

# Oakland Bay Action Plan

**A committee of citizens, business representatives and staff from city, county, state and tribal government is launching a broad-based, community plan in order to:**

**Reduce water pollution.**

**Ensure the county's waters remain safe for swimming, fishing and all activities important to the culture, heritage and economy of the area.**

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# **A. Purpose of the Action Plan**

## **Background**

In November 2006, the Washington State Department of Health restricted the north end of Oakland Bay for shellfish harvesting. The Restricted classification means that direct harvest of shellfish is not allowed. Shellfish must be moved to an Approved or Conditionally Approved area to cleanse and become safe for human consumption before it is harvested. One shellfish grower is currently affected by this restriction. All other areas of Oakland Bay remain in an unchanged status – either Conditionally Approved or Prohibited for shellfish harvest at this time, though the Chapman Cove area is very close to receiving a downgrade.

Because the ends of inlets tend to be more sensitive to water quality pollution than other areas, this reclassification of the end of Oakland Bay could be an indicator of overall water quality problems that will eventually affect many other growers and citizens who use the bay.

Oakland Bay is a unique area with many uses and needs that must be carefully balanced in order to preserve natural resources, aesthetics and tradition while providing for growth, recreation and employment opportunities. Degraded water quality in the area indicates not just a loss of shellfish revenue and jobs but an impaired environment, lost recreational opportunities and, overall, a loss to the culture and heritage of the community.

## **Who is involved?**

In compliance with RCW 90.72.045 Mason County developed this action plan as a response to the November 2006 closure so that the County and its citizens could provide leadership in improving the water quality of Oakland Bay. Mason County took the lead in creating this plan. However, it is a coordinated multi-strategy plan that is a collaboration of all who are affected by the Oakland Bay downgrade.

These parties include:

- The citizens of Mason County
- Mason County Shellfish Growers
- Squaxin Island Tribe
- United States Environmental Protection Agency
- Washington State Department of Health
- Washington State Department of Ecology
- Washington State Department of Agriculture
- Puget Sound Partnership
- Mason Conservation District
- City of Shelton
- Washington State University Mason County Extension
- Washington Sea Grant Program., University of Washington

The Oakland Bay Action Plan represents our understanding of the work that must be done and who will be responsible. While the document establishes the initial framework of the plan, we expect to expand and adapt it to the needs of the county throughout the course of the project.

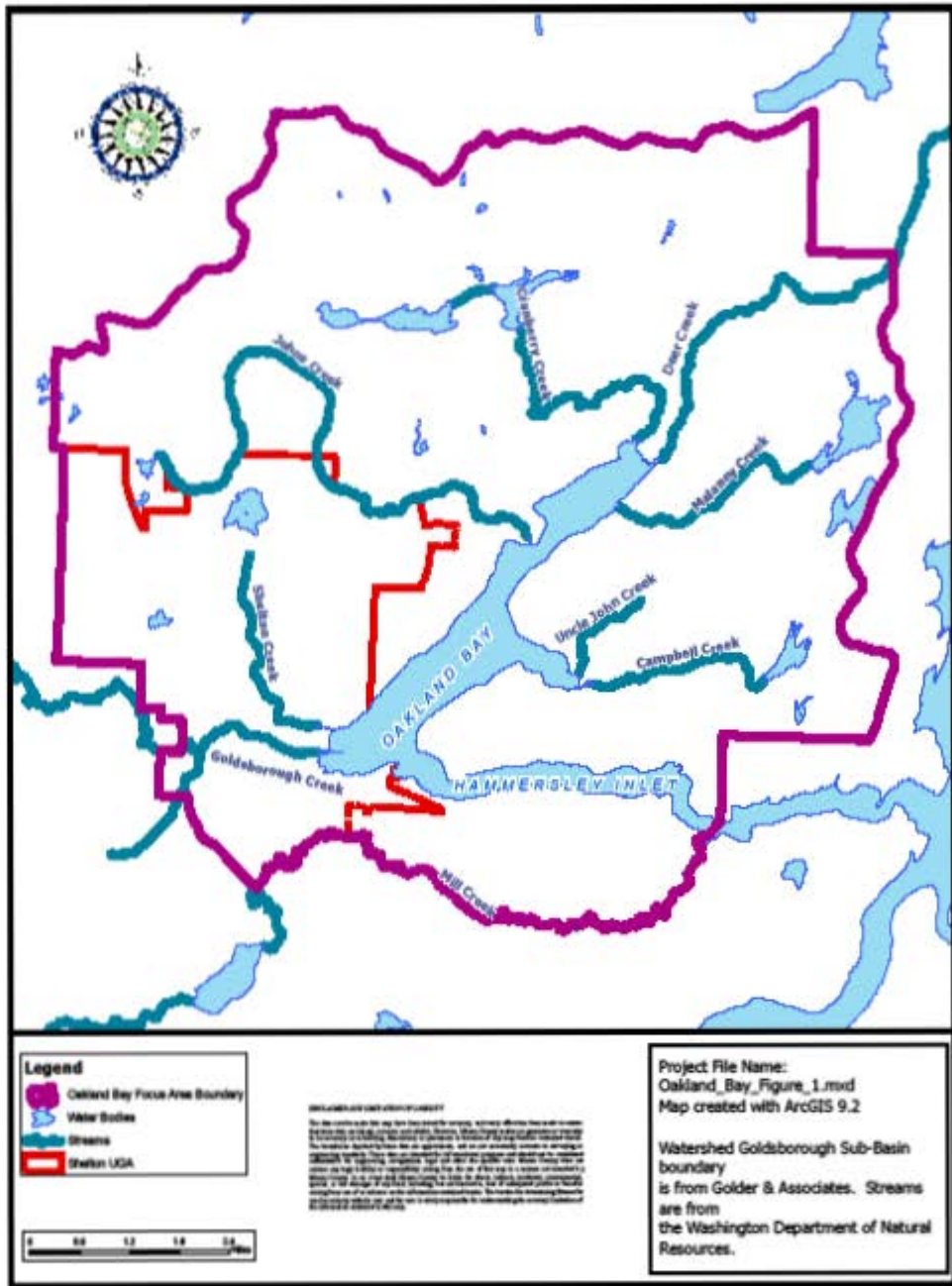
***Legal Notice:*** *If any portion of this plan is, for any reason, found to be invalid or unconstitutional by any court of law, those portions will be considered a separate provision of the plan and will not affect the validity of the rest of the plan.*

## B. Background information and history

### Description of the Oakland Bay Watershed

**Physical Description:** Oakland Bay is a small, relatively broad and shallow estuary approximately four miles long and  $\frac{3}{4}$  of a mile wide with water depths averaging 10-35 feet. A large area of the foreshore is exposed to air at low tides. This inter-tidal zone is predominately mud flats with narrow deeper channels. Due to the restrictive nature of Hammersley Inlet, the long narrow waterway linking the bay to the Puget Sound Basin, the water in Oakland Bay has high refluxing, low flushing and high retention rates. There are nine major creeks: Deer, Cranberry, Campbell, Johns, Uncle John, Malaney, Shelton, Mill and Goldsborough. The drainages of these creeks, together with the shoreline drainage have been used to define the Oakland Bay Action Plan Focus Area. **See Figure 1.** For detailed information about the watershed the Kennedy-Goldsborough Watershed (WRIA 14) Phase II Level 1 Assessment (Golder, 2003) is a recommended source.

Figure 1- Oakland Bay Focus Area



**Squaxin Island Tribal Involvement:** The area is home to modern Squaxin Island Tribe members, who are descended from maritime people who lived and prospered along the shores of Oakland Bay for thousands of years. Squaxin leaders signed the Medicine Creek Treaty with the U.S. Government in 1854, reserving the right to hunt, gather and fish at all usual and accustomed places including Oakland Bay. As a result, Tribal scientists now co-manage natural resources in Oakland Bay with the State of Washington. The federal government also maintains a trust responsibility for Tribal interests in Oakland Bay.

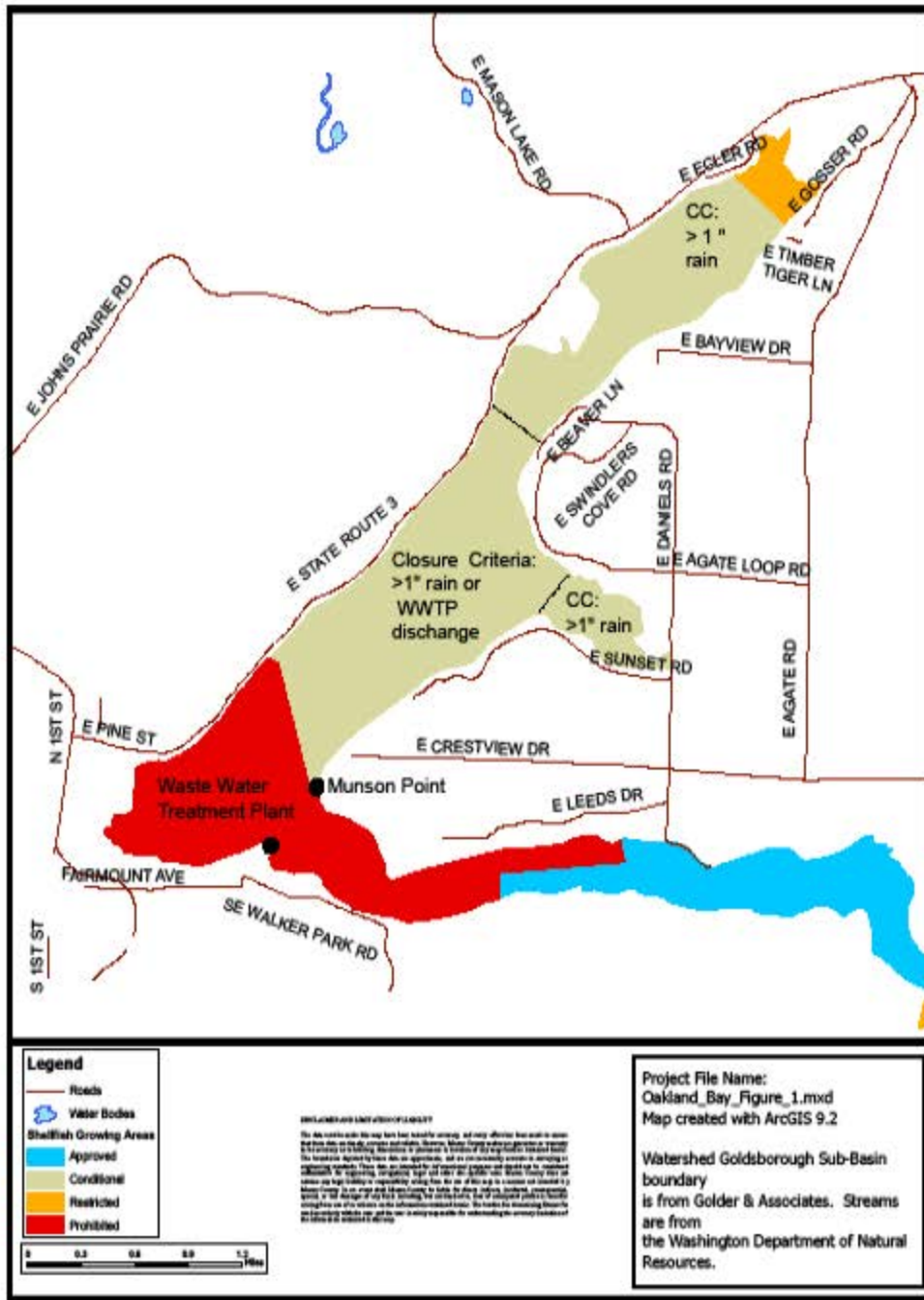
**Growth and development expectations:** Development on the shoreline and upland areas of Oakland Bay is gradually expanding. Most development in the area is residential with some industry and commercial activity, especially along the west and south sides of the bay. In most of the area on-site sewage systems treat residential waste. The Shelton Wastewater Treatment Plant serves all residences and commercial establishments within its service area along the south end of the bay. About 102 agricultural activities with potential to impact the growing area are located in the watershed (Berbells, 2003). One marina is located in the watershed.

### **History of shellfish harvesting and water quality issues in the Oakland Bay Shellfish Growing Area**

*The Oakland Bay Growing Area, as delineated by Washington State Department of Health, is located to the northeast of a straight line, drawn from approximately 0.2 miles northeast of Munson Point.*

***See Figure 2.***

Figure 2- Oakland Bay Growing Area





Currently, Oakland Bay is one of the most productive commercial shellfish growing areas in the country. Much of the nation's manila clam harvest is grown here, as well as high-value oysters. Approximately three million pounds of clams and 1.8 million pounds of oysters are harvested yearly. There are 21 shellfish growers in Oakland Bay in addition to the Squaxin Island Tribe. Some of the public and private beaches in the area support recreational shellfish harvesting. Approximately 2000 recreational harvesting licenses are obtained for the area each year.

**Timeline:**

- 1880s: Oyster production becomes a valuable local commodity (Deegan, 1960)**
- 1927: A pulp and paper mill starts operation on the Shelton waterfront.** The pulping process produces sulfite liquor, a waste product that is released into the nearby water body.
- 1930: Oyster growers sue the mill owners for damages to their harvest.** Improved industrial practices eventually lead to recovery of the harvest.
- 1955: Oakland Bay is approved for commercial shellfish harvest through Washington State Department of Health.** At this time, Oakland Bay is probably classified as conditionally approved due to sewer impacts, but sewer improvements are later made.
- 1957 The pulp and paper mill closes.** This is the beginning of significant environmental recovery for the area.
- 1978: Chapman Cove and northward is classified as approved; the rest is prohibited from shellfish harvesting.**
- 1986: Washington Department of Health changes its classifications methods.** The upper portion of the bay receives a classification change to conditional approval. The prohibited line for sewer may have been moved southward at this time.
- 1987: The Washington Department of Health downgrades 820 acres of shellfish beds in southern Oakland Bay from Conditionally Approved to Restricted after finding fecal coliform bacteria.** This leads to a surge of activities to identify, prevent and eliminate sources of shellfish bed contamination. The Oakland Bay Watershed Management Plan is developed with local, state and tribal participation. A number of grants are funded to both make capital improvements and educate the area residents. Over the next several years, the recommendations of that plan are partly carried out,

but there are still major barriers to full implementation, including lack of staff time, money and citizen response.

- 1989:** **The Washington Department of Health reverses its downgrade after improvements are made. (See *Measuring Results Project*, July 1993).** In the end, some of the funding did result in lasting capacity, but because long-term and consistent funding is not provided, many of the water quality improvement efforts ended.
- 2006** **Fifty-five acres at the north end of the bay are downgraded to Restricted by Washington State Department of Health.** In addition, Chapman Cove was listed as threatened.
- 2007:** **Current Status of Oakland Bay.** Oakland Bay has approximately 1434 acres classified as Conditionally Approved. Fifty- five acres at the north end of the bay are classified as Restricted. In addition, 774 acres to the south are classified as Prohibited due to Shelton Wastewater Treatment Plant discharge. Rainfall of one inch or more in 24 hours triggers a five-day shellfish harvesting closure throughout the Conditionally Approved area. A discharge of inadequately treated or raw sewage into the bay by Shelton Wastewater Treatment Plant would trigger a five-day closure of the central portion of the bay. The Shelton Wastewater Treatment Plant will be upgraded by 2010 in order to protect and improve the health of the bay.

### **Previous Efforts to Prevent Water Quality Degradation in Oakland Bay**

Many water quality improvements have been undertaken in the Oakland Bay watershed over the years, including:

- Improved industrial waste management.
- A number of upgrades to the Shelton Wastewater Treatment Plant.
- More stringent storm water requirements.
- Sanitary surveys.
- Repairs of on-site sewage systems.

All of these steps helped to preserve the health of Oakland Bay in the past. These same measures need to be reassessed for their value to our new action plan.

### **Current Oakland Bay water quality research and improvement efforts**

Typical non-point sources of pollution in the Oakland Bay area include on-site sewage systems, storm water, livestock, pets, and wildlife. Here are some of the current efforts underway to pinpoint pollution sources and develop clean-up plans:

**Squaxin Island Tribe and Mason County Public Health:** Routine and intensive water quality sampling in the area.

**Mason County Public Health:** Sanitary surveys and dye testing of on-site systems in the north Oakland Bay and Chapman Cove areas.

**Washington State Department of Health and Squaxin Island Tribe:** Circulation studies in north Oakland Bay and added interim sampling stations.

**United States Environmental Protection Agency, Washington State Department of Health and Squaxin Island Tribe:** A microbial source tracking study in the area.

**Washington State Department of Ecology:** Extensive water quality sampling study to develop a pollution clean-up plan for Oakland Bay and Hammersley Inlet.

**Mason Conservation District:** Has written conservation plans, provided technical and financial assistance to landowners for installation of Best Management Practices to reduce pollutants from entering Oakland Bay. Best Management Practices have been monitored by Mason Conservation District to determine effectiveness.

**Washington State University Mason County Extension:** Public education and involvement programs. Mason Conservation District and Mason County Public Health also conduct educational programs both independently and in partnership with each other and WSU.

**Washington Sea Grant Program, University of Washington:** Several educational programs offered to area residents.

**City of Shelton and Mason County Utilities and Public Works:** The city and county are working together to decrease sources of pollution and will jointly implement a plan to reduce pollution (NPDES 2). City of Shelton also has a Goldsborough Creek source reduction project.

**Grass-roots citizen and business efforts in Mason County:** Many community members have, on their own initiative, taken measures to improve water quality on their private property:

- Some community members have performed operation and maintenance on their septic systems to check that the systems are functioning appropriately.
- Others have adopted new landscaping practices to prevent polluted storm water runoff.
- Several agricultural producers have made changes on their properties to protect both their private land and the water quality in greater Oakland Bay.

These grass-roots efforts demonstrate the stewardship ethic among Oakland Bay Watershed residents that we must continue to recognize and nurture. Citizens who take the initiative are at the leading edge of protecting the Oakland Bay community, its economy, and its water quality.

## **C. Our ten-point strategy for improving the water quality in Oakland Bay:**

**Goal:** To take immediate steps, through the Oakland Bay Action Plan Strategy to:

- Reduce water pollution.
- Meet state and federal water quality standards.
- Ensure that water quality improvements are maintained.

### **1. Identify accountable government agencies, create an action plan and establish performance measures.**

Since the fall of 2005, a number of key stakeholders have come together to coordinate a response to the threatened shellfish downgrade in the north end of Oakland Bay. Those efforts have included intensive sampling, outreach, and investigation of problem areas.

In the wake of the November 2006 downgrade, Washington State Department of Health convened an initial core response group meeting on February 13, 2007, which included these representatives:

- Washington State Department of Health
- Washington State Department of Ecology
- Squaxin Island Tribe
- Puget Sound Action Team
- Mason County
- Mason Conservation District
- Washington State University Mason County Extension
- Washington Sea Grant Program, University of Washington
- Local shellfish growers

With Mason County Board of County Commissioners acting as the lead, this group, along with additional stakeholders, will continue to work together to develop and carry out a response to the downgrade. Recognizing the need for rapid and defined action, the core response group will develop a strategy that will:

- Identify immediate and long-term actions.
- Provide performance measures.
- Identify objectives.
- Provide target dates and an overall timeline.

Once the strategy is developed, the Oakland Bay Action Plan Committee will:

- Designate, through the Mason County On-Site Septic System Plan, an Oakland Bay marine protection area.

- Provide the community and all other stakeholders with regular updates of work related to the plan.

## **2. Identify the Oakland Bay Focus Area boundaries, set up a governing structure and a way to fund its work**

Mason County Board of County Commissioners is required by state law (RCW 90.72) to establish a shellfish protection district and program to correct the pollution that led to the Department of Health's water quality downgrade. An additional goal of the plan is to prevent future downgrades.

On May 15<sup>th</sup>, 2007 the Mason County Board of County Commissioners adopted the Oakland Bay Focus Area and defined its boundaries. The Action Plan Committee now will develop a system of governance that agrees on the governing principles, determines the voting structure, and establishes methods of addressing performance deficiencies. A variety of funding options such as sales tax, public health money, and private funding are being identified.

### **To achieve these goals:**

- The Oakland Bay Focus Area was created.
- A system of governance will be adopted.
- A financial strategy will be developed.
- Feasibility of septic or sewer districts will be assessed.

## **3. Develop community and private partnerships, involve all citizens, and create a plan for evaluating our success.**

We believe that we can bring about lasting change if we involve more local citizens and businesses, as well as other stakeholders. We will schedule public outreach meetings and invite comment on this plan. We will create educational activities in the communities that will raise awareness of water quality problems and increase the community's engagement in solving them.

### **To achieve these goals:**

- Area landowners have been invited to be part of the Action Plan Committee.
- An Oakland Bay Action Plan open house will be held to provide the public with a chance to learn about the draft action plan. Educational displays, opportunities for interactions with educators, presentations and reading materials will be provided
- After the Action Plan is finalized periodic additional open houses will held to educate and update the community on progress.

#### **4. Monitor Oakland Bay water quality, survey its shorelines and upland areas, and conduct research.**

The Oakland Bay Action Plan is both a short-term project that responds to the immediate problems affecting the shellfish growing area and a long-term plan to maintain water quality in Oakland Bay.

##### **To achieve these goals:**

- Washington State Department of Health will increase to 30-35 a year the number of fresh and marine samples taken in order to rapidly assess any changes in water quality.
- Mason County Public Health will conduct regular shoreline and on-site system sanitary surveys and segment streams within the Oakland Bay watershed. These surveys will help target further investigations and corrective actions.
- Mason County Public Health will increase its efforts in septic operations and maintenance, both in regulatory and educational capacities.
- Squaxin Island Tribe will continue to sample major streams, investigate the role of sediment as an incubator of bacteria in marine water, and use a Geographical Information System (GIS) to analyze all the data collected.
- The Squaxin Island Tribe will conduct an additional Upper Oakland Bay Circulation study.
- The need for special studies will be researched when warranted.
- Washington State Department of Ecology using this Action Plan as a foundation, will create a longer-term plan for restoring impaired tributaries and the Bay itself to water quality standards. Implementation of the two plans will be integrated. Ecology will conduct future monitoring of fresh and salt water. to track progress toward water quality goals.
- The U.S. Environmental Protection Agency will conduct a Phase II Microbial Source Tracking study.

## **5. Identify and establish strategies to correct agricultural sources of water contamination.**

To control new pollution sources, the Mason County Department of Community Development will require any application for a new agricultural building permit to go through the conservation planning process with Mason Conservation District or Mason County Environmental Permit process. They will also respond to water quality complaints that involve land use in critical areas.

Washington State Departments of Ecology (ECY) and Agriculture (AG) will coordinate their investigations of agricultural water quality complaints. If landowner's agricultural management practices threaten water quality, ECY and AG will refer the landowner to Mason Conservation District. The Mason Conservation District staff will consult with landowners to identify existing and potential threats to water quality and available solutions through their conservation planning process. If there is an immediate threat to water quality, or the landowner is unwilling to work with Mason Conservation District or does not adopt practices to remove the threat to water quality, Departments of Ecology and Agriculture will take appropriate enforcement actions.

Contact the Ecology/ Agriculture Complaint line by calling: (360) 407-6300.

### **To achieve these goals:**

- Mason Conservation District will continue to provide technical help to agricultural landowners.
- Citizens applying for agricultural building permits will be required to go through a Mason Conservation District Conservation Plan or Mason Environmental Permit process.
- Mason Conservation District will seek funding for an Anaerobic Digester in the watershed.
- Washington Departments of Ecology and Agriculture will respond to animal feeding operation or pasture-based water quality complaints.
- Mason County Department of Community Development will respond to water quality complaints that involve land use in critical areas.

## 6. Identify and establish strategies to correct on-site sewage system water contamination sources

**Mailing campaign:** Mason County Public Health staff will research and target existing septic systems that are not being serviced, then create a mailing campaign to educate residents about how to properly operate and maintain them. Mason County Public Health is using its Operation and Maintenance database mapping technology to generate both a visual and tabular inventory of the properties within the Oakland Bay Focus Area. This database will generate GIS maps of the project area that will show developed lots with documented septic systems -- as well as developed lots with undocumented sewage disposal. Mason County Public Health will follow up with surface water sampling of properties without a maintenance report if needed.

**Shoreline and stream sampling** will complement the Operation and Maintenance program by helping to detect on-site sewage system sources of pollution that are not observed during service inspections. If sampling indicates a need, an on-site sanitary survey will be conducted. During sanitary surveys, Mason County Public Health staff members interview residents about wastewater generation, construction or land-disturbing activities on the property, and other activities that may affect the septic system.

**On-site evaluations and testing:** During on-site surveys, staff member also walk the property with residents to identify system components, evaluate the general state of the system area, and educate the residents on the proper use and maintenance of the septic system. If the situation warrants and the residents are willing, Mason County Public Health staff can also introduce a dye into the system to test for system failure. The dye can be detected in marine or fresh water by means of charcoal filter bags. The county will direct property owners with failing systems to a low-interest loan program so they may repair and upgrade their systems. Enforcement will be used if needed.

**Code changes:** Mason County Public Health will be adopting code changes as part of their new On-site Sewage System Plan. It also will periodically assess the need upgrade treatment standards and promote upgrades of existing on-site sewage systems.

### To achieve these goals:

- Mason County Public Health will:
  - Conduct parcel research.
  - Conduct regular, on-site system sanitary surveys along the shoreline.
  - Develop a risk-based timeline for responding to maintenance report problems other than failures (which are responded to under the complaint timeline).
  - Dye trace as needed, with follow-up sampling and referral to enforcement, if necessary.



- Conduct regular Operation and Maintenance program notification, monitoring, recording and follow-up for all on-site systems.
- Update On-Site System Enforcement Codes.
- Puget Sound Partnership and others will help to periodically assess the feasibility of, and need for, nitrogen/phosphorus removal.
- Washington Sea Grant and partners will promote the upgrading of components in existing on-site systems to improve operation & maintenance.

**7. Identify and establish strategies to correct other potential, non-point water quality contamination sources** such as pet waste and wildlife.

**To achieve these goals:**

- Mason County and the City of Shelton and partners will establish a pet waste control program and install pet waste stations in area parks.

**8. Identify land use and growth management policies that will protect, preserve and restore Oakland Bay’s water quality.**

Well-planned growth is essential to improving water quality and protecting the health of Oakland Bay.

**To achieve these goals:**

- Mason County Departments of Public Health, Community Development, Utilities and Public Works will, as needed, review and implement ongoing policies supported by oversight and enforcement.
- Property acquisition into conservancy will be sought.
- Mason County Department of Community Development will:
  - Develop incentives for natural shoreline protection.
  - Require small parcel storm water site plans.
  - Evaluate the need for special overlay protection within the closure area.
- Mason County Departments of Utilities and Public Works, and the City of Shelton will develop a cooperative city and county storm water plan.
- Mason County Public Works will improve storm water code enforcement.
- Washington State Department of Transportation will reduce bacterial conveyance from Highway 3 storm water discharges.
- City of Shelton will improve the function of Goldsborough Creek through Critical Area Ordinance changes and special projects.
- City of Shelton will implement NPDES 2 requirements.
- Mason County storm water ordinance will include low-impact development standards.

## **9. Establish enforcement elements for the plan**

Enforcement tasks are part of many objectives in this plan. Mason County Public Health will take the following steps to contribute to the success of this plan:

- Develop a non-point ordinance.
- Update its Environmental Health Enforcement Policy and Procedures.
- Review the Oakland Bay Action Plan to make sure it is consistent with the Administrative Plan required under RCW.70.118.030.

## **10. Create a system for evaluating the success of the plan.**

The Oakland Bay Action Plan must establish goals that can be measured in order to track progress toward the objectives. If we are not accomplishing our goals or achieving our objectives, we will re-evaluate and make changes.

### **To achieve these goals:**

- The Oakland Bay Action Plan Committee will establish goals we can measure to see if our efforts are working.
- Measure progress regularly and evaluate if goals and objectives are being met.
- Review and revise the Action Plan if the goals and objectives are not reached.

## Attachment 1 National Water Quality Standards for Shellfish harvesting

To be approved for commercial shellfish growing under the National Shellfish Sanitation Program (NSSP) standards, a station must have a fecal coliform geometric mean not greater than 14 organisms/100mL, and an estimate of the 90<sup>th</sup> percentile not greater than 43 organisms/100 mL. Alternative NSSP standards are applied to stations in the central area of the bay because they are potentially influenced by Shelton Wastewater Treatment Plant. These stations must have a fecal coliform geometric mean not greater than 14 organisms/100mL, and no more than 10% of the samples greater than 43 organisms/100 mL.

Fecal coliform bacteria, a subset of coliform bacteria, are found in the feces of all warm-blooded animals including humans, livestock, other mammals, and birds. Although most fecal coliform bacteria do not cause disease, they are commonly used as an indicator of microbial contamination of water. Filter-feeding shellfish retain fecal coliform bacteria and other microorganisms, which do not harm the shellfish themselves but can cause disease in humans who eat the shellfish. Water-borne pathogens can also infect people by pathways other than shellfish consumption, such as recreational contact with the water.