# BETTER TOGETHER

## Bishop Paiute Tribe & California Regional Water Board Partnering to Address Impaired Water of Bishop Creek


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# Overview of Presentation

## The Partners

- Bishop Paiute Tribe
- CA Lahontan Regional Water Quality Control Board

## The Place

- Overview of the Watershed

## The Problem

- Water Quality Impairment

## The Process

- Vision Project

# The Partners

California Regional Water Quality Control Board

Bishop Paiute Tribe

# One of Nine California Regional Water Boards

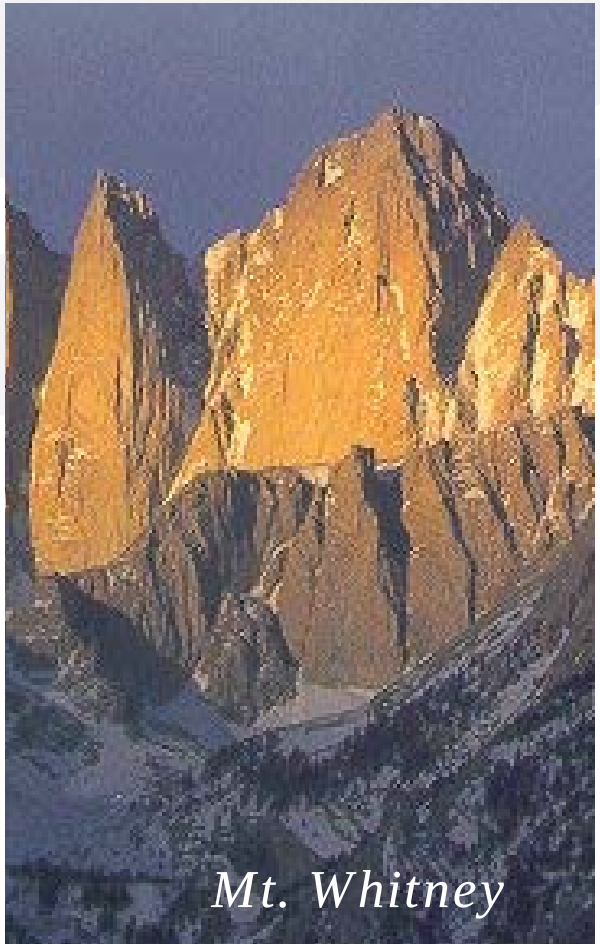

## Lahontan Region –R6

- 570 miles long
- 33,131 square miles
- 20% of the State

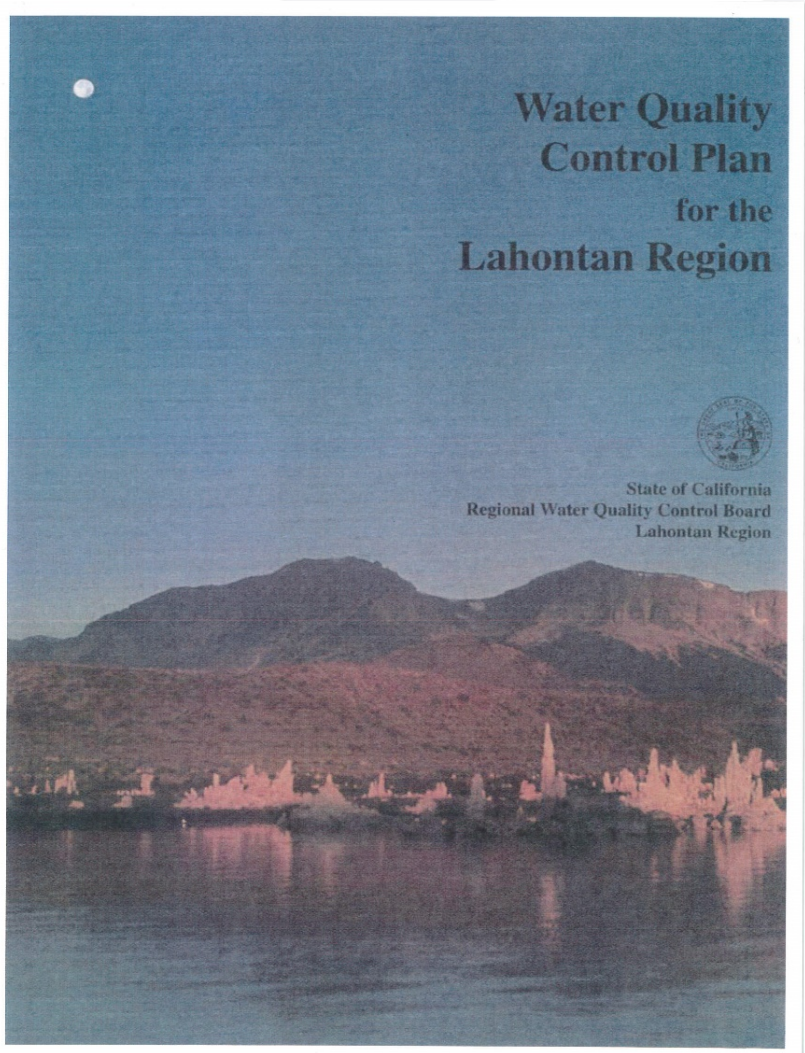
# Water Resources

- **700+ lakes**
- **3,000+ miles of streams**
- **1,500+ sq miles of groundwater basins**
- **2 ONRWs**
- **Diverse landscapes**





# Lahontan Region WQOs

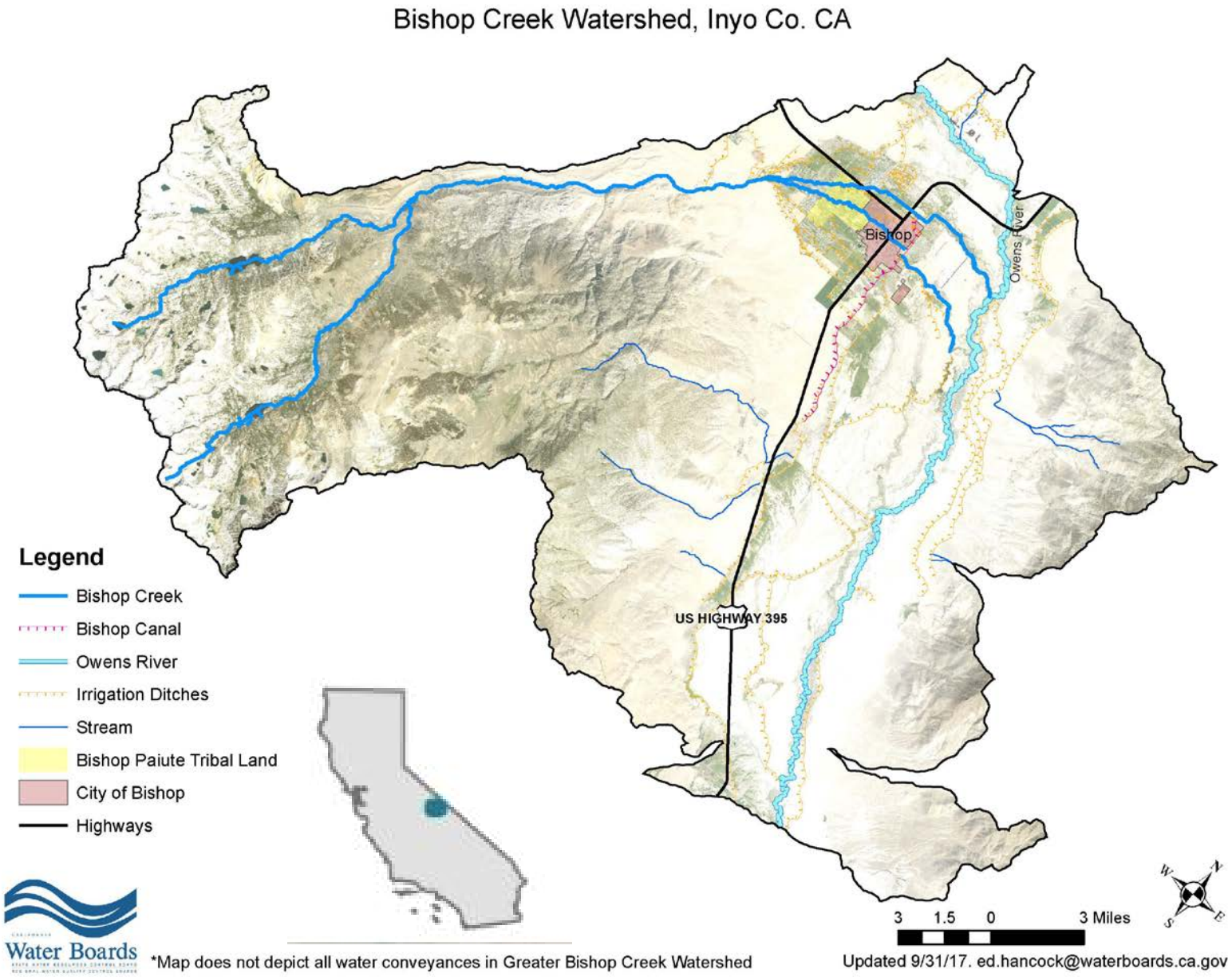



## Basin Plan contains:

- Narrative WQOs
- Region-wide WQOs
- Site-Specific WQOs for many constituents
  - Based on historic water quality data
  - Reflects pristine condition of Lahontan waters

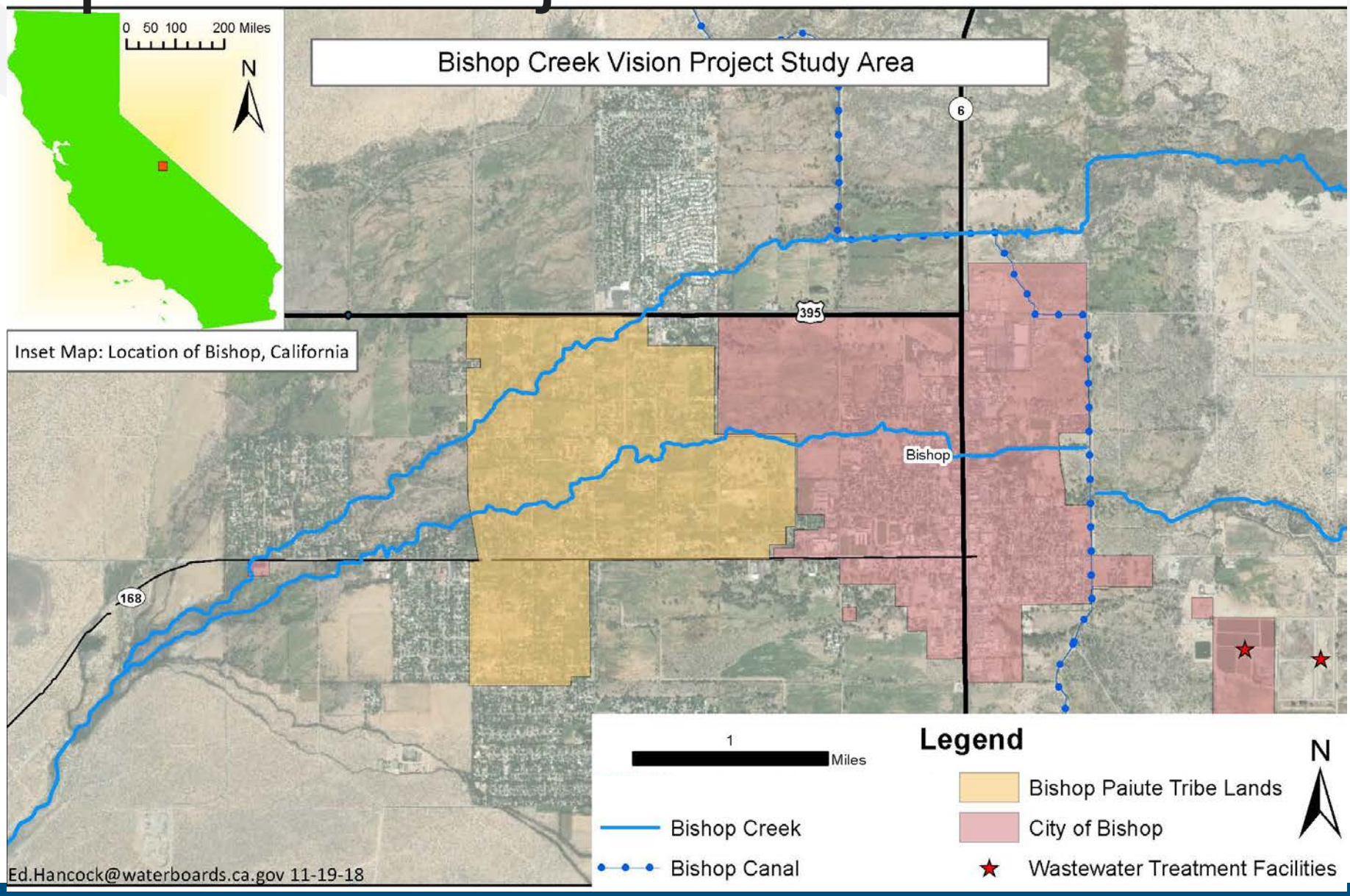
# Bishop Creek

- 129,000-acre drainage of Eastern Sierra Nevada, Inyo County
- Largest tributary to the Owens River
- Undeveloped headwaters, moderate development on valley floor
- Rec uses dominate headwaters, mixed uses (Ag, residential, urban) in valley



# Bishop Creek Project Area

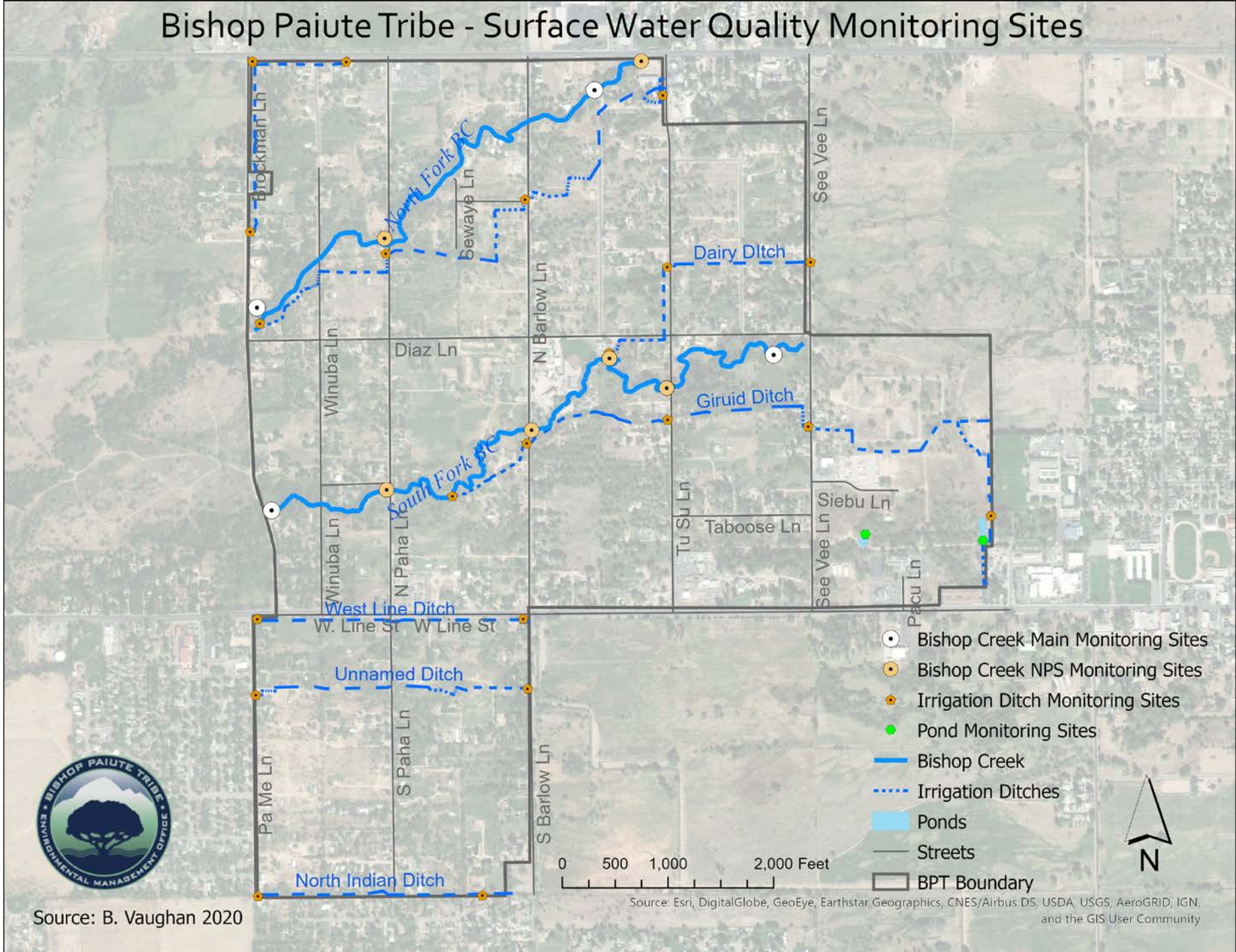
- ~4000-acre project area, including 875 acres of Bishop Paiute Reservation
- Bishop Creek flows as two channels, north and south
- Both channels pass through the Reservation, and are surrounded by agricultural, residential and urban uses



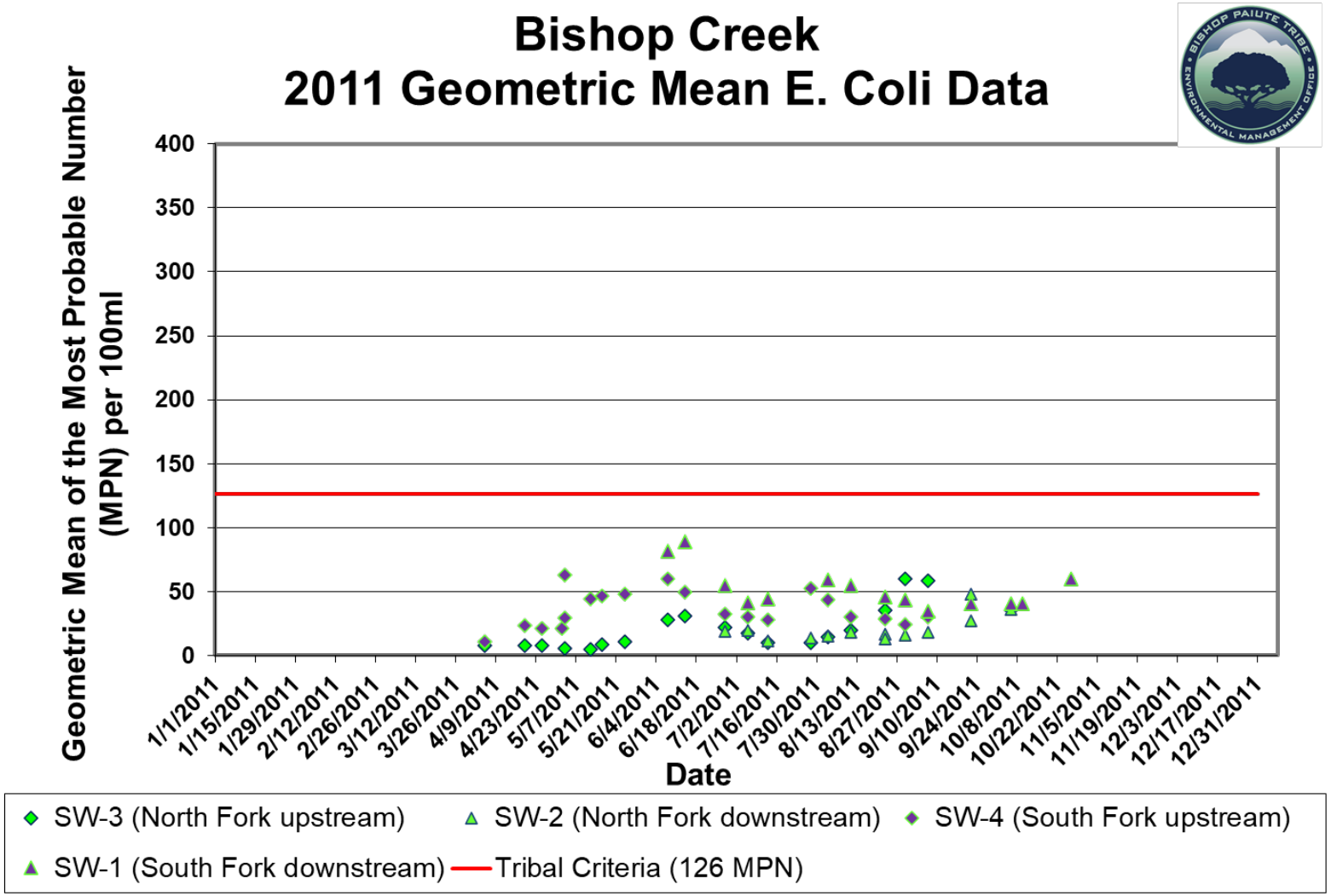
# Water Quality Monitoring Program

- 1998
  - Bishop Paiute Tribe WQCP established
- 2006
  - Granted Treatment in the same manner As a State (TAS) by EPA under CWA §518(e)
  - for purposes of administering CWA §303(c) and §401
- 2007
  - EPA and Tribal-Approved Water Quality Standards
- Current program
  - CWA Sections 106, 319, 104, Multipurpose Funding
  - Exchange Network

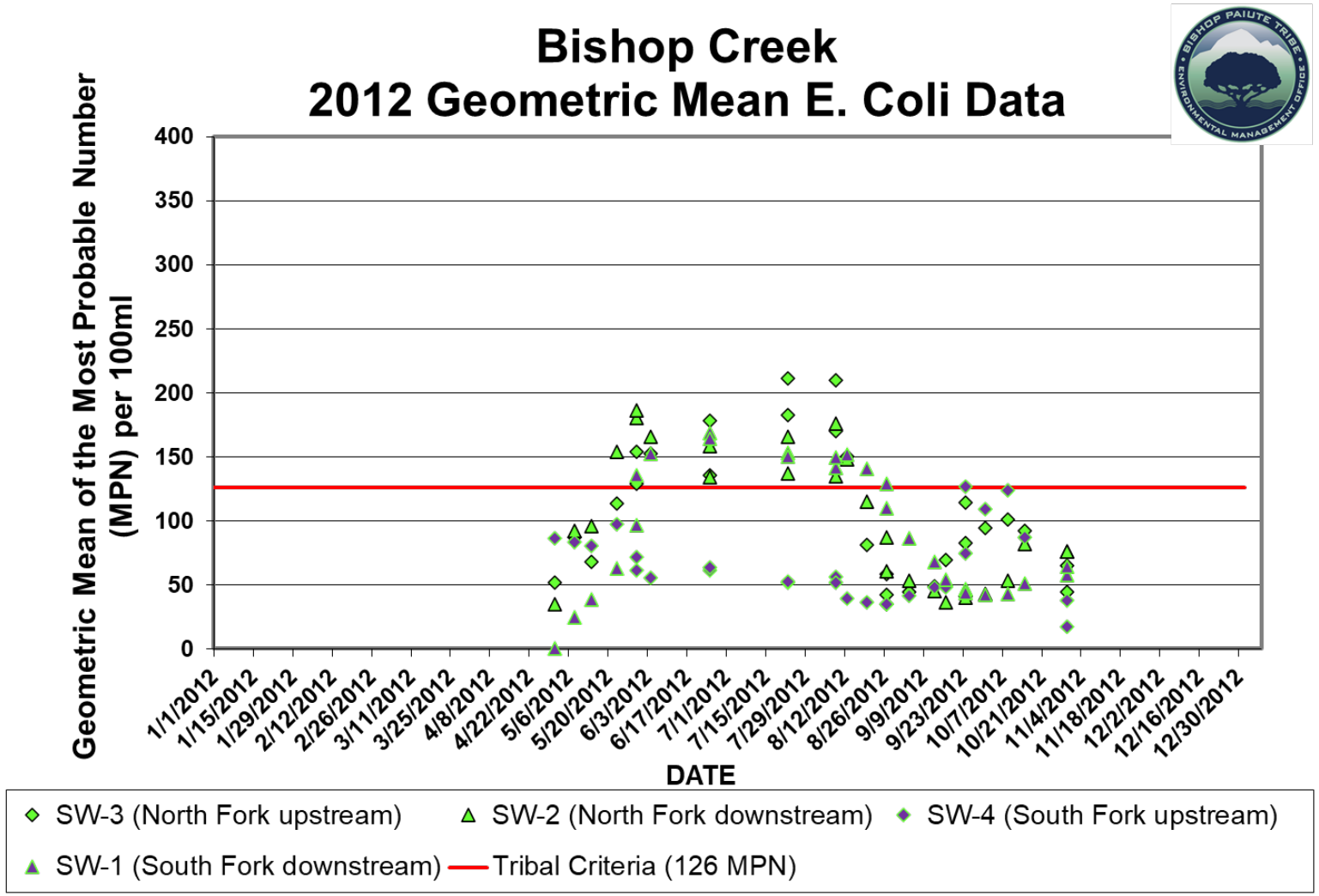
- Bishop Paiute Reservation – 875 acres
- Two forks, north and south, of Bishop Creek flow through the Reservation. Total linear length ~ 2 miles.
- Multiple irrigation ditches flow through the Reservation
- Two small ponds in the Conservation Open Space Area.



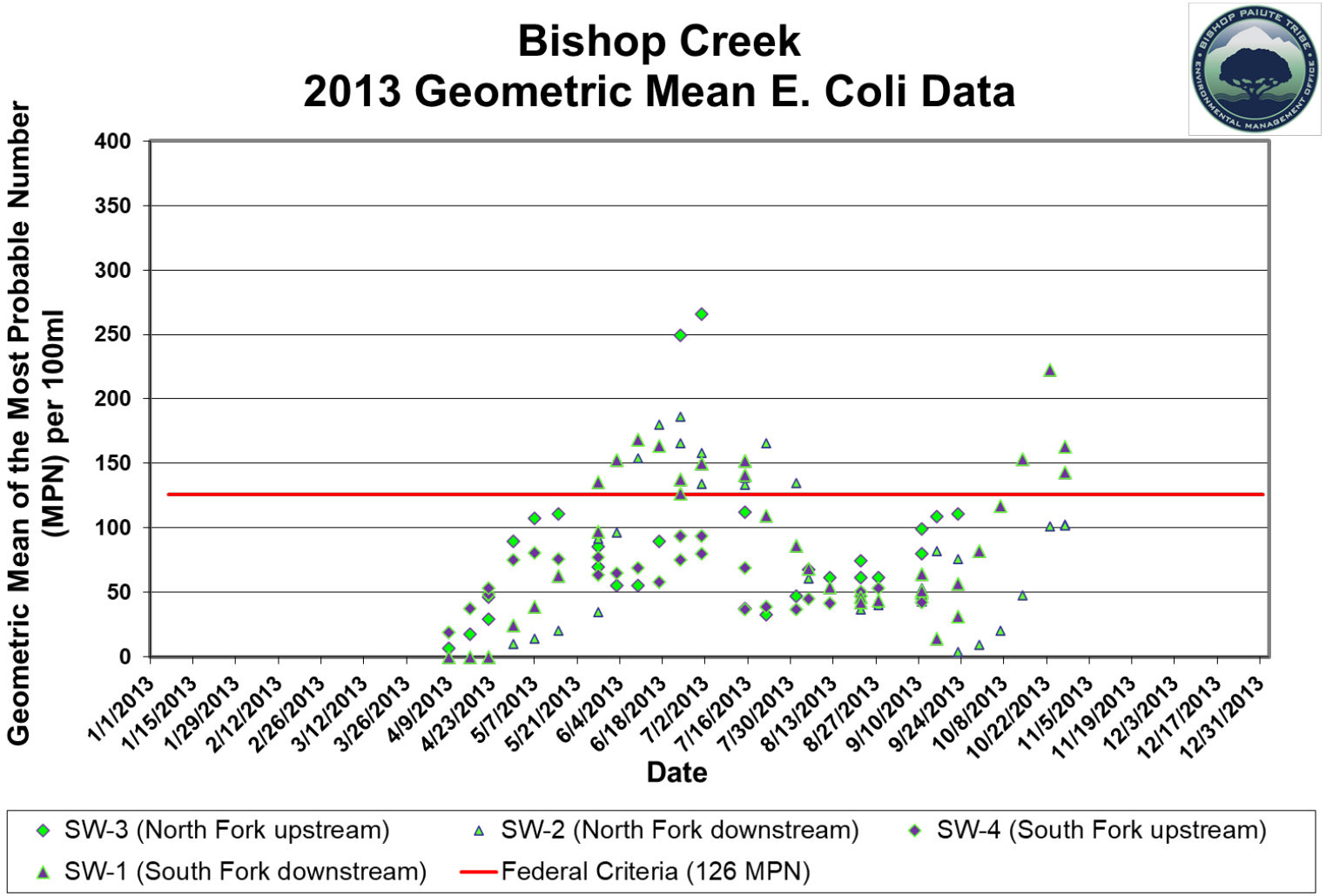
# E. coli data 2011



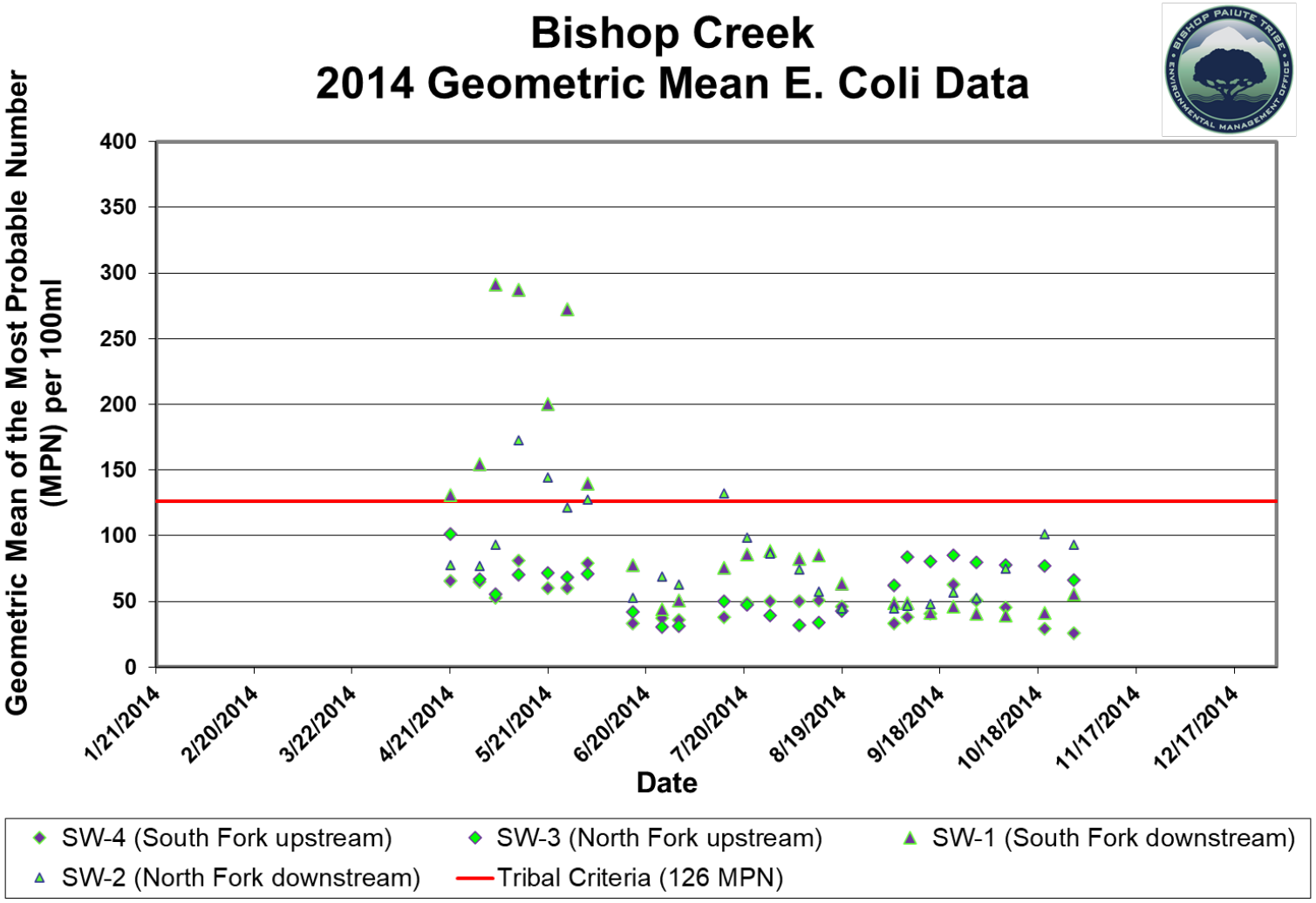
# E. coli data 2012



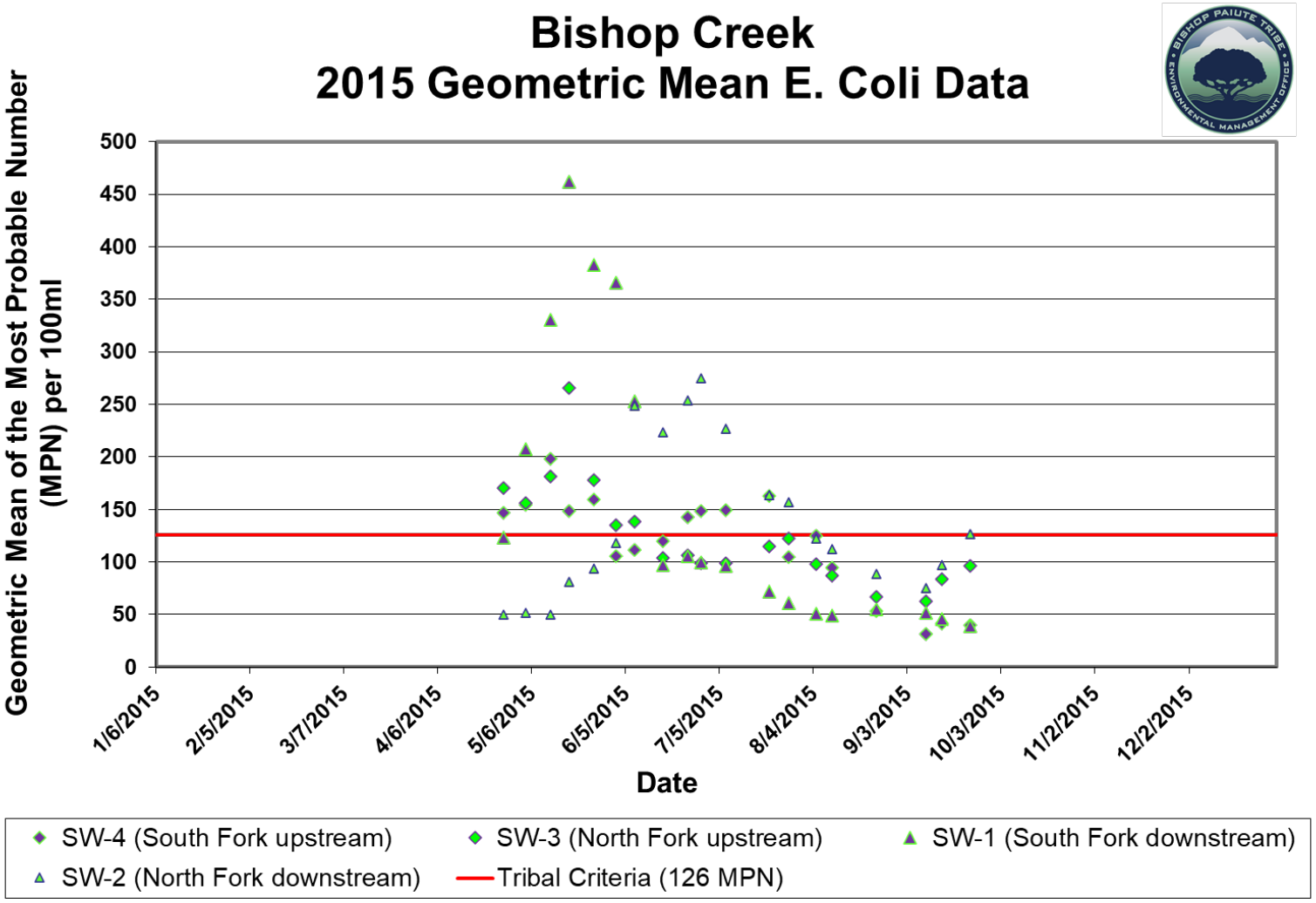
# E. coli data 2013



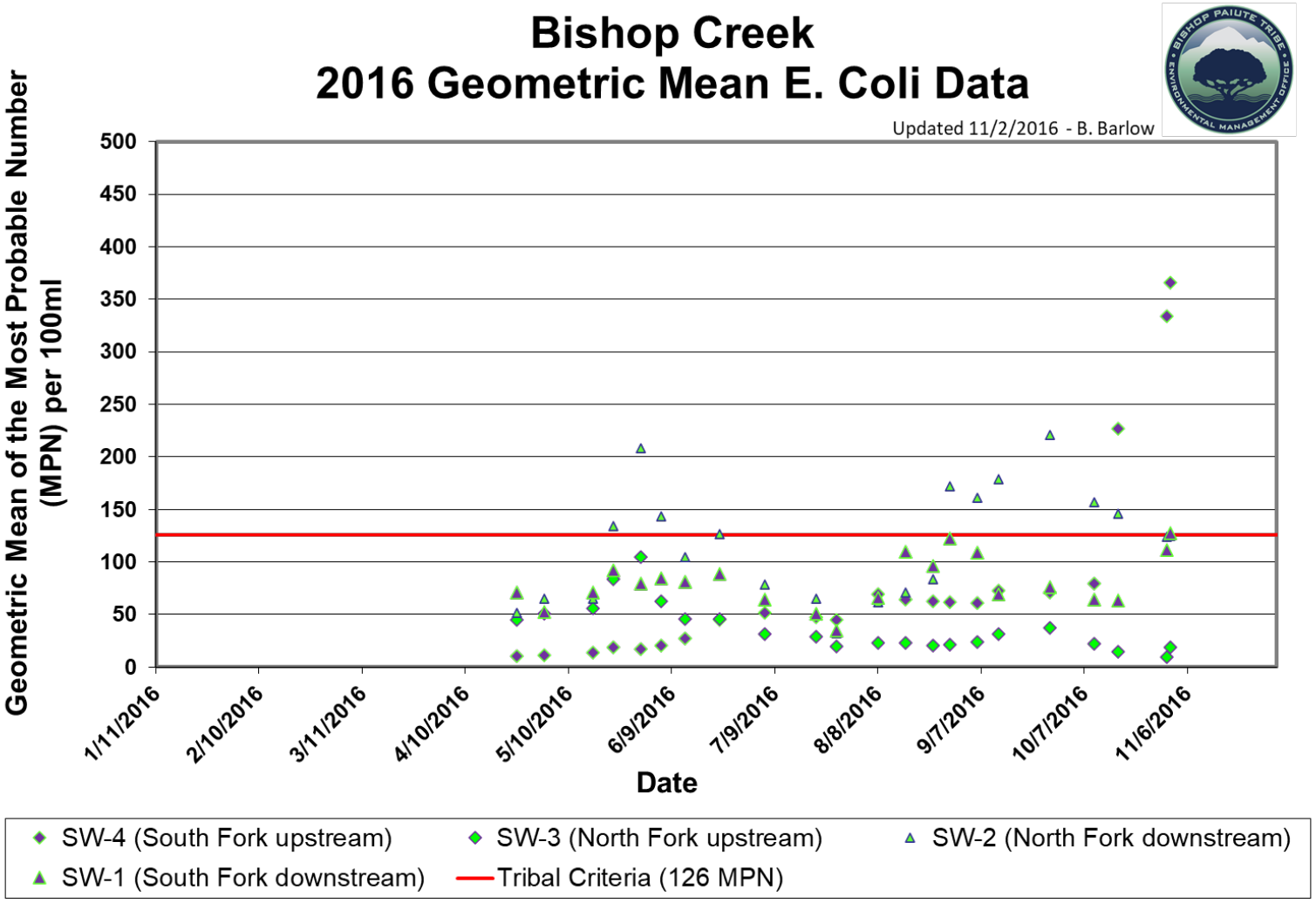
# E. coli data 2014



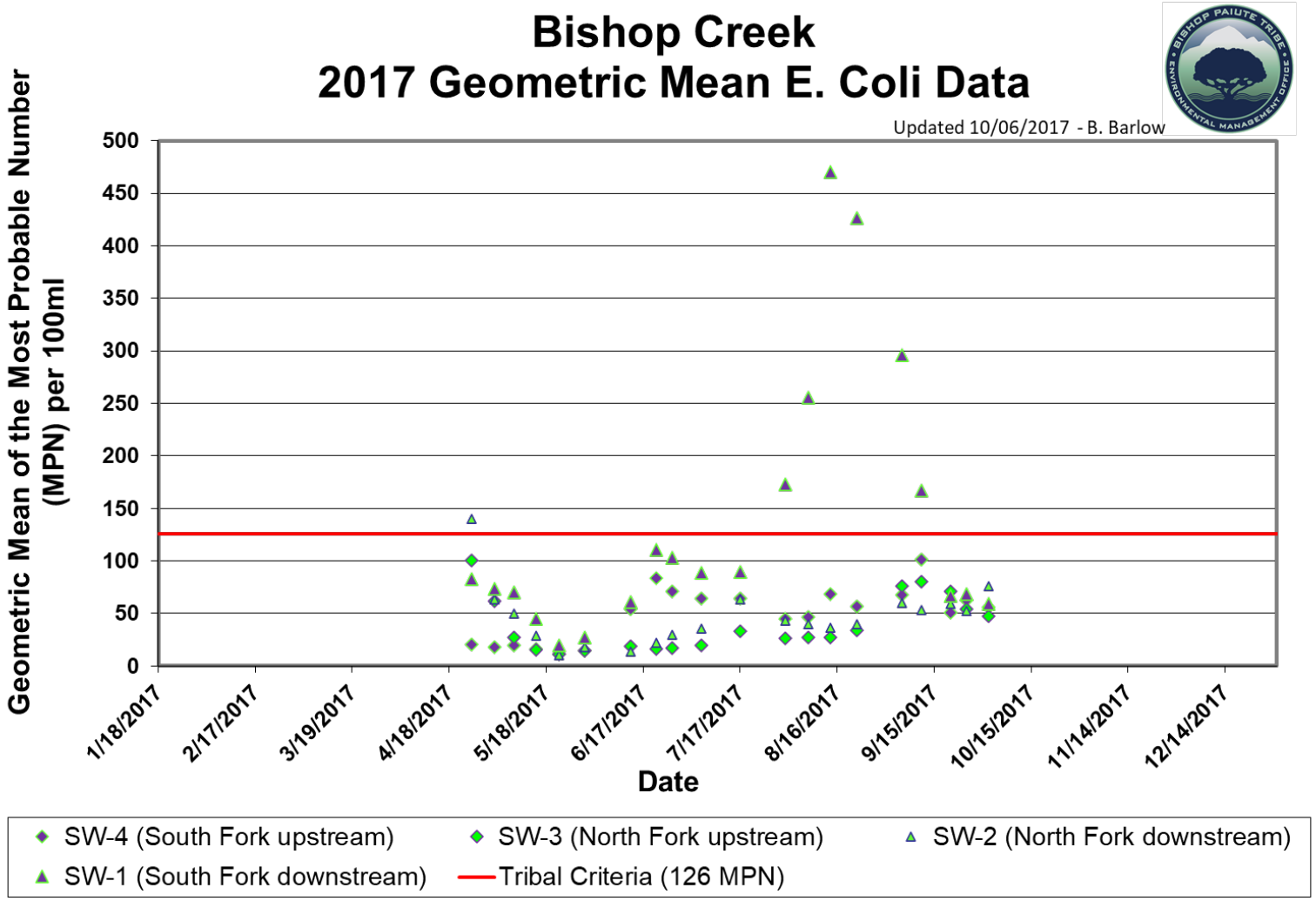
# E. coli data 2015



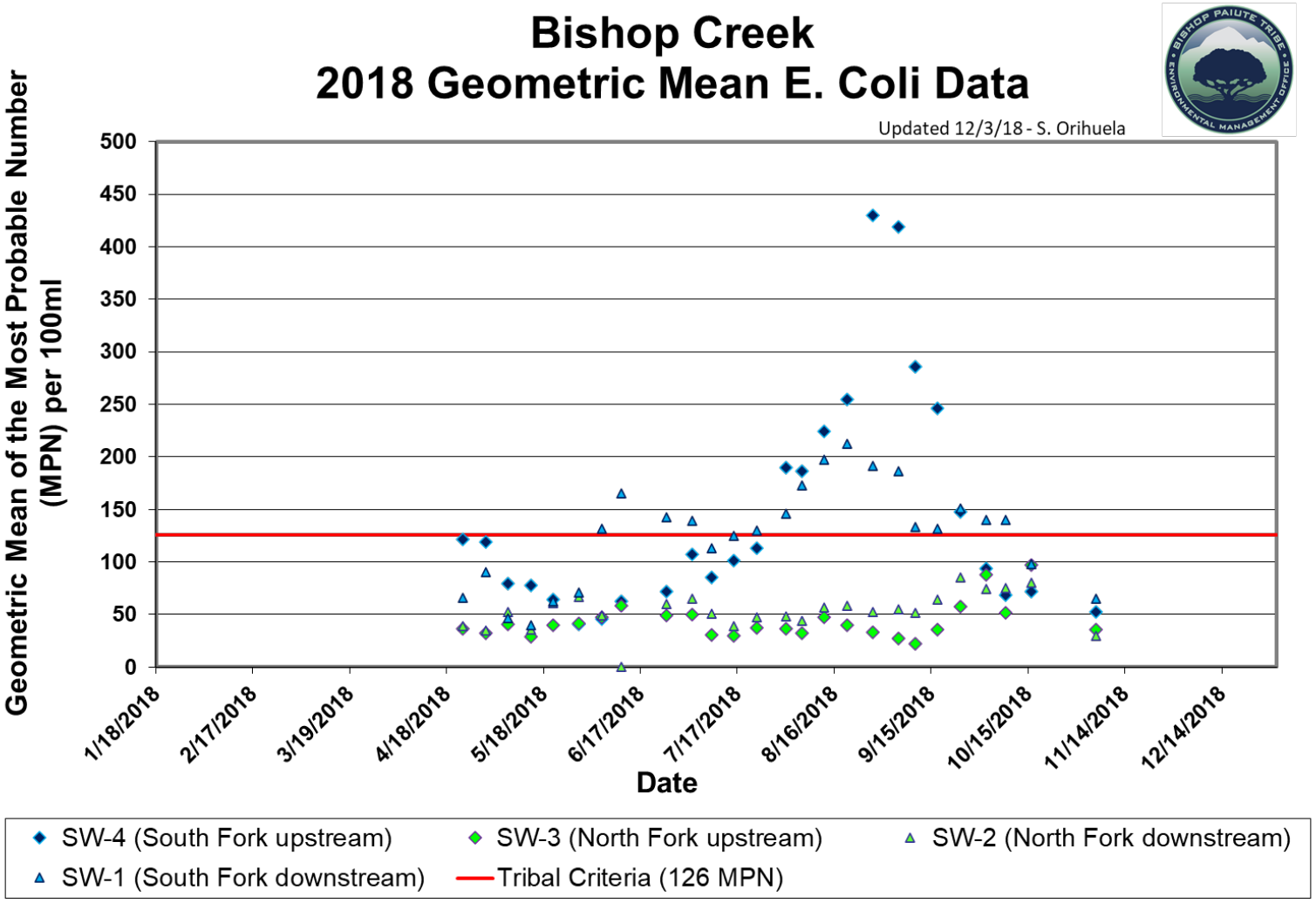
# E. coli data 2016



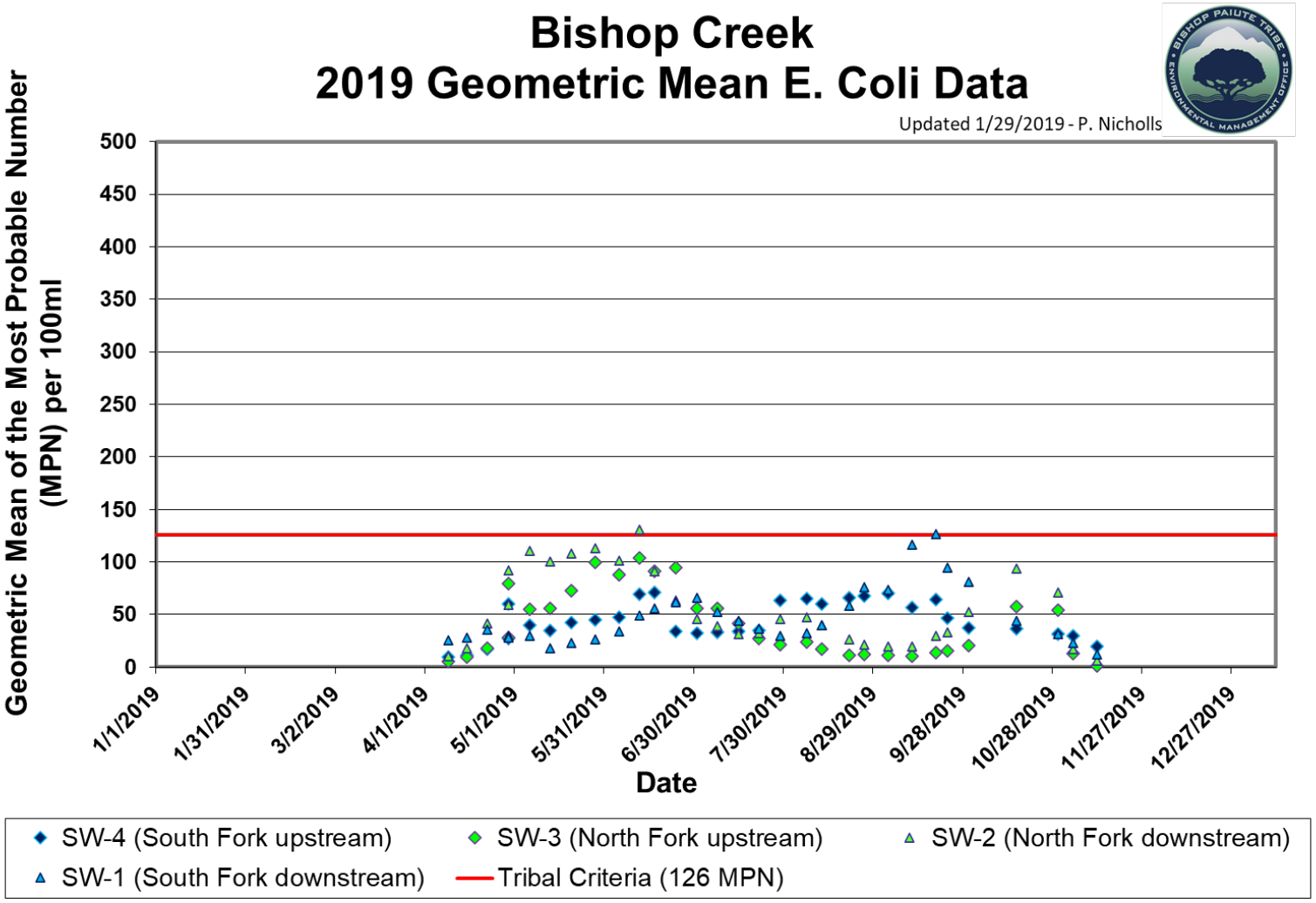
# E. coli data 2017



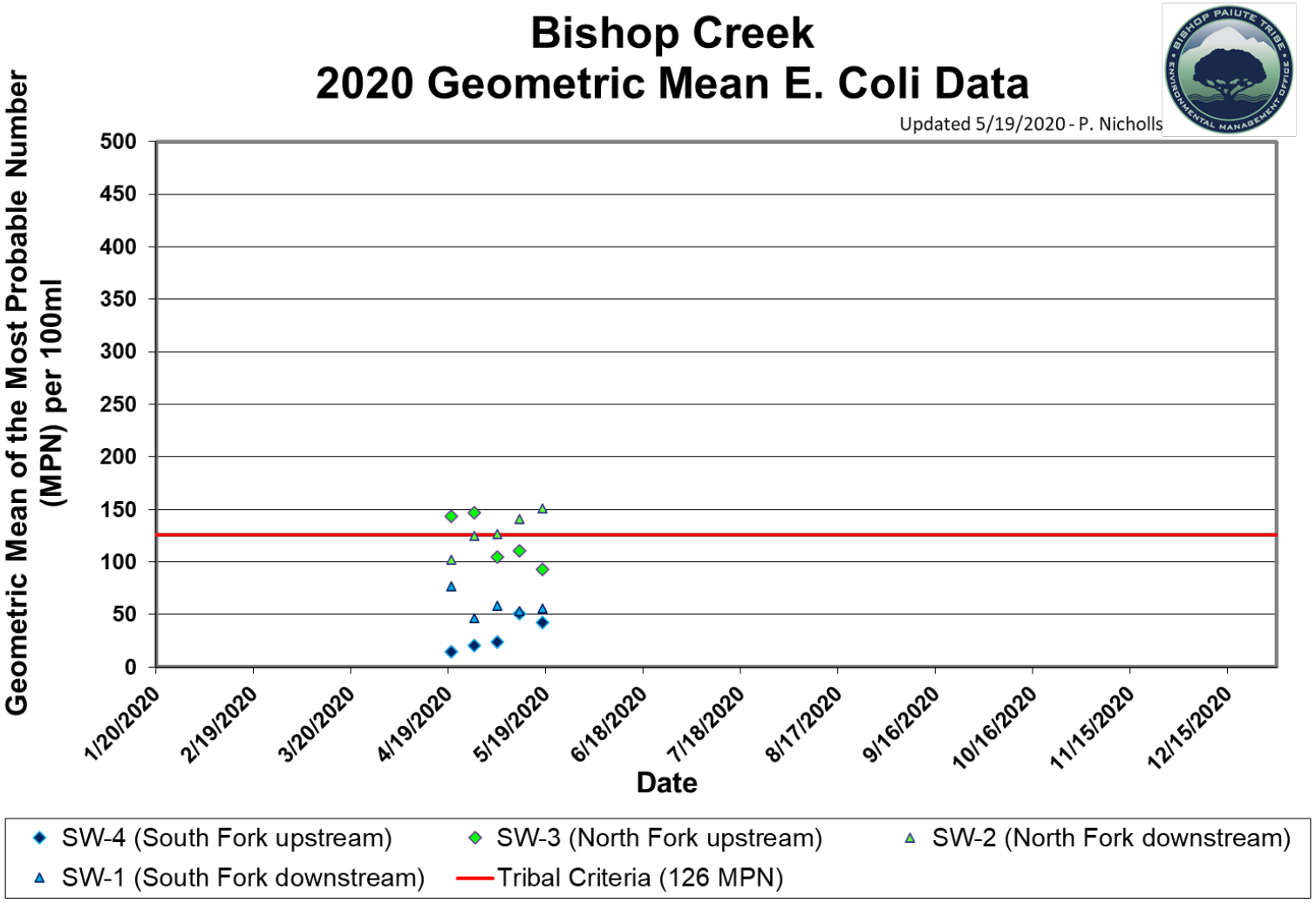
# E. coli data 2018



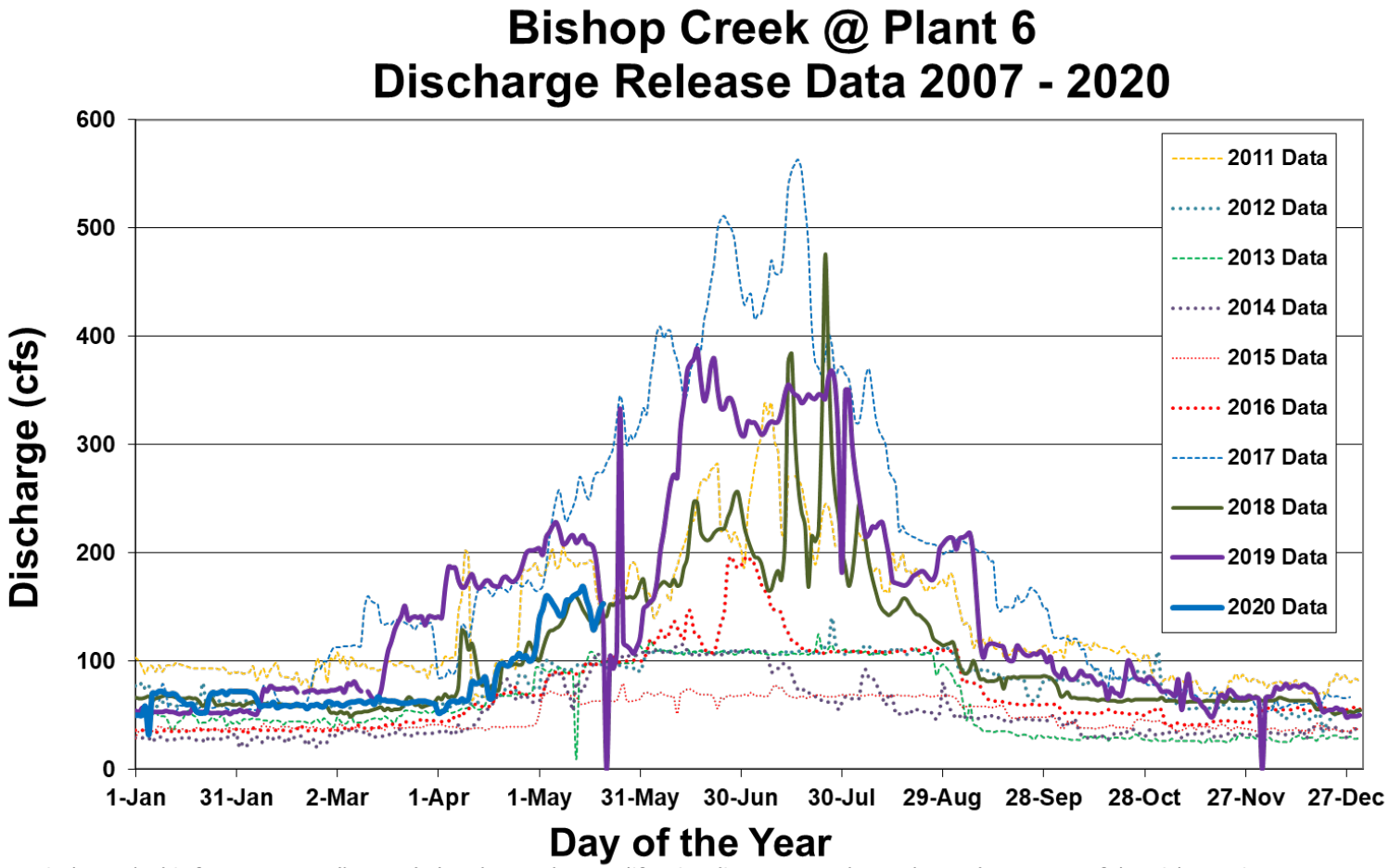
# E. coli data 2019



# E. coli data 2020



# Plant 6 Discharge Data 2011-2020




Discharge (cubic feet per second) recorded at the Southern California Edison Power Plant 6, located upstream of the Bishop Paiute Reservation. Data collected from 2007 through 2020. Source: Bishop Paiute Tribe collected LADWP data from https://ladwp.com/ladwp/faces/ladwp/aboutus/a-water/a-w-losangelesaqueduct/a-w-laa-laaqueductconditionsreports?_adf.ctrl-state=1b7bd2k18e_4&_afrLoop=201112718371381

# Water Quality Problem Timeline

- **2010**: Tribe alerts Water Board of elevated fecal indicator bacteria (FIB) in Bishop Creek
- **2011-2017**: Water Board deploys extensive diagnostic FIB sampling 2011-2017
- **2014**: Collaborative meetings amongst jurisdictional entities begin.
  - Water Board, Bishop Paiute Tribe, Inyo County, City of Bishop, Los Angeles Dept. of Water and Power
- **2017**: Water Board notifies interested parties that Bishop Creek will likely be 303(d) listed because FIB are impairing beneficial uses (REC-1 & MUN)
- **2017-present:** Water Board and Tribe begin collaborative address water quality problem
- **2019**: Water Board recommends Bishop Creek as addition to 303(d) List (currently pending US EPA approval)

# Bishop Creek Water Quality Objectives (WQOs) for Fecal Indicator Bacteria

- Fecal coliform WQO of the Lahontan Basin Plan applies to all California jurisdictional surface waters in the Lahontan Region

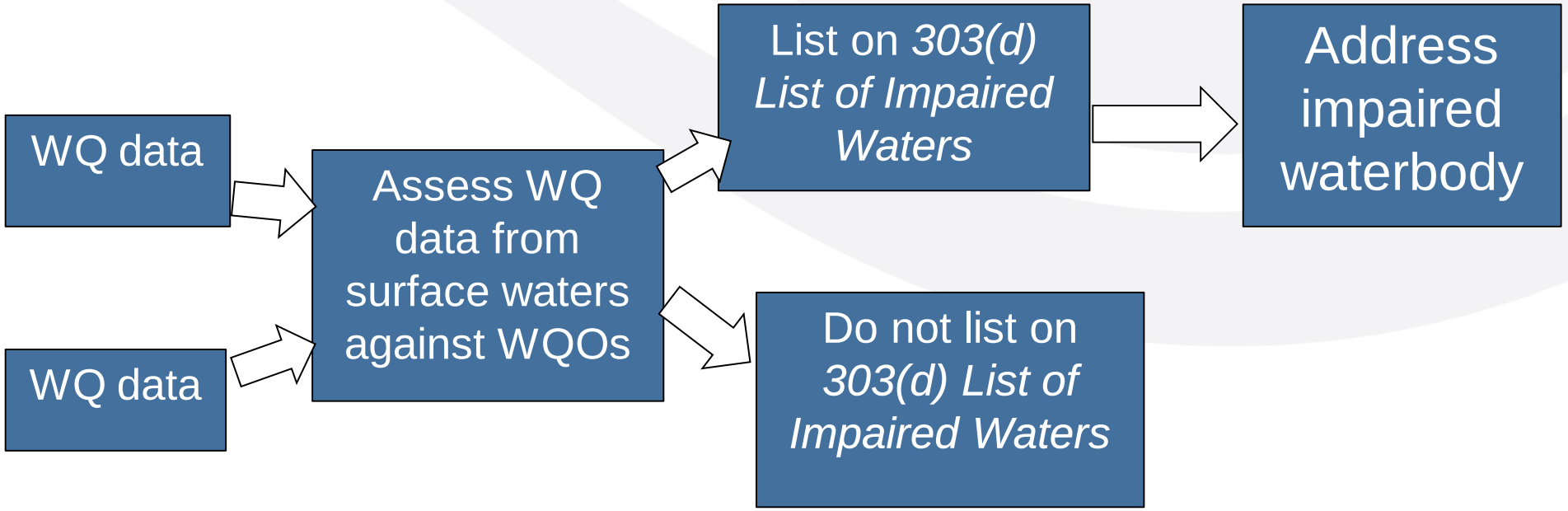
- *E. coli* WQO adopted by the State Water Board in 2018 protects California jurisdictional waters where the Water Contact Recreation (REC-1) beneficial use applies

- Both WQOs apply to Bishop Creek. Each WQO is the subject of a Water Board evaluation and could change in the future.

# Fecal Indicator Bacteria (FIB) Data

- Bishop Paiute Tribe: 2000-Present
  - Samples for *E. coli* and Total Coliform at various locations throughout the Reservation
- Water Board collected data: 2011-2017
  - 16 stations sampled for fecal coliform & *E. coli*
  - Microbial Source Tracking (MST) dataset 2013-2014
- Los Angeles Dept. of Water and Power (LADWP): 2014-Present
  - 27 stations sampled for *E. coli*
  - MST dataset 2014-2015

# Waterbody Assessment Process

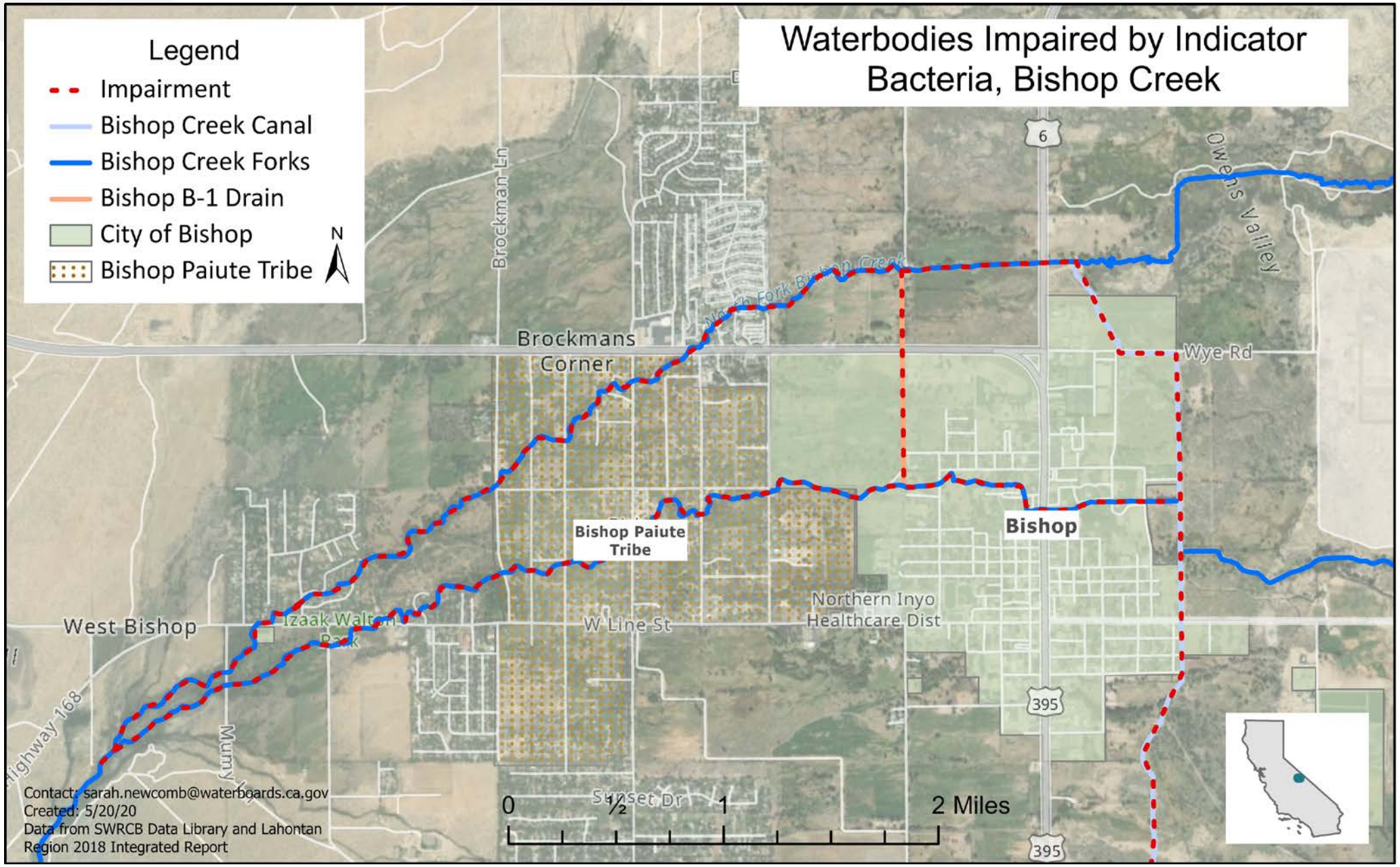



Assessments follow the guidelines contained in the Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (Listing Policy)

# 303(d) Listings – Indicator Bacteria

- REC-1 and MUN beneficial uses are not supported in:
  - Bishop Creek Forks (bifurcation of north and south forks to confluence with Bishop Creek Canal)
  - Bishop Creek B-1 Drain – flows South=>North and joins the south fork with the north fork
  - Bishop Creek Canal

…as demonstrated by concentrations of FIB in water samples


Waterbodies Impaired by Indicator Bacteria, Bishop Creek
Legend
Impairment
Bishop Creek Canal
Bishop Creek Forks
Bishop B-1 Drain
City of Bishop
Bishop Paiute Tribe
N
Brockman Ln
Brockmans Corner
North Fork Bishop Creek
Owens Valley
Wye Rd
Bishop Paiute Tribe
Bishop
Northern Inyo Healthcare Dist
West Bishop
Izaak Walton Park
W Line St
Sunset Dr
Highway 168
Muny
6
395
395
Contact: sarah.newcomb@waterboards.ca.gov
Created: 5/20/20
Data from SWRCB Data Library and Lahontan Region 2018 Integrated Report
0
½
1
2 Miles

# Water quality impairments addressed in several ways:

- Total Maximum Daily Loads (TMDLs): prescriptive approach to dealing with pollutant sources at a load-based level
- Waste Discharge Requirements (WDRs), Waivers of discharge, or other permit tools placed on landowners and dischargers.
- Water Quality Improvement Plans (WQIPs): collaborative approach which relies on voluntary actions to improve water quality

# What is a Vision Project?


"Long-Term Vision for Assessment, Restoration, and Protection"

- Watershed-wide, collaborative planning effort focused on improving water quality through voluntary actions
- Provides flexibility in using available tools beyond TMDLs to improve water quality

# Bishop Creek Vision Project

- Data collected to date indicates several sources of FIB
  - Grazing
  - Human
  - Wildlife
- MST data implies that grazing sources are the largest contributor of fecal bacteria to creek waters
- The Water Board and Tribe are collaborating on a second MST study for Bishop Creek to help focus implementation

# Bishop Creek Vision Project-Two Phases

**Phase 1:** Meeting the Statewide REC-1 WQO by addressing grazing sources

**Phase 2:** Meeting the Lahontan Basin Plan WQO by addressing human and other controllable sources of bacteria in the watershed

- Vision Plan scheduled for completion in September 2022

# Better Together

- Sharing data and information
- Coordination to leverage monitoring resources
- Collaborate on effective implementation measures to improve water quality
- Partnerships which inform Basin Planning project to add Tribal Beneficial Uses

# Questions?

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