



UTAH DEPARTMENT *of*  
ENVIRONMENTAL QUALITY

**WATER  
QUALITY**

## *E. coli* Monitoring Program Updates

Water Quality Health Advisory Panel  
April 23, 2018

Calah Worthen

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# WQHAP – *E. coli* Program Updates

## Presentation Overview

1. 2018 Monitoring Plan
2. *E. coli* response plan
3. Changes to *E. coli* advisory process
4. *E. coli* response worksheet
5. Changes to *E. coli* advisory sign template



# 2018 *E. coli* Monitoring Plan

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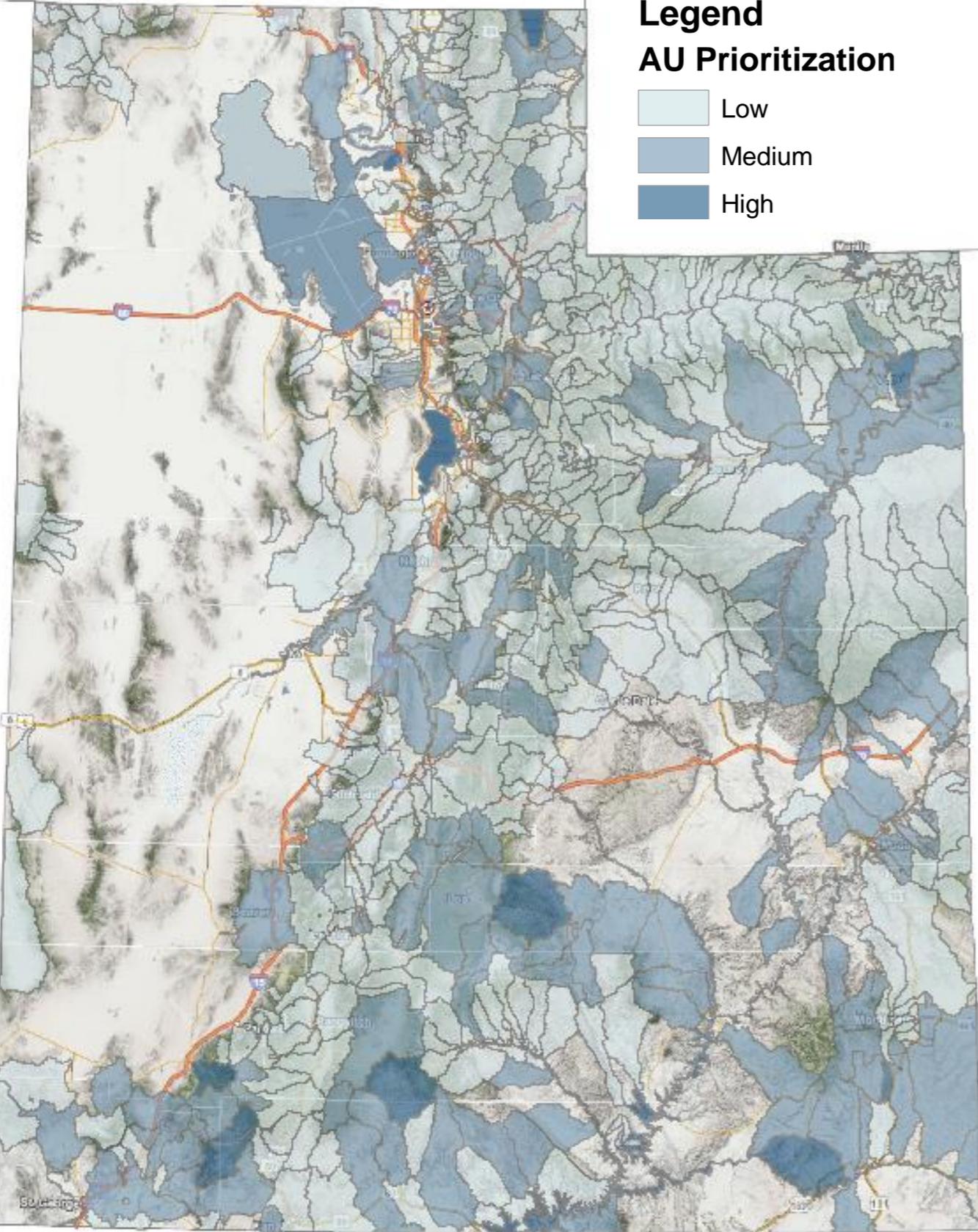
# 2018 *E. coli* Monitoring Plan

## Priority waterbodies – how are they identified?

- Beneficial use class of the waterbody
- Recreational use or visitation
- Population density
- Potential for *E. coli* problems or history of *E. coli* problems
- Special request by state, local, or federal agency
- Waterbody location (rotating basin targeted monitoring)
- Available resources for monitoring
- TMDL development

Monitoring plan available online at:

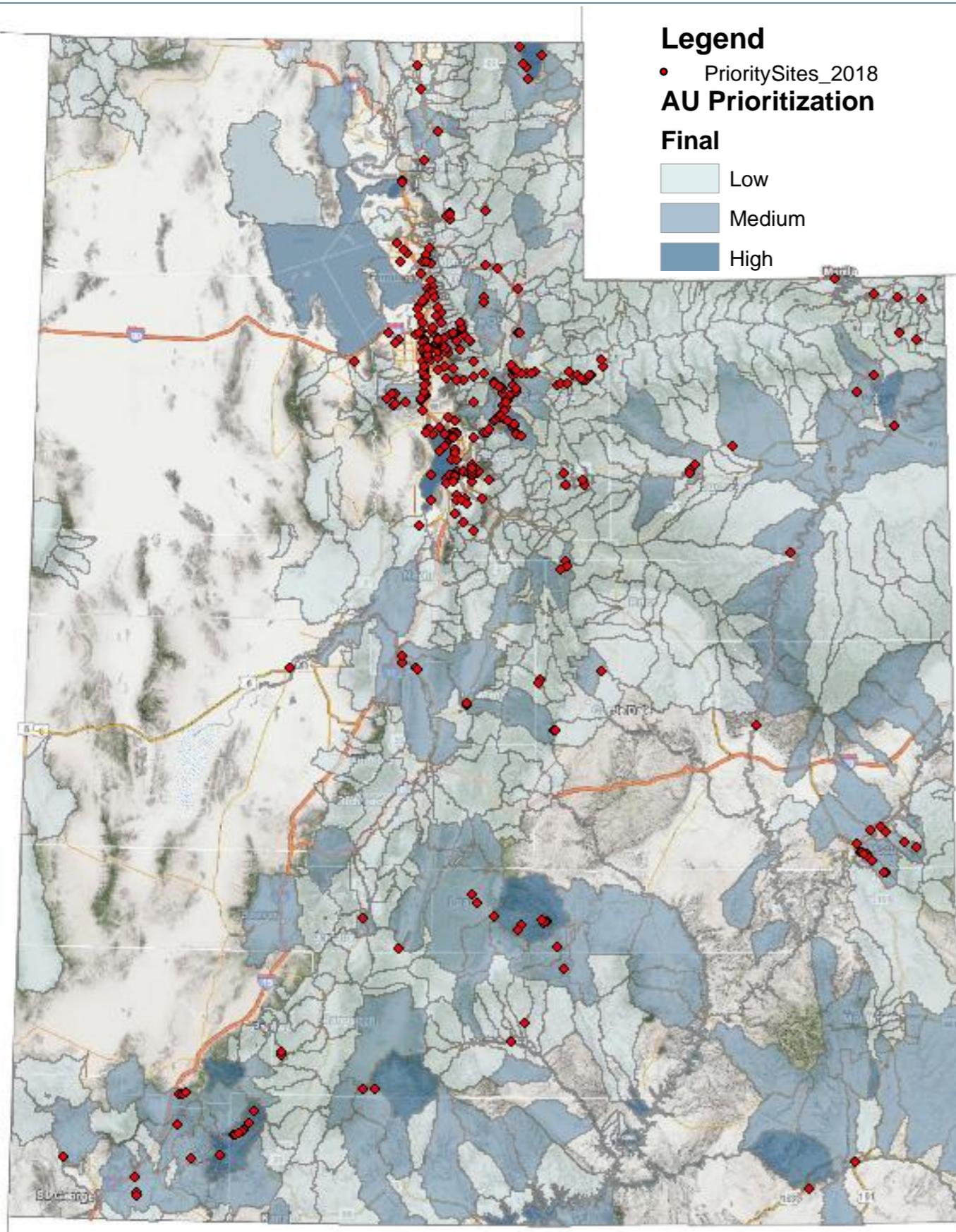
[deq.utah.gov/legacy/divisions/water-quality/health-advisory/ecoli/monitoring.htm](http://deq.utah.gov/legacy/divisions/water-quality/health-advisory/ecoli/monitoring.htm)



# 2017 Prioritization

1. Spatial exercise to prioritize Assessment units (AUs)
2. Assigned a score to 9 different categories
3. Final score determines priority

Scoring Category	Description	Draft Score	Draft Score Type
2A Beneficial Use	Assessment unit has a 2A beneficial use (protected for frequent primary contact)	1 or Blank	Yes/No
Perennial Waterbody	Assessment unit contains a perennial waterbody	0.5	Yes/No
State Park	The assessment unit intersects a State Park	1 or Blank	Yes/No
State Park Visitation	Annual State Park Visitation	0-1	Percentile
National Park	The assessment unit intersects a National Park	1 or Blank	Yes/No
Fisheries Visitation (Lakes Only)	Fisheries visitation from 2011-2012 Department of Natural Resources Survey (lakes only)	0-1	Percentile
Impaired for E. coli (2016 Integrated Report)	The assessment unit was impaired for E. coli in the 2016 Integrated Report	1 or Blank	Yes/No
Boat Ramp	Score based on number of boat ramps in the Assessment Unit	0-1	Percentile
Special Request	Local knowledge, Health Department request, DWQ water quality study (TMDL), etc.	1 or Blank	Yes/No



# 2018 Prioritization

1. Select individual monitoring locations within AUs
2. Assigned a score to 9 different categories
3. Final score determines priority
4. Good overlap between AU prioritization and individual site selection
5. ~400 sites sampled by DWQ and agency partners in 2018



# 2018 *E. coli* Response Plan

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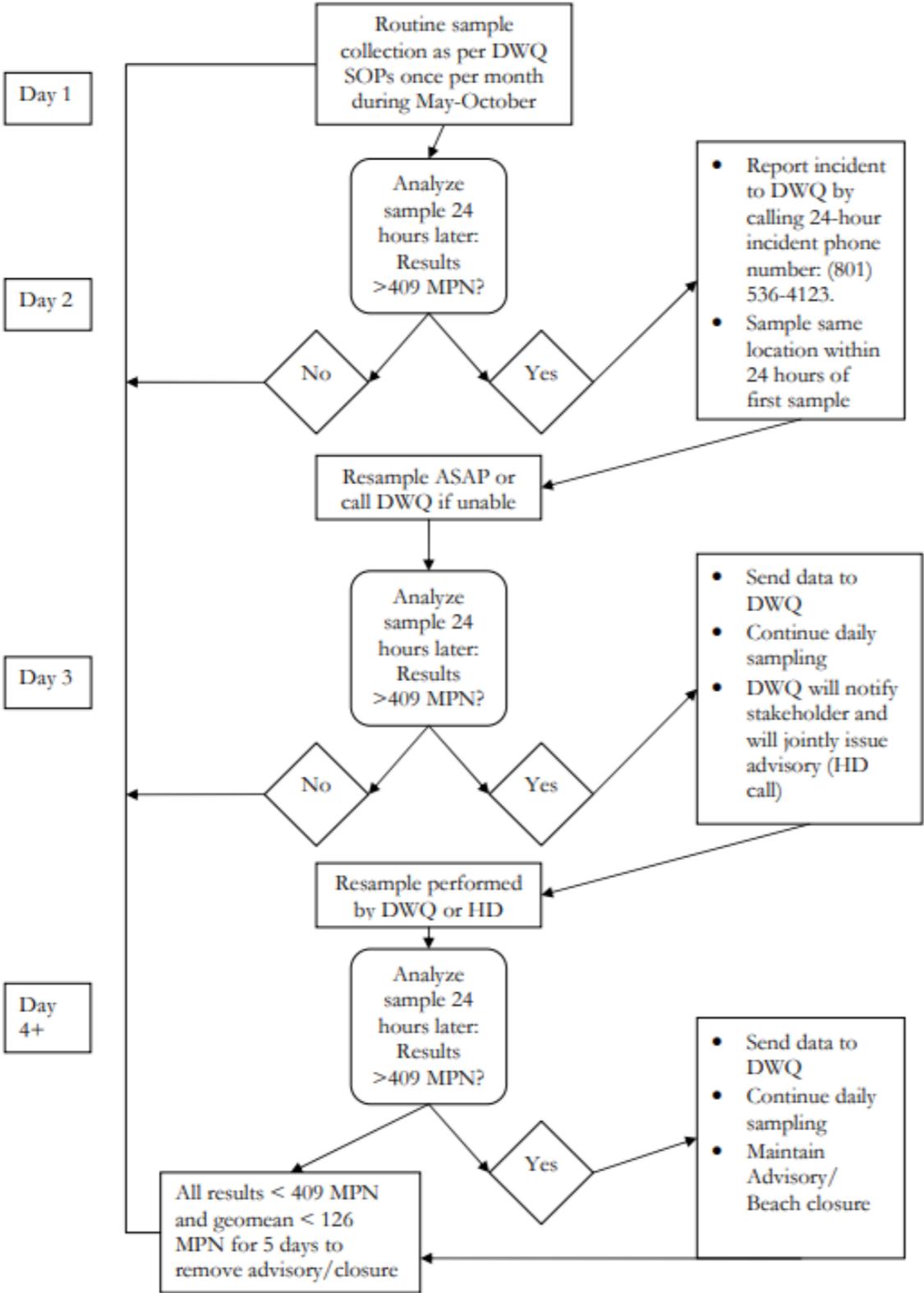
# *E. coli* Response Plan

## Purpose

1. Provide guidance for local health departments to determine when an *E. coli* related advisory should be considered, including when an existing advisory can be removed.
2. Provide information about the Utah Division of Water Quality (DWQ) Recreational *E. coli* Monitoring Program.
3. Describe DWQ's response to a potential *E. coli* problem in surface water.
4. Provide background information about *E. coli* in surface waters and DWQ's assessment of *E. coli* data.

# PREVIOUS UDOH & DWQ *E. coli* Advisory Protocol

## Beach Advisory Protocol for 2A Waters



\*Cooperators and HD may choose to sample particular locations more frequently.

*PREVIOUS PROTOCOL*

Issue Advisory

- 2 samples >WQS

Remove Advisory

- All results <WQS for 5 days

*\*unrealistic monitoring schedule*  
*\*lack of clarity on duration of closure*



# PROPOSED UDOH & DWQ *E. coli* Advisory Protocol

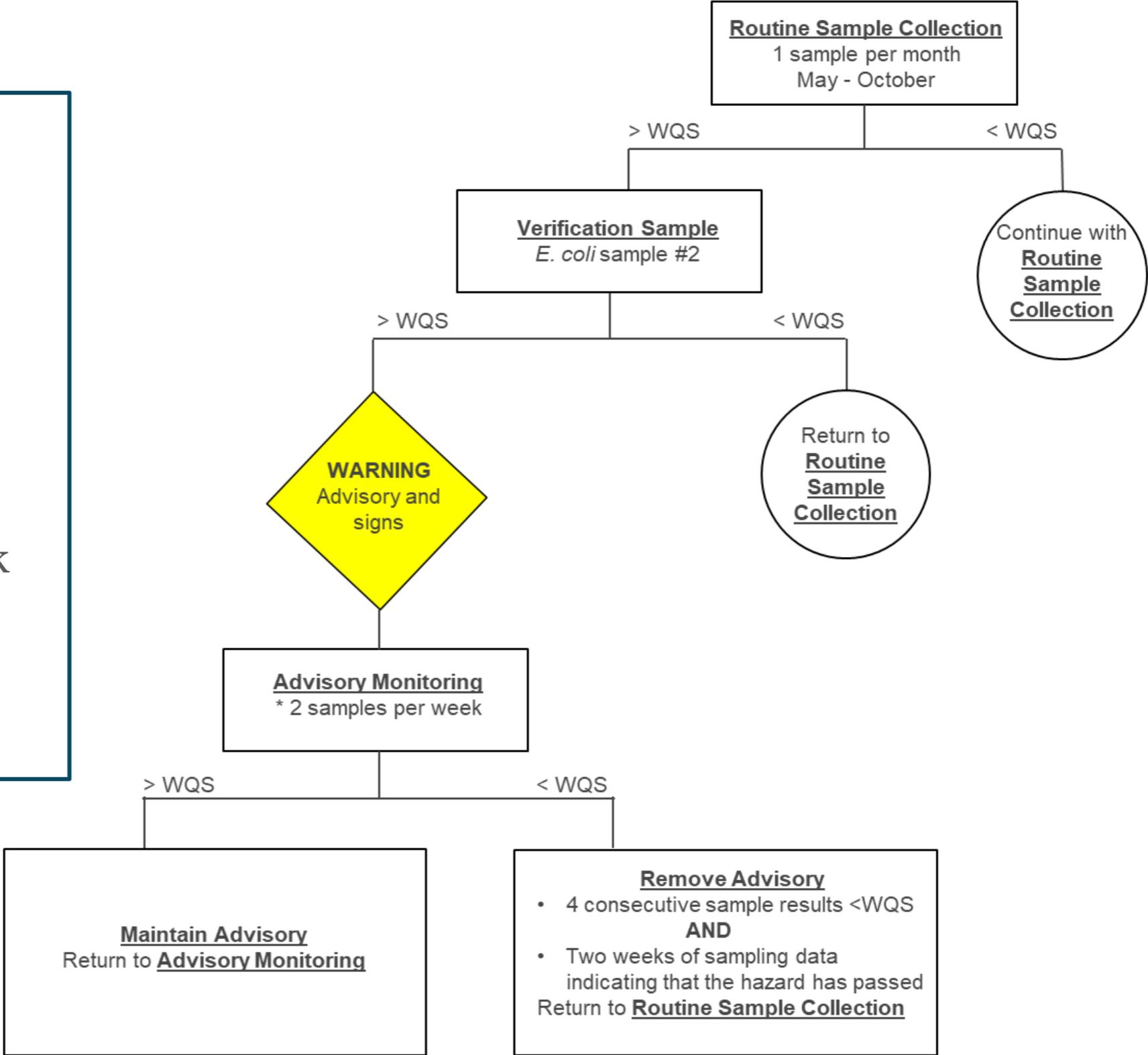
*PROPOSED PROTOCOL*

Issue Advisory

- 2 samples >WQS

Remove Advisory

- 4 consecutive samples <WQS
- Samples collected 2X per week during advisory
- Advisory in place for two minimum of two weeks



\* DWQ and the local health department may jointly decide to increase or decrease the frequency of sampling during an active advisory on a case-by-case basis.



# *E. coli* Response Plan

Changes to UDOH and DWQ Recommended *E. coli* Advisory Protocol

## *PREVIOUS PROTOCOL*

### Issue Advisory

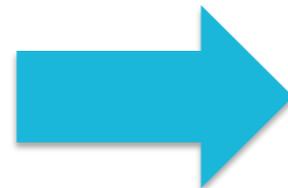
- 2 samples >WQS

### Remove Advisory

- All results <WQS for 5 days

*\*unrealistic monitoring schedule*

*\*lack of clarity on duration of closure*



## *PROPOSED PROTOCOL*

### Issue Advisory

- 2 samples >WQS

### Remove Advisory

- 4 consecutive samples <WQS
- Samples collected 2X per week during advisory\*
- Advisory in place for two minimum of two weeks

\* DWQ and LHD may jointly decide to increase or decrease the frequency of sampling during an active advisory on a case by case basis

# Feedback and Discussion

## Changes to Advisory Process

1. Number of samples needed to remove closure
2. Duration of closure
3. Frequency of monitoring during active advisory

### *PREVIOUS PROTOCOL*

#### Issue Advisory

- 2 samples >WQS

#### Remove Advisory

- All results <WQS for 5 days

*\*unrealistic monitoring schedule*

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### *PROPOSED PROTOCOL*

#### Issue Advisory

- 2 samples >WQS

#### Remove Advisory

- 4 consecutive samples <WQS
- Samples collected 2X per week during advisory\*
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# *E. coli* Response Worksheet

## Purpose

- Evaluate the level of response to an *E. coli* related incident on any waterbody.

## Process

- Assign a score for each criterion
- DWQ response is based on total number of points

**Name of Water Body:**  
**Date of Report:**  
**Evaluator:**  
**Date of Evaluation:**

<i>E. coli</i> Response Criteria Worksheet	Points	Point Values
Waterbody classified as 2A in <a href="#">Utah Administrative Code R317-2-13</a> or <a href="#">DEQ Interactive Map</a> ?		15
Waterbody identified as Priority on DEQ website? (heavy recreational use, high risk based on land use, special request, or previous impairment)?		10
Initial sample result value >WQS AND sample collected by DWQ trained individual (government agency/trained private volunteer)?		5
Report received between <a href="#">May<sup>st</sup></a> – October 31 <sup>st</sup> ?		5
Other indication of <i>E. coli</i> problem such as animals in or around water, such as human or animal waste, foul odor, improper waste dumping, or <a href="#">stormwater</a> runoff?		15
Heavy recreational use observed at time of sampling?		10
<b>Total Points</b>		

**Evaluation Key:**

**Level 1: Total Points > 30**

Information forwarded to LHD and local DEQ District Engineer (DE)  
 Coordinate inspection and verification sampling (response within 24 hours or ASAP)

**Level 2: Total Points 15 to 30**

Information forwarded to LHD and local DEQ District Engineer (DE)  
 Coordinate inspection and verification sampling (response time within 1 week)

**Level 3: Total Points <15**

Information forwarded to LHD and local DEQ District Engineer (DE)  
 response time and actions at discretion of LHD and DE

## Discussion

- General feedback?
- Points value?



# Changes to *E. coli* Advisory Sign Template

## Minor Changes

- Updated Spanish translation
- Added “Date Posted” field
- Added phone number for Utah Poison Control Center
- Updated DWQ website
- Added Utah Association of LHDs logo



# Previous Sign

## CAUTION

### WATER QUALITY ADVISORY

**A temporary advisory has been issued for this area based on recent monitoring for E. coli bacteria.**

#### FOR YOUR SAFETY

- **Do not ingest lake water.**  
No ingerir agua del lago.
- **Water is unsafe for swimming and deep wading.**  
Agua no es segura para nadar y vadear profundo.
- **Wash hands after handling fish and lake water.**  
Lávese las manos después de manipular el pescado y el agua del lago.



For more information visit:  
<http://deq.utah.gov/Divisions/dwq/health-advisory/index.htm>

Contact your local health department:



# Proposed Sign

**CAUTION**

**WATER QUALITY ADVISORY**

**A temporary advisory has been issued for this area based on recent monitoring for *E. coli* bacteria.**

**FOR YOUR SAFETY**

- **Do not ingest water.**  
No ingiera el agua.
- **Water is unsafe for swimming and deep wading.**  
El agua no es segura para nadar o vadear profundamente.
- **Wash hands after handling fish and lake/river water.**  
Lávese las manos después de manipular el pescado y el agua del lago/río.

A circular sign with a red border and a red diagonal slash over a black silhouette of a person swimming in water.

**Date Posted:**

**Contact your local health department:**

Call your doctor if you have sudden or unexplained sickness.  
For more information visit:  
[deq.utah.gov/legacy/divisions/water-quality/health-advisory/ecoli](http://deq.utah.gov/legacy/divisions/water-quality/health-advisory/ecoli)

**Utah Poison Control Center**  
**(800) 222-1222**



# Discussion or Questions





# Calah Worthen

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