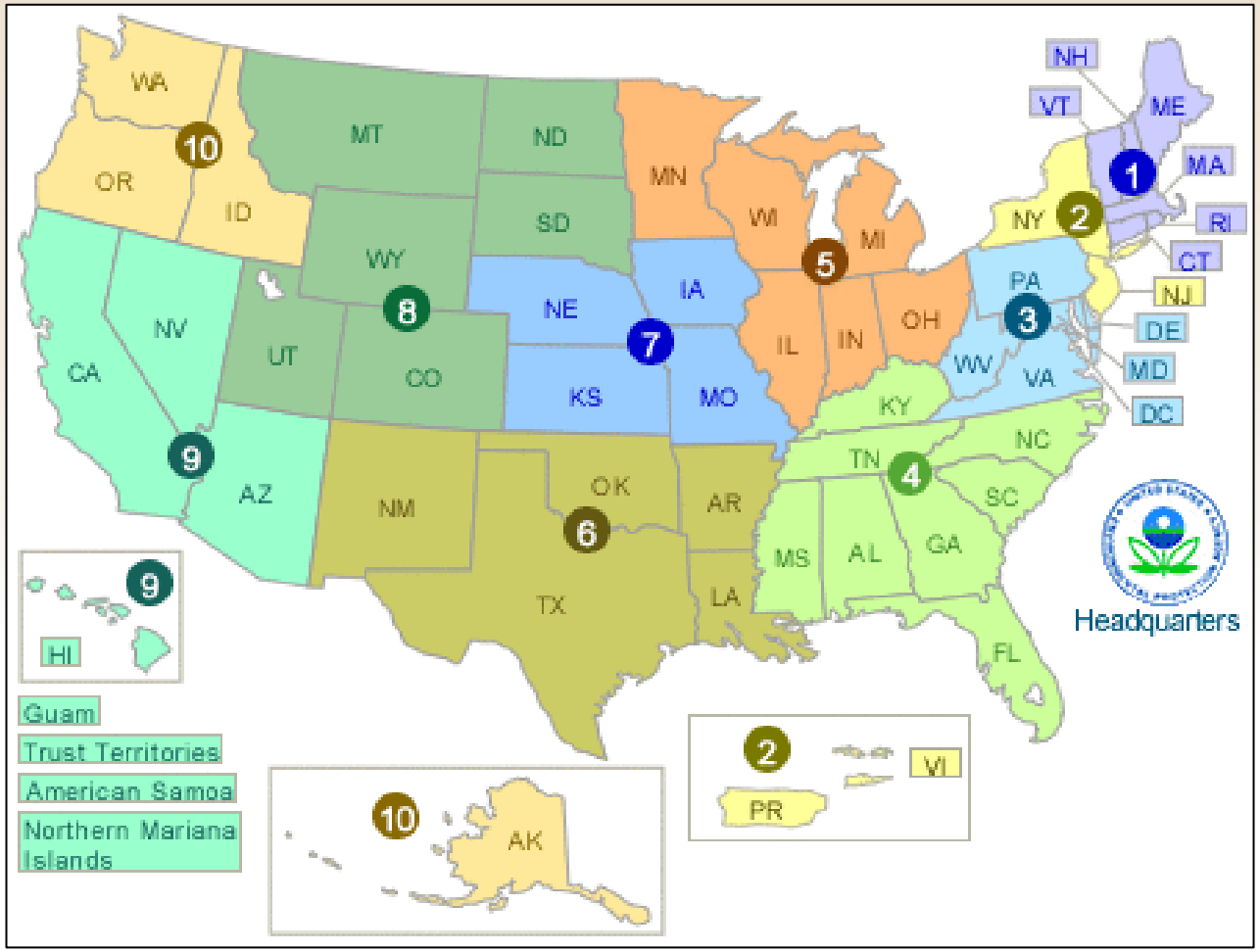
The Watershed Approach in Managing Nonpoint Source Pollution

Webinar #3
March 23, 2023
2 – 4pm Eastern

Poll #1: What EPA Region are you in?



Poll #2:
How long have you been working in Tribal water quality programs?

- Less than one year
- 1-4 years
- 5-10 years
- Over 10 years
- Since Hector was a pup/ since the last ice age/ a very long time

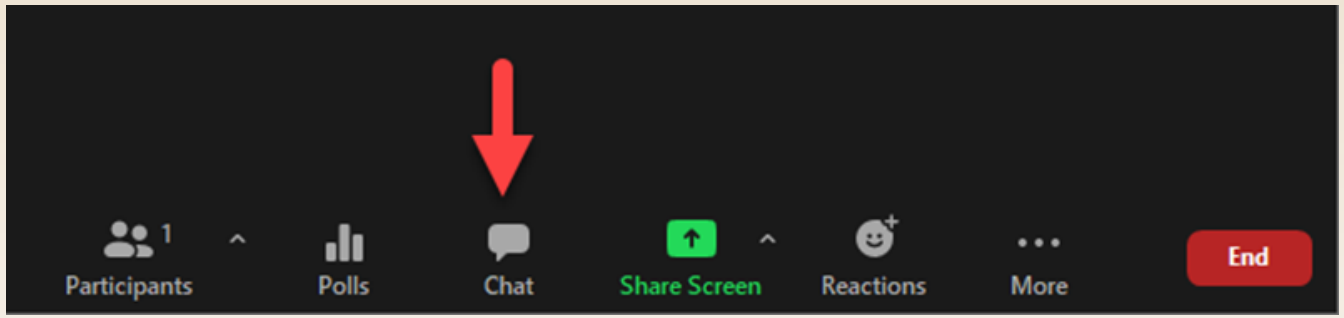
Poll #3:
How familiar are you with a Watershed-based planning approach?

- Very
- Somewhat
- Not much
- Not at all

Poll #4:
Are you planning to make a Watershed-based plan?

- Yes, within 1-3 years.
- No, not at this time.
- No, not sure where to start….

Training Webinar Logistics



- **To ask a question:** Please type your question in the Chat box. We will take questions after presentations.
- **Technical difficulties:** If you are having technical difficulties, please send a message through the Chat to Gabby Vinyard, ERG (host) or email gabby.vinyard@erg.com
- **Evaluation:** Please complete the survey evaluation at the end of the training.

Upcoming Tribal NPS Training Webinars

4. **Integrating Climate Resilience and Hazard Mitigation in Tribal NPS Work**. NEW DATE!! Thurs, May 4
5. **Implementing On-the-Ground Tribal NPS Projects**. Thurs, May 25
6. **Addressing Agricultural NPS Pollution: Key Partners & Strategies**. Thurs, June 22.

*All webinars will be 2-4pm Eastern

Zoom registration links also available at https://www.epa.gov/nps/tribal-nps-resources-and-training

Webinar Agenda

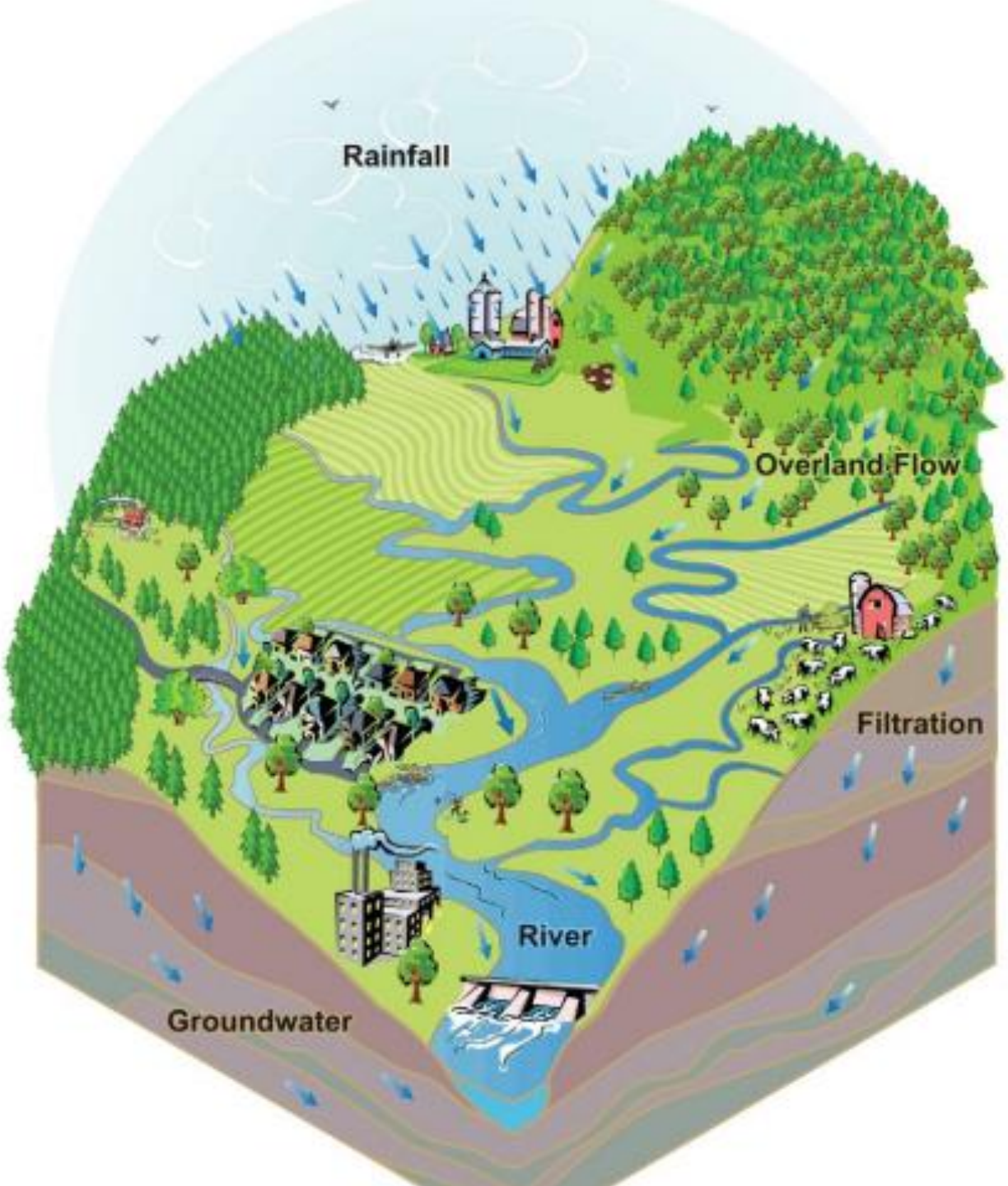
- Greetings and Introductions
- EPA Presentation on The Watershed Approach
- Panel Discussion
- Participant Discussion
- Summary and Next Training Session

Using a Watershed Approach to Manage Nonpoint Source Pollution

March 23, 2023

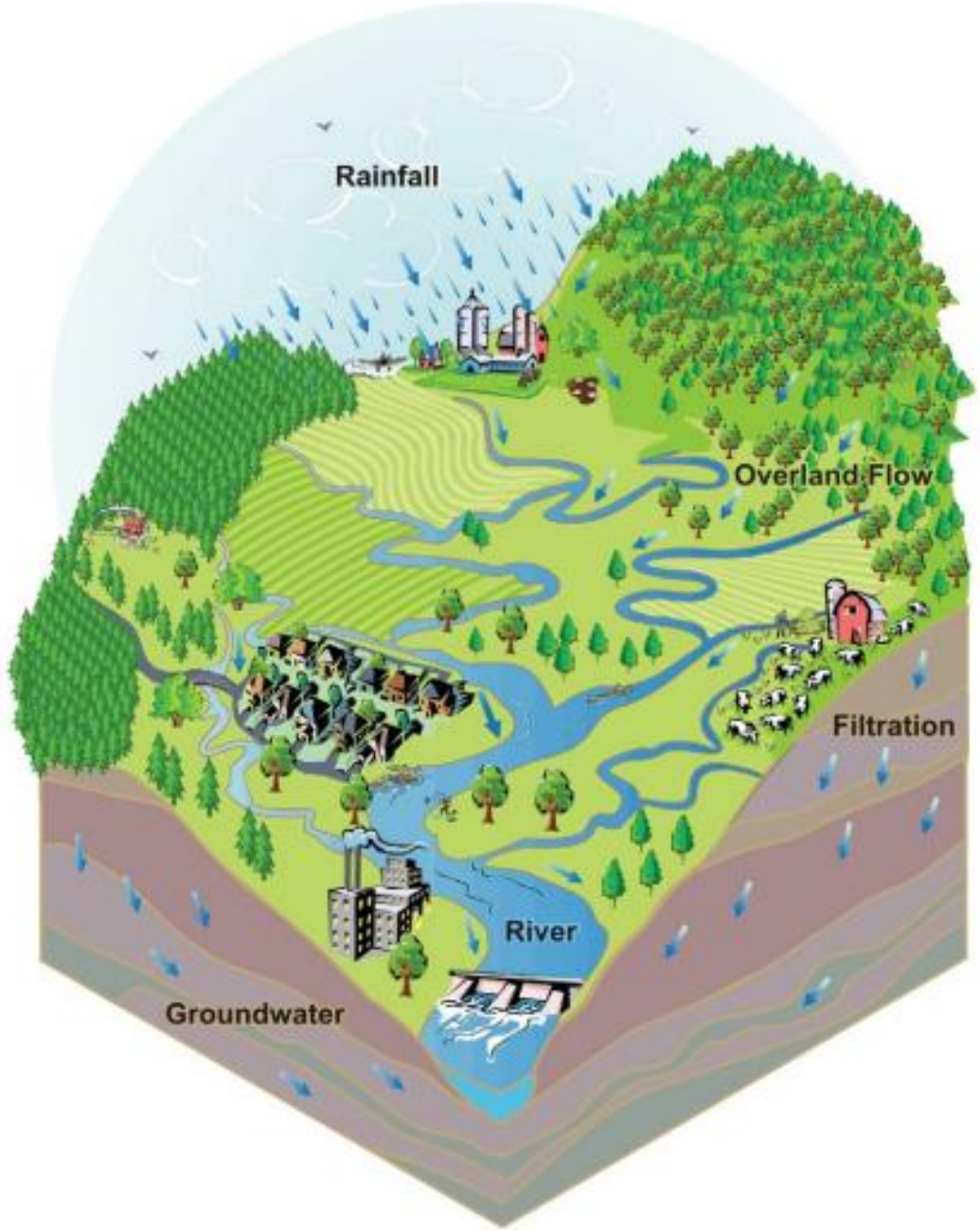
Rachel Renz
Renz.Rachel@epa.gov

What is a Watershed

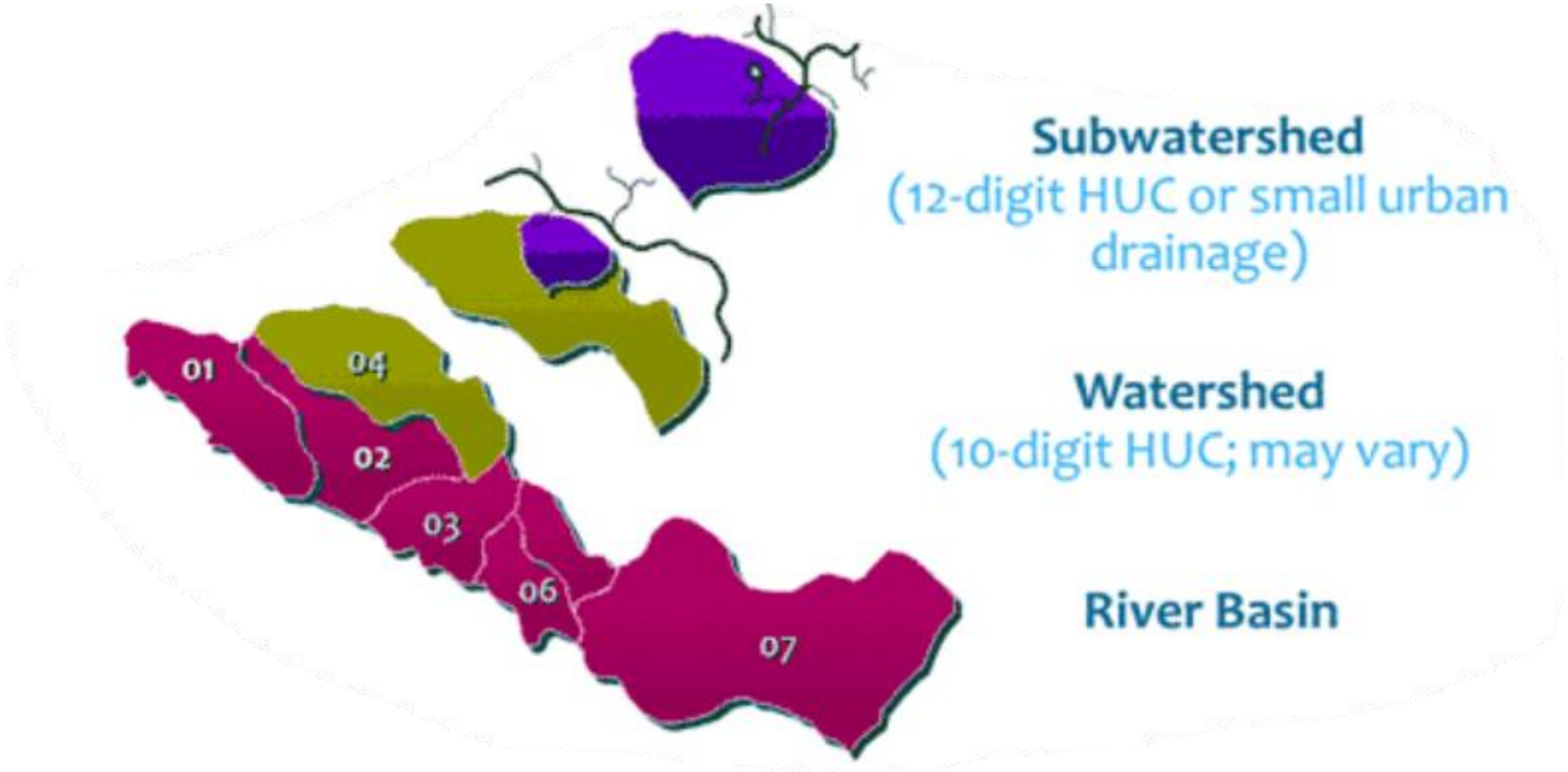


Why Watershed Planning?

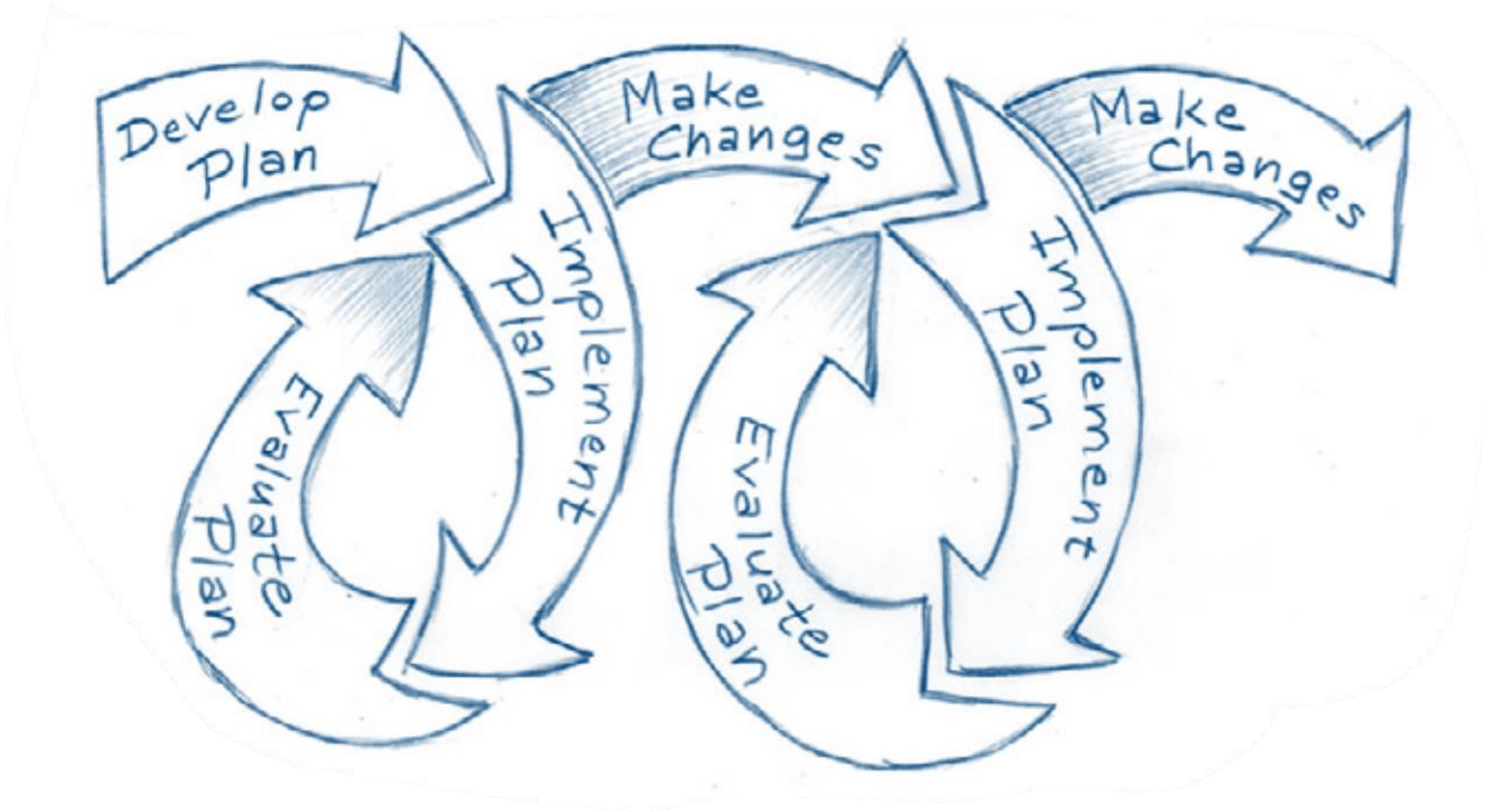
- Looks at all causes and sources of pollution within the watershed
- Involving all stakeholders in the watershed
- Prioritization of projects



Watershed Planning has a Geographic Focus



Watershed Planning is Iterative and Adaptive



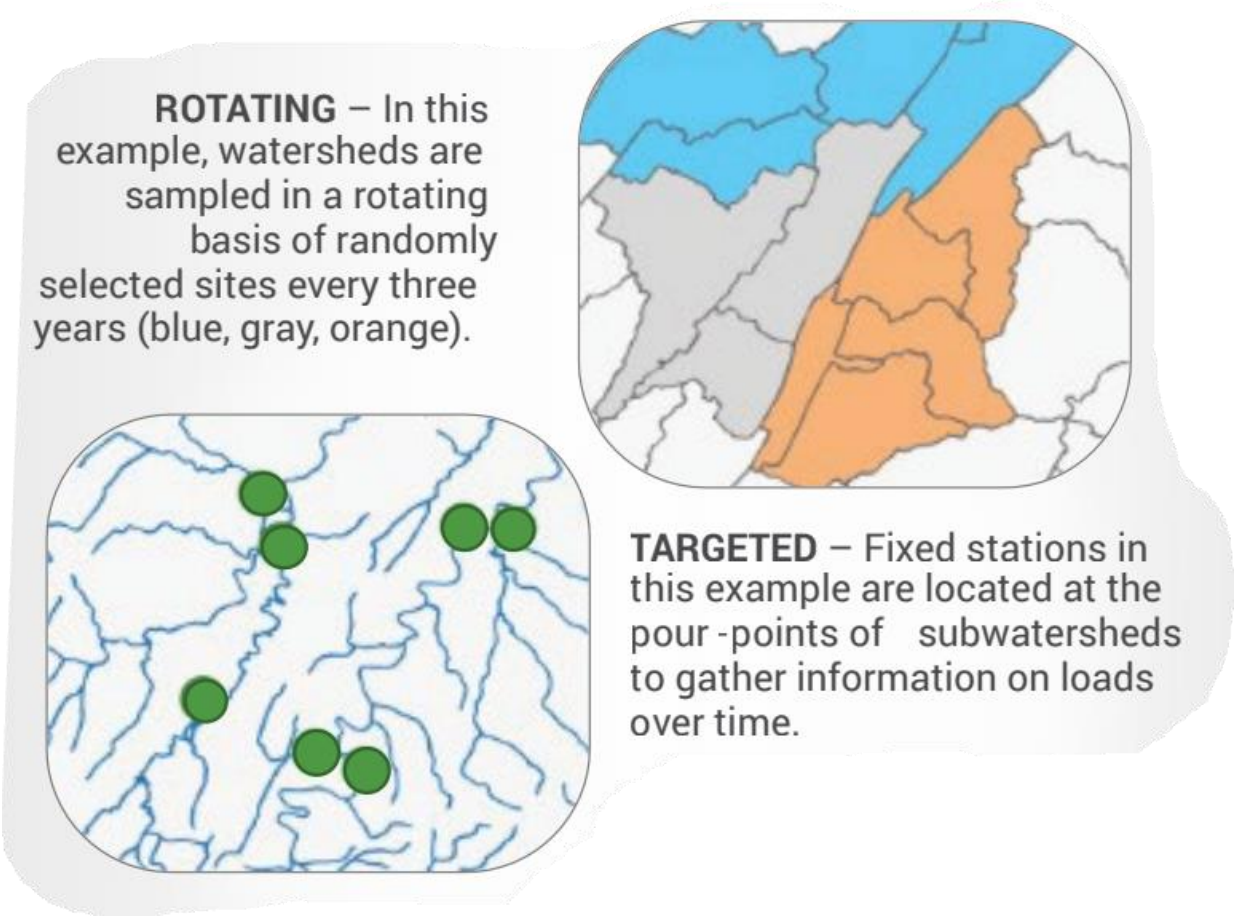
Tribal Watershed Planning

- Tribal Watershed-Based Plans (WBPs) encouraged, but not required
- Development of the NPS Management Plan on a watershed basis
- Tribes can lead development of a WBP, or work in partnership with others

Component	NPS mgmt plan	WBP	Work plan
Focus on watershed	optional	x	optional
Focus on reservation waters	x		x
NPS pollution	x	x	x
All pollution		x	
Multiyear document	x	x	
Annual (1- to 2-year) document			x

Using CWA 106 Funds for Watershed Planning

- Watershed-based activities that CWA 106 grants can fund :
  - Characterizing water quality
  - Inventorying nonpoint sources
  - Development of NPS Assessment Report and Management Plan
  - Development of watershed plans

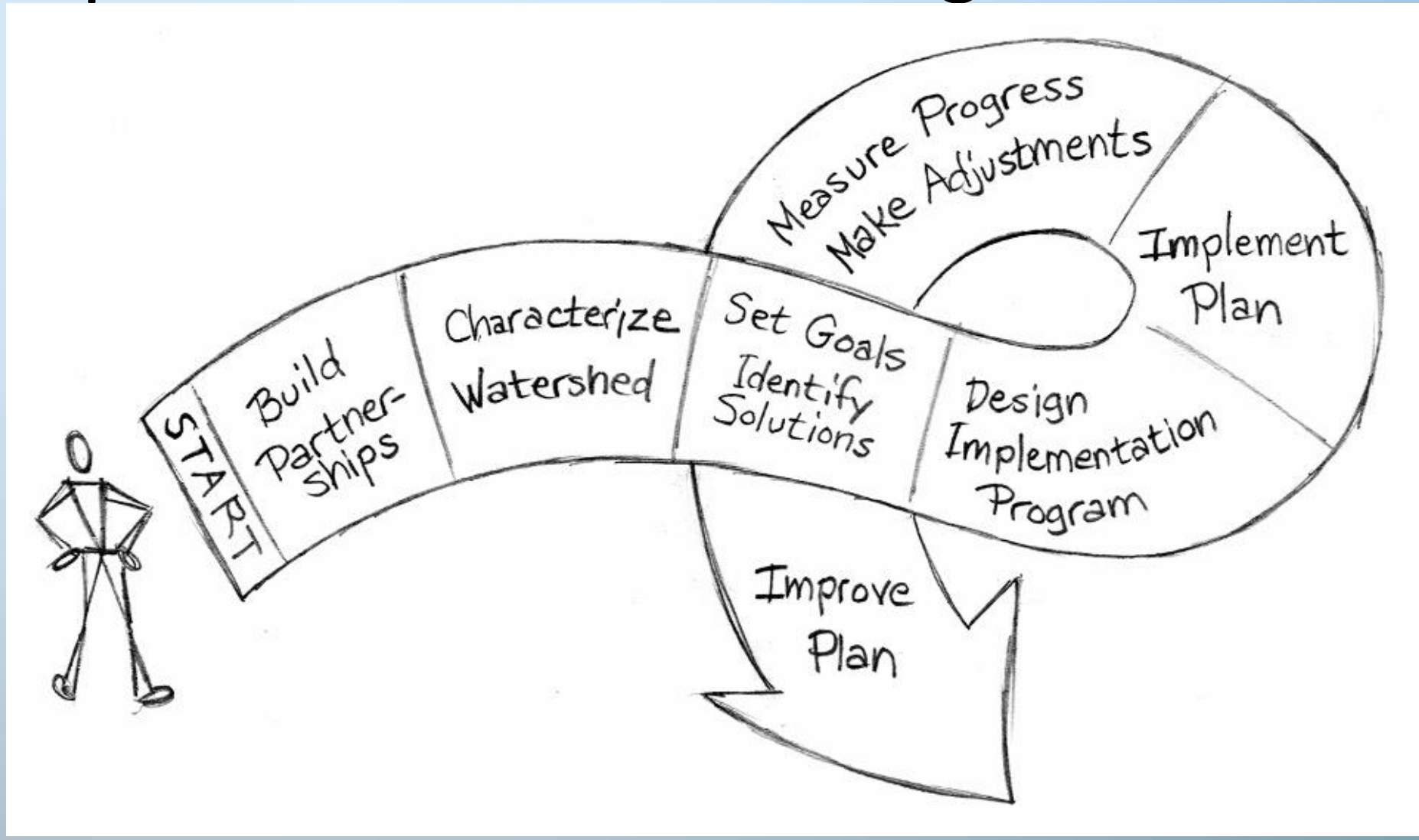


Tribal 319 Competitive Grants Ranking Criteria

- ***Watershed approach*** (10 points total)
- Demonstrates that a watershed approach was adopted to determine the project area(s) and proposed NPS management activities that will be most effective in preventing or reducing NPS pollution and contribute to achieving water quality goals on a watershed scale.

- A map of the watershed is helpful!
- How did you select this proposed project? (e.g., field survey; GIS tool)
- Can you build off this project for future work in watershed?

Watershed Approach:
Six Steps of Watershed Planning



Step 1. Build Partnerships

- Identify key stakeholders
- Identify issues of concern
- Set preliminary goals
- Develop indicators
- Conduct public outreach

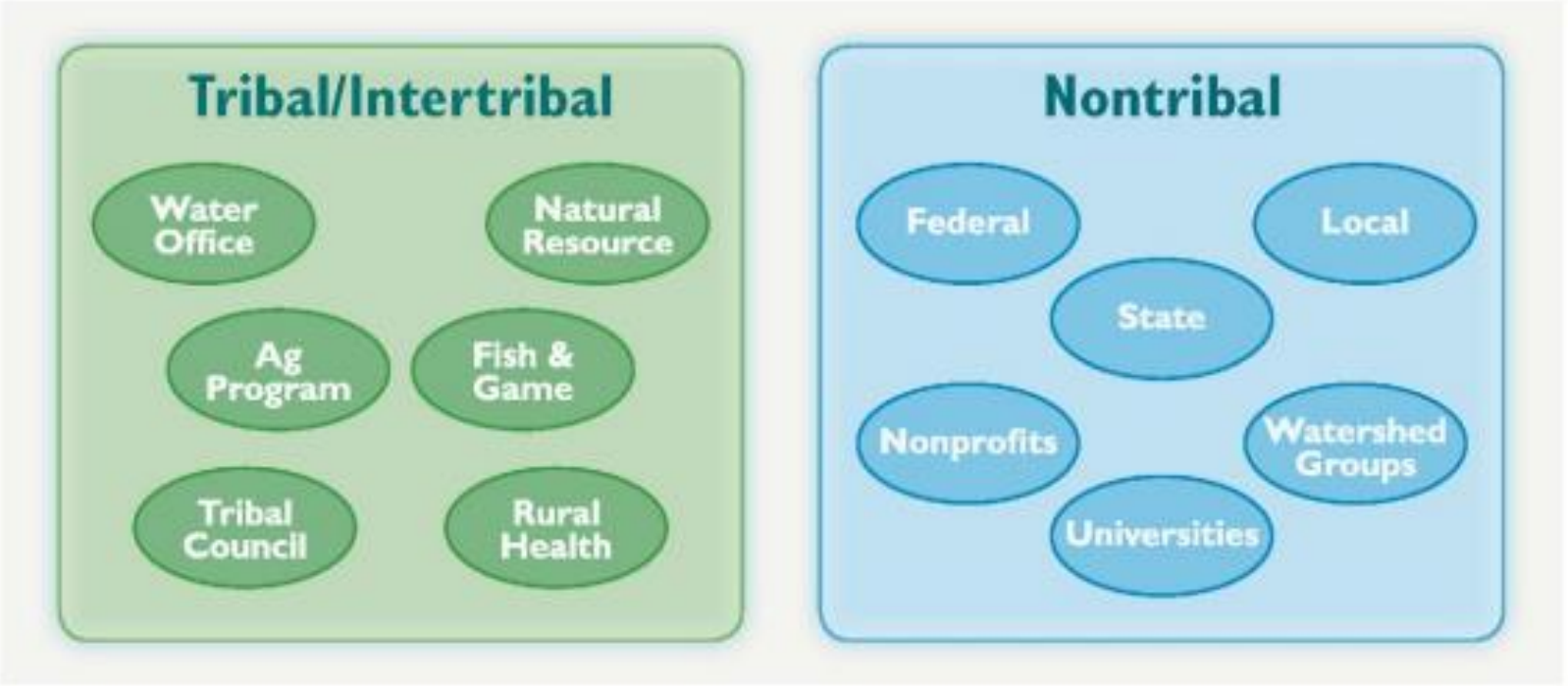


Figure II-3. Potential stakeholder groups for your consortium.

Step 2. Characterize your watershed

- Create Watershed Inventory
- Analyze data
- Identify causes and sources of impairments
- Estimate pollutant loads

Physical and Natural Features	Land Use and Population Characteristics	Waterbody Conditions	Pollutant Sources	Waterbody Monitoring Data
Watershed boundaries, hydrology, topography, soils, etc.	Land use, land cover, existing management, etc.	305(b) reports, 303(d) reports, TMDLs, source water assessments, etc.	Permitted point sources, nonpoint sources, atmospheric deposition, etc.	Water quality and flow, biology, geomorphology, etc.

Step 3. Set goals and identify solutions

- Set overall goals and management objectives
- Develop indicators/targets
- Determine load reductions needed
- Identify critical areas
- Develop management measures to achieve goals

Step 4. Design an implementation program

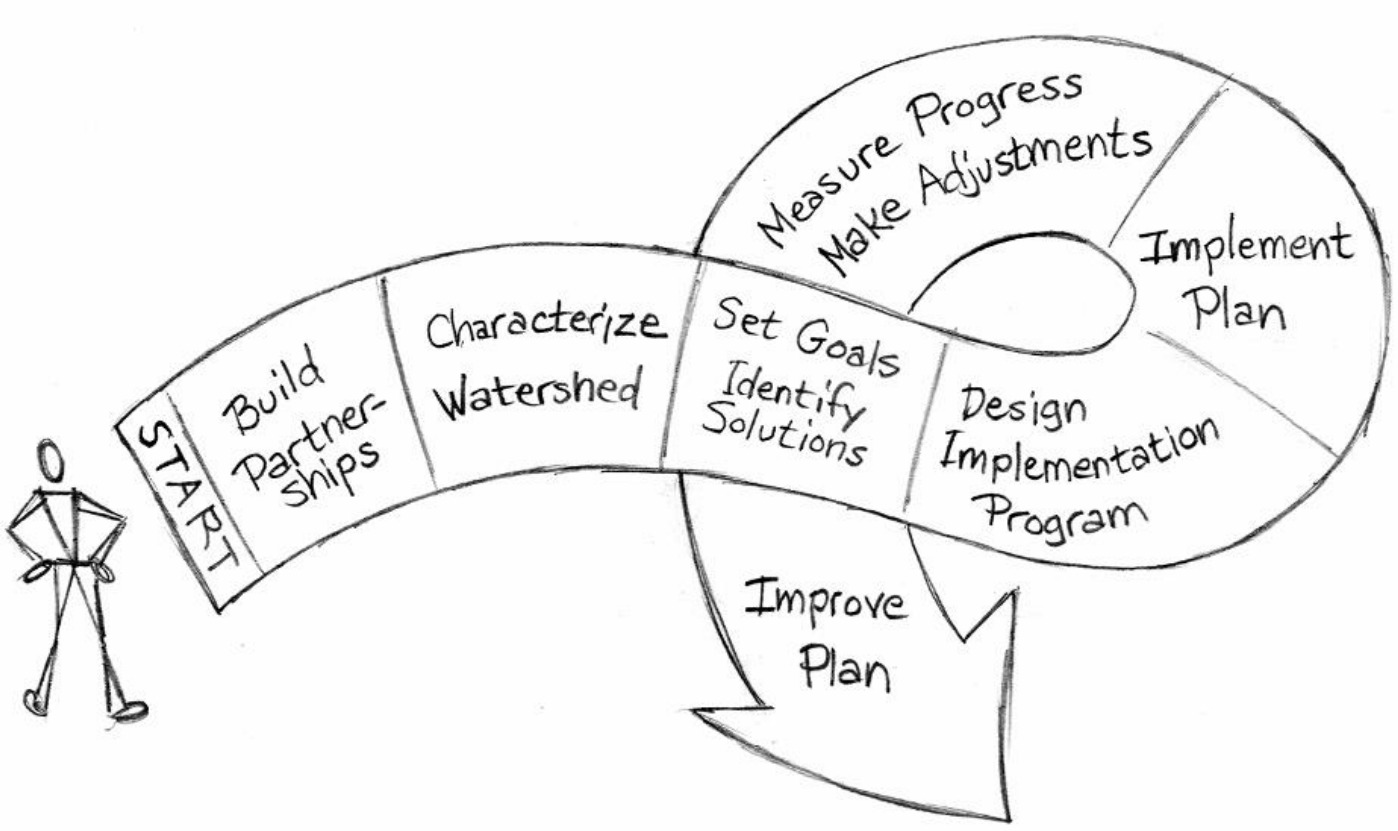
- Develop an implementation schedule and interim milestones
- Develop criteria to measure progress toward meeting watershed goals
- Develop monitoring component
- Develop information/education component
- Develop evaluation process
- Identify technical and financial assistance needed to implement plan
- Assign responsibility for reviewing and revising the plan

Step 5. Implement watershed plan

- Prepare work plans
- Implement management strategies
- Conduct monitoring
- Conduct information/education activities

Step 6. Measure progress and make adjustments

- Track progress
- Share results
- Make adjustments



Types of Watershed Plans

- Nine Element Watershed-Based Plan (WBP)

Nine Elements of a Watershed-Based Plan (WBP)

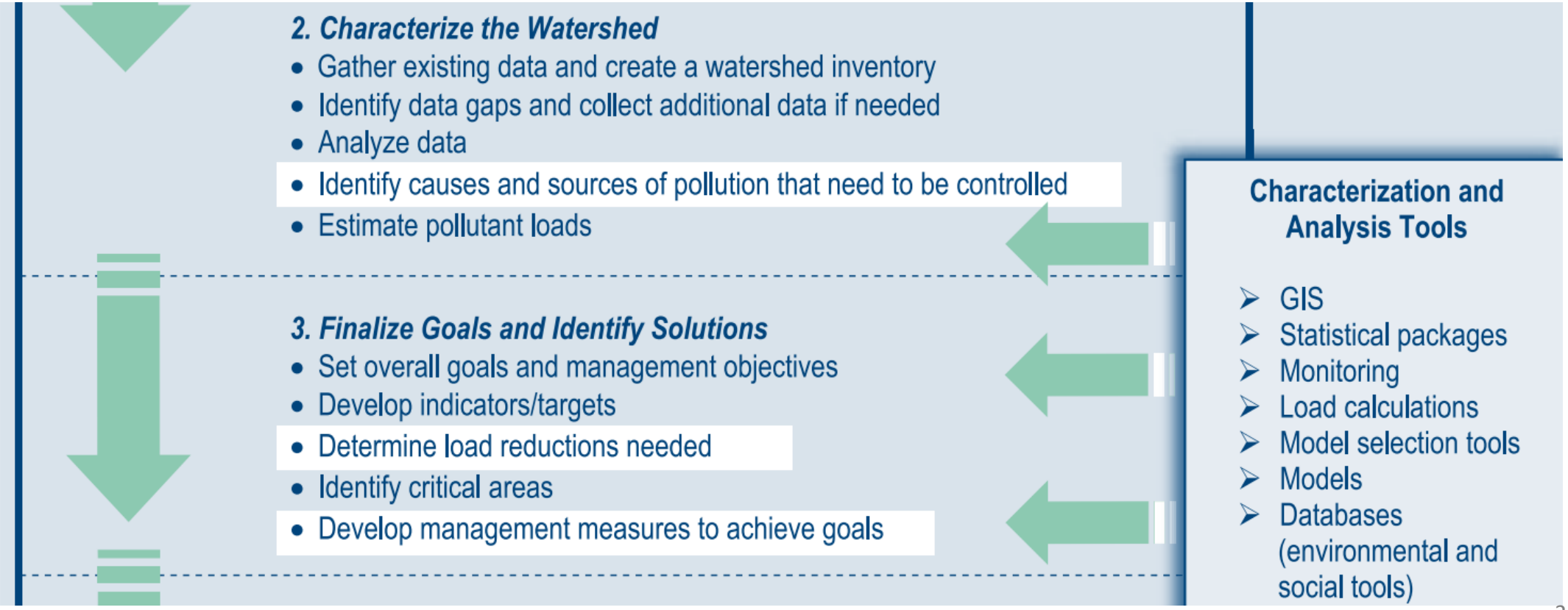
a. Identify causes and sources of pollution
b. Estimate expected load reductions/water quality-based goals to be achieved
c. Describe management measures that will achieve load reductions and targeted critical areas

Nine Elements of watershed-based plans (A-C)

a. Identify causes and sources of pollution

b. Estimate pollutant loading into the watershed and the expected load reductions

c. Describe management measures and targeted critical areas



Nine Elements of WBPs (D and E)

d. Estimate amounts of technical and financial assistance and the relevant authorities needed to implement the plan

e. Information/education component

Nine Elements of WBPs (F-I)

f. Implementation schedule

g. Interim milestones

h. Criteria to measure progress

i. Monitoring component

Example Milestones

Short-Term (< 2 years)
Achieve 5 percent reduction in sediment load on 1,000 acres of agricultural land in the Cross Creek subwatershed by implementing rotational grazing practices.

Eliminate direct sources of organic waste, nutrients, and fecal coliform bacteria to the stream by installing 5,000 feet of fencing to exclude direct access to cattle along Cross Creek.

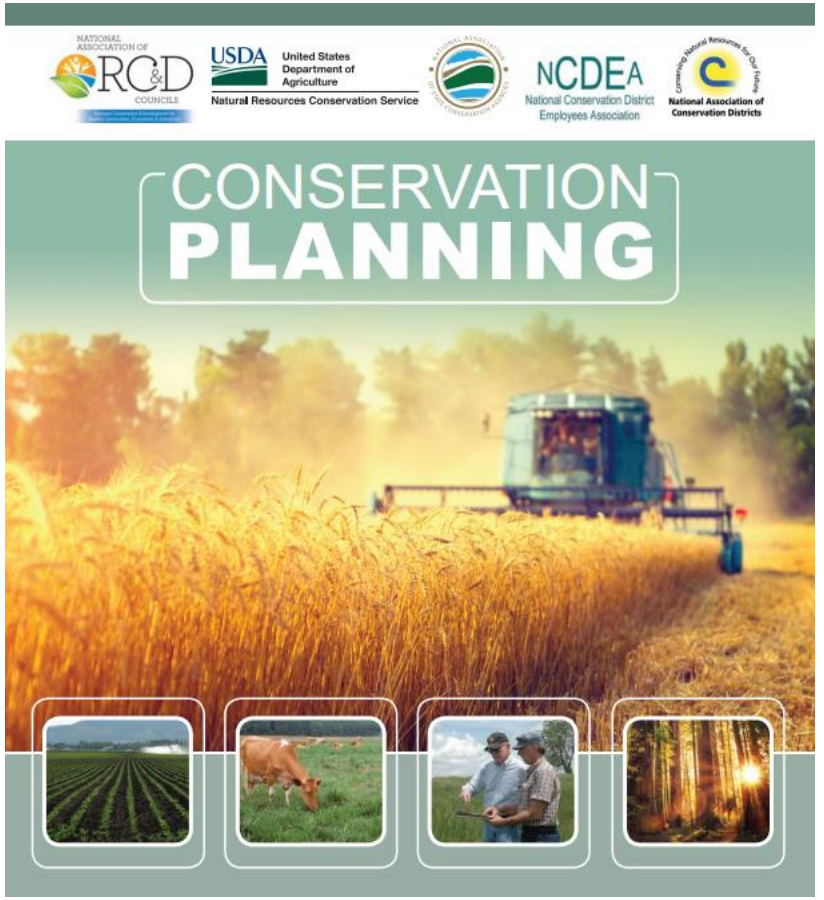
Mid-Term (< 5 years)
Reduce streambank erosion and sediment loading rate by 15 percent by reestablishing vegetation along 3,600 feet of Cross Creek.

Long-Term (5 years or longer)
Achieve the fecal coliform water quality standard in the upper section of Cross Creek above Highway 64.

Other Plans with a Watershed Approach

- Bureau of Indian Affairs - Integrated Resource Management Plan

- NRCS Conservation Plan



Tribal NPS Management Plan

- For state 319 funding, EPA will now consider an up-to-date, EPA-approved Tribal NPS management program plan as an acceptable alternative to a nine-element WBP

- https://www.epa.gov/nps/equity-resources

Watershed Planning Resources

- **EPA Watershed Planning Handbook:** https://www.epa.gov/nps/handbook-developing-watershed-plans-restore-and-protect-our-waters

- **Quick Guide for watershed planning**: https://www.epa.gov/sites/default/files/2015-12/documents/watershed_mgmnt_quick_guide.pdf

- **Tribal NPS Handbook** (starting pg 100): https://www.epa.gov/sites/default/files/2015-09/documents/2010_02_19_nps_tribal_pdf_tribal_handbook2010.pdf

- **Engaging Stakeholders in Your Watershed:** https://cfpub.epa.gov/npstbx/files/stakeholderguide.pdf

- **Critical Source Area Identification and BMP Selection**: https://www.epa.gov/sites/default/files/2018-08/documents/critical_source_area_identification_and_bmp_selection_final_5-11-18cover.pdf

- **Nutrient and Sediment Estimation Tools:** https://www.epa.gov/sites/default/files/2018-08/documents/loadreductionmodels2018.pdf

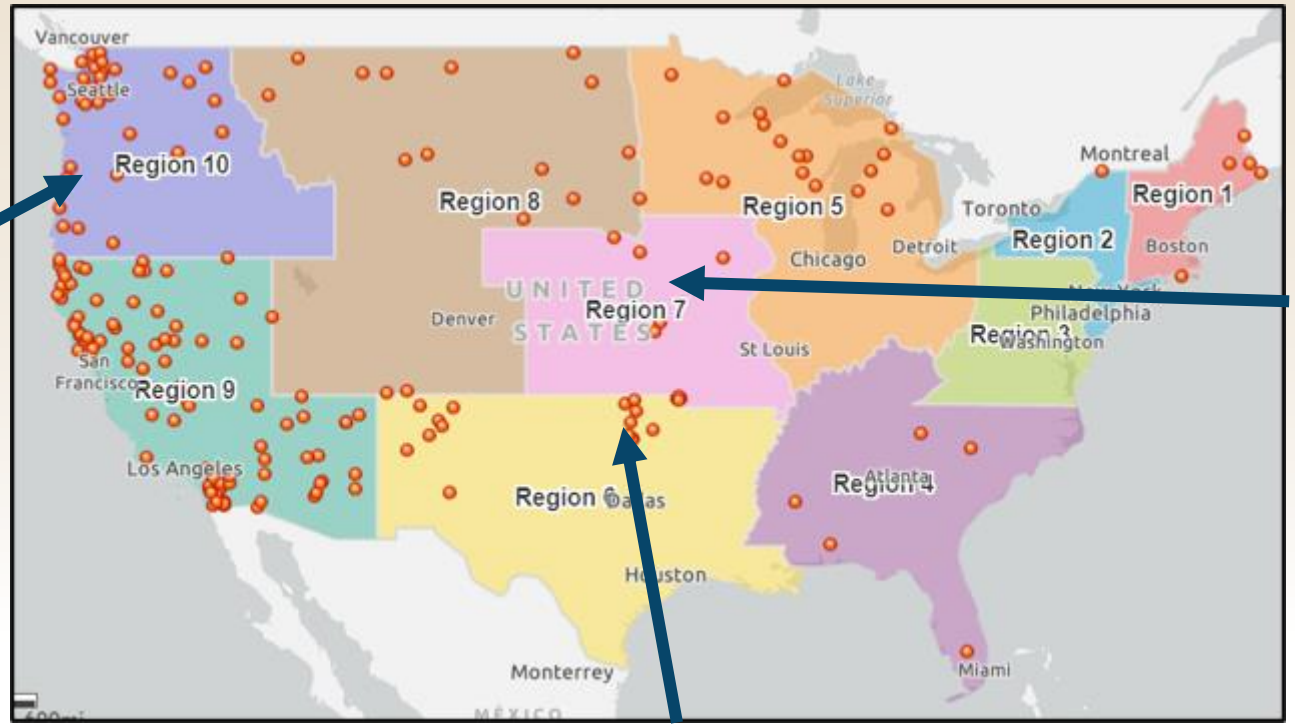
Poll #5:

Does your Tribe have Treatment As a State (TAS) status for CWA 319?

- Yes
- No
- Don’t know
- What’s that mean?

Tribal NPS Program Panel Discussion

Valerie Streeter
Tulalip Tribe



Denise Jensen
Winnebago

Craig Kreman
Quapaw Nation

THE WATERSHED APPROACH IN MANAGING NPS POLLUTION

CRAIG KREMAN

QUAPAW NATION ENVIRONMENTAL OFFICE

March 23, 2023

TREATMENT-IN-A-SIMILAR-MANNER-AS-A-STATE (SOVEREIGN)

- GAP
- Water 106
- Capacity Building Measures
- NPS Concerns
  - Mining
  - Agricultural
  - Open Dumps

Photo courtesy of Northern Arizona University (https://www7.nau.edu/itep/main/tcc/Tribes/plns_Quapaw)

Ni (Water)

TAR CREEK SUPERFUND SITE

- Tri-State Mining District

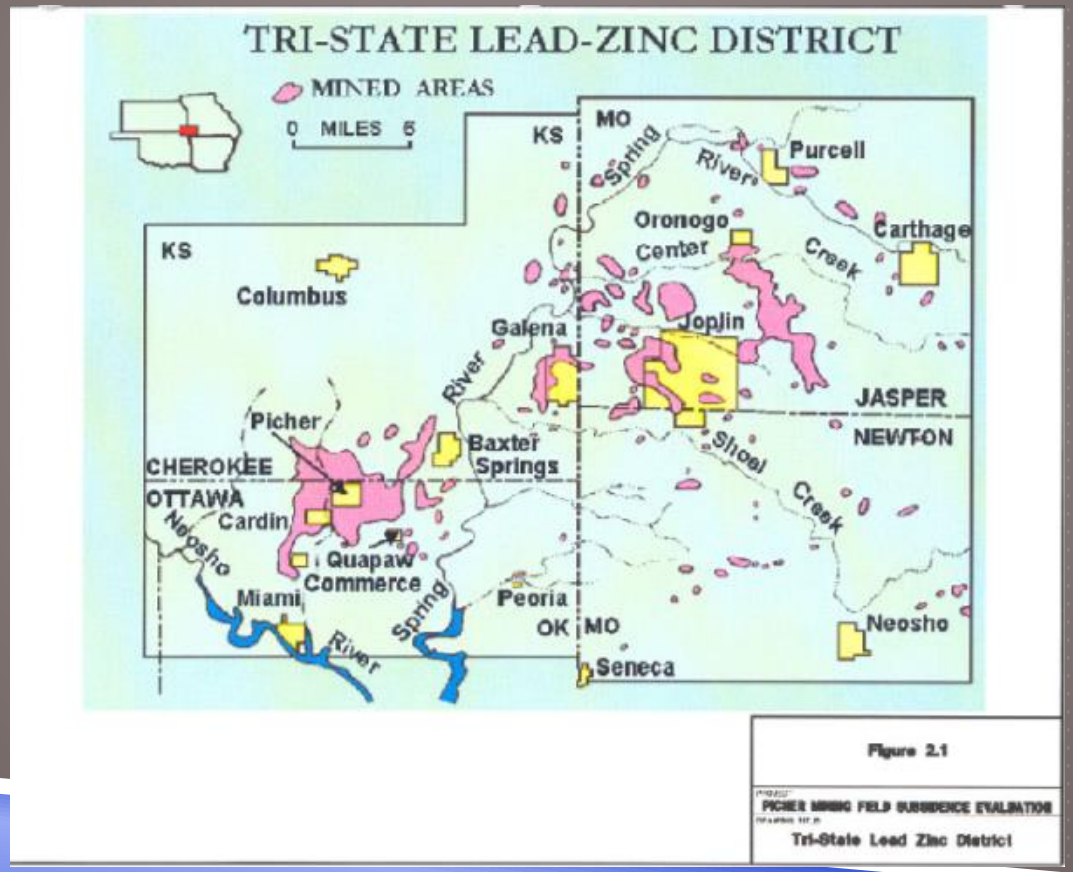


Figure courtesy of USGS.

TAR CREEK SUPERFUND SITE

Photos courtesy of Quapaw Nation.

SURFACE WATER SAMPLING

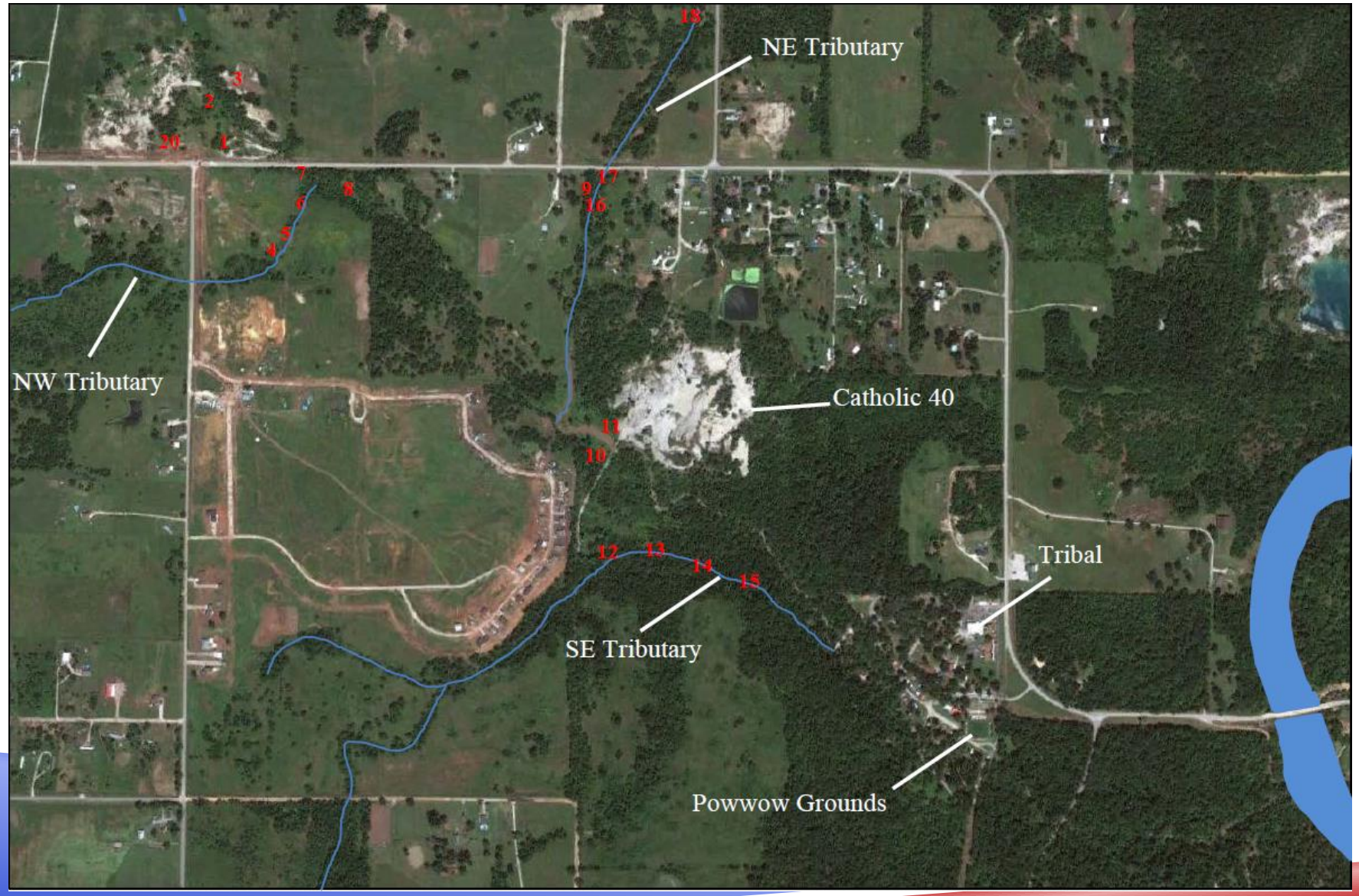


Figure courtesy of University of Oklahoma and Dr. Bob Nair, Center for Restoration of Ecosystems and Watersheds.

KA-NI-KE (THANK YOU)

- Contact Information

Craig Kreman

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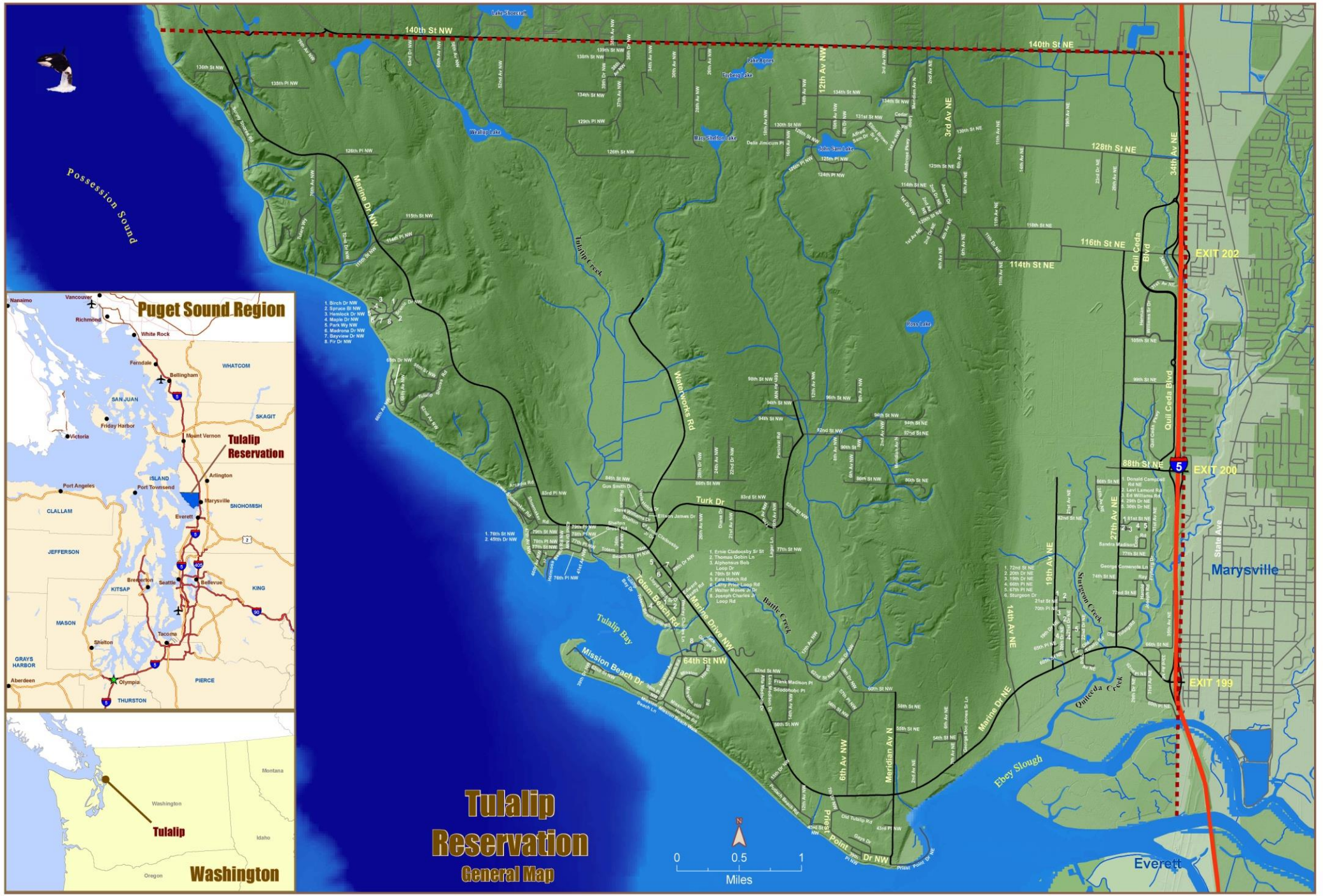
ckreman@quapawnation.com

https://www7.nau.edu/itep/main/tcc/docs/tribes/tribes_plnsQuapaw.pdf

Watershed Approaches to Clean Water

Presented by Valerie Streeter, Tulalip Natural Resources Dept.

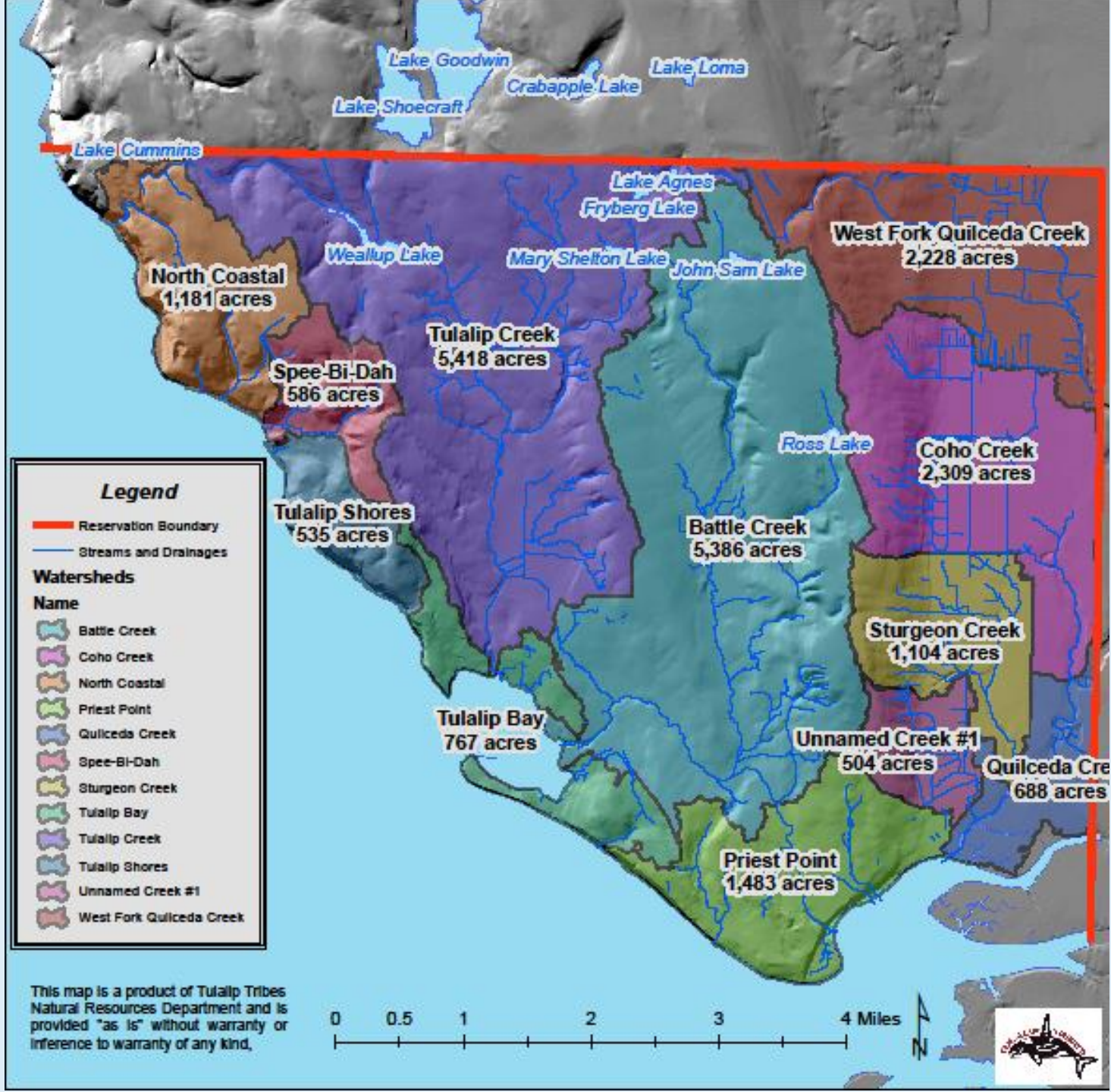


- Reservation is 35 square miles or 22,000 acres
- Signatories to Treaty of Point Elliot
- Checkerboard Reservation: Some land is owned by non tribal people who use Snohomish County services

1996 – 27 years ago

- Covered the entire Reservation
- Major Goal: Balance Regulation/Policy with Wetland Protection
- Citizens Advisory Committee & Technical Advisory Committee

Tulalip Watershed Management Plan



1996 Tulalip Watershed Management Plan – *Reservation-wide*

1998 Impervious Surface Analysis as a Guide to Land-Use Planning – *Reservation-wide*

2005 Tulalip Bay Vision Plan

2007 Tulalip Bay Low Impact Study

2009 Tulalip Bay Watershed Management Plan

2010 Tulalip Tribes Vision Plan II – *Reservation-wide*

2012 Lower Quilceda Neighborhood Planning Project

2016 Tulalip Bay 2040 Plan

2023 Tulalip Bay Stormwater Improvement Plan

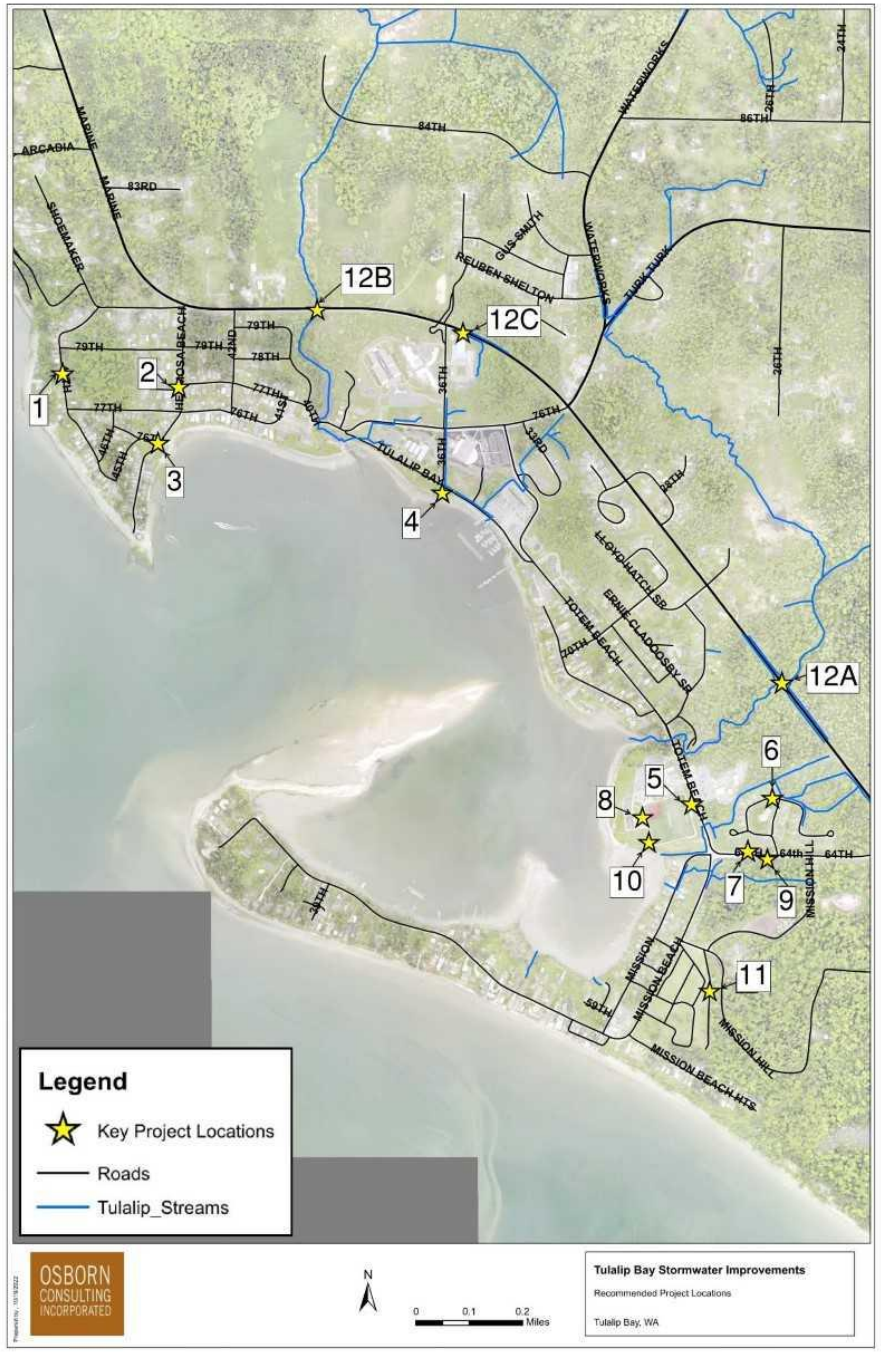
At each of these meetings, community members of all generations expressed their strong beliefs that the Bay is the heart of the Tulalip Tribes and it's natural and scenic resources should be reserved for the primary use of Tribal members.

It was clearly stated that any new uses on the Bay should be carefully planned and make every effort to protect and restore the health of the Bay.

The Nine Elements:

- Economic Development
- Cultural Center
- Sustainability
- Education & Art
- Conservation & Preservation
- Play & Recreation
- Connect to Bay
- Live/Home
- Community

Tulalip Bay 2040 Plan



Tulalip Bay Stormwater Improvements Plan 2023

- Funded by an EPA 319 Tribal Competitive grant
- Applied sub-basin delineation and hydrology models (WWHM)
- Basin Retrofit Analysis: details basin boundaries, current conditions and summarizes improvement options
- Conveyance Capacity Analysis: analyzed future growth and climate change projections (i.e., impacts of sea level rise on the existing stormwater outfalls)
- Capital Facilities Plan: details improvement specifications and how they address the specific drainage concerns and a cost estimate for implementation.

At Tulalip, Watershed Planning

- Is an Iterative process.
- Varies in scale, purpose and partners; can be difficult to track.
- Implementation is ongoing and can change.
- Partners evolve over time.

Tulalip Bay at Sunset

Picture provided by Lindsey Watkins, Tulalip Tribes Communication Dept.

Break-out Instructions and Discussion Questions

- You will automatically be moved to your randomized breakout room. The breakout session will last approximately 30 minutes and will *not* be recorded.
    - Based on the panel discussion, do you have thoughts on how you might take a Watershed Approach to further Tribal goals?

For more information about EPA's Tribal NPS Program

Tribal NPS Program Web Page:

https://www.epa.gov/nps/tribal-nonpoint-source-program

EPA Region	Coordinator
HQ	Steve Epting Margot Buckelew
1	Bessie Wright
2	Aimee Boucher
3	Jason Challandes
4	Sharon Brown
5	Janette Marsh
6	Sam Reynolds
7	Ann D'Alfonso
8	Erika Larsen
9	Howard Kahan Larry Maurin
10	Krista Mendelman

Thank You!

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