

WASHINGTON STATE DEPARTMENT OF HEALTH

# **Puget Sound Local On-Site Sewage Management Plans A Report to the Legislature**

## **2008 Progress Report**

## **Fulfilling 3SHB 1458 Requirements – Section 11**

For information or additional copies of this report contact:  
**Wastewater Management Program**

Physical address: 101 Israel Road SE, Tumwater, WA 98501  
Mailing Address: PO Box 47824, Olympia, Washington 98504-7824

Phone: (360) 236-3330

Webpage: [www.doh.wa.gov/wastewater](http://www.doh.wa.gov/wastewater)

Email: [wastewatermgmt@doh.wa.gov](mailto:wastewatermgmt@doh.wa.gov)



**DOH 337-035 May 2025**

**First published: May 2009**

To request this document in another format, call 1-800-525-0127. Deaf or hard of hearing customers, please call 711 (Washington Relay) or email [doh.information@doh.wa.gov](mailto:doh.information@doh.wa.gov).

## **Acknowledgements**

Substantial information provided by the 12 Puget Sound counties has been incorporated into the report. The Washington State Department of Health appreciates the contributions of the following people:

### **Clallam County Health and Human Services**

- Andy Brastad, Environmental Health Director
- Liz Maier, Environmental Health Specialist
- Janine Reed, Onsite Program Lead

### **Island County Public Health**

- Aaron Henderson, Environmental Health Director (current)
- Keith Higman, Environmental Health Director (former)
- Joe Laxson, Environmental Health Specialist
- Kathleen Parvin, Environmental Health Specialist

### **Jefferson County Public Health**

- Linda Atkins, On-site Sewage Program Lead

### **Public Health Seattle and King County**

- Larry Fay, Community Environmental Health Manager

### **Kitsap County Health District**

- Jerry Deeter, Environmental Health Director (former)
- Keith Grellner, Environmental Health Director (current)

### **Mason County Public Health Department**

- Debbie Mason, Environmental Health Director
- Cindy Waite, Lead Environmental Health Specialist
- Stephanie Kenney, Environmental Health Specialist
- Penny Orth, Environmental Health Specialist

### **Tacoma-Pierce County Health Department**

- Steve Marek, Environmental Health Manager

### **Tacoma-Pierce County Health Department**

- Jim Hoyle, Environmental Health Specialist III

### **San Juan County Health and Community Services**

- Mark Tompkins, Environmental Health Director

### **Skagit County Public Health**

- Corinne Story, Environmental Public Health Manager
- Steve Olsen, Environmental Health Specialist

### **ShoreBank Enterprise Cascadia**

- Terry Hull, Manager, Hood Canal Septic Loan Program

### **Snohomish County Health District**

- Kevin Plemel, Water and Wastewater Section Manager

### **Thurston County Public Health and Social Services Department**

- Art Starry, Environmental Health Director
- Jim Goode, Supervisor of the Environmental Health Division Land-use and Drinking Water Program

### **Whatcom County Health Department**

- John Wolpers, Environmental Health Director
- Kyle Dodd, Environmental Health Supervisor

### **Washington State Department of Ecology**

- Pat Brommer, Financial Management Specialist
- Jeff Nejedly, Financial Management Section, Unit Supervisor
- John Storman, Hydrogeologist

<b>Page</b>	<b>Contents</b>
1	Executive Summary
3	Background
5	Findings
5	Section A: On-site Strategies Used by the Puget Sound Counties
15	Section B: Electronic Data Systems Status
16	Section C: Areas with Completed Shoreline Surveys by the Department
17	Section D: The Progress and Capacity to Implement OSS Management Plans
20	Section E: Barriers to Implementing the On-site Strategy
24	Section F: Recommendations That Will Assist Counties in Implementing their Plans
25	Appendix A: 3SHB 1458
34	Appendix B: Letter to Puget Sound Partnership from EH Directors
38	Appendix C: Shoreline Surveys Completed by the Department of Health

## **List of Tables, Maps and Graphs**

5	Table 1: Local Management Plans - Approved Dates and Links to Plans
7	Table 2: Marine Recovery Areas
8	Map 1: Puget Sound MRAs and other OSS Identification Efforts in 2008
12	Map 2: Similk Beach
12	Map 3: Bay View Community
13	Map 4: Local Neighborhood in Jefferson County
18	Graph 1: Number of New O&M Inspections in Skagit County
19	Graph 2: Annual Funding Scenarios Capacity for OSS Management



## Executive Summary

The 2006 Legislature enacted [Third Substitute House Bill \(3SHB\) 1458](#) to enhance county on-site sewage system (OSS) management programs to ensure OSS are working to protect public health and Puget Sound water quality. The legislation requires the 12 Puget Sound counties (Clallam, Island, Jefferson, King, Kitsap, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston and Whatcom) to use the best available science to determine which marine shoreline areas are affected by failing OSS. They must design programs to find and correct failing systems to reduce public health hazards, improve water quality, and reopen previously closed shellfish areas. This report provides a summary of the activities and progress made by the counties to develop and implement OSS management plans.

### Key Findings

#### 1. Management Plans for the 12 Puget Sound Counties

All of the Puget Sound counties developed OSS management plans. Their respective boards of health approved the plans. The department reviewed the plans. It found all are complete and contain the required Marine Recovery Area (MRA) designation strategies. The counties are in the beginning stages of implementing the plans by upgrading county codes, improving databases, transferring records, developing public education programs and staffing the OSS management programs. The counties' efforts depend on state funding to continue. Additional information on each county's OSS management plan is available at the department's [Local On-site Management Plan](#) Web site.

#### 2. Marine Recovery Area and Sensitive Area Designations

All of the Puget Sound counties identified areas that are vulnerable to pollution from bacteria or nitrogen. These areas are identified as sensitive areas in the management plans. Each county included in its report the procedures used to evaluate environmental data, and to propose the sensitive area and MRA designations. Nine counties identified specific areas along their marine shorelines as MRAs. A map of [Puget Sound MRAs and Other OSS Identification Efforts in 2008](#) shows where the counties began to implement their management plans.

#### 3. Data Management

The counties upgraded their databases to store and use information such as the status of each OSS and locations where failure rates are high. Counties use a variety of software products to manage their OSS data. Because their systems need to interact with databases used by other departments within the local government, each county uses a unique database. While all of the counties have made database improvements, more work is needed to maximize efficiency. In addition, a statewide database is needed to summarize county data, and to provide tools for assessing OSS effects at regional and state levels.

#### 4. Operation and Maintenance Plan Strategies

Counties are using their databases to apply risk-based operation and maintenance (O&M) requirements to set priorities for their OSS management efforts. They track O&M reports from OSS located in sensitive areas and MRAs to determine compliance with O&M requirements. Each county is working on tasks related to O&M programs. The tasks include evaluating

pollution sources by conducting water quality investigations and shoreline surveys, providing public education and outreach, and running certification programs for O&M providers.

## **5. Barriers and Recommendations**

Homeowners do not always understand the importance of maintaining their OSS. The counties use a variety of methods to tell the public about the O&M requirements. Some people have trouble understanding the O&M rules and reasons for needing regular inspections. As a result, additional rules frustrate them. When they hear that the rules vary among counties, their frustration increases. To minimize discrepancies among counties and to maximize educational programs, the department recommends expanding education and outreach efforts across the region by using a variety of means to provide a consistent message.

To continue to make progress implementing the 12 OSS management programs, the department recommends establishing dedicated sources of funding at local or regional scales to support comprehensive water quality and OSS management programs. The counties need supplemental funding until local or regional funds become available.

Ensuring failing OSS are repaired or replaced is one of the most important steps in the OSS management efforts. Affordable grants or loans need to be available to homeowners to support needed repairs. Public and private partners should continue to work with Ecology, ShoreBank Enterprise Cascadia, the counties and others to increase availability of funding for homeowners to repair failing OSS.

Densely populated areas have an increased risk of water pollution when homes and businesses use OSS. Additional risks occur when high-density neighborhoods are located in sensitive areas. To ensure public health safety and environmental protection, counties with high-density populations and sensitive areas need to have extensive technical expertise to manage OSS programs. They require technical support and guidance to ensure OSS achieve effective long-term sewage treatment. The department should continue to work with counties to share advice and to offer technical assistance on risk management approaches and practices. This includes developing guidelines for applying Method II, an alternate approach for determining the minimum lot size or land area needed to use an OSS, and completing the report to the Legislature on O&M certification recommendations.

Land use designations established by local governments under the Growth Management Act (GMA), Chapter 36.70A RCW limit wastewater options. The GMA specifies that urban services (typically sewers) are needed inside urban growth areas and rural services (typically OSS) should be used in rural areas. These designations often limit the use of integrated wastewater approaches aimed at minimizing cost and maximizing environmental benefits. The department recommends coordinating with the departments of Community, Trade and Economic Development (CTED) and Ecology, local governments, and others to support planning efforts that consider use of different types of sewage treatment systems in and near urban growth areas to maximize environmental protection and minimize cost.

## Background

### 2005 State Board of Health Rule

In 2005, the State Board of Health adopted Chapter 246-272A WAC for OSS. The changes in the rule recognized the need for counties to develop comprehensive OSS management plans for new and existing systems using risk-based methods. The rule established two levels of planning requirements:

- The Puget Sound counties have very detailed planning requirements. These requirements include overall management of OSS. That takes in siting as well as operation and maintenance (O&M). The established plan elements require local health officers to develop and maintain an inventory of known OSS, define O&M requirements based on risks posed by the systems and the sites, and describe the capacity to ensure adequate O&M of all OSS within the county. The deadline for adoption by the local board of health and review by the department to verify completion was July 1, 2007.
- The state's other 27 counties also have planning requirements. The requirements for these counties are not as extensive as for the Puget Sound counties. These counties must include a description of their capacity to provide education and O&M information, how homeowners will be reminded and encouraged to complete inspections, and the capacity to fund the plan. No specific time frame to complete the plans was given to the non-Puget Sound counties.

The 2005 rule also directed the department to develop guidance on what to include in the OSS management plans by July 1, 2006, to assist in plan development. The department published [On-Site Sewage System Management Plan Guidance](#) in June 2006 for the counties to use during plan development. This guidance document incorporated requirements under both Chapter 246-272A WAC and 3SHB 1458 passed by the 2006 Legislature.

### 2006 Legislation

In March 2006, the Legislature passed 3SHB 1458 (Appendix A), codified as Chapter 70.118A RCW. The legislation paralleled the requirements in WAC 246-272A for the Puget Sound counties to develop OSS management plans and authorized counties to identify marine recovery areas (MRA). The legislation directed local health officers to propose MRAs where existing OSS are a significant factor contributing to degradation of shellfish growing areas, marine waters listed by the Department of Ecology (Ecology) for low-dissolved oxygen levels or fecal coliform, or marine waters where nitrogen has been identified as a contaminant of concern. Once an MRA is proposed, the health officer must develop and approve a management plan that includes a strategy to manage OSS within the MRA.

To assist with the identification and development of MRA strategies, as directed by the legislation, the department published [Marine Recovery Areas: Supplemental to the On-site Sewage System Management Plan Guidance](#), in October 2006. It addressed data sources, data analysis, designation of MRAs, and implementation strategies.

The legislation also called on the department to prepare a progress report showing how counties are developing OSS management plans and performing other activities to protect the environment in MRAs. This report fulfills that requirement.



## Findings

### Section A: On-site Strategies Used by the Puget Sound Counties

#### Management Plan Development

All 12 Puget Sound counties have completed development of their initial local on-site management plans as required by the 2006 legislation and Chapter 246-272A WAC. When developing their plans, the counties were asked to take a comprehensive look at the on-site sewage development and management needs of their jurisdictions and to develop the information that will assist them in their OSS planning needs. The counties used several different processes to develop their plans.

Clallam, Island, King, San Juan and Thurston counties convened a workgroup or committee to provide recommendations. Jefferson, Kitsap, Pierce, Snohomish, Skagit and Whatcom drafted their plans based on information gathered from their OSS and planning departments. Mason County contracted with Jefferson County to draft its plan in coordination with Kitsap County, to ensure consistency in the Hood Canal area.

Each county held public hearings prior to formal adoption of their plans. Table 1 lists the date each plan was approved by its county board of health, the date the department found each plan to be complete, and a link to each local management plan.

County Name	Approved by the County Board of Health	Department Determined Plan to be Complete	Link to County's Plan
Clallam	June 19, 2007	July 12, 2007	<a href="#">Clallam LMP</a>
Island	June 18, 2007	July 12, 2007	<a href="#">Island LMP</a>
Jefferson	August 20, 2007	September 11, 2007	<a href="#">Jefferson LMP</a>
Kitsap	June 30, 2008	July 8, 2008	<a href="#">Kitsap LMP</a>
Mason	December 5, 2007	February 1, 2008	<a href="#">Mason LMP</a>
San Juan	July 23, 2007	August 6, 2007	<a href="#">San Juan LMP</a>
Seattle-King	June 19, 2008	July 18, 2008	Not Available
Skagit	October 9, 2007	December 31, 2007	<a href="#">Skagit LMP</a>
Snohomish	June 7, 2007	July 17, 2007	<a href="#">Snohomish LMP</a>
Tacoma-Pierce	September 5, 2007	December 31, 2007	<a href="#">Tacoma-Pierce LMP</a>
Thurston	January 7, 2008	February 8, 2008	<a href="#">Thurston LMP</a>
Whatcom	March 25, 2008	May 21, 2008	<a href="#">Whatcom LMP</a>

**Table 1 Local Management Plans - Approval Dates and Links to Plans**

The plans are designed to be “living” documents with changes incorporated over time as more information is gathered locally. The management plans allow counties to learn from their actions and from the data they’re collecting. Subject to sufficient on-going funding, the counties will refine their recommendations over time. Clallam, Mason and Skagit are already working on or have completed updates.

Although the details vary, all the plans include:

- Risk-based priority setting for O&M reporting compliance.
- Educational programs to teach homeowners about inspection requirements and the benefits of maintaining OSS, and to remind them when their O&M inspections are due.
- Incentives to encourage OSS owners to have their systems inspected and to send the inspection reports to the counties.
- Simple reporting requirements.

### **Marine Recovery Area Designation**

As directed by the 2006 legislation, the local health officer must propose MRAs where existing OSS are a significant factor associated with:

- (a) Shellfish growing areas that are listed as threatened or downgraded by the department under chapter 69.30 RCW.
- (b) Marine waters that are listed by the Department of Ecology under section 303(d) of the federal clean water act for low-dissolved oxygen or fecal coliform.
- (c) Marine waters where nitrogen has been identified as a contaminant of concern by the local health officer.

Each county evaluated its marine shorelines using criteria outlined in the department’s [Marine Recovery Areas: Supplemental to the On-site Sewage System Management Plan Guidance](#). They also used a number of water quality and land use data sets to make science-based MRA determinations, including the department’s shellfish program data, Ecology’s list of impaired water bodies (the 303(d) list) and the following:

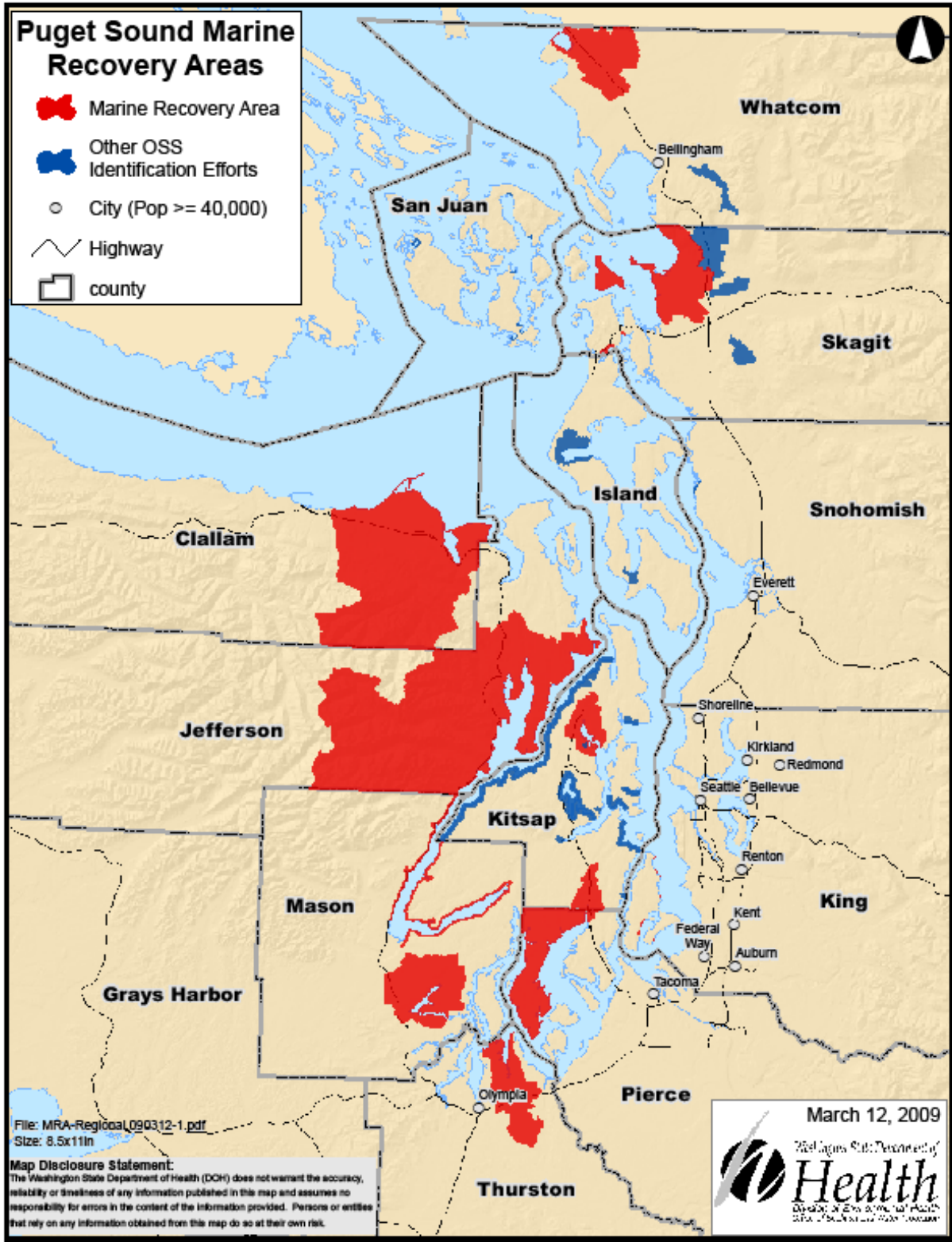
- Age of sewage systems.
- Number of OSS repairs in the area.
- Density of OSS.
- Proximity of OSS to shoreline.
- High number of unknown OSS (no permit or inspection history and not currently in county files) in the area.
- Location of sole source aquifers.
- Data from local stream monitoring programs, local shoreline monitoring and sanitary surveys, and recreational swimming monitoring programs.

As required in Chapter 246-272A WAC, each county first developed a list of areas where OSS could pose increased public health risk. These areas are called sensitive areas. The at-risk areas

were then evaluated to determine if OSS could be a significant factor contributing to the three situations noted above. Areas that were determined to be significantly affected by OSS and bordering the marine shoreline were identified as MRAs. Nine counties formally identified at least one MRA. Map 1 shows [Puget Sound MRAs and Other OSS Identification Efforts in 2008](#). Note that some areas are too small to show on the regional map. A detailed map of each county is available at the department's [Local On-site Management Plan](#) Web site. Table 2 lists the MRAs identified as of November 2008.

<b>County</b>	<b>Land Areas or Watershed</b>
Clallam	<a href="#">Sequim-Dungeness</a>
Jefferson	<a href="#">Hood Canal - from Tala Point Sound</a>
King	<a href="#">Portions of Vashon Island</a>
Kitsap	<a href="#">Liberty Bay</a>
Kitsap	<a href="#">Burley Lagoon</a>
Mason	<a href="#">Oakland Bay</a>
Mason	<a href="#">Hood Canal</a>
Pierce	<a href="#">Key Peninsula</a>
Skagit	<a href="#">Colony Creek</a>
Skagit	<a href="#">Guemes Island</a>
Skagit	<a href="#">Lower Samish River Basin</a>
Skagit	<a href="#">Padilla Bay and Bay View Rural Village</a>
Skagit	<a href="#">Samish Island and Samish Bay</a>
Skagit	<a href="#">Similk Bay and Similk Beach Community</a>
Skagit	<a href="#">Yokeko, Dewey Beach, and Quiet Cove</a>
Thurston	<a href="#">Henderson</a>
Whatcom	<a href="#">Drayton Harbor Watershed</a>

**Table 2 Marine Recovery Areas**



Map 1 Puget Sound MRAs and Other OSS Identification Efforts in 2008

## **Counties with MRAs**

To determine MRA and sensitive area boundaries, many counties mapped the locations of threatened and downgraded shellfish areas and marine waters on Ecology's 303(d) list for fecal coliform or low dissolved oxygen. For example, Clallam County's map showed several areas where commercial shellfish growing is prohibited or where marine waters are impaired because of high bacteria or low dissolved oxygen. These areas include locations in Sequim Bay, Dungeness Bay, Port Angeles Harbor, the mouth of the Pysht River, Clallam Bay and Neah Bay. Clallam County's staff determined which of these areas are affected by OSS. Based on this information, the county staff originally recommended that the health officer designate the Sequim-Dungeness area as an MRA, using the existing boundaries of the Sequim Bay - Dungeness Watershed Clean Water District as the upland boundaries of the MRA. After further discussions with the OSS Work Group about emerging water quality problems in Discovery Bay (including a shellfish downgrade), the MRA boundary was extended east to the county line to include the Miller Peninsula.

Based on significant data analysis, Jefferson and Mason counties included areas along Hood Canal in their MRAs. Mason County also included the Oakland Bay watershed as an MRA. At the time its plan was drafted, Kitsap County determined that OSS have not proven to be a significant contributor to the nitrogen problem in Hood Canal. Consequently, it did not designate Hood Canal as an MRA. However, it designated its portion of Hood Canal as an area of special concern for nitrogen. Kitsap County identified Burley Lagoon and Liberty Bay as MRAs.

Since 2000, Thurston County has been using an OSS management plan to address problems in the Henderson Watershed Protection Area. It named the entire watershed an Area of Special Concern in 2007. Because it includes all the components of an MRA, the Thurston County Board of Health will be asked to officially designate Henderson as an MRA in the near future. Its plan calls for further evaluations to determine if other areas should become Sensitive Areas or MRAs.

In Pierce County, OSS are the only available means of wastewater treatment and soil dispersal on the Key Peninsula, except for one small area. Results from the Tacoma-Pierce County Health Department compliance program, water quality assessments and sanitary surveys, along with water quality sampling, demonstrate that the OSS on the peninsula are failing at a low but consistent rate over time. Failing OSS are now linked to a portion of the impairment in shellfish harvest areas and individual sample stations on the Ecology 303(d) list. The county designated the entire Key Peninsula as an MRA. This was a proactive approach to protect public health and will help to prevent further downgrades in shellfish harvest classification.

Except for Vashon Island and a small area in south Federal Way, most of the urban areas along King County's shoreline are sewered. Shellfishing is not advised along most of the shoreline because of sewer outfalls and extensive urban development. King County evaluated the Vashon Island shoreline to determine if any areas should be identified as an MRA. Portions of Quartermaster Harbor and four small areas along East Passage met the criteria. The county will re-evaluate the marine shoreline in south Federal Way when new data is available. The county

will also designate the Redondo Beach area as an MRA if it determines OSS are adversely affecting water quality in the area.

Skagit County Board of Health designated seven areas as MRAs. These included Samish Island and Samish Bay; Yokeko, Dewey Beach and Quiet Cove; Similk Bay and Similk Beach Community; Padilla Bay and Bay View Rural Village; Guemes Island, Colony Creek, and Lower Samish River Basin. Whatcom County designated the Drayton Harbor Watershed as an MRA after reviewing available data.

### **Counties that Did Not Identify an MRA**

Island, San Juan, and Snohomish counties also evaluated the locations of threatened and downgraded shellfish areas and marine waters on Ecology's 303(d) list for fecal coliform or low dissolved oxygen. Based on their evaluation of available data, they did not designate any MRAs.

Island County designed a unique approach for risk classification. Its miles of shoreline, limited year-round streams, sole source aquifer status, fluctuating populations associated with vacation properties, and growth pressures create challenges to identifying MRAs. Island County's OSS management plan committee reviewed available data to determine how to designate risk-based geographic areas for protection of public health and the environment. It urged the county to designate geographic risk areas under its OSS management plan. It identified the following four types of areas, ranked from highest to lowest risk, as well as specific areas of the county that fit into each category:

#### Category 1: Marine Recovery Areas

Areas where there are water quality problems linked to OSS failures. No areas were identified.

#### Category 2: Sensitive Areas

Areas where there are water quality problems that merit closer OSS monitoring. South Holmes Harbor and Penn Cove were identified.

#### Category 3: Increased Risk Areas

Areas listed in the state OSS rules (WAC 246-272A-0015) as priority areas where OSS could pose increased public health risks. Critical aquifer recharge areas and Point Partridge were identified.

#### Category 4: All other areas of the county.

During San Juan County's data evaluation process, all commercial shellfish growing areas met water quality standards for fecal coliform. The Mackaye Harbor growing area has one station that has elevated bacteria levels. State and local environmental health personnel concluded that the elevated counts appeared to be an anomaly not associated with OSS. After reviewing available data, the local committee concluded that San Juan County doesn't have any sensitive marine areas that should be identified as MRAs. Its committee recommends a review of marine water quality annually and, if needed, new MRAs or other sensitive areas should be designated.

The Snohomish Health District's health officer has not identified any marine waters in Snohomish County where nitrogen is a concern. Therefore, only shellfish downgrades and water quality violations for low dissolved oxygen or fecal coliform bacteria were used to determine marine recovery designation. This is consistent with the department's MRA guidance. Snohomish County Health District identified the Warm Beach community as a sensitive area. While it did not identify any MRAs, it plans to be an active partner in improving water quality. Staff will review new water quality data, shellfish certification status and OSS performance data to determine if the county needs to designate an MRA or other sensitive area in the future. Its OSS management plan requires OSS to be designed and constructed to high standards throughout the county.

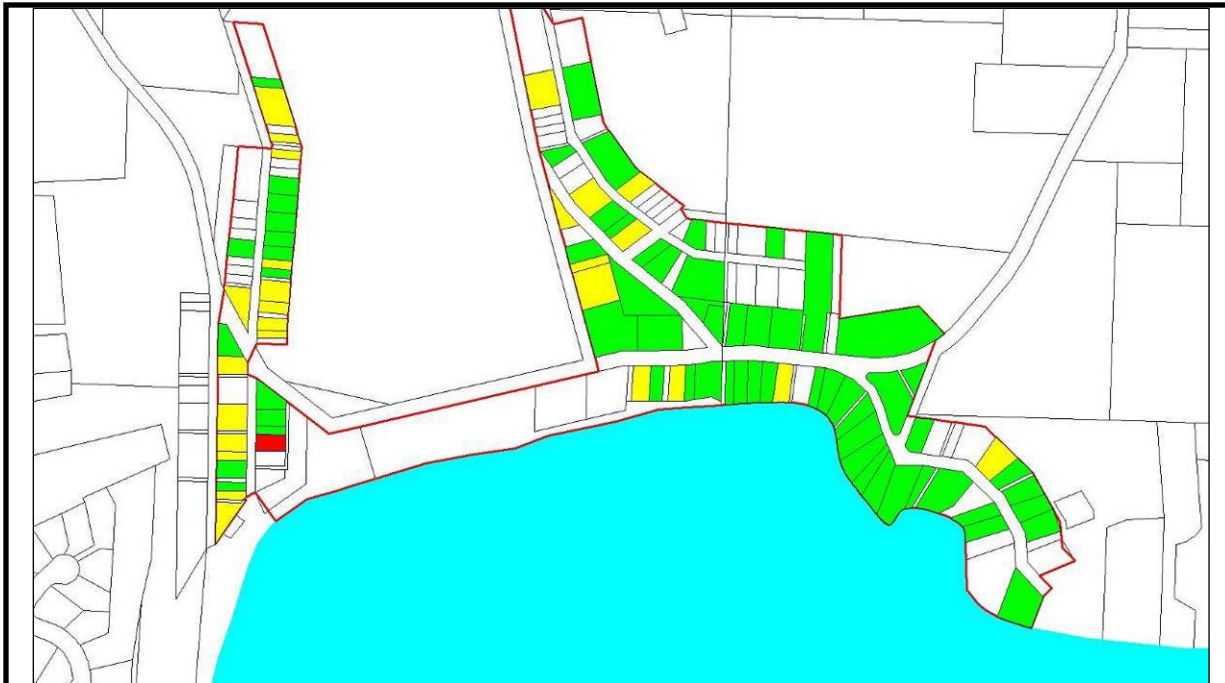
### **Finding Unknown and Failing On-site Sewage Systems within the MRAs**

All of the Puget Sound counties identified a strategy to locate and identify the type and location of OSS for sites without a county record. They continue to modify databases to provide clues to where unknown systems might be located (certain subdivisions, for example). They are also beginning to make progress to reduce the number of unknown OSS not only within the MRAs but also in sensitive areas and other areas of each county. Finding unknown systems and failing OSS is a time intensive task. It requires extensive efforts to build trust within the community, conduct shoreline surveys, find failures, and work with homeowners to complete repairs.

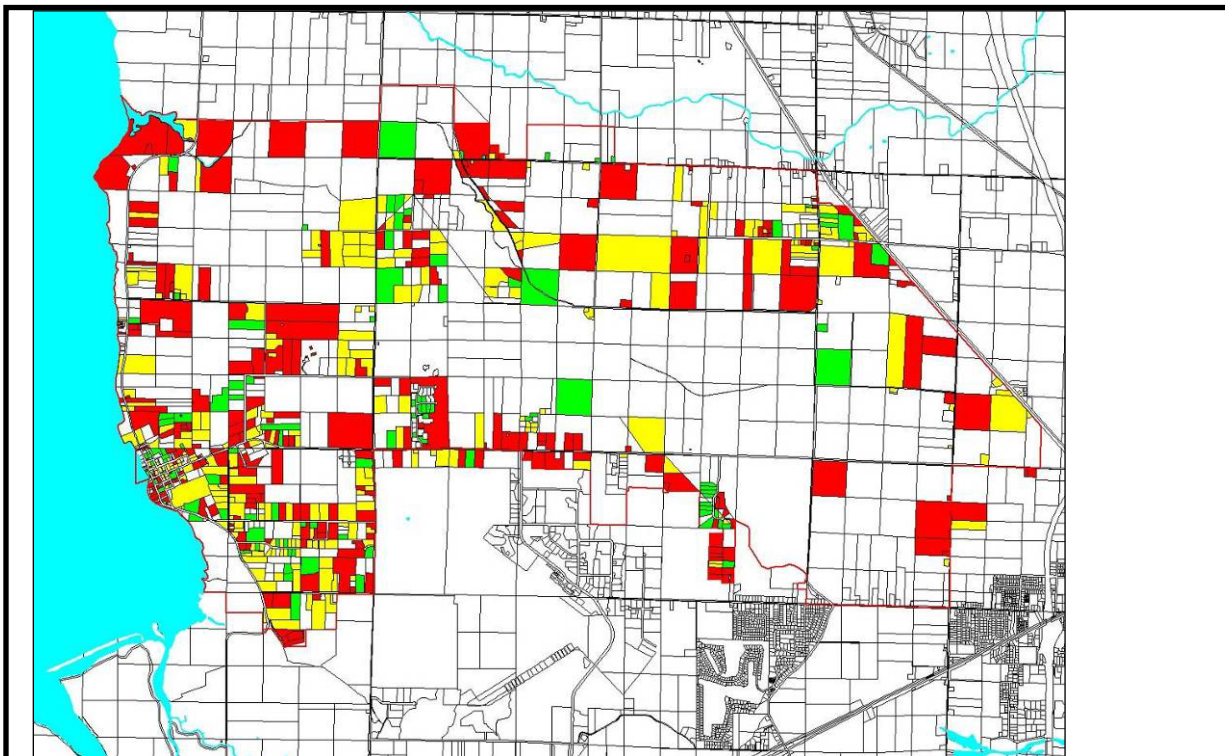
As of 2008, all of the local OSS databases could be used as a way to track OSS types, age, O&M activities, functioning status, and other information related to OSS. This tool is used to identify a parcel or lot that is likely to have an OSS but for which no specific information is known. A detailed report about databases is included in Section B.

The counties report the percentage of systems needing minor repairs or that have failed and need a major repair varies greatly, even within a county. The rate of OSS that need at least a minor repair ranged from 15 to 40 percent. The rate for the number of failures ranged from 1 to 13 percent. The rate of 13 percent for failures came from a localized high-risk shoreline area in Thurston County. These failures were identified as a result of a detailed study that included dye tracing. The study was conducted because of extensive water quality and shoreline pollution problems. In Kitsap County, the number of inspections increased 80 percent between 2004 and 2008 after it implemented an O&M program. The number of failures increased as more inspections were completed for two years. After two years of consistent O&M in Kitsap County, the number of failures began to drop. By 2006, the failure rate for 8,093 inspections dropped to 0.08 percent.

Counties use maps as a tool for working with communities to find unknown systems and to ensure that members of a community know the status of all OSS. Maps 2 and 3 demonstrate the effectiveness of this in Skagit County. Green-shaded lots on Map 2 indicate the county knows the location and type of OSS and that the O&M requirements have been met. This specific area of Skagit County has been a priority and focus for OSS investigations since 2005. In contrast, the greater number of red- and yellow-shaded lots in Map 3 indicates that compliance in the Bay View vicinity is not as great because OSS identification efforts are just beginning. Skagit County uses maps in public meetings to encourage homeowners to learn how to ensure their lots become and remain green.



LEGEND: Red = No septic system permit and no record of O&M inspection; Yellow = Septic system permit but no record of O&M inspection; Green = Septic system permit and recent O&M inspection; White = no residence **Map 2 Similk Beach**

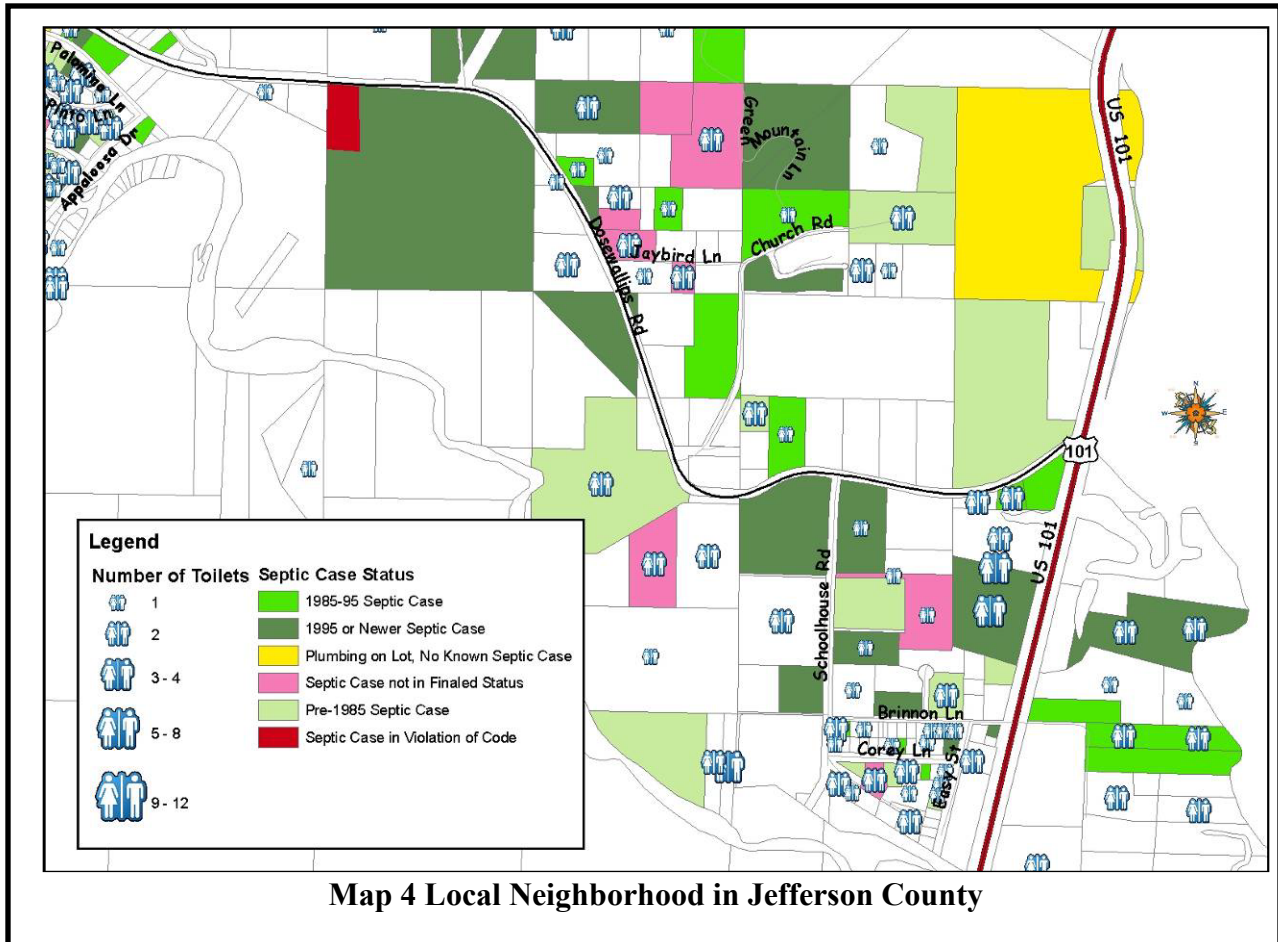


LEGEND: Red = No septic system permit and no record of O&M inspection; Yellow = Septic system permit but no record of O&M inspection; Green = Septic system permit and recent O&M inspection; White = no residence **Map 3 Bay View Community**





Jefferson County uses mapping tools that allow integration of data from multiple sources to be seen on one map to help identify and set priorities for areas. Using its assessor’s database and county maps, it produced a map, Map 4, that marries data from its permitting database to show properties that have plumbing and the date the OSS or “septic case” was created. The information can then be used to focus resources on finding information on sites that have no OSS records.



**Map 4 Local Neighborhood in Jefferson County**

In addition to mapping tools, the counties are developing communication strategies and are outlining requirements in code to use as a last resort for ensuring OSS are routinely inspected. All either have or are developing proposals to incorporate O&M compliance with inspection and reporting requirements at time of sale. This is effective for finding unknown systems and for determining the status of OSS countywide. All the counties have incorporated into their local codes, or at least have recommended incorporating, proof of compliance prior to the county issuing building permits, shoreline permits, food establishment permits, certificate of occupancy for commercial buildings and land division approvals.

**Making Sure the Required Operation and Maintenance Reports Are Submitted**

Ordinances in most Puget Sound counties require the O&M inspection report be submitted to the county by the person conducting the inspection. The county notifies the homeowners they are out of compliance when the report is not submitted. Some counties record a notice to the title of

the property outlining the owner's responsibility to have the system inspected and to inform the owner of the consequences of non-compliance. Enforcement options, subject to local legal requirements, to deal with properties that are not in compliance with O&M requirements vary by county. Typically, options for enforcement are extremely limited. They include notice of violation, or, in rare cases, civil infractions. The risk associated with the type, age and location of the system and staffing availability determine how aggressively the counties will follow up with homeowners who are not in compliance.

### **Strategy for Ensuring the Necessary Repairs Have Been Made to Failing Systems**

Ensuring the repairs of failing OSS can be a long process. The counties first work closely with communities to build trust, and to educate them about water pollution and OSS. The trust developed by interacting with the homeowner prior to finding a failure is often the key step in repairing failing systems. A successful repair is usually the result of a cooperative effort to find a solution. If the homeowner doesn't cooperate or if the health officer determines the failure to be an immediate public health risk, enforcement is an available tool for counties to use. However, counties view it as a last resort. The public demand for a funding mechanism used to assist homeowners with repair costs needs to be addressed when designing a OSS management program.

Getting necessary repairs made is subject to the homeowner's ability to pay for the system to be fixed. A few public resources are available to support lending to owners of OSS for system repairs. These include:

- USDA Section 504 Repair Program grants and loans.
- U.S. HUD Community Development Block Grant funds.
- The Washington State Clean Water State Revolving Fund (SRF).
- Centennial Clean Water Fund (Centennial).
- The Water Quality Capital Account-State appropriation.

The federal and state resources are constrained by geographic, income, age, and other criteria that significantly limit the numbers of owners who qualify for assistance. While the available sources have limitations, they have been used to support local OSS repair programs for many years. The counties and Ecology suggest that these programs could be managed more efficiently by using a regional approach. Effective loan administration is the key element needed to encourage enough participation by OSS owners to achieve the state's water quality objectives.

Five counties (Skagit, San Juan, Island, Pierce and Thurston) applied for and were awarded funds from SRF and Centennial accounts to make grants and low-interest loans to system owners. These counties depend upon local agency staff to administer loans and grants -- staff for whom this function is not their primary responsibility, nor within their primary area of expertise. An inherent challenge is the need to cover potential defaults by OSS owners/borrowers.

Additionally, grant funds from the Centennial account were directed to Jefferson, Kitsap and Mason counties to support a regional OSS loan program aimed at the Hood Canal region. These funds were augmented by philanthropic sources. The three counties were able to overcome some of the obstacles to lending for OSS repairs by contracting with a non-profit community financing

institution, ShoreBank Enterprise Cascadia, to administer the loans. This approach has allowed owners to be offered income-indexed interest rates and liberal repayment terms. The scope of the need for the lending program can be estimated from number of prospective borrower inquiries received in this program's first 20 months (320). Its effectiveness can be measured by the number of approved loans (126) and the number systems upgraded to meet local health agency standards (104) during the same period.

San Juan has a unique local loan program managed by its county auditor. The San Juan OSS program provides the initial review to confirm OSS failure. An appropriate repair design is approved prior to a loan offer by the county auditor.

### **Contracts with Counties to Fund Implementation**

During the 2005-2007 biennium, the Legislature provided \$860,000 to the department to pass through to the counties for OSS management plan development. Each county received an equal share of the funds.

The Legislature provided \$1,700,000 (which includes \$21,022 indirect costs to cover department contracting expenses) in pass-through funds for plan implementation during the 2007-2009 biennium. Each county received about \$100,000 to initiate implementation of its local plan. The majority of this funding paid for database upgrades, data entry, and public education materials. The remaining funds (about \$500,000) were competitively awarded to six counties to implement strategies within their MRAs or sensitive areas.

The plans collectively identified an additional annual average of \$4 million that will be needed over the next few years to fully implement the local plans. Continuing to provide the current allotment plus the additional \$4 million per year would let the counties fully implement their plans. It would also support state efforts to provide technical support, as well as a region-wide data set.

The department requires the Puget Sound counties to submit quarterly reports. These reports are used to obtain updates on plan implementation and to assure accountability. The department provides technical assistance to the counties as needed. This proactive approach is forging an increasingly cooperative level of communication among the counties and the department.

## **Section B: Electronic Data Systems Status**

### **Electronic Data Systems**

The department developed and outlined electronic data system recommendations, common forms, and protocols to facilitate data sharing in [\*On-Site Sewage System Management Plan Guidance\*](#). Counties are making progress in developing and enhancing their local data systems. Counties use a variety of software products to manage their OSS data. Because their systems need to interact with the databases used by the other departments within the local government, each county needed to use a unique database. Paper records are being scanned and entered into the databases. In several counties inspectors directly enter O&M reports electronically and counties can make portions of OSS records accessible to the public through a Web site.

Counties are developing and enhancing existing data systems that can be queried to report OSS information such as:

- Number of unknown systems found and added to database.
- Yearly percent of systems monitored that identified a problem.
- Yearly percent of systems monitored that identified a failure.
- Number of reported failures.
- Number of O&M reports submitted countywide and in specific MRAs.

The databases are being used to provide needed information. As they are used, many needed improvements are identified. Improving databases, entering data, and making maps are resource-intensive tasks.

While database management is expensive, it is an invaluable investment. Over the years, many questions have been asked about OSS. The new and improved databases are beginning to provide this important information. The department needs information collected by the counties to improve the statewide OSS program. Information about the number of OSS, repair rates, and how well proprietary technologies are performing in the field is critical. This information will help the department evaluate the OSS rules and will work with manufacturers to address issues that lead to failures. Results include improved statewide OSS program, potential savings of thousands of dollars in repair costs, and enhanced protection of public health and the environment.

A recent example of information asked for, but not yet available, came from Ecology. It is developing a model for Puget Sound and needs to know the contribution of nitrogen from OSS located in watersheds near Puget Sound. After the programs are implemented countywide, more will be known about the number, type and location of OSS throughout the Puget Sound basin. The information available at the county level is essential for OSS management. A statewide data set housed at the department is needed to make this data usable on a regional scale.

### **Progress in Finding Unknown Systems**

Progress is just beginning for many of the counties in identifying types and locations of OSS for sites where an OSS is likely but the county has no record. They have set priorities identifying OSS in high-risk areas to meet the 2012 deadline outlined in the legislation. The identification of unknown OSS countywide will take a number of years. They will continue to upgrade their databases and to enter new O&M reports to make sure this information is available.

## **Section C: Areas with Completed Shoreline Surveys**

### **Surveys Completed by the Department**

The department evaluates all of the state's commercial shellfish growing areas to determine their suitability for growing and harvesting shellfish. The shoreline survey portion of the evaluation identifies pollution sources that may affect water quality. The department evaluates potential effects of sewage treatment plants, OSS, animal farms, drainage ways, wildlife and other possible pollution sources. A list of shoreline surveys completed since 2000 is included in Appendix C.

Since 2005, more than 3,000 shoreline parcels using OSS within 10 Puget Sound counties have been evaluated. The data indicates that 40 percent of the parcels surveyed use advanced OSS technology to enhance treatment. These systems provide improved treatment but require more O&M to ensure they are functioning correctly. About 44 percent of the systems surveyed were more than 30 years old.

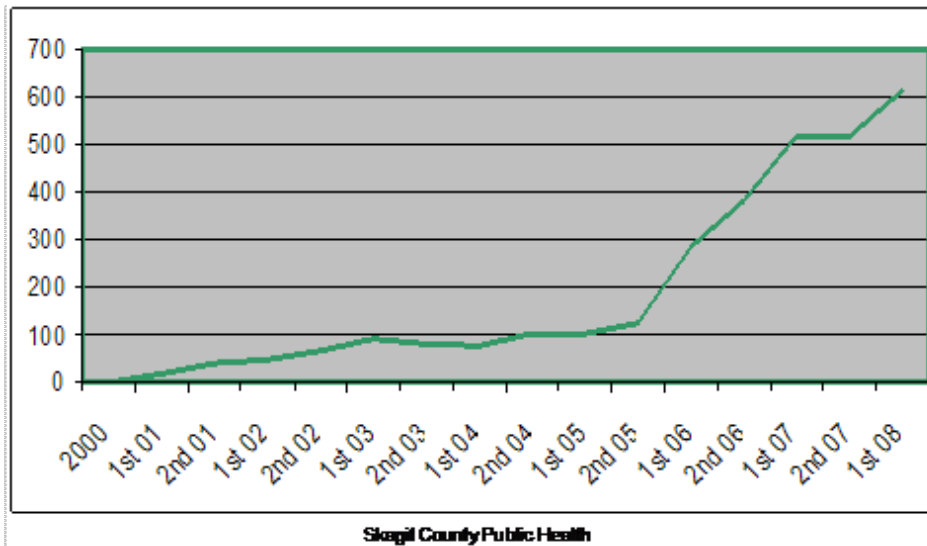
At the completion of each parcel evaluation, a status is assigned to each OSS found about its effect on the neighboring shellfish growing area. Definitions include direct impact, indirect impact, potential impacts, and no impact. OSS having direct and indirect impacts are periodically identified and notifications sent to the applicable county. They are typically repaired quickly and efficiently by the local health jurisdiction and the property owner. Systems labeled as potential impacts include those that may affect water quality in the area; however, they have not been defined as failing because a direct correlation between the system and impaired water quality was not evident. Inadequate setbacks, neglect or abuse of system components, age, and soil conditions are examples of items that could lead to a potential impact label. Since 2005, the department has labeled 47 percent of the OSS as potential impacts to the neighboring shellfish growing area.

## **Section D: The Progress and Capacity to Implement OSS Management Plans**

### **Progress and Capacity of Local Health Jurisdictions**

Counties' capacity to implement their plans is dependent on continued funding from the state until sustainable funding at the local or regional scale is available. The Puget Sound counties have made tremendous progress in plan development and the beginning stages of implementation. They have worked to write the plans, upgrade their county codes, improve and merge databases, transfer records from paper to electronic files, answer the increasing number of inquiries from the public, develop educational materials including homeowner incentives, engage and educate homeowners, develop O&M providers certification regulations, manage the O&M provider's certification programs, and incorporate tasks related to OSS management programs. They all have invested large amounts of time explaining the new requirements to the public. The time-intensive work related to tracking down unknown and failing systems, upgrading or repairing OSS as needed, and assuring on-going O&M for OSS is just beginning.

For all counties, the number of new O&M reports arriving each month increases. The reports help identify unknown systems and demonstrate that O&M activities are managed within the MRAs and sensitive areas. They also give the counties the opportunity to work with homeowners to fix failing systems. For example, the number of O&M inspections that have been completed and reported for the first time in Skagit County since 2000 is shown in Graph 1. Since 2005, when Chapter 246-272A WAC was adopted, and 2006, when the Legislature passed 3SHB 1458, the increase in annual OSS O&M inspections is dramatic.



**Graph 1 Number of New O&M Inspections in Skagit County**

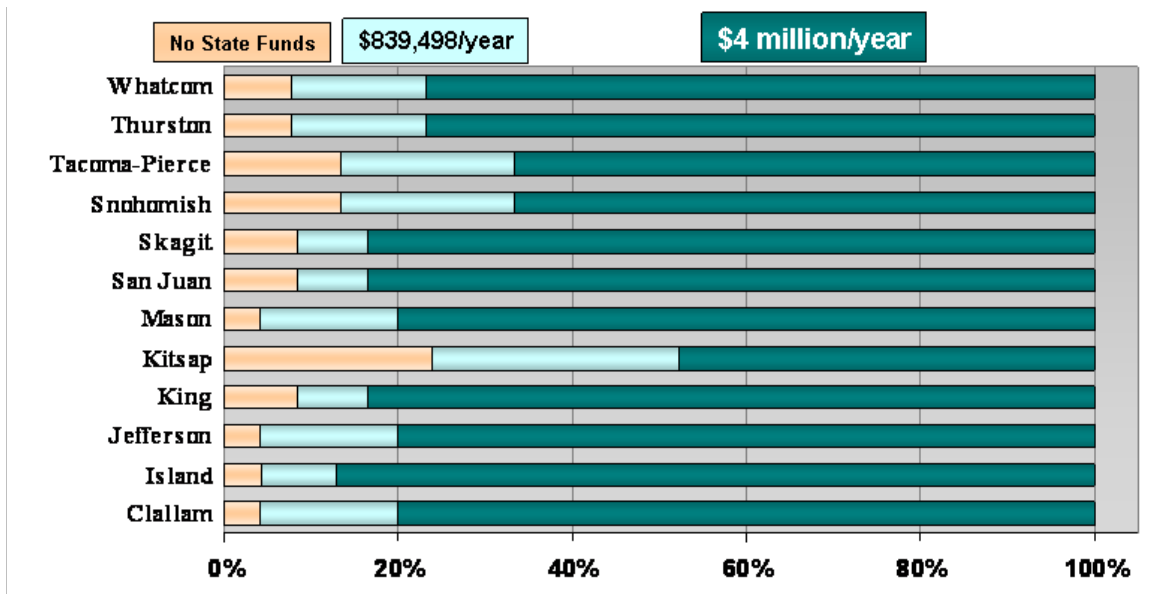
The large number of reports is a challenge for counties that do not have on-line data entry systems available. Counties do not have enough staff to enter the reports into their databases. One of the challenges is that the person entering data is often the person answering phone calls. More homeowners are calling with questions about their systems than ever before. Typically, there is not enough time for both data entry and answering calls. The counties that make OSS data available on their Web sites find they spend much less time on phone calls.

Homeowner education is extremely time- and resource- intensive. Currently, each county develops and provides this independently. As Andy Brastad from Clallam County states in the letter he wrote on behalf of the Puget Sound county environmental health directors to the Puget Sound Partnership (Appendix B),

“Educating the public about onsite septic maintenance was listed as a priority in every Action Area’s initial strategy workshop. This is an issue that is ripe for a regional approach. A region-wide, consistent, persistent, technically correct, and plain English effort around behavioral change and social marketing that focuses on onsite sewage systems could have a dramatic impact.”

Resources from each county could be better spent investigating OSS rather than developing educational materials.

Successful implementation depends on short-term state funding and consistent and sustainable long-term funding. Graph 2 shows three different funding levels and the projected capacity of the counties to implement their plans for each funding level. Based on cost estimates from the 12 local management plans, the counties will be able to fully implement their plans if the requested additional funding of \$4 million becomes available. If the funding for the 2009-2011 biennium remains the same as 2007-2009 (\$839,500/year), they will continue to make program improvements, and will find unknown and failing systems in only the highest-risk areas.



**Graph 2 Annual Funding Scenarios: Capacity for OSS Management**

Thurston County incorporated a funding mechanism for the Henderson Watershed Protection MRA. The OSS management program in that area will continue independent of state funding. The county recognizes the need to expand the efforts into other areas. Without ongoing state funding, expansion will not be possible. A substantial amount of time and effort was spent working with the community residents and stakeholders to develop the program proposal used to pay for the Henderson MRA. The final proposal included a recommendation that the program be paid for with an annual charge placed on the property tax statement. The program and property tax statement proposal were approved by the Thurston County Commission and Board of Health, and went into effect in 2007. The funds collected from this program will pay for most ongoing costs related only to the Henderson Watershed. Thurston County does not have a source of funding for areas outside of the Henderson MRA.

Other counties struggle with unpredictable funding for water quality and shoreline investigations for failing OSS. For example, Clallam, Skagit and Mason counties have limited funding available from a variety of federal, state, and local sources for specific water quality investigations. These current funding sources are temporary and do not support the complete management efforts as outlined in the management plans.

Jefferson County shared the following regarding its efforts to create a local funding source:

“Jefferson County adopted a Clean Water District under RCW 90.72 for all of eastern Jefferson County to address issues that could impact our nearshore water quality including the operation, monitoring and maintenance of onsite sewage systems. The proposed funding mechanism, \$18.00/year/parcel fee did not obtain adequate public support, even after a series of public meetings where the comments



received support the concept of O&M. The Jefferson Board of County Commissioners voted not to fund the plan prior to its adoption.”

Kitsap County uses a Surface and Stormwater Management Program Fee to support its comprehensive water quality program. Their Surface and Stormwater Management Program affects properties in unincorporated Kitsap County. An overview of accomplishments of this program can be viewed at [SSMP 1995-2005 A Decade of Excellence](#).

The cities of Poulsbo, Bremerton and Bainbridge Island already charge stormwater fees. The City of Port Orchard does not charge stormwater fees at this time. Those living within incorporated cities are not billed by the county's program. The rate structure for the Surface and Stormwater Management Program is based on impervious surface. Charges for the various classes of land are as follows:

- Undeveloped and forest land are not charged
- A unit rate per single family residence is based on one Equivalent Service Unit (ESU). The unit rate for one ESU is \$ 5.19 per month or \$67.30 per year (new rate in effect Jan. 1, 2009) See additional information for rate increases beginning in 2007
- Multifamily residences (duplexes, triplexes and fourplexes) are charged the number of dwelling units times the unit rate
- Apartments, commercial, industrial and institutional uses are charged according to the estimated or measured impervious surface area divided by the square footage of one ESU, rounded to the nearest ESU but not less than one, times the unit rate. One ESU = 4,200 square feet

Commercial property fee reduction is available for qualified measures (refer to section below) The fees are incorporated into the annual tax billings and collected by the Kitsap County Treasurer. Fees can be paid once annually, due by April 30 or in 50 percent increments (the first payment due April 30 and the second due October 31).

## **Section E: Barriers to Implementing the On-site Strategy**

### **Many Homeowners do not Understand the Importance of Maintaining their OSS**

The department's rule advisory committee and county environmental health directors recommended the state rules hold the homeowners responsible for ensuring their OSS are maintained. WAC 246-272A-270 gives responsibility to the OSS owners for properly operating, monitoring and maintaining their systems to minimize the risk of failure. To accomplish this, owners of systems that use a septic tank and gravity-fed dispersal need to inspect their OSS at least once every three years and owners of advanced systems at least once annually.

The rules give counties the flexibility to focus their O&M programs on tasks such as investigating OSS in high-risk areas, educating homeowners, data management and defining management tools. Counties outside of the Puget Sound region are given flexibility for when to incorporate OSS management programs into their OSS programs.

The Puget Sound counties use different strategies to inform homeowners of the O&M requirements. Counties and citizens alike tell us that homeowners are concerned with the expense of the O&M requirements and inconsistent use of enforcement. Some homeowners are also concerned that the O&M regulations infringe on their private property rights. The lack of consistent and instructive messaging used to teach people why proper O&M is important and what the requirements are has created problems.

This problem is further complicated when counties interpret Chapter 246-272A WAC differently, contributing to variability in local codes and enforcement options. Because of these challenges, some counties are having trouble meeting the mandate to ensure all OSS in the MRA have up to date O&M records on file at the county.

### **OSS Management Program Funding is Often Uncertain**

Implementation of OSS management programs is resource-intensive. To provide enough staff, counties need to know funding is available to support their programs. Their budgets are planned at least six months prior to the state budget. To ensure full staffing availability, advance notice of state funding is needed on the same timeline.

### **Long-term, Stable Funding Mechanisms Are Needed**

Most counties do not have a long-term funding mechanism. Kitsap, King and Snohomish have incorporated a local mechanism into their code. A barrier for these counties is the time delay before revenue becomes available and not enough revenue to finance all the elements in the OSS plan. The task of creating local funding mechanisms is significant for all counties because people are generally not supportive of new local taxes or fees.

A related barrier has been experienced by King and Snohomish counties. They use a fee that is applied during the transfer of title to generate revenue. During the recent downturn in the economy, the number of homes sold has dropped significantly. Thus, the funds available for O&M program management were less than anticipated.

Some counties have found ways to fund OSS investigations in narrowly defined sensitive areas. Mason, Skagit and Thurston counties use federal, state, or local funds to conduct investigations in small areas. The federal or state funds are typically in the form of grants. Local funding sources can be up for review on a regular basis. Grants require extensive staffing resources to complete applications with no guarantee that funds will be awarded. Skagit County's Clean Water Program funding, which will be brought to the Skagit County Board of Health for renewal in December 2009, is an example. These fund sources are area specific and do not support on-going comprehensive OSS management programs.

Kitsap County's OSS management program gets results due largely to its coordinated approach to planning, budgeting, priority setting and problem solving. Its funding resources are large enough to support core elements of their OSS management program. However, they are not sufficient to meet the OSS investigation requirements set out in 3SHB1458.

### **Funding for Homeowners to Repair Failing OSS Is Needed**

Financial assistance to pay for the repair of failing systems is limited by geographic, income, age and other criteria. In addition, county resources used to implement homeowner grant and loan programs can be time-intensive and restricted by liabilities that counties might assume, covering loan defaults for example. Public and private partners need to continue to explore options, and to develop regional or possibly statewide homeowner grant and loan programs. These programs provide a necessary tool to address pollution from failing OSS.

### **Technical Support and Guidance Is an On-going Need**

Managing OSS programs in counties that are heavily populated and have large sensitive areas requires a great deal of knowledge to ensure on-site sewage systems achieve effective long-term sewage treatment and effluent dispersal. Technical support and guidance are needed to support local OSS programs.

Setting priorities for staffing efforts based on risk of OSS pollution is a challenge for the counties. Guidance is needed to determine which problem systems should be addressed first. For example, some counties have difficulty setting priorities for the risk associated with systems installed without a permit or review. These systems may not show signs of sewage on the ground compared to systems that were permitted but appear to be in soil and site conditions that do not provide proper treatment of the effluent.

Another example of technical support needed at the county level is demonstrated by the lack of expertise available to evaluate cumulative effects from OSS on ground and surface water, and to determine when nitrogen reduction technology should be required in OSS permits. To provide an additional tool for counties to use, the department should develop the guidance specified in WAC 246-272A-0320 (3) (Method II), an alternate approach for determining the minimum lot size or land area needed to use an OSS.

### **Certification or Licensing of O&M Professionals and Homeowners Is Challenging**

Counties report that developing their own rules and methods for certification of O&M service providers allows them to have better control of the quality of work completed by the professionals. However, it can result in a variation of expectations and services provided to homeowners from county to county. In addition to variations between counties, there are concerns with the costs related to administering local certification programs.

Another challenge is the option of certifying homeowners to inspect their OSS. Homeowners are asking for the option and counties are working hard to include homeowner training programs. The problem is homeowner training programs require more resources than most counties have. They are working hard to find a method to fill the demand from the public, given their limited budgets.

The issues related to certification or licensing of O&M professionals is compounded by legislation that requires rule development for regulating large on-site sewage systems (LOSS) and Ecology's water reuse permits. The LOSS rule development committee is addressing O&M certification requirements and Ecology's reclaimed water rule development committee is also addressing O&M certification requirements. In 2006, the Legislature directed the department to

convene a workgroup and draft a report for the Legislature that outlines recommendations for O&M certification or licensing. The department will complete the report after the LOSS and reclaimed water rules are made final. The report will summarize recommendations for O&M certification as well as the newly implemented rules for O&M certification requirements for LOSS and reclaimed water facilities.

### **Limited Flexibility and Uncertainty Exists Related to Managing OSS in Proximity to Urban Growth Areas**

Wastewater options are limited by land use designations established by local governments under the Growth Management Act (GMA), Chapter 36.70A RCW. The GMA specifies urban services (typically sewers) are needed inside urban growth areas and rural services (typically OSS) should be used in rural areas. These designations often limit the use of integrated wastewater management approaches aimed at minimizing cost and maximizing environmental benefits. The challenge for many counties is the need to address environmental problems affordably and within the relatively narrow definitions of the GMA.

Infrastructure planning should be integrated with comprehensive land use planning. However, in some situations, the line between urban and rural areas and the definition of urban and rural services is viewed as a barrier to using the preferred wastewater management option. Public utility districts and other management entities could be used as a tool to ensure good oversight of OSS in or near urban growth areas. For that to become a useful tool, challenges related to managing privately owned systems will need to be addressed.

Timely OSS system repairs can be difficult where a sewer is proposed but not yet approved. The main barrier for the counties is the time it takes to update the comprehensive plan. A related challenge occurs when a sewer is proposed or approved for a neighborhood. Homeowners are hesitant to spend \$10,000 or more to repair their OSS when the additional cost of hooking up to sewer line may be well above \$20,000. Thurston County reports the cost for sewer hook-up in one neighborhood in its urban area above \$30,000 per lot. Unfortunately, there are cases when failures exist for long periods of time while the neighborhood waits for the sewer line to be available, or in the worst cases, decided against.

## **Section F: Recommendations that Assist Counties in Implementing Their Plans**

1. Education and outreach programs across the region should be expanded using a variety of means to provide instructive and consistent messages. This can be accomplished by coordinating efforts across Puget Sound counties to share materials and avoid duplication.
2. The department should continue to work with local governments to establish dedicated sources of funding at local or regional scales to support comprehensive OSS management programs. The Legislature should continue to provide funding until local or regional funds become available.
3. The department together with the environmental health directors should work with Ecology, ShoreBank Enterprise Cascadia, the counties and others to increase availability of grants and loans for homeowners to repair or replace failing OSS.
4. The department should continue to work with the counties to share advice and offer technical assistance on risk management approaches and practices. This includes developing guidelines for the application of Method II, an alternate approach for determining the minimum lot size or land area needed to use an OSS, and completing the report to the Legislature on O&M certification recommendations.
5. The department should continue work with CTED, Ecology, local governments and others to support planning efforts related to integrated wastewater approaches in and near urban growth areas to maximize environmental protection and minimize cost.

# APPENDIX A

## 3SHB 1458

CERTIFICATION OF ENROLLMENT

### THIRD SUBSTITUTE HOUSE BILL 1458

Chapter 18, Laws of 2006

59th Legislature  
2006 Regular Session

ON-SITE SEWAGE DISPOSAL SYSTEMS--MARINE AREAS

EFFECTIVE DATE: 6/7/06

Passed by the House February 11, 2006  
Yeas 70 Nays 26

FRANK CHOPP

**Speaker of the House of Representatives**

Passed by the Senate February 28, 2006  
Yeas 28 Nays 15

BRAD OWEN

**President of the Senate**

Approved March 9, 2006.

CHRISTINE GREGOIRE

**Governor of the State of Washington**

CERTIFICATE

I, Richard Nafziger, Chief Clerk of the House of Representatives of the State of Washington, do hereby certify that the attached is **THIRD SUBSTITUTE HOUSE BILL 1458** as passed by the House of Representatives and the Senate on the dates hereon set forth.

RICHARD NAFZIGER

**Chief Clerk**

FILED

March 9, 2006 - 1:34 p.m.

**Secretary of State  
State of Washington**

---

THIRD SUBSTITUTE HOUSE BILL 1458

---

Passed Legislature - 2006 Regular Session

State of Washington                      59th Legislature                      2006 Regular Session

By House Committee on Natural Resources, Ecology & Parks (originally sponsored by Representatives Hunt, Dickerson, McCoy, B. Sullivan, Williams, Haigh, Appleton, Linville, Chase, Dunshee, Simpson, Upthegrove, Moeller and McDermott)

READ FIRST TIME 02/07/06.

1            AN ACT Relating to managing on-site sewage disposal systems in  
2 marine areas; adding a new section to chapter 90.48 RCW; adding a new  
3 chapter to Title 70 RCW; and creating a new section.

4 BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

5            NEW SECTION.    **Sec. 1.**    The legislature finds that:

6            (1) Hood Canal and other marine waters in Puget Sound are at risk  
7 of severe loss of marine life from low-dissolved oxygen. The increased  
8 input of human-influenced nutrients, especially nitrogen, is a factor  
9 causing this low-dissolved oxygen condition in some of Puget Sound's  
10 waters, in addition to such natural factors as poor overall water  
11 circulation and stratification that discourages mixing of surface-to-  
12 deeper waters;

13            (2) A significant portion of the state's residents live in homes  
14 served by on-site sewage disposal systems, and many new residences will  
15 be served by these systems;

16            (3) Properly functioning on-site sewage disposal systems largely  
17 protect water quality. However, improperly functioning on-site sewage  
18 disposal systems in marine recovery areas may contaminate surface  
19 water, causing public health problems;

1 (4) Local programs designed to identify and correct failing on-site  
2 sewage disposal systems have proven effective in reducing and  
3 eliminating public health hazards, improving water quality, and  
4 reopening previously closed shellfish areas; and

5 (5) State water quality monitoring data and analysis can help to  
6 focus these enhanced local programs on specific geographic areas that  
7 are sources of pollutants degrading Puget Sound waters.

8 Therefore, it is the purpose of this chapter to authorize enhanced  
9 local programs in marine recovery areas to inventory existing on-site  
10 sewage disposal systems, to identify the location of all on-site sewage  
11 disposal systems in marine recovery areas, to require inspection of on-  
12 site sewage disposal systems and repairs to failing systems, to develop  
13 electronic data systems capable of sharing information regarding on-  
14 site sewage disposal systems, and to monitor these programs to ensure  
15 that they are working to protect public health and Puget Sound water  
16 quality.

17 NEW SECTION. **Sec. 2.** The definitions in this section apply  
18 throughout this chapter unless the context clearly requires otherwise.

19 (1) "Board" means the state board of health.

20 (2) "Department" means the department of health.

21 (3) "Failing" means a condition of an existing on-site sewage  
22 disposal system or component that threatens the public health by  
23 inadequately treating sewage, or by creating a potential for direct or  
24 indirect contact between sewage and the public. Examples of a failing  
25 on-site sewage disposal system include:

26 (a) Sewage on the surface of the ground;

27 (b) Sewage backing up into a structure caused by slow soil  
28 absorption of septic tank effluent;

29 (c) Sewage leaking from a sewage tank or collection system;

30 (d) Cesspools or seepage pits where evidence of ground water or  
31 surface water quality degradation exists;

32 (e) Inadequately treated effluent contaminating ground water or  
33 surface water; or

34 (f) Noncompliance with standards stipulated on the permit.

35 (4) "Local health officer" or "local health jurisdiction" means the  
36 local health officers and local health jurisdictions in the following



1 counties bordering Puget Sound: Clallam, Island, Kitsap, Jefferson,  
2 Mason, San Juan, Seattle-King, Skagit, Snohomish, Tacoma-Pierce,  
3 Thurston, and Whatcom.

4 (5) "Marine recovery area" means an area of definite boundaries  
5 where the local health officer, or the department in consultation with  
6 the health officer, determines that additional requirements for  
7 existing on-site sewage disposal systems may be necessary to reduce  
8 potential failing systems or minimize negative impacts of on-site  
9 sewage disposal systems.

10 (6) "Marine recovery area on-site strategy" or "on-site strategy"  
11 means a local health jurisdiction's on-site sewage disposal system  
12 strategy required under section 5 of this act. This strategy is a  
13 component of the on-site program management plan required under section  
14 3 of this act.

15 (7) "On-site sewage disposal system" means an integrated system of  
16 components, located on or nearby the property it serves, that conveys,  
17 stores, treats, or provides subsurface soil treatment and dispersal of  
18 sewage. It consists of a collection system, a treatment component or  
19 treatment sequence, and a soil dispersal component. An on-site sewage  
20 disposal system also refers to a holding tank sewage system or other  
21 system that does not have a soil dispersal component. For purposes of  
22 this chapter, the term "on-site sewage disposal system" does not  
23 include any system regulated by a water quality discharge permit issued  
24 under chapter 90.48 RCW.

25 (8) "Unknown system" means an on-site sewage disposal system that  
26 was installed without the knowledge or approval of the local health  
27 jurisdiction, including those that were installed before such approval  
28 was required.

29 NEW SECTION. **Sec. 3.** By July 1, 2007, the local health officers  
30 of health jurisdictions in the twelve counties bordering Puget Sound  
31 shall develop a written on-site program management plan to provide  
32 guidance to the local health jurisdiction.

33 NEW SECTION. **Sec. 4.** (1) In developing on-site program management  
34 plans required under section 3 of this act, the local health officer  
35 shall propose a marine recovery area for those land areas where

1 existing on-site sewage disposal systems are a significant factor  
2 contributing to concerns associated with:

3 (a) Shellfish growing areas that have been threatened or downgraded  
4 by the department under chapter 69.30 RCW;

5 (b) Marine waters that are listed by the department of ecology  
6 under section 303(d) of the federal clean water act (33 U.S.C. Sec.  
7 1251 et seq.) for low-dissolved oxygen or fecal coliform; or

8 (c) Marine waters where nitrogen has been identified as a  
9 contaminant of concern by the local health officer.

10 (2) In determining the boundaries for a marine recovery area, the  
11 local health officer shall assess and include those land areas where  
12 existing on-site sewage disposal systems may affect water quality in  
13 the marine recovery area.

14 (3) Determinations made by the local health officer under this  
15 section, including identification of nitrogen as a contaminant of  
16 concern, will be based on published guidance developed by the  
17 department. The guidance must be designed to ensure the proper use of  
18 available scientific and technical data. The health officer shall  
19 document the basis for these determinations when plans are submitted to  
20 the department.

21 (4) After July 1, 2007, the local health officer may designate  
22 additional marine recovery areas meeting the criteria of this section,  
23 according to new information. Where the department recommends the  
24 designation of a marine recovery area or expansion of a designated  
25 marine recovery area, the local health officer shall notify the  
26 department of its decision concerning the recommendation within ninety  
27 days of receipt of the recommendation.

28 NEW SECTION. **Sec. 5.** (1) The local health officer of a local  
29 health jurisdiction where a marine recovery area has been proposed  
30 under section 4 of this act shall develop and approve a marine recovery  
31 area on-site strategy that includes designation of marine recovery  
32 areas to guide the local health jurisdiction in developing and managing  
33 all existing on-site sewage disposal systems within marine recovery  
34 areas within its jurisdiction. The on-site strategy must be a  
35 component of the program management plan required under section 3 of  
36 this act. The department may grant an extension of twelve months where

1 a local health jurisdiction has demonstrated substantial progress  
2 toward completing its on-site strategy.

3 (2) An on-site strategy for a marine recovery area must specify how  
4 the local health jurisdiction will by July 1, 2012, and thereafter,  
5 find:

6 (a) Existing failing systems and ensure that system owners make  
7 necessary repairs; and

8 (b) Unknown systems and ensure that they are inspected as required  
9 to ensure that they are functioning properly, and repaired, if  
10 necessary.

11 NEW SECTION. **Sec. 6.** In a marine recovery area, each local health  
12 officer shall:

13 (1) Require that on-site sewage disposal system maintenance  
14 specialists, septic tank pumpers, or others performing on-site sewage  
15 disposal system inspections submit reports or inspection results to the  
16 local health jurisdiction regarding any failing system; and

17 (2) Develop and maintain an electronic data system of all on-site  
18 sewage disposal systems within a marine recovery area to enable the  
19 local health jurisdiction to actively manage on-site sewage disposal  
20 systems. In assisting development of electronic data systems, the  
21 department shall work with local health jurisdictions with marine  
22 recovery areas and the on-site sewage disposal system industry to  
23 develop common forms and protocols to facilitate sharing of data. A  
24 marine recovery area on-site sewage disposal electronic data system  
25 must be compatible with all on-site sewage disposal electronic data  
26 systems used throughout a local health jurisdiction.

27 NEW SECTION. **Sec. 7.** (1) The on-site program management plans of  
28 local health jurisdictions required under section 3 of this act must be  
29 submitted to the department by July 1, 2007, and be reviewed to  
30 determine if they contain all necessary elements. The department shall  
31 provide in writing to the local board of health its review of the  
32 completeness of the plan. The board may adopt additional criteria by  
33 rule for approving plans.

34 (2) In reviewing the on-site strategy component of the plan, the  
35 department shall ensure that all required elements, including  
36 designation of any marine recovery area, have been addressed.

1 (3) Within thirty days of receiving an on-site strategy, the  
2 department shall either approve the on-site strategy or provide in  
3 writing the reasons for not approving the strategy and recommend  
4 changes. If the department does not approve the on-site strategy, the  
5 local health officer must amend and resubmit the plan to the department  
6 for approval.

7 (4) Upon receipt of department approval or after thirty days  
8 without notification, whichever comes first, the local health officer  
9 shall implement the on-site strategy.

10 (5) If the department denies approval of an on-site strategy, the  
11 local health officer may appeal the denial to the board. The board  
12 must make a final determination concerning the denial.

13 (6) The department shall assist local health jurisdictions in:

14 (a) Developing written on-site program management plans required by  
15 section 3 of this act;

16 (b) Identifying reasonable methods for finding unknown systems; and

17 (c) Developing or enhancing electronic data systems that will  
18 enable each local health jurisdiction to actively manage all on-site  
19 sewage disposal systems within their jurisdictions, with priority given  
20 to those on-site sewage disposal systems that are located in or which  
21 could affect designated marine recovery areas.

22 NEW SECTION. Sec. 8. (1) The department shall enter into a  
23 contract with each local health jurisdiction subject to the  
24 requirements of this chapter to implement plans developed under this  
25 chapter, and to develop or enhance electronic data systems required by  
26 this chapter. The contract must include state funding assistance to  
27 the local health jurisdiction from funds appropriated to the department  
28 for this purpose.

29 (2) The contract must require, at a minimum, that within a marine  
30 recovery area, the local health jurisdiction:

31 (a) Show progressive improvement in finding failing systems;

32 (b) Show progressive improvement in working with on-site sewage  
33 disposal system owners to make needed system repairs;

34 (c) Is actively taking steps to find previously unknown systems and  
35 ensuring that they are inspected as required and repaired if necessary;

36 (d) Show progressive improvement in the percentage of on-site

1 sewage disposal systems that are included in an electronic data system;  
2 and

3 (e) Of those on-site sewage disposal systems in the electronic data  
4 system, show progressive improvement in the percentage that have had  
5 required inspections.

6 (3) The contract must also include provisions for state assistance  
7 in updating the plan. Beginning July 1, 2012, the contract may adopt  
8 revised compliance dates, including those in section 5 of this act,  
9 where the local health jurisdiction has demonstrated substantial  
10 progress in updating the on-site strategy.

11 (4) The department shall convene a work group for the purpose of  
12 making recommendations to the appropriate committees of the legislature  
13 for the development of certification or licensing of maintenance  
14 specialists. The work group shall make its recommendation with  
15 consideration given to the 1998 report to the legislature entitled "On-  
16 Site Wastewater Certification Work Group" as it pertains to maintenance  
17 specialists. The work group may give priority to appropriate levels of  
18 certification or licensure of maintenance specialists who work in the  
19 Puget Sound basin.

20 NEW SECTION. **Sec. 9.** The provisions of this chapter are  
21 supplemental to all other authorities governing on-site sewage disposal  
22 systems, including chapter 70.118 RCW and rules adopted under that  
23 chapter.

24 NEW SECTION. **Sec. 10.** A new section is added to chapter 90.48 RCW  
25 to read as follows:

26 The department shall offer financial and technical assistance to  
27 local governments and tribal entities in Puget Sound counties to  
28 establish or expand on-site sewage disposal system repair and  
29 replacement through local loan and grant programs. The programs must  
30 give priority to low-income and financially distressed homeowners.

31 NEW SECTION. **Sec. 11.** (1) The department of health shall report  
32 to the appropriate committees of the senate and house of  
33 representatives by December 31, 2008, on progress in designating marine  
34 recovery areas and developing and implementing on-site strategies for  
35 such marine recovery areas.

1           (2) The report shall include information on:  
2           (a) The status of on-site strategies in each county covered by  
3 sections 2 through 9 of this act;  
4           (b) The status of on-site sewage disposal system location,  
5 identification, and inclusion within electronic data systems in each  
6 county, including estimates of remaining on-site sewage disposal  
7 systems within marine recovery areas that have not been identified or  
8 included within electronic data systems;  
9           (c) Areas for which shoreline surveys have been completed by the  
10 department;  
11           (d) The progress of and capacity of local health jurisdictions to  
12 identify on-site sewage disposal systems within marine recovery areas  
13 and to ensure that failing systems are repaired and all systems are  
14 operated and maintained in compliance with board of health standards;  
15           (e) Regulatory, statutory, and financial barriers to implementing  
16 the on-site strategy; and  
17           (f) Recommendations that will assist local health jurisdictions to  
18 successfully implement plans.  
19           (3) Local health jurisdictions shall provide information and data  
20 requested by the department of health in developing the report, and the  
21 department shall append all reports or information that the local  
22 health jurisdictions request to be included in the report.

23           NEW SECTION. **Sec. 12.** Sections 1 through 9 of this act constitute  
24 a new chapter in Title 70 RCW.

Passed by the House February 11, 2006.  
Passed by the Senate February 28, 2006.  
Approved by the Governor March 9, 2006.  
Filed in Office of Secretary of State March 9, 2006.

## APPENDIX B



September 09, 2008

Cullen Stephensen  
Puget Sound Partnership  
P.O. Box 40900, Olympia, Washington 98504-0900

Re: Puget Sound Action Agenda-Onsite Sewage Systems

Dear Cullen,

I wanted to take a few minutes to thank you for joining the Westside Environmental Health Directors August 8, 2008 and listening to our concerns and recommendations related to the Puget Sound Action Agenda that is being developed. The purpose of this letter is to summarize those discussions and provide you with a written statement.

We understand that the Puget Sound Partnership's Action Agenda will be built around four strategic priorities that include preventing sources of water pollution and ensuring that activities and funding are focused on the most urgent and important problems facing the Sound. In all regions of Puget Sound onsite sewage systems have been recognized as contributors to the water quality degradation of Puget Sound. We, representing the local health jurisdictions and local public health agencies, are the primary entities responsible for assuring that systems are properly designed, installed and maintained.

Because of our programmatic (and legislatively mandated) responsibilities as well as our public health protection mission, we see a vital need for a strong link between our activities and those that might derive from the action agenda where septic systems are concerned. With that in mind, there are a number of areas that we believe need to be brought to the Partnership's attention and inclusion into the Action Agenda:

Support for Washington State Department of Health and implementation of local onsite management plans which meets the **Priority D: Prevent the sources of water pollution.** Objective.

- The Washington Department of Health (DOH) has put forward a funding proposal to use MTCA money to provide funding assistance to local health departments to implement approved Onsite System Management Plans and Marine Recovery Areas strategies pursuant to RCW 70.118A and WAC 246-272A. This proposal includes providing for some Department of Health capacity to support local health jurisdiction (LHJs) efforts. As you may be aware, each of the health jurisdictions bordering Puget Sound have completed onsite sewage management plans and identified needed resources to implement the plans. The DOH funding proposal if approved goes a long way towards meeting the local needs and will result in significant progress towards identifying failing systems and assuring the necessary upgrades are completed. The Directors support the proposal and urge the Partnership to provide leadership and support for continued funding for local implementation.

- Implementation of the local onsite management plans are directly inline with Partnership's strategic objective **Priority D: *Prevent the sources of water pollution***. The local management plans identify specific actions and activities within each jurisdiction. It is important to note that the plans were developed independently from each other under broad state guidance to allow for tailoring of each management plan to the local community (and community acceptance).

Taken on an individual basis, each plan only addresses septic system management on a local scale and was not originally intended to be used on a Puget Sound-wide scale. However, just as we are learning from the numerous PSP issue papers and action area workshops, the septic system management issues are a regional scale problem (and opportunity). The Puget Sound environmental health directors recognize that separately each on-site system management plan does not provide for activities that will result in regional benefit.

We firmly believe that a coordinated approach between and among the Puget Sound LHJs including DOH will result in an efficient and effectively implemented program if done regionally. This coordinated action will result in improvement across the Sound.

- The actions listed below fall most closely with **Priority A: *Ensure that activities and funding are focused on the most urgent and important problems facing the Sound***:
  1. Funding assistance to property owners to repair, upgrade or replace older poor performing onsite systems. The directors recommend dialogue with Shorebank Enterprises to expand their current Hood Canal based program to cover the Sound. There are several reasons to look at this approach.
    - Shorebank has a proven track record
    - One loan agency reduces the administrative burden associated with each county creating its own program
    - Simplified access to loan dollars
    - The primary impediment to Shorebank expansion appears to be start up capital and well as organization capacity. The initial capitalization of the Hood Canal program was on the order of \$3,000,000. The rest of the Sound would require between \$15,000,000 and \$20,000,000 start up. Once started, much of the initial outlay is recovered and can be loaned out as existing loans are paid back.
    - There needs to be more detailed discussion with Shorebank to nail down funding needs.
  2. You have suggested that Partnership public attitude surveys indicate there is a high level of interest in protecting Puget Sound but very limited recognition that the Sound is threatened. The same could be said of onsite sewage systems; most folks care about what happens to sewage but have a poor understanding of what happens to sewage generated from their house.

Educating the public about onsite septic system maintenance was listed as a priority in every Action Area's initial strategy workshop. This is an issue that is ripe for a regional approach. A region-wide, consistent, persistent, technically correct and plain English effort around behavioral change and social marketing that focuses on onsite sewage systems could have a dramatic impact. Influencing behavior so that



people repair and replace their onsite sewage systems because it is in keeping with their values provides a long-term change that meets both our goals. Creating a behavioral change tool kit whose approaches could be implemented locally would have great value. Such an effort would likely include:

- Understanding the state of knowledge of onsite system users
  - Understanding motivations and core values of septic system users
  - Understanding why people are content with their current (technologically out of date) systems
  - Developing tools to address values, barriers and motivations
  - Test the tools
  - Train to the use of the tools
  - Estimated Cost- \$400,000
3. Develop consistent onsite messaging for the region supporting local education and compliance efforts
    - Based on principles from item 2 above.
    - Disseminate, on a region-wide scale, public information messages regarding septic system management
    - Create region wide systems to measure progress or success
    - Estimated cost- \$500,000
  4. Develop Web tools for easy access to onsite information with a goal of creating informed consumers
    - Make it consumer oriented
    - Address onsite systems as part of a sustainable world
    - Provide means for on-site sewage system owners and maintenance staff to review and update system monitoring and maintenance records
    - Estimated cost- \$200,000
  5. Create a regional Pollution Identification and Correction program modeled on the Kitsap County Program
    - Resource intensive
    - Proven effectiveness
    - Don't have to continually recreate capacity locally
    - Credibility of an independent assessment team
    - Estimated cost- \$3,000,000
  6. Pilot project with an interested utility district to develop and implement a utility based decentralized sewage treatment management system
    - Virtual sewage system-connected by wire, not pipes
    - As systems become more complex to address environmental limitation, management becomes more critical
    - New systems and technology are approaching and will meet water reuse standards-management is key
    - Identify one or two interested utilities
    - Work with appropriate regulatory agencies to reduce institutional barriers to a pilot project
    - Estimated cost- \$500,000

In closing, we wish to state that many Puget Sound LHJs have individually been involved in onsite septic management education and out reach activities for a number of years. Several local health jurisdictions have been overwhelmed with interest after launching classes teaching people how to

care and maintain their onsite systems. San Juan County's classes are booked through December; Thurston County has found an ongoing interest not only in the Henderson Inlet area where classes were targeted, but people from outside that area are coming to classes; Skagit and Clallam Counties regularly have 20 – 50 people attend Septics 101 classes, even after seven years of conducting classes.

We have begged, borrowed, and stolen (with approval) from each other newspaper inserts, on-site homeowner class formats and outreach materials, field investigative techniques, databases, and many other materials. We try hard to avoid reinventing the wheel. But never have we had the opportunity, as we have now, for a region-wide approach to coordinate activities, funding, common messages, and a host of activities all focused and in the same timeframe in the same region.

The Puget Sound health jurisdictions and DOH, are ready to combine our forces to efficiently and effectively tap into the public's interest in onsite system management. Let's not lose this opportunity.

Sincerely,



Andy Brastad R.S., Director, Clallam County Environmental Health  
on behalf of the 12 Puget Sound county environmental health directors

Clallam, Island, Kitsap, Jefferson, Mason, San Juan, Seattle-King, Skagit, Snohomish, Tacoma-Pierce, Thurston and Whatcom

cc: Gregg Grunenfelder, Washington State Department of Health

Marc Marquis, Statewide Chair, Washington State Environmental Health Directors

## APPENDIX C

### Shoreline Surveys Completed by the Department

Washington State Department of Health							
Office of Shellfish and Water Protection							
Completed Shoreline Surveys and On-site Sewage Systems Evaluated							
June 2000 - September 2003							
County	Year	Shellfish Growing Area	Survey Area Description	Evaluated By			
				On-site systems Evaluated	LHJ	DOH	MRA
Jefferson	2000	Kilsut Harbor / Mystery Bay	The entire shoreline of Kilsut Harbor and Mystery Bay.	129		x	No
Pierce	2000	Oro Bay	The entire shoreline of Oro Bay and north to Sandy Point.	51		x	No
Jefferson	2000	Hood Canal 3	Shoreline area just south of Dosewallips State Park north to Seal Rock.	12		x	Yes
Island	2000	Holmes Harbor	Portion of western shoreline of Holmes Harbor.	69		x	No
Kitsap	2000	Port Madison		62		x	No
Mason	2001	Hood Canal 9	Stinson Creek northeast into Lynch Cove.	546	x		Yes
Kitsap	2001	Dyes Inlet	Chico Bay, Erlands Point, west shoreline, and east shoreline near Windy Point.	226	x	x	No
Island	2001	Saratoga Passage	Forbes Point and area near Race and Harrington Lagoon.	76		x	No
Thurston	2001	Totten Inlet	The entire shoreline of the inlet.	298	x	x	No
Pierce	2001	Henderson Bay	Northern shoreline from Purdy Spit west through Minter Bay. Southern shoreline including the mouth of McCormack Creek and Allen Point.	123	x	x	Yes
Jefferson	2001	Mats Mats Bay	The entire shoreline of Mats Mats Bay.	48		x	No
Mason	2001	Reach Island	The northern half of Reach Island and the mainland from the bridge north to North Bay.	134		x	No
Mason	2001	Annas Bay	The entire shoreline within Annas Bay.	60		x	No
Island	2001	SW Whidbey Island	Portions of Cultus, Useless, and Mutiny Bays	443		x	No
Island / Snohomish	2001	Possession Sound	The easternmost shoreline of Whidbey Island. The tip of Camano Island. The Tulalip Indian Reservation from Kayak Point south to Tulalip Bay.	292		x	No
San Juan	2001	Hunter Bay	The entire shoreline of Hunter Bay.	19		x	No
San Juan	2001	East Sound	The entire shoreline of Ship Bay south to Coon Hollow.	20		x	No
Jefferson	2002	Dabob Bay	The entire shoreline of Dabob Bay.	37		x	Yes
Kitsap	2002	Dyes Inlet	Eastern side of Erlands Point.	47		x	No
Pierce	2002	Penrose Point	The shoreline area from the southern tip of Von Geldern Cove south to South Head.	46		x	Yes
Mason	2002	Hood Canal 5	The shoreline along both sides of Hood Canal from Cummings Point south to Hoodsport.	216		x	Yes
Kitsap	2002	Hood Canal 2	The shoreline area approximately two miles north of Big Beef Harbor.	28		x	No
Pierce	2002	Drayton Passage	The entire shoreline of McNeil Island.	7		x	No
Mason	2002	Stretch Island	The shoreline along the western side of Stretch Island and the mainland shoreline north to Grapeview.	81		x	No
Mason	2002	Hood Canal 6	The shoreline area between Red Bluff and Tahuya.	143	x		Yes
Mason	2002	Pickering Passage	The shoreline area within McLane Cove and east to the Stretch Island growing area boundary.	34		x	Yes

Washington State Department of Health							
Office of Shellfish and Water Protection							
Completed Shoreline Surveys and On-site Sewage Systems Evaluated							
June 2000 - September 2008							
County	Year	Shellfish Growing Area	Survey Area Description	Evaluated By			
				On-site systems Evaluated	LHJ	DOH	MRA
Kitsap	2003	Port Madison	The shoreline area from Indianola west to the mouth of Miller Bay.	26		x	No
Mason	2003	Skookum Inlet	The entire shoreline area of Skookum Inlet.	45		x	No
Mason	2003	Oakland Bay	The entire shoreline area of Oakland Bay	119		x	Yes
King	2003	Quartermaster Harbor	The shoreline area from Magnolia Beach east then north to Burton County Park and the shoreline area including Rabbs Lagoon south to Dockton.	59		x	Yes
Island	2003	Point Partridge	The shoreline area from Point Partridge north to Rocky Point.	55		x	No
San Juan	2003	Mackaye Harbor	The shoreline area from Jones Bay east to Mud Bay Road.	3		x	No
San Juan	2003	Shoal Bay		34		x	No
Skagit	2003	Samish Bay	The easternmost half of Samish Island and Samish Bay to Dogfish Point.	65		x	Yes
Jefferson	2003	Discovery Bay	The entire shoreline of Discovery Bay.	172		x	No
Kitsap	2004	Port Gamble Bay	The entire shoreline of Port Gamble Bay.	81		x	No
Mason	2004	North Bay	The entire shoreline of North Bay.	66		x	No
Mason	2004	Hammersley Inlet	The northern shoreline of Hammersley Inlet from Church Point west approximately half way down South Leeds Road.	45		x	Yes
Thurston	2004	Eld Inlet	The entire shoreline of Eld Inlet.	629		x	No
Mason	2004	McMicken Island	The shoreline of the growing area from McMicken Island south through Wilson Point.	55		x	No
Mason	2004	Hammersley Inlet	The north and south shoreline areas at the mouth of Hammersley Inlet.	31		x	No
Pierce	2004	West Key Peninsula	Dutchers Cove	40		x	Yes
Kitsap	2004	Blake Island	The entire shoreline of Blake Island.	3		x	No
Mason / Jefferson / Kitsap	2004	Hood Canal 4	The shoreline area on both sides of Hood Canal from Cummings Point north to the point north of McDaniel Cove.	151		x	Yes
Mason	2004	Hood Canal 6	The shoreline area along both sides of Hood Canal from Hoodsport south then east to Sisters Point, excluding Annas Bay.	454		x	Yes
Kitsap	2004	Port Madison		129		x	No
San Juan	2004	Mud Bay	The entire shoreline within Mud Bay.	64		x	No

Washington State Department of Health							
Office of Shellfish and Water Protection							
Completed Shoreline Surveys and On-site Sewage Systems Evaluated							
June 2000 - September 2008							
County	Year	Shellfish Growing Area	Survey Area Description	Evaluated By			
				On-site systems Evaluated	LHJ	DOH	MRA
Pierce	2005	West Key Peninsula	Herron Island	123		x	No
Thurston	2005	Nisqually Reach	The shoreline area from McAllister Creek north to Johnson Point.	198		x	No
Mason	2005	Peale Passage	The shoreline area between Squaxin Island and Hartstene Island.	107		x	No
Mason	2005	Hood Canal 7	The shoreline area on both sides of Hood Canal from Sisters Point east to Twanoh State Park.	267		x	Yes
Pierce	2005	Anderson Island	The shoreline area between Cole Point and Yoman Point.	29		x	No
Kitsap	2005	Dyes Inlet	The southernmost portion of Erlands Point.	9		x	No
Island	2005	Saratoga Passage	The shoreline area along both sides of Saratoga Passage from the tip of Camano Island northwest to Camano City.	281		x	No
Island	2005	Holmes Harbor	The entire shoreline area within Holmes Harbor.	164		x	No
Mason	2005	Hood Canal 8	The shoreline area along both sides of Hood Canal from Twanoh State Park east to Sunset Beach.	421		x	Yes
Pierce	2005	Vaughn Bay	The entire shoreline area within Vaughn Bay.	99		x	Yes
Kitsap	2005	Agate Passage	The shoreline area from Point Bolin north to Suquamish.	90		x	No
Jefferson	2005	Oak Bay	The shoreline of Oak Bay south to Olele Point.	60		x	No
Pierce	2005	Rocky Bay	The entire shoreline area within Rocky Bay.	112		x	Yes
Island	2005	Penn Cove	The shoreline area within Penn Cove west of Coupeville.	52		x	No
Kitsap	2005	Lemolo	One shoreline mile beginning at Lemolo and moving west.	28		x	Yes
Mason	2006	Hammersley Inlet	The majority of the shoreline area within Hammersley Inlet.	186		x	Yes
Mason	2006	Pickering Passage	The shoreline area along both sides of Pickering Passage.	197		x	No
Whatcom	2006	Drayton Harbor	The area around Drayton Harbor.	27		x	Yes
Jefferson	2006	Hood Canal 3	The shoreline area along the western side of Hood Canal from Whitney Point south to McDaniel Cove.	207		x	Yes
Mason	2006	Spencer Cove	Seven shoreline miles along the eastern side of Hartstene Island beginning at Dougall	36		x	No
Thurston	2006	Henderson Inlet	The entire shoreline area within Henderson Inlet.	210		x	Yes
San Juan	2006	Buck Bay	The entire shoreline area within Buck Bay.	36		x	No
Thurston	2006	Dana Passage	The shoreline area from Zangle Cove east to Little Fishtrap.	26		x	Yes

Washington State Department of Health							
Office of Shellfish and Water Protection							
Completed Shoreline Surveys and On-site Sewage Systems Evaluated							
June 2000 - September 2008							
County	Year	Shellfish Growing Area	Survey Area Description	Evaluated By			
				On-site systems Evaluated	LHJ	DOH	MRA
Pierce	2007	Drayton Passage	The shoreline area from Pitt Island south to Mahnckes Point and from McDermott Point south to Devils Head.	9		x	Yes
King / Kitsap	2007	Colvos Passage	The shoreline area along both sides of Colvos Passage from Point Southworth south to Lisabeula.	261		x	No
Pierce	2007	Anderson Island	The shoreline area between Amsterdam Bay and Treble Point.	20		x	No
Skagit	2007	Swinomish	The shoreline area between Kiket Island south to Deadman Island.	40		x	No
Jefferson	2007	Quilcene Bay	The entire shoreline area within Quilcene Bay.	57		x	Yes
Clallam	2007	Jamestown	The shoreline area between the mouth of the Dungeness River and Grays Marsh.	100		x	Yes
Jefferson	2007	Port Townsend		25		x	No
Mason	2007	Stretch Island	The eastern shoreline of Stretch Island.	42		x	No
Kitsap	2008	Kingston	The shoreline area from Point No Point south to Point Jefferson.	65		x	No
Pierce	2008	Henderson Bay		45		x	Yes
Clallam	2008	Sequim Bay	The entire shoreline of Sequim Bay.	142		x	Yes
King	2008	Poverty Bay	The shoreline area from Dash Point to Redondo.	97	x	x	No
San Juan	2008	Upright Channel		40		x	No
Whatcom	2008	Lummi Island		7		x	No