



# Water Data & Tools for supporting water quality decisions

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# Water Data Tools

Tool Name	Tool Functionality	Program Support	Where to find the tool
<b>E-Enterprise Tribal Roadmap for WQX submissions</b>	A tribe can answer 6 questions about their water program and the generates a custom guide for submitting data to WQX. There is also charting functionality in the tool to help tribes see what sampling has occurred and what the results are.	Helps a tribe submit data to WQX	<a href="https://epa.gov/storet">https://epa.gov/storet</a> – E-Enterprise tribal roadmap for WQX Submissions
<b>SP14b Analysis Tool</b>	Helps tribes retrieve data that has been submitted to WQX and perform simple criteria comparisons. It was developed to support tribes reporting on measure SP14b but is useful to other water quality assessments.	This tool can be used to help tribes create Assessment Reports and can generate a map of your monitoring locations	<a href="https://epa.gov/storet">https://epa.gov/storet</a> – WQX excel analysis tool
<b>Water Quality Portal Data Discovery Tool</b>	This tool helps a user retrieve data from the water quality portal and prepare it for complex data analyses. The tool also has basic graph and chart functionality. A User needs to have R software	This tool can be used to create assessment reports	<a href="https://epa.gov/storet">https://epa.gov/storet</a> – Water Quality Portal Data Discovery Tool
<b>Data Analysis Tool</b>	This tool is a secondary tool to the Water Quality Portal Discovery Tool. A user uploads data they filtered through the Data discovery tool to then assess the data against tribal WQS or benchmark criteria. A user needs to have R software	This tool can be used to make assessment decisions. The output of this tool will be ATTAINS compatible	COMING SOON!
<b>ATTAINS</b>	The database which holds water quality decisions. The use of this database is being piloted in 2017 & 2018	This tool can be used in-lieu of Assessment Reports	COMING SOON!

# Tribal Roadmap

Guide Wizard

Background Information | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 | Create Guide

**Tribal Name:**

**Contact Information**

<b>First Name:</b>	<input type="text" value="Laura"/>
<b>Last Name:</b>	<input type="text" value="Shumway"/>
<b>Phone Number:</b>	<input type="text" value="202 566 2514"/>
<b>Email Address:</b>	<input type="text" value="shumway.laura@epa.gov"/>

Guide Wizard

Background Information | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 | Create Guide

**Do you send any of your water quality samples to a laboratory?**

YES

If 'YES', what format do you receive the data in? (choose one)

WQX Compatible

Other format /I don't know if my lab results are WQX compatible

NO

Guide Wizard

Background Information | Question 1 | Question 2 | Question 3 | Question 4 | Question 5 | Question 6 | Create Guide

Click on 'Create Guide' to choose a location to save the generated report. The Report will be created once you hit 'Save'.

C:\Users\Llovgren\Documents\\_Tribal\_Guide\_20160804.rtf

# Customized Tribal Water Quality Data Guide

## Business Process Improvement- 30 to 6 pages

### Water Quality eXchange Roadmap (WQX)

for  
Cherokee

Generated by: Shumway, Laura  
Generated on: 3/4/2016  
Email Address: shumway.laura@epa.gov  
Phone Number: 202 566 2514

*Protection of natural resources is the shared priority of Tribes and the EPA. Ensuring the integrity of water quality monitoring data collection, organization, and submission enables better water management and protection decisions.*

*Answering the questions in the excel tool about your existing and future work helped develop this guide to managing water quality data and, if it is a goal, submitting it to WQX.*

*\*Excel was used as a tool to generate this guide because it is a commonly-owned software. It does not imply that you are required to use Excel to manage your data.*

#### Preparing Data for WQX Submissions

##### Do you have an EPA approved QAPP? (Quality Assurance Project Plan)

**Response: No**

In order to collect environmental measures using EPA funds, it is a requirement to have an EPA-Approved QAPP in place.

You'll need to develop a Quality Assurance Project Plan (QAPP) and receive approval from the EPA Project Officer and Regional Quality Assurance Manager. The below steps will help develop your QAPP:

1. Talk to your EPA Project Officer about beginning or continuing a water quality monitoring project. Be sure to discuss funding options and allowable projects. Make sure you have Treatment as a State for your water quality program. This is the federal authority that permits tribes to receive EPA funding.  
<http://www.epa.gov/quality/guidance-preparing-quality-assurance-project-plan> . If you do not know who your project officer is, go to <https://www.epa.gov/tribal>.
2. Communicate with the EPA QA Officer about your water quality monitoring project. This will ensure that data collected using EPA funds is of known and documented quality. The EPA QA Website can be found here (<https://www.epa.gov/quality> ). Use the map at the bottom of the website to find your regional contact information. A regional QA officer will be the one to approve your QAPP.
3. You may also be required to create a monitoring strategy to meet your grant conditions. Contact PO to determine if this is a requirement for you.

By developing a monitoring strategy you will define when, where, how often, etc. you will collect water quality data.  
<http://www.epa.gov/water-pollution-control-section-106-grants/developing-tribal-water-monitoring-strategy-supplement>

#### Effectively Managing and Storing Your Data

Now that you have created a method for formatting individual datasets, a strategy for organizing and storing multiple data files should be developed. The best organization strategies make locating the desired file quick and easy, both for the main user and others who may need to access it later. Make sure you meet all of the following criteria with your data storage strategy:

1. Files are stored on a stable computer in a safe location.
2. Files are named using a clear and descriptive method. Underscores can be used in the filename to identify multiple characteristics of the file content, such as year of collection, and QA status. Spaces should be avoided in file names as they can sometimes interfere with data import processes. An example file name for data collected in 2015 could be: "2015WQData.xlsx"
- As the data is QA'd and uploaded to WQX, different versions of the files can be saved with new file names identifying the "phase." To clearly indicate the phase of your data, put "QA" or "Uploaded" into the file name.
3. A clear and logical structure of folders should be used to sort files. It will be best to organize your files the way your tribe does its business. For Ex: If you compile your data to submit annually, you may want a folder for each year of data. And within that folder you will have file labels for the data that meets describes your phase.

When determining how to label your files and documents, put yourself in the shoes of someone seeing this folder for the first time. Would they understand what is in the documents or spreadsheets? If not, you should relabel your folders and/or your documents.

4. You will want to electronically "back-up" your files and datasets. Sometimes computers fail, or we accidentally delete dataset, but you want to be able to maintain all the hard work you have done in collecting those samples. You can copy your files onto a USB drive, a network shared location, or even another computer. By doing this every couple weeks, you will be sure to maintain the dataset through time to support your tribes' environmental mission and through staff turnover.

#### Setting up a WQX Web Account

##### Do you have an ORG ID and User ID for WQX?

**Response: Yes**

Your Organization ID in WQX is:

FONDULAC\_WQX

The following user IDs are associated with your Organization:

[laurashumway@cherokee.gov](#)

# SP14b Analysis Tool

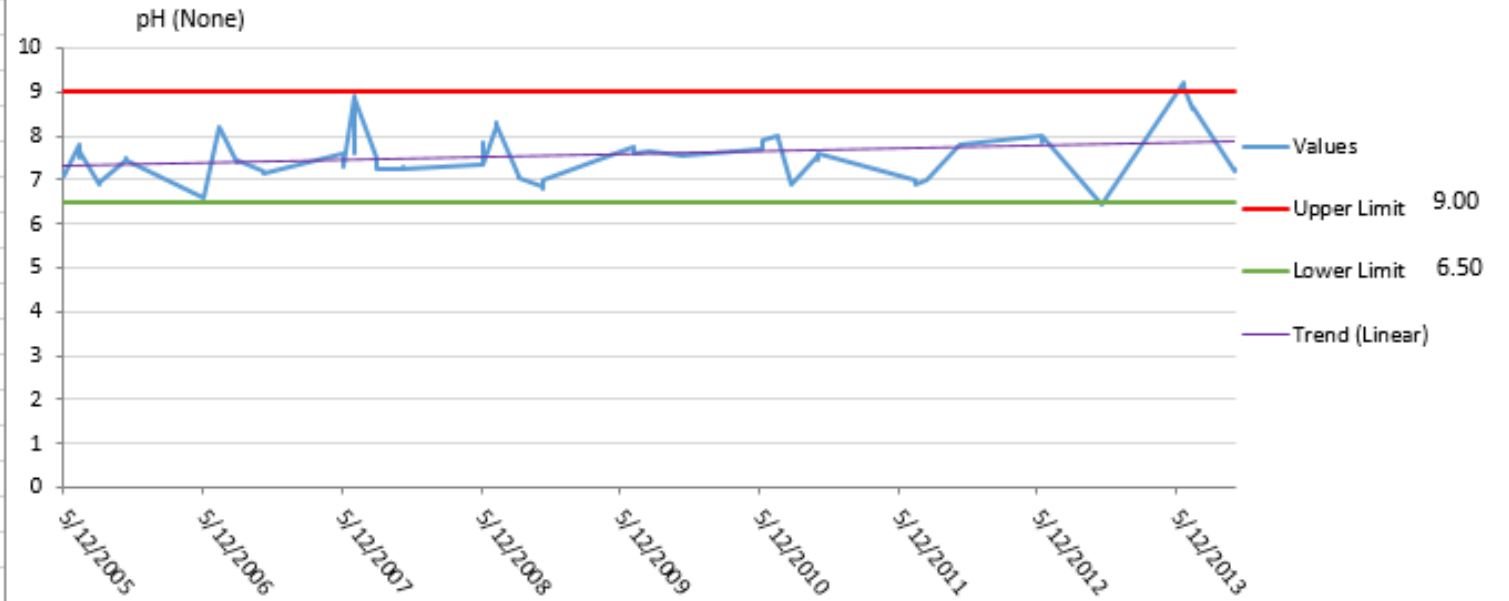
CHARACTERISTIC NAME: pH  
START DATE: 5/12/2006  
END DATE: 10/14/2013  
UOM: None  
UPPER LIMIT: 9.00  
LOWER LIMIT: 6.50  
#EXCEED UPPER LIMIT: 4  
#EXCEED LOWER LIMIT: 2  
MAX: 9.2  
MIN: 6.46  
AVERAGE: 7.589  
MEDIAN: 7.545  
#DETECTIONS: 100  
#NONDETECT: 0  
SAMPLE MEDIUM:  
AT LEAST TWO YEARS OF DATA?: FALSE  
%Exceedences: 6.00

Save

Map Analysis

Show Search Form

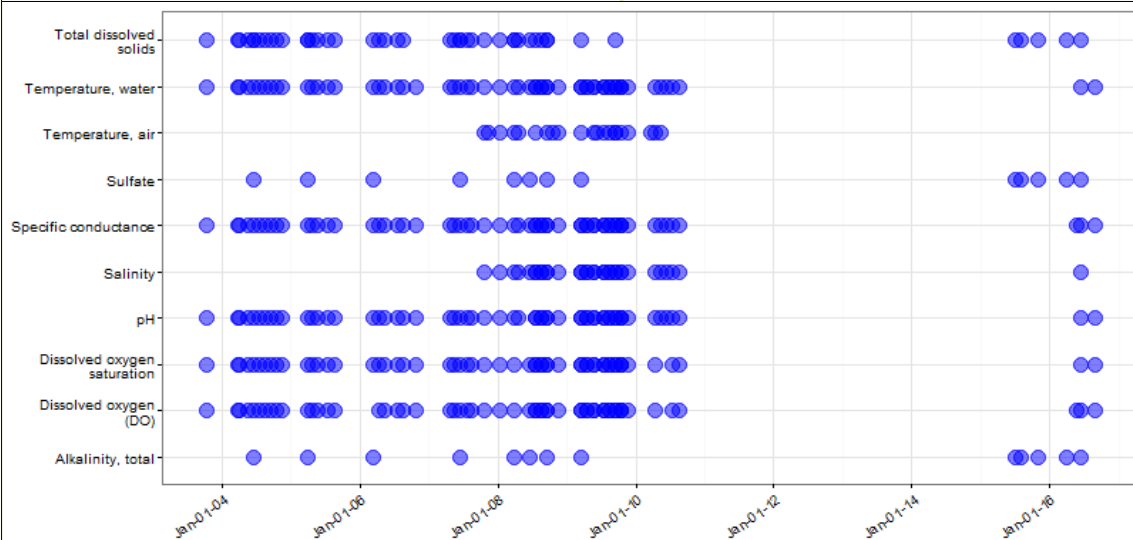
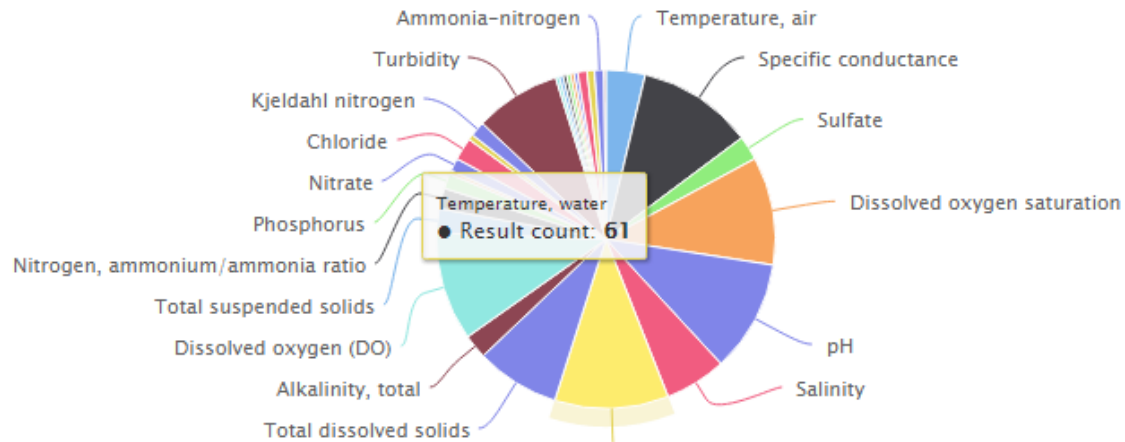
## FONDULAC\_WQX-112: Miller (Mud) Lake



# Data Discovery Tool

## Summary for station Duck Cr. at Pamperin Park

There are 561 records representing 29 characteristics at this station.



Please select up to 3 parameter/unit combinations to plot

First Parameter/Unit Choice

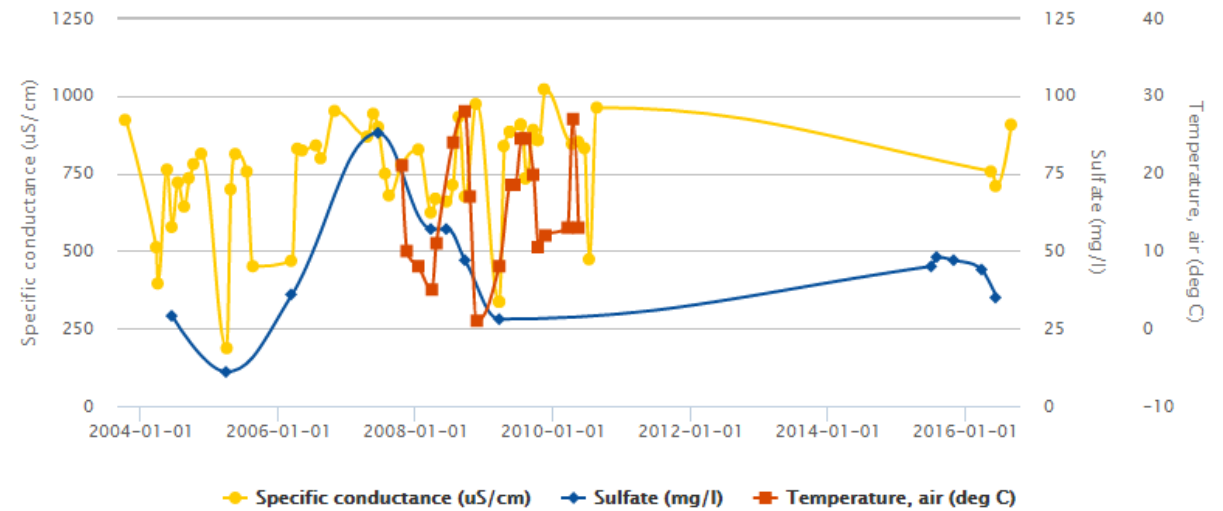
Second Parameter/Unit Choice

Third Parameter/Unit Choice

Temperature, air (deg C)

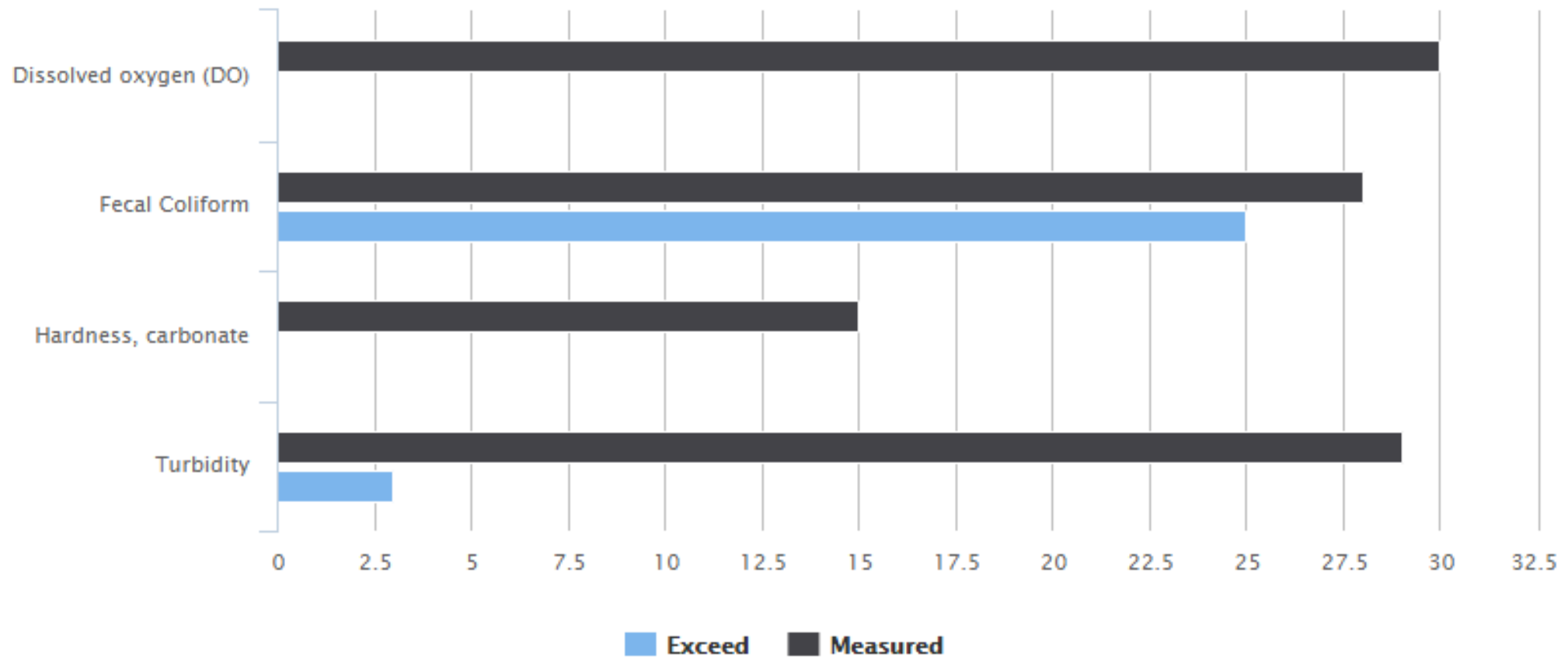
Specific conductance (uS/cm)

Sulfate (mg/l)

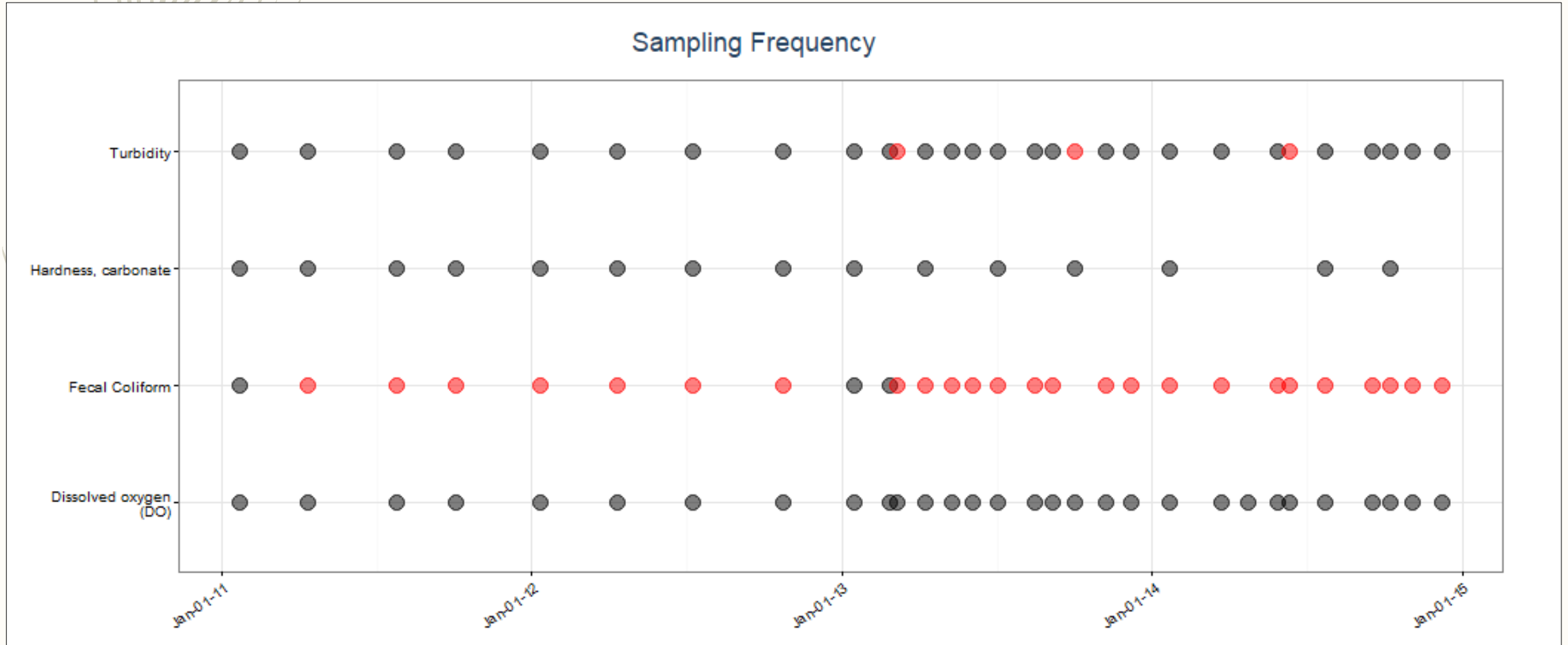


# Data Analysis Tool

Measurements vs. Exceedances

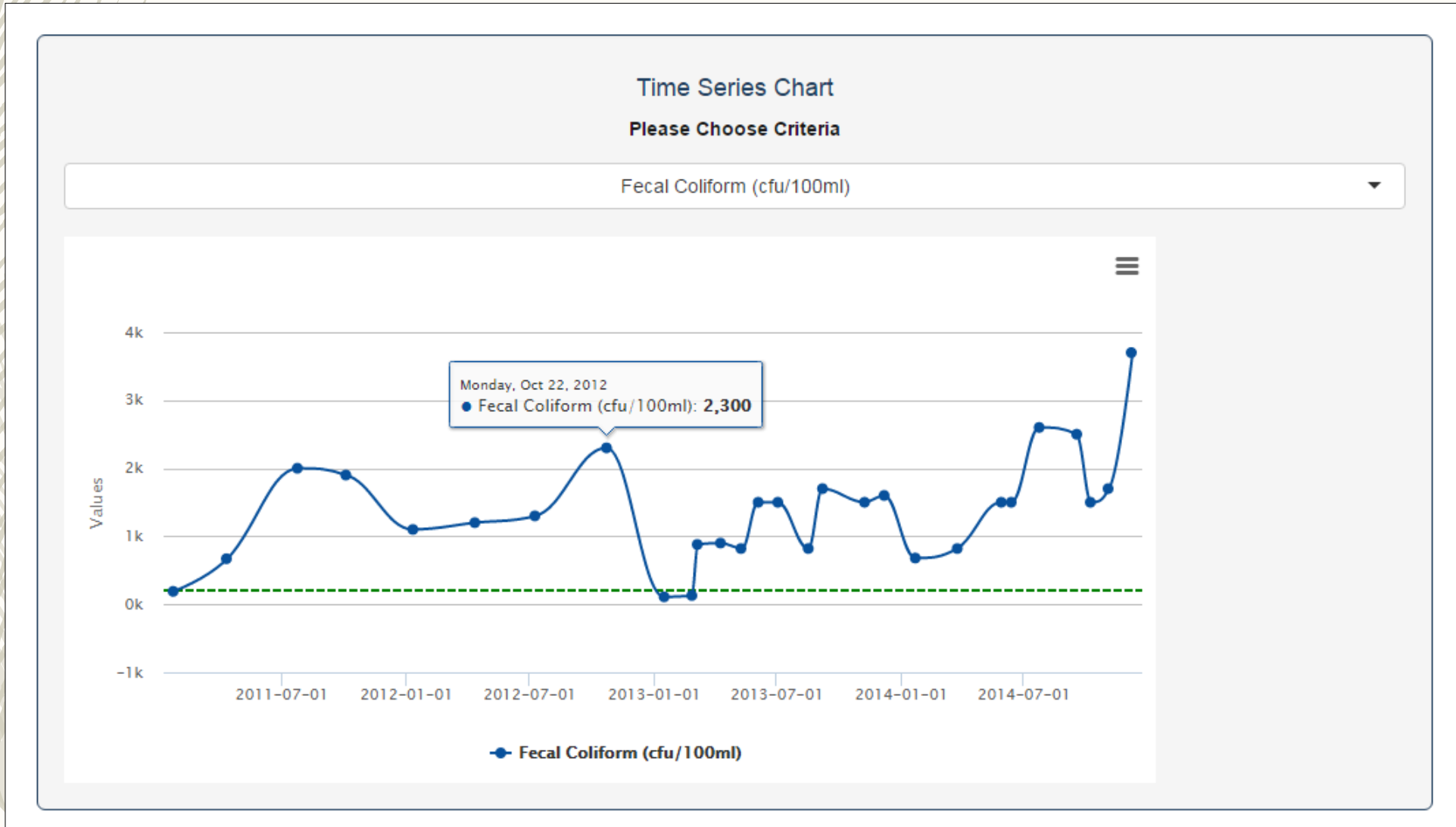


# Data Analysis Tool






# Data Analysis Tool





# ATTAINS pilot project

## Questions leading to the project:

1. What is the status of water quality on tribal lands locally, regionally, & nationally?
    - *Most Regions capture data in a word document which makes it difficult to capture trends through time on individual tribal lands and makes it difficult to tell the whole story of water quality of tribal lands regionally and nationally.*
  2. What standard format and information do all tribes provide in their Assessment Reports?
    - *The 106 guidance provides a good guideline for reporting but regions implement the process differently.*
  3. How can we help tribes prepare for CWA Authority 303(d)?
    - *Tribes will have to report assessment data to ATTAINS if they take on TAS for 303(d). How can we help prepare them for that change?*
  4. How can we create program measures that are truly representative of the water quality on tribal lands?
    - *Current tribal water quality measures are representative of tribes and regions time to participate rather than the true quality of waters on tribal lands.*
  5. How can we make assessment reporting more streamlined?
    - *We can standardize assessment decision reporting in the system and each region can review the decisions in the same environment.*
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# What's been done?

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1. Region 6 tribes and EPA developed a workgroup to determine how they could address the issues in the region.
2. The Region 6 tribes and EPA worked together to develop a proposal to report water quality through ATTAINS. (**A**ssessment and **T**M**D**L **T**racking **A**nd **I**nformation **S**ystem – used for reporting water quality decisions)
3. The region 6 RTOC approved the pursuance of the proposal and approved the kick-off of the training following the November RTOC in region 6.
4. Region 5 will have 1 participant and Region 9 will have 4 participants in the pilot project to get a broader view of e-reporting requirements and implications due to the unique regional approaches to water quality reporting. Region 6 tribes are still pending.
5. Pilot project notice and call for participants was just sent out. 15 tribes responded
6. Workgroup kick-off call began Oct 3<sup>rd</sup>.



# What's next?

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- Workgroup will meet 2-3 times before Dec training
- Pilot tribal participants will meet in Dec following the Region 6 RTOC for a workshop on assessment program implementation
- The workgroup will work on assessment methodologies, ATTAINS system review, TAS for 303(d), the Water Quality Portal data analysis tool, and data display & communication.
- Pilot tribal participants will attend the ATTAINS technical training the Summer of 2017
- Pilot tribes will continue to participate for at least the 2018 reporting year
- Workgroup will evaluate the project and decide whether it should be proposed for adoption nationally.

# ATTAINS DEMO

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# Questions

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- **Tribal Lead:** Micco Emarthla [memarthla@sctribe.com](mailto:memarthla@sctribe.com)
- **Region 6 Lead:** TeAndra Taylor [Taylor.TeAndra@epa.gov](mailto:Taylor.TeAndra@epa.gov)
- **Region 5 Lead:** David Horak [Horak.david@epa.gov](mailto:Horak.david@epa.gov)
- **Region 9 Lead:** Audrey Johnson [Johnson.AudreyL@epa.gov](mailto:Johnson.AudreyL@epa.gov)
- **HQ Lead:** Laura Shumway [Shumway.laura@epa.gov](mailto:Shumway.laura@epa.gov)