



MASON COUNTY COMMUNITY SERVICES

Building, Planning, Environmental Health, Community Health

Annas Bay Shellfish Protection District Closure Response Plan

Completed August 2018
Revised November 2018

A committee of citizens, businesses and governments is launching a plan to:

- Protect public health
- Reduce water pollution
- Meet state and federal water quality standards
- Ensure that water quality standards are maintained

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Mason County Public Health

This document is also available online at:

<http://www.co.mason.wa.us/health/environmental/water-quality/hood-canal-projects-grants.php>



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List of Acronyms

DOH	Washington State Department of Health
FC	Fecal coliform
FDA	Food and Drug Administration
ECY	Washington State Department of Ecology
HCCC	Hood Canal Coordinating Council
HCRPIC	Hood Canal Regional Pollution Identification and Correction Program
LOSS	Large On-Site Septic System
MCD	Mason Conservation District
MCPH	Mason County Public Health
NSSP	National Shellfish Sanitation Program
OSS	On-site Septic System
RCW	Revised Code of Washington
O&M	Operation & Maintenance
SPD	Shellfish Protection District
TMDL	Total Maximum Daily
USGS	United States Geologic Survey

A. Purpose of the Annas Bay Shellfish Protection District

Introduction

In September 2017 the Washington State Department of Health (DOH) changed the classification of approximately 1,220 acres of the Annas Bay Commercial Shellfish Growing Area from Approved to Conditionally Approved (Figure 1). This classification change is in response to Marine Station 314 failing the National Shellfish Sanitation Program (NSSP) water quality standards for Approved classification in the 2016 Annual Report. An increased frequency of flooding of the Skokomish River and the predictable pollution conditions associated with flooding of the Skokomish Valley contributed to the classification change. This new Conditionally Approved area of Annas Bay was previously and routinely closed using emergency guidance due to flooding of the Skokomish River. The new Conditionally Approved Area will maintain the same conditions as the emergency closures of the past.

The Conditionally Approved area of Annas Bay will be closed to shellfish harvest when the Skokomish River exceeds 15 feet at USGS Station 12061500 (“Skokomish River near Potlatch”). Closures due to flooding will last one week after the river drops below 15 feet (Swanson, 2017).

When a commercial shellfish area’s classification is downgraded due to poor water quality, the local county authority must create a Shellfish Protection District (SPD) and implement a response program. An SPD is a designated region wherein nonpoint pollution threatens the water quality upon which the contamination or restoration of shellfish farming is dependent (RCW 90.72, 2008).

RCW 90.72.045 – The County legislative authority shall create a Shellfish Protection District and establish a shellfish protection program to address causes of pollution within one hundred eighty days after the department of health, because of water quality degradation due to ongoing nonpoint sources of pollution, has, after June 11, 1992, closed or downgraded the classification of a recreational or commercial shellfish growing area within the boundaries of the county.

Mason County Public Health (MCPH) has developed this SPD Response Plan in cooperation with stakeholder groups affected by the Annas Bay downgrade. Work completed is being funded by HCCC’s HCRPIC program and MCPH will not be requesting County funds in way of a fee or tax. This document serves as the strategy to address the classification change of commercial shellfish growing areas. This strategy complements other water quality work that is being done in the area. MCPH will be working within HCRPIC structure and collaborate with partners including Skokomish Tribe, DOH and ECY. The HCCC is closely coordinating work being done in Hood Canal.

Who is involved?

- Citizens of Mason County within the Shellfish Protection District
- Hood Canal Coordinating Council
- Mason Conservation District
- Mason County Public Health
- Mason County Shellfish Growers
- Skokomish Tribe
- Washington State Department of Ecology
- Washington State Department of Health

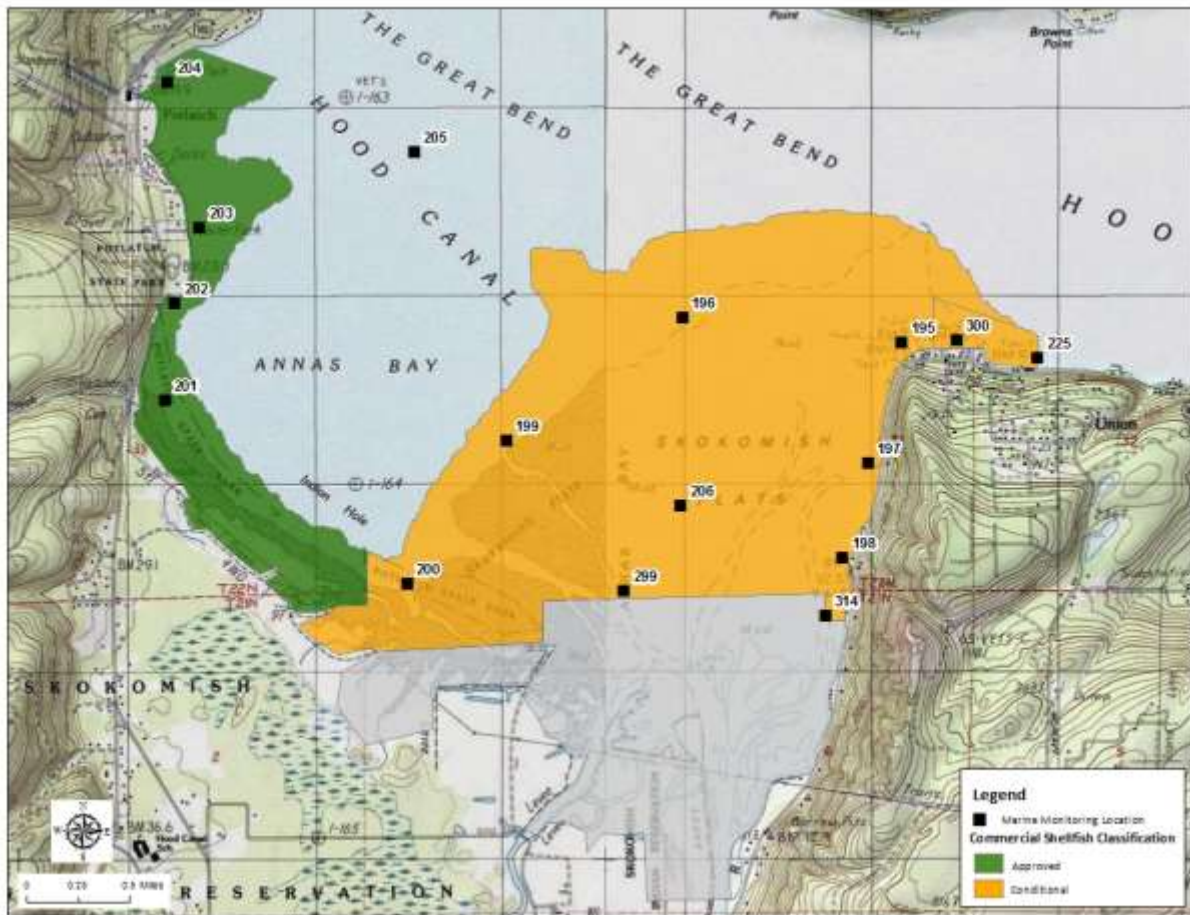


Figure 1. New Annas Bay Conditionally Approved area with marine sampling stations.

B. Background Information and History

Description of the Annas Bay Study Area

Annas Bay is located in the “Great Bend” of Hood Canal along the shoreline area between Potlatch and Union. The Skokomish Indian Reservation occupies most of the nearshore upland area. The Skokomish River discharges a significant amount of freshwater along the eastern shoreline of the growing area and has developed a significant delta that makes up approximately half of the growing area (White, 2012). Major sub-basins of the Skokomish River include the North Fork Skokomish River, South Fork Skokomish River and Vance Creek. The lower Skokomish Valley has several streams contributing to the drainage, the largest being Purdy Creek, Weaver Creek and Hunter Creek.

The Skokomish Valley primarily has single family homes and significant agricultural practices for the area, mostly in the form of cattle grazing. The Skokomish River frequently floods the agricultural land and inundates affected septic tanks in the flood zone. The 2012 DOH shoreline survey concluded that based on Ecology’s 2001 TMDL study and DOH’s observations, the Skokomish River is the most significant contributor to FC bacteria to the commercial growing area (White, 2012). Numerous studies have been conducted in the valley and Skokomish River watershed to address the flooding issues. For our current strategy we will be looking at septic systems, agriculture, pet waste and wildlife as potential sources of contamination.

The current SPD boundaries have been expanded from the 2006 SPD boundaries. The updated Annas Bay SPD encompasses the Conditionally Approved area and has expanded to include the Skokomish Valley, Potlatch and the Skokomish Sewer District. Specifically, the SPD extends west to 47.374443°N, 123.150412°W past the Skokomish Sewer District, along Union Ridge to 47.270750°N, 123.153089°W and the up Skokomish Valley to 47.331390° N, 123.322897°W (Figure 2).

Classification Changes

The Skokomish River frequently floods agricultural land and private residences in the lower valley and delta. By the late 1990s, DOH established an emergency closure condition designating portions of Annas Bay and Hood Canal 6 growing areas to be closed when the Skokomish River exceeds 15 ft at USGS Station 12061500.

Annas Bay experienced a downgrade in 2005 which reclassified 300 acres of growing area from Approved to Prohibited. The first Annas Bay SPD was created in 2006 and the Response Plan was implemented from 2006-2008. Work that was completed during the 2006 SPD included extensive shoreline monitoring, education and outreach events, sanitary surveys and correcting identified failing septic systems (Book, 2008). From the work completed by MCPH and partners the downgrade area was upgraded to an Approved status in 2009 (Schultz, 2012). The emergency closure conditions previously established were in place during the 2006 SPD work and remained after the downgraded area was reclassified.

Emergency closures are triggered by specific conditions that are expected to occur infrequently (1-2 times a year). The Skokomish River has been experiencing these conditions more than 1-2 times a year which suggests the emergency closure program isn't appropriate for the growing area. DOH reserved to leave the emergency closure conditions in place until a trend of decreased marine water quality was observed. Once Station 314 failed to meet standards, DOH reclassified 1,220 acres to Conditionally Approved with the same condition as the emergency closures. Since the current condition is the same as the previous emergency closure condition the growing area only maintains the current Conditionally Approved classification.

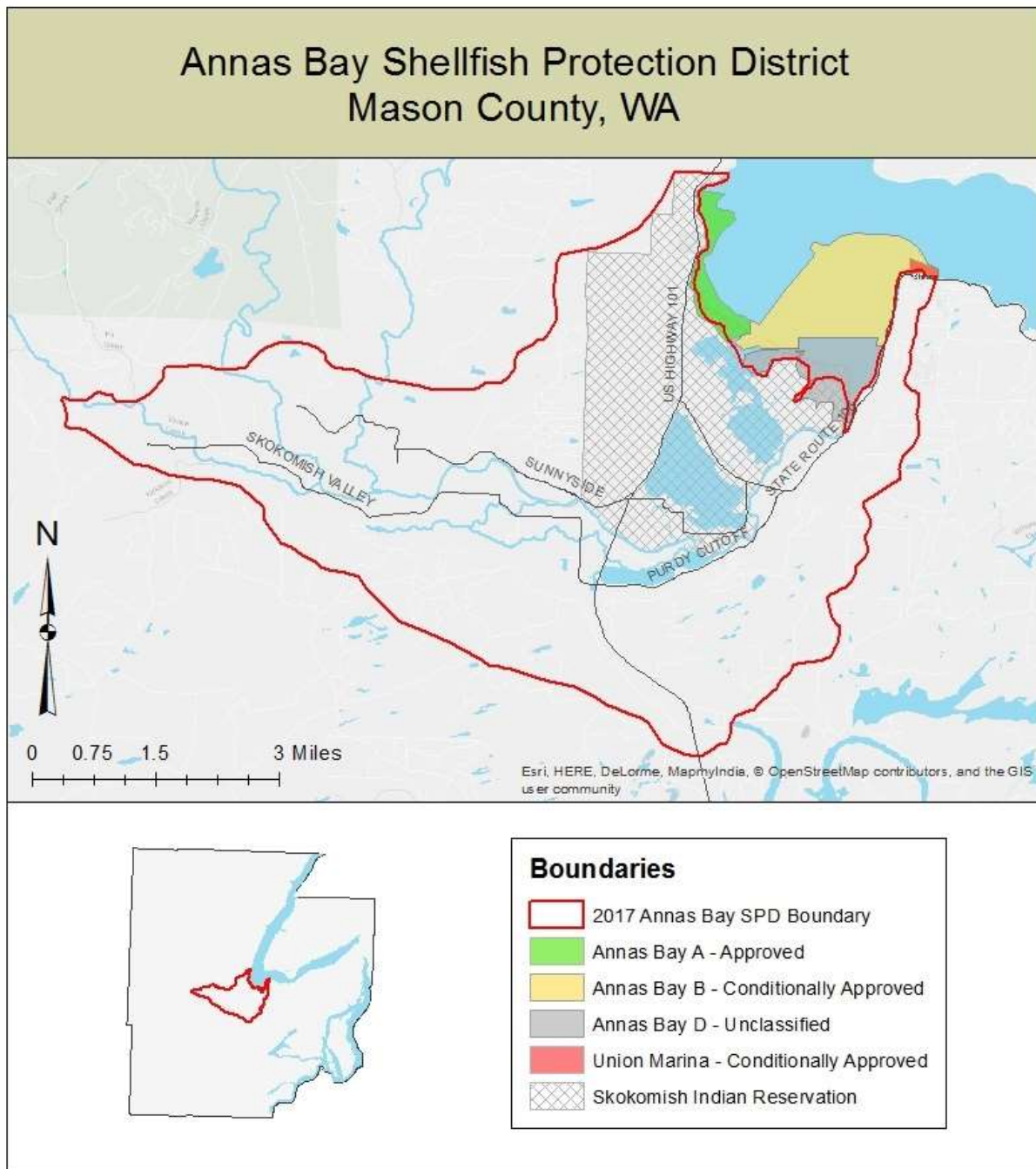


Figure 2. Updated boundary for the 2017 SPD to include the Skokomish Valley and Potlatch.

Water Quality Monitoring

DOH evaluates, classifies, and monitors commercial shellfish growing areas to meet NSSP standards for commercial shellfish harvest. The Annas Bay Growing Area has 11 active shellfish companies managing and harvesting shellfish (clams and oysters). Annas Bay is regularly monitored throughout the year to allow seasonal conditions to be examined. All marine stations must be sampled at least six times per year during open status, however Annas Bay is typically sampled 12 times per year to allow a more comprehensive evaluation of water quality. Marine station 314 failed to meet standards in 2015 and 2017. All Annas Bay marine sample stations have met standards in 2018 (Figure 3 and Table 5).

Station 314 was added to the regular sampling schedule in 2012 when shoreline property owners near that station wanted to lease their tide land for commercial shellfish harvest. Once the marine water station had the required 30 sample set, DOH was able to classify the portion of the growing area near Station 314 and allow commercial shellfish harvest.

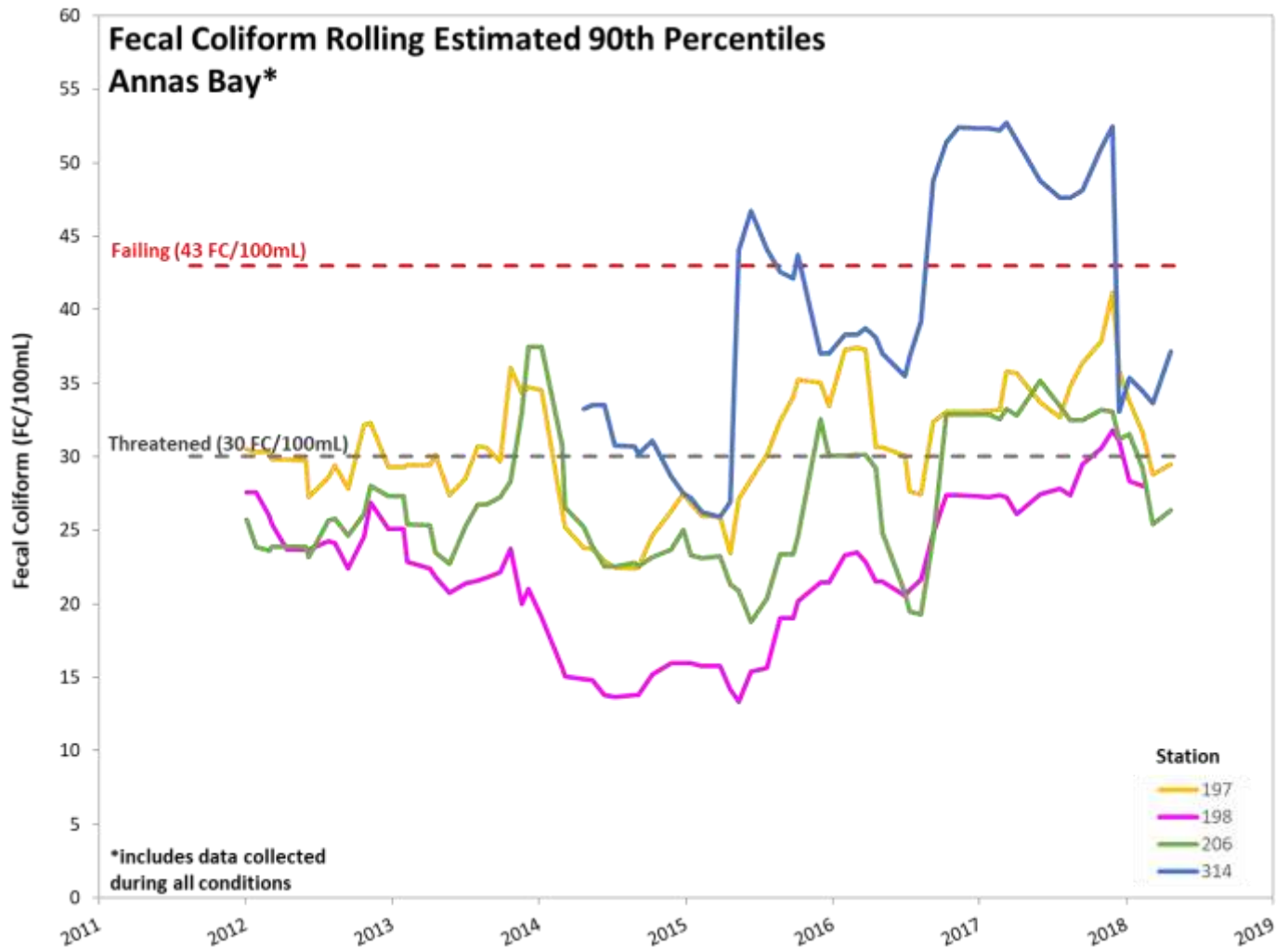


Figure 3. Rolling estimated 90th percentiles for marine stations 197, 198, 206 and 314 through May 2018 (DOH).

Table 1.

Summary of Marine Water Data Growing Area: Annas Bay

Sampling Event Type: Regulatory

Maximum Number of Samples: 30

Station Number	Classification	Date Range	Range (FC/100 mL)	GeoMean (FC/100 mL)	E90th (FC/100 mL)	Meets Standard
201	Approved	11/4/2015 - 5/21/2018	1.7 - 49.0	2.5	6.9	Y
202	Approved	11/4/2015 - 5/21/2018	1.7 - 33.0	2.8	8.8	Y
203	Approved	11/4/2015 - 5/21/2018	1.7 - 33.0	3.1	8.9	Y
204	Approved	11/4/2015 - 5/21/2018	1.7 - 13.0	2.3	4.9	Y
205	Approved	2/10/2015 - 8/16/2017	1.7 - 46.0	2.2	5.2	Y
195	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 49.0	4.4	13.9	Y
196	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 31.0	3.8	13.1	Y
197	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 79.0	5.7	29.5	Y
198	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 49.0	6.5	24.4	Y
199	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 110.0	3.5	14.4	Y
200	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 26.0	3.4	11.4	Y
206	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 130.0	5.0	26.4	Y
299	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 33.0	4.7	17.6	Y
300	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 49.0	4.7	20.4	Y
314	Conditionally Approved	11/4/2015 - 5/21/2018	1.7 - 140.0	8.1	37.2	Y

The standard for approved shellfish growing waters is fecal coliform geometric mean not greater than 14 organisms / 100 mL with an estimated 90th percentile not greater than 43 organisms / 100 mL. The above table shows bacteriological results in relation to program standards.

Growth and Development

MCPH will be addressing septic systems, agriculture, wildlife, and stormwater as potential sources of contamination. MCPH works with MCD to address agricultural concerns. If MCPH identifies a farm or any agricultural activities that could use technical assistance to decrease the bacterial runoff from their land we refer the landowners to MCD to develop a Farm Plan or Conservation Plan. MCD has been working with farms and farmers in the area before the downgrade occurred. High winter water fowl population are observed in the growing area each

year. Wildlife issues are approached with homeowner education about avoiding attracting and feeding wildlife and wildlife’s connection to water quality and commercial shellfish harvest. Since agriculture issues are referred to MCD and wildlife issues are educated on and referred to WDFW in the rare enforcement case, MCPH will be focusing their work on on-site septic systems and the stormwater in places that affect the drainage area. MCPH will work collaboratively with stakeholders, agencies and residents to identify OSS that are at risk, verify the system is functioning as designed and mitigate risk as possible.

Annas Bay SPD has 1,916 individual parcels. There are 737 parcels designated for residential use which could be single family homes, multi units, condos, mobile home parks, and vacation homes and cabins (Table 2). According to an O&M database report, there are 713 parcels that have an existing OSS. There is a biosolids recycling facility within the district that services Mason County and surrounding counties. No bacterial impact to surface water has been identified or documented although the suspected nutrient loading impacts on groundwater remain controversial. The Skokomish Sewer District is owned and operated by the Skokomish Tribe, but it is unknown to MCPH which parcels, on or off the reservation, are hooked up to the sewer or where the sewer lines are located. Potlatch State Park abandoned their LOSS and hooked up to the Skokomish Sewer in 2012 (Schultz, 2012).

One LOSS remains in the SPD. Minerva Beach Resort is located on the shoreline in the northern part of the district next to Potlatch State Park. This LOSS has previously experienced a failed drainfield that was inundated during king tides. After denying the offer to hook up to the Skokomish Sewer, Minerva Beach Resort opted to use the drainfield across the highway by the State Park. The septic tank that remains behind their bulkhead on the shoreline was checked for leaks in early 2000s and has shown no further problems even after high shoreline hits were observed again in 2011. Minerva Beach Resort was recently granted a permit from the Army Corps of Engineers (USACE) to re-do their bulkhead, shoreline and address their septic tank location issues. This LOSS remains “In Failure” according to DOH. Minerva Beach Resort LOSS’s permit expires June 30, 2019. The LOSS will have to have to complete a number of tasks and studies to bring the system into compliance by June 2019.

Due to the prolific use of individual on-site septic systems in the SPD, MCPH will be concentrating on identifying high risk systems which could be from lack of O&M, high shoreline samples, unresolved septic issues, identified pollution sources or otherwise (Appendix B).

Table 2. Land use designation in the Annas Bay SPD by parcel.

Land Use Designation	Number of Parcels
Residential	737
Commercial	2
Trade	15
Services	40
Recreational	13
Resource	337
Undeveloped	772

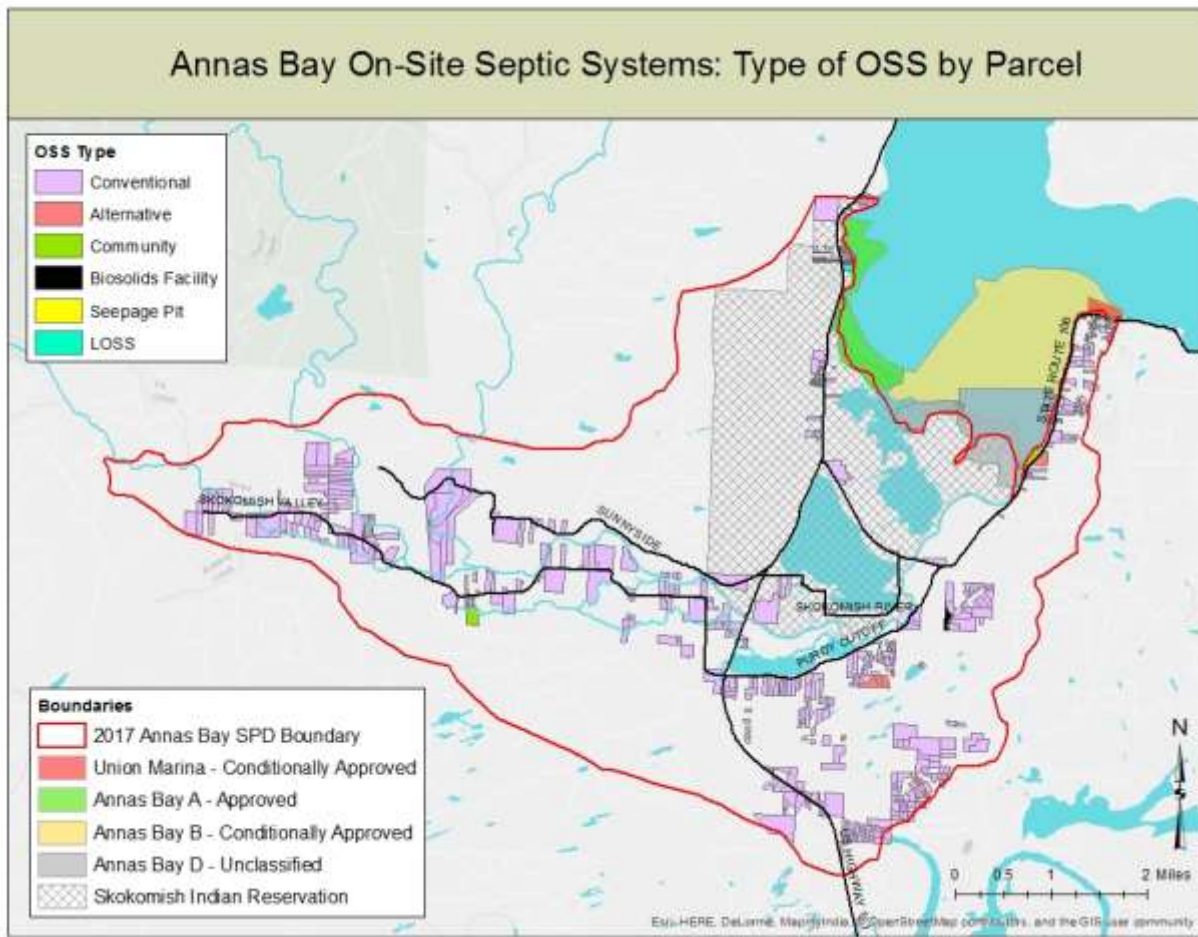


Figure 4. The figure above was created from a 6/15/2018 O&M database report.

Conventional OSSs are comprised of a tank and a drainfield often with a pump tank and rely on the availability of soil for effluent treatment. Alternative OSS's are lacking sufficient soil for effluent treatment and must include alternative treatment methods. Community OSS's are individual septic tanks with a shared drainfield. Large OSS's (LOSS) have individual tanks and a shared drainfield that services over 3,500 gal/day. LOSSs are regulated by DOH. Seepage pits consists of a tank and vertical pit or dry well to disperse effluent. Seepage pits are no longer permitted. The Skokomish Sewer is privately owned and operated by the Skokomish Tribe but is regulated by ECY. A permitted biosolids treatment and land application facility is also located in the SPD.

Table 3. Distribution of OSS Type in SPD by percentage.

Conventional	Alternative	Community	Seepage Pit	LOSS	Biosolids Facility
637	57	8	3	1	1

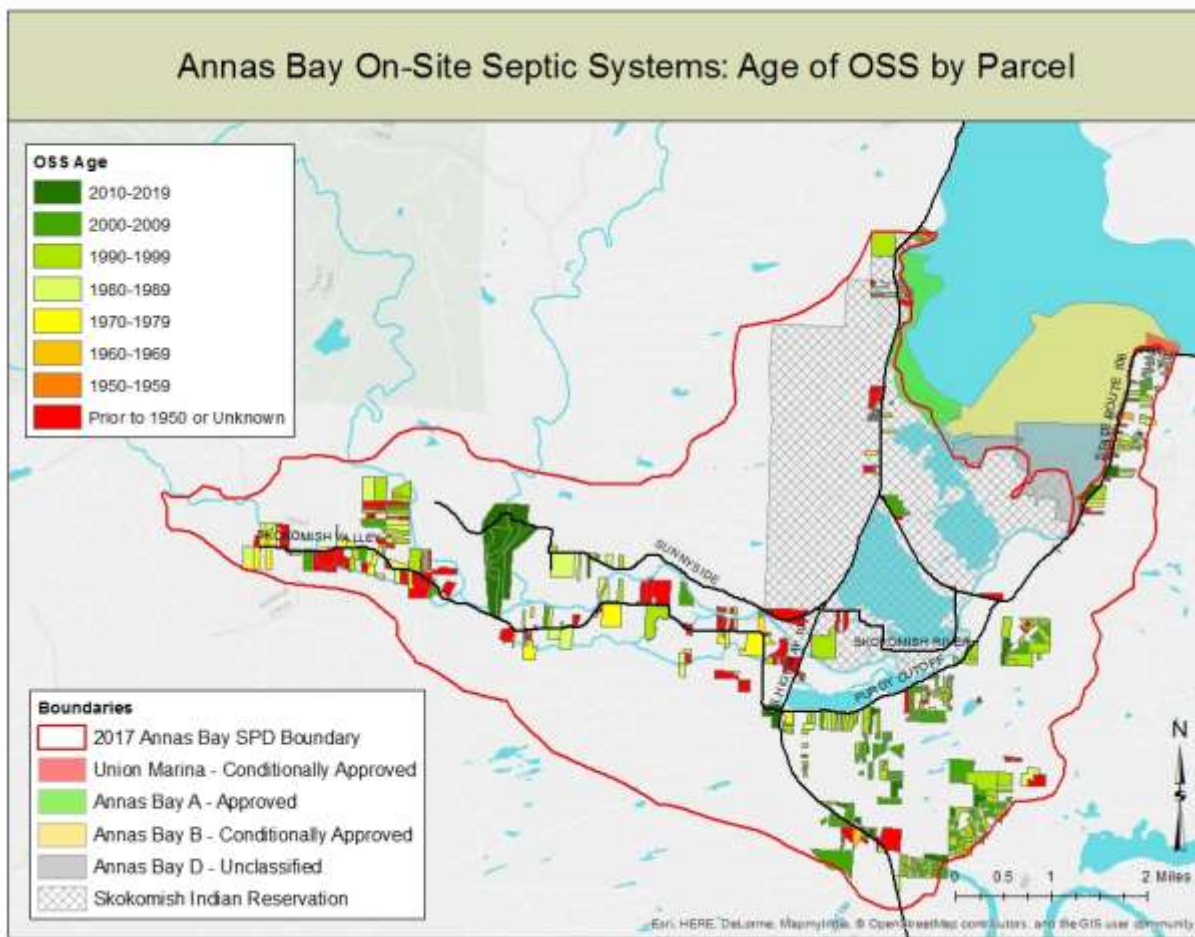


Figure 5. The figure above was created from a 6/15/2018 O&M database report.

Mason County lacks property records on a large portion of OSS, specifically their install date (Table 4). The Skokomish Valley houses the majority of OSS with an unknown install date or one prior to 1950. Systems with unknown install dates are of increased concern. Although ongoing O&M will increase the life of an OSS, they do depreciate and deteriorate over time. Older systems are at a higher risk of contributing to surface water pollution. MCPH will focus on these systems by completing sanitary surveys, sampling and offering rebate incentives for O&M.

Table 4. Distribution of OSS age in SPD by percentage.

2010-2019	2000-2009	1990-1999	1980-1989	1970-1979	1960-1969	1950-1950	Prior to 1950 or Unknown
49	156	191	63	64	30	8	146

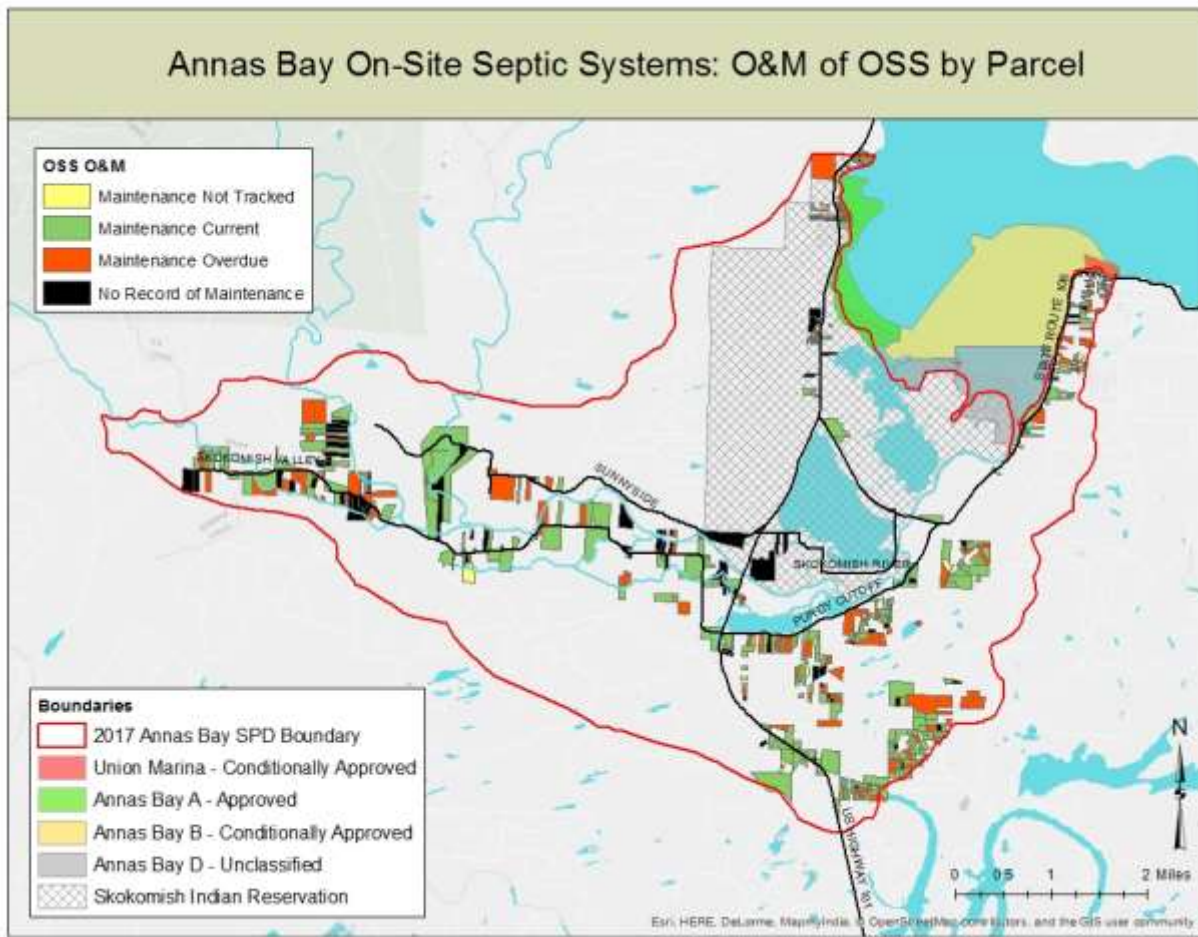


Figure 6. The figure above was created from a 6/15/2018 O&M database report.

Maintenance schedules and authorized inspectors are determined by the type of system (Table 6). MCPH will first prioritize systems with no record of maintenance and then systems that are overdue for maintenance. HCRPIC had secured funds for O&M incentives in the form of rebate vouchers. Vouchers may be used for pumping, O&M, upgrades (i.e. installing risers or effluent filters) or any repairs that are needed.

Table 5. Distribution of OSS Maintenance status in SPD by Percentage.

Maintenance Current	Maintenance Overdue	No Record of Maintenance	Maintenance Not Tracked
392	198	109	8

Table 6. Mason County OSS Maintenance Schedule.

Septic System Type				
Conventional Gravity	Conventional Pressure & Open Bottom Sandfilter	Mound & Sand Filter	ATU, Glendon, Recirculating, Gravel Filter, Sub-Surf. Drip, Textile Filter	Non-Residential & Commercial
Inspection Frequency				
Every 3 years	Annually	Annually	Annually	Annually, Testing may be required
Approved Service Provider				
Homeowner, Pumper, O&M Specialist	Homeowner, Pumper, O&M Specialist	Homeowner, O&M Specialist	O&M Specialist, Proprietary Device Licensee	O&M Specialist

History of Water Quality Projects in Annas Bay

- ❖ 1996-2002 Mason County Septic O&M Program
- ❖ 1998-2001 Mason County Land Acquisition and Restoration
- ❖ 1998-2001 Agricultural BMP Implementation
- ❖ 2002-2007 TMDL Septic and Agricultural Implementation
- ❖ 2002-Present Voluntary Septic O&M Program
- ❖ 2006-2007 Annas Bay SPD Restoration Study
- ❖ 2007-Present Skokomish Estuary Restoration
- ❖ 2008-2011 Shorebank Septic System Loan Program
- ❖ 2011-Present Craft 3 Septic Loan Program
- ❖ 2012 Potlatch State Park Sewer Conversion
- ❖ 2013-Present Hood Canal Regional PIC Program
- ❖ 2016-Present Skokomish Fish Parcel Shellfish Enhancement
- ❖ 2016-Present Skokomish HAB Monitoring

C. Strategy for Water Quality Improvement

Our goal is to take immediate steps to:

- Protect public health
- Reduce water pollution
- Meet state and federal marine water quality standards for commercial shellfish harvesting
- Ensure that marine water quality is maintained

Tasks:

1. Plan and coordinate Closure Response Plan development and implementation
 - MCPH coordinated with DOH, HCCC, and the Skokomish Tribe to develop this closure response plan.
2. Monitor marine and fresh water quality
 - DOH will continue to sample designated marine water stations for FC and MCPH will develop a sampling plan with shoreline and upland sampling on OSS risk identification and septic O&M. MCPH will work with HCCC to revise HCRPIC 3 work plan, Skokomish Tribe will work on tribal land
3. Control OSS pollution sources
 - MCPH will use our Risk Assessment Table, Mason County O&M database and previous successful tools to find, track, and resolve issues with OSS in the SPD (see Appendix B). The Skokomish Tribe will be investigating OSS issues on Skokomish tribal land.
4. Control agricultural pollution sources
 - MCPH will inventory agricultural activity in the SPD via sanitary parcel surveys and dashboard surveys and refer farmers and residents to MCD when appropriate. The Skokomish Tribe will be investigating agriculture and livestock issues on Skokomish tribal land.
5. Education and community capacity building
 - O&M rebates will be provided by HCCC and made available to OSS owners in the SPD. Rebates will only be offered for the duration of the current HCRPIC Phase 3 grant ending March 31, 2019. They are first come first served as funds remain available.

References

Book, S., Final Project Report for Grant #G0600332: Skokomish Annas Bay Restoration Study, Mason County Public Health, Shelton, WA.
http://www.co.mason.wa.us/health/environmental/water-quality/reports/annas-bay/annas_bay_final_report_2008.pdf

RCW 90.72., 2008, Shellfish Protection Districts, Washington State Legislature, Olympia, WA.

Schultz, J., 2012, Sanitary Survey of Annas Bay, Washington State Department of Health, Tumwater, WA.

Swanson, T., 2017, Addendum to the 2012 Sanitary Survey Report of Annas Bay, Washington State Department of Health, Tumwater, WA.

White, L., S. Berbells, 2011 Shoreline Survey of the Annas Bay Shellfish Growing Area, Washington State Department of Health, Tumwater, WA.

Appendix A: Annas Bay Shellfish Protection District Task Matrix

Objective & Task	Lead Agency/Partner	Timeline/Due Date	Funding Source	Status	Action/Products/Outcome
Objective 1: Planning, Coordination and Reporting					
Task 1: Identify accountable agencies & create SPD Advisory Team	MCPH	Ongoing	HCRPIC Phase 3	In progress	List of advisory group members
Task 2: Identify the boundaries & create a map of SPD	MCPH	5/16/2018	HCRPIC Phase 3	Completed	Map of boundary
Task 3: Create Draft Closure Response Plan	MCPH	5/16/2018	HCRPIC Phase 3	Completed	Draft work plan
Task 4: Ordinance creating SPD adopted by Commissioners	MCPH	Completed	HCRPIC Phase 3	Completed	Approval
Task 5: Annual SPD Reporting to DOH	MCPH	August, annually	Unfunded	Ongoing	Annual report
Task 6: Monthly Progress Report to HCCC	MCPH	March 31, 2019	HCRPIC Phase 3	Ongoing	Progress Reports
Task 7: Long term land use planning	Skokomish, MCPH, HCSEG, MCD, HCCC, ECY, WDFW	Continuous	Unfunded	Ongoing	i.e., purchasing flooded lands, flood plain restoration, sediment management, fish passage management, etc.

Objective & Task	Lead Agency/Partner	Timeline/Due Date	Funding Source	Status	Action/Products/Outcome
Objective 2: Monitor Marine and Fresh Water Quality					
Task 1: Marine water quality monitoring	DOH	Ongoing	DOH Program Funds	Ongoing	Data set
Task 2: Stream water quality monitoring	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Data set
Task 3: Shoreline water quality monitoring	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Data set
Task 4: Hotspot investigations via PIC process	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of sanitary surveys, dye tests, OSS failures, enforcement cases
Task 5: Water quality data management	MCPH, HCCC, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Data set
Task 6: Fall Storm event freshwater monitoring	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Data set

Objective & Task	Lead Agency/Partner	Timeline/Due Date	Funding Source	Status	Action/Products/Outcome
Objective 3: Control OSS Pollution Sources					
Task 1: Inventory location & risk level of OSS in SPD	MCPH	March 31, 2019	HCRPIC Phase 3	In progress	Risk assessment list including risk of drainfields impacted by flooding
Task 2: Sanitary/Parcel surveys and Site Visits	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In progress	Number of sanitary survey & final rating
Task 3: Overdue O&M notification	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of letters sent & response
Task 4: Dye test OSS of concern	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of dye tests & outcome
Task 5: Follow up on unsatisfactory reports	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of reports followed up on and results
Task 6: CRAFT 3 referrals	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of referrals & response
Task 7: Find solution for Minerva Beach Resort LOSS	DOH, Minerva Beach Resort	June 30, 2019	Program funds	In progress	Have a long-term plan of action to bring their LOSS into compliance

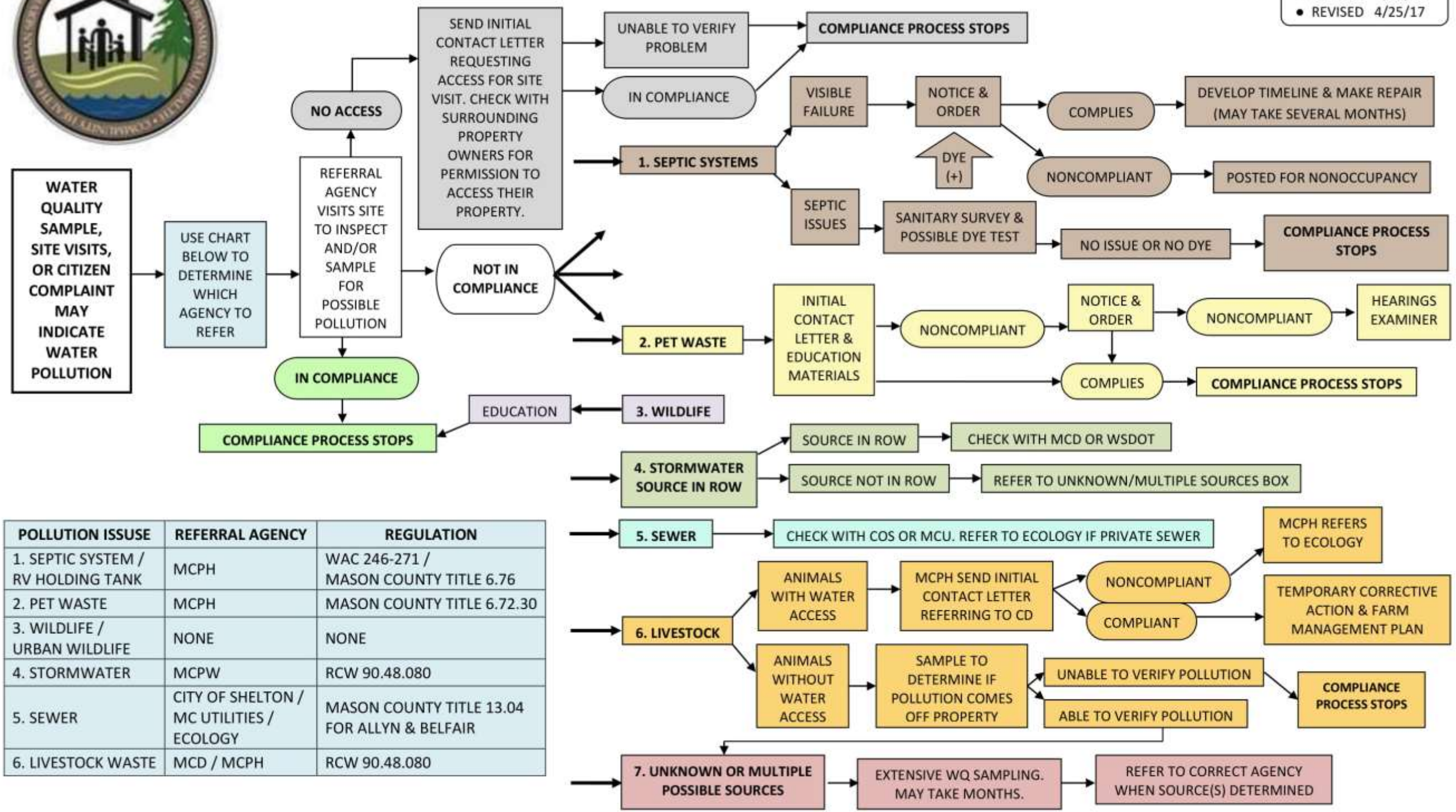
Objective & Task	Lead Agency/Partner	Timeline/Due Date	Funding Source	Status	Action/Products/Outcome
Objective 4: Control Agricultural Pollution Sources					
Task 1: Identify location and activity of farms for GIS	MCPH, MCD, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	GIS layer
Task 2: Refer farms in need of technical assistance to MCD	MCPH, Skokomish	March 31, 2019	HCRPIC Phase 3	In planning	Number of referrals, Skokomish will work on tribal land
Task 3: Provide technical assistance to farms	MCD, ECY	Ongoing	Program funds	Ongoing	Number of Farm Plans, Conservation Plans MCD; Number of sites referred to ECY for site visits or enforcement
Task 4: Inventory timing of animal removal from flooded area	MCPH, MCD	Ongoing	Unfunded	In Planning	Timeline and actions of seasonal animal removal

Objective & Task	Lead Agency/Partner	Timeline/Due Date	Funding Source	Status	Action/Products/Outcome
Objective 5: Education & Outreach					
Task 1: O&M incentives	MCPH	March 31, 2019	HCRPIC Phase 3	Ongoing	
Task 2: O&M Workshops	MCPH	TBD	Unfunded	TBD	



GUIDANCE FOR WATER QUALITY COMPLIANCE IN MASON COUNTY, WA

- DRAFT 4/1/14
- FINAL 5/20/14
- REVISED 4/25/17



On-Site Sewage System Risk Assessment

Date:

Parcel:

System Condition

	Factor	Low Risk	Medium Risk	High Risk
Carmody	Distance to Surface Water	Drainfield > 100 feet from surface water (0 pts)	Drainfield 50-100 feet from surface water OR tank is within 50 feet of surface water (5 pts)	Drainfield < 50 feet from surface water (10 pts)
	Type of System and Age	Conventional (gravity/pressure) installed after 1995 (0 pts)	Conventional installed prior to 1995 OR mound OR sand filter system (2 pts)	Conventional installed prior to 1975 OR ATU OR disinfection devices (4 pts)
	Operations & Maintenance	O&M on schedule AND no deficiencies identified (0 pts)	O&M on schedule AND deficiencies noted and corrected (2 pts)	O&M not on schedule* OR deficiencies noted and not corrected (5 pts) ATU not on schedule OR never serviced (7.5 pts)
Land Records	Access	Asbuilt up-to-date AND location known (0 pts)	No asbuilt BUT location known (serviced) (1 pt)	No asbuilt AND unknown location OR location inaccessible (2 pts)
	Previous Dye Test	No, never asked for dye test (0 pts)	Yes AND passed (1 pt)	Yes AND failed dye test** OR No, refusal (4 pts) Failed, since fixed (2 pts)
	Sampling Results (if available)	Clean AND within standards OR no samples taken. (0 pts)	Elevated hits OR inconsistent high hits BUT not confirmed hotspot (2pts)	Confirmed Hot Spot AND hits of >1000 FC (5pts)

Site Condition

Tidemark TaxSifter	Parcel Area	> 1.5 acres (0 pts)	< 1.5 acres (1 pt)	
Tidemark	Suitable Soil Depth	In situ soil greater than 48 inches (0 pts) Unknown (.5 pt)	In situ soil 24-48 inches (1 pt) ATU (.5 pts)	In situ soil less than 24 inches (3 pts) ATU (1.5 pts)
ArcMap	Soil Type	Soil type 4, 5, OR 6 (0 pts)	Soil Type 2 OR 3 (1 pt) ATU (.5 pts)	Soil type 1 OR 7 (3 pts) ATU (1.5 pts)

Total Points:

Rank order will be created after all systems are evaluated.

High dye test and survey priority: 11.5 or greater. Medium priority: 7-11. Low priority: less than 7.

All High Priority systems will be dye tested, with consent, unless rated "No Apparent Problem".

*-No service history and 10+ year old system, instant qualifier as top survey priority.

**-If no repairs/changes since failure, instant qualifier as top survey priority.