



SHOAL CREEK WATERSHED ACTION PLAN

Stakeholder Meeting: August 2018



Welcome & Agenda Overview

Today's Goals:

- Understand the water quality challenges on Shoal Creek and existing City of Austin water quality and biological data
- Set the stage for upcoming meetings in October and December

Review of Agenda





Vision & Project Goal

Vision:

A resilient, healthy and clean Shoal Creek

Goal:

To identify cooperative, creative solutions to address Shoal Creek's challenges through the development of the creek's 1st watershed action plan

Timeline & Progress to Date

Winter/Spring 2018: First Stakeholder Meeting & Site Visit, QAPPs

Summer 2018: Establish steering committee, Review existing data, Determine modeling method, Education & outreach (**WE ARE HERE**)

Fall 2018: Draft Characterization Report (challenges)

Summer 2019: Draft Watershed Action Plan (solutions), Final Characterization Report

2020: Final Watershed Action Plan Report

Today - 2020: Stakeholder Engagement & Public Outreach and Education



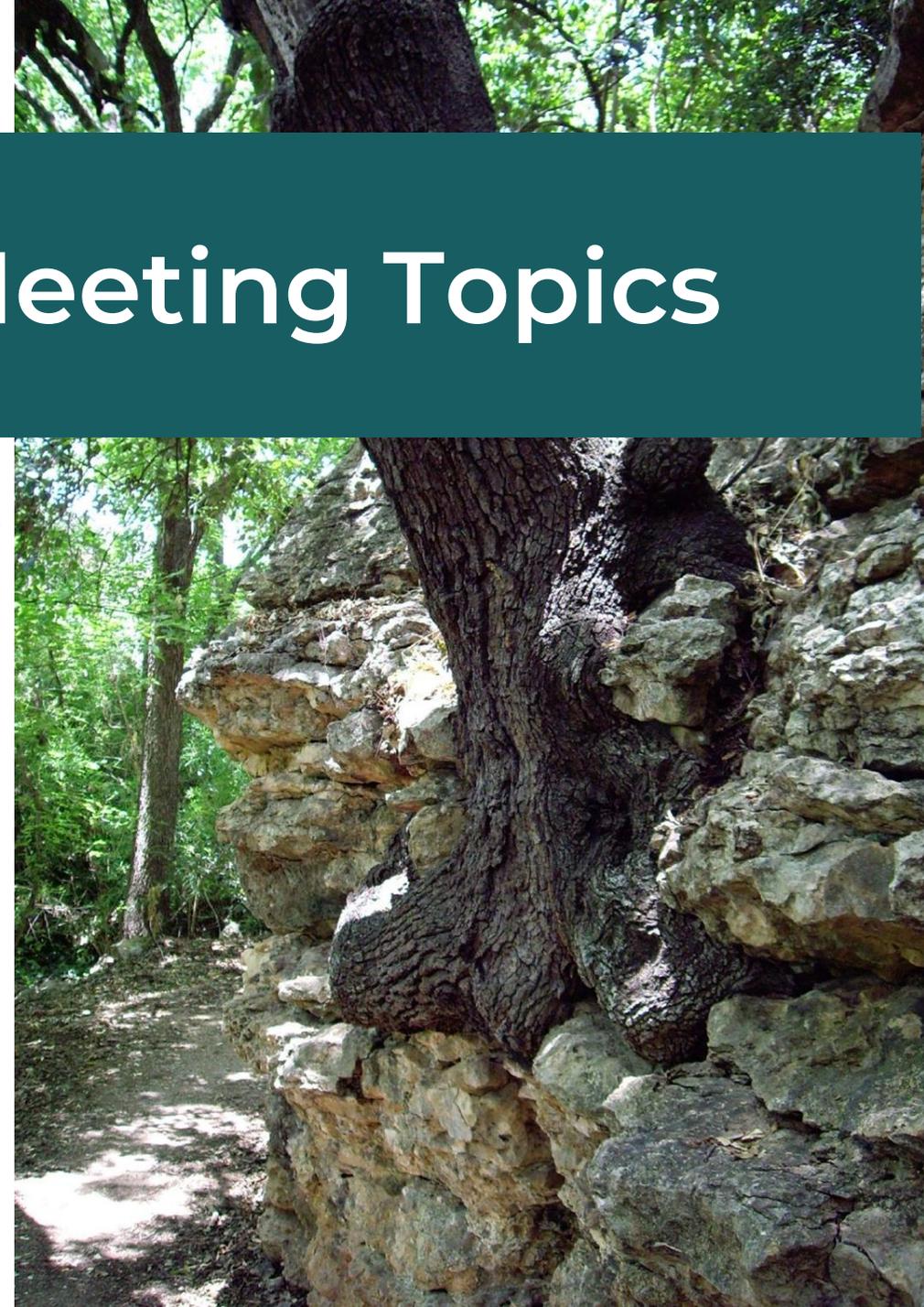
What Next? Upcoming Meeting Topics

October 9 - Stakeholder Meeting & Steering Committee

- Review project scope
- Share draft Watershed Characterization Plan
- Welcome new steering committee members
- Adoption of bylaws and elections

December 9 - Stakeholder Meeting & Working Groups

- Develop BIG goal for future of watershed
- Set working group goals and strategic plans

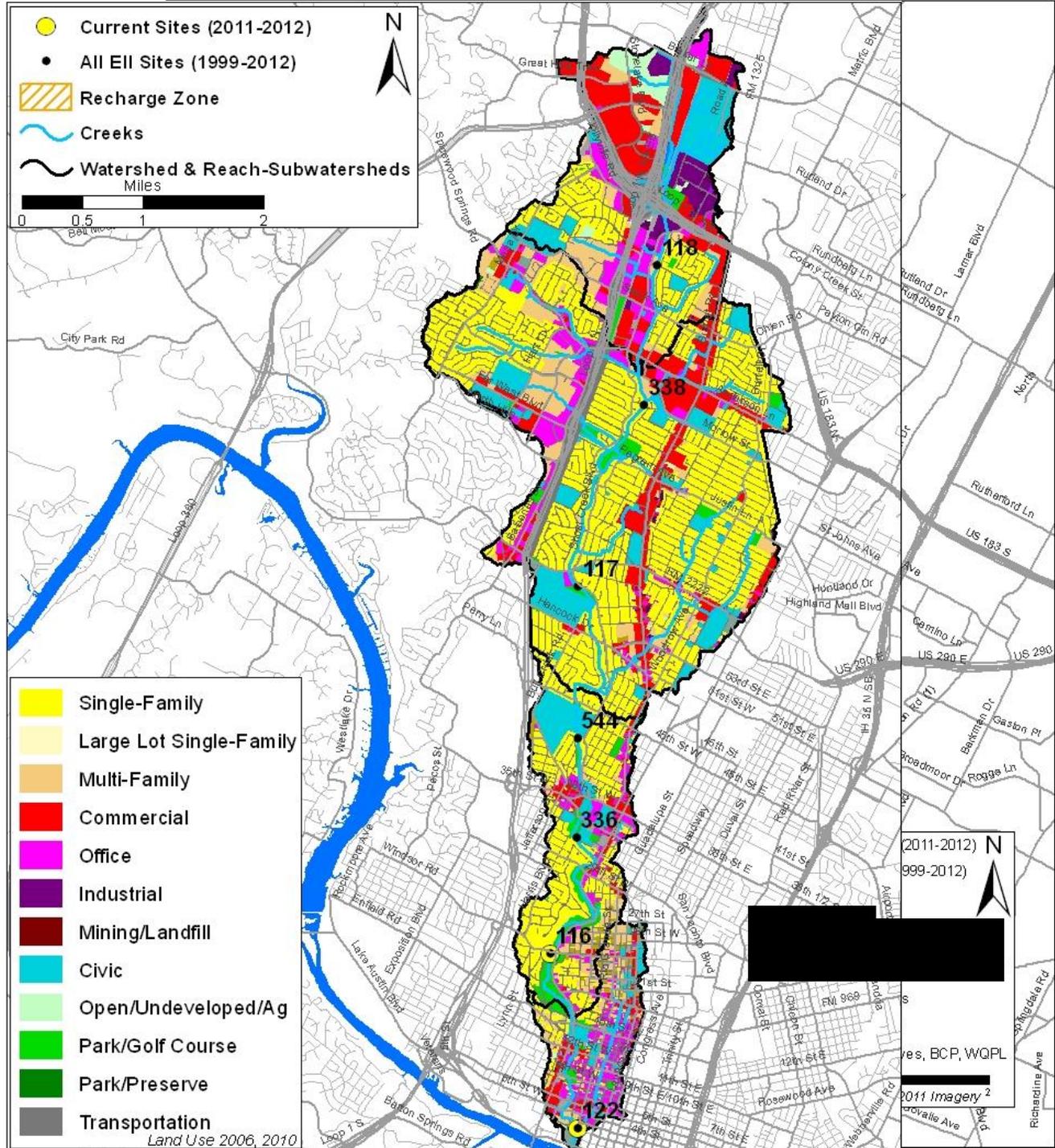


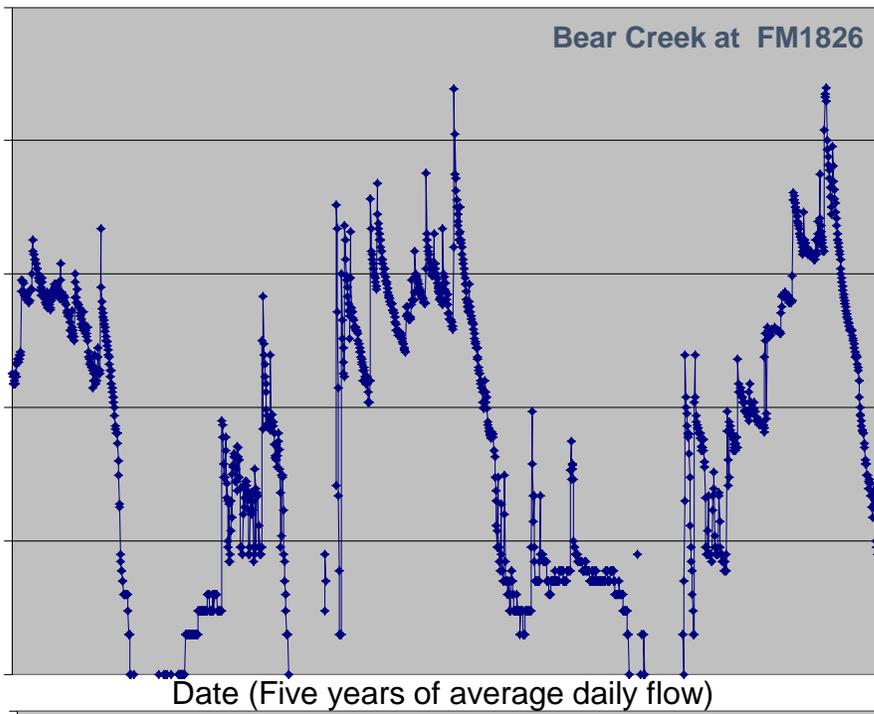
Shoal Creek Water Quality



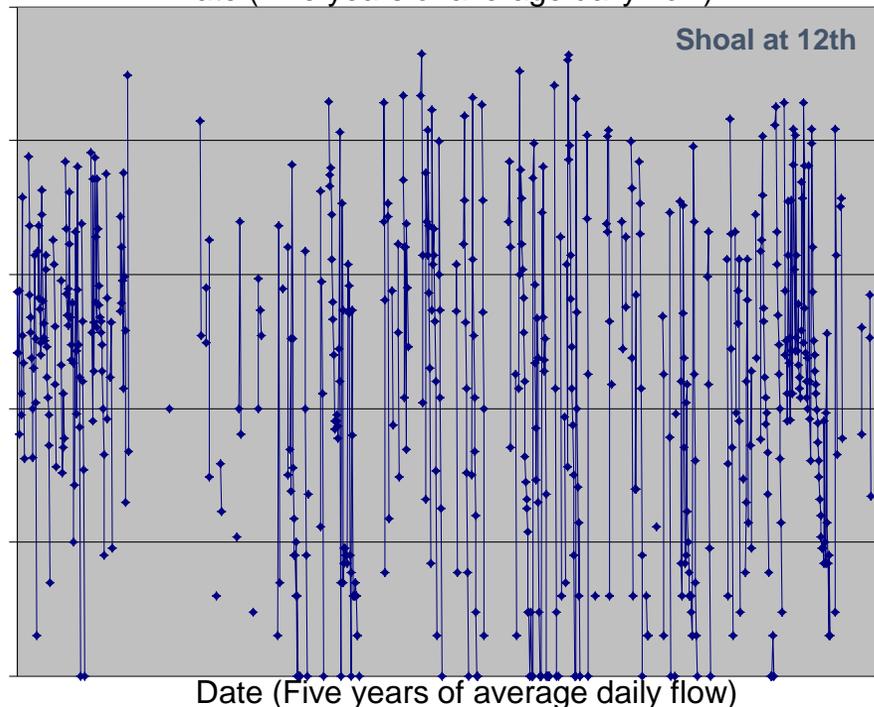
Mateo Scoggins



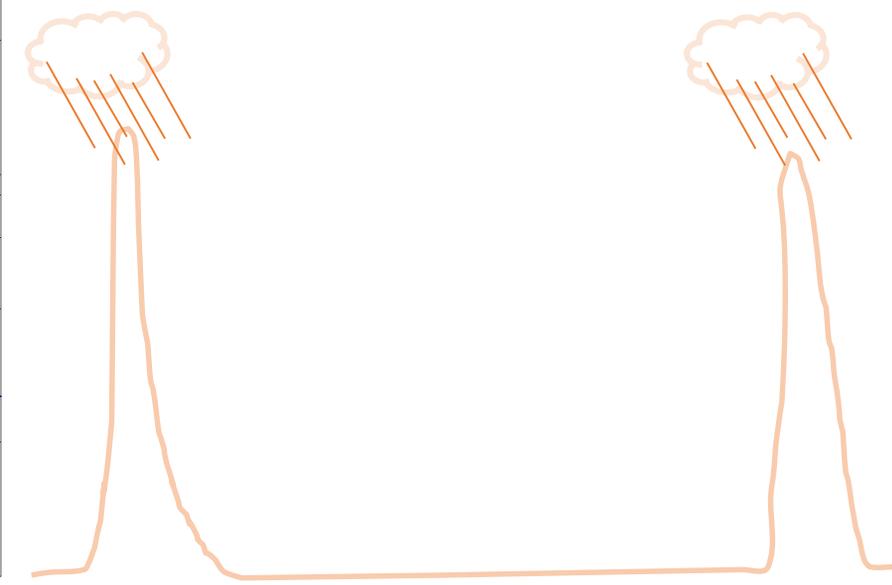




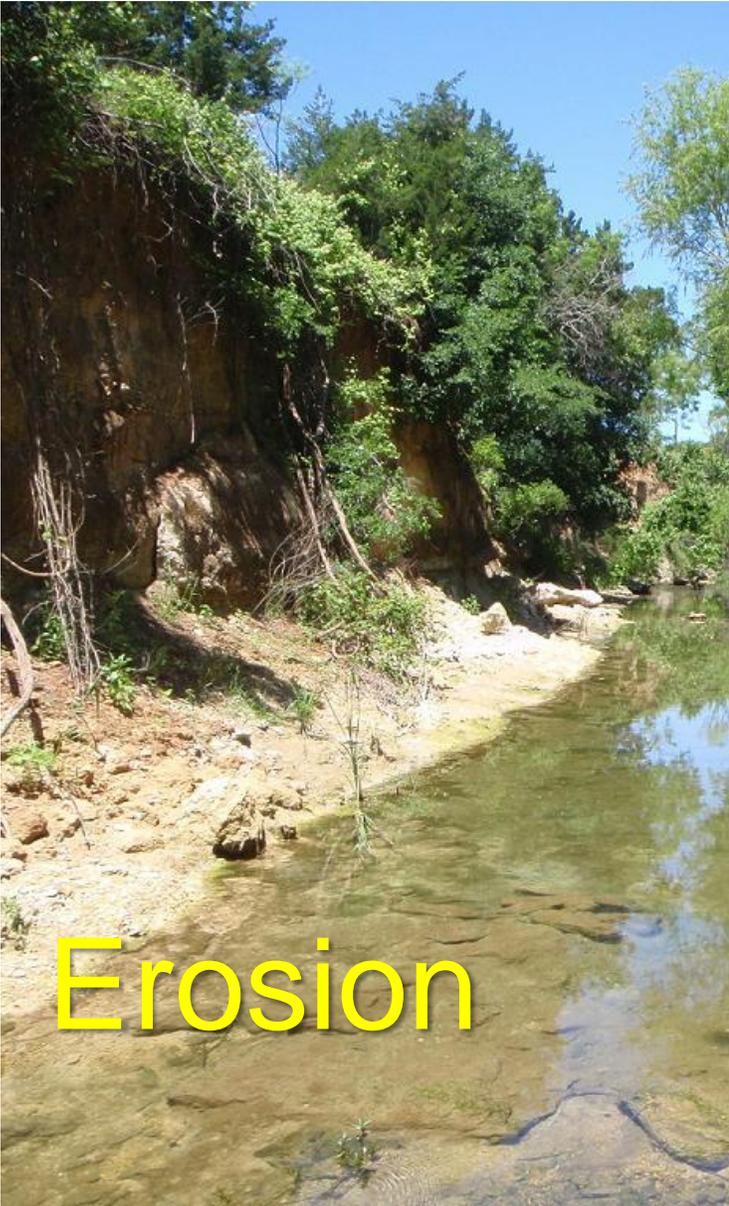
Natural



Urban



Urban Stream Syndrome



Erosion



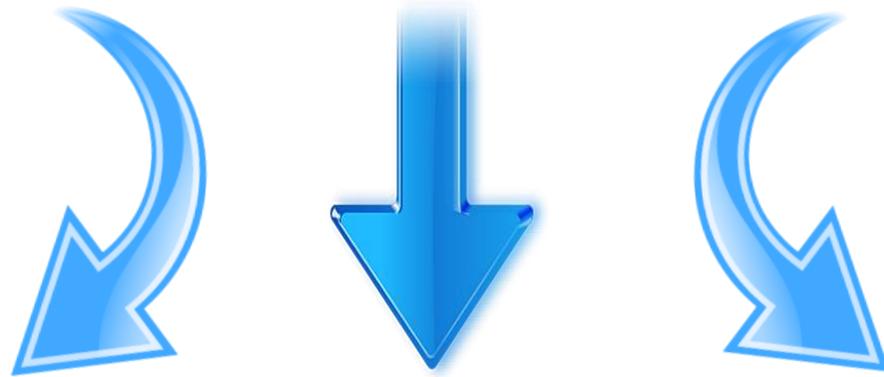
Water Quantity



Water Quality

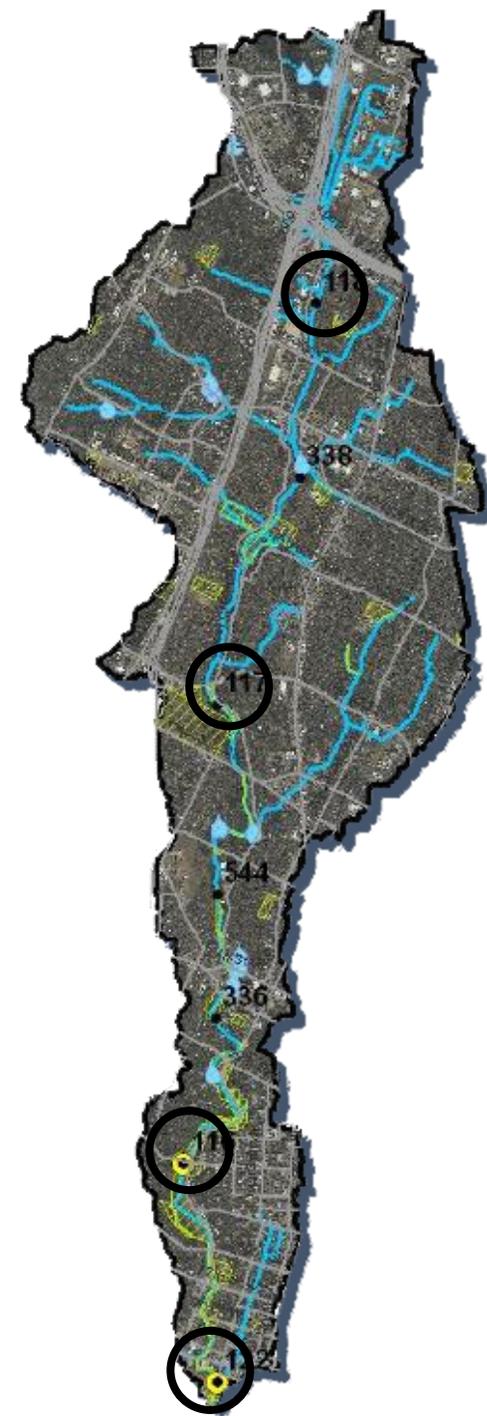
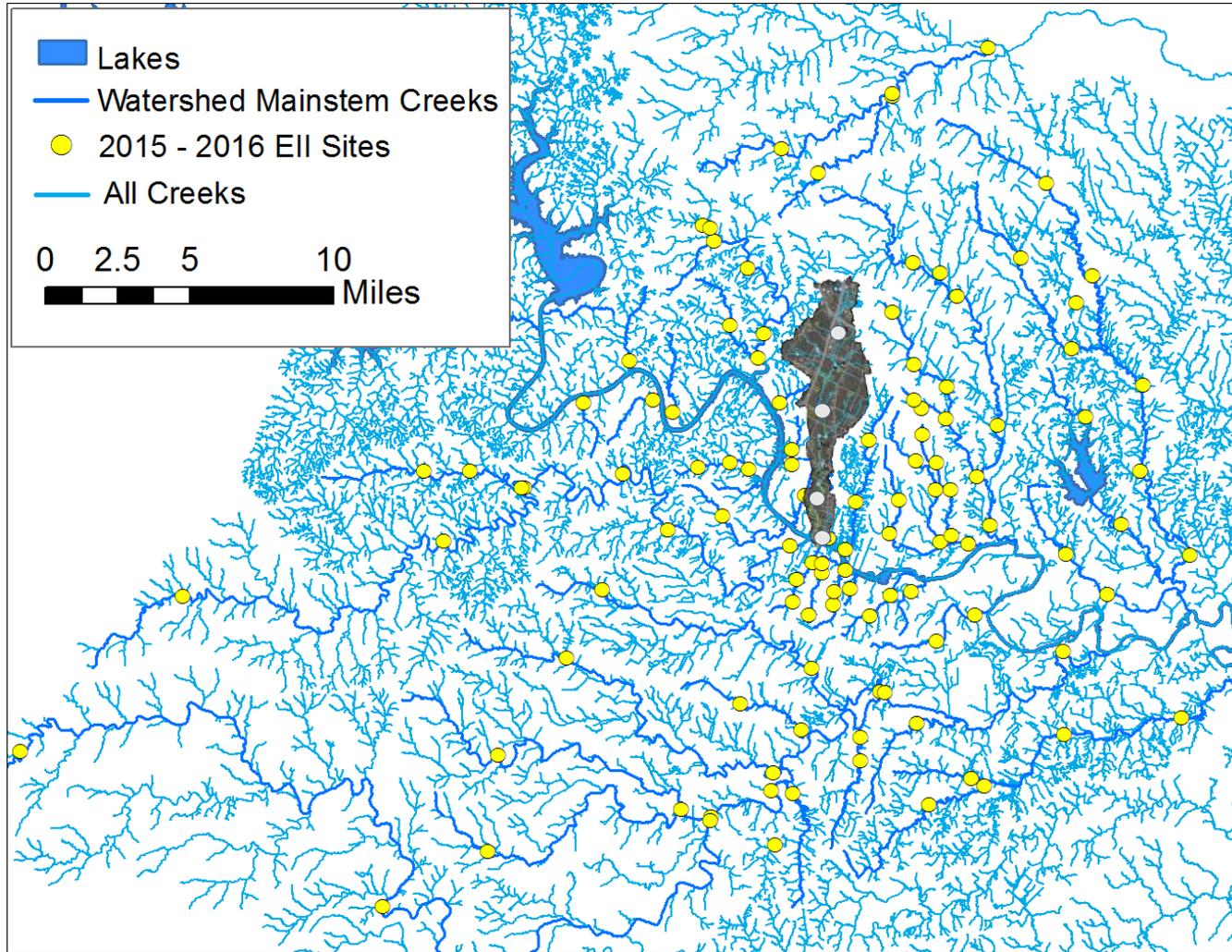
Environmental Integrity Index (EII)

Chemical, physical, and biological integrity

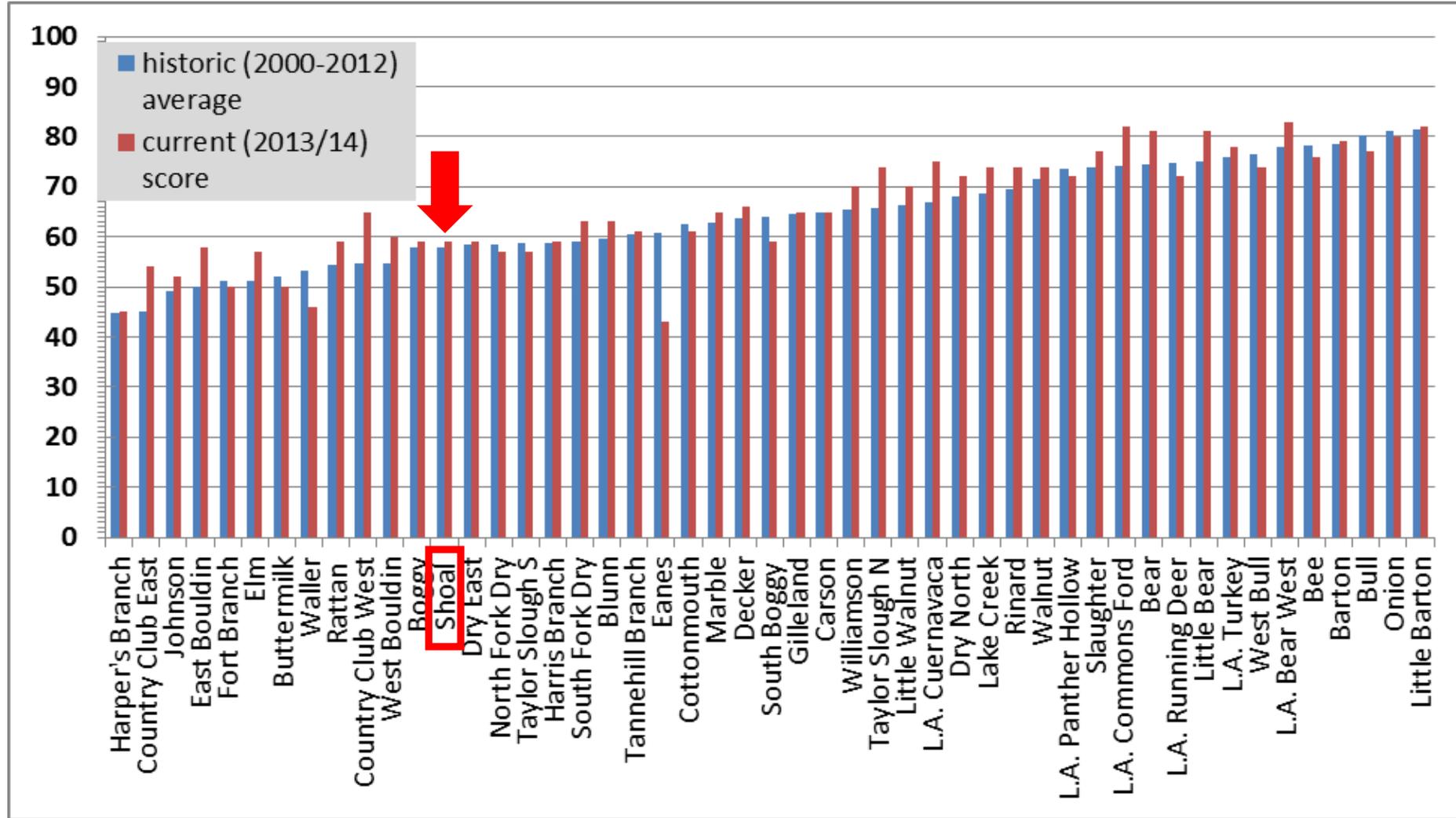


EII

(Environmental Integrity Index)



EEI overall total scores



Quarterly Sampling



- **pH**
- **Dissolved Oxygen**
- **Conductivity**
- **Temperature**

- **Nitrate as N**
- **Ammonia as N**
- **Orthophosphorus**



- **Turbidity**
- **Total Suspended Solids**
- ***E. coli* (Bacteria)**

Annual Sampling

- **Sediment**

metals, PAHs, pesticides, herbicides

- **Aquatic life**

diatoms, benthic macroinvertebrates

- **Non-contact recreation**

aesthetics, trash, odor, algae cover, clarity

- **Physical habitat**

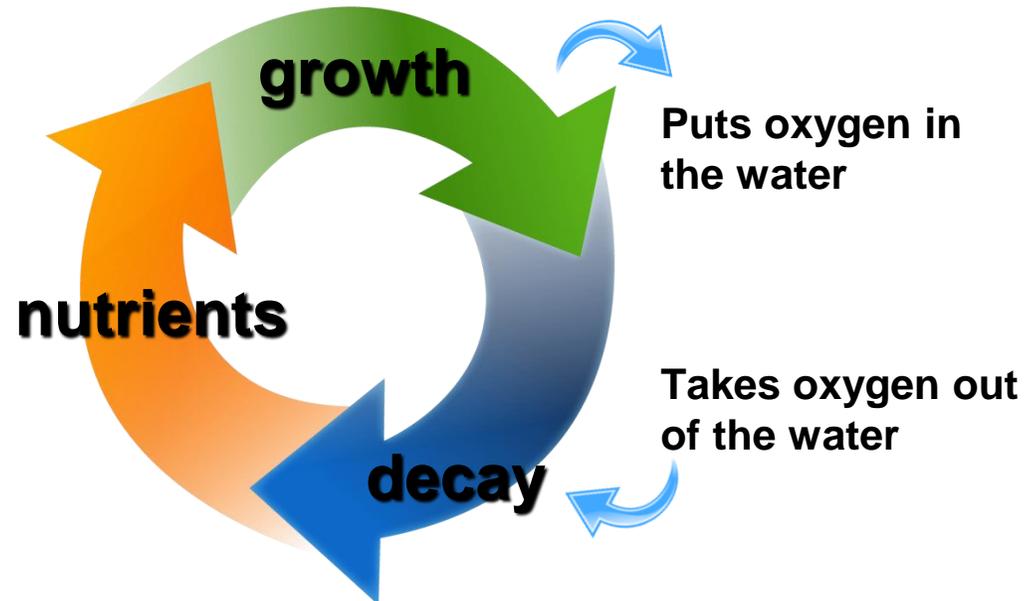
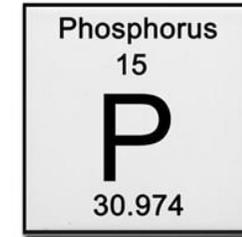
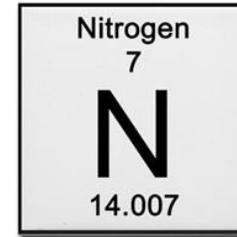
erosion, bank stability, instream cover, riparian quality



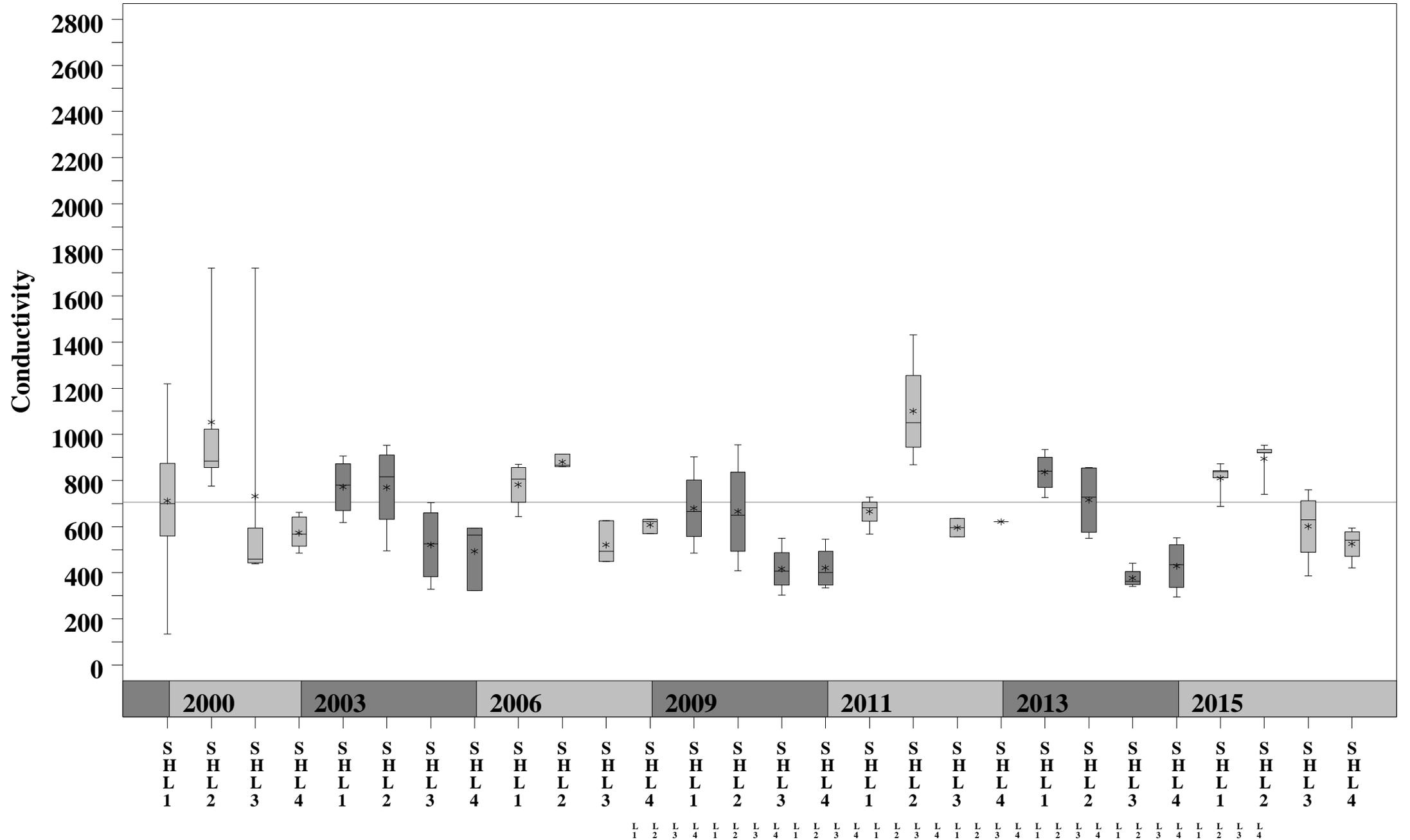
Nutrients in Streams

What are they?

- Naturally occurring
- Primarily N and P
- Essential for plant growth

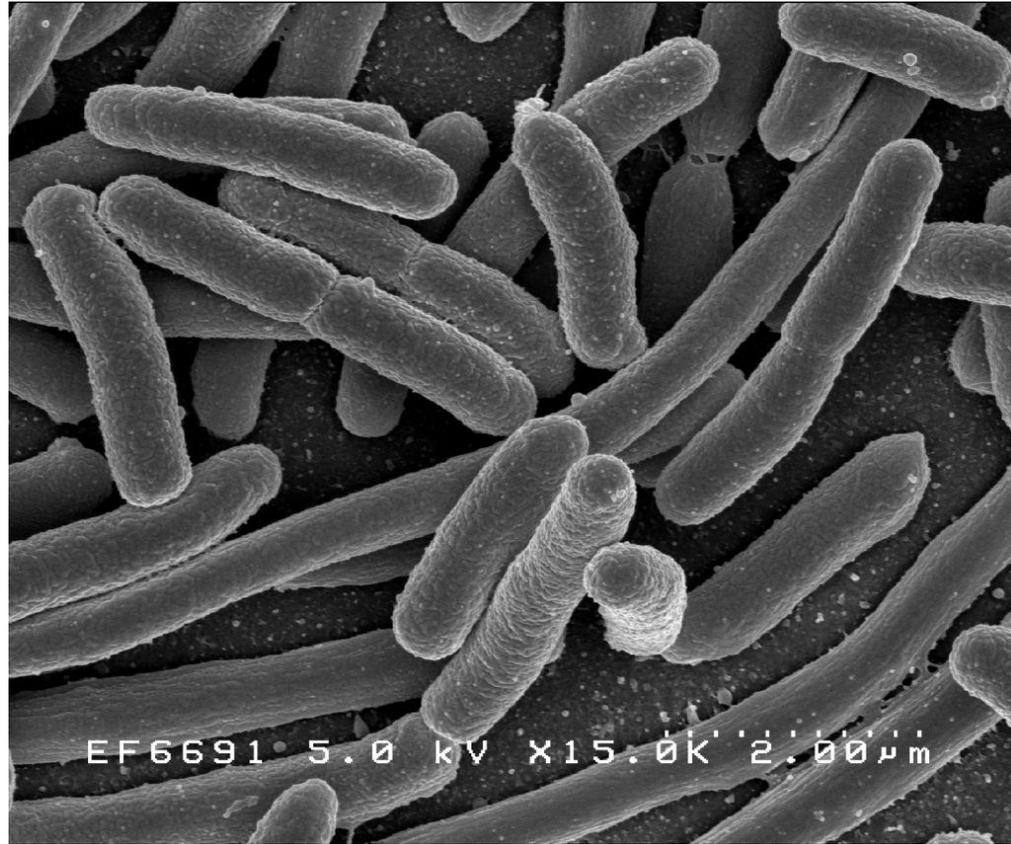


Parameter = CONDUCTIVITY Unit = uS/cm Watershed = Shoal



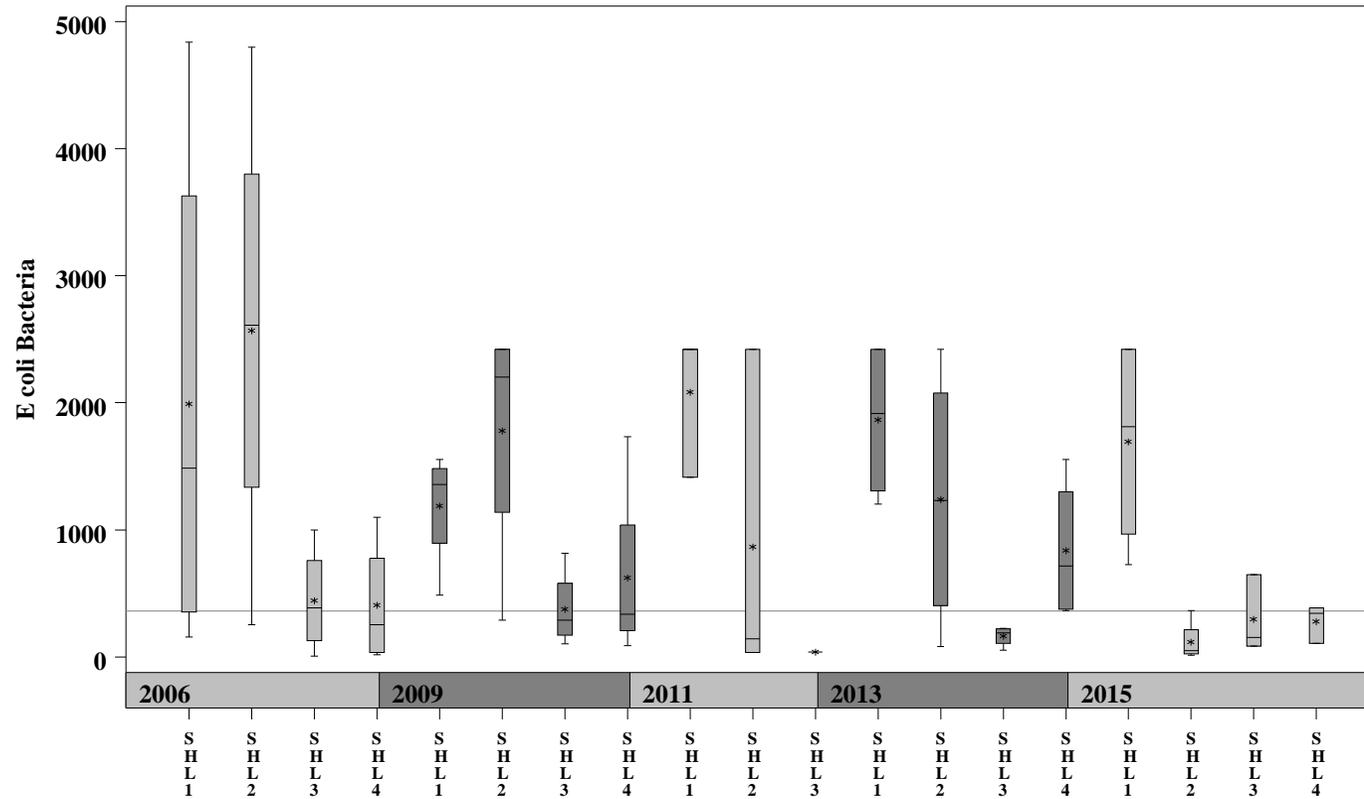
E. coli

Escherichia coli is a fecal coliform bacteria commonly found in warm blooded animals

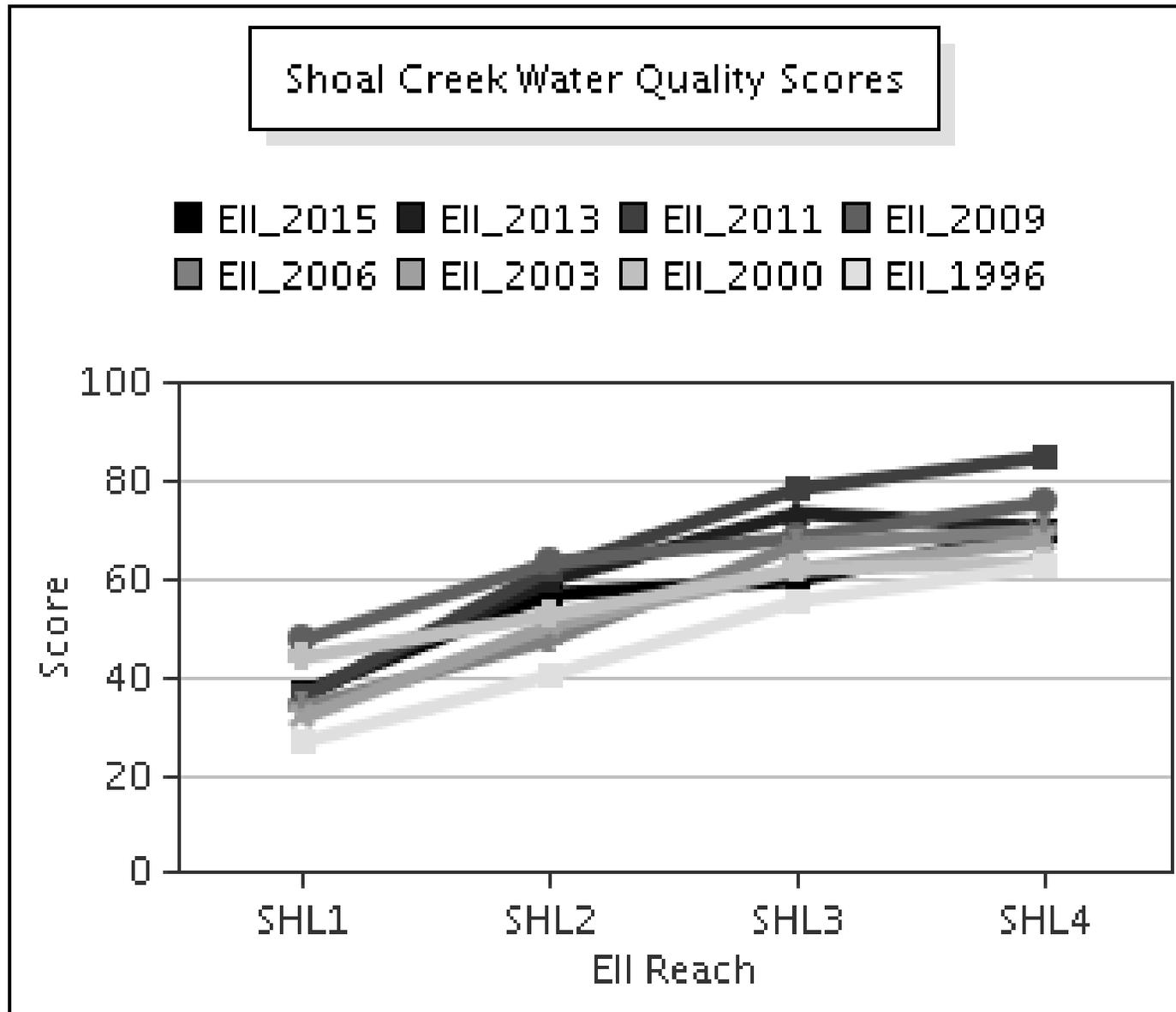


- **Hundreds of strains; some are harmless, some can cause illness**
- **Commonly used as an indicator for other pathogenic microorganisms (such as viruses, protozoans and other bacteria)**

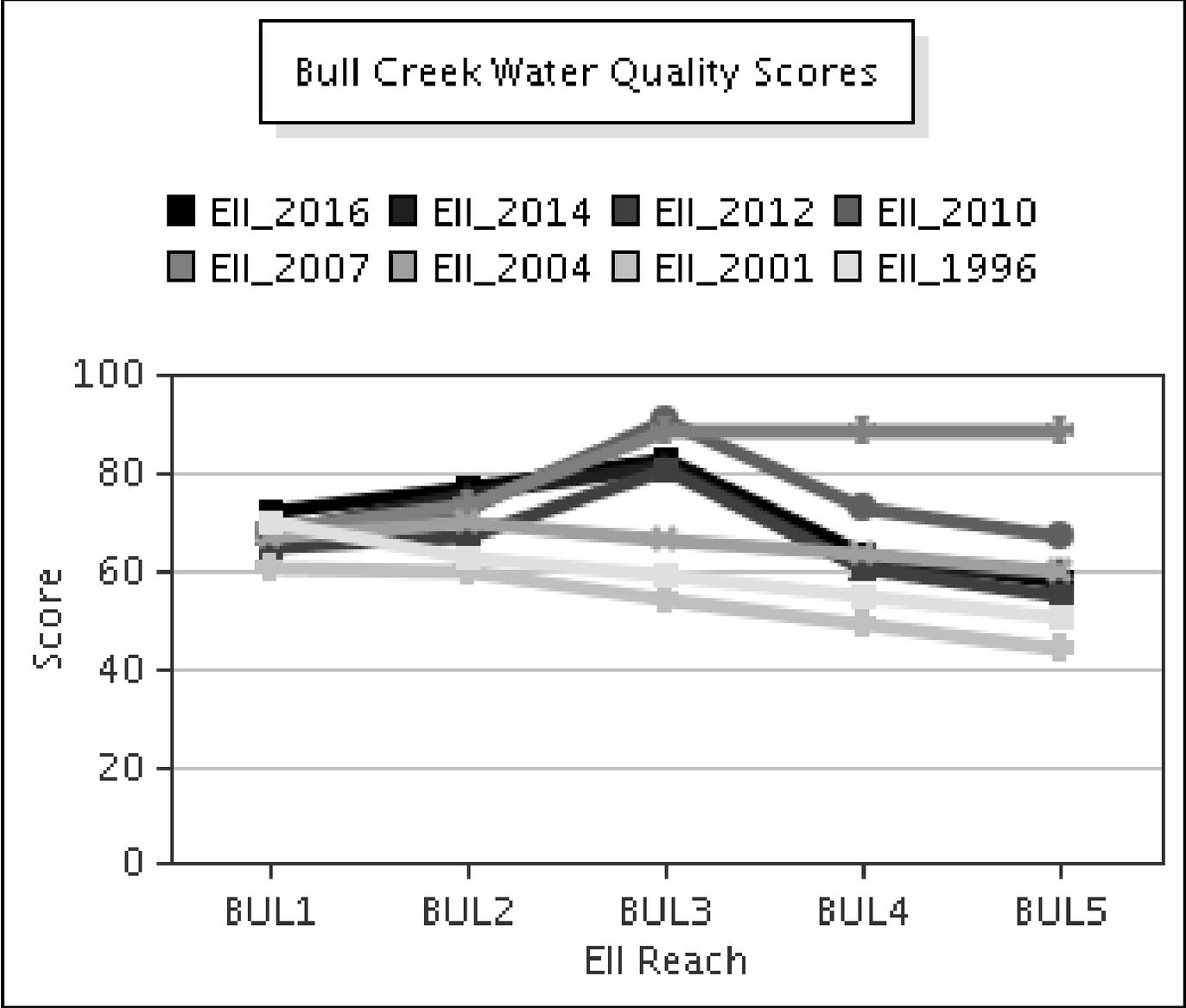
Parameter = E COLI BACTERIA Unit = MPN/100mL Watershed = Shoal

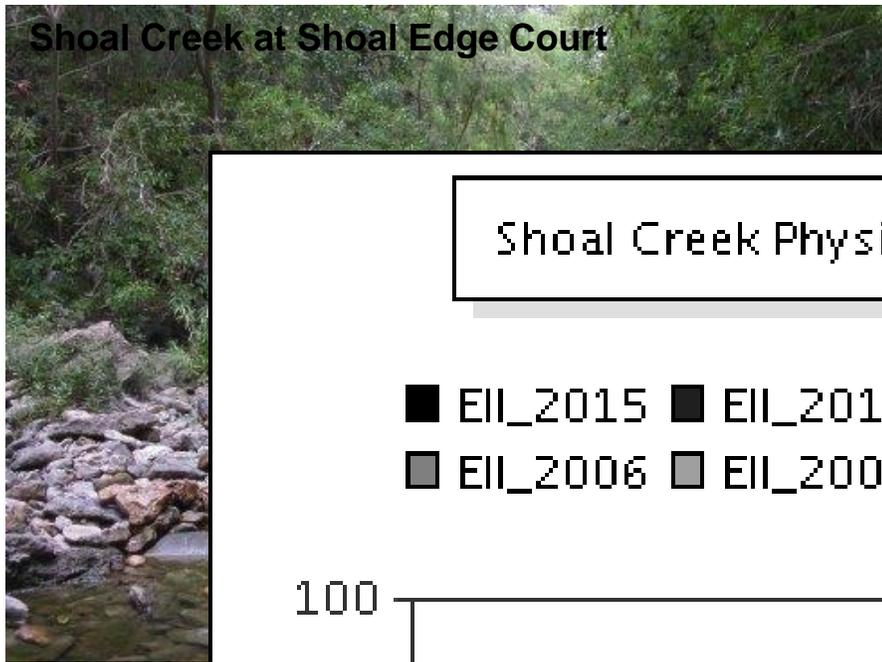


Shoal Creek Water Quality Scores



Bull Creek Water Quality Scores

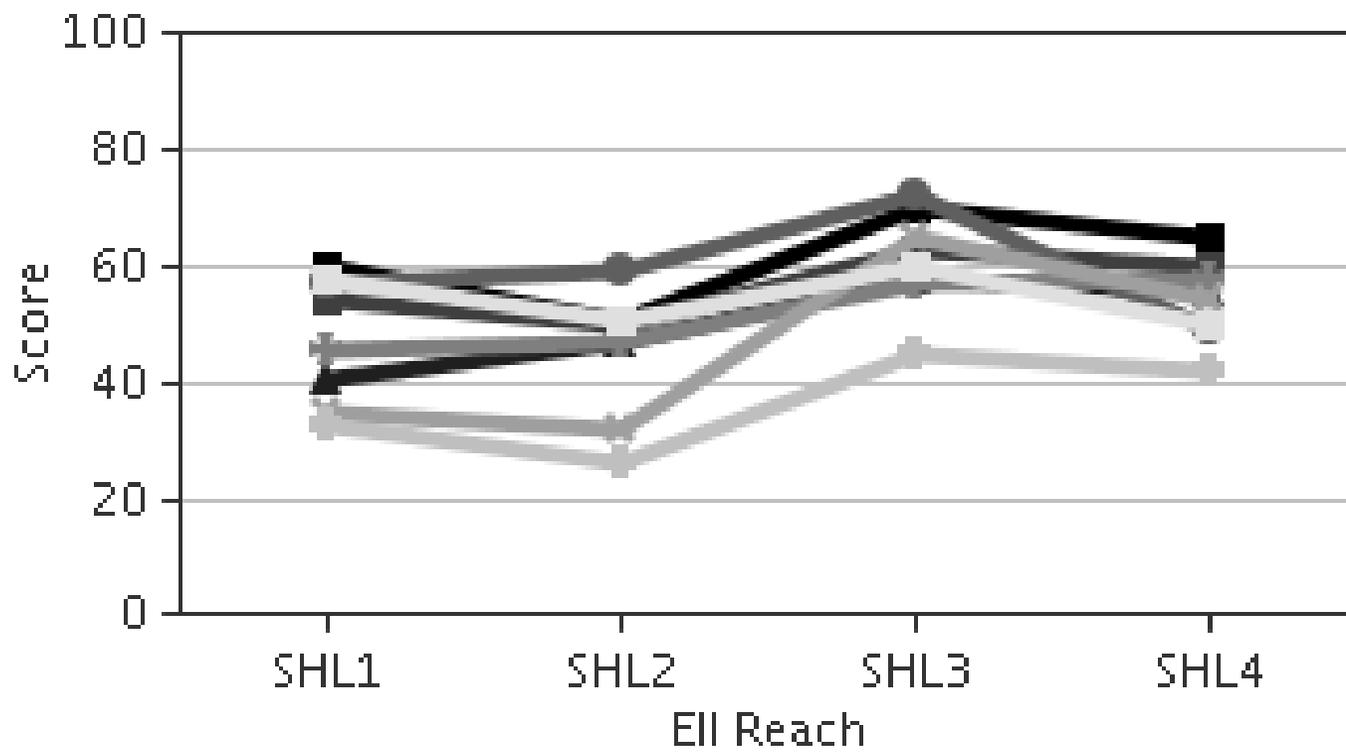




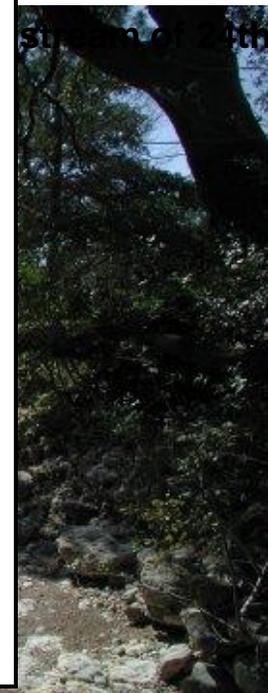
Shoal Creek Physical

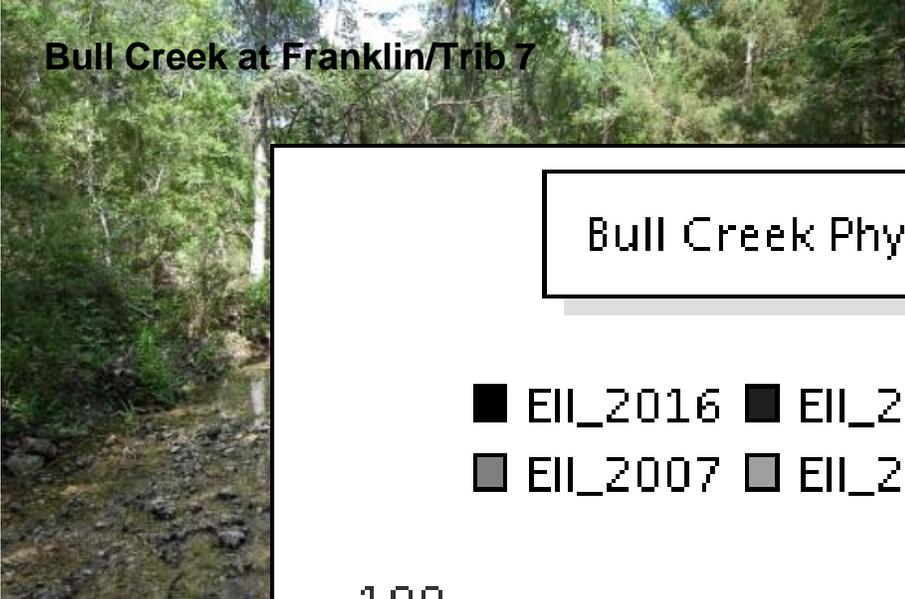
Shoal Creek Physical Integrity Scores

■ EII_2015 ■ EII_2013 ■ EII_2011 ■ EII_2009
■ EII_2006 ■ EII_2003 ■ EII_2000 ■ EII_1996

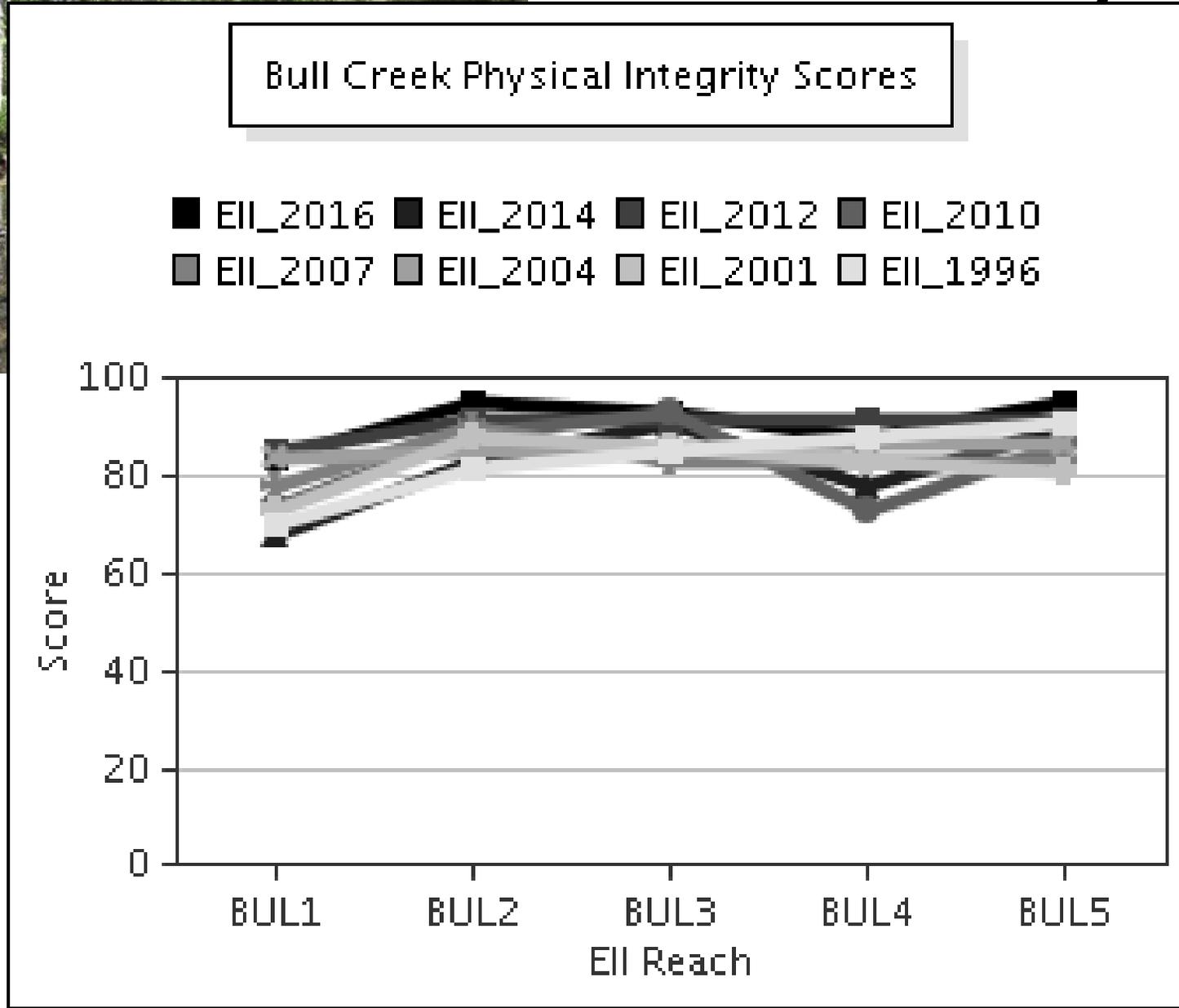


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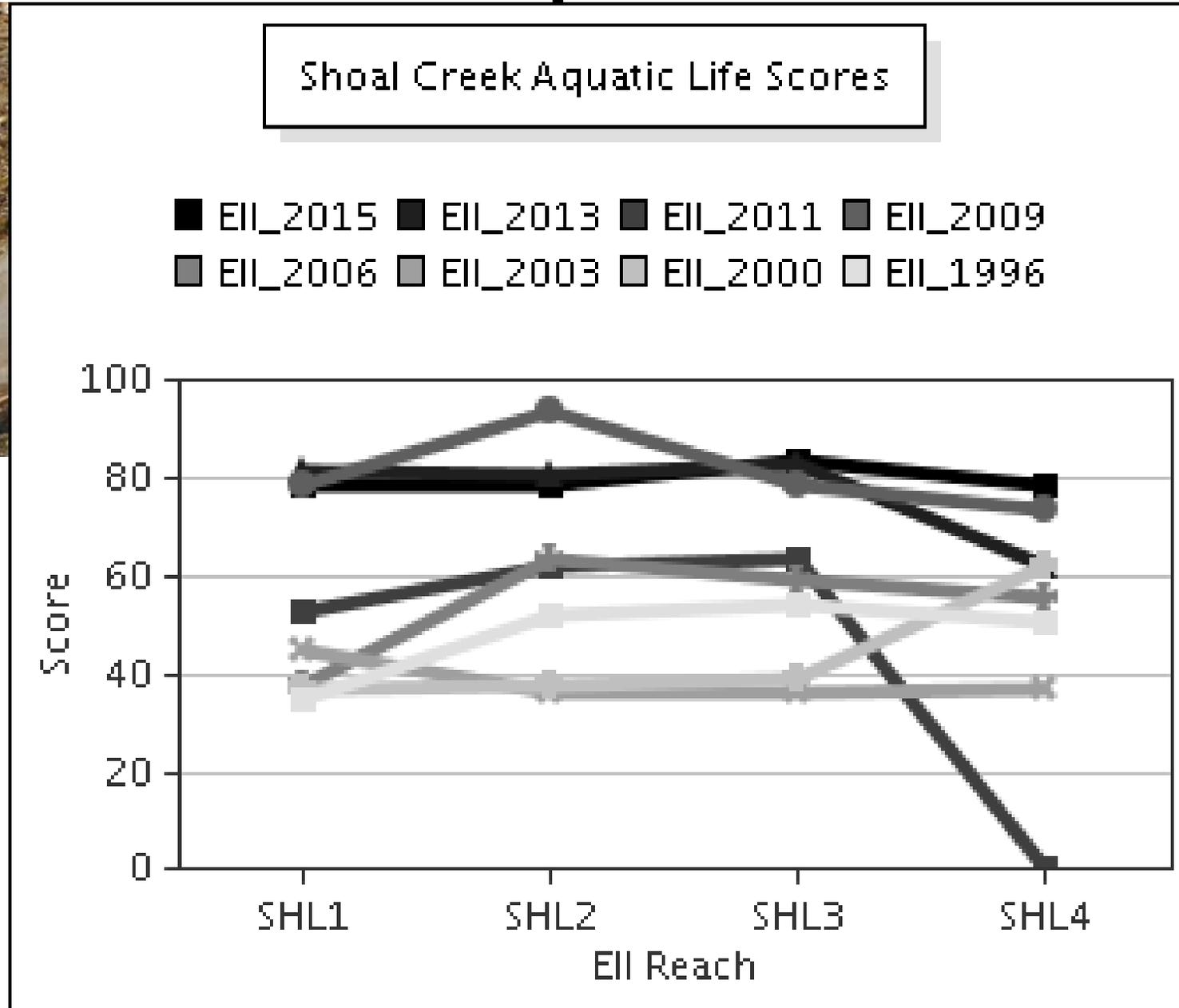




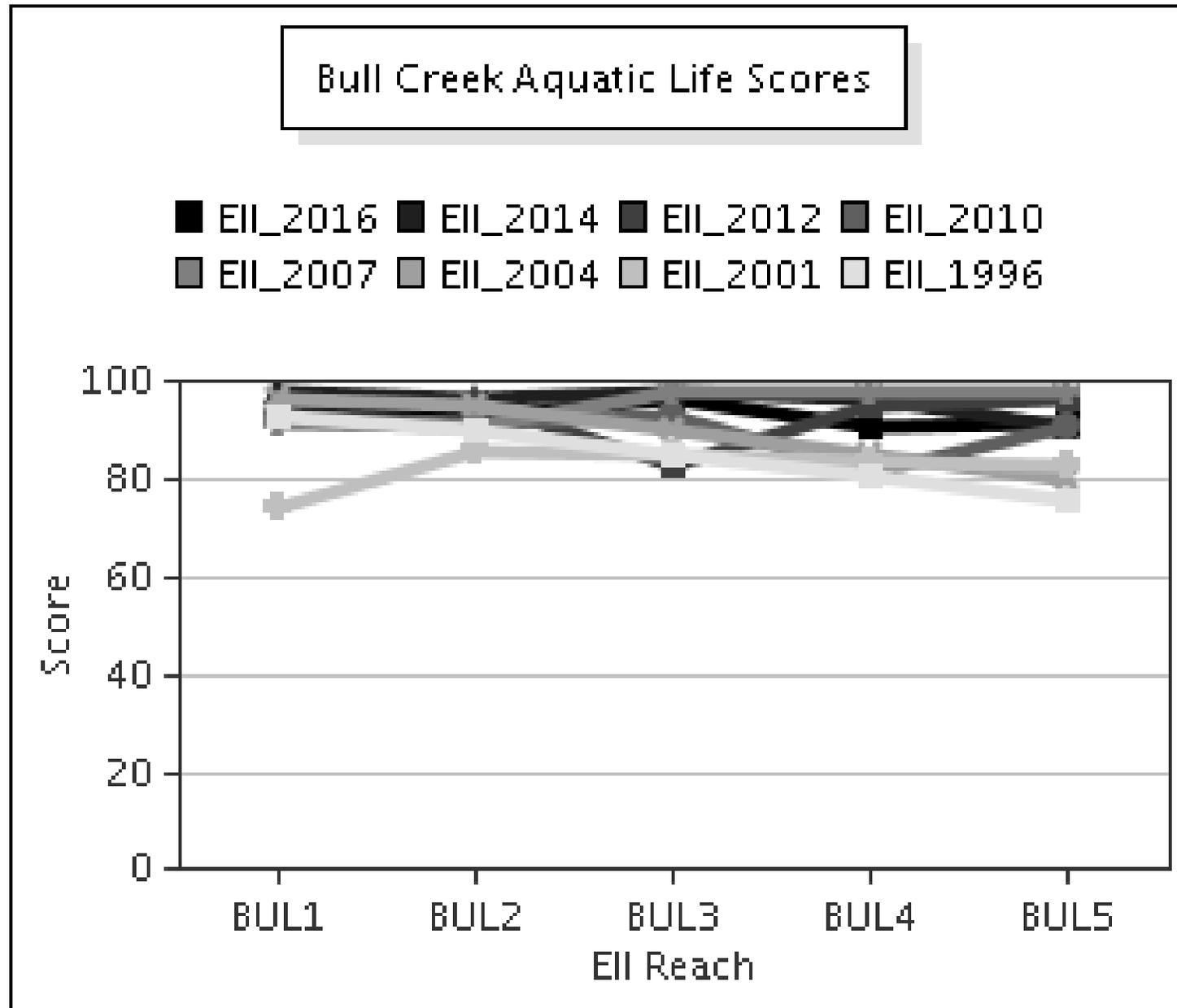
Bull Creek Physical



Shoal Creek Aquatic Life Use



Bull Creek Aquatic Life Use

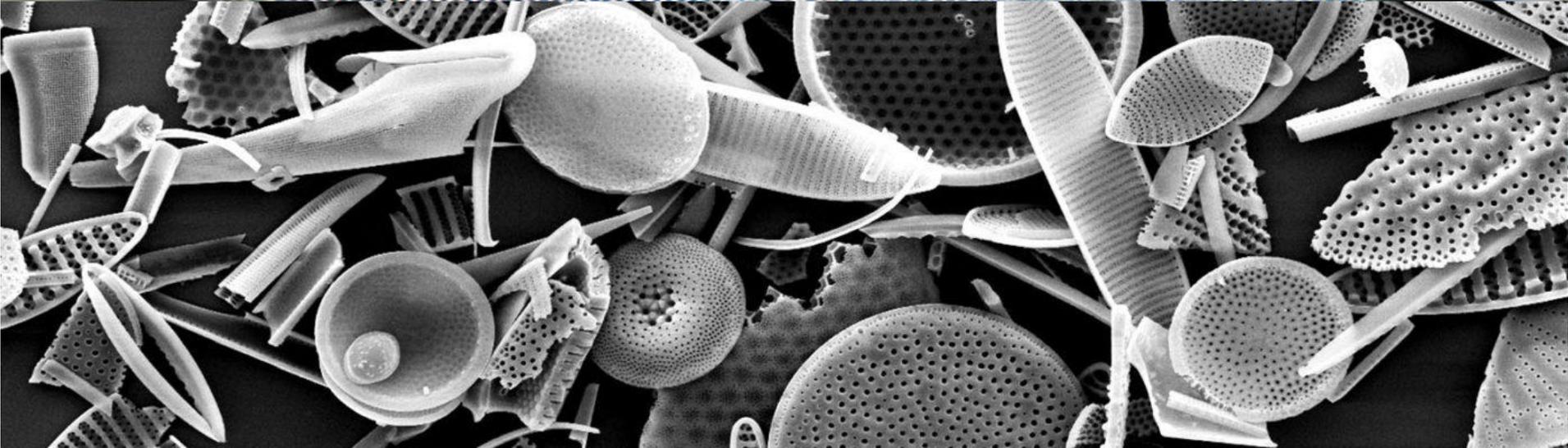
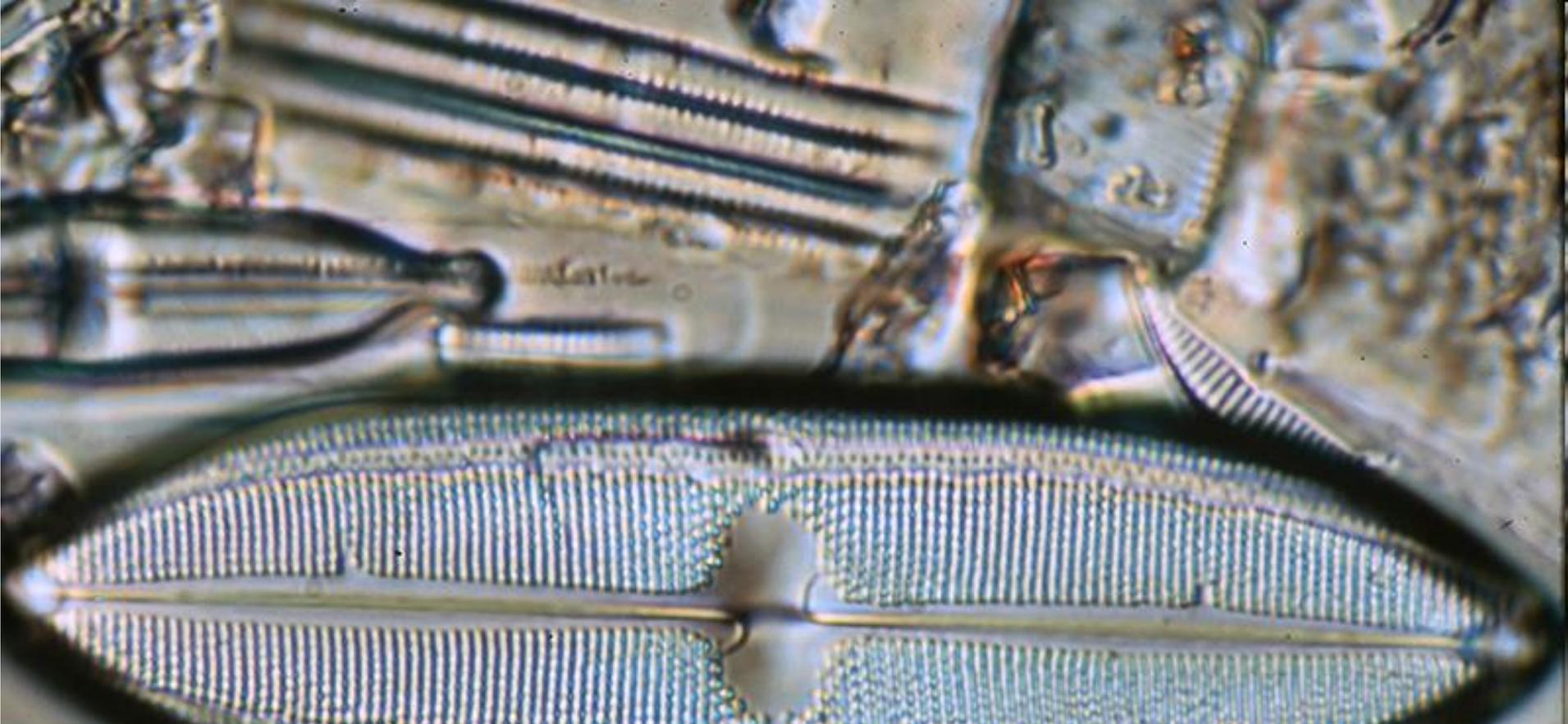




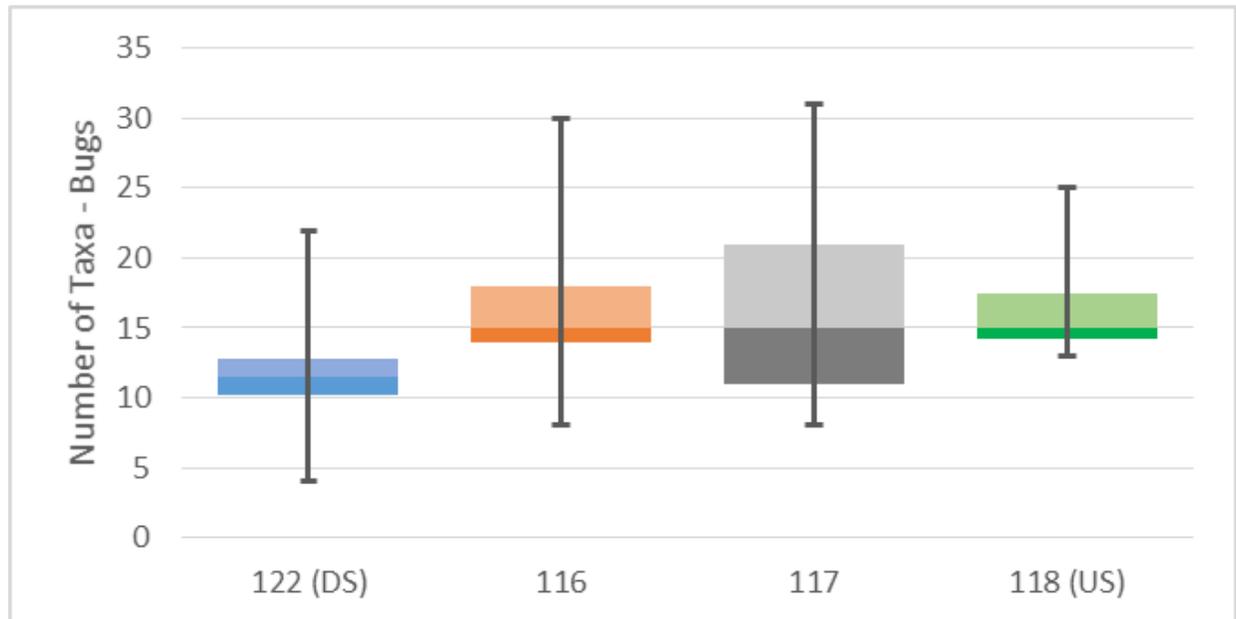
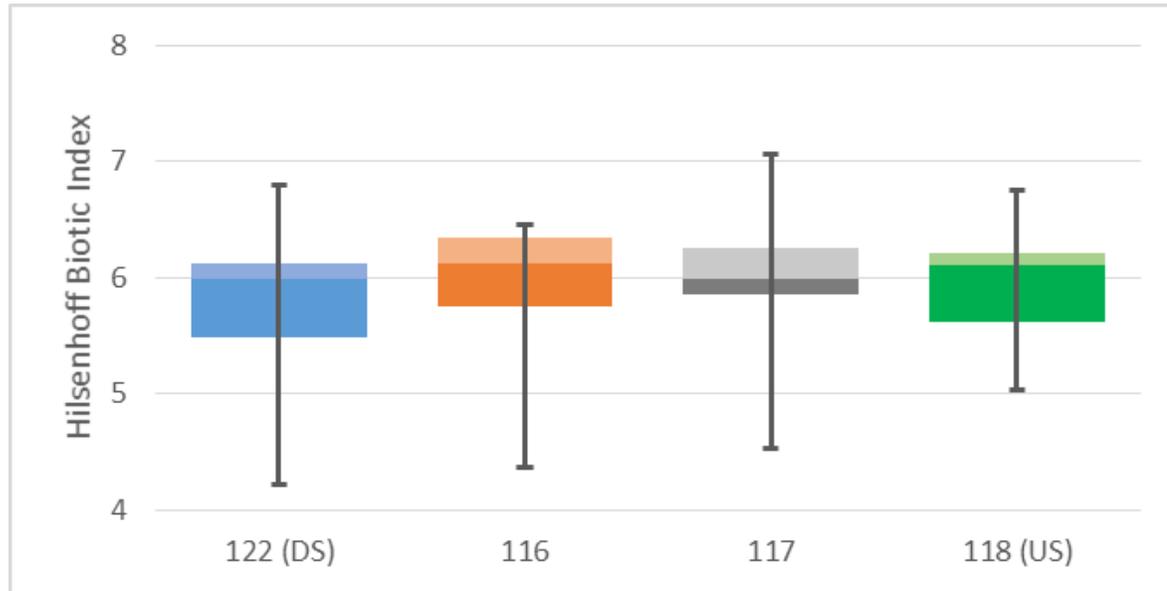
Benthic macroinvertebrates



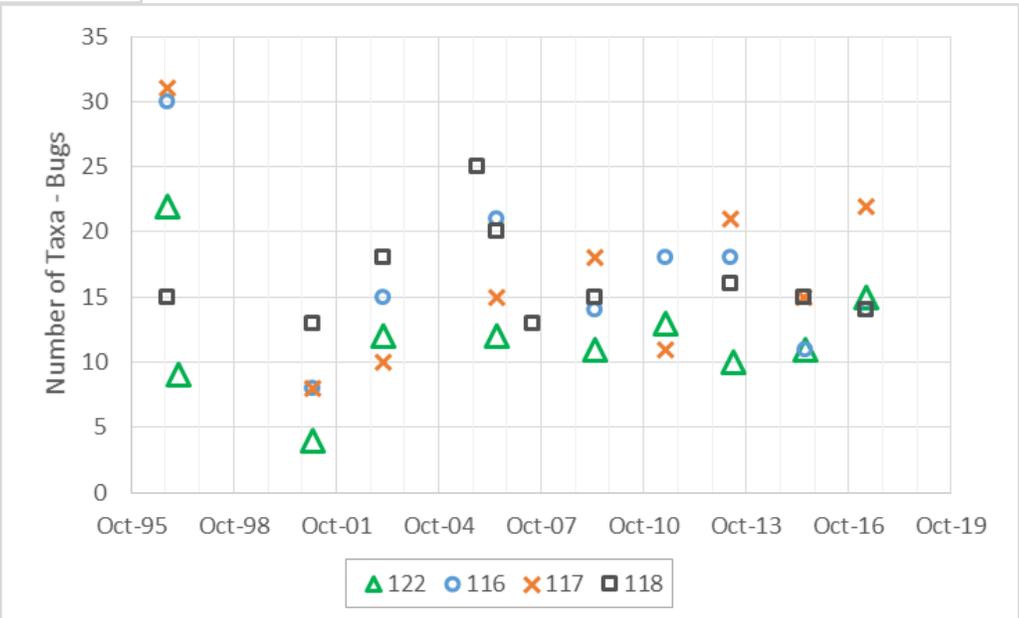
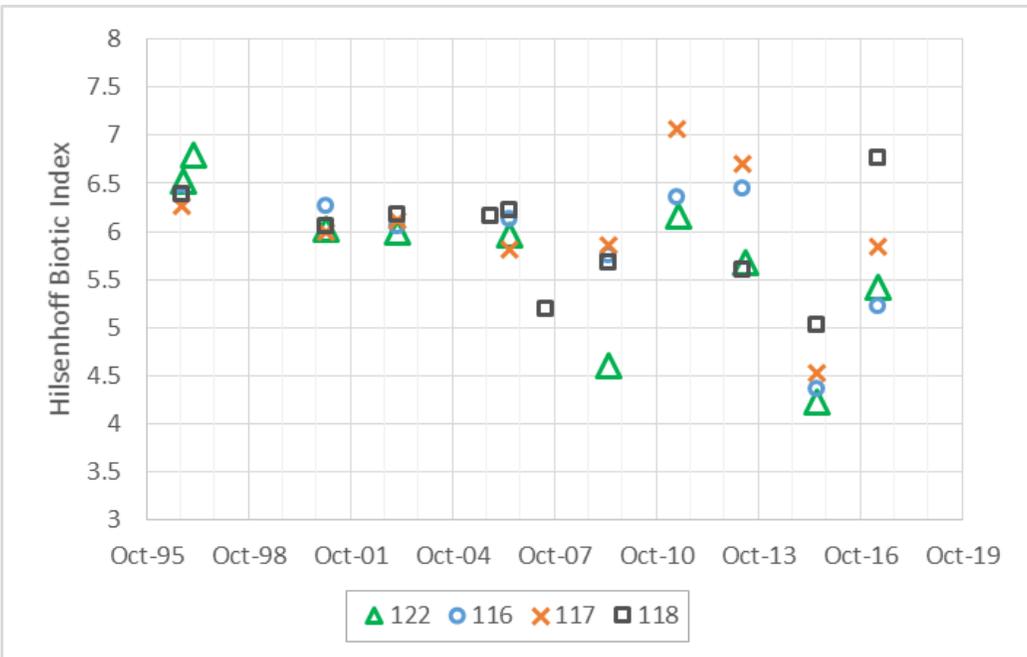
Diversity



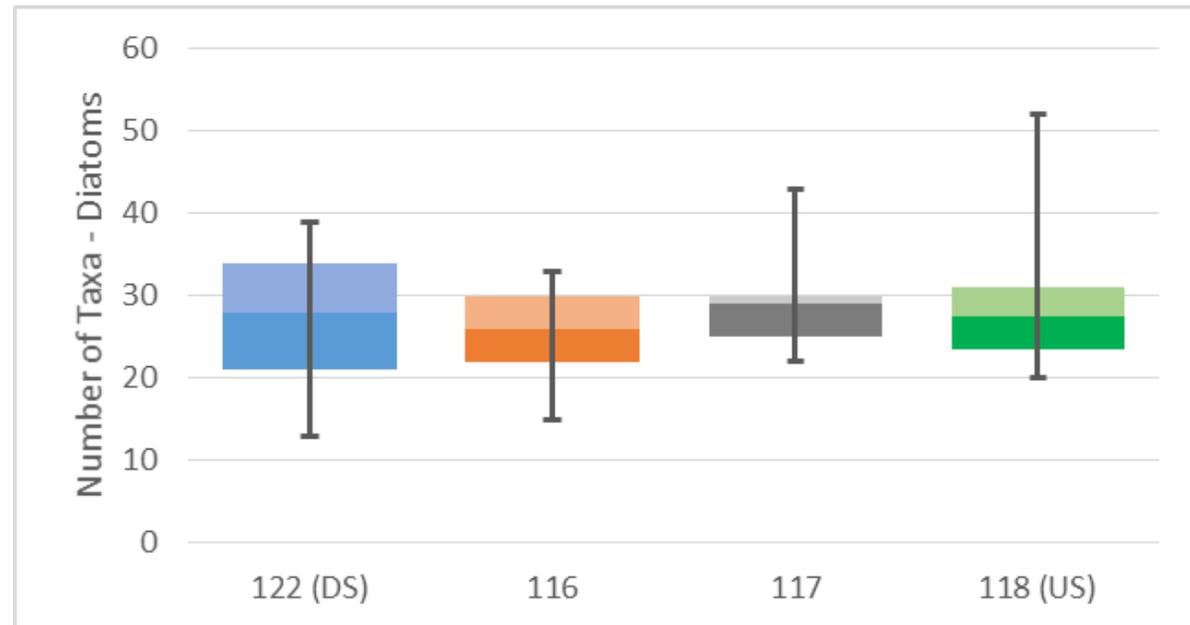
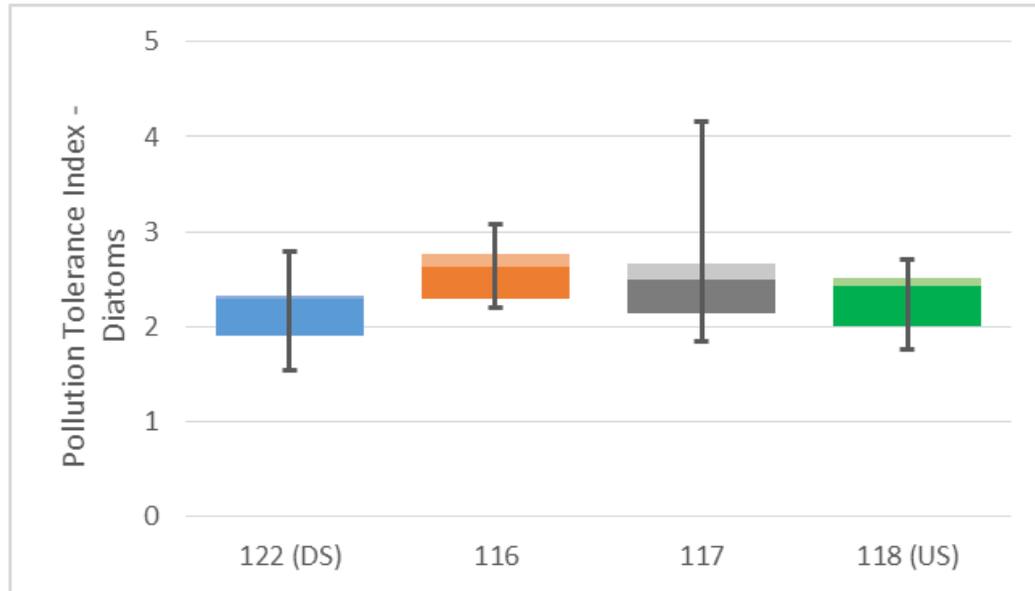
Shoal Creek Bugs – Spatial



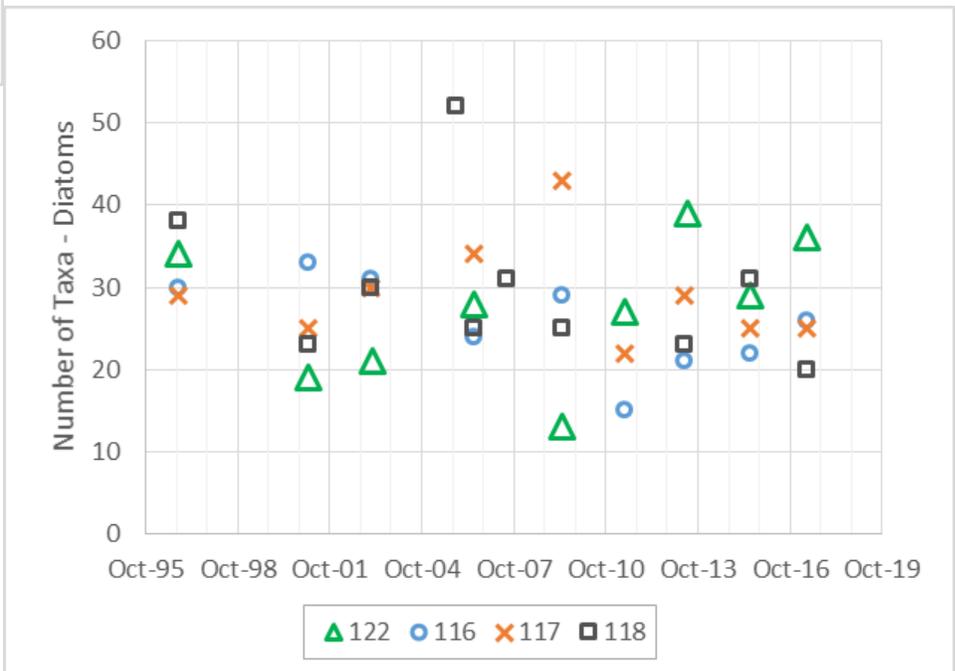
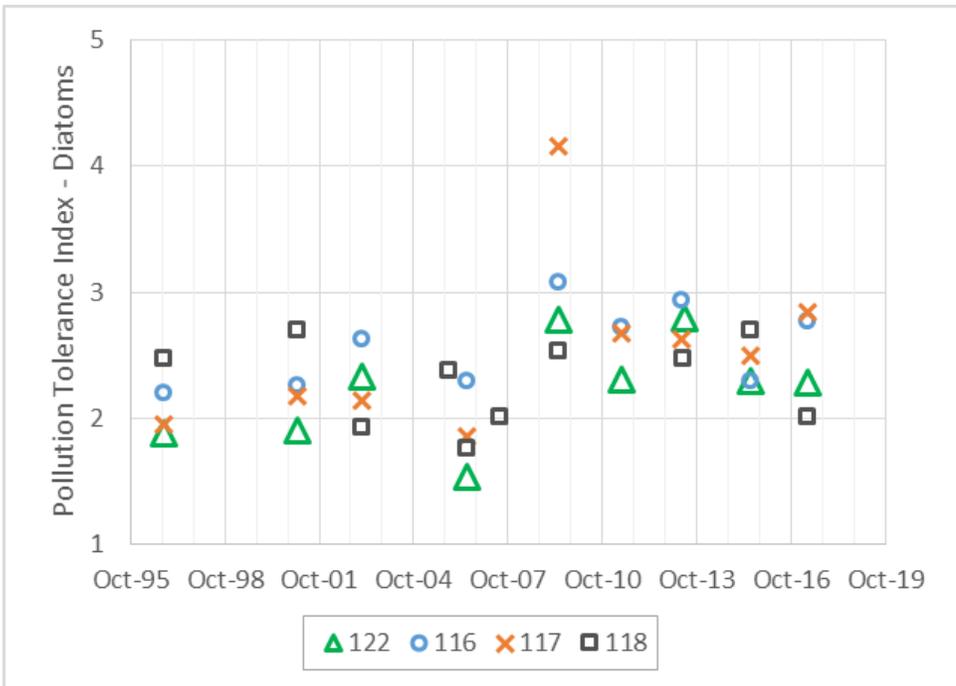
Shoal Creek Bugs – Temporal



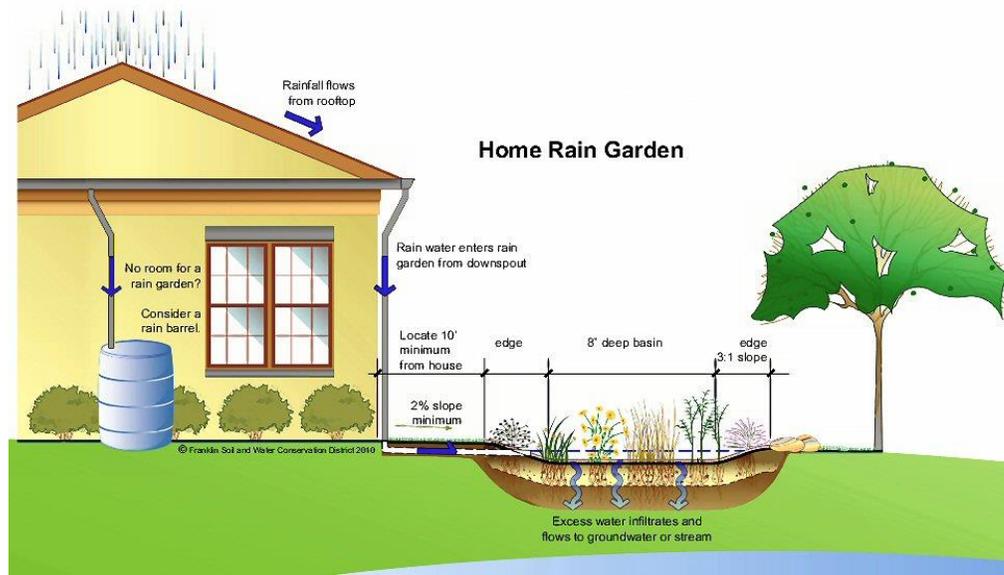
Shoal Creek Diatoms – Spatial



Shoal Creek Diatoms– Temporal



Coming soon: Can we reverse Urban Stream Syndrome?

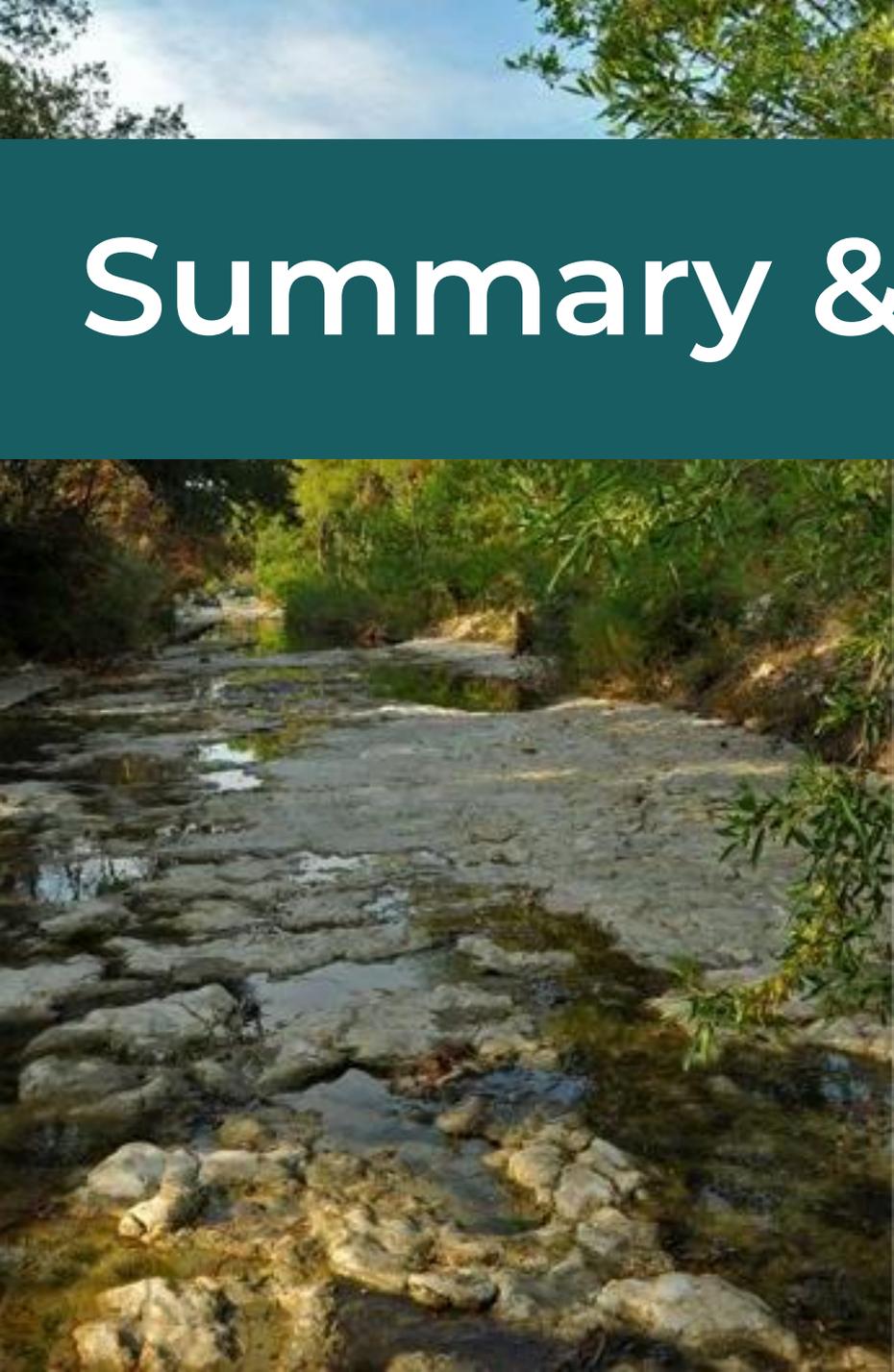


Report Polluters

Pollution Hotline 512-974-25500



Q&A Session



Summary & Additional Updates

- Join SCC for volunteer service days
- Upcoming City of Austin Meetings
 - Atlas 14
 - Lower Shoal Creek Flood Study

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Partners



And Shoal Creek Stakeholders

This cooperative project is funded in part by the Texas Commission on Environmental Quality (TCEQ) through a United States Environmental Protection Agency (EPA) grant and the Still Water Foundation.