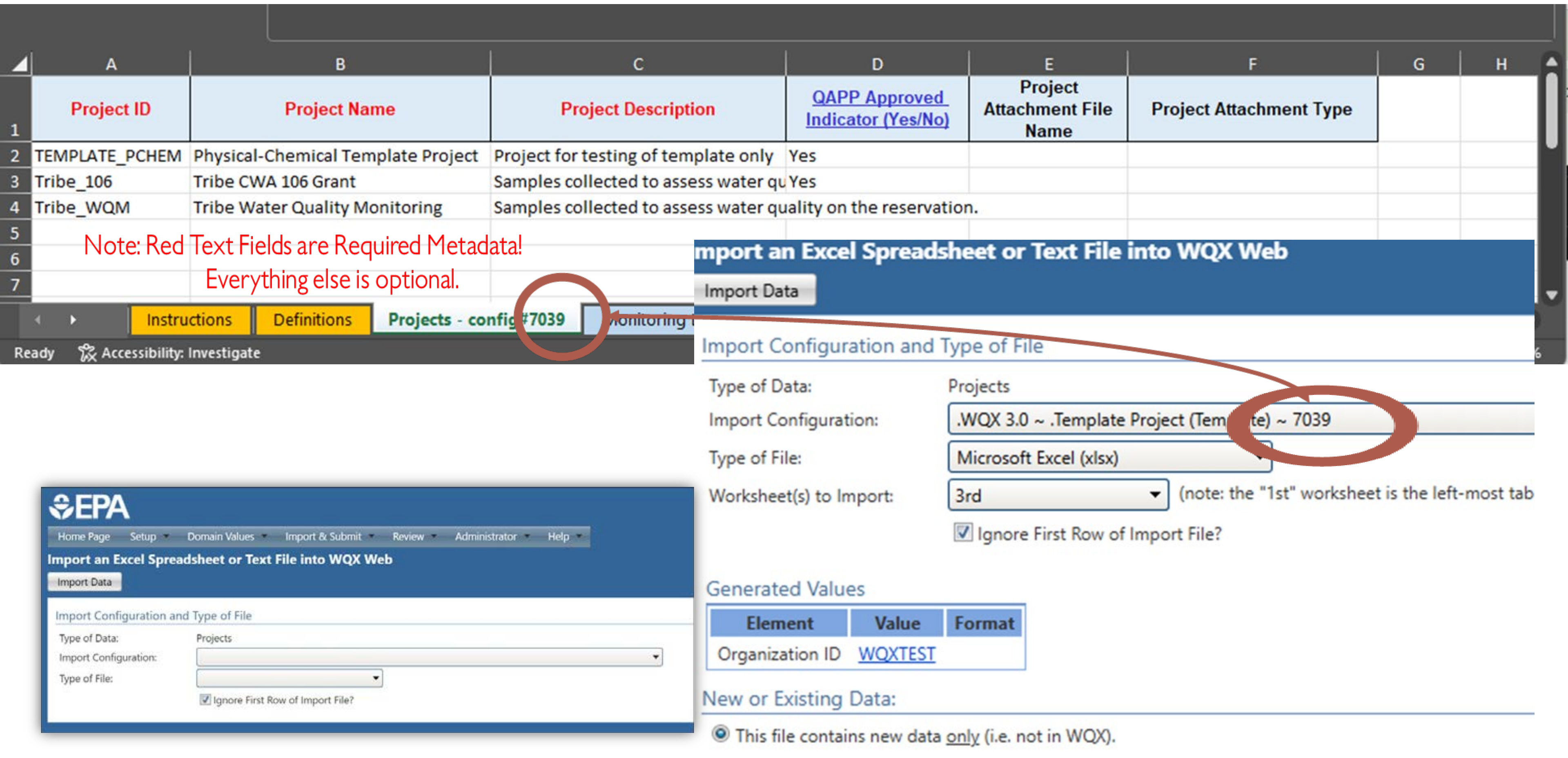
- Implementation of grant award term and condition began in FY24-25 grants
- Note: Exceptions allowed with approved wavier from PO

Water Quality Exchange (cont.)

Three Categories of Data

- **Projects** *(Why data were collected)*
  - Brief summary of monitoring plan
- **Monitoring Locations** *(Where data were collected)*
  - Describe where monitoring takes place
- **Results** *(When, How and What were collected)*
  - Measurements of what were monitored

WQX Physical Chemical Template- Project Tab



https://www.epa.gov/tribal-pacific-sw/r9tribal106

WQX Physical Chemical Template- Monitoring Location Tab

	A	B	C	D	E	F	G	H	I	J	
1	Monitoring Location ID	Monitoring Location Name	Monitoring Location Type	Tribal Land Indicator (Yes/No)	Tribal Land Name	Monitoring Location Latitude (DD.DDDD)	Monitoring Location Longitude (-DDD.DDDD)	Monitoring Location Source Map Scale	Monitoring Location Horizontal Collection Method	Monitoring Location Horizontal Coordinate Reference System	Stat
2	ML-01	Template ML 1	Spring	No		40.594	-111.72	24000	Interpolation-Map	NAD27	UT
3	ML-02	Template ML 2	River/Stream	No		40.594	-111.72		GPS-Unspecified	NAD83	SC
4	ML-03	Template ML 3	River/Stream	No		40.527	-111.755		GPS-Unspecified	NAD83	WV
5	ML-04	Template ML 4	Spring	No		40.657	-111.77	12000	Interpolation-Map	NAD27	CO
6	ML-05	Template ML 5	River/Stream	No		40.522	-112.149		GPS-Unspecified	NAD83	ID
7	ML-06	Template ML 6	River/Stream	No		40.765	-111.848		GPS-Unspecified	NAD83	UT
8	ML-07	Template ML 7	River/Stream	No		40.771	-111.892		GPS-Unspecified	NAD83	UT
9	ML-08	Template ML 8	River/Stream	No		40.779	-112.099		GPS-Unspecified	NAD83	UT
10	ML-09	Template ML 9	River/Stream	No		40.598	-111.685		GPS-Unspecified	NAD83	UT
11											
12											
13											
14											
15											

Note: Red Text Fields are Required Metadata!
Everything else is optional.

Results Tab

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Project ID	Monitoring Location ID	Activity ID (CHILD-subset)	Activity ID User Supplied (PAREN	Activity Type	Activity Media Name	Activity Start Date	Activity Start Time	Activity Start Time Zone	Activity Depth/ Height Measure	Activity Depth/Height Unit	Sample Collection Method ID	Sample Collection Metho	Sample Collection Equipment Name	Sample Collection Equipment Comment
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:FM:WB:		Field Msr/Obs	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-06	ML-06:20170301:1433:SR:WB:		Sample-Routine	Water	3/1/2017	14:33	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-01	ML-01:20170303:1001:FM:PS:		Field Msr/Obs	Water	3/3/2017	10:01	MST			Field Sample Method		Probe/Sensor	
TEMPLATE_PCHEM	ML-01	ML-01:20170303:1001:FM:PS:		Field Msr/Obs	Water	3/3/2017	10:01	MST			Field Sample Method		Probe/Sensor	
TEMPLATE_PCHEM	ML-01	ML-01:20170303:1001:FM:WB:		Field Msr/Obs	Water	3/3/2017	10:01	MST			Field Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-01	ML-01:20170303:1001:FM:WB:		Field Msr/Obs	Water	3/3/2017	10:01	MST			Field Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-03	ML-03:20170308:1100:SR:WB:		Sample-Routine	Water	3/8/2017	11:00	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07	ML-07:20170310:0939:SR:WB:		Sample-Routine	Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07				Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07				Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-07				Water	3/10/2017	9:39	MST			Grab Sample Method		Water Bottle	
TEMPLATE_PCHEM	ML-09				Water	3/15/2017	16:20	MST	1.3	m	Field Sample Method		Probe/Sensor	Troll-9500
TEMPLATE_PCHEM	ML-09				Water	3/15/2017	16:20	MST	1.3	m	Field Sample Method		Probe/Sensor	Troll-9500
TEMPLATE_PCHEM	ML-09				Water	3/15/2017	16:20	MST	1.3	m	Field Sample Method		Probe/Sensor	Troll-9500

Confirm Sample Collection Method
Please confirm the SCM you are entering here is also in WQX.

If this cell is highlighted (based on your Activity Type) then it must be populated in order to submit to WQX.

Results Tab

Characteristic Name	Characteristic Name User Supplied	Method Speciation	Result Detection Condition	Result Value	Result Unit	Result Measure Qualifier	Result Sample Fraction	Result Status ID	ResultTemperatureBasis	Statistical Base Code	ResultTimeBasis	Result Value Type
Phosphate-phosphorus		as P	Not Detected				Filtered, lab	Final				Actual
Kjeldahl nitrogen		as N	Not Detected				Filtered, lab	Final				Actual
Total Nitrogen/Total Phosphorus Ratio (TN:TP)			Not Detected					Final				Actual
pH				7.1	None			Final				Actual
Conductivity				4.3	mg/l			Final				Actual
Turbidity			Not Detected					Final				Actual
Fecal Coliform			Not Detected					Final				Actual
Total Coliform			Not Detected					Final				Actual
Temperature, water				11.2	deg C	H		Final				Actual
pH				8.02	None	H		Final				Actual
Escherichia coli				119	MPN/100ml	H		Final				Actual
Turbidity				0.98	NTU	H		Final				Actual
Phosphate-phosphorus		as P	Not Detected				Filtered, lab	Final				Actual
Fecal Coliform			Not Detected					Final				Actual
pH			Detected Not Quantified					Final				Actual
Dissolved oxygen (DO)			Not Detected					Final				Actual
Turbidity			Not Detected					Final				Actual
Total Coliform			Not Detected					Final				Actual
Nitrate		as N	Not Detected				Filtered, lab	Final				Actual
Phosphate-phosphorus		as P	Not Detected				Filtered, lab	Final				Actual
Kjeldahl nitrogen		as N	Not Detected				Filtered, lab	Final				Actual
Total Nitrogen/Total Phosphorus Ratio (TN:TP)			Not Detected					Final				Actual
pH			Detected Not Quantified					Final				Actual
Dissolved oxygen (DO)			Present Above Quantification Limit					Final				Actual
Turbidity			Not Detected					Final				Actual
Fecal Coliform			Not Detected					Final				Actual
Total Coliform			Not Detected					Final				Actual
Nitrite		as N	Not Detected				Filtered, lab	Final				Actual
Temperature, water				16	deg C			Preliminary		Delta	1 Day	Calculated
pH				8.4	None			Preliminary		Daily Maximum		Calculated
Turbidity				77	NTU			Preliminary		Daily Maximum		Calculated

Results Tab

	AC	AD	AE	AF	AG	AH	AI
pe	Result Analytical Method ID	Result Analytical Method Context	Analysis Start Date	Result Detection/Quantitation Limit Type	Result Detection/Quantitation Limit Measure	Result Detection/Quantitation Limit Unit	Result Comment
	120.1	USEPA	3/2/2017	Upper Quantitation Limit	0.058	mg/l	
	120.1	USEPA	3/2/2017	Method Detection Level	1.1	mg/l	
	120.1	USEPA	3/2/2017	Method Detection Level	1.1	mg/l	
	120.1	USEPA	3/2/2017				
	120.1	USEPA	3/2/2017				
	120.1	USEPA	3/2/2017	Lower Reporting Limit	12	NTU	
	120.1	USEPA	3/2/2017	Upper Quantitation Limit	13	MPN/100ml	
	120.1	USEPA	3/2/2017	Upper Quantitation Limit	540	MPN/100ml	
	120.1	USEPA					
	120.1	USEPA					
	120.1	USEPA					
	120.1	USEPA	3/9/2017	Upper Quantitation Limit	0.052	mg/l	
	120.1	USEPA	3/9/2017	Upper Quantitation Limit	1.8	MPN/100ml	
	120.1	USEPA	3/9/2017	Instrument Detection Leve	6.6	None	
	120.1	USEPA	3/9/2017	Upper Quantitation Limit	7.8	mg/l	
	120.1	USEPA	3/9/2017	Upper Quantitation Limit	11	NTU	
	120.1	USEPA	3/9/2017	Upper Quantitation Limit	79	MPN/100ml	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	0.34	mg/l	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	0.48	mg/l	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	1.9	mg/l	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	2.3	mg/l	
	120.1	USEPA	3/11/2017	Instrument Detection Leve	6.4	None	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	7.8	mg/l	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	9.4	NTU	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	11	MPN/100ml	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	1600	MPN/100ml	
	120.1	USEPA	3/11/2017	Upper Quantitation Limit	0.32	mg/l	
	120.1	USEPA					
	120.1	USEPA					

Import Completed (with errors)

Step 1 of 3 completed.

The dataset has been imported, but there are errors that need to be resolved (step 2), and then the dataset needs to be submitted to CDX (step 3). If you submit to CDX before resolving all errors, then only the valid records will be included.

A dataset only becomes permanent after it has been submitted to CDX.

Import Event

Start Time: 05-01-2025 02:31:54 PM

End Time: 05-01-2025 02:32:03 PM

File Name: Copy of Physical Chemical Template_KP.xlsx

Event Log: View all validation errors and warnings

Message Type	Total	Resolved	Event Log	Resolution
Required Value Missing	3	0	View Log	Resolve Online
Value or Format Invalid	3	0	View Log	Resolve Online
Domain Value Invalid	12	0	View Log	Resolve Online
Message	7	7	View Log	N/A

Dataset is ready to be submitted to CDX

Step 1 of 2 completed.

The dataset has been imported (step 1). Now the dataset needs to be submitted to CDX (step 2).

A dataset only becomes permanent after it has been submitted to CDX.

Submission to CDX Successful!

The final step in this process has completed and the WQX database has been updated. It may take up to four days for this data to be published and become available from the Water Quality Portal.

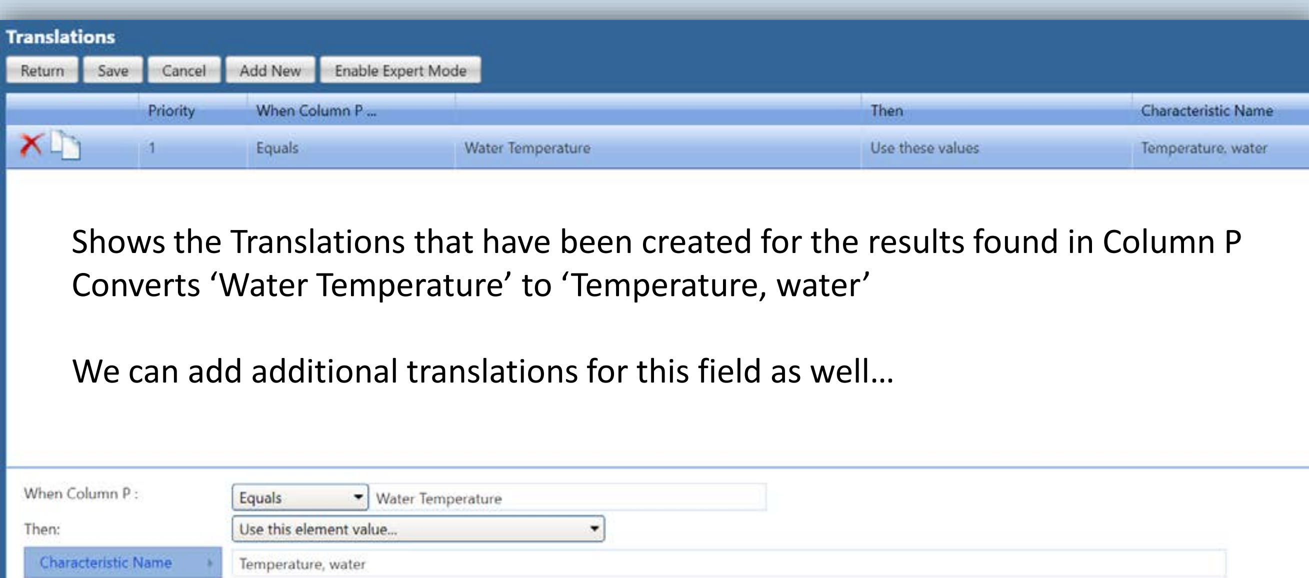
Custom Import Configurations

Translations

- Helps WQX read your data if you use different characteristic/parameter names

Configurations

- Can help WQX interpret wide/tidy data formats into the required “tall format”



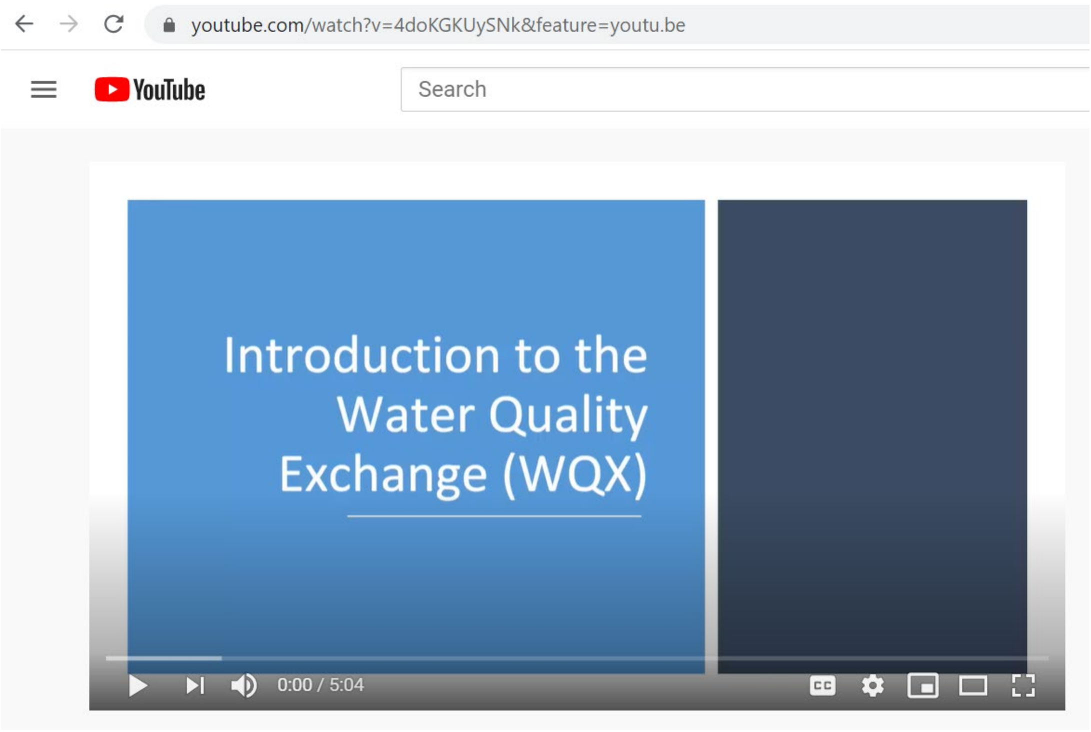
Shows the Translations that have been created for the results found in Column P
Converts ‘Water Temperature’ to ‘Temperature, water’

We can add additional translations for this field as well…

These are ROUGH guidelines. Monitoring and data management can be very case specific!

Deciding water quality data management

Number of Samples/Parameters/ Characteristics	**Number of Monitoring Sites**	**Frequency of Monitoring**	**Data Submission Methods**	**Data Management**
<10/site	<5	<3/yr	WQX Web Template	Excel
10-20/site	5-10	3-10/yr	WQX Web Template/Import Configuration	Excel/Access
20+/site	10+	10+/year	Consider a data management service/node	Consider a data management service/node



Need help submitting WQX Data?

Available At: https://www.epa.gov/waterdata/learn-more-about-water-quality-data#trainingvideos

or

WQX Helpdesk
wqx@epa.gov

1-800-424-9067

MANAGING TRIBAL WATER QUALITY MONITORING DATA WITH WQX

Dakota Perez

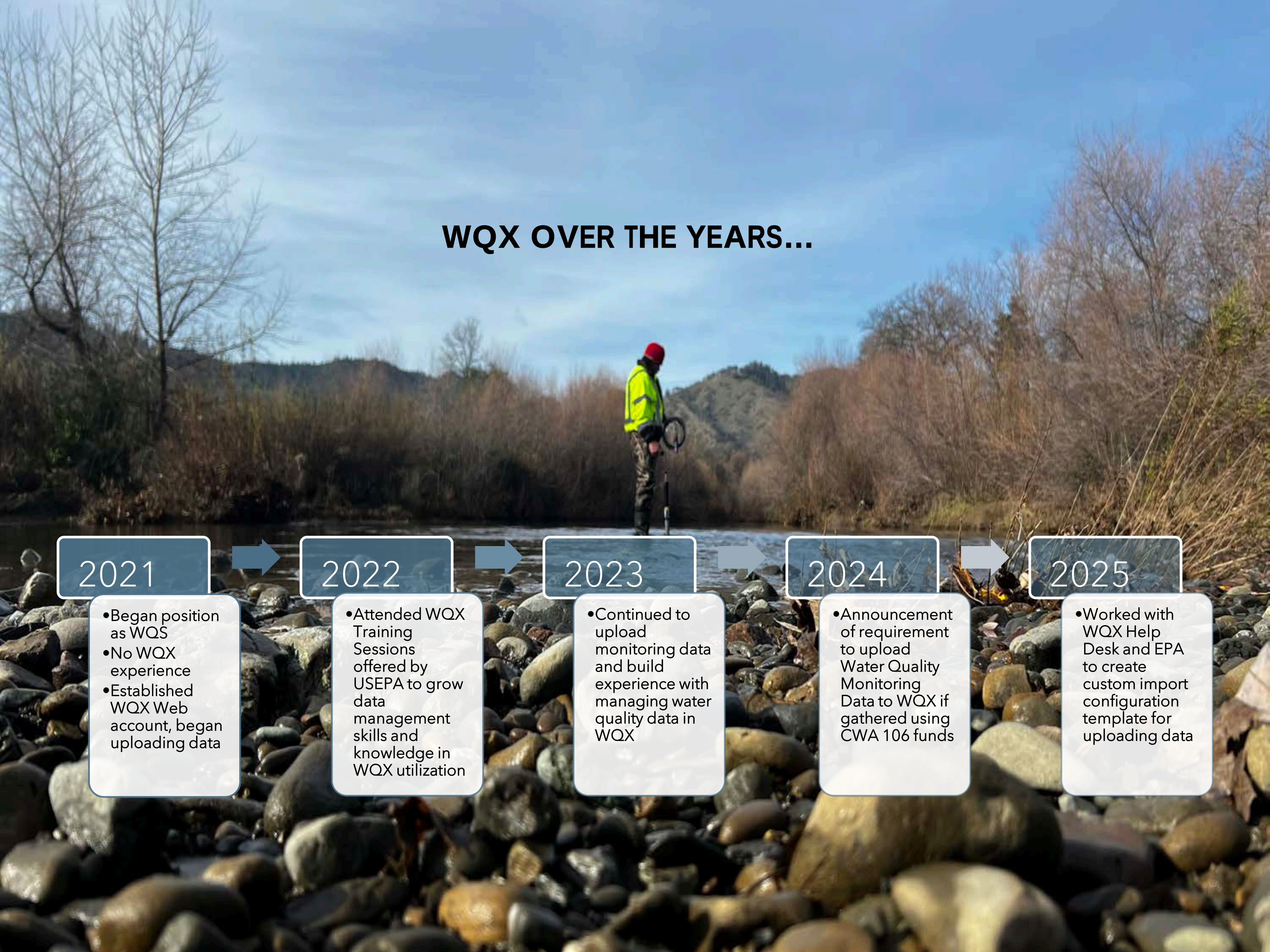
Pinoleville Pomo Nation Water Resource Specialist

Region 9 RTOC - Central CA Representative

BACKGROUND

My passion for water quality stems from my Tribal roots in Klamath, CA. Water quality degradation has impacted my way of life and the lives of many Tribal citizens around the world, as well as the livelihood of the general population. Today I work as a Water Quality Specialist for the Pinoleville Pomo Nation in Ukiah, CA. I bring my passion to my everyday work, investing much time and effort to monitor and protect the water quality and water resources of the Tribe.

- Yurok Tribal Member, Pomo Descendant
- 4.5 years experience in Water Quality Monitoring
- Protector of waterways and salmonids



WQX OVER THE YEARS...

2021
- Began position as WQS
- No WQX experience
- Established WQX Web account, began uploading data

2022
- Attended WQX Training Sessions offered by USEPA to grow data management skills and knowledge in WQX utilization

2023
- Continued to upload monitoring data and build experience with managing water quality data in WQX

2024
- Announcement of requirement to upload Water Quality Monitoring Data to WQX if gathered using CWA 106 funds

2025
- Worked with WQX Help Desk and EPA to create custom import configuration template for uploading data

ASSESSING THE DATA

Review the data prior to uploading to WQX

Assess trends/spikes in monitoring data

Look for potential inaccuracies in collected field data, you want to be uploading accurate data.

WQX is a good way to store and fill in gaps in water quality data

STRATEGIES FOR GROWTH

Navigating the future

CAPACITY BUILDING

- Attend WQX Data Management trainings offered by EPA
- Work with WQX Help Desk to create custom data import templates that are best tailored to your program and data management
- Reach out to other folks working with WQX, ask questions
- Collaborate with neighboring Tribes on coordinating trainings/workshops to build capacity
- Attempt uploads, it will go to a 'stage' before being uploaded.
- Read WQX error messages, it will offer solutions for corrections

THANK YOU

Dakota Perez

dakotap@pinoleville-nsn.gov

707-463-1454 ext 164

Water Quality Assessment Report

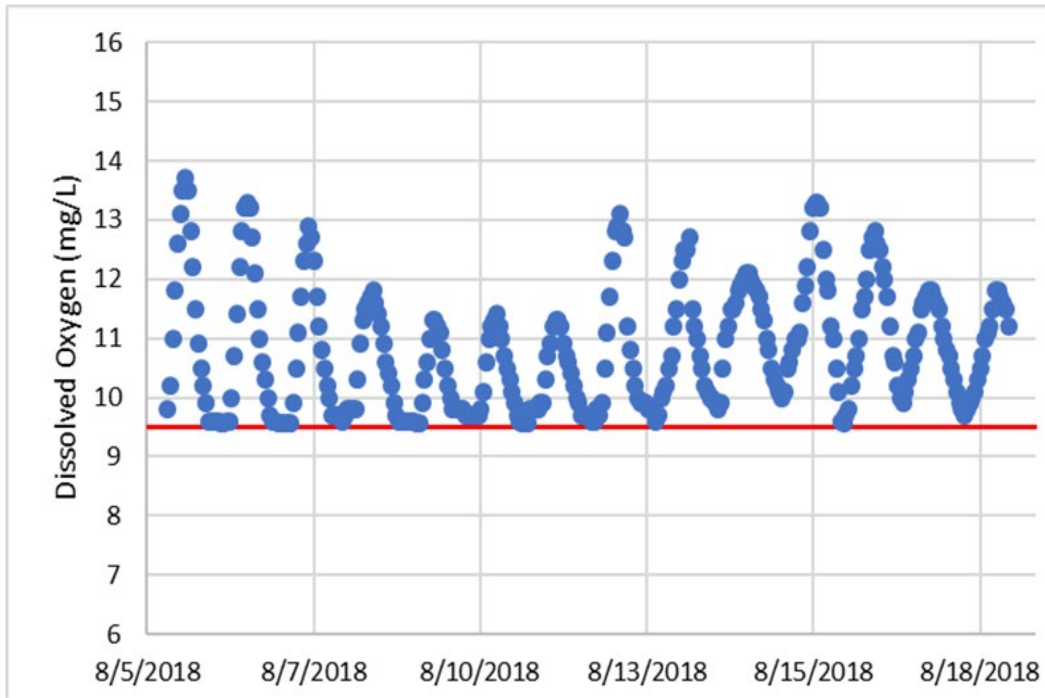
- Atlas of Tribal Water Resources
- Narrative Description of the Tribal Water Quality Monitoring Program and Assessment Methods
- Tables describing which water bodies are meeting designated uses
- Tables describing causes and sources of impairment
- Narrative Description of the Results of Water Quality Monitoring on your Reservation
- Narrative Description of Issues of Tribal Concern

Which datapoints need further review?

Date	pH (standard units)	Field comment
June 1	6.9	Cloudy
June 14	7.1	
June 23	6.8	Sunny but cool
July 8	5.2	
July 15	7.1	Windy
July 20	7.1	
July 29	7.0	Overcast
August 2	6.9	
August 8	6.8	No pH 7 calibration solution
August 16	7.1	
August 23	8.2	Drizzling
August 31	7.2	

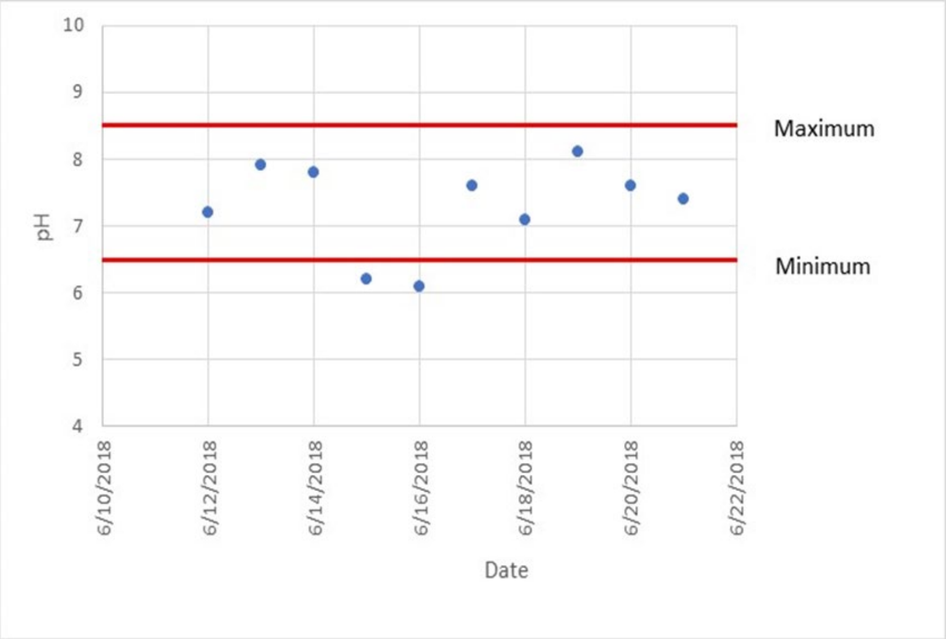
Dissolved Oxygen Assessment

- Salmon and trout spawning water criteria
  - 7-day average of the daily mean dissolved oxygen: 11 mg/L
  - Minimum: 9.5 mg/L



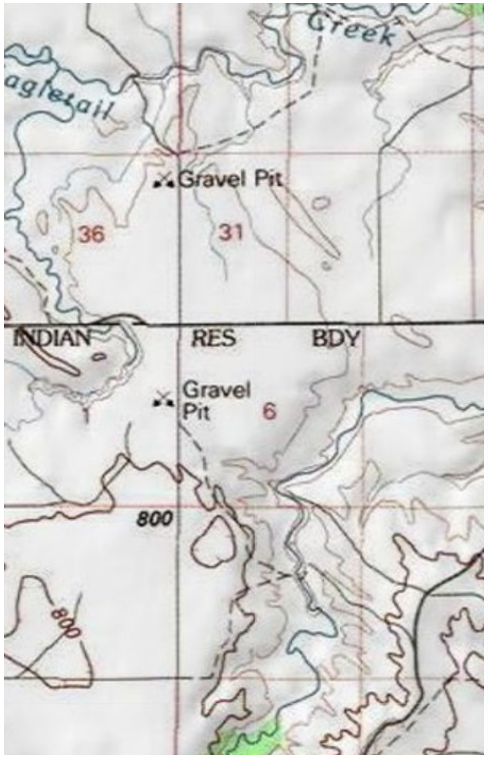
pH Criteria

- A measure of acidity and alkalinity of the water
- Criteria require keeping pH within a specific range
  - To protect human health, the pH must be within the range of 5 to 9
  - To protect aquatic life, the pH must be within the range of 6.5 to 9.0 for freshwater and 6.5 to 8.5 for saltwater



Making Designated Use Impairment Decisions: Hypothetical Example and Exercise

- Assess water quality at a hypothetical site: Salamander Creek
- Identify the designated uses
- Identify the water quality criteria parameters needed to evaluate each designated use
- Apply the criteria to the water quality data to make a use impairment decision
- Integrate the impairment information into an assessment
- Discuss next steps based on assessment findings



Salamander Creek: Numeric Criteria

Salamander Creek is designated for four uses that have the following numeric criteria:

Parameter	Unit	Type	Statistic	Exceedance	Aquatic Life Other Than Fish	Irrigation Water Supply	Public Drinking Water Source	Warmwater Habitat
Conductivity	uS/cm	Max	Instantaneous	10%	750	2,500	1,000	1,500
Dissolved oxygen	mg/L	Min	Instantaneous	None	5.0	--	--	5.0
Nitrate	mg/L	Max	Average*	None	1.5	100	10*	1.0
pH	SU	Range	Instantaneous	None	6.5<pH<9	--	--	6.5<pH<9
Total phosphorus	mg/L	Max	Average	None	0.1	--	--	0.3

** The nitrate criterion is instantaneous for the public drinking water source.*

Salamander Creek: Aquatic Life Other Than Fish

Aquatic life other than fish has five numeric criteria

Parameter	Unit	Type	Stat.	Exceed.	Criterion
Cond.	uS/cm	Max	Inst.	10%	750
DO	mg/L	Min	Inst.	None	5.0
Nitrate	mg/L	Max	Avg	None	1.5
pH	SU	Range	Inst.	None	6.5 – 9.0
TP	mg/L	Max	Avg.	None	0.1

Ten samples were collected and evaluated

Date	Cond. (uS/cm)	DO (mg/L)	Nitrate (mg/L)	pH (SU)	TP (mg/L)
May 23	600	10	0.8	7.1	0.08
Jun 9	800	9	0.9	7.0	0.09
Jun 24	1,000	10	1.2	7.0	0.14
Jul 1	600	10	1.6	6.9	0.15
Jul 15	575	9	1.8	6.8	0.19
Jul 29	550	7	1.3	6.7	0.23
Aug 6	450	6	1.7	6.8	0.29
Aug 15	750	6	1.9	6.7	0.32
Aug 23	1,600	7	1.3	6.8	0.35
Sep 3	950	6	0.9	6.9	0.30
Average	***788***	***8***	***1.3***	***6.9***	***0.21***

Clean Water Act Section 106 Tribal Water Quality Assessment Report Template (R9 Pilot)

Tribe:	(Type Tribe Name)	Monitoring Period:	(Month Started)	(Number of months monitored)		ONLY FILL OUT COLUMNS 12-15 IF THE "CURRENT WATER QUALITY STATUS" IS MARKED AS "IMPAIRED"

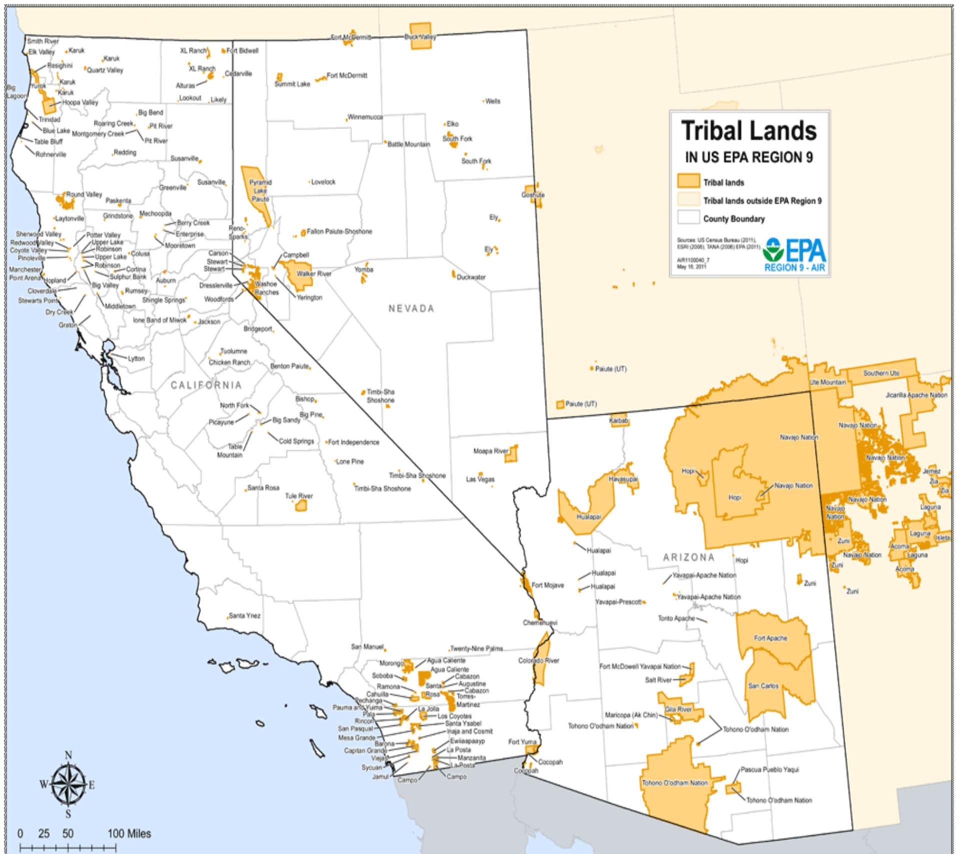
1	2	3	4	5	6	7	8		9		10	11	12		13		14	15	16	17
…terbody …/Identifier	Waterbody Type	Monitoring Station Located On Reservation	Monitoring Station ID (WQX)	Distance or Area Monitored or Assessed	Unit of Measure	Frequency of Monitoring	Parameters Monitored		Tribal Goal or Designated Use for this Waterbody		Change in water quality since start of monitoring period	Current Water Quality Status	Impaired Parameters		Impaired Tribal Goals/Designated Uses		Source(s) of impairment	Impairment Status	Watershed restoration project at this monitoring station	Addit… Comm…
…dell Wash	River/Stream Perennial	Yes	Wendell001	3.2	miles (mi)	Choose...	pH	Yes	Unknown	Choose...	some degradation	Impaired	pH	No		Choose...	1) Agriculture (Livestock)	Year Round Impairment	No	(Add… comme… informatio… this wat… EX. No v… monitor, u… monitor… high flow… equipr…
							Temperature	Yes	Primary Contac…				Temperature	No	Primary Contact	No				
							Dissolved Oxygen	Yes	Secondary Cor…				Dissolved Oxygen	No		Choose...				
							Turbidity	Yes	Cultural Use				Turbidity	Yes	Cultural Use	Yes				
							Total Phosphorus	No	Drinking Water					Choose...		Choose...				
							Total Nitrogen	No	Fish/Shellfish S…					Choose...		Choose...				
							E. coli	Yes	Agricultural Irrig…				E. Coli	No	Agricultural Irrigation	Yes	2) Leaking Tanks	Intermittent Impairment		
							Enterococci	No	Aquatic Life an…					Choose...		Choose...				
							Macroinvertebrates	No	Livestock Wate…					Choose...	Livestock Watering	No				
							Basic Habitat	No	Rare And Endar…					Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...	3) Wet Weather Discharges	Seasonal Impairment		
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
…dell Wash	Wetland	No	Wendell002	4.5	miles (mi)	Bimonthly	pH	Yes	Unknown	Choose...	Some improvement, some degradation	Impaired	pH	No		Choose...	1) Agriculture (Livestock)	Year Round Impairment	No	(Add… comme… informatio… this wate…
							Temperature	Yes	Primary Contact	Yes			Temperature	No	Primary Contact	No				
							Dissolved Oxygen	Yes	Secondary Contact	No			Dissolved Oxygen	No		Choose...				
							Turbidity	Yes	Cultural Use	Yes			Turbidity	Yes	Cultural Use	Yes				
							Total Phosphorus	Yes	Drinking Water	No			Total Phosphorus	Choose...		Choose...				
							Total Nitrogen	Yes	Fish/Shellfish Safe To Eat	Choose...			Total Nitrogen	Choose...		Choose...				
							E. coli	No	Agricultural Irrigation	Yes				No	Agricultural Irrigation	Yes	2) Leaking Tanks	Intermittent Impairment		
							Enterococci	No	Aquatic Life and Wildlife	Yes				Choose...	Aquatic Life and Wil…	Choose...				
							Macroinvertebrates	No	Livestock Watering	Yes				Choose...	Livestock Watering	No				
							Basic Habitat	No	Rare And Endangered Species	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...	3) Wet Weather Discharges	Seasonal Impairment		
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							(Additional parameter)	Choose...	(Fill in any additional uses)	Choose...				Choose...		Choose...				
							pH	Choose...	Unknown	Choose...				Choose...		Choose...				(Add… comme…
							Temperature	Choose...	Primary Contact	Choose...				Choose...		Choose...				

Tribal Goal/Use for Waterbody
Choose "Yes" or No" for each goal/use listed, depending on whether or not it applies to this waterbody. You may add up to 5 additional designated uses of your choice. See definitions, Tab 6.

Region 9 WQAR Template

HTTPS://WWW.EPA.GOV/TRIBAL-PACIFIC-SW/R9TRIBAL106

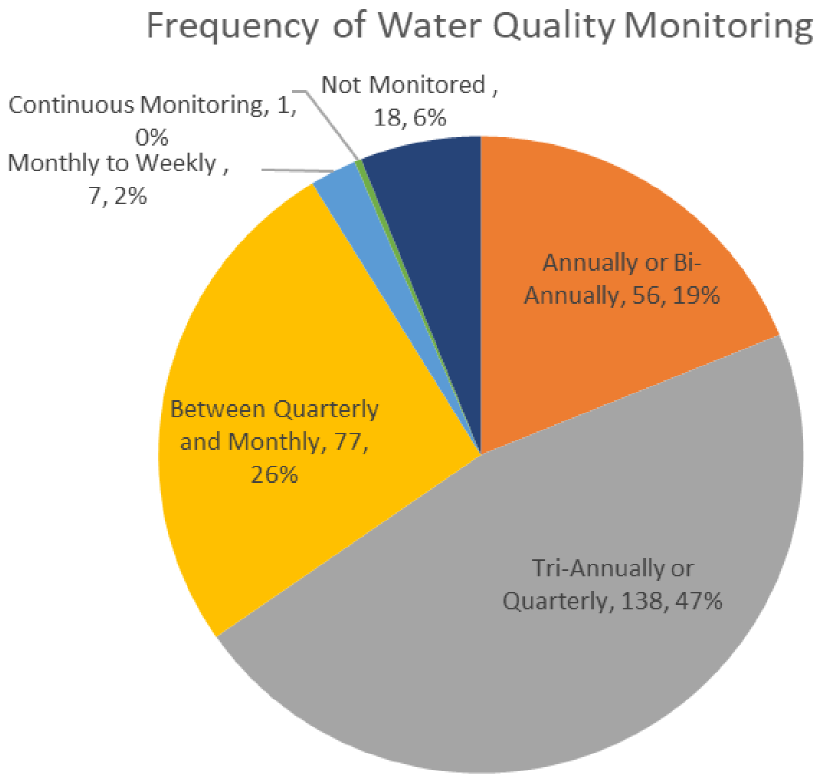
FY23-24 WQAR Results

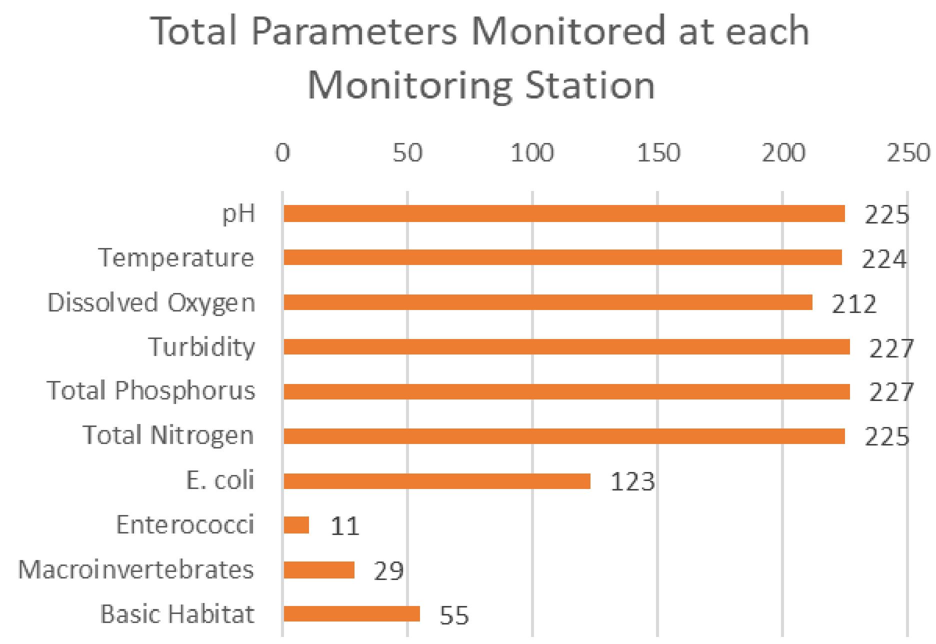


Total # of Tribes submitted WQAR template	Total # of Waterbodies Monitored	Total # of Monitoring Stations
35	286	297

Summary analysis of R9 Tribal data collected under CWA 106 for FY23 reporting period. The data includes any Tribe that submitted a WQAR using the excel template tool and does not include any identifiable Tribal information.

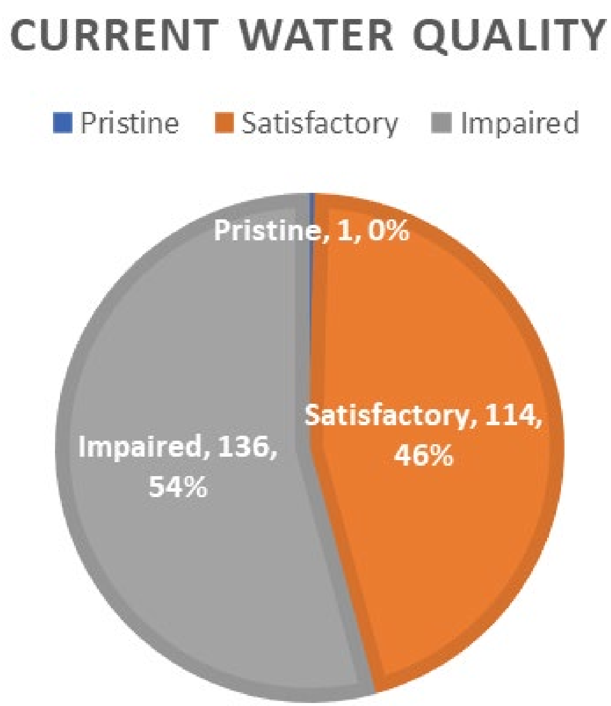
FY23-24 WQAR Results

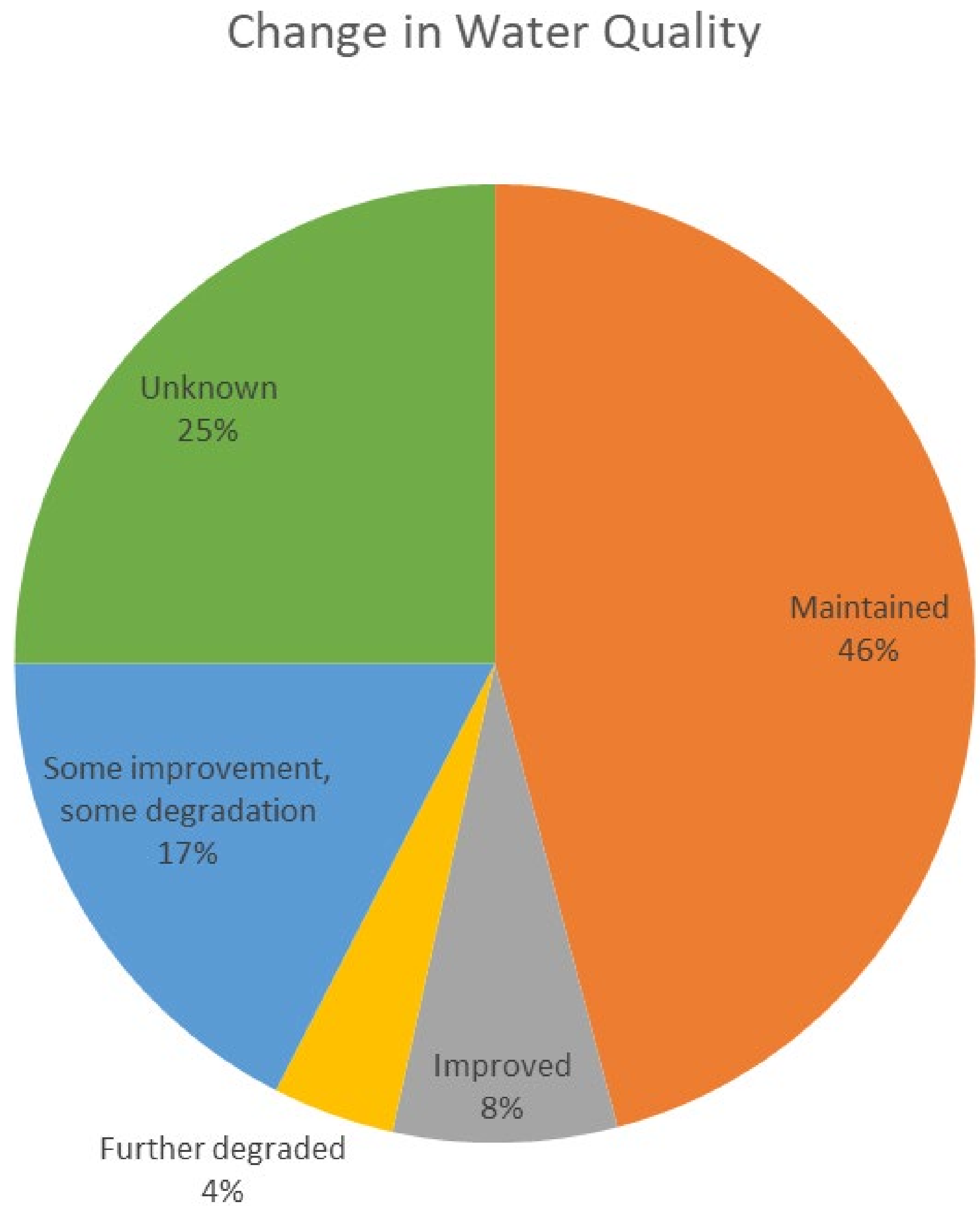




Summary analysis of R9 Tribal data collected under CWA 106 for FY23 reporting period. The data includes any Tribe that submitted a WQAR using the excel template tool and does not include any identifiable Tribal information.

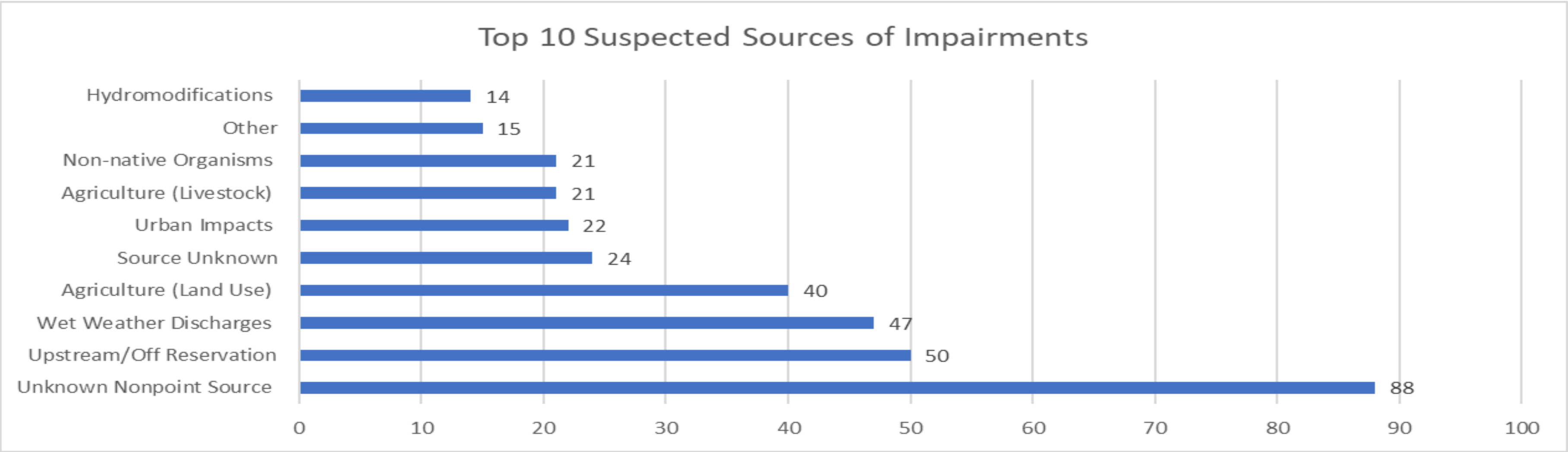
FY23-24 WQAR Results

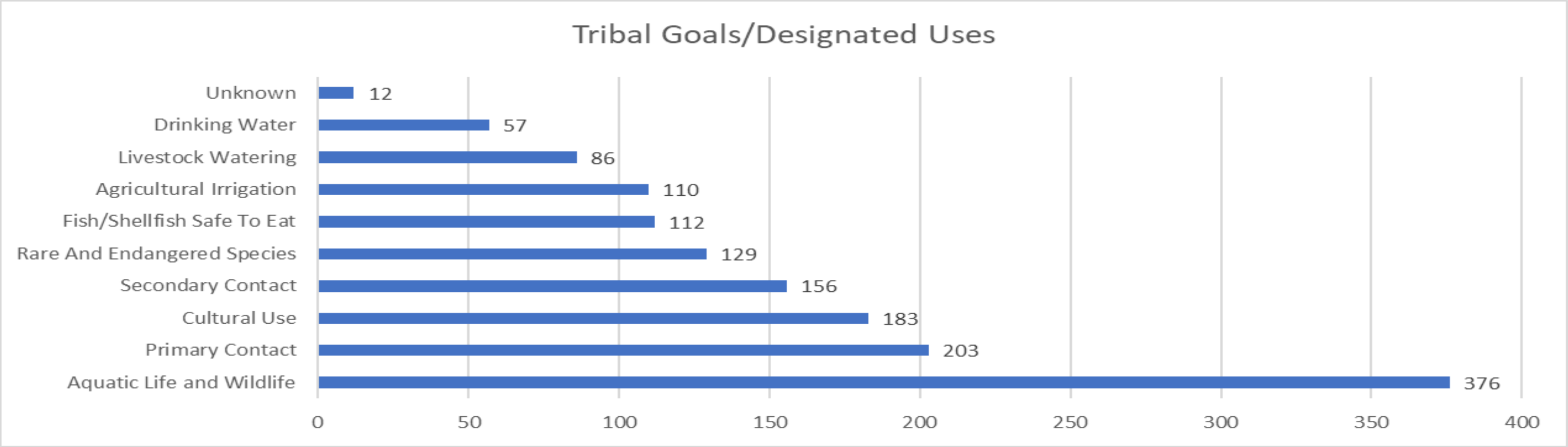




Summary analysis of R9 Tribal data collected under CWA 106 for FY23 reporting period. The data includes any Tribe that submitted a WQAR using the excel template tool and does not include any identifiable Tribal information.

FY23-24 WQAR Results





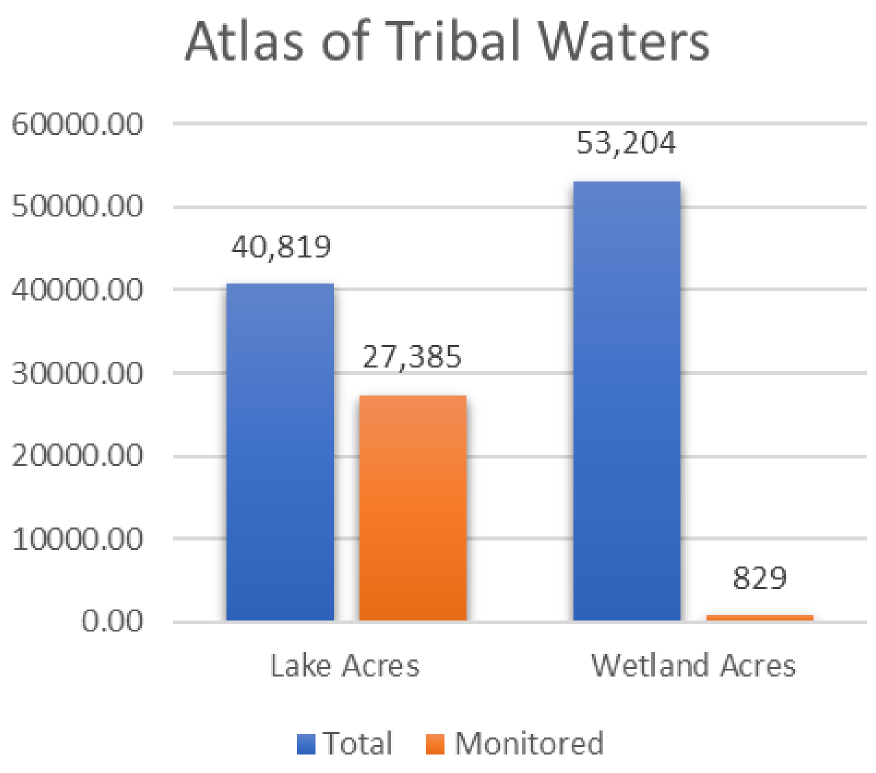
Summary analysis of R9 Tribal data collected under CWA 106 for FY23 reporting period. The data includes any Tribe that submitted a WQAR using the excel template tool and does not include any identifiable Tribal information.

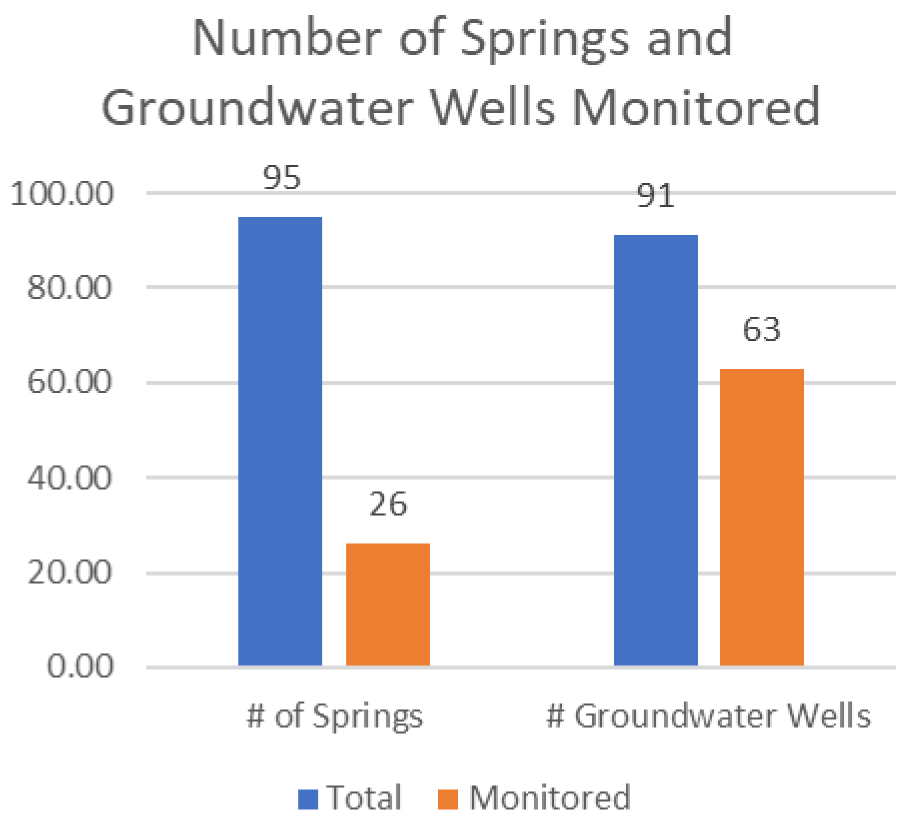
Atlas of Tribal Waters and Watershed Restoration Tabs

	A	B	C	D	E
1	**ATLAS OF TRIBAL WATERS**				
2	**On Reservation**				**Off-Reservation**
3		**Total Distance or Area**	**Monitored**		**Monitored (optional)**
4	STREAM MILES:	(Type number here)	(Type number here)		(Type number here)
5	LAKE AND RESERVOIR ACRES:	(Type number here)	(Type number here)		(Type number here)
6	WETLAND ACRES:	(Type number here)	(Type number here)		(Type number here)
7	ESTUARY OR COASTAL WATER SQUARE MILES:	(Type number here)	(Type number here)		(Type number here)
8	NUMBER OF SPRINGS:	(Type number here)	(Type number here)		
9	NUMBER OF GROUNDWATER MONITORING WELLS (optional):	(Type number here)	(Type number here)		

A	B	C	D	E	F	G	H	I	J	K	L
CWA §319 Project	**Waterbody or Watershed Targeted by Project**	**Type of Best Management Practice(s) (BMPs) Implemented**	**Total BMP Length or Area**	**BMP Units**	**Year Project Work Began**	**Project Status**	**Pre-Project Data**	**Post-Project Data**	**Monitoring Location ID (WQX)**	**Project Cooperators**	**Comments**
Yes	Wendell Wash	Fencing/Barrier Control	4.6	miles (mi)		In Progress	Yes	No	Wendell001	BOR	Example
		Waste Removal	1.5	miles (mi)							
		Seeding/Mulching	0.4	acres (ac)							

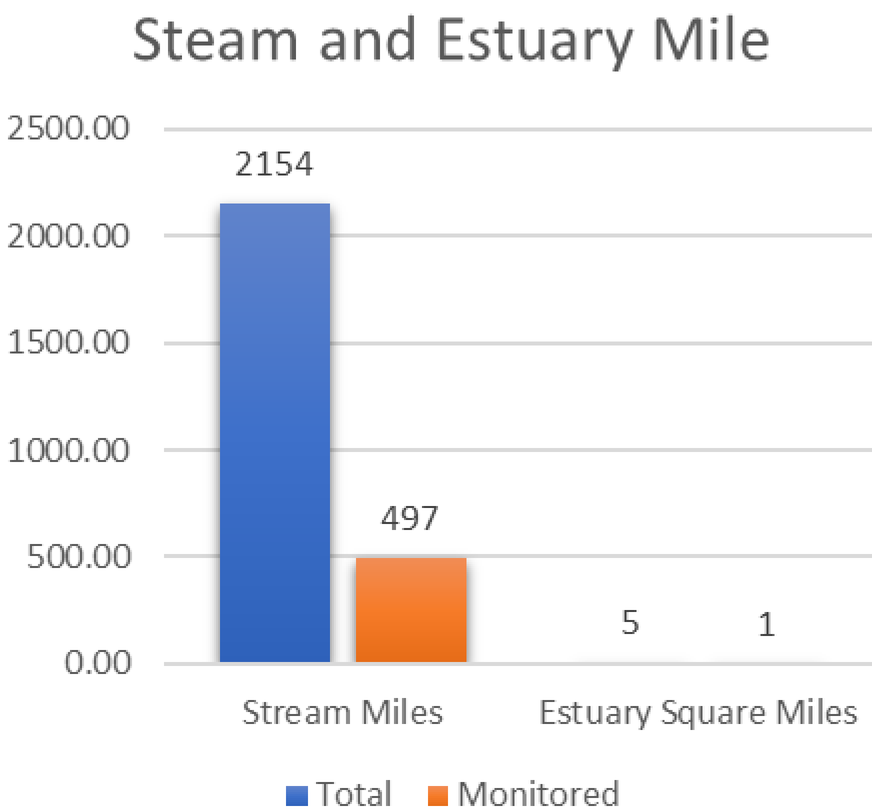
Atlas of Tribal Waters





Summary analysis of R9 Tribal data collected under CWA 106 for FY22 reporting period. The data includes any Tribe that submitted a WQAR using the excel template tool and does not include any identifiable Tribal information.

Atlas of tribal waters (cont)



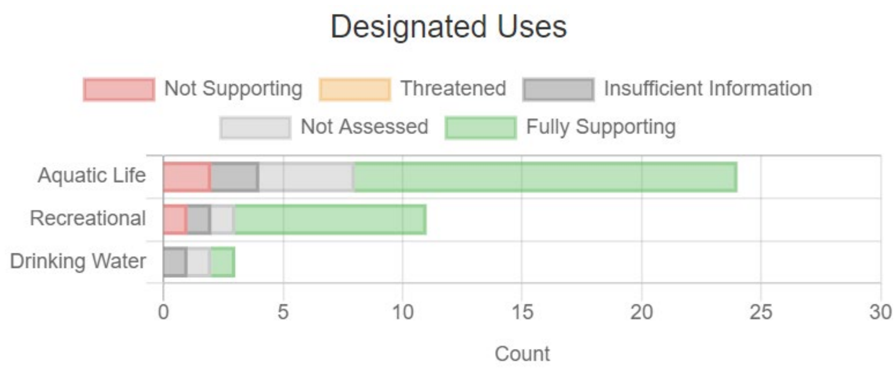
La Jolla Band of Luiseño Indians

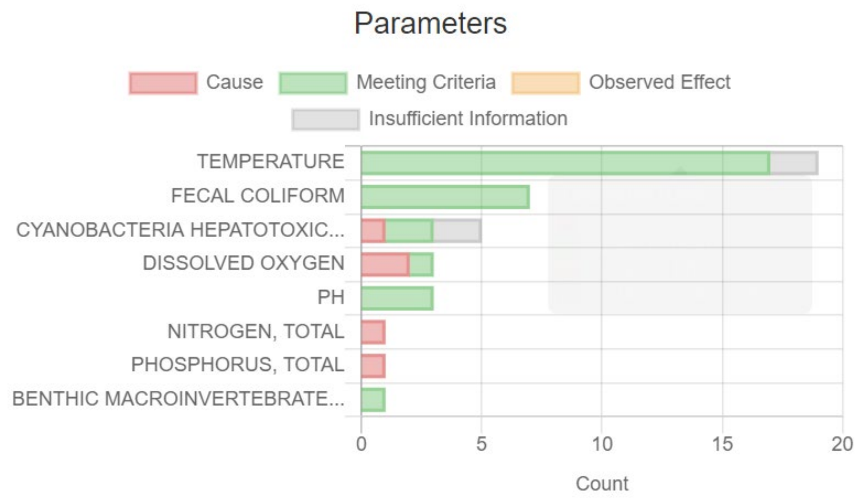
What is the ATTAINS pilot?

- ATTAINS (Assessment TMDL Tracking and ImplementatioN System)
- A way to electronically report water quality assessment reports
- Tribes must have an assessment methodology (recipe for reproducing their conclusions)
- Optional reporting method

Tribal ATTAINS Project Timeline

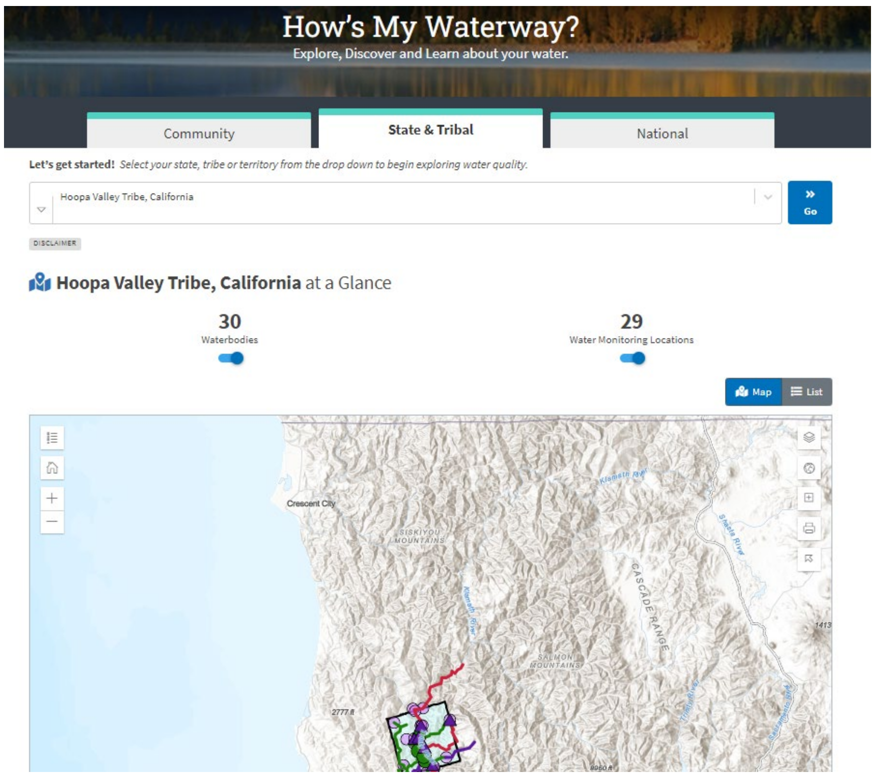
1. **Nov 2016: Tribal pilot started!**
2. **Dec 2016 and Oct 2017: Training**
3. **Jan 2018: 12 of 15 pilot tribes reported**
4. **Late 2018/2019 Training and Pilot Reflected**
5. **February 2020: Trained mentors**
6. **Early 2020: Solicited new participants**
7. **Late 2020-2021: Train and mentor new participants**
8. **Dec 2021: 1st ATTAINS submission due for new participants**
9. **Sept 2022: 1st In-Person Training since Feb 2020**
10. **Nov 2022: Tribal Pages in How's My Waterway Published**
11. **2023: Soliciting and training new tribal participants**
12. 2024/2025: New participants developing assessment methodology and submitting assessments

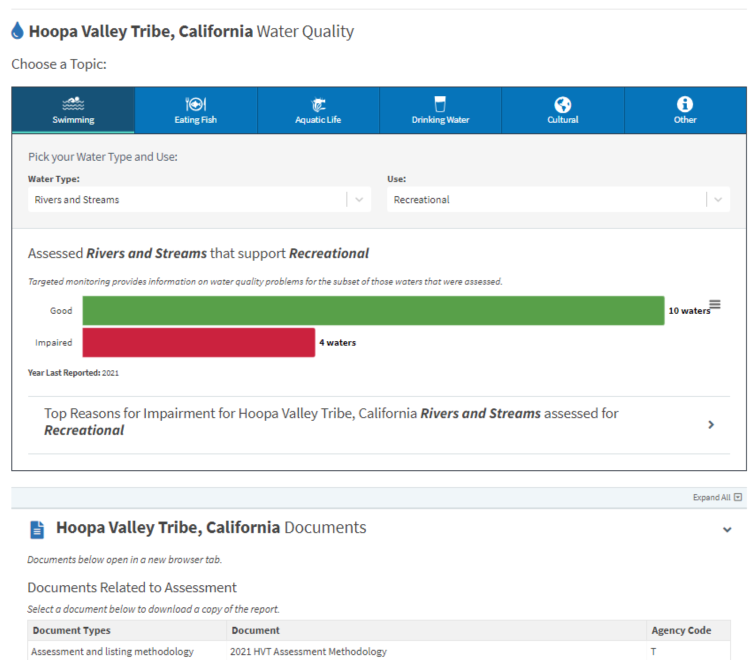




ATTAINS Report Examples

How's My Waterway Tribal Pages



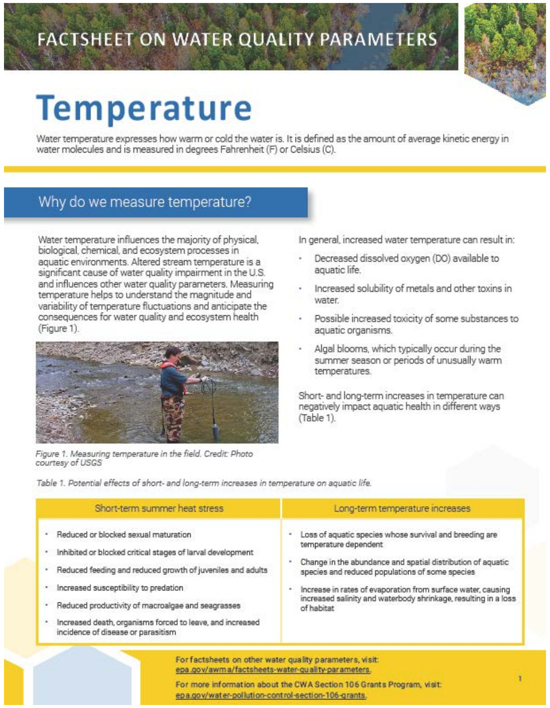


https://mywaterway.epa.gov/

QUIZ TIME!

WHAT ARE THE THREE CWA 106 REPORTING REQUIREMENTS?

Water Quality Parameter Fact Sheets



FACTSHEET ON WATER QUALITY PARAMETERS

Temperature

Water temperature expresses how warm or cold the water is. It is defined as the amount of average kinetic energy in water molecules and is measured in degrees Fahrenheit (F) or Celsius (C).

Why do we measure temperature?

Water temperature influences the majority of physical, biological, chemical, and ecosystem processes in aquatic environments. Altered stream temperature is a significant cause of water quality impairment in the U.S. and influences other water quality parameters. Measuring temperature helps to understand the magnitude and variability of temperature fluctuations and anticipate the consequences for water quality and ecosystem health (Figure 1).

Figure 1. Measuring temperature in the field. Credit: Photo courtesy of USGS

In general, increased water temperature can result in:

- Decreased dissolved oxygen (DO) available to aquatic life.
- Increased solubility of metals and other toxins in water.
- Possible increased toxicity of some substances to aquatic organisms.
- Algal blooms, which typically occur during the summer season or periods of unusually warm temperatures.

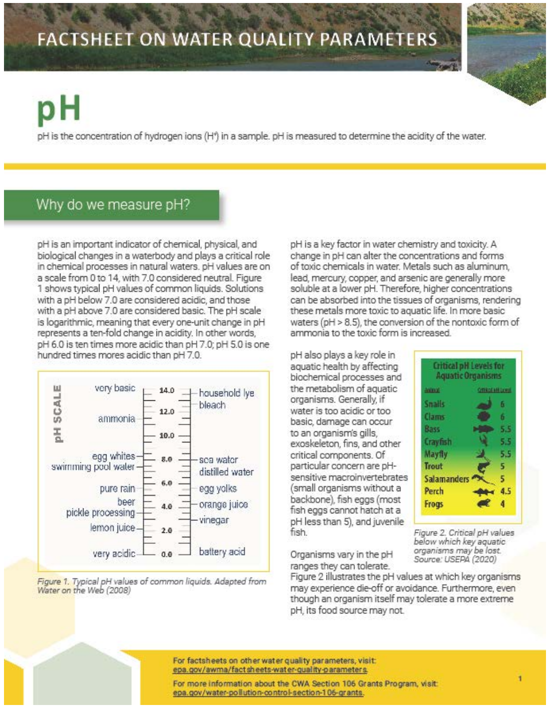
Short- and long-term increases in temperature can negatively impact aquatic health in different ways (Table 1).

Table 1. Potential effects of short- and long-term increases in temperature on aquatic life.

Short-term summer heat stress	Long-term temperature increases
Reduced or blocked sexual maturation; Inhibited or blocked critical stages of larval development; Reduced feeding and reduced growth of juveniles and adults; Increased susceptibility to predation; Reduced productivity of macroalgae and seagrasses; Increased death, organisms forced to leave, and increased incidence of disease or parasitism	Loss of aquatic species whose survival and breeding are temperature dependent; Change in the abundance and spatial distribution of aquatic species and reduced populations of some species; Increase in rates of evaporation from surface water, causing increased salinity and waterbody shrinkage, resulting in a loss of habitat

For factsheets on other water quality parameters, visit: epa.gov/awma/factsheets-water-quality-parameters.
For more information about the CWA Section 106 Grants Program, visit: epa.gov/water-pollution-control-section-106-grants.

1



FACTSHEET ON WATER QUALITY PARAMETERS

pH

pH is the concentration of hydrogen ions (H⁺) in a sample. pH is measured to determine the acidity of the water.

Why do we measure pH?

pH is an important indicator of chemical, physical, and biological changes in a waterbody and plays a critical role in chemical processes in natural waters. pH values are on a scale from 0 to 14, with 7.0 considered neutral. Figure 1 shows typical pH values of common liquids. Solutions with a pH below 7.0 are considered acidic, and those with a pH above 7.0 are considered basic. The pH scale is logarithmic, meaning that every one-unit change in pH represents a ten-fold change in acidity. In other words, pH 6.0 is ten times more acidic than pH 7.0; pH 5.0 is one hundred times mores acidic than pH 7.0.

Figure 1. Typical pH values of common liquids. Adapted from Water on the Web (2008)

pH is a key factor in water chemistry and toxicity. A change in pH can alter the concentrations and forms of toxic chemicals in water. Metals such as aluminum, lead, mercury, copper, and arsenic are generally more soluble at a lower pH. Therefore, higher concentrations can be absorbed into the tissues of organisms, rendering these metals more toxic to aquatic life. In more basic waters (pH > 8.5), the conversion of the nontoxic form of ammonia to the toxic form is increased.

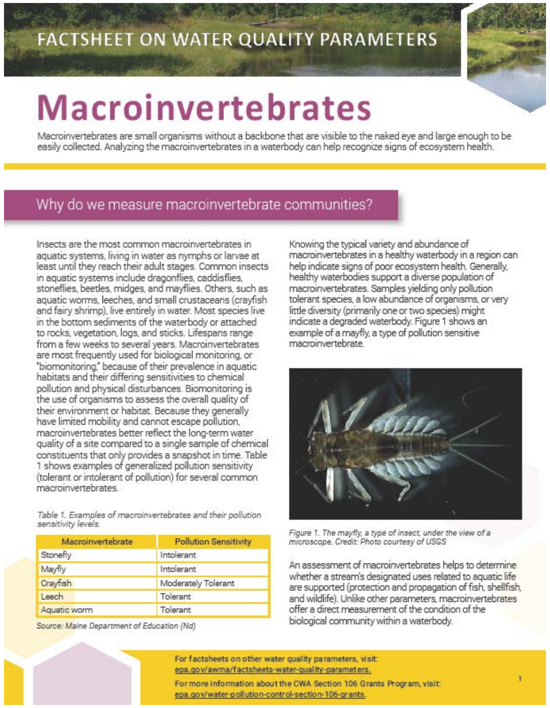
pH also plays a key role in aquatic health by affecting biochemical processes and the metabolism of aquatic organisms. Generally, if water is too acidic or too basic, damage can occur to an organism's gills, exoskeleton, fins, and other critical components. Of particular concern are pH-sensitive macroinvertebrates (small organisms without a backbone), fish eggs (most fish eggs cannot hatch at a pH less than 5), and juvenile fish.

Figure 2. Critical pH values below which key aquatic organisms may be lost. Source: USEPA (2020)

Organisms vary in the pH ranges they can tolerate. Figure 2 illustrates the pH values at which key organisms may experience die-off or avoidance. Furthermore, even though an organism itself may tolerate a more extreme pH, its food source may not.

For factsheets on other water quality parameters, visit: epa.gov/awma/factsheets-water-quality-parameters.
For more information about the CWA Section 106 Grants Program, visit: epa.gov/water-pollution-control-section-106-grants.

1



FACTSHEET ON WATER QUALITY PARAMETERS

Macroinvertebrates

Macroinvertebrates are small organisms without a backbone that are visible to the naked eye and large enough to be easily collected. Analyzing the macroinvertebrates in a waterbody can help recognize signs of ecosystem health.

Why do we measure macroinvertebrate communities?

Insects are the most common macroinvertebrates in aquatic systems, living in water as nymphs or larvae at least until they reach their adult stages. Common insects in aquatic systems include dragonflies, caddisflies, stoneflies, beetles, midges, and mayflies. Others, such as aquatic worms, leeches, and small crustaceans (crayfish and fairy shrimp), live entirely in water. Most species live in the bottom sediments of the waterbody or attached to rocks, vegetation, logs, and sticks. Lifespans range from a few weeks to several years. Macroinvertebrates are most frequently used for biological monitoring, or "biomonitoring," because of their prevalence in aquatic habitats and their differing sensitivities to chemical pollution and physical disturbances. Biomonitoring is the use of organisms to assess the overall quality of their environment or habitat. Because they generally have limited mobility and cannot escape pollution, macroinvertebrates better reflect the long-term water quality of a site compared to a single sample of chemical constituents that only provides a snapshot in time. Table 1 shows examples of generalized pollution sensitivity (tolerant or intolerant of pollution) for several common macroinvertebrates.

Table 1. Examples of macroinvertebrates and their pollution sensitivity levels.

Macroinvertebrate	Pollution Sensitivity
Stonefly	Intolerant
Mayfly	Intolerant
Crayfish	Moderately Tolerant
Leech	Tolerant
Aquatic worm	Tolerant

Source: Maine Department of Education (Nd)

Knowing the typical variety and abundance of macroinvertebrates in a healthy waterbody in a region can help indicate signs of poor ecosystem health. Generally, healthy waterbodies support a diverse population of macroinvertebrates. Samples yielding only pollution tolerant species, a low abundance of organisms, or very little diversity (primarily one or two species) might indicate a degraded waterbody. Figure 1 shows an example of a mayfly, a type of pollution sensitive macroinvertebrate.

Figure 1. The mayfly, a type of insect, under the view of a microscope. Credit: Photo courtesy of USGS

An assessment of macroinvertebrates helps to determine whether a stream's designated uses related to aquatic life are supported (protection and propagation of fish, shellfish, and wildlife). Unlike other parameters, macroinvertebrates offer a direct measurement of the condition of the biological community within a waterbody.

For factsheets on other water quality parameters, visit: epa.gov/awma/factsheets-water-quality-parameters.
For more information about the CWA Section 106 Grants Program, visit: epa.gov/water-pollution-control-section-106-grants.

1

Available at: https://www.epa.gov/awma/factsheets-water-quality-parameters

Contact Information

Your CWA Project Officer

or

Kate Pinkerton
Pinkerton.kate@epa.gov

JieQi Yan
Yan.JieQi@epa.gov