

Portage Bay Shellfish Advisory Committee Working Document April 2022

Objective	Advisory Committee Recommendations	Status	2014 Priority Level	Actions Taken (Since 2014 Adoption of Plan)	Specific Measures	What Still Needs to be Done (Identify ongoing needs, funds, completed)
	Overall	Ongoing	High	On June 17, 2014, County Council adopted the Portage Bay (PB) Shellfish Recovery Plan. The plan's highest recommendation was for the County to develop a locally driven and sustainable Pollution Identification and Correction (PIC) program. On Sept. 30, 2014, County Council approved Resolution 2014-305 to adopt the local PIC program.		Continue support for these ongoing programs.
	1.1: Provide letters of support for financial assistance programs for dairies to implement upgraded best management practices and updated nutrient management plans to protect water quality. Most of these funds are allocated through the state and the USDA Natural Resources Conservation Service (NRCS).	No Progress	Low	No letters of support requested.		
	1.2: Provide letters of support for technical assistance programs for dairies to complete risk management assessments and adaptively manage farm operations as conditions change to protect water quality.	No Progress	Low	No letters of support requested.		<p>Note: In response to 2021 flooding, funds have been made available for repairs and/or installing improved BMPs. There is little funding available for dairy farm planner to provide technical assistance. Work is underway to secure funding for broad dairy planning technical assistance funding. Provide letters of support for adequate funding. Conservation Commission funding for technical assistance has been greatly reduced in the past year. Holding pattern to determine funding in the next fiscal year.</p> <p>Note: Most manure is applied during the spring months, the spring closure has been lifted.</p>
	1.3: Provide letters of support for programs that provide financial assistance for aquaculture as well as upland farming.	No Progress	Low	No letters of support requested.		
	1.4: Continue concentrating investigation and enforcement follow-up in priority drainages identified through water quality monitoring programs using quality assurance project plans (QAPPs) and standard protocols. Due to the large number of non-commercial animal rearing operations throughout Whatcom County, an inspection program should be implemented for non-dairy commercial agricultural operations and hobby farms as well as dairy farms. Corrective actions should be taken when problems are found.	Ongoing	High	Water quality results are used to identify hot spots for follow up monitoring and landowner contacts. A series of letters (and fact sheets) are sent to landowners with non-dairy agriculture providing information about technical and financial assistance programs. There is not an inspection program for non-dairy commercial agricultural operations or hobby farms, unless the farm has a CAFO permit. Non-dairy farms with identified critical areas participating in Whatcom County's Conservation Program on Agricultural Lands (CPAL) with an approved Conservation Farm Plan receive biennial monitoring requests to confirm compliance with approved Best Management Practices to protect surface water quality. Non-dairy farms that do not qualify for the CPAL program may receive requests for site inspections from Ecology if there is evidence of a pollution source.	See note in Recommendation 4.2.	Continue exploration of the barriers to accessing non-dairy agricultural operations for routine inspections and/or how to evaluate sites that can not be observed from the road right-of-way in drainages with water quality hot spots.
	1.5: Dedicate adequate staff resources to support, uphold, and enforce the Critical Areas Ordinance (CAO). Provide farmers the flexibility to operate in CAO buffers through the Conservation Planning on Agricultural Lands (CPAL) Program. Provide farmers with the ability to voluntarily comply within a set timeframe prior to invoking enforcement actions. A tiered approach is recommended for this program which would include 1) community education, 2) involvement in fixing the problem (through technical and financial assistance), and 3) an enforcement backstop for landowners that do not voluntarily take action to protect critical areas and demonstrate egregious violations.	Ongoing	High	A new position was created in PDS for the CAO CPAL Program in 2015. This position reviews permit applications, follows up on water quality referrals, complaints, and implements long-term monitoring of farm plans. The program coordinates with Whatcom Clean Water Program outreach and compliance. Landowner contacts are initiated with outreach and technical assistance mailings, encourage work with the Whatcom Conservation District or other farm planner, and provides a regulatory backstop for landowners with CAO violations that do not take voluntary actions.	<p>Using a tiered approach for landowner contacts, 194 landowners with non-dairy agricultural operations in the Nooksack watershed have been contacted through the series of PIC Outreach letters. These letters encourage landowners in water quality focus areas or hot spots to connect with the WCD for technical and financial assistance. Landowners that do not respond to these incentive driven contacts that have observable CAO violations or discharges are referred to PDS for compliance outreach and follow up.</p> <p>Total number of total cases within the Nooksack Watershed since 2014:</p> <ul style="list-style-type: none"> • Closed Cases: 49 <ul style="list-style-type: none"> o Owners/operators who excluded ag. activities outside critical areas and associated buffers. o Confirmed by WCPDS staff. • Farm Plans: 55 <ul style="list-style-type: none"> o Submitted and received an approved Conservation Farm Plan. o Compliance with Farm Plan BMPs is reviewed every 2 years. • Number of active enforcement cases (March 2022): <ul style="list-style-type: none"> o 2 under review. o 5 pending resolution. o 2 on watch list. • Number referred to other jurisdictions: 17 	

	1.6: Provide technical assistance to non-dairy farmers to complete risk assessments of their farm operations and recommend solutions to protect water quality. Provide financial assistance to non-dairy farmers to implement the recommended solutions.	Ongoing	High	Whatcom Clean Water Program partners encourage landowners to work with the Whatcom Conservation District (WCD) for site evaluations, technical assistance in developing farm plans, and financial assistance for implementing BMPs. The WCD provides free, confidential, non-regulatory farm planning services to landowners that are both referred to the district or voluntarily seek assistance. When operators choose not to work with WCD, Ecology provides technical assistance regarding landowner obligations under state law and suggestions for farm improvements.	Since 2014: 277 sites received technical assistance from WCD (45 dairies and 232 non-dairy), 150 Farm Plans completed, 13 WC Cost Share Projects for \$31,000, 27 Small Farm Rebates for \$7,315 (established in 2018), 2021/2022 emergency manure transfer cost share	Research and summarize financial assistance programs outside of county funding.
	1.7: Support a collaborative team of local, state, tribal, and federal agencies to avoid duplication of roles and interactions with landowners. The team will meet periodically, share data, and share information regarding inspections.	Ongoing	Med-High	The Whatcom Clean Water Program is a partnership of local, state, tribal, and federal organizations. Bi-weekly field staff and monthly manager meetings assist with coordination and collaboration between agencies for monitoring, data sharing, community outreach, and landowner contacts.	Partnership involves regular participation from Whatcom County Public Works, Health, and Planning, Whatcom Conservation District, Washington State Departments of Health, Agriculture, and Ecology, Lummi Nation and Nooksack Tribe, National Resource Conservation Service, and the Environmental Protection Agency. Partnership works with shellfish advisory committees, Watershed Improvement Districts, Canadian partners, and other community groups and individuals. Field staff meeting every other week and PIC Managers meet monthly.	Consider branding of the Whatcom Clean Water Program (WCWP). This program has various funding sources with a variety of partners, including tribes. More information should be provided to the media about the partnership and everyone working together to gain further support to keep it going.
Control Agricultural Sources	1.8: Conduct a comprehensive review of the utility and adequacy of the Whatcom County manure management ordinance. Update the ordinance accordingly.	Partial	Med	Initial review of the ordinance, gaps in agricultural regulations and programs, was conducted in 2019/2020. This objectives of this ordinance are primarily captured through other programs. This ordinance is not being actively enforced at this time.		Review jurisdictional roles between County and State.
	2.1: Partner with Lynden, Ferndale, and other special districts (e.g. WIDs) to develop a program to assist with the maintenance of neighborhood stormwater ponds/facilities.	Partial	High	WCD/Whatcom County Public Works co-developed a video series for HOAs to guide maintenance of stormwater facilities. (www.whatcomcounty.us/2877/Private-Stormwater-System-Maintenance-Pr , www.lyndenwa.org/public-works/stormwater-management) WCD is providing support to the City of Lynden for stormwater outreach programs and coordinating with WCWP monitoring results. The City of Ferndale coordinates with WCWP monitoring and community outreach.		
	2.2: Provide support to Lynden, Ferndale, and other special districts for stormwater retrofits that provide water quality improvement and protection.	No Progress	Med-Low	No letters/support requested.		Request updates from small cities about stormwater programs and determine if there are opportunities for partnerships or support to address urban sources of fecal bacteria through retrofits projects.
Control Stormwater Sources	2.3: Identify potential areas for riparian restoration along tributaries to the Nooksack River and share these with Lynden, Ferndale, and other special districts for potential project partnerships.	Partial	Low	The WCD completed NWQI Assessments for Fishtrap, Bertrand, Wisner, and Tenmile watersheds. These assessments can be used to identify potential areas for restoration. Previous evaluations of riparian habitat have also been completed for freshwater and marine shoreline management areas through other local efforts.	CREP in Nooksack since 2016: 45 total projects; 139,891 ft of buffer planted; 270.4 acres of buffer; 135,319 seedlings planted; 26.5 miles of stream	Further research the value of riparian restoration for water quality protection in Nooksack watershed (rural and urban areas). Consider grass filter strips as well in agricultural areas. Consider partnership opportunities and other efforts underway for drainage-based management and climate actions that can provide multi-benefits to water issues.
	3.1: Provide support for the upgrade of the City of Everson wastewater treatment plant.	Complete		No letters of support were requested. Upgrade completed.		
	3.2: Request annual reports on the status of Everson, Lynden, and Ferndale wastewater treatment plants. Requested information would include how well operations met permit requirements, permit exceedances for bacteria levels, failures of the system (pump stations, etc.), maintenance/repairs completed, and any projected upgrades to the plant or collection system. Provide letters of support for needed repairs or upgrades of systems identified through these reports (e.g. grants, loans, etc.).	Partial	High	WWTP reports are submitted to the Washington State Department of Ecology and available publicly through the PARIS database (https://apps.ecology.wa.gov/paris/DocumentSearch.aspx). No letters of support were requested.	Everson and Ferndale received letters acknowledging the extreme weather conditions in November 2021 leading to exceedences in DMRs- no enforcement actions are required at this time. (Everson-TSS and chlorine, Ferndale-flow). Ferndale received a warning letter for a solids exceedence in July 2021. Everson permit expires 9/30/22. Lynden permit expires 10/31/22. Update needed for pump station failures, etc.	Review records in PARIS database on at least an annual basis. Request an update on the impact of November 2021 flooding on WWTPs and any plans for repairs/upgrades. Identify mechanism for tracking chronic issues like pump station failures. Provide support as needed for fixes.
	3.3: Review how sewage is treated in Deming, potential problems, and develop recommendations as needed.	Ongoing	Med	Sewage in the Deming area is treated through individual on-site sewage systems (OSS) or large on-site sewage system (LOSS). County Health sent OSS O&M mailings to 748 landowners in the Deming area (Anderson, Smith, and Mainstem Everson to Deming Subwatersheds) in 2016. State Department of Health (DOH) regulates LOSS and indicated there were no identified problems in the Deming area.	Add number of OSS contacted in Deming area and status. By 2017, 320 evaluations were completed by O&M specialists (7 failures identified). 100 evaluations were completed by certified landowners and 16 of these were audited. Updates needed.	Request an update in the fall 2022. Add information about failures found and repairs.

Control Wastewater Treatment Plant and On-Site Sewage System Sources	3.4: Expand the Marine Recovery Area (MRA) or Sensitive Area for the On-Site Sewage System Operation and Maintenance Local Management Plan to include priority drainages (based upon water quality) of the Portage Bay Shellfish Protection District. Require an evaluation of all OSS in these priority areas within three years once the area has been included in the MRA.	Ongoing	High	The Portage Bay Shellfish Protection District (Nooksack watershed) was designated as a Marine Recovery Area in 2015 and OSS O&M mailings were initiated in Nooksack subwatersheds. Evaluations are required every one to three years depending on the type of system. In 2020, routine mailings were postponed due to COVID response. O&M mailings were re-initiated in the summer of 2021 in Shoreline Management Areas (SMA). Systems that are out-of-compliance or have never been tested in the SMA areas will be the initial priority areas in the Nooksack watershed for OSS O&M mailings in 2021/2022.	As of January 2022, 37% of systems were in compliance with evaluation requirements, 53% were overdue for an evaluation, and 10% had never been evaluated (there are a total of 14,380 OSS in the Nooksack watershed). With the restart of OSS O&M mailings in 2021, 1389 letters were sent to landowners in the Nooksack watershed. There were 1468 evaluation reports submitted, 59 failures/complaints reported with 43 closed and 16 pending (32 repaired/replaced and 15 false positives).	Request an update in the fall 2022. Add information about failures found and repairs.
	3.5: Continue to support the low-interest loan program for OSS repairs and replacements.	Ongoing	High	The septic maintenance rebate program was established in 2014. These provide up to \$200 reimbursement for evaluations, O&M equipment installation, or septic tank pumping. Low interest loans for repairs and replacements are offered through the regional Craft3 loan program (since 2016). The criteria for the Craft3 program changed in 2021 and may affect how many landowners are eligible for the program.	As of January 2022, 445 septic rebates and 33 Craft3 low interest loans have been processed in the Nooksack watershed.	Evaluate the need for financial assistance for maintenance and repairs/replacements and determine if the need is being met.
	4.1: Continue implementing a water quality monitoring program with long-term ambient, short-term ambient, and bracketing elements. Routine monitoring should occur throughout the basin to characterize the mainstem of the Nooksack and the major tributaries to the Nooksack. Long-term ambient results will be reviewed once per year to identify new focus areas. Focus areas will have short-term ambient stations and bracketing monitoring to help identify sources of bacteria. Consider adding a long-term ambient station to characterize bacteria levels in Silver Creek.	Ongoing	High	A comprehensive water quality monitoring program continues to be implemented and coordinated between Whatcom Clean Water Program partners. Public Works conducts routine monitoring of the Nooksack watershed twice per month. One of these sampling runs is conducted the day prior to DOH marine sampling in Portage Bay. This run is also coordinated with BC partners, Lummi Natural Resources, Tenmile Clean Water Program, and state partners to capture a more comprehensive set of sites. Focus area sampling runs are conducted at least monthly in Fishtrap, Bertrand, Scott, and Kamm, and Tenmile watersheds. Bracket monitoring is conducted as follow up to elevated results as needed. ECY conducts storm event monitoring. ECY and WSDA conduct source identification monitoring in response to high results and/or conditions observed on the landscape. WCD is conducting a short-term storm event time series monitoring project to help characterize the patterns in bacteria concentrations throughout storm events in different seasons. Samples are collected at Silver Creek by Lummi Natural Resources (initiated 2016). Results are shared through an online interactive map and water quality summaries. A data coordinator position was created and is housed at the WCD.	As of 2022, there are 31 routine freshwater stations sampled twice per month, 4 Nooksack forks sites sampled once per month, and 61 focus area sites in the Fishtrap, Bertrand, Scott, Kamm, and Tenmile subwatersheds sampled 1-3 times per month. Bracket monitoring is conducted in response to elevated bacteria results. ECY conducts storm event monitoring in the fall and winter. Fecal coliform bacteria geometric means have decreased at 13 of 17 (76%) of routine freshwater stations that were monitored in 2014. At the end of 2021, 5 of 29 (17%) of routine stations were exceeding both parts of the fecal coliform benchmarks. The spring shellfish harvesting restrictions have been lifted, but fall harvesting restrictions remain in place.	Research critical factors to determine if shellfish bed closures can be managed differently. Seek additional research funds if needed.
	4.2: Monitoring data should be used to implement a response strategy to identify and address pollution sources. The previous Portage Bay Response Strategy will be reviewed to determine successes and challenges and to update the response strategy. Progress of the Whatcom Clean Water Program will be considered.	Ongoing	High	Preliminary water quality results are shared through an online map. WCWP field staff meets bi-weekly and discusses hot spots and follow up actions. When elevated results need immediate follow up (isolated elevated results, results > 1000 cfu/100mL, etc.), WCWP partners communicate to determine needed follow up (sampling, windshield surveys, review of OSS records, landowner contacts, etc.). Follow up sampling to high bacteria results is conducted as needed. Examples of bacteria sources that have been identified and addressed through follow up monitoring in the Nooksack watershed include (but are not limited to): <ul style="list-style-type: none"> •Bailing OSS •Manure storage •Bailing manure application equipment •Manure applications without adequate buffers •Manure applications in high risk situations •Animals with direct access to waterbody 	Flow chart describing monitoring, follow up to water quality hot spots, and agency roles was developed (see attached). This flow chart is reviewed and adapted as necessary.	Track effectiveness of various eDNA techniques for source identifications (EPA & Exact). Next steps may include: 1) adding local source feces to database to further refine, 2) seek funding to continue to develop this tool such as through a regional pilot project, and 3) partner with EPA on specific areas to help determine if there are human sources. Complementary work to help address questions about wildlife contributions in some areas includes: 1) amplify outreach about wildlife tracking applications (e.g. WCD) to build awareness and encourage regular input of data, 2) research changes in waterfowl populations during winter migration, and 3) determine effective tools to deter waterfowl from sensitive area, if needed. Recognize the challenges around wildlife sources and work to address human factors.
	4.3: Tributary reaches between sample stations should be ground surveyed to identify animal access and drainage from non-dairy commercial farms and hobby farms in addition to commercial dairy farms.	Ongoing	High	Windshield surveys and other reviews (drainage areas, OSS status, etc.) are a regular part of the fall strategy and follow up to water quality hot spots during all seasons. Surveys include a variety of factors that may result in elevated fecal bacteria in waterways. Windshield surveys are conducted from road right of ways. Changes in landscape and wildlife observations are also noted on field sheets during sampling runs. Follow up contacts with landowners encourage site visits. The WCD also offers the Coliscan tool (water quality tool) to help landowners identify potential problems on their site.	See note in Recommendation 4.2.	Update flow chart as needed.
	4.4: When a monitoring station has met the water quality standard for one year, sampling frequency should be reduced to one time per month (rather than twice per month) to focus resources elsewhere and to communicate progress in this drainage.	Partial		As of February 2022, there is one routine tributary station that is meeting both benchmarks for fecal bacteria (geomean and % of samples exceeding 200 cfu/100mL). In areas where water quality standards are being met, monitoring focuses on the keystone site for that drainage during the routine sampling run rather than a series of upstream sites in the drainage. There are difficulties for long-term data analysis that result from inconsistent frequency of sampling at keystone stations. In focus areas, the number of sites and/or frequency of sampling has been adjusted as improvements have been observed.	See note in Recommendation 4.1.	Create a matrix to guide reducing sample frequency in focus areas.

Monitor Water Quality	4.5: Partner with Ferndale and Lynden on urban stormwater sampling and source control.	In Progress	High	Coordinate monitoring and share elevated results with City of Lynden and City of Ferndale stormwater programs. City staff (or consultants) attend field staff meetings. A response strategy has been developed for follow up to elevated results in the urban portion of Fishtrap Creek (Lynden) and WCD helps support stormwater outreach and education programs. Ferndale conducts follow up sampling as feasible, coordinates with Health Department for follow up in areas with septic, and partners on pet waste outreach campaign.		Continue to coordinate monitoring and follow up with Lynden and Ferndale. Consider a more formal agreement with the City of Ferndale to guide response to elevated fecal bacteria result. Evaluate barriers to follow up monitoring in urban settings (e.g. staff capacity, access issues). Develop system to consistently track coordinated follow up to elevated results in urban areas.
	5.1: As a pollution identification and correction program moves into a new priority drainage, host a kick-off meeting to describe water quality issues and how the program will move forward in the specific drainage area. For each priority drainage, a standard process for community outreach should be implemented with a minimum of three community meetings (pre-project, mid-term, and project-end), postcard notifications, and a question and answer session. Periodically re-evaluate how to approach each focus area.	Partial	High	This specific approach was tried in the Drayton Harbor watershed in a couple of initial focus areas with mixed success. A consistent process has been created for a series of letters sent to community members in new focus areas or hot spots. Communication with the agricultural community continues through the Watershed Improvement Districts (WID) and Ag Water Board.		See Recommendation 5.3 below.
	5.2: Create an educational position at the Whatcom Conservation District to develop and implement a rural education program including topics such as small farms, manure management, pasture rotation, and OSS operation and maintenance. The program should be evaluated on a regular basis for effectiveness using surveys and other tools.	Ongoing		An Education Specialist position was created at the WCD in 2014 and an Education and Outreach Technician position was established in 2019. These positions work with the Whatcom County PIC Program and overall Whatcom Clean Water Program to provide community outreach and engagement programs for rural landowners as well as stormwater outreach programs in the City of Lynden. Programming includes a wide-variety of topics, events, and other networking such as farm series workshops, annual farm expo, school watershed education, watershed model, ENews and annual newsletters, social media, and community networking. These positions play key roles in the development and implementation of seasonal strategies and communications. A PIC Outreach Specialist position was also created in Public Works to support the growing community outreach and engagement program. This position coordinates with WCD and County Health to provide seasonal messaging as well as build outreach programming for septic maintenance, pet waste, urban wildlife, and other PIC topics and audiences. Surveys have been used to design, evaluate, and adapt outreach programs. Examples include WCD farm planning services, data accessibility, septic evaluate program, dog waste management, Neighborhood Ambassador program, and small farm improvement rebate program.		Continue outreach programs. Emphasize bringing communities together and supporting a networking system under a neutral entity.
	5.3: Create a community-driven, neighbor to neighbor process to communicate water quality problems and find community solutions.	Partial	High	Community groups that have been involved in the water quality work have included the WIDs and Tenmile Clean Water Project. Public Works and the WCD have worked with the North Lynden WID on water quality monitoring, joint letters to properties in the WID (northern portion of Fishtrap), and landowner contacts. WCD also provides water quality information to other WIDs at monthly meetings. Whatcom Family Farmers assist in communication about water quality data and concerns questions from agricultural community. The Tenmile Clean Water Project has conducted monthly monitoring in coordination with WCWP, provided water quality mailings, and other outreach to community members. Educational programs since 2014 have focused around building relationships, trust, and transparency. Understanding audiences, values, barriers, tools needed to help overcome barriers, and messaging that resonates with our audiences have been key to the development of new and engaging outreach programs. The Neighborhood/Community Scooping Ambassador Program was developed to create community messengers to support peer-to-peer communication about why properly managing pet waste is an important part of environmental and community health. The use of yard signs also helps create social norms around properly managing pet waste. Successes, challenges, and findings from this program can be assessed to ascertain if similar models can be used for other sources of fecal bacterial pollution.		Identify local groups and leaders that could assist with peer to peer communications about water quality issues and stewardship solutions and incentive programs. For example, in Skagit County, kitchen discussions with neighbors rather than local officials or staff have been successful. Consider how to take the local example of the Tenmile Clean Water Group to other neighborhoods. These efforts need grant funding for a coordinator, projects, and staff support. Consider Farmer to Farmer (uplands and tideflats) events. Identify other programs to partner with (e.g. drainage-based management) that encourage working together to solve problems with a focus on common ground.

	5.4: Work with community members and landowners to develop positive reinforcement by celebrating good BMPs and successes. Build community awareness of the issues, solutions, and continued progress. Examples include signs recognizing implemented BMPs (e.g. pasture rotation, cover crop signs) and regular progress reports to the County Council and newspapers.	Partial		A number of steps have been taken to engage community members in individual stewardship actions and share steps taken. Working to engage community groups, individuals, and organizations to help spread seasonal water quality messaging through community networking. WCD highlights farmers taking stewardship actions through landowner spotlights, peer panels in farm series workshops, and has developed cover crop signs that are posted in highly visible fields in the fall. Public Works has developed a Neighborhood Ambassador Program for the pet waste campaign. Whatcom County Council receives updates on the PIC Program and Shellfish Recovery Plans through formal updates as well as grant and contract discussions. Some connections have been made with local media, particularly around events or projects. However, a regular update process and reporting relationship has not been developed. Drayton Harbor has annual Shellebration event which includes stewardship awards. This type of event and/or regular recognition of community member successes has not been done in the Nooksack/Portage watershed.		
	5.5: Use public access television, radio, the internet, and newspapers as tools in community outreach to inform a broader community about water quality issues, patterns, impacts, and solutions to improve water quality.	Ongoing	High	A broad range of venues are used to share messages about water quality, stewardship actions, technical and financial assistance programs, seasonal tips, and community events. News and social media have become a larger tool for sharing messages, particularly in response to COVID restrictions. Radio ads, newspaper press releases and ads, electronic billboard and bus ads are also used. The WSDA also hosts a Storymap that is regularly updated with weather, water quality, and project/event information. On-going consideration is given regarding the different communication channel preferences for various demographics without our target audiences.		
	5.6: Provide training opportunities for individuals working in the shellfish protection district to learn about farm plans, the content and requirements, and how best management practices are adapted to meet changing land, animals, and environmental conditions.	Partial		Some existing opportunities include Whatcom Farm Expo, Farm Tours, and Run with the Chums.		Consider work parties or other on the ground actions that get community members out to assist. During the events share messages (e.g. shellfish, water quality and salmon) while focusing on specific hot spots or specific creeks). Brainstorm potential partnerships with other local organizations.
	5.7: Place signs at high public use locations at creeks that have consistently high bacteria levels (e.g. Lynden Park along Fishtrap Creek) alerting the public of the potential public health threat with water contact recreational activities.	Partial	High	Placing public health signs at high public use areas was researched. Examples of signs that have been posted included seasonal signs are placed at water recreation access points reminding people why and how to manage waste while recreating. Current efforts have focused on water recreation access points. Expanding the messaging and signage beyond just water access points may help increase awareness of the public and environmental health impacts, and may help with people develop a better understanding of how they are individual impacted by water quality in their day to day lives. There are challenges to posting signs with information that needs to be constantly updated, however recent projects with QR codes may provide opportunities to linking to water quality map or other information.		<i>This is a lower priority recommendation unless this is a pathway for outreach supported by a local group</i>
	5.8: Install signs at main creek crossings indicating current water quality status.	No Progress	Med	There was quite a bit of discussion initially on this but funding was not acquired.		<i>This is a lower priority recommendation unless this is a pathway for outreach supported by a local group</i>
	5.9: Work with Lynden, Ferndale, and other special districts to develop a comprehensive stormwater outreach program that will assist with meeting NPDES Phase II stormwater requirements for urban areas in the Nooksack drainage. The messages should connect stormwater, water quality, marine waters, and shellfish harvest. Include presentations to City Councils in this program.	Partial		The WCD is working with the City of Lynden on community outreach and citizen science programs to support stormwater management. A response strategy to elevated fecal bacteria results in the urban portion of Fishtrap Creek has been developed and is being implemented. The City of Ferndale stormwater staff participates in regular WCWP field staff meetings, coordinates water quality monitoring, and partners on stormwater community outreach programs (particularly the dog waste program).		Provide expanded support for voluntary actions by landowners to reduce impacts of impervious surfaces on stormwater (flooding, water quality, drainages). Request updates from cities about their stormwater program to determine opportunities for partnerships and support. Expand outreach for stormwater best management practices that can be implemented by landowners (e.g. rain gardens, rain barrels, etc.). Consider both existing and new development. Consider rural stormwater management practices and expanded stormwater outreach to these areas.
	5.10: Continue support for dairy and livestock education programs such as websites, presentations, and the dairy speaker series.	Ongoing		WCD programming includes a wide variety of programs to support dairy and livestock programs, including annual manure management training, regular farm series workshops (virtual pasture series currently), Application Risk Management (ARM) and Manure Spreading Advisory (MSA) programs, partnerships with Whatcom Family Farmers school programs, and many more. Dairy speaker series has changed to Farm Speaker Series. https://www.whatcomcd.org/programs		Continue support for these ongoing programs.
Engage the Community	6.1: Update the Shellfish Protection District ordinance in 2014 to continue the Portage Bay Shellfish Protection District through at least 2016.			The ordinance was updated in 2014 and 2019. The current sunset date for the Portage Bay Shellfish Protection District is December 31, 2022.		Continue SPD ordinance in 2022 for an additional four years. Four years is a management timeframe for tracking and evaluation progress. Break up the program into parts that can be completed and those that need to be a part of an ongoing and long-term, sustainable program.

Funding	6.2: Provide adequate funding to implement the Portage Bay Shellfish Recovery Plan.			Funding for the PIC Program includes local and grant sources. Staff capacity and services provided through grants are funded for specific time periods and tasks.		Develop a scaled budget for this program showing the range from a minimum program to a higher staff capacity program to meet needs to identify and address sources of bacteria and support a broad outreach program. Estimate funds needed from the county to support a sustainable program and funds that need to be sought from grants to supplement. Other grants beyond shellfish initiative available and should be pursued (e.g. stormwater).
	2017 Recommendation: Evaluate water quality at border stations.	Ongoing		Samples are collected at border sites in the Bertrand and Fishtrap subwatersheds. WCWP partners coordinate with BC partners to conduct coordinated 5 in 30 sampling in the spring and fall.		
	2017 Recommendation: Support the City of Lynden waiver of sewer hookup fee for landowners with septic systems within the city limits.	Ongoing				
New Topics to Consider	2022 recommendation for consideration. Work with BC partners to coordinate sampling and identify fecal bacteria sources north of the border. Encourage BC partners to rebuild staff capacity to continue work identified through the 3 year technical work group.			A Nooksack River Transboundary Water Quality Task Group was formed in 2018. A three year work plan was created with water quality goals and specific actions for both BC and Washington partners. The work plan and three year commitment ended in July 2021. Staff capacity in BC was greatly reduced. During the three year period, BC partners implemented monitoring, community outreach, and compliance tasks. The annual reports are posted at https://www.whatcomcounty.us/2172/Resource-Library .		Fecal bacteria spikes continue to be observed at times at border stations in the Fishtrap and Bertrand subwatersheds, often travelling to downstream sites. Recognizing that not all bacteria sources originate north of the border, request rebuilding staff capacity in BC to follow up on bacteria spikes. Tag the water quality discussions into flooding discussions.
	2022 recommendation for consideration. Reach out to community members and groups in each of the key subwatersheds of the Portage Bay Shellfish Protection District (e.g. Bertrand, Fishtrap, Scott, Kamm, Tenmile) to seek representation. Determine ways to get greater engagement from community members in the shellfish recovery program and advisory committee.					See Recommendation 5.3 above as well.
	2022 recommendation for consideration. Take a strategic approach to address climate change impacts, such as drier summers and wetter winters, to identify tools that fit the problem (various management tools beyond just riparian planting to consider).					How do we prepare for exceptional precipitation events and connections with stormwater?