

# *Water Year 2020 & 2021*

# *Island County Surface*

# *Water Quality Report*



 Surface Water Quality Program  
Island County Natural Resources



# Surface Water Quality Program

## Protecting Public Health

We monitor surface water associated with various watersheds. Through partnering with the On-Site Septic team, Watershed Planning, and the community, sources of pollution are addressed (e.g. fixing failing septic systems, implementing farm plans). This work helps ensure that shellfish beds are safe for harvest, salmon have healthy habitat, and kids can wade in clean water.



## Monitoring

- Core and Rotational
- Reconnaissance
- Source ID
- Effectiveness

# Monitoring Plan:

## Priority Watersheds and Source Identification (SID) Sampling

- Identified using the SWQMP prioritization process (Greatest # of fecal exceedances, presence of valuable resources)

## Effectiveness Sampling

- Show how a project affects water quality
- Collect pre and post project data

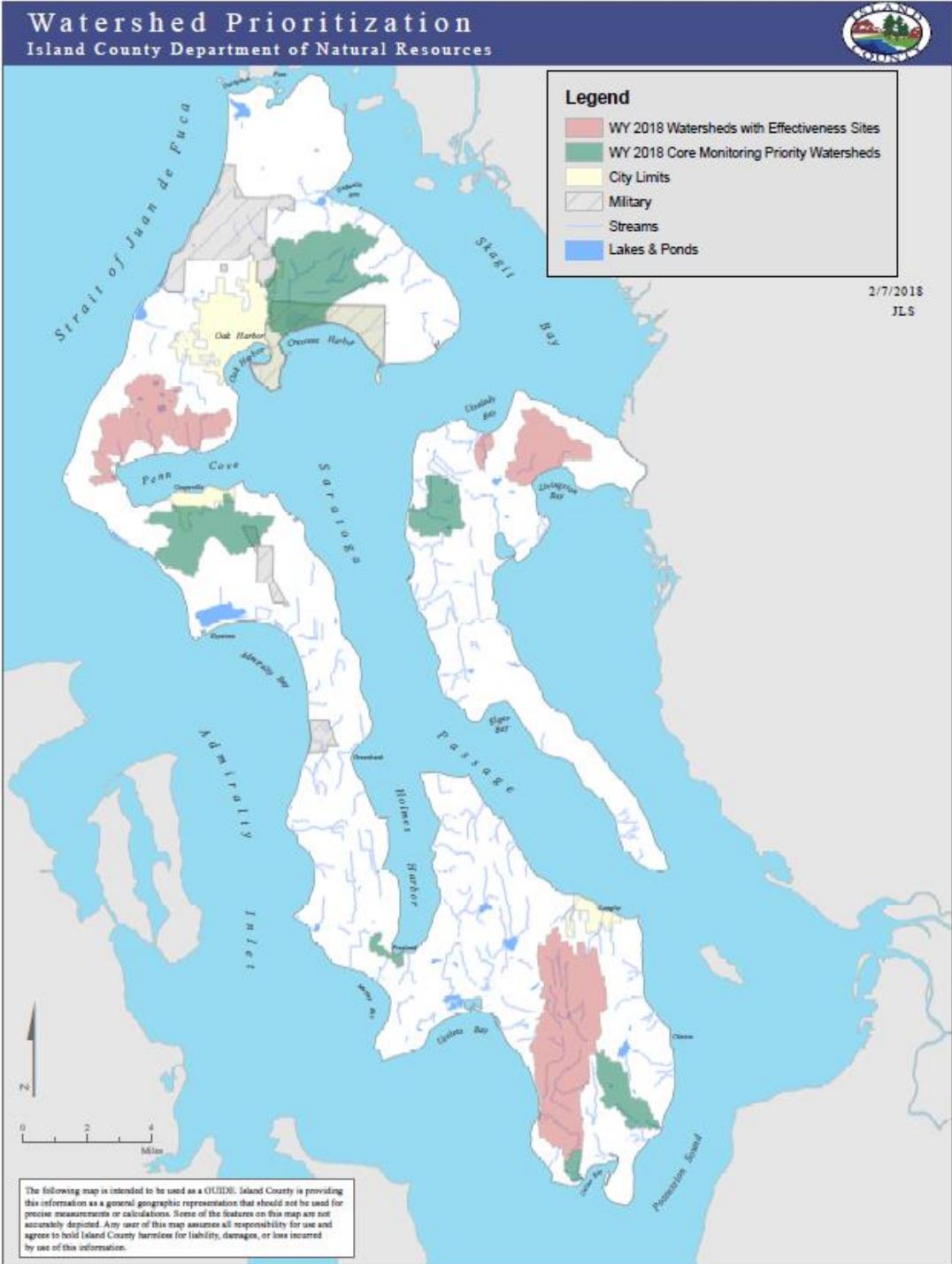
## Core and Rotational Site Sampling

- Previous baseline sites were reviewed and categorized into two new site lists: Core and Rotational

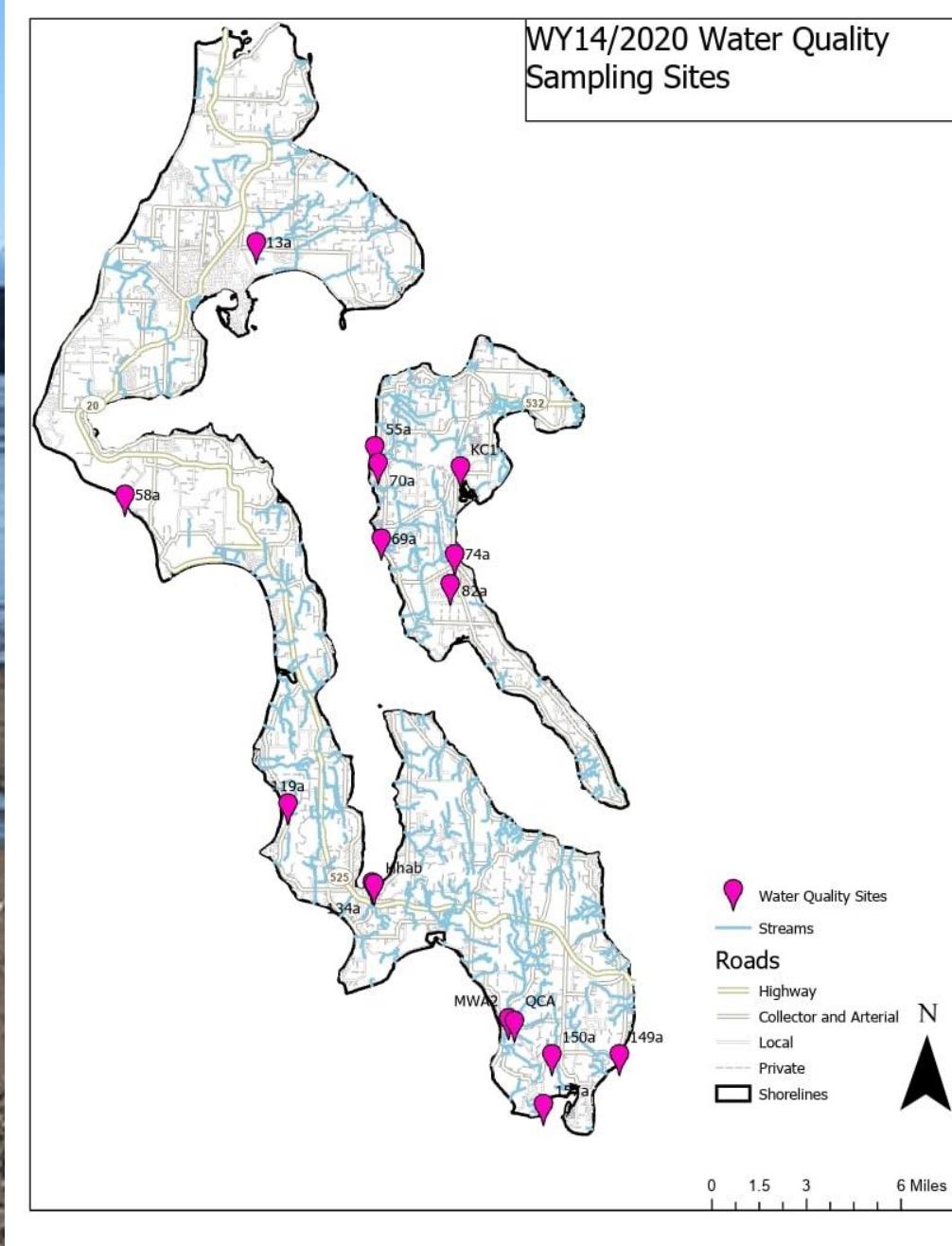
## Reconnaissance Sampling

- Explore water quality outside of the regular core sites to identify watersheds with water quality impairments that may need further investigation
- Based on presence of priority resources and estimation of current risk of pollution

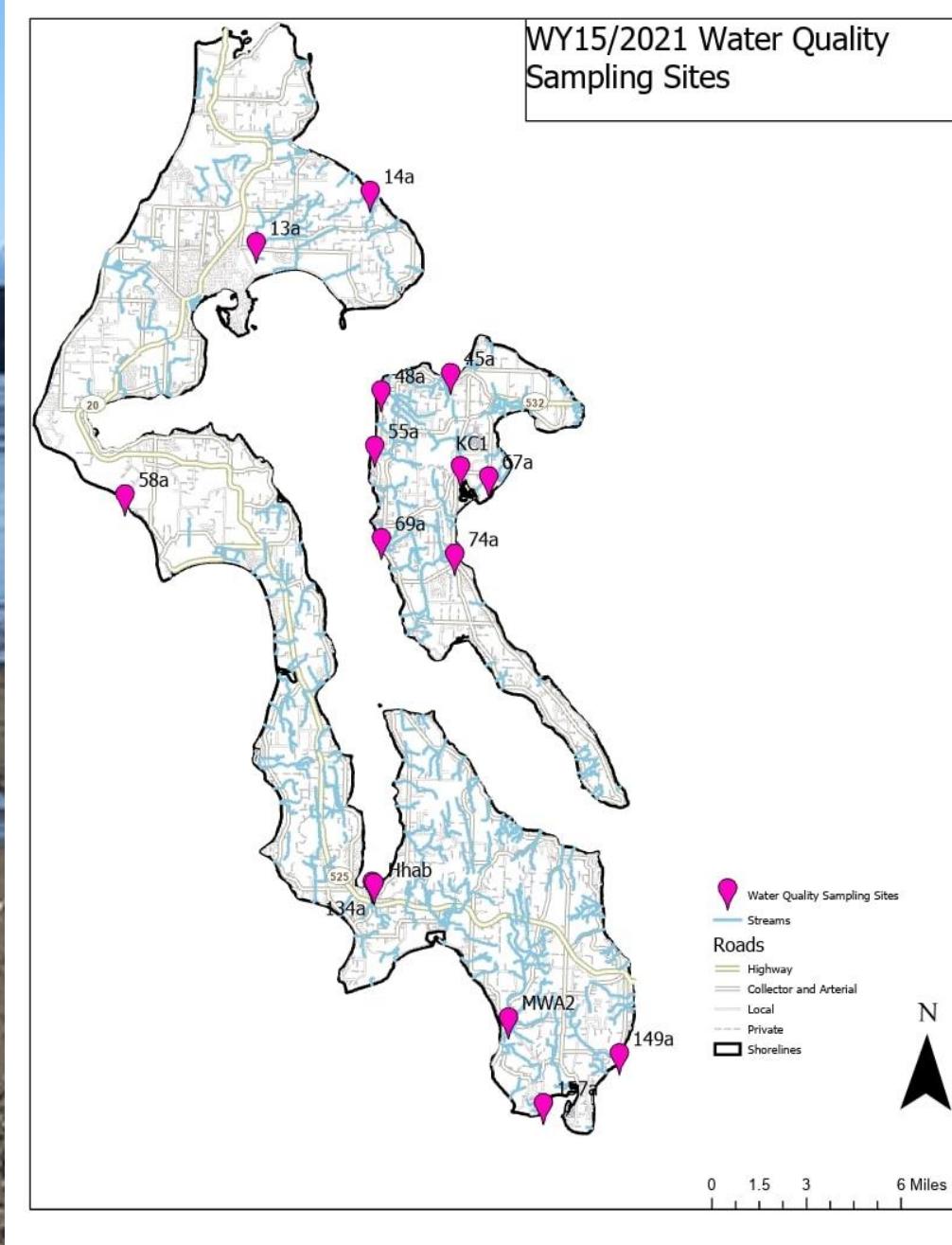
# Water Year 2020-2021 Priority Watersheds



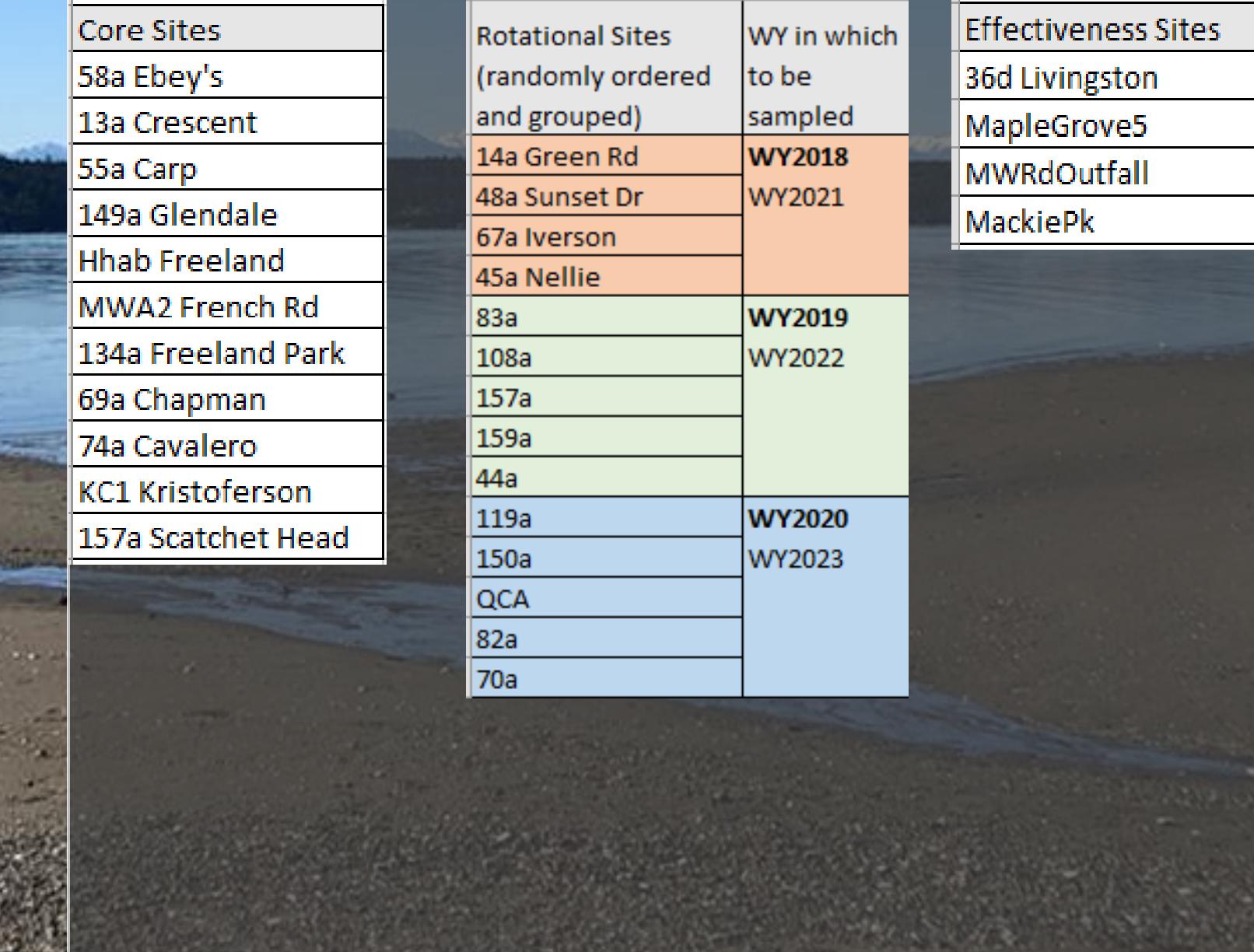
# Water Year 2020 Sample Site Locations



# Water Year 2021 Sample Site Locations



## Water Year Rotation



Core Sites	Rotational Sites (randomly ordered and grouped)	WY in which to be sampled	Effectiveness Sites
58a Ebey's	14a Green Rd	WY2018	36d Livingston
13a Crescent	48a Sunset Dr	WY2021	MapleGrove5
55a Carp	67a Iverson		MWRdOutfall
149a Glendale	45a Nellie		MackiePk
Hhab Freeland	83a	WY2019	
MWA2 French Rd	108a	WY2022	
134a Freeland Park	157a		
69a Chapman	159a		
74a Cavalero	44a		
KC1 Kristoferson	119a	WY2020	
157a Scatchet Head	150a	WY2023	
	QCA		
	82a		
	70a		

# Methods for Surface Water Pollution Identification

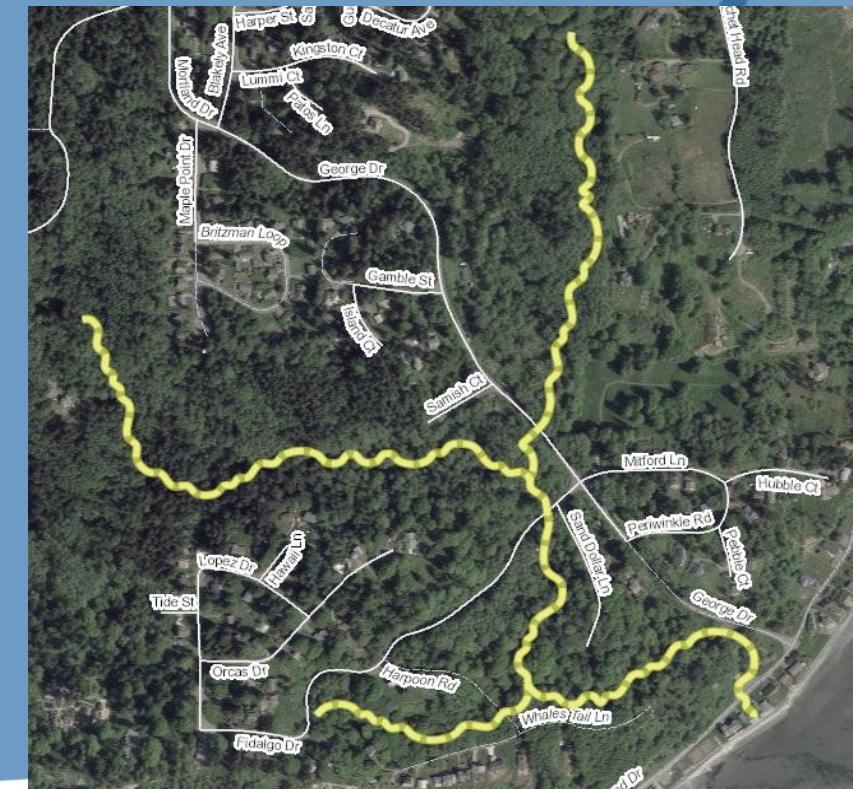
## Stream Bracketing

- Test upstream of core sample sites to find pollution hotspots/sources
- Field tests that use *E. coli* as an indicator
- Take formal samples in areas that field tests indicate contamination



## Field Tests

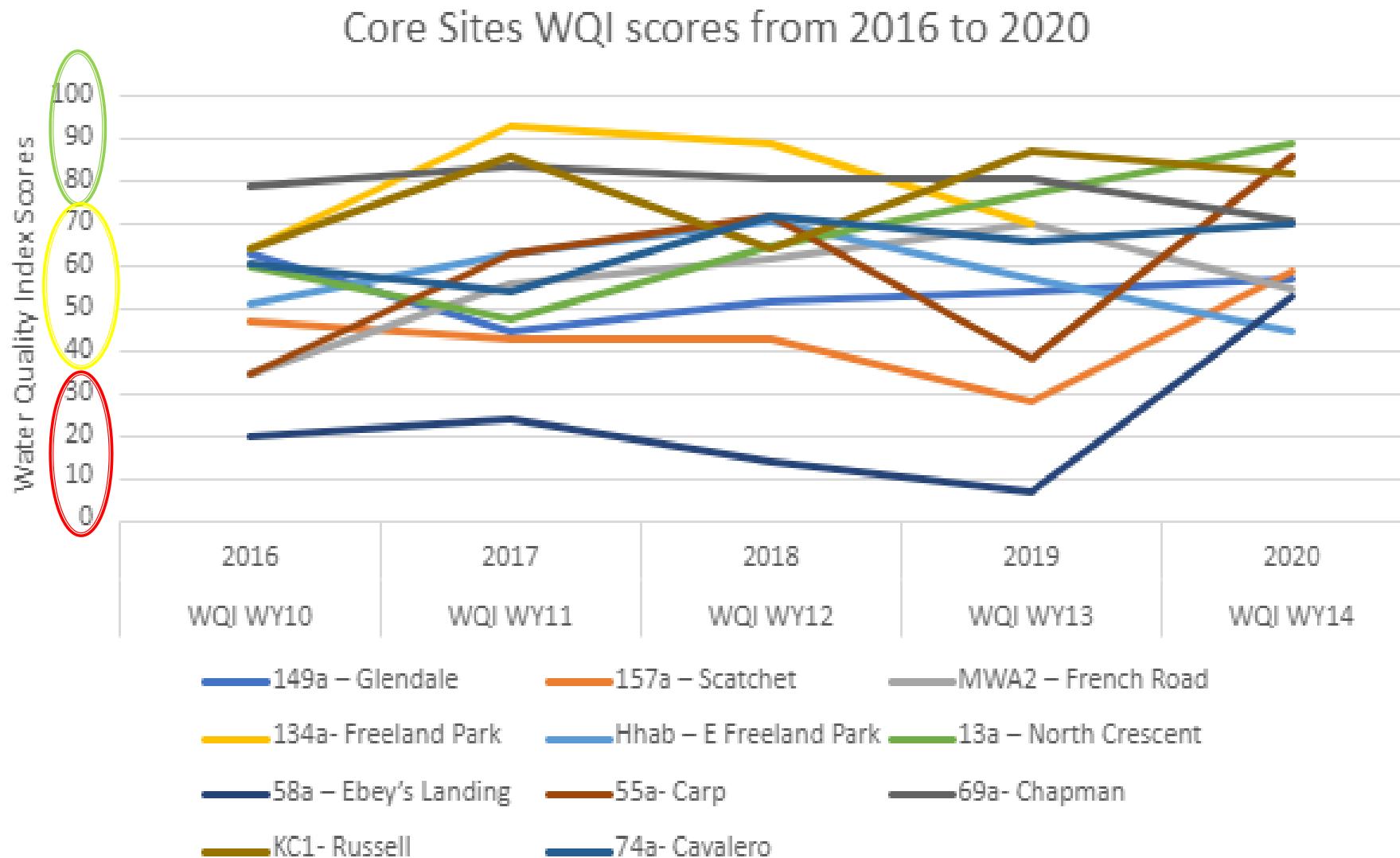
- Microbial Source Tracking
- Colorimetric assay: *E.coli* rapid test strips



# Water Quality Standards for Surface Waters of the State as per Chapter 173-201A WAC

Designated Use	Parameter	State Standard
Core summer Salmonid habitat	Temperature	7 day average of the daily maximum temperatures no greater than 16°C (60.8°F)
	Dissolved Oxygen (DO)	9.5 mg/L minimum*
	pH	Between 6.5 and 8.5
	Turbidity	Shall not exceed 5 NTU over background when background turbidity is 50 NTU or less
Salmonid spawning, rearing and migration	Temperature	7 day average of the daily maximum temperatures no greater than 17.5C (63.5F)
	Dissolved Oxygen (DO)	8.0 mg/L minimum*
	pH	Between 6.5 and 8.5
	Turbidity	Shall not exceed 5 NTU over background when background turbidity is 50 NTU or less
Primary Contact Recreation	Fecal coliform (expired 12/31/2020)	Geometric mean ≤100 CFU per 100 mL, with not more than 10% of all samples exceeding 200.
	E. coli (Most Probable Number per 100 mL)	Geometric mean ≤ 100 CFU, with not more than 10% of samples exceeding 320.

## Water Year 10-14 core sites Results



## Water Year 15/2021 Data Collection

- Due to the switch from Fecal Coliform to E.coli the data we collected for 2021 is a one year snapshot.
- E.coli sampling will continue moving forward

# Partnerships and Highlights

## Lone Lake Outreach

### Lone Lake Outreach Plan

- In July 2020 Island County received \$30 thousand dollars to do outreach in the Lone Lake Watershed about nutrient control and algae management reaching out to about 490 property holders



### Glendale Microbial Source Tracking Project

- Microbial Source Tracking found evidence of increased ruminant presence in the Glendale Water

## Glendale MST

In Water 2020 and 2021, despite COVID-19 ≈2000 educational mailers went out to the public and four outreach events were hosted.

# Looking Ahead

## New State Standards being adopted by 2021

- Primary contact
  - Extraordinary Primary and Secondary Contact being eliminated
- E. coli will be the new water quality parameter for the state



## Community Outreach

- Farmers Markets

## Adaptive Management Team

- Watershed Planner
- Pollution Identification and Correction
- ICPDC and ICPW

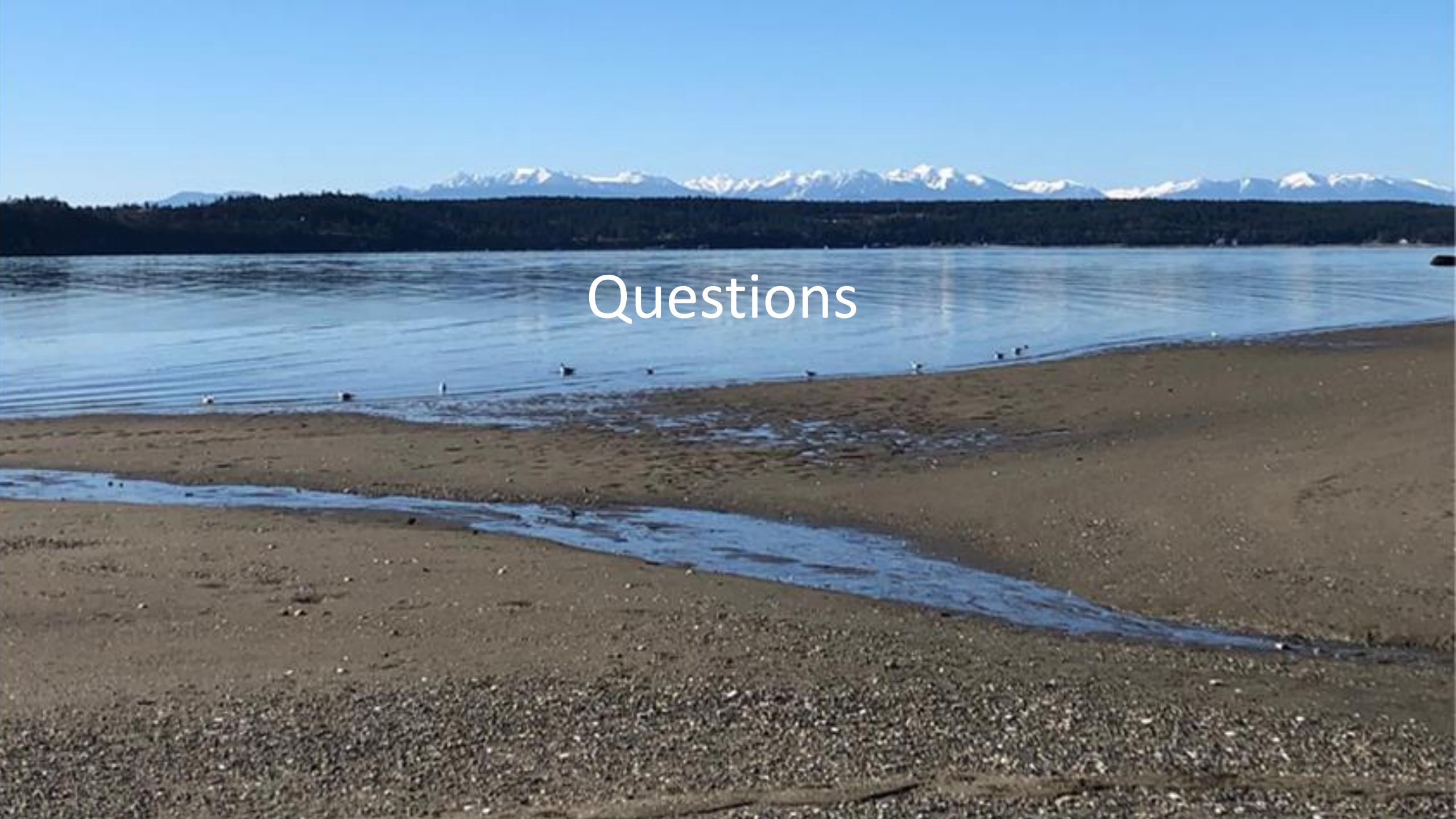
## Beach and Swim Sampling

- Monitoring for harmful toxins at swimming beaches and lakes.

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## North Sound Pollution Identification and Correction Regional Meetings

- Regional Partnerships
- New strategies and methods
- Opportunity to share and collaborate on new ideas for running successful programs

A scenic landscape featuring a calm lake in the foreground with a sandy beach. In the middle ground, a line of birds is visible on the water. The background is dominated by a range of mountains with prominent snow-capped peaks under a clear blue sky.

Questions