



## ISLAND COUNTY BOARD OF HEALTH

### AGENDA

#### REGULAR SESSION

June 21, 2016 • 1:00PM – 3:00PM  
Commissioners' Hearing Room B102  
Coupeville Annex Building

**Call to Order:** Welcome to this Regular Session of the Island County Board of Health.

**Additions or Changes to the Agenda:**

**Approval of the Minutes of May 17, 2016 Regular Session:** [Minutes](#)

**Public Input or Comments:** The Board values the public's input. This time is set aside to hear comments regarding items on the published agenda. Comments regarding items scheduled for Public Hearing will be heard during the Public Hearing. Comments regarding health related items not on the published agenda will be heard following the *Report from Public Health*. All information is taken under advisement. Unless emergent in nature no action is taken. To ensure proper recording of comments, state your name and address clearly into the microphone. Limit your comments to two minutes.

**Presentations:**

1. *Keith Higman, Health Services Director* will make a recommendation to the Board to appoint Ms. Colleen Klamm to the Community Health Advisory Board for a three year term.  
[Recommendation Letter](#)  
[Application](#)  
[Board Appointment Letter](#)
2. *Matt Zupich, Environmental Health Specialist* working in the Surface Water Quality Monitoring Program will present an overview of the Microbial Source Tracking (MST) process used in Island County.  
[Presentation](#)

**Contracts:** None.

**Legislative Update**

1. If any *Keith Higman, Health Services Director*

**Report from Public Health:**

1. Community Health Improvement Plan Progress update *Laura Luginbill, Assessment & Healthy Communities Director*
2. If any *Keith Higman, Health Services Director*
3. If any *Dr. Brad Thomas, Health Officer*

**Public Input/Comments (re: non-agenda items):** This time is set aside to hear from the public regarding health related items not on the agenda. For proper recording of comments, state your name and address clearly into the microphone. Limit your comments to two minutes.

**Adjourn:**

The next *Regular Session* of the Island County Board of Health will be held Tuesday, July 19<sup>th</sup> 2016 at 1:00pm in the Commissioner's Hearing Room (B-102) in the Annex Building.



## ISLAND COUNTY BOARD OF HEALTH

### MINUTES REGULAR SESSION May 17, 2016

**Members Present:** Commissioner Jill Johnson, Chair; Commissioner Helen Price Johnson; Commissioner Richard M. Hannold; Mayor Bob Severns; Dr. Grethe Cammermeyer and Dr. Brad Thomas, Executive Secretary to the Board.

**Members Absent:** Capt. Frederick J. McDonald, Ex-officio member (*excused*)

**Audio Recording:** <https://www.islandcountywa.gov/Commissioners/boh/2016/051716BOHAudio.MP3>

**Call to Order:** Commissioner Jill Johnson, Chair called to order this Regular Session of the Island County Board of Health at 1:02 pm.

**Additions or Changes to the Agenda:** Mayor Bob Severns made a motion to move the public comment period towards the end of the meeting, in the interest of completing regular business before he had to depart the meeting for a 3:00pm previous commitment in Oak Harbor. Commissioner Richard M. Hannold seconded the motion. Following a discussion, Commissioner Helen Price Johnson offered a formal amendment to the motion to allow for 30 minutes of public comment at the beginning of the meeting and if necessary, additional time would be available after regular business. Grethe Cammermeyer seconded the amendment. By a vote of 3 to 2 amendment passed. Then the motion to approve the amendment which would modify the agenda to 30 minutes of public comment at the beginning of the meeting, with additional public comment time (if needed) following regular business passed 3/2. Chair asked for a motion to adopt the amended agenda. Mayor Bob Severns moved to adopt amended agenda. Grethe Cammermeyer seconded the motion. Amended agenda passed unanimously.

**Approval of Minutes:** Commissioner Richard M. Hannold moved to approve the minutes as presented. With the motion seconded by Mayor Bob Severns the minutes were approved unanimously by those present to vote.

**Public Input or Comment:** Public comment was heard from a total of 18 people regarding opposition or support of the operations and the resulting Growler jet noise from OLF. Two letters/comments from those unable to attend were read by others. Five individuals provided handouts to the Board during the meeting. In order, the following individuals addressed the Board: Joe Kunzler (reading a statement from Lt. Marc Simon, Ret.), Rick Abraham, Diane Tomkinson<sup>1</sup>, Ken Pickard<sup>2</sup>, Cate Andrews, Vicki Robin, Marianne Brabanski<sup>3</sup>, Bob Wilbur<sup>4</sup>, Tom Ewell, Cliff Howard, Mark Harmon, Mari Anderson, James Allen, Stephen Swanson MD, Joe Kunzler, Babette Thompson. Following regular business additional public comment was heard from: Maryon Atwood<sup>5</sup> and Rick Abraham (reading statement from Brenda McMillan).

Handout index:

<sup>1</sup> The Navy's Representations of Single Event Growler Noise Levels on Schools – 1 page

<sup>2</sup> Case 2:13-cv-01232-TSZ Document 23-2 Filed 04/27/15 – spiral bound (26 pages)

<sup>3</sup> Department of Defense: Hearing Center of Excellence (53 pages)

<sup>4</sup> Island County Health Department document 10/25/02 (2 pages)

<sup>5</sup> Powers and Duties / News Release May 4, 2016 (5 pages)

#### **Presentations:**

1. **Community Health Advisory Board (CHAB) Quarterly Update:** provided by *Catherine Ballay, CHAB Chair*
  - a. CHAB has been actively involved with the Community Health Improvement Plan.
  - b. Two strong new members have been appointed to CHAB, CDR Heather Sellers and Holly Grason, and one application pending.
  - c. CHAB continues to work to diversify their membership, and asks the Board to invite or encourage community members they think may be a good addition to the efforts of CHAB.

- d. Reminder that tomorrow night is the Linda Lee Martens Community Health Hero Awards ceremony at the Nordic Lodge in Coupeville from 5:00 pm to 7:00 pm.
2. Community Health Assessment: Keith Higman, Health Services Director introduced Laura Luginbill, Assessment & Healthy Communities Director. Laura provided an update on the Community Health Improvement Plan following the community workshops, including “where we are now”, the top four priority issues and “steps for the future”. Seeking feedback from the Board a draft handout titled *CHIP Workgroup Roles and Responsibilities* was provided. Commissioner Helen Price Johnson suggested making updates to this process part of the regular agenda at future Board meetings.

**Contracts:** Keith Higman Health Services Director presented one contract as follows:

1. WA State DOH: Consolidated Contract No. C17111, Amendment No. 7; Contract Term: 1/1/2015 to 12/31/2017; Amendment Amount: \$2,100; Contract Amount: \$1,844,346. Commissioner Helen Price Johnson moved to approve and Commissioner Richard M. Hannold seconded the motion. Contract No. C17111 – Amendment No.7 passed unanimously by those present to vote.

**Legislative Update:** Keith Higman, Health Services Director

1. Press release issued: May 5, 2016 from the Food & Drug Administration (FDA) finalized a rule extending their authority to all tobacco products including E-Cigarettes, covering age verification requirements, vending machine limits, product ingredient listings, prohibiting free samples, health warnings on products and sales to those over the age of 18 only. It does not affect the smoking in public places policies. As more information becomes available it will be presented at a future conversation.

**Public Health Report:** Brad Thomas, MD provided a closing comment.

**Board Comments/Announcements:** In the following order, Board members provided closing comments: Grethe Cammermeyer, Commissioner Helen Price Johnson, Commissioner Richard M. Hannold and Commissioner Jill Johnson, Chair.

**Adjourn:** There being no further business before the Board, Commissioner Jill Johnson, Chair entertained a motion to adjourn. Commissioner Helen Price Johnson moved to adjourn. Commissioner Richard M. Hannold seconded the motion. Meeting adjourned at 2:39 pm.

The next Regular Session of the Island County Board of Health is scheduled for Tuesday, June 21, 2016 in the Commissioners’ Hearing Room B-102 – Coupeville, Annex.

Submitted: \_\_\_\_\_  
Brad Thomas, MD

Minutes approved this \_\_\_\_ day of \_\_\_\_ 2016

ISLAND COUNTY BOARD OF HEALTH

\_\_\_\_\_  
Commissioner Jill Johnson, Chair



## ISLAND COUNTY PUBLIC HEALTH

### Administration

PO Box 5000  
Coupeville, WA 98239

June 21, 2016

TO: Island County Board of Health

FROM: Keith Higman, Health Services Director

RE: **Community Health Advisory Board Recommendation Ms. Colleen Klamm**

It is with pleasure that I introduce Ms. Colleen Klamm to the Island County Board of Health. Ms. Klamm started in healthcare as a nurse's aide in 1982 and received a Bachelor's Degree in Nursing in 1987. She continued to further her education by becoming certified in oncology, wound care and most recently infection control.

She has been employed at Whidbey General Hospital since 1992 and is actively involved in various healthcare related organizations both locally and nationally. Through her work at Whidbey General Hospital she has the opportunity to see connections in the community where others may not, regarding important infectious trends. Ms. Klamm is committed to increasing vaccination rates and decreasing inappropriate antibiotic usage in Island County. These are two issues she would like to see the CHAB address in Island County.

If appointed, Ms. Klamm has agreed to serve on the CHAB for a three year term. It is my pleasure to recommend to the Island County Board of Health the appointment of Ms. Colleen Klamm to sit on the Island County Community Health Advisory Board for a three year term.

Ms. Klamm is a resident of Clinton.

Sincerely,

Keith Higman, MPH  
Health Services Director

## APPLICATION TO SERVE ON THE CITIZEN-BASED ISLAND COUNTY COMMUNITY HEALTH ADVISORY BOARD

Please mail your completed application to:

Laura Luginbill, MS, RD  
Assessment & Healthy Communities  
Island County Health Department  
P.O. Box 5000  
Coupeville, WA 98239

Phone: (360) 678-7939  
South Whidbey: (360) 321-5111 x 7939  
Camano: (360) 629-4522 x 7939  
or e-mail at L.Luginbill@co.island.wa.us

If the spaces for responses on the application are not adequate, please feel free to provide additional statements, materials, or information that may better indicate your interest or qualification for serving on the advisory board. Submission of additional information is not a requirement.

Name: Colleen Klamm  
Mailing Address:  
City/State/Zip Code: Clinton, WA 98236  
Home Phone:  
Work Phone: (360) 678-7656 ext. 3152 or (360) 661-3194  
E-Mail Address: klammc@whidbeygen.org

If your home address is different from your mailing address, please list your home address:

Home Address: \_\_\_\_\_  
\_\_\_\_\_

How long have you lived in Island County?

- Less than a year  
 1-5 Years  
 5-10 Years  
 10+ Years

Please explain any experiences (personal or professional), knowledge, or special interests you have regarding the focus of the group for which you are applying (e.g. health, environmental health, and/or health systems).

Started in healthcare as a nurses aid in 1982. Obtained a BSN in 1987. Continued with furthering education by becoming certified in Oncology, held for 18 years, became Certified in Wound Care in 2004, and am still current and became Certified in Infection Control this May (after 14 months in this position). Health is a very important aspect in my life.

Please list your occupational background and employment positions and dates. (Show employment for most recent five years of employment.)

Worked at Whidbey General Hospital from 1992 to current. Hired on as a charge nurse for the Medical/Surgical floor 1992-1996. Worked concurrently in the Medical Ambulatory Care Clinic (as was certified in Oncology) 1992-2015. Created the extension of the MAC clinic at Whidbey General South (as I live in Clinton) 1995-2004. Certified Wound care, including preceptor for University of Washington Wound Management Program and guest speaker and preceptor for the Skagit Valley Community College LPN program, continued on in MAC until 2015. Infection Preventionist March 2015 to current, with Certification this month.

Please describe your educational background.

Idaho State University BSN. The certifications as listed above.

Please list your membership (and roles) in organizations, boards of directors, advisory councils, or commissions.

Have been a member of the Oncology Nursing Society, Wound Ostomy Continence Nursing Society, and currently am a member of the Association for Professionals in Infection Control and Epidemiology both nationally and the Puget Sound Chapter.

Please list any other volunteer experiences you have had.

Participated in the Relay for life both for the Hospital and to lead a new community team.

Participated in the Tour de Whidbey, assisting the riders.

What would you like to see the board address? (e.g. key issue/needs in Island County)

Increase vaccination rates & decrease inappropriate antibiotic usage.

If selected to serve on CHAB, how could your experience, special skills, and personal interests benefit the citizens of our community?

I have knowledge of community illness through the ED and inpatient surveillance as part of my job. All lab cultures that are processed through WGH come across my desk and I keep track of important infectious trends (MRSA, C-diff etc). I may see connections in the community where others may not.

Are you willing to make the time commitment to attend meetings, read materials, and to stay informed about the needs of those with health issues, and work to develop programs to meet those needs? Membership in CHAB does entail participating in committee work, which averages about 2 hours total per month. Are you able to make the time commitment necessary to participate at this level? A 70% attendance is required of members on all boards/commission.

YES                       NO

Please list three references (Name, address, and phone):

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1. Katie Carr  
101 North Main Street, Coupeville, WA 98239  
360-678-7656 ext. 3151

2. Linda Gipson  
101 North Main Street, Coupeville, WA 98239  
360-678-7656 ext 2230

3. Heidi Saunders  
101 North Main Street, Coupeville, WA 98239  
360-678-7656 ext 2117

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If you want more information about serving on the Community Health Advisory Board (CHAB), please contact Laura Luginbill, Assessment & Healthy Communities Director, at (360) 678-7939, or email: [L.luginbill@co.island.wa.us](mailto:L.luginbill@co.island.wa.us).



## ISLAND COUNTY BOARD OF HEALTH

PO Box 5000  
Coupeville, WA 98239

June 21, 2016

Ms. Colleen Klamm  
4271 Nuthatch Way  
Clinton, WA 98236

Re: Appointment to serve on the Community Health Advisory Board (CHAB)

Dear Ms. Klamm:

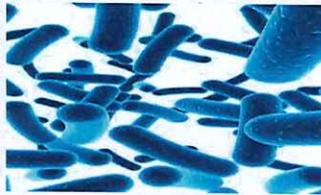
In accordance with the recommendation of the CHAB leadership, and per formal action taken by the Island County Board of Health during Regular Session held June 21, 2016, I am pleased to advise you of your unanimous appointment to fill an existing vacancy on the Community Health Advisory Board and to sit for a three-year term.

On behalf of the entire Board of Health, I would like to thank you for your interest in serving on the CHAB and for the spirit of willingness to contribute your time, effort and expertise to serve Island County and your fellow citizens in this capacity. Your experience and connection to Island County will be a great asset to the CHAB.

Sincerely,

Jill Johnson, Chair  
Island County Board of Health

# Microbial Source Tracking in Surface Water

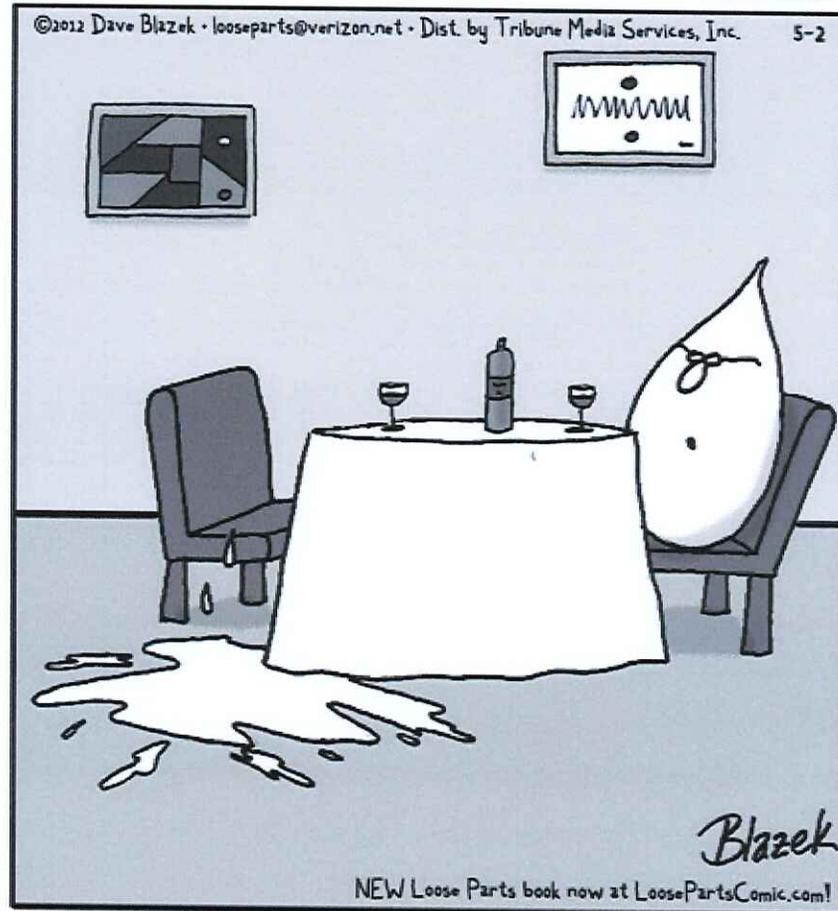


*Department of Natural Resources  
Surface Water Quality Monitoring Program*

Matt Zupich, *Water Quality Specialist*  
Island County Board of Health, Coupeville, June 21, 2016

# LOOSE PARTS

DAVE BLAZEK



"Sorry. I thought a joke  
would break the tension."

# Why Monitor Water Quality?



To ensure clean water for the protection of public health and natural resources

# What Do We Monitor?

- o 11 parameters including:
  - Temperature
  - pH
  - Dissolved Oxygen
- o Stream flow
- o Fecal coliform bacteria



# Fecal Coliform Bacteria

- Common to all warm-blooded animals
- Indicator of pollution
- Standards set to protect human health



Butler, A. 2002. Focus on Fecal Coliform Bacteria. Washington State Department of Ecology. [revised 2005 Dec.; accessed 2016 Apr. 19]; 02-10-010.

<https://fortress.wa.gov/ecy/publications/SummaryPages/0210010.html>.

# State Standards



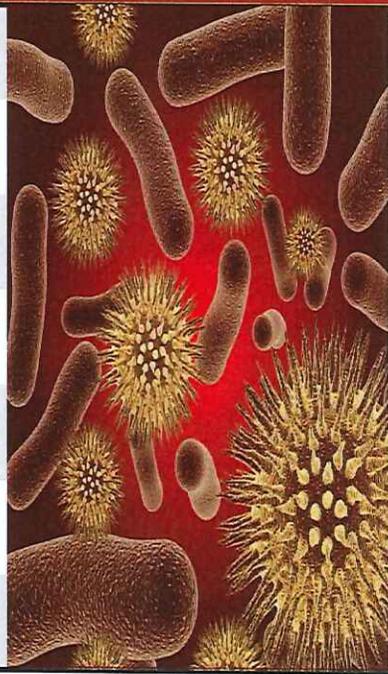
Designated Use	Parameter	Standard
Core summer Salmonid habitat	Temperature	7 day average of the daily maximum temperatures no greater than 16 °C (60.8°F)
	Dissolved Oxygen (DO)	9.5 mg/L minimum*
	pH	Between 6.5 and 8.5
	Turbidity	Shall not exceed 5 NTU over background when background turbidity is 50 NTU or less
<b>Extraordinary Primary Contact Recreation</b>	<b>Fecal Coliform Bacteria (colonies per 100 mL)</b>	<b>Geometric mean ≤ 50, with not more than 10% of samples exceeding 100</b>
Salmonid spawning, rearing and migration	Temperature	7 day average of the daily maximum temperatures no greater than 17.5 °C (63.5°F)
	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
<b>Primary Contact Recreation</b>	<b>Fecal Coliform Bacteria (colonies per 100 mL)</b>	<b>Geometric mean ≤ 100, with not more than 10% of samples exceeding 200</b>

in these areas is held to the same standard as surrounding watersheds.

0 1 2 4 6 Miles

# Fecal Coliform Sources

Domestic animals	Median CFUs per gram (wet)
Adult Cattle	180,000
Sheep	660,000
Horse	38,000
Pig	7,100,000
Poultry	110,000,000
Cat	2,300,000
Dog	31,000,000



CFU = Colony Forming Units

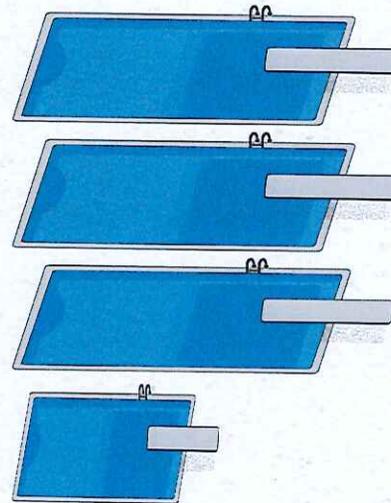
Cox, P, Griffith M, Angles M, Deere D, Ferguson C. 2005. Concentrations of Pathogens and Indicators in Animal Feces in the Sydney Watershed. *Appl. and Environ. Microbiol.* [accessed 2016 Apr. 19]; 71(10): 5929–5934. doi:10.1128/AEM.71.10.5929–5934.2005.

# An Example

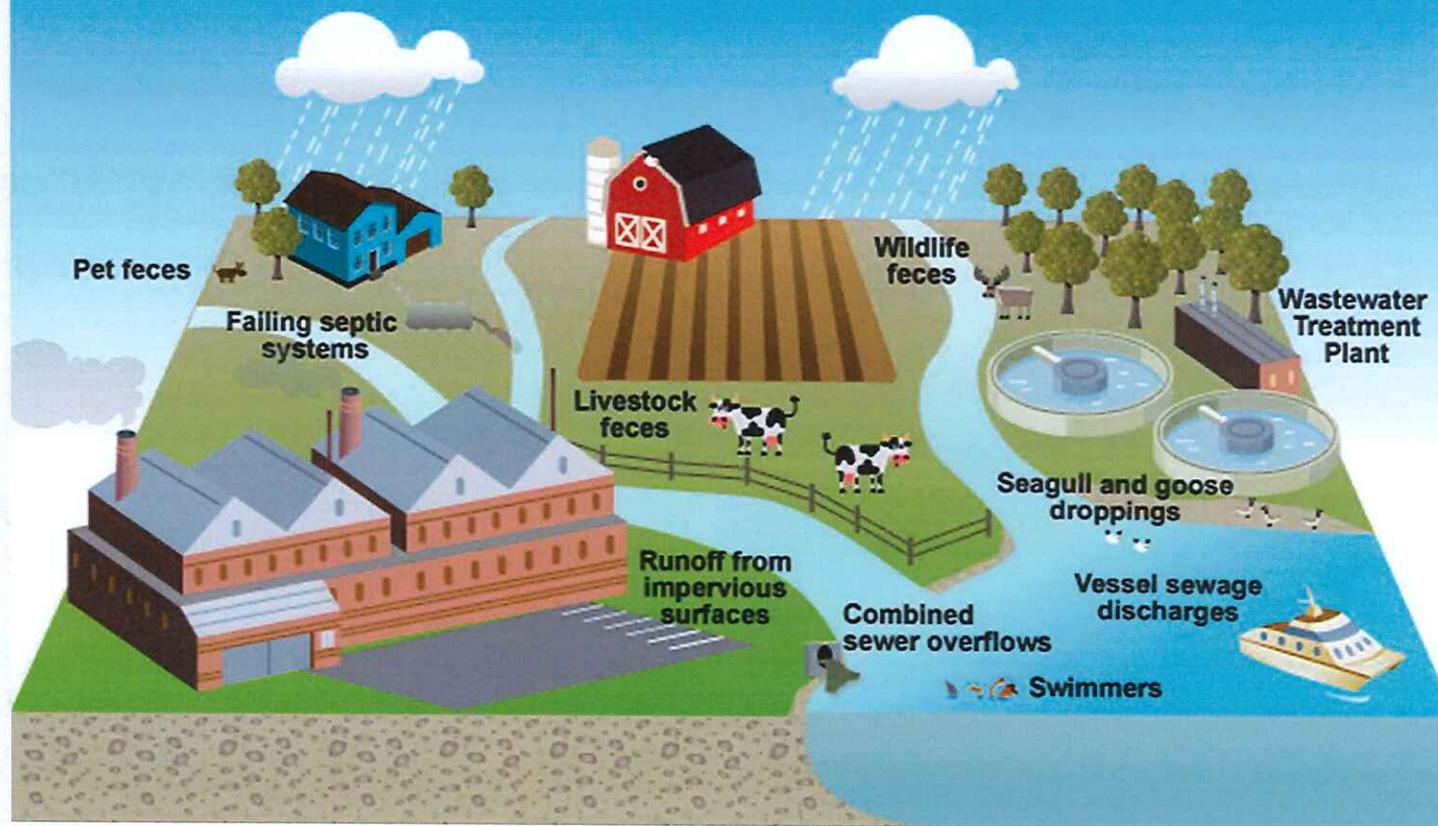
- The average dog produces 340 grams of feces per day (3/4 pound)
- Assume a water quality standard of 100 CFU per 100mL
- One dog can pollute 3.5 Olympic swimming pools each day (2.8 million gallons)

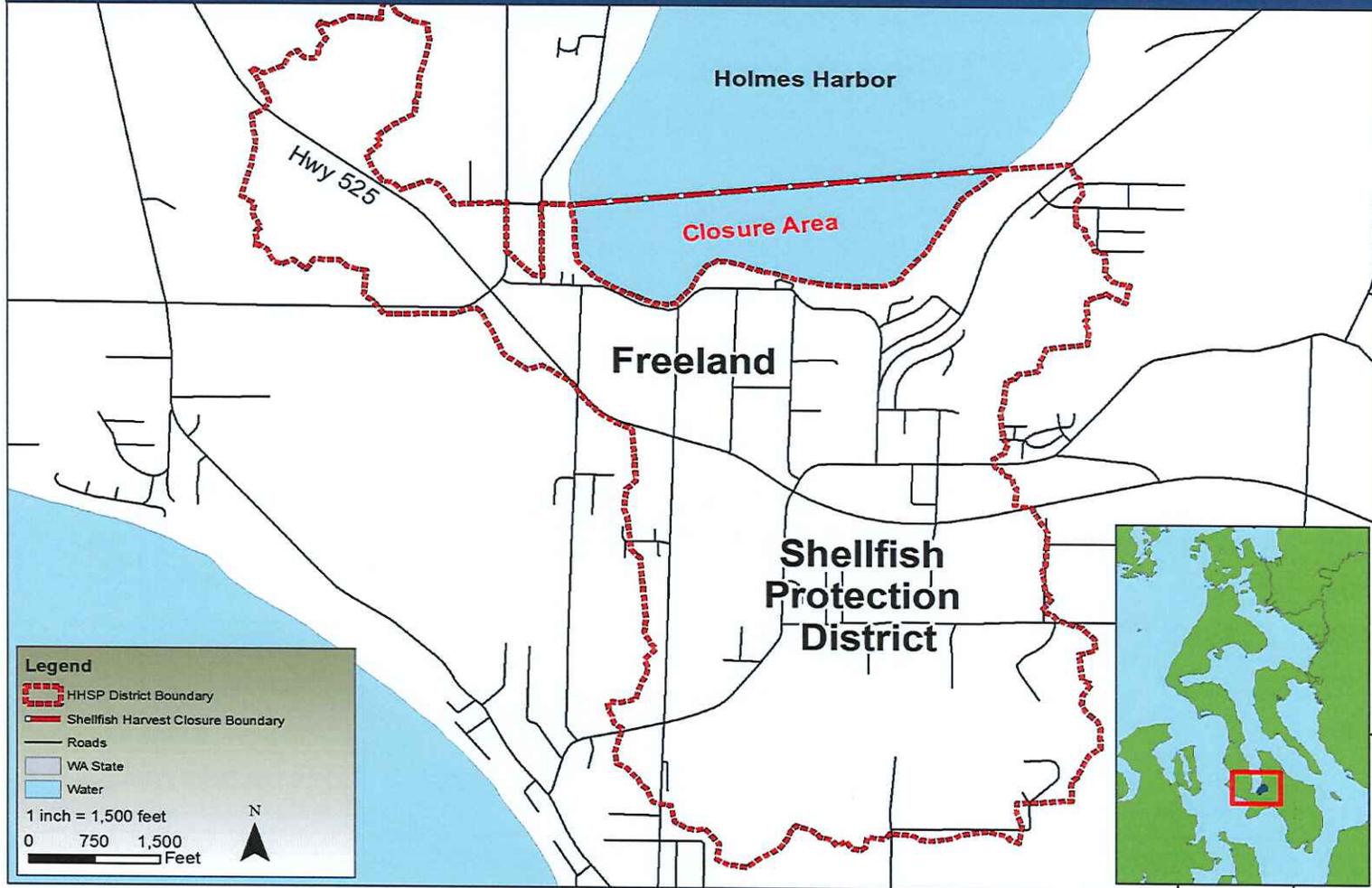


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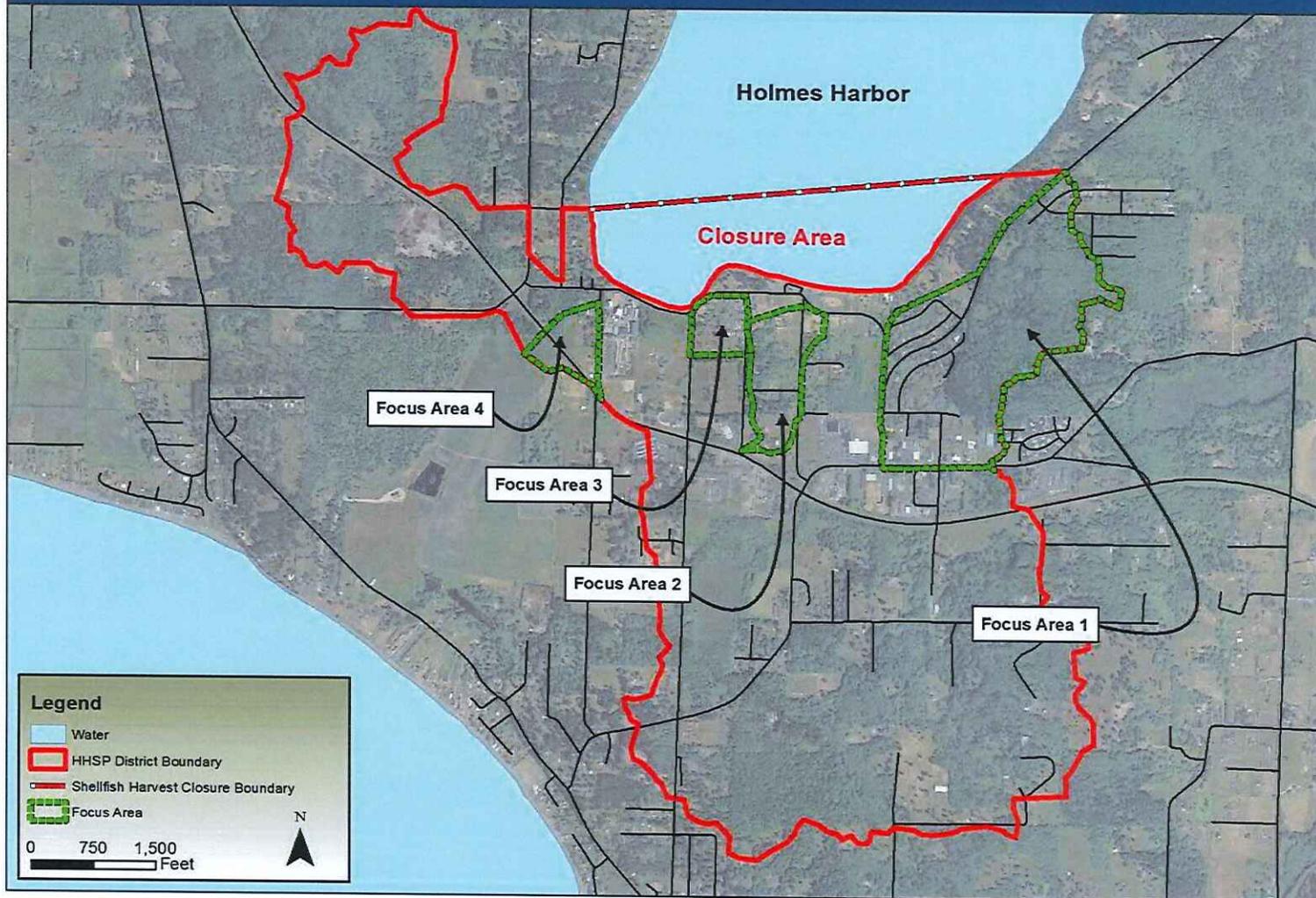
# Identify Sources of Fecal Contamination

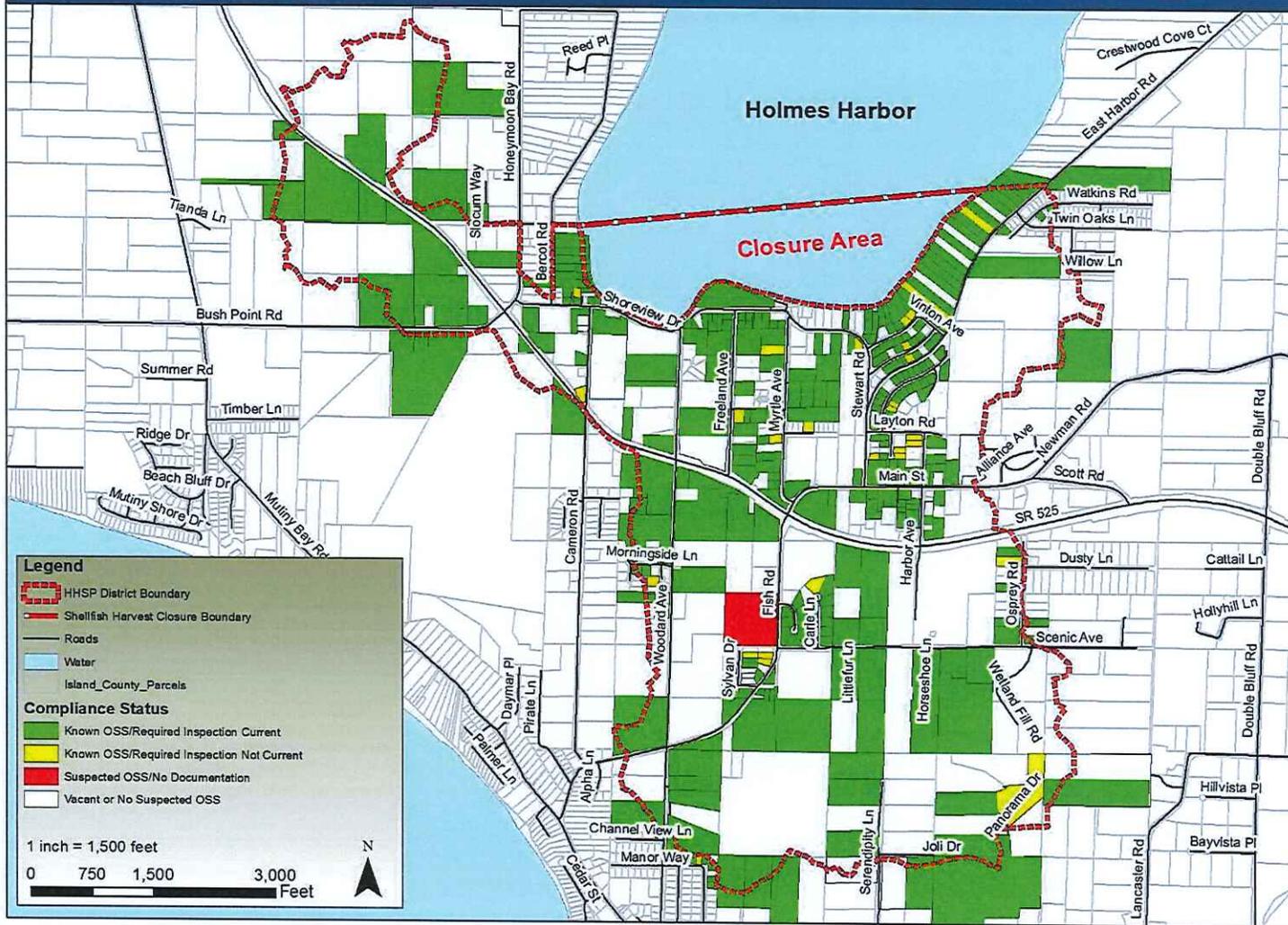




# Holmes Harbor SID Focus Areas

Island County Public Health





# Public Education & Outreach



# Effectiveness Monitoring

- o Evaluates effectiveness of corrective actions
- o Bacteria levels decreased to acceptable levels
- o Shellfish harvest in South Holmes Harbor was re-opened last year

BUT...

- o Despite continued efforts, bacteria levels are increasing

# The Smoking Gun

- o Conventional monitoring only *quantifies* fecal bacteria
- o Cannot distinguish *who* it is coming from...i.e. human, pet, deer, goose
- o DNA analysis suggested to definitively *qualify* the source

Byappanahalli M N, Nevers M B, Korajkic A, Staley Z R, Harwood V J. 2012. Enterococci in the Environment. Microbiol. and Molecular Biol. Reviews. 76(4): 685-706. doi 10.1128/MMBR.00023-12.

# Microbial Source Tracking

- MST uses DNA analysis
- Tests for genetic markers in fecal bacteria
- EPA selected Island County for pilot study
  - Analyzed for *presence* or *absence*
    - Ruminant,
    - Human, and/or
    - General

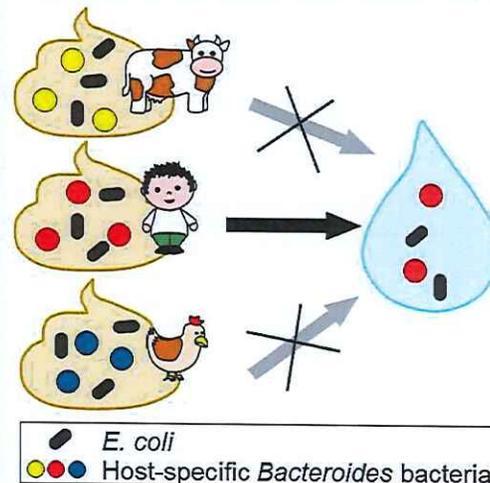


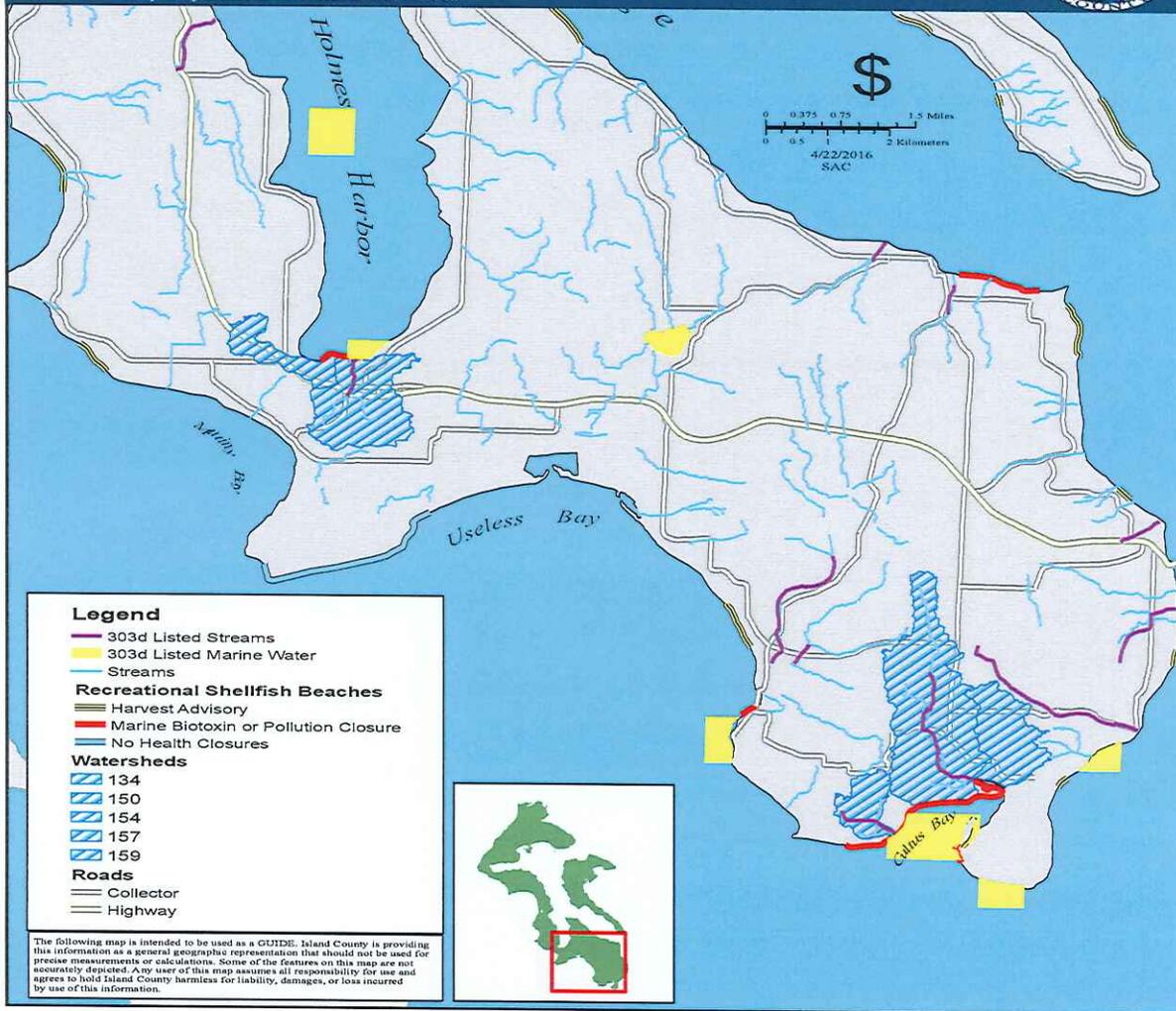
Photo source: [http://www.tzw.de/timm\\_images/abteilungen/altlasten/mst-prinzipskizze.jpg](http://www.tzw.de/timm_images/abteilungen/altlasten/mst-prinzipskizze.jpg)

# MST Limitations

- Considered “experimental science”
- No standardized methods
- No regulatory approval
- Cost prohibitive
- Time consuming
- False negative and false positive results
- Few known markers
- Does not quantify contamination
- Does not replace conventional testing
- No known correlation between MST and FC

Sargeant, D., W. R. Kammin, and S. Collyard. 2011 Nov. Review and Critique of Current Microbial Source Tracking (MST) Techniques. [accessed 2016 Apr. 19]; 11-03-038. [www.ecy.wa.gov/biblio/1103038.html](http://www.ecy.wa.gov/biblio/1103038.html).

**MST Site Selection**  
Island County Department of Natural Resources



- Legend**
- 303d Listed Streams
  - 303d Listed Marine Water
  - Streams
  - Recreational Shellfish Beaches**
  - Harvest Advisory
  - Marine Biotoxin or Pollution Closure
  - No Health Closures
  - Watersheds**
  - ▨ 134
  - ▨ 150
  - ▨ 154
  - ▨ 157
  - ▨ 159
  - Roads**
  - Collector
  - Highway

The following map is intended to be used as a GUIDE. Island County is providing this information as a general geographic representation that should not be used for precise measurements or calculations. Some of the features on this map are not accurately depicted. Any user of this map assumes all responsibility for use and agrees to hold Island County harmless for liability, damages, or loss incurred by use of this information.

# Study Objectives

- o Evaluate MST as a source identification tool
- o To plan effective mitigation strategies, public education and outreach, and compliance enforcement
- o To address public and environmental health issues in these watersheds



# Quality Control

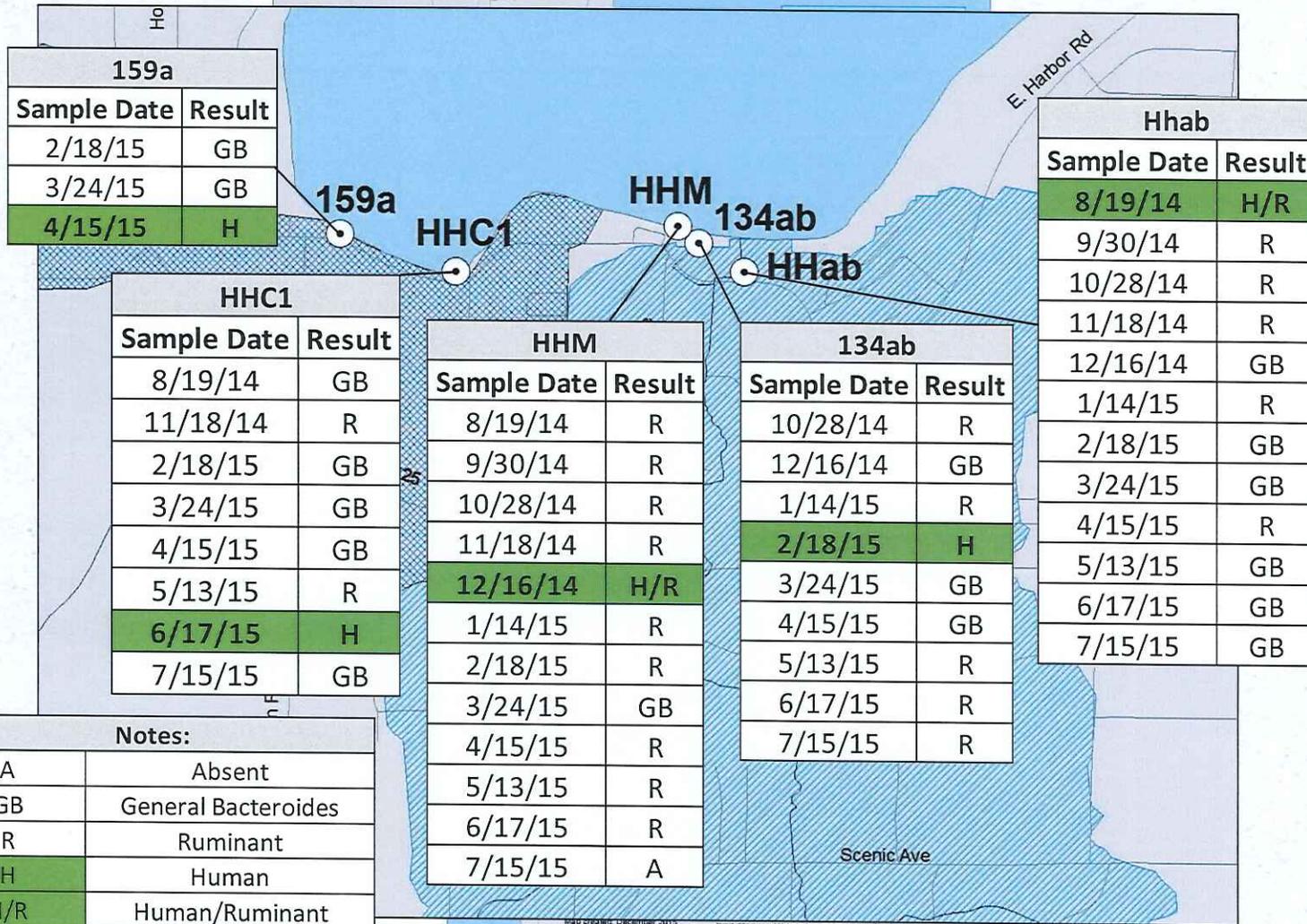
- o Accuracy = closeness to true value
  - ✓ Control samples with known positive and negative values
  - ✓ Blind samples with presence of horse, cow and human feces
- o Precision = repeatability
  - ✓ Field duplicate samples
    - Below detection limit

Island County Public Health and EPA Region 10, OEA Laboratory. 2014. Quality Assurance Project Plan for Island County Public Health Microbial Source Tracking Study.

Bailey, S. Memo to Operations Office faculty, USEPA Region 10 Laboratory, Port Orchard, WA. November 30, 2015.

# 2014-2015 Holmes Harbor MST Sites

Island County Department of Natural Resources



159a	
Sample Date	Result
2/18/15	GB
3/24/15	GB
4/15/15	H

HHC1	
Sample Date	Result
8/19/14	GB
11/18/14	R
2/18/15	GB
3/24/15	GB
4/15/15	GB
5/13/15	R
6/17/15	H
7/15/15	GB

HHM	
Sample Date	Result
8/19/14	R
9/30/14	R
10/28/14	R
11/18/14	R
12/16/14	H/R
1/14/15	R
2/18/15	R
3/24/15	GB
4/15/15	R
5/13/15	R
6/17/15	R
7/15/15	A

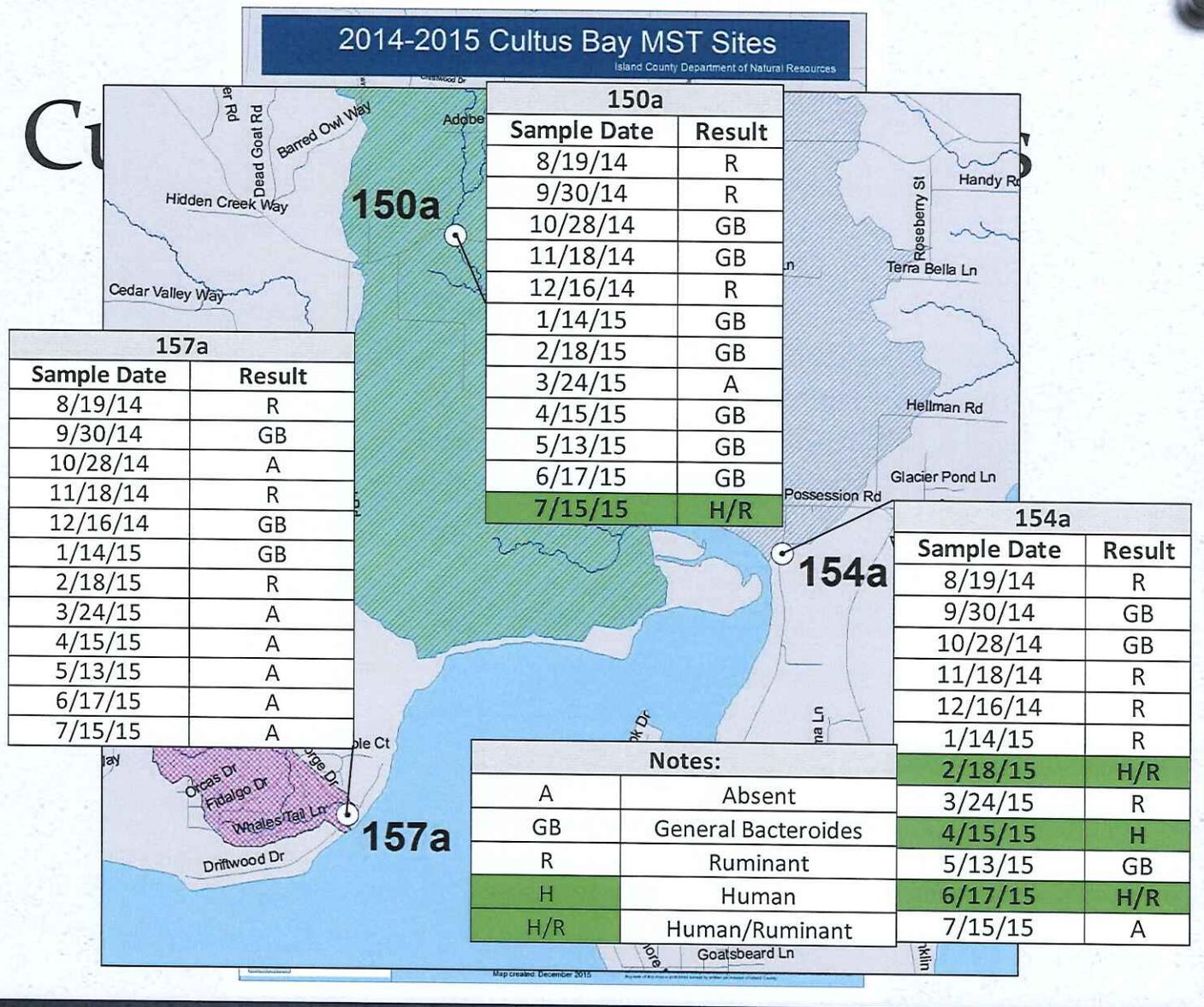
134ab	
Sample Date	Result
10/28/14	R
12/16/14	GB
1/14/15	R
2/18/15	H
3/24/15	GB
4/15/15	GB
5/13/15	R
6/17/15	R
7/15/15	R

Hhab	
Sample Date	Result
8/19/14	H/R
9/30/14	R
10/28/14	R
11/18/14	R
12/16/14	GB
1/14/15	R
2/18/15	GB
3/24/15	GB
4/15/15	R
5/13/15	GB
6/17/15	GB
7/15/15	GB

Notes:	
A	Absent
GB	General Bacteroides
R	Ruminant
H	Human
H/R	Human/Ruminant

## 2014-2015 Cultus Bay MST Sites

Island County Department of Natural Resources



150a	
Sample Date	Result
8/19/14	R
9/30/14	R
10/28/14	GB
11/18/14	GB
12/16/14	R
1/14/15	GB
2/18/15	GB
3/24/15	A
4/15/15	GB
5/13/15	GB
6/17/15	GB
7/15/15	H/R

157a	
Sample Date	Result
8/19/14	R
9/30/14	GB
10/28/14	A
11/18/14	R
12/16/14	GB
1/14/15	GB
2/18/15	R
3/24/15	A
4/15/15	A
5/13/15	A
6/17/15	A
7/15/15	A

154a	
Sample Date	Result
8/19/14	R
9/30/14	GB
10/28/14	GB
11/18/14	R
12/16/14	R
1/14/15	R
2/18/15	H/R
3/24/15	R
4/15/15	H
5/13/15	GB
6/17/15	H/R
7/15/15	A

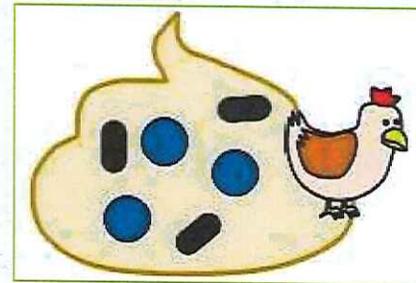
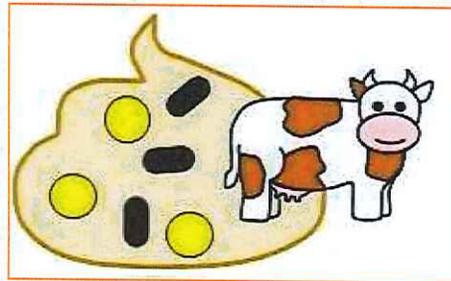
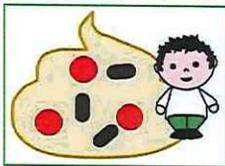
Notes:	
A	Absent
GB	General Bacteroides
R	Ruminant
H	Human
H/R	Human/Ruminant

Map created December 2015

# Discussion

o 92 field samples:

- 4 + for human biomarker only = 4%
- 35 + for ruminant biomarker only = **38%**
- 5 + for both human & ruminant biomarkers = 5%
- 33 + for the general *Bacteroides* biomarker = **36%**
- 15 negative = 16%



# Conclusions

- o Too many limitations
- o This study did not provide unexpected results
- o Continue using conventional source ID methods
  - Explore other techniques/methods
  - Wait for MST to improve
- o Continue to inform/educate the public

# Questions?

Stephanie Croan

[s.croan@co.island.wa.us](mailto:s.croan@co.island.wa.us)

360.678.2347

Matt Zupich

[m.zupich@co.island.wa.us](mailto:m.zupich@co.island.wa.us)

360.678.7987



*Department of Natural Resources  
Surface Water Quality Monitoring Program*