Skokomish River
Detailed Implementation Plan
for Fecal Coliform Bacteria

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Developed by the
Skokomish Water Quality Workgroup

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Table of Contents

Acronyms and Definitions

Areas of concern	Those areas identified in the TMDL study as needing reductions in fecal coliform bacteria: Weaver Creek, Ten Acre Creek, and the mainstem Skokomish and Purdy Creek between the Highway 101 and Highway 106 Bridges
BMPs	Best management practices
CRP	Conservation Reserve Program
CREP	Conservation Reserve Enhancement Program
DFW	Washington Department of Fish and Wildlife
DNA Ribotyping	A method of analyzing the DNA in the bacteria found in feces to determine the host species
Ecology	Washington Department of Ecology
EPA	Environmental Protection Agency
EQIP	Environmental Quality Incentives Program
FC	Fecal coliform bacteria
GMV	Geometric mean value, a calculation of the concentration of bacteria in the water
Load	A measure of the total amount of bacteria carried by the water (i.e., concentration x flow)
mL	Milliliter
Mycoremediation	A soil remedy using mushrooms to "eat" bacteria
NRCS	Natural Resources Conservation Service
90^{th} percentile	A measure of the concentration of bacteria in water – 90% water quality samples won't exceed this value
O & M	Operations and maintenance
Point of compliance	A water quality sampling location that is critical for showing that water cleanup goals have been achieved
TMDL	Total Maximum Daily Load – the amount of pollution a water body can tolerate and remain healthy
TMDL study	*Skokomish River Basin Fecal Coliform Bacteria Total Maximum Daily Load Study* (Seiders, 2001) – this document is available on the web at http://www.ecy.wa.gov/pubs/0103014.pdf
Watershed	The area that drains into a given body of water
WRIA	Water Resource Inventory Area, an administrative term applied to certain large watersheds

Introduction

The federal Clean Water Act requires states to develop water cleanup plans (also called total maximum daily loads or TMDLs) for "impaired" rivers, lakes and streams. Impaired waters are those that do not meet water quality standards.

In addition, a lawsuit on behalf of Northwest Environmental Advocates and Northwest Environmental Defense Center requires the Washington Department of Ecology (Ecology) to complete TMDLs, by 2013, for all the impaired water bodies identified as of 1996. The Skokomish River is among more than 650 water bodies in Washington State are included in that requirement.

Ecology conducted a TMDL study of the lower Skokomish River and some of its tributaries during 1999 and 2000. That study, along with input from responsible government agencies, the Skokomish Tribe, and local residents, formed the basis for the Skokomish River Fecal Coliform Total Maximum Daily Load Submittal Report. EPA approved that Submittal Report in October 2001. The next step is development of a detailed plan for achieving water quality standards, including monitoring plans, measures of success, and reasonable assurances.

This document is the Detailed Implementation Plan for the Skokomish River. It is based on the *Skokomish River Basin Fecal Coliform Bacteria Total Maximum Daily Load Study* (Seiders, 2001, referred to in this document at "the TMDL study"), and the *Skokomish River Basin Fecal Coliform Total Maximum Daily Load Submittal Report* (Barreca, 2001). It has been developed by a workgroup that included representatives of agencies that have related responsibilities, the Skokomish Tribe, and individual citizens from the Skokomish watershed. Some of the citizens have been informed about the TMDL since the study began; others signed up to participate at the public meeting held for the submittal package. The following workgroup members participated in plan development:

Craig Chapman	Watershed resident
Wayne Clifford	WA Dept. of Health
Jorge Cortez-Monroy	Taylor Shellfish
Moiyra Dehe	Watershed resident
Leslie Dolan	Watershed resident
Keith Dublanica	Skokomish Tribe
Jeff Heinis	Skokomish Tribe
Chris Hempleman	WA Dept. of Ecology
Jim Hunter	Watershed resident
Shannon Kirby	Mason Conservation District
Steve Kutz	Mason County
Denis Popochock	WA Dept. of Fish and Wildlife
Debbie Riley	Mason County
Evan Tozier	Watershed resident

Purpose

Fecal coliform bacteria have been measured in several freshwater areas in the Skokomish watershed in concentrations that are considered a health risk to recreational users. In addition, areas of Annas Bay have shown fecal coliform levels in recent years that are close to exceeding the National Shellfish Sanitation Program's standard for commercial harvest. Department of Health sampling stations in Annas Bay that have the highest freshwater influence (from the Skokomish River) also show the highest bacteria levels {Clifford 2002}. There are concerns about protecting commercial shellfish harvest in the bay.

The purpose of this plan is to protect human health and economic resources. Implementation will correct fecal coliform pollution in the Skokomish River by controlling its sources. This will enable the river and its tributaries to meet water quality standards and to protect commercial shellfish harvest in Annas Bay.

Overview

The Skokomish River flows through a beautiful valley into southern Hood Canal. The headwaters are in the forested Olympic Mountains, while the lower areas of the watershed are primarily agricultural. The Skokomish Indian Reservation is located along the lower reaches. The River empties into Annas Bay, near the “elbow” of Hood Canal.

The economic base of the watershed includes agricultural as well as marine resources. Farms in the watershed range in size from hobby farms of a few acres, to family-owned ranches of several hundred acres. Livestock in the watershed includes chickens, pigs, goats, llamas, horses, cows, and even reindeer. Crops are also raised on some properties, including hay and Christmas trees.

Annas Bay supports commercial and recreational shellfish harvest. In addition, the Skokomish Tribe harvests shellfish for ceremonial and subsistence purposes. The entire area is popular with fishermen, and the mainstem Skokomish River and lower Vance Creek are popular with swimmers during summer months. The watershed also provides habitat to a variety of wildlife including beaver, otter, deer, elk and waterfowl.

Besides the “first people” of the Skokomish Tribe, a number of other families have lived in the watershed for generations. The people of the watershed value and care for their land. But there are issues in the Skokomish watershed that are beyond the control of the people living there.

Soils in the upper watershed are soft and highly erodable. Extensive logging and road building during the first half of the 1900s has resulted in large amounts of gravel and sediment being washed from the uplands into the lower watershed. In addition, a large part of the flow of the north fork was diverted to Cushman Dam for power generation, thus removing some of the hydraulic power needed to move sediment out of the river system. In response to the river’s widening, shallowing, and increasing tendency to jump its banks, residents began building dikes to artificially contain it. Over time, the bed of the river has been raised. In places, it is now well above the valley floor.

There has been a corresponding rise in the water table, which is at or above the ground surface several months of the year, and elevated from historic levels all the time. There has also been an increase in the frequency of flood events. The Skokomish overflows its banks several times a year, flooding homes and fields and stranding watershed residents. At times flooding takes down fences or clogs them with flood debris caught by, or trapped against, posts and wire.

There are different opinions about the best solution to the flooding problem. All of the proposed solutions have a cost well beyond the available funds, and all are politically and physically complicated. The Skokomish River Comprehensive Flood Hazard Management Plan, completed in 1996, was developed through a collaborative process. Large parts have been implemented, but there is more to do. Meanwhile, impact to the watershed residents is significant.

Mason County is currently not in compliance with Washington State's Growth Management Act, and generally tends towards less, rather than more, regulation. The county is primarily rural, the tax base is not large, and there are other pressing demands on county resources.

Support for the water cleanup process is not strong. Some of the residents and political leaders feel that flooding is the "real" problem, and should be addressed before water quality issues are addressed. However, other residents of the watershed feel that water quality is important for sustaining the local economy and quality of life, and that water quality has been degraded because existing regulations have not been enforced.

The Approach

This plan is meant to be a reasonable approach to achieving water quality within a realistic timeframe under difficult physical, political, and economic circumstances. It is based on the belief that encouraging voluntary actions is the best way to achieve sustainable improvement in water quality in the watershed.

In general, this plan incorporates outreach to let watershed residents know about the bacteria problem and its potential harmful effects, and practices on their land that can help. It reduces barriers to cooperation by providing, where possible, technical assistance and cost-share incentives. And it identifies programmatic changes that will help improve and sustain water quality.

While every effort will be made to achieve voluntary compliance, this plan also acknowledges that enforcement is the bottom line. Under RCW 90.48 it is illegal to pollute the waters of the state. Ecology is charged with enforcing that law, and will exercise its enforcement responsibility if required to do so in order to meet water quality standards.

The sources of contamination in this watershed are totally non-point; land use is homogeneous rural/agricultural. Actions throughout the watershed that prevent fecal material from entering surface water will help to improve water quality. Watershed residents are encouraged to consider the following actions:

- Prevent domestic animals from having direct access to streams. Livestock are the primary problem, but pets also contribute.
- Maintain the vegetation along streams. During normal rain conditions, it helps filter water flowing over the surface before it reaches streams. Under normal and flood conditions vegetation reduces bank erosion.
- Apply manure to fields at rates and times that allow for plants to use the nutrients rather than being carried by rain water or flood events into streams.
- Store manure in a manner that protects it from being carried into streams by rain water or flood events.
- Pump and inspect your septic system regularly. Attend to needed repairs.
- Encourage others who camp or fish on your land to bury their waste at least 6" deep, and well back from streams.

The TMDL study identified certain areas of the watershed where reductions in sources of fecal coliform are primarily needed. Those areas, referred to in the plan as the "areas of concern", are Weaver Creek, Ten Acre Creek, and the Skokomish mainstem and Purdy Creek between the Highway 101 and Highway 106 Bridges.

This plan is based on a phased approach that will be managed by an oversight workgroup. Membership will include agency representatives and any other members of the current workgroup who wish to continue. Phase one will address the obvious problems in the areas of primary concern. If monitoring data do not show improvement, or if interim goals set for December 2004 (see Monitoring section) are not achieved, we will move into phase two. In phase two, we will consider a broader range of cleanup actions throughout the watershed (see Table 1).

A number of source reduction actions have been implemented since the completion of the TMDL study, including decommissioning of high risk septic systems and installation of riparian fencing and plantings. An initial survey of the area of concern by the county and WA Department of Health (DOH) in August 2002 identified no remaining high risk septic systems. Therefore, the first effort will be to complete implementation of agricultural best management practices (BMPs) including streamside fencing and vegetation restoration. In the areas of concern upstream of Highway 101 significant progress has been made. Improvement is needed along the mainstem/Purdy Creek corridor between Highways 101 and 106.

The oversight workgroup will also implement a combination of use restrictions, enforcement, and outreach to reduce recreational sources of bacteria. Problems with human feces related to recreational use have been documented in the mainstem and Purdy Creek corridor between Hwy 101 and 106, and the area referred to by watershed residents as "the dips."

If improvement is not adequate through this first phase, we will expand our efforts to include more of the watershed and additional sources (including septic systems and additional agricultural sources), consider use of innovative approaches such as mycoremediation (using mushrooms to "eat" the fecal coliform bacteria in soil), and increase use of enforcement.

The Skokomish Tribe (the Tribe) will help track progress towards TMDL targets by monitoring at the points of compliance identified in the TMDL study. Additional sampling by the Tribe, as well as by other workgroup entities (if funding can be obtained), will help identify problem reaches and associated sources. It will also provide an initial evaluation of wildlife contributions. Ecology is ultimately responsible for determining compliance with the TMDL.

A workgroup of responsible agencies and interested watershed residents will continue to meet quarterly. This workgroup will oversee implementation of actions identified later in this plan, evaluate ongoing water quality monitoring for progress towards goals, and make implementation decisions.

Pollution Sources and Corresponding Organizational Responsibilities

Agriculture

Based on land use, agricultural practices are likely the primary source of bacteria in the area of most concern.

Livestock manure enters waterways when animals have direct access to streams, and when water running off the surface of the land carries feces into the water. Agricultural practices that are most critical to preventing bacterial pollution are:

- fencing to exclude animals from waterways,
- maintaining streamside vegetation,
- land application of manure at times and rates that prevent excess from being carried into waterways,
- storing manure so that it's not accessible to rain or flood waters,
- maintaining pastures and animal-keeping areas to minimize run-off.

Although frequent flooding in parts of the watershed during the winter months may reduce the effectiveness of some best management practices, the technical study for this water cleanup plan shows fecal coliform bacteria levels that exceed water quality standards throughout the year.

The Mason Conservation District (MCD) has primary responsibility for agricultural practices. The conservation district works with landowners on a voluntary basis. They provide technical assistance to landowners to develop farm plans, and suggest and design best management practices such as roof runoff, livestock access to waterways, rotational grazing, bridges, and alternative water sources. In some cases, the conservation district also has cost-share funds available to help landowners install best management practices, or for conservation easements. The conservation district has prioritized their work in this watershed towards the areas of concern.

Since the completion of the TMDL study in January 2000, the conservation district and watershed landowners have made a number of improvements aimed at reducing bacteria sources related to agricultural practices. Those improvements are listed below. The mainstem corridor and Purdy Creek between Highways 101 and 106 are missing from the list of improvements. This area of the river system, identified in the TMDL study as critical to bacteria reductions, has significant livestock use and is identified as a primary area for future improvements.

- Installation of riparian fencing to exclude livestock from creeks:

  - Beaver Creek – 1568 feet
  - Hunter Creek – 3894 feet
  - Weaver Creek – 2417 feet
  - Vance Creek – 2266 feet
  - No Name – 200 feet

  Total riparian fencing installed = 10,345 feet

  Weaver Creek is of particular interest, as it had the highest recommended reduction in bacteria concentrations in the TMDL study report, 68%. An additional 2339 feet of fencing is planned for installation along Weaver Creek by December 2002.

Flooding creates problems with fences in the Skokomish basin. Fences can be destroyed by flood waters and can trap debris, creating work for landowners. The conservation district and watershed landowners are working together to identify fencing alternatives that are practicable in this flood-prone area.

The conservation district currently has cost-share funds from a Centennial Clean Water grant through Ecology to provide cost-share assistance to landowners to install fences and riparian vegetation. If necessary, they can also cost-share alternative stock-watering devices. The funds in this grant are expected to last until about June of 2003. They are distributed on a first-come basis, with the conservation district actively seeking cooperation in the areas of concern. The conservation district plans to apply for additional grant funding, but the success of that application is uncertain.

- Riparian plantings through the Conservation Reserve Enhancement Program (CREP):

  - 28.1 acres mainstem Skokomish
  - 8.7 acres Weaver Creek (3 projects)
  - 8.3 acres No Name by Purdy Creek
  - 4.4 acres Hunter Creek

  Total CREP enrollment = approximately 50 acres

  Through CREP the NRCS "rents" riparian areas that have incomplete buffers. This federal program pays 100 percent of fencing and 100 percent of plants to develop an adequate riparian buffer (120 feet minimum, 180 feet maximum setback). It's usually on a 10-15 year option. Some land in the watershed is already enrolled and more is waiting to be funded. Continued funding for this program is uncertain.

  With funds from a Fish and Wildlife grant, the conservation district, in cooperation with the Skokomish Tribe and county, has been able to stockpile plants for future riparian plantings.

- Best management practices to improve water quality:

  The conservation district designs best management practices other than fencing that benefit water quality. Other management practices include roof runoff, livestock access to waterways, rotational grazing, bridges, and alternative water sources. Since the TMDL study was conducted:

  - 115 designed
  - 56 installed

- Workshops

  The conservation district sponsors several Horses for Clean Water workshops in Mason County each year. They also sponsor waste management workshops in specific areas.

In September 2002, the Mason County commissioners voted to pass a $5/property/year assessment to support a county-wide water quality program. One third of the funding from that assessment is designated for the conservation district. That money will allow the conservation district to continue providing limited technical assistance in the Skokomish after their current grant funding runs out during the summer of 2003.

The Department of Ecology also has a role in overseeing agricultural practices. Ecology, the Conservation Commission, and local conservation districts entered into the Agricultural Compliance Memorandum of Agreement in 1988. The agreement defines a consistent series of steps that coordinate Ecology's water pollution control responsibilities with the conservation district programs that provide technical assistance to landowners and farm operators. The steps are:

1) Ecology receives an agricultural complaint, then verifies whether the complaint is valid or not;

2) If a pollution problem is verified, the farm is referred to the local conservation district for assistance. If the problem is an immediate or substantial threat, Ecology requires immediate corrective action;

3) Usually, the farmer, working with the conservation district, has up to six months to develop a farm plan and an additional 18 months to implement the plan.

4) If the farmer chooses not to work cooperatively with Ecology or the conservation district, Ecology will take appropriate action, which may include formal enforcement.

In some situations, Ecology may initiate the investigation/enforcement process rather than responding to a complaint. This would typically be situations where the environmental concern is heightened, such as when shellfish beds are threatened, other public health or economic resources are at risk, or where water quality violations are being addressed through a TMDL.

Ecology initiated an investigation/enforcement process in the Skokomish watershed during the fall of 2001. However, when EPA approved the TMDL and work began on the cleanup plan, the process was put on hold. The intention was to achieve improvement through voluntary means to the extent possible. Ecology will resume the investigation/enforcement process if the oversight workgroup decides that it is needed, or if TMDL reductions cannot be achieved voluntarily.

On-Site Septic Systems

Residential septic systems are designed to use unsaturated soil beneath a rocky or sandy drainfield to remove bacteria from sewage and household wastewater. Soil compaction, clogging with solids and system overload from too much water can all cause failures of a septic system. Systems that are in water, such as an elevated water table or a flood event, cannot function properly

Mason County Environmental Health regulates on-site systems with a capacity less than 3,500 gallons/day. All septic systems currently in the Skokomish Watershed are under 3,500 gallons/day capacity. Two commercial systems are in compliance with county operation and

maintenance requirements. There are approximately 128-134 residential septic systems in the watershed. Almost all are more than ten years old.

In 1998, the county began a buy-out program for properties in the areas of the Skokomish watershed most highly impacted by flooding and high water tables. Using funds from a FEMA grant, the county has purchased 20 properties and decommissioned the associated septic systems. These buy-outs happened between 1998 and 2001, making some of the improvements concurrent with or subsequent to the Skokomish TMDL water quality study. These systems would have been highest risk for failure (being under flood water or within the water table much of the year).

In July of 2002, the county conducted a windshield survey of the Weaver/Ten Acre Creek area (where some of the largest bacteria reductions are recommended in the TMDL). They did not observe septic systems likely to be causing bacteria problems in the waterways. So the first phase of cleanup (see the Approach section of this report) will not include further actions to address septic systems. However the county is in the process of some programmatic changes that will, over time, improve water quality throughout the watershed.

The county is moving towards a county-wide operations and maintenance (O&M) program. They are currently conducting a pilot project in the Lower Hood Canal watershed. When that pilot project is complete in late 2003, the O&M program will be instituted county-wide. The county expects the program to be fully operational by the end of 2004. Under this program, in addition to permitting new systems, the county will provide reminders of required maintenance, and require proof of routine maintenance and inspections for new and existing systems.

In September 2002, the Mason County commissioners passed a special assessment of $5/property/year for 10 years. The assessment is dedicated to surface and ground water quality. Revenue will be split between the county (two thirds) and the conservation district (one third). These funds will allow the county to add two additional staff; conduct a county-wide ambient monitoring program; and conduct regular in-depth evaluation of county watersheds. Significantly, a portion of the funds will be dedicated to acting as match for additional monies from grant sources.

Washington SeaGrant will conduct at least one “septic social” per year in the Skokomish Watershed if funding is available. These neighborhood meetings help homeowners learn about operation and maintenance of their septic systems in a convenient and friendly setting. In addition to the septic socials, Washington SeaGrant conducts septic workshops in the county approximately every quarter. These workshops may be a more comfortable way for some residents to learn about care of their septic system. They are advertised in the local newspaper.

The Skokomish Indian Reservation. Most of the reservation is located within the flood plain and is subject to frequent flooding events. Some septic systems on the reservation are failing, most notably, those near the Skokomish River mainstem along Highway 106 and Skobob Creek. Some private wells are contaminated by bacteria during flood events, particularly those located along Sunnyside Road at the southern part of the reservation. In response, the Skokomish Nation has installed a water system that serves the core of the Reservation and will soon service

Sunnyside Road homes as well. Assistance in providing sanitary surveys and ultimate remedies to failing systems is necessary.

The Tribe is considering its ability to provide a small-scale wastewater treatment facility that would serve as a minimal sewer system for a portion of the reservation. Ecology conducted a preliminary hydrogeologic study and modeling analysis at the WDOT-owned site adjacent to Highway 101 on the Skokomish Reservation in 1999-2000 to evaluate the suitability of the site for rapid infiltration of treated municipal effluent. The study identified the south-central part of the site as most favorable for rapid infiltration. The study recommended avoiding areas where debris from landslides along Highway 101 had been placed and investigating possible impacts on groundwater and the adjacent wetland. The advent of a waste water treatment facility will allow the Tribe to abandon and decommission septic systems that are not functioning properly.

The Tribe is cognizant that such a system is going to be cost prohibitive in capitalization as well as continued operation and maintenance. They are completing the SEPA review of the site in order to provide for the next step in identifying and securing the funds (conservatively estimated at $6-7 million). A variety of grants and loans will be required for this project.

The conservative timeline for this project to achieve construction and operation of the system is within the next five years. The system may have the ability for additional expansion, to be determined by revenue projected from tying into the service by fee land and other non-tribal entities. The longer the Tribe waits for this implementation, the more costs will increase.

The Tribe is also considering relocation of residents most affected by flood events. The Tribe has looked at two parcels in the recent past, one on-reservation and the other off-reservation, for domestic residential development. Neither parcel is as yet secured. However, the Tribe is motivated to pursue this because of the ever-increasing problems with locating homes with standard on-site septic systems within the confines of the reservation, i.e., in the flood plain.

There is an opportunity for the Tribe to investigate experimental prototypes of on-site systems that may be a hybrid of composting or incinerating solid waste systems with greywater drainages.

The Washington Department of Fish and Wildlife (DFW) operates three hatcheries in the Skokomish Watershed. Two are located on creeks where large bacteria reductions are recommended in the TMDL (Weaver Creek and Purdy Creek); questions have been raised about their potential as a bacteria source. The workgroup has considered several possibilities:

- Fish feces – are not a potential source, as fecal coliform are specific to warm-blooded animals and fish are cold-blooded.

- Fish food – is made of various components, some of which are animal in origin. In 2001, Ecology conducted a water quality test on two samples of fish food. The analytical results were extremely low (i.e., below the detection limit). (Report on results in Appendix D).

- Wildlife, including birds, otters, and mink are attracted to the hatcheries by the food source. DFW manages the hatcheries with netting to deter birds, and hot-wires to discourage mammals.

- On-site septic systems at the hatcheries are a potential source that will be addressed as part of this plan. The three hatcheries have a total of eight on-site systems. DFW has made a commitment to get all systems up to date. Work will begin after July 1, 2002 (the beginning of the fiscal year). Time to completion will depend upon what, if any, problems are identified when the systems during inspection.

Recreation (uncontrolled human waste)

Some areas of the lower Skokomish River system have heavy recreational use during summer months and fishing seasons. There are no public toilets in these areas. This contributes fecal coliform bacteria to the river system, and poses other public health risks as well.

Two areas have been identified as being of primary concern. The TMDL study recommended action in the area of Highway 106 and along the Purdy Cut-Off Road. In addition, watershed residents have noticed problems with human feces in the area of "the dips" (the stretch of Skokomish Watershed Rd. between the Swift Creek bridge and the confluence of Vance Creek/Skokomish River).

The Dips. This area of the river is very accessible and has become a popular camping, swimming, and party spot. It is private property with no public facilities. Sporadic efforts by landowners to discourage use have failed.

The following steps have been identified to stop public use of this area:

- Post as much of the area as landowners allow with signs to indicate that this is private property and camping is not allowed. Word the signs in a positive way if possible, but also in such a way as to allow for legal action by the sheriff's department if that should become necessary. Signs will be durable but inexpensive. As they are torn down or destroyed, residents will replace them.

- Residents will watch for illegal use once the area is posted, and call the sheriff's office with reports. The sheriff's office will respond whenever possible. They may use warnings at first, but prosecution will also be an option.

- Simpson also has an enforcement person who will stop and talk with illegal users.

- A U.S. Forest Service campground sign on Highway 101 for the Browns Creek campground does not indicate that the campground is 20 miles or so up the watershed. Some residents have observed that would-be campers follow the sign without knowing how far to go. They stop at the dips because they've already driven a ways, and find an area that is obviously used for camping. A distance

indicator needs to be added to the campground sign on Hwy 101, and another sign is needed in the area of the dips indicating how much farther to Browns Creek. This would help to keep campers moving to an appropriate site.

The area of Highway 106 and along the Purdy Cut-Off Road. This area is heavily used during fishing season, roughly August through November. An accumulation of human feces was noticed during the TMDL study. The property is privately owned. Two actions are planned to reduce the public health risks from feces in this area:

- DFW is exploring options for providing sanitary facilties in this area.
- Outreach to fishermen in this area. Department of Health will take the lead in producing an educational flyer describing the problem, asking for help dealing with it, and indicating where to find the nearest public toilet. Agency staff and residents will leave flyers on windshields of cars parked along this reach of the river.

Wildlife

The TMDL study did not quantify the contribution of different possible sources of fecal coliform bacteria. The study also did not give an allocation to wildlife. If significant wildlife contributions are documented, further reduction may be required of human-related sources.

Regardless of the source, Washington water quality standards are based on total fecal coliform in the water. The limit is set to protect human health.

During the initial stages of implementation, source identification will be approached by sampling in areas likely to have high wildlife populations, to evaluate their contribution to the overall problem. The Skokomish Nation conducts monthly water quality sampling in a number of locations in the watershed, and can monitor specific reaches to help identify sources. If implementation activities fail to show adequate improvement in water quality, a source identification study based on DNA ribotyping, antibiotic resistance, or some other method may be warranted. Workgroup members will need to identify funding for this study if it is deemed necessary.

Table 1: Management Roles, Activities, and Schedules

* Funding sources in bold type have been secured. Others are possible sources.

CCWF- Centennial Clean Water Fund (through Ecology – application during January and Feb.
CDBG – Community Development Block Grant (Office of Community Development – application during November)
FEMA- Federal Emergency Management Act
PIE – Public Information and Education (through Puget Sound Action Team)

Pollution Source	Responsible agency	Action	Status/schedule	Funding*	Phase
Agriculture	Mason CD	Farm planning and technical assistance on BMPs	Ongoing – priority on areas of concern	**CCWF through 6/03** (will apply for additional funding)	One
		Install riparian livestock-exclusion fencing and plantings	Ongoing – priority on areas of concern		One
		BMP workshops to reduce the amount of manure reaching waterways	Ongoing	**CCWF**	One
		Conservation Reserve Enhancement Program (riparian protection)	Ongoing – priority on areas of concern	**CREP**	One
		Environmental Quality Incentive Program	Ongoing – priority on areas of concern	**EQIP**	One
	Ecology	Enforcement (agricultural sources)	As needed to reduce sources of manure to waterways, when voluntary compliance has not been achievable.	**Ecology**	One in area of concern- Two in other areas
	The oversight group will determine who assumes responsibility for these actins if/when we move to Phase 2	Investigate manure disposal options	Potential approach to reduce sources of manure to waterways	CCWF	Two
		Innovative technologies	Potential approach to reduce sources of manure to waterways	CCWF	Two

Pollution Source	Responsible agency	Action	Status/schedule	Funding*	Phase
Septic Systems	Mason County	Buy-out of frequently-flooded properties	20 properties between 1999 and 2001.	**FEMA grant**	One
		County-wide O&M Program	Pilot began fall 2002. Will be county-wide by end of 2004.	CCWF	One
		Septic inspect/repair/replace incentive program.	Funding-dependent	*CDBG, Flood Board monies*	Two
		Investigate commercial septage storage along waterways	By January 2003		One
	Mason County, DOH	Windshield survey to identify high risk septic systems.	Done in high priority area 8/2002.		One
			Other areas of watershed.		Two
	Washington SeaGrant	Septic socials (neighbor meetings) one on reservation and one up valley	During 2003	Funding uncertain	One
		Septic workshops	Quarterly around Mason County	Funding uncertain	One
	Skokomish Tribe, DOH	Survey of on-site septics on the reservation	**	**Skokomish Tribe, DOH assistance**	One
	Skokomish Tribe	WWTP – Skokomish Reservation	Scoping and permits. Could be on line by 2007. Funding dependent.	*CCWF, CDBG*	TBD
		Relocation of residences in frequently-flooded areas of Skokomish Reservation	Dependent on funding and availability of suitable land.	Funding uncertain	TBD
	DFW	Pump/inspect/repair eight systems at three hatcheries	Inspect during 2003 fiscal year. Repair/replace as budget allows.	**DFW**	One

Pollution Source	Responsible agency	Action	Status/schedule	Funding*	Phase
Recreation *The dips*	Ecology work with USFS	Add mileage to Browns Creek Campground sign on Highway 101	By May 2003	USFS or oversight group will seek funding source	One
	Ecology look for funding; residents maintain signs	Post as private	By May 2003	Oversight group will seek funding source	One
	Sheriffs office; Simpson; residents must report	Enforcement	Through 2003 recreation season		One
Mainstem and Purdy Ck between Hwy 101 & 106	DFW	Provide public toilet August-Nov	By August 2003	DFW, private or other	One
	DOH lead in producing flyer	Educational flyer, distribute through local outlets, and by residents and agency staff leaving on windshields of fishermen in area.	August thru November 2003 and maybe beyond	DOH	One
Wildlife	DFW	Control wildlife at hatcheries	Ongoing	**DFW**	One

Measuring Progress Toward Goals

The purpose of this plan is to protect human health and economic resources. Washington's water quality standards for fecal coliform bacteria in freshwater are based on protecting recreational users from exposure to harmful bacteria and viruses associated with feces. Standards in marine water are based on the National Shellfish Sanitation Program's standard for commercial harvest. To assure the safety of commercially harvested shellfish, marine standards for fecal coliform are lower (and therefore more restrictive) than those allowed in freshwater.

Since the Skokomish River empties into Annas Bay, the bacteria concentrations in the river affect the water quality of the Bay. The TMDL study calculated target concentrations and loads of fecal coliform based on protection of shellfish harvests in Annas Bay.

The study established target bacteria concentrations and load allocations for the following four locations. These locations are referred to as the "points of compliance" because they will be the critical places for determining that target reductions have been achieved.

Table 2. Fecal coliform target concentrations and load allocations

Site	GMV study	Target FC GMV	90th percentile study	Target 90th percentile	Percent reduction	Target FC load (FC/day)
Weaver Creek (at W Bourgault Road bridge)	55	17.5	314.6	100.0	68%	5.86E + 10
Ten Acre Creek	34.1	25.6	133.2	100.0	25%	8.23E+09
Purdy Creek (at E Bourgault Rd)	54.3	25.7	146.6	69.4	53%	1.16E+11
Skokomish River at Hwy 106 Bridge	32.8	18.5	120.3	67.7	44%	7.52E+11

The Skokomish TMDL recommends the Skokomish River at the Highway 106 Bridge as the main point to monitor for compliance with the TMDL. Target levels at this location should be reached if upstream sites meet or better their allocated loads.

Geometric mean value (GMV) and 90th percentile are measures of the *concentration* of bacteria in the water. The geometric mean bacteria concentration at the Highway 106 Bridge during the TMDL study was 32.8, and the geometric 90th percentile during the TMDL study was 120.3. The targets are GMV 18.5, and 90th percentile 67.7. The workgroup anticipates achieving interim targets of a GMV concentration of 23.0, and a 90th percentile of 97 by December 2004.

Compliance with the TMDL will ultimately be measured by achieving the target fecal coliform load. *Load* is a measure of the total amount of bacteria being carried by the water, i.e.,

concentration x flow. We anticipate achieving compliance with GMV values, 90th percentile values, and load reductions by December 2006.

Progress will be measured in terms of sampling data, and in terms of meeting the implementation commitments in Table 1 above. The oversight workgroup will continue to meet quarterly to follow through on implementation and evaluate progress.

The first important milestone is December 2004. If the target concentration (GMV 23.0 and 90th percentile 97) at the Highway 106 Bridge has not been reached by that time, the workgroup will start working on phase two strategies.

Monitoring Plan

Several entities conduct monitoring programs in the watershed. Together, these monitoring programs meet the following goals:

1. Ambient monitoring: What are the water quality conditions and trends over time?
2. Source identification: Where are the bacteria coming from?
3. Effectiveness monitoring: Are the implementation measures improving water quality?
4. Compliance monitoring: When have we reached the reductions required in the TMDL?

The largest monitoring program is conducted by the Skokomish Tribe, which monitors a number of locations in the watershed every month. Samples are tested for fecal coliform at the Mason County Lab and for dissolved oxygen in the field. The Tribe will include the points of compliance as sampling locations until compliance is reached. These four stations are important for effectiveness and compliance monitoring, because the TMDL study specifically identified the bacteria reduction required at these points. Other sampling locations are more flexible, and may be moved to meet specific needs, including effectiveness monitoring and source identification. The Tribe will continue to monitor for fecal coliform to measure the success of implementation of this plan, and to identify new sources of fecal coliform that might occur in the future.

The Washington Department of Health monitors water quality for fecal coliform bacteria at several stations in Annas Bay six times per year. Highest bacteria levels combined with highest freshwater influence are found at stations located nearest the mouth of the Skokomish River, indicating that the river is the most likely source of bacteria {Clifford 2002, please see Appendix B}. DOH will continue this monitoring program, providing ambient and effectiveness monitoring data.

Ecology has a long-term monitoring station at the Highway 101 Bridge which provides ambient monitoring data. There is capacity for Ecology to add a station for one year at a time.

The workgroup has also applied for a monitoring grant through the WRIA 16 planning unit. If awarded, these grant funds could provide additional source identification and effectiveness

monitoring. Another element of the grant would provide funds to evaluate the water table elevations, helping to identify areas that have a higher risk for septic system failures.

If adequate improvement in water quality cannot be achieved using the methods described above, an additional source tracking study using DNA ribotyping, antibiotic resistance, or some other method may be conducted. This would help to further evaluate whether sources are human, domestic animals, or wildlife. A study to establish natural levels of bacteria (i.e., the *amount* from wildlife) might also be considered.

A portion of the Skokomish workgroup will continue to meet quarterly, beginning in March of 2003, to manage implementation. Meetings will continue until monitoring data show that reductions identified in Table 2 have been achieved (as determined by Ecology, please see above).

The Skokomish Tribe's sampling program is the base for TMDL monitoring. Ecology assured the quality of tribal data during the TMDL study, and will reevaluate as part of determining TMDL compliance. The oversight workgroup will use sampling data from the four points of compliance to evaluate progress toward TMDL reductions. The workgroup will also make the determination whether, in December of 2004, data from the 106 Bridge location requires implementation of phase two strategies. They will use sampling data from other locations, and from other agencies' sampling programs, to evaluate effectiveness of actions taken, and to target next steps throughout implementation. Staff from Ecology's effectiveness monitoring program will participate in these evaluations.

The continuing workgroup, the Tribe's water quality monitoring expert, a representative from Ecology's effectiveness monitoring program, and possible others will meet in April 2003 to develop a Quality Assurance Project Plan for the ongoing monitoring program.

Table 3: Sampling locations, frequency, and responsible entities**.**

	106** Bridge	Purdy Ck* at Bourgault Rd.	Weaver Ck* at Bourgault Rd.	Ten Acre Ck *	101 Bridge	Annas Bay	Additional locations
Skokomish Tribe	1/mo.	1/mo.	1/mo.	1/mo.	1/mo		various 1/mo
Dept of Health						6/year	
Dept. of Ecology	Can be added as needed				1/month		

* point of compliance
** primary point of compliance

Determining compliance with the TMDL

Ecology is responsible for determining the status of waterbodies following development and implementation of each TMDL. Compliance with a TMDL is determined by statistical analysis of water quality data to measure whether load reductions identified in the TMDL study have been achieved.

Monitoring may be conducted by Ecology or by other entities. The timing will depend on the pollution parameters addressed in the TMDL, the period after which positive results should be identifiable, and the availability of resources.

Ecology will participate in analyzing monitoring data for quality assurance, and to evaluate compliance. This process will include consultations with the original TMDL modeler to determine critical parts of the implementation plan and to verify critical locations. The regional office TMDL coordinator will verify the status of the TMDL implementation plan.

Following examination of the data, Ecology will make a water quality status determination for the waterbody. That determination will be announced in an advisory memorandum followed by a technical report.

Ecology will also be conducting five year reviews on this and all completed TMDLs, to assure that water bodies stay in compliance.

Reasonable Assurances

The water quality assessment recently approved by the Mason County commissioners is a major step towards assuring water quality improvement. The assessment, dedicated to water quality for a 10 year period, will fund programs for both the county and the conservation district. Further water quality protection will be achieved when the county septic operations and maintenance program is operational, expected in 2004.

The Washington Department of Health has responsibility for overseeing the commercially harvested shellfish beds. Their program for monitoring the health of Annas Bay shellfish beds will continue. Further decline of those shellfish beds will result in a downgrade to threatened status. Downgrade would trigger mandatory formation of a shellfish response district and require the county to form a shellfish protection district, and to develop and implement a shellfish response strategy.

Key members of the workgroup that developed this plan will continue to meet quarterly. This continuing workgroup will oversee implementation of the activities in Table 1, develop a monitoring plan, evaluate water quality progress based on sampling data, and make any necessary adaptive management decisions.

Ecology, through delegation from EPA, ultimately has responsibility for assuring implementation of the elements of this plan. Education and outreach, technical assistance, and enforcement will be used to ensure compliance with the Skokomish TMDL. Generally, the first

step in implementing control actions will be referral to agencies with technical or financial assistance missions. If those tools are not effective in achieving implementation of control measures, enforcement will be used. In addition, Ecology will conduct five year reviews of this and all other completed TMDLs to assure that water quality improvements are maintained.

On the Skokomish Reservation, the Tribe and EPA have responsibility for enforcement of water quality standards.

Enforcement

The Water Pollution Control Act (chapter 90.48 RCW) provides broad authority to issue permits and regulations, and prohibits all discharges to water. The act openly declares that it is the policy of the state to maintain the highest possible standards to ensure the purity of all waters of the state and to require the use of all known, available, and reasonable means to prevent and control water pollution. The act defines waters of the state and pollution and authorizes the Department of Ecology to control and prevent pollution, to make and enforce rules, including water quality standards. The act also designates Ecology as the state water pollution control agency for all the purposes of the federal Clean Water Act. Under this statute, Ecology is authorized to administer wastewater disposal permits and to require prior approval of plans and methods of operation of sewage or other disposal systems.

The Skokomish Nation's water quality standards are in the development stages. They anticipate adoption and implementation by the end of 2003. Tribal staff expects to draft the water quality standards that will be very similar to EPA's water quality standards. The Tribe and EPA are responsible for enforcing water quality standards on the reservation.

Public Involvement

This plan has been developed by a workgroup including:

Craig Chapman	watershed resident
Wayne Clifford	WA Department of Health
Jorge Cortez-Monroy	Taylor Shellfish
Moiyra Dehe	watershed resident
Leslie Dolan	watershed resident
Keith Dublanica	Skokomish Tribe
Jeff Heinis	Skokomish Tribe
Christine Hempleman	WA Department of Ecology
Jim Hunter	watershed resident
Shannon Kirby	Mason Conservation District
Steve Kutz	Mason County
Denis Popochock	Washington Department of Fish and Wildlife
Debbie Riley	Mason County
Evan Tozier	watershed resident

Staff members represent those agencies which have regulatory responsibilities or economic interest that relate to water quality. Some watershed residents have been involved with the TMDL since the study began; others volunteered to participate in cleanup plan development at the public meeting held in April 2002, or by contacting another workgroup member. In addition to those listed above, Washington Department of Fish and Wildlife, Mason County Sheriffs Office, Simpson, and the Environmental Protection Agency participated in key meetings.

The workgroup met every two weeks from April through August 2002, and every three weeks from September through November. The workgroup was chaired by Shannon Kirby of the Mason Conservation District. Nancy Lowe of the Department of Ecology took meeting minutes.

The Department of Ecology and county staff briefed Mason County Commissioners about plan development at the beginning of the process. In addition, the workgroup felt it was important to make the workgroup process available to watershed residents, and took the following steps to see that happened:

- Website: Ecology has maintained a website (http://www.ecy.wa.gov/programs/wq/tmdl/watershed/skokomish/index.html) that includes links to all documents related to the Skokomish River Basin Fecal Coliform TMDL. We have also posted minutes from workgroup meetings and notice of upcoming meetings. The Detailed Implementation Plan will be posted on this site.

- A letter was mailed to all watershed (and nearby) residents (527 mailstops) in August. The letter provided information about the bacteria problem in the watershed, and the cleanup planning process to address it. It invited watershed residents to attend workgroup meetings and provided logistic information, told them about our website, and gave them the names and contact information for workgroup members. (Letter attached in Appendix C)

Outreach for the public comment period on the draft Detailed Implementation Plan included:

- Briefings by the workgroup for the Mason County Commissioners
- A public comment period from January 6 through February 15, 2003.
- A public meeting on January 28, 2003.
- Notice of the comment period and public meeting mailed to all watershed residents.
- A display ad announcing the comment period and public meeting in the Shelton-Mason County Journal.
- Notice of the comment period and public meeting on the website.
- Public review drafts available on the website and at the Tribal Center, Purdy Canyon Drive Inn, and the Hoodsport public library.

One comment was received during the comment period. Appendix B contains copies of the comment on the draft Detailed Implementation Plan, meeting minutes and outreach materials.

Funding Opportunities

Potential funding sources:

Centennial/SRF/319 – These three funding sources are managed by Ecology through one combined application program. Funds are available to public entities as grants or low-interest loans. Grants require a 25% match. They may be used to provide education/outreach, technical assistance, for specific water quality projects, or as seed money to establish various kinds of water quality related programs or program components. Grant funds may not be used for capital improvements to private property. However riparian fencing, riparian revegetation, and alternative stock water are grant eligible.

Low-interest loans are available to public entities for all the above uses, and have also been used as "pass-through" to provide low-interest loans to homeowners for septic system repair or agricultural best management practices (loan money can be used for a wider range of improvements on private property), for instance.

Conservation Reserve Enhancement Program (CREP) – Provides incentives to restore and improve salmon and steelhead habitat on private land. This is a voluntary program to establish forested buffers along streams where streamside habitat is a significant limiting factor for salmonids. In addition to providing habitat, the buffers improve water quality and increase stream stability. Land enrolled in CREP is removed from production and grazing, under 10-15 year contracts. In return, landowners receive annual rental, incentive, maintenance and cost share payments. The annual payments can equal 100% of the weighted average soil rental rate (incentive is 110% in areas designated by Growth Management Act). Administered by the Mason Conservation District.

Conservation Reserve Program (CRP) – A voluntary program that offers annual rental payments, incentive payments for certain activities, and cost-share assistance to establish approved cover on eligible cropland. Assistance is available in an amount equal to not more than 50% of the participant's costs in establishing approved practices; contract duration between 10-15 years. Administered through the Mason Conservation District.

Environmental Quality Incentives Program (EQIP) - This federally funded program is also managed by Mason Conservation District. EQIP:

- Provides technical assistance, cost share payments and incentive payments to assist crop and livestock producers with environmental and conservation improvements on the farm.
- $5.8 billon over next 6 years (nationally).
- 75% cost sharing but allows 90% if producer is a limited resource or beginning farmer or rancher.
- Program funding divided 60% for livestock-related practices, 40% for crop land.

- Contracts are 1 to 10 years.
- NO annual payment limitation; sum not to exceed $450.000 per individual/entity.

2514 Planning Unit for WRIA 16 – Through this planning process, citizens and agencies are evaluating and making recommendations for the water resources in the Skokomish and Dosewallips watersheds (which have an administrative designation as Water Resource Inventory Area, or WRIA, 16). Funding is made available from time to time through the Washington legislature for different purposes, including some funds for water quality related projects.

Flood Control Zone District – authorized by RCW 86.15. It may be possible, through use of the flood control zone district funds that have been collected, to provide low-interest loans to watershed residents to repair or replace failing or poorly situated septic systems.

The Public Involvement and Education (PIE) program, is administered by the Puget Sound Action Team. PIE dollars help citizens, schools, businesses, non-profits, local and tribal governments to:

- Create solutions to local pollution problems
- Protect, preserve and restore habitat
- Motivate people to be environmental stewards
- Partner with others for lasting results

PIE is not a grant program. Instead, through personal services contracts, the Puget Sound Water Quality Action Team obtains the services of individuals and organizations to educate and involve residents of Puget Sound as they carry out the 2001 - 2003 Puget Sound Water Quality Work Plan. The Action Team staff provides guidance on fulfilling a state contract as well as technical assistance related to the project.

If the legislature approves funding for the 2003 - 2005 biennium, the **request for proposals (RFP) for Round 14 of PIE will be distributed during the summer of 2003**. If you would like to receive notification of Round 14, e-mail or phone your contact information to gwilliams@psat.wa.gov, 360-407-7311. To help you decide if PIE is the right program to fund your project, read through the current and past PIE project descriptions .

USDA - Rural Housing Repair and Rehabilitation Loans are loans funded directly by the Government. These loans are available to very low-income rural residents who own and occupy a dwelling in need of repairs. Funds are available for repairs to improve or modernize a home, or to remove health and safety hazards. This loan is a 1% loan that may be repaid over a 20 year period.

To obtain a loan, homeowner-occupants must be unable to obtain affordable credit elsewhere and must have very low incomes, defined as below 50 percent of the area

median income. They must need to make repairs and improvements to make the dwelling more safe and sanitary or to remove health and safety hazards. Grants are only available to homeowners who are 62 years old or older and cannot repay a Section 504 loan.

Wetland Reserve Program (WRP) –A voluntary program to restore and protect wetlands on private property (including farmland that has become a wetland as a result of flooding). Landowners can receive financial incentives to enhance wetlands in exchange for retiring marginal agricultural land. Landowner limits future use of the land, but retains ownership, controls access, and may lease the land for undeveloped recreational activities and possibly other compatible uses.

Emergency Watershed Protection – NRCS may purchase easements on floodplain lands and the right to conduct restoration activities, in exchange for limited future use by landowner.

References Cited

Barreca, 2001. Skokomish River Basin Fecal Coliform Total Maximum Daily Load Submittal Report. Jeannette Barreca, Water Quality Program, Washington Department of Ecology, June 2001

Clifford, Wayne, 2002. Washington Department of Health, Office of Food Safety and Shellfish Programs, public health advisor, presentation to Skokomish workgroup, May 7, 2002.

Seiders, 2001. Skokomish River Basin Fecal Coliform Bacteria Total Maximum Daily Load Study. Keith Seiders, Environmental Assessment Program, Washington Department of Ecology, June 2001

Appendix A: Letters of Commitment

Letters of commitment are included only in the hard copy version of this document. They have been provided by:

Mason Conservation District
Mason County
WA Department of Health
Skokomish Tribe

You can view the letters of commitment in the electronic version of this document at http://www.ecy.wa.gov/pubs/0210072.pdf You may also request copies of the letters by contacting: Chris Hempleman, Dept. of Ecology, PO Box 47775, Olympia WA 98504-7775 or by email at chem461@ecy.wa.gov

Appendix B: Shellfish Marine Water Analysis

Bacterial Impacts to the Annas Bay Shellfish Growing Area
Appendix to the Skokomish TMDL Implementation Plan
Wayne Clifford, Public Health Advisor

The Annas Bay shellfish growing area is located at the mouth of the Skokomish River in Mason County, Washington. The growing are is currently on the Washington State Department of Health's (DOH) list of areas that are threatened with a downgrade due to elevated fecal coliform bacteria. DOH collects fecal coliform and salinity data from each sample for each station within the growing area. This data was used to determine that a relationship exists between lower salinity readings (increased freshwater) and elevated bacteria levels.

Figure 1. Relative Freshwater Influence for Annas Bay Marine Water Stations

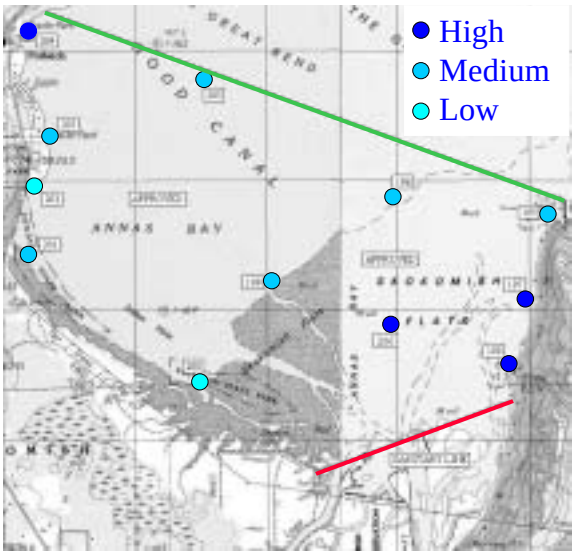


Figure 2. Early Warning System Status for Annas Bay Marine Water Stations

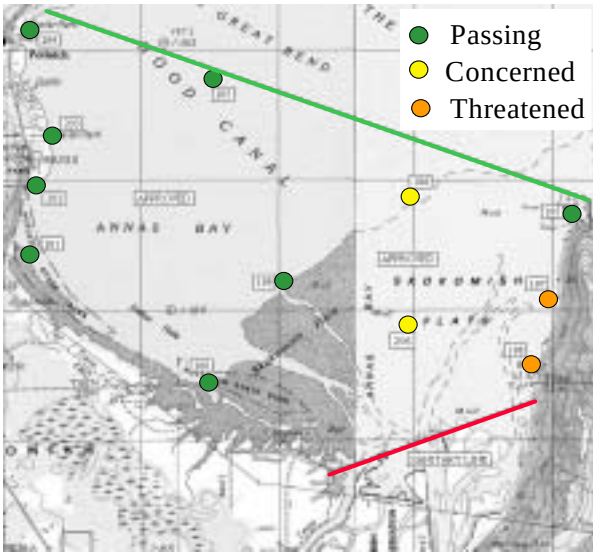
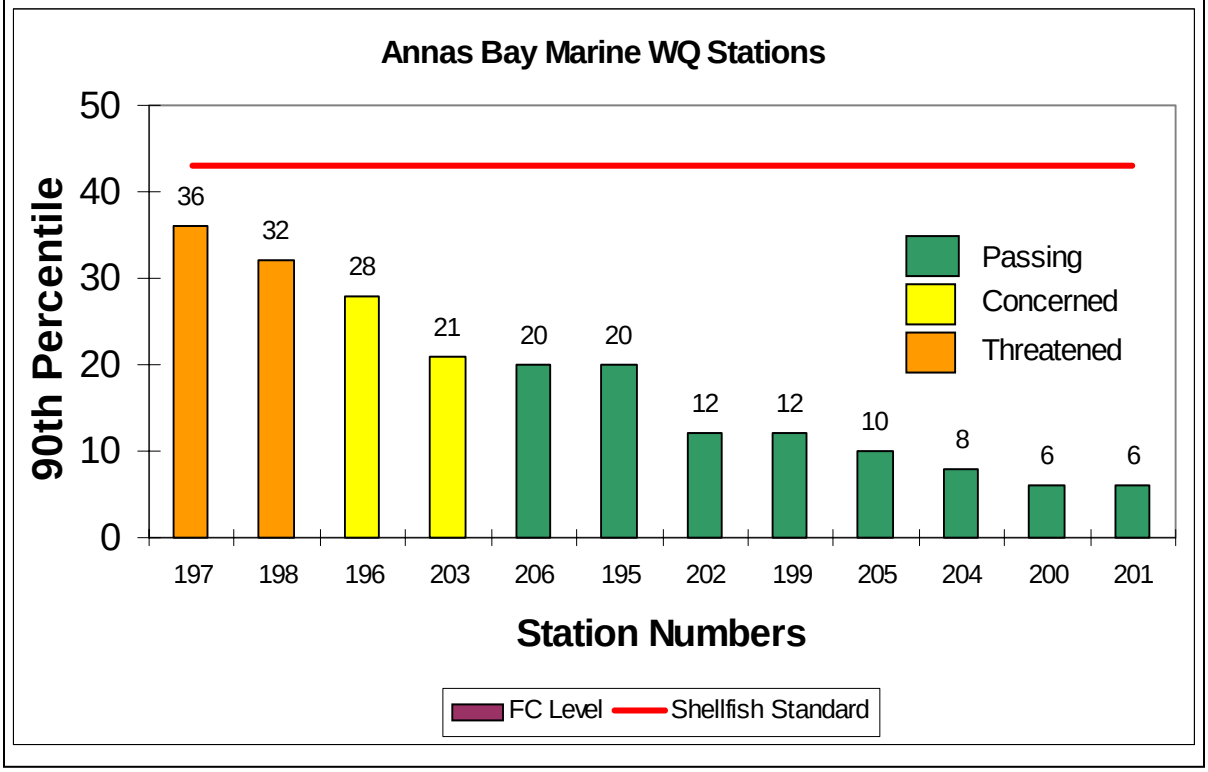


Figure one shows the relative freshwater influence on DOH marine water quality stations. Stations 198, 197, 206 and 204 show the highest influence from fresh water – In other words, lowest salinity. Station 204 is located adjacent to the freshwater discharge from the Tacoma Public Utilities hydropower plant. The other three stations are located nearest the mouth of the Skokomish River.

Figure two shows the DOH Early Warning System (EWS) status for the marine water stations. Stations 198 and 197 are in threatened status. Stations 206 and 196 are in concerned status. All for are listed in the EWS due to elevated fecal coliform levels.

The state and national standard for fecal coliform in shellfish growing areas is measured with the ninetieth percentile from a minimum of 30 samples and that value cannot exceed 43. Figure 3 shows the ninetieth percentiles for the marine water stations in Annas Bay as of November 2002.

Figure 3. Ninetieth percentile calculations for fecal coliform at DOH marine water stations with Early Warning System Status.



DOH and local health have conducted shoreline surveys near stations 197 and 198. No significant sources of fecal coliform have been identified in that area.

Conclusion – the stations nearest the river with the highest influence from fresh water have the highest bacteria levels. The most likely source of bacteria is the river itself.

Appendix C: Public Involvement

Response to comments on the draft Detailed Implementation Plan

The public comment period on the draft Detailed Implementation Plan was held from January 6 through February 14, 2003. Only one public comment was submitted:

Comment:

Thanks for providing the opportunity to review and comment on the draft implementation plan to control and reduce bacterial contamination in the Skokomish River. Given the late date for submitting these comments, I'll keep them brief and informal.

The plan has good breadth with its emphasis on farm animal wastes, on-site sewage systems, recreation and wildlife. As you finalize the plan I'd also appreciate your consideration of potential bacterial loadings associated with stormwater runoff. While most of the watershed is quite rural, it's my recollection that portions of the lower watershed are more developed, creating the potential for increased surface runoff and concentrated bacterial loadings to the drainage system. If needed I can provide references explaining the significance of stormwater as a pollution source and transport mechanism for fecal coliform bacteria and other microbial pollutants.

Again, thank you for the opportunity to comment. Please call or e-mail if you have questions.

Stuart Glasoe
Puget Sound Action Team
Office of the Governor
P.O. Box 40900
Olympia, WA 98504-0900

Response:

Thanks for your suggestion. Although the study area for the TMDL went only as far downstream at the bridge at SR 106, the report suggests that potential sources below that point also be considered. The oversight workgroup will begin meeting in April, and will take this potential source under consideration.

Letter to watershed residents from Skokomish water quality workgroup

August 15, 2002

Dear Skokomish valley resident:

Water quality studies in the Skokomish valley have shown a problem with fecal coliform bacteria. In a couple of areas, bacteria concentrations in streams are higher than public health-based water quality standards. And in Annas Bay some shellfish stations are classified as "threatened" – meaning an increase in the bacteria would result in restrictions being placed on commercial shellfish harvest.

A water quality workgroup is meeting to develop a plan for reducing bacteria. The workgroup includes valley residents, plus representatives of the Skokomish Tribe, commercial shellfish growers, and local and state agencies that have responsibility.

Fecal coliform bacteria come from the waste of warm-blooded animals. Common sources include septic systems, livestock, and wildlife. One water quality study suggests that lack of public facilities for recreational users of the Skokomish River might also be contributing to the problem. The cleanup plan will look at ways to address these issues. We expect to finish it by the end of the year.

We would like to let you know about ways you can become involved.

First, you are welcome to attend our meetings. When members of the public are present, we'll end workgroup business in time to allow for comments from the "community." Our next meeting is Tuesday August 27th, 6:30-8:30, at the Skokomish Grange. For dates and locations of meetings after September 1, please see our website or check with one of the workgroup members.

Second, we have a web site, www.ecy.wa.gov/programs/wq/tmdl/watershed/skokomish/index.html. This site has links to background information. And, if you click on Implementation Plan Development, you can read meeting minutes, and notice of upcoming meetings including location and agenda. When we get far enough along, we'll post drafts of the cleanup plan as it develops.

Third, you're welcome to contact workgroup members for more information or to share your views. You will find contact information on the other side of this letter.

And finally, when we have a plan we're ready to propose, we'll hold a public meeting to show you what we've developed and hear your comments. We will mail you notice of that meeting.

We hope to hear from you!

The Skokomish Valley water quality workgroup

Workgroup members

♦ Craig Chapman (valley resident)	877-5318
♦ Jorge Cortez-Monroy (Taylor Shellfish)	426-6178
♦ Wayne Clifford (WA Dept. of Health)	236-3307
♦ Mo Dehe (valley resident)	426-4827
♦ Leslie Dolan (valley resident)	427-1231
♦ Keith Dublanica (Skokomish Tribe)	360-877-5213
♦ Jeff Heinis (Skokomish Tribe)	360-877-5213
♦ Christine Hempleman (WA Dept of Ecology)	407-6329
♦ Jim Hunter (valley resident)	426-7700
♦ Shannon Kirby (Mason Conservation District)	427-9436
♦ Steve Kutz (Mason County)	426-9670
♦ Debbie Riley (Mason County)	426-9670 x358
♦ Evan Tozier (valley resident)	426-2411

Public notice of comment period, mailed to all watershed residents

The Skokomish needs your help!

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Water quality studies in the Skokomish watershed have found too much bacteria. People who swim or fish could get sick, and shellfish harvests in downstream Annas Bay are threatened.

A water quality workgroup has drafted a plan for reducing bacteria. The workgroup included valley residents, plus representatives of the Skokomish Tribe, commercial shellfish growers, and local and state agencies. Now we'd like to know what you think of the plan.

Public comment period:

January 6 through February 14, 2003

Open house and public meeting:

Tuesday, January 28, 6:30-8 p.m.
Hood Canal School Cafeteria

What's the problem?

The Department of Ecology conducted a water quality study during 2000. The study found too much fecal coliform bacteria in the lower watershed. These bacteria are found in the feces of warm-blooded animals such as humans, livestock, pets, and wildlife. Typical human-related sources are livestock management practices, septic systems, and pet waste.

A plan has been drafted to reduce bacteria

The Skokomish Watershed Detailed Implementation Plan for Fecal Coliform Bacteria encourages residents throughout the watershed to help by:
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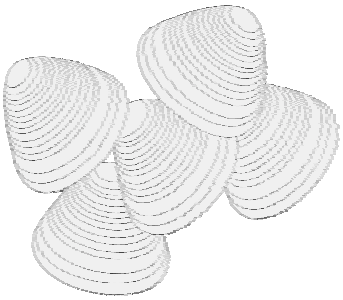

- Keeping livestock out of streams. This is the biggest source of bacteria in the watershed.
- Maintaining the vegetation along streams. It helps filter water flowing over the surface under normal rain conditions before it reaches streams. During floods, vegetation reduces bank erosion.
- Applying manure to fields at rates and times that allow plants to use the nutrients rather than losing nutrients to rain water or floods.
- Storing manure in a manner that protects it from being carried into streams by rain water or floods.
- Pumping and inspecting your septic system regularly, and getting it fixed when needed. Problems may not be evident in daily use, and maintenance is less expensive than replacement.
- Encouraging others who camp or fish on your land to bury their waste at least six inches deep, and well back from streams.

Fecal coliform bacteria are found in the waste of warm-blooded animals, including humans, livestock, and wildlife. When fecal coliform bacteria concentrations increase, other bacteria and viruses also found in feces may be increasing as well.

People can be exposed to bacteria or viruses if they swallow polluted water, get it in small cuts, or eat shellfish that are taken from it. Possible human health effects range from earaches and rashes to more serious illnesses such as hepatitis and salmonella.

The plan notes the work that has been done since the water quality study in 2000. That includes installing thousands of feet of streamside fencing and plants, property buy-outs in frequently flooded areas, and shutting down some high-risk septic systems.

For additional cleanup, the plan first focuses on obvious sources of bacteria in areas that were contributing the largest amounts of bacteria at the time of the study. Those areas are Weaver and Ten Acre Creeks, and the Skokomish River and Purdy Creek between the bridges for Highways 101 and 106.

In general, the plan is based on letting area residents know about the bacteria problem and things they can do to help. It encourages people to help by providing, where possible, technical and financial assistance. And it identifies changes in the programs of responsible agencies that will help improve and sustain water quality.

If these actions aren't enough to achieve good water quality, we'll look at improvements throughout the watershed and consider other methods of reducing sources. Meanwhile we'll continue monitoring the water quality to identify sources and evaluate progress.

Finally, if these voluntary actions aren't enough to achieve good water quality, the plan also acknowledges that under Washington law (RCW 90.48) it is illegal to pollute the waters of the state. It's Ecology's responsibility to enforce that law if required to do so in order to meet water quality standards.

We want to know what you think

At the open house and public meeting on January 28 workgroup members will be available to answer your questions and hear your ideas and comments. We'll have information on things you can do to help. And we'll provide a short presentation describing the plan.

The Draft Skokomish Watershed Detailed Implementation Plan is available for review at:

- Purdy Canyon Restaurant, 16671 N. US Highway 101, Shelton (after January 10)
- the Hoodsport Timberland Library, N. 40 Schoolhouse Hill Road, Hoodsport
- the Skokomish Tribal Center, N. 80 Tribal Center Road, Shelton
- on the Internet, at http://www.ecy.wa.gov/biblio/02-10-072.html

Please send comments by February 14 to:

Christine Hempleman
Dept. of Ecology, SWRO
P.O. Box 47775
Olympia WA 98504-7775
or email chem461@ecy.wa.gov

For more information please contact Christine at this email or 360-407-6329, or Shannon Kirby at the Mason Conservation District, 427-9436, email mcd@olywa.net.

If you have special accommodation needs, please call (360) 407-6300 or (360) 407-6306 (TDD).

Display ad for public comment period; ran in Shelton-Mason County Journal on January 2, 2003

The Skokomish needs your help!

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Water quality studies in the Skokomish watershed have found too much fecal coliform bacteria. These bacteria are found in the waste of warm-blooded animals like humans, livestock, pets, and wildlife. People who swim or fish may have health risks, and shellfish harvests in downstream Annas Bay are threatened.

A workgroup has drafted a plan for reducing bacteria. The workgroup included valley residents, plus representatives of the Skokomish Tribe, commercial shellfish growers, and local and state agencies that have responsibility. Now we'd like to know what you think of the plan.

Public comment period: January 6 through February 14, 2003

Open house and public meeting: Tuesday, January 28, 6:30-8 p.m.
Hood Canal School, cafeteria

The Draft Skokomish Watershed Detailed Implementation Plan is available for review at:

- The Purdy Canyon Restaurant, 16671 N. US Highway 101, Shelton (after January 10)
- the Hoodsport Timberland Library, N. 40 Schoolhouse Hill Road, Hoodsport
- the Skokomish Tribal Center, N. 80 Tribal Center Road, Shelton
- on the Internet, at http://www.ecy.wa.gov/biblio/0210072.htmll

Please send comments by February 14 to: Christine Hempleman, Dept. of Ecology, P.O. Box 47775, Olympia WA 98504-7775 or email chem461@ecy.wa.gov . For more information please contact Christine at this email or 360-407-6329.
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Minutes from Workgroup Meetings

APRIL 23, 2002
HOOD CANAL SCHOOL CAFETERIA

Members present: Craig Chapman, Wayne Clifford, Jorge Cortez-Monroy , Moirya Dehe, Leslie Dolan, Keith Dublanica, Jeff Heinis, Christine Hempleman, Jim Hunter, Shannon Kirby, Lisa Rozmyn, Evan Tozier, Martha Turvey, Lisa Rozmyn, Phil Wiatrak

Christine distributed a committee member list for everyone to update.

Members agreed to continue to meet biweekly on Tuesday evenings from 6:30-8:30 PM.

The frequency of meetings may change during the summer months and will be decided by members as the need arises.

Alternate meeting sites were discussed. Possibilities include the Skokomish Tribal Center, PUD 1 and Taylor Shellfish. Many members thought it was important to continue to meet within the Skokomish watershed area.

Minutes for the meetings will be posted on the WDOE/TMDL website.

Christine offered to e-mail minutes to committee members and fax or mail to those who prefer non-e-mail. Leslie will take minutes at the meeting, finalize with the help of Evan Tozier, and e-mail final to Christine. Minutes will be reviewed at the beginning of each meeting for corrections and comments.

Meeting ground rules were reviewed and agreed upon. Ground rules include:

- Meetings begin and end on time
- We follow the agenda and help each other stay on track
- Everyone participates
- Everyone is treated with respect
- Listen with the intent to understand, not reply
- Be open-minded
- Focus on issues, not people
- Strive for an outcome
- Disagreement is OK
- We come to meetings prepared, including informing ourselves re: missed meetings
- Members will avoid wearing fragrance to meetings, if possible

The group acknowledged the importance of keeping the Skokomish Tribal Council and Mason County Commissioners updated re: progress of the Skokomish Water Cleanup plan.

There was discussion re: the group's decision-making process and need for chairman/facilitator. It was agreed that decisions will be made by consensus whenever possible. If consensus cannot be achieved within a reasonable amount of time, the facilitator can call for a vote. Voting members were designated as those committee members on the list distributed at the beginning of the meeting. Martha will find out if the EPA is able to provide a facilitator for the meetings. Shannon offered to facilitate the next meeting. The option of members rotating chairmanship was also discussed. Wayne has familiarity with techniques for averting consensus gridlock and will bring to a future meeting.

A Statement of Purpose for the Skokomish Water Quality Workgroup was proposed and accepted by members present.

Statement of Purpose – Skokomish Water Quality Workgroup

The workgroup will develop a plan for reducing fecal coliform contamination in the lower Skokomish watershed. The plan will identify responsibilities and activities, potential funding sources, and a schedule for achieving water quality standards including interim targets. The target date for completing the plan is November 2002.

Christine distributed a copy of the TMDL Homepage and invited comments and suggestions.

A summary of data for FC TMDL loads (existing and recommended target loads) was distributed, summarizing waterways most affected by FC contamination.

Issues to be discussed at future meetings include:

- Flooding/Water Table
- Agricultural Practices
- Septic Systems
- Recreational Area(s)
- Monitoring - Wildlife/Source ID/Effectiveness and Delisting
- Funding
- Cleanup Schedule
- Shellfish
- Impact on Resources
- Impact on Fisheries/Wildlife/Salmonids
- Development

The last ten minutes of each meeting will be utilized to develop the agenda for the next meeting.

The next meeting will be on Tuesday, May 7, 2002 from 6:30-8:30 p.m. at the Hood Canal School Cafeteria. Keith Seiders will review the TMDL study and Wayne Clifford will review shellfish/water quality data.

MAY 7, 2002
HOOD CANAL SCHOOL CAFETERIA

Members present: Craig Chapman, Wayne Clifford, Jorge Cortez-Monroy, Leslie Dolan, Keith Dublanica, Jeff Heinis, Christine Hempleman, Jim Hunter, Shannon Kirby, Steve Kutz, Debbie Riley, Lisa Rozmyn, Evan Tozier, Phil Wiatrak

Also present was Keith Seiders, guest speaker (WDOE).

The meeting was facilitated by Shannon Kirby – Thank You Shannon.

Keith Seiders presented data from the TMDL study and identified areas not meeting water quality standards. Questions were answered re: sampling technique/lab analysis of water samples, state vs. federal water quality standards, seasonal fluctuations, etc. For detailed information please refer to:

- Skokomish River Basin Fecal Coliform Total Maximum Daily Load (Water Cleanup Plan): Submittal Report. Ecology Publication #01-10-017. This is available at

http://www.ecy.wa.gov/biblio/0110017.html.

- Skokomish River Basin Fecal Coliform Bacteria Total Maximum Daily Load: Study. Ecology Publication #01-03-014. Available at http://www.ecy.wa.gov/biblio/0103014.html.

- Skokomish River Basin Fecal Coliform Bacteria Total Maximum Daily Load Study: Quality Assurance Project Plan. (This is Appendix D of the Submittal Report and has details about sampling technique).

Wayne Clifford (DOH) presented data on bacterial analysis of shellfish growing areas with a focus on Annas Bay. Four stations at the mouth of the Skokomish River are at concerned/threatened status due to high FC levels. These stations also have a high freshwater index indicating that these particular stations are greatly influenced by freshwater flowing into Annas Bay from the Skokomish River.

The next meeting will be held Tuesday, May 21, 2002 from 6:30 to 8:30 pm at the Skokomish Grange.

Tentative Agenda: Electing Chairperson
Sources of FC contamination
Including public at workgroup meetings

MAY 21, 2002
SKOKOMISH GRANGE

Members present: Craig Chapman, Moiyra Dehe, Leslie Dolan, Jeff Heinis, Christine Hempleman, Jim Hunter, Shannon Kirby, Steve Kutz, Debbie Riley, Evan Tozier, Phil Wiatrak

The meeting was facilitated by Shannon Kirby - Thank You Shannon.

Minutes from previous meetings were reviewed. Changes to meeting notes for 4/23/02 re: decision-making include adding "Agencies have certain regulatory responsibilities that are determined by law and will not be decided by vote or consensus." It was pointed out that with other TMDL projects, decision-making has not been an issue and with non-point TMDL areas, the primary goal was outreach and education.

There was discussion re: lack of detail in meeting minutes - Chris will look into having a secretary from WDOH attend workgroup meetings and take detailed minutes at future meetings.

The group decided that rather than electing a chairperson, we will continue with a facilitator. Shannon agreed to be facilitator and noted that she will be unable to attend two meetings this summer.

Chris will arrange to continue workgroup meetings at the Skokomish Grange. The next meeting will be held on Tuesday, June 4, 2002 from 6:30 to 8:30 P.M.

It was agreed that the public is welcome at workgroup meetings and 15 minutes will be allowed at the end of meetings for public comment.

Chris offered to draft a press release for the local paper, and bring it to the next meeting for feedback.

There was beginning discussion re: sources of FC contamination. The workgroup agreed to discuss one FC source problem at a time. Primary sources of FC have been identified as septic systems, wildlife, livestock, and recreation.

June 4, 2002
SKOKOMISH GRANGE

Members present: Craig Chapman, Jorge Cortez-Monroy, Moiyra Dehe, Leslie Dolan, Jeff Heinis, Christine Hempleman, Jim Hunter, Shannon Kirby, Steve Kutz, Hal Michel, Debbie Riley, Evan Tozier, Martha Turvey, Phil Wiatrak, a citizen who identified himself as Steve

The meeting was facilitated by Shannon Kirby. The previous meeting's minutes were discussed and Shannon moved to approve them.

Chris distributed copies of the draft outreach article. There was discussion on the best way to handle the distribution.

Hal Michel of the Department of Fish and Wildlife was the guest speaker. DFW has three facilities in the Skokomish: Eells Springs, McKernan, and George Adams. DFW is willing to have all hatchery on-site systems dye-tested.

Steve – How many systems do you have? Are they documented? Hal knows of five or six residential and three in hatchery buildings. Hal not sure what record is or where located.

Steve – Do you have some springs for water supplies? Hal said George Adams has Purdy Creek, and Eells Springs and McKernan have both springs and wells.

Steve – Suggested water quality sampling above and below each facility.

Steve – When flooding occurs in valley, does it reach over to that part of valley? It reaches some low lying ponds.

Evan – Can you tell me how waste is handled and how treated before release it? Sometimes they vacuum the waste from the bottom and transfer it to a settling pond. They also have upland disposal sites.

Evan – Don't flush down stream any longer? No.

Evan – When did you change that method? Hal said before 1988. Everyday go through raceway and sweep out and it goes into settling pond.

Evan – Lived here all my life (Shelton Trout Hatchery) and remember flushed into streams. Hal said supposed to have changed. DOE issues discharge permit with description of limits. During fish release, sample and report to DOE. DOE checks for violations.

Evan – Fish food components from domestic or foreign sources? Get meal wherever they can depending on market. Heavy metals question not asked.

Steve – Jeff, has tribe tested for heavy metals? Some traces of arsenic.

Evan – When are other things being used? Hal said a variety of chemicals may be used in fish rearing (i.e., chlorine, antibiotics, salt, etc). Facilities don't use them all every year. Ecology has requirements to treat to remove chlorine before water released.

Chris – How can the workgroup follow through with DFW after June 30 when Hal's job changes? Person to contact is Dennis Popachuck, Complex Manager, Hoodsport Hatchery. He may have you contact senior people at each facility.

Steve – Dye testing - make determination by site visit.

Debbie – Explained how they do dye testing procedure.

Steve – Is there much development above you? McKernan uses creek water off hillside, George Adams using Purdy Creek draining to canyon and Eells Springs should not have any problem.

Steve – Do hatcheries check bacteria that comes in water? No.

Chris – TMDL samples indicated bacteria problem in areas of recreational use. Whose responsibility, especially if the problem is on private land?

Hal – DFW puts facilities at boat launch sites.

Chris – Do you know any ideas of grant funding for sanitary facilities? Tribe considering port-a-potty's along 106 area.

Moe – Talked about Dips problem (i.e., human feces, diapers).

Chris – Port-a-potty's have high maintenance.

Steve – Some places here may not want to have them.

Chris – Are you getting fishing up here in flood times?

Evan – Yes

Evan – What type of those things do they put back in streams? Dead fish carcasses?

Shannon – Are these fishermen trespassing? Is there a better way to keep them off land? Enforcement?

Steve – County needs a plan to control FC in that area. If possible, take a look at that.

Shannon – Maybe the county could put a port-a-potty out on the buy-out land that's in the CREP program, or build a vault toilet. How much do they cost? Depends if concrete and size building. Shannon will talk to the county about the possibility of the county using some of its CREP payment to fund this.

Shannon – Is there a problem with vandalism?

More discussion was held on the draft letter.

Evan – What group are you after in regard to this letter? Best way to get response is direct mail.

Chris – How many residents?

Evan – A couple hundred.

Shannon – Not clear on who owns land, but have addresses.

Debbie – Can get legal owners.

Steve – Post office will put up copy of letter; maybe convince PUD to include in bill.

Group decided to do a "resident" mailing.

June 18, 2002
SKOKOMISH GRANGE

Members present: Craig Chapman, Wayne Clifford, Philip Cook, Moiyra Dehe, Jeff Heinis, Christine Hempleman, Teri King, Shannon Kirby, Steve Kutz, Debbie Riley, Evan Tozier, Phil Wiatrak

The meeting was facilitated by Shannon Kirby. Minutes for June 4, 2002 were passed out and approved.

Jeff handed out a list of sites tested continually through the year and procedures of how samples were taken. Lyman will do a field trip if we want to. It was suggested to go back and show trend lines for that, readings over time, where problems have been in past, and why numbers are bad. The Tribe offered to do additional monitoring identified by the workgroup.

Chris talked to Greg Cloud who oversees the hatcheries in the southwest part of the state. He checked last three years for all three hatcheries and found no problems.

Shannon brought aerial photos of watersheds.

Chris asked how we should proceed for what to do here regarding septics? Debbie suggested that the county conduct a windshield survey of the valley, and look at county records to start identifying suspect systems. There are approximately 128 to 134 homes in the valley. They would evaluate the streams with bacteria problems first. They could follow up with dye testing where it seems reasonable. Also, it would be good to get people on a regular pumping schedule. A lengthy discussion followed.

Chris said if we knew what the water table's doing, how would it help? Wayne said it helps to determine where problems might occur. Evan noted that the water table is higher as you go up the valley toward the forks. Some work on the water table is noted in the Flood Management Plan.

Shannon - When did this change using the mound system? Steve said systems today don't have to be mound systems.

Shannon – What do you consider outdated for a septic system? Wayne said it seemed to him to be 1974/1976 when they started applying treatment standards. A discussion followed.

The county has a new grant that will fund a pilot operations and a maintenance program in the Lower Hood Canal. This will serve as a pilot for the rest of the county. The pilot will be finished in late 2003, then they will begin working on the rest of the county. The program will be very complete, and will cover old as well as new systems.

Two commercial on-sites in the valley are believed to be receiving proper care and maintenance.

Debbie said we need funding for folks that need septic system repairs. If we can get grants to help it would be great. Wayne mentioned oyster reserve money and F&W manages several places around the state. Teri mentioned 1) 504 repair loan & grant – USDA, 2) local community action council – minor repairs. Wayne said the action team has a website for all funding suggestions. Local government authorities also have funding.

Steve suggested that small group systems might make more sense than individual repairs in some areas.

Chris – Did the flood board talk at all about providing matching funds? Mo said the flood board doesn't make those decisions and she doesn't know if they have the flood board anymore. Chris asked how to proceed if it is a possibility? Need to talk to all commissioners. Debbie and Steve will ask them this question.

Chris – In the TMDL study report, he found concentrations and loading to be similar in winter and summer, although the patterns are a little different. Debbie said summer numbers may appear higher due to lower flows in the river.

Mo – Aren't water tables lower in summer? Yes, winter is more diluted. Teri asked how many leave for the winter and Evan said that several did.

Chris – Are you able to give us an update on reservation?

Jeff – No

Shannon – Do we want to talk about outreach? We talked about mailing before. Can we have a class?

Teri – She mentioned septic socials, a weekend workshop held for small groups at a neighbor's house to talk about how systems work and answer questions. Get them thinking about this kind of thing. Mo asked if it was something we could do here and Teri thought we could. Said she would be willing to conduct septic socials in the valley. Some discussion followed regarding how to advertise, cost, etc. Teri also suggested providing Farm Assist/Home Assist checklists, and educational materials that the county has to valley residents. Discussed the possibility of providing these at the workshops or by mail. Funding will need to be identified for materials.

Chris will update the draft plan and send to the group. Please comment to her.

The group decided not to have a meeting on July 2, 2002. The next one will be July 16, 2002, at 6:30 p.m. at the Grange.

Suggestions for future meetings:

1. Hear more details on sampling/Jeff's handout
2. Monitoring (two meetings – wildlife)
3. Septics

July 16, 2002
SKOKOMISH GRANGE

Meeting Attendants: Chris Hempleman, Phil Wiatrak, Wayne Clifford, Craig Chapman, Steve Kutz, Jeff Heinis, Shannon Kirby, Debbie Riley, Jim Hunter

Chris Hempleman – Announcements

- Lisa Rozmyn, with Ecology, may be returning to the meetings next month.
- Grange fee will go up in September from $10 a month to $25. Chris would like to go back to meeting at the school.

Steve asked if the WRIA 16 money could be used for repairs. Flood Board money may also available, discussion on whether that would be grants or loans.

Debbie met with Fish and Wildlife, they are going to do what needs to be done to take care of their sites and felt that the money would be available.

Chris passed out an article on Type A and Dungeness report/Fecal coliform estimates in animal feces.

Shannon said she will be bringing someone to talk about fecal coliform at a later date and will let Chris know when.

Shannon asked Jeff if Skokomish had said more about monitoring.

Steve wanted to talk about availability of money from WRIA 16.

Phil – Watersheds can apply for $100,000.00 dollars. The pot is back to 1.2 million, but high likelihood they will not spend the money this Fiscal Year. Bottom line, there is no guarantee the money will be there. Good news is the planning unit met last week and agreed to move forward. The Skokomish WQ Workgroup needs to do a proposal for the WRIA 16 money. Proposal needs to be written by the group if they wand a shot at the money.

Chris/Phil – Centennial Fund is down and may not be available any more.

Chris – This group is developing a plan for monitoring.

Steve – Could Skokomish be D-listed?

Chris – 303D list is a list of streams/waterbodies that don't meet Water Quality Standards. Goals of this workgroup should be:

- Get Skokomish off 303D list
- Get Skokomish to meet TMDL measurement list.

Chris said she will bring in a copy of the Nooksack plan to be used as a model for the Skokomish.

Chris asked if there should be a detailed model in place?

Phil – no. The money from planning unit could be used for detail monitoring plan if proposed for and approved.

Steve – Implementation Plan: details that obligate you to certain things could limit group. Would not want to put this in final because it could be limiting.

Chris – Skokomish group would decide where to monitor etc…Don't want to use planning money for this, use EPA money.

Chris – We need to write some kind of proposal for WRIA 16 money, when is money available?

Phil – Money is available now but is uncertain.

Steve suggests the group may want to hone in on the way we want things to be even though the whole report may not be done, to use as proposal.

Phil – Encourages that the group get the proposal in for the WRIA 16 money within 2 months. Planning unit has to approve, then Mason County, etc..

Chris asked Phil when is the latest the group would want to get the proposal in?

Phil – 7 weeks.

Chris suggest there needs to be a committee to write the proposal.

Chris – in terms of meeting TMDL, need real specific monitoring recommendations. Keith has given only a couple of monitoring points.

Chris – How do we want to go about writing the proposal?

Shannon – be glad to be part of the process, but understanding of the process was different.

Steve – are there any other large bodies of water going down?

Phil – Yes, there are a lot of others.

Chris – What about putting together a mix and match program, maybe pay half and loan half.

Steve – You could grant some and then maybe loan some.

Debbie – Still looking at income levels for qualifying.

Chris – Some homes in Skokomish would qualify, repairing sewer system would qualify.

Steve – How could you find out the income for the valley?

Chris – You would have to do a survey of need – there would have to be a survey done to apply. Households would have to meet 80% criteria.

Steve – do survey of water level, put observation port in the ground and monitor over a year period. May be a problem only during certain times of the year. Could be put in proposal. Cost would be in putting ports in the ground.

Jeff – there are quite a few ports on tribal land, more in the valley.

Shannon – What happened to Skokomish Flood Board meeting?

Steve – May be a possibility, is an option, probably one of the quicker ones. You could do grants or loans. If 0% interest loans, don't have to worry about income level of homes.

Debbie – The plan needs to come from homeowners. Want a plan to look at?

Phil – Don't your have a loan program?

Debbie – Yes, but it's not real good right now.

Shannon – If Flood Board meets again, will try to get in and talk to them. Want to get a feel on how they feel.

Phil – Read a few requirements off of Ecology grant and loan requirement list. There should be a lot of room for flexibility in application.

Chris – Where are we? Do we need to write a proposal? Should be able to get an answer sometime between 2 and 11 months from WRIA 16 money application.

Chris – We need a committee to write the proposal.

Steve – Did anyone put in monitors? No.

Chris suggests there be a sub-committee that can get together to write a proposal for the WRIA 16 money. Shannon, Phil, and Wayne all volunteer to help get information ready for proposal. Chris will write proposal from information gathered when she returns from vacation in 3 weeks.

Phil – Are all the right people here to talk about all the options for the grant?

Shannon – There are a few missing, who may want to have some input.

Steve – Is eliminating the wild animals an option?

Chris – The man who does the DNA testing says he can quantify, but others say it can't be done.

Debbie – They can say out of 10 samples human showed up 8 times, cattle 6 times, etc…but does not show percentage.

Craig – How come they can't quantify? Chris – Of all the samples there may only be 75% that can be matched up.

Shannon – What do you think you will get from DNA samples? Thinks the money would be better applied to monitoring data instead.

Wayne – DNA testing is $75 dollars per sample.

Chris – Knows a technical person who says fecal coliform can be an accurate process. If the group is interested, Chris will see if technical person can come and talk at a later meeting.

Wayne – Thinks we can achieve what need to be done without using the DNA testing. Shannon concurs.

Jim – Concerning wildlife, feels that beavers are the biggest culprit. Thinks beavers need to be controlled the same as cattle. Beaver trapping is currently illegal.

Wayne – through sampling stations you can determine what animals are causing problems, and it is a cheaper process.

Chris – Was No Name ok? Yes.

Debbie – Since original test was done may find some of the streams are not ok anymore since trapping beavers is illegal now.

Chris – cheapest DNA studies she knows of is $50,000, which would be most of the money.

Wayne – would like to see sampling bracket in 3 streams that are having a problem. Asked Debbie is they have what is necessary to do monitoring. Debbie – Yes.

Chris – Jeff, what do you know about Tribes funding?

Jeff – Pretty stable, can apply for EPA grant.

Shannon – Wants to meet with Tribe to find out what there doing before going forward with WRIA 16 proposal.

Jeff – the Tribe is willing to do more testing.

Chris – Leaving for vacation Saturday, will be back in town for next meeting. The next meeting will be July 30, 2002.

Phil – The sub-committee group for WIRA 16 money proposal needs to get together and come up with cost and time frame to bring up at the next meeting on July 30, then bring proposal to planning unit on August 8, 2002, (next time planning unit meets). A representative from this group should go to planning group with draft proposal.

Shannon – Who runs the grant? Mason County. Mason County would also administer grant.

Wayne – who would w send proposal to? Phil – bring to planning unit.

Chris – Won't be able to take lead if the proposal needs to be done by August 8.

As many people who want to come to the meeting on August 8, should attend. Meeting is at PUD in Hoodsport on August 8, 2002, at 3:00 p.m.

Chris – thinks one of the residents should attend. Jim cannot commit to that date as this time.

Shannon – wants to do proposal for monitoring and 3 streams. When do we want to meet? Who? Shannon, Phil, Wayne, Craig, Debbie, and Steve, will meet Thursday July 23, at 2:30 p.m. at PUD1 on 101 at Hoodsport. Phil will call for room.

Shannon to send out announcement right away for July 23rd meeting.

Chris passed out copy of letter to be sent to Skokomish Valley residents. Asked permission form Jim to put his name and phone number on letter. Jim gave his permission.

Chris will send Skokomish River Fecal Coliform Bacteria Water Cleanup Plan Draft Implementation Plan to group.

Chris will make minor changes to Skokomish Valley resident letter.

Chris will send letter to carrier rout when she returns from vacation.

Next meeting July 30th, 6:30 – 8:30, Skokomish Grange.

July 30, 2002
SKOKOMISH GRANGE

Members present: Craig Chapman, Wayne Clifford, Leslie Dolan, Jim Hunter, Shannon Kirby, Debbie Riley, Phil Wiatrak

The meeting was facilitated by Shannon Kirby. She asked if there were any corrections to the minutes from the last meeting.

On July 23 there was a meeting at the Mason Conservation District office regarding writing grant proposals. Debbie passed out a draft from that meeting.

WRIA 16 planning unit contracted out to Golder Consultants for a comprehensive planning assessment. They collected everything there was to collect on all water-related issues in the watershed. They decided to hold two meetings in the watershed. They are tentatively September 5 and 12, 2002 in the Skokomish area. Need to know what the important issues are for this area.

Shannon asked when grant funds would be released. Phil said that's unsure. He explained that the State operates on a biennium. If the money is not used by end of the second year, it goes back. It can't be carried forward. Ecology is in an awkward situation from a budgeting perspective. The legislature says fund in-stream flow projects before anything else is funded. This means Ecology staff need to ensure that all the funds that might be spent this Fiscal Year for instream flow work are available before it can commit to other grants such as water quality. Not every WRIA will get grant funds for other uses.

Shannon asked what the timeline is to get this. Phil said money is guaranteed through June 2003. Water Quality stuff may fall away next biennium. There is not enough support for the TMDL implementation plan. Requirement for long term monitoring for the TMDL is real specific.

Shannon said Debbie came up with this from last meeting to divide into three portions: (1) ground water, (2) surface water monitoring plan, and (3) final outcomes for long term sampling sites.

Phil said the key component of this is: Do the full length of stream in a day. Start at the mouth of the stream and work up to the source.

Wayne said monitoring should be done at the same place. To calculate loading you have to check steam flow each time you sample. Water quality and stream flow should be checked at the same time. Use a flow meter. Every time a sample is taken, check the flow.

Craig asked how long monitoring goes on. He also wanted to know what has been learned on this thing. May be seasonal rain effects in October from pet waste, fertilizer, etc.

Wayne thinks this sampling needs something more intensive. Need to locate the nearest rain gauge.

Craig asked how many rain gauges were put in the valley. Wayne said should address relationship between rainfall. There would be some variation in upper watershed.

Shannon said a landowner is hesitant about doing monitoring on his property. Wayne said based on two samples, the count tells nothing. The group discussed the best monitoring approach.

Craig asked when this grant proposal would be done. Shannon said it would be taken to the planning committee on August 8, 2002. To expedite, if the group is comfortable with this, the proposal to the planning unit should have flexibility built in. We are going to need 20 to 25 roving stations and "x" number of samples to pinpoint what's going on where. Debbie said they talked about 300 samples at $20.00 per sample.

Debbie brought in some flood maps and the group looked them over. Jim would be comfortable having them monitor his property, depending on where they do it. Wayne said if problems were originating from your property, wouldn't you want to know about them? We don't want to do this and do nothing with the information. Jim suggested to check on the side of the hill before it comes down into the valley. Also check Purdy where it comes out of hatchery. Maybe have 10 locations for 30 samples.

Shannon, Wayne and Debbie will go out tomorrow and mark off places to have monitoring stations.

Phil asked who wants to give the presentation at the planning meeting. Shannon will help and bring maps. It's at the Potlatch PUD.

Shannon asked if there was anything further. The next meeting is August 13, 2002 at the Grange. We will discuss what happened at the August 8, 2002 meeting.

August 13, 2002
SKOKOMISH GRANGE

Members present: Craig Chapman, Wayne Clifford, Mo Dehe, Leslie Dolan, Jeff Heinis, Chris Hempleman, Jim Hunter, Shannon Kirby, Debbie Riley, Phil Wiatrak

The meeting was facilitated by Shannon Kirby. She asked if there were any corrections on the minutes for last meeting. Chris talked about the way we are doing the minutes. There was a short discussion but no decision was made at this time.

Shannon gave an update on the WRIA meeting regarding the proposed monitoring grant. We took all the information gathered and what the workgroup gave us and brought them our proposal. We will find out more on the August 14th or 15th. We asked for $35,000. The grant had surface water and ground water. Phil thought details should be fleshed out more. There is a meeting in three weeks to consider this again.

Chris asked about picking monitoring points. Shannon said all that are accessible. Some new points are county buy-out lands. We did not go to private landowners at this point. Shannon

passed out a map that shows areas we are addressing. We're concerned about what goes in and out of the hatchery. Most of them take three samples throughout the day. Chris asked if they are taking fecal samples. They are really interested in work they're doing here. Hopefully, we'll get some historical data from them.

Shannon – Have not done a lot of work on Purdy. Craig said Purdy is one of the creeks we have identified as being of concern. We're talking about sampling 30 locations in the TMDL study area, with three samples per month per location. Would correlate to rain and flooding for how it affects fecal.

Chris – Is this grant monitoring aimed pretty much at source identification? Yes, the Tribe is monitoring the same locations as the DOE study, so we can look at trends.

Shannon – Do you see any areas we are lacking and not addressing that the committee would like to see in the proposal? Phil thought the concept was great.

Shannon said they drove to the DIPS and took the coordinates for a monitoring station there. Anything else we are forgetting?

Jim – No, think that looks good.

Chris – Whose land is it?

Mo – Simpson owns a good part of that land.

There was a lengthy discussion about people having access to the river and, therefore, needing toilets. Also, they do not have permission to do so. We may need to work with the sheriff for enforcement on this issue. Shannon will talk to Patty from Simpson. Shannon suggested checking to see if the land is owned by the county. Simpson doesn't want people in there. Leslie said people live there all week. Chris asked if Fish and Wildlife (F&W) had some authority there. Jeff said "Yes". Shannon asked Jim how he felt about that. He is covered by insurance. Chris thought it was worth talking to F&W about putting a toilet there.

Chris – Seems to me that we have not addressed agriculture yet.

Shannon – Bring up agriculture for next meeting. What would everyone like to see?

Craig – Did not get into septics. Shannon we'll get back to it later.

Shannon –Another thing should check into is storage of septic holding tanks in areas near the river. Concerns have been expressed to her.

Shannon – What do people want me to bring regarding agriculture? Do we want to get into flooding with agriculture?

Mo – Want better understanding of characteristics of fecal.

Chris - We may be able to get someone from Ecology that is knowledgeable about bacteria to attend the next meeting - if she is available. Do we want her to give spiel or just ask her questions? Shannon offered to talk about pasture management.

It was discussed and suggested to check fecal count in areas where there were a lot of beavers. It affects human health if the beaver fecal is high. There might be enough from wild animals to be above WQ standards. Leslie said the life habits of fecal coliform is what we want.

Shannon – Now what about frequencies of meetings? Craig asked if we are gaining anything. Shannon thought we were making progress.

Shannon – So, are we moving meetings to the Hood Canal School next? Chris said we have till the end of August at the Grange.

We will meet at the Grange on the August 27th and then decide what place for future meetings. We'll also reevaluate meeting frequency.

Chris – Something else we could think about is if there is work that we could do in between (i.e., subtasks or subgroups so everyone does not have to come every time.)

Phil suggested updating the draft plan. Talk about it every other time to keep people up-to-date.

August 27, 2002
SKOKOMISH GRANGE

Members present: Mo Dehe, Leslie Dolan, Jeff Heinis, Chris Hempleman, Shannon Kirby, Phil Wiatrak

Valley residents in attendance were: Ed Mazza, John Eager, Carolyn Hindes

The meeting was facilitated by Shannon Kirby.

Since several valley residents were present, Chris gave a brief overview of what the workgroup is doing.

A discussion followed about how we want to do the minutes, where to hold future meetings, and the frequency of meetings. Chris suggested we use Phil's idea of focusing on developing the Cleanup Plan. She also suggested we stay more focused during our workgroup meetings. The Plan is to be done by the end of the year at the latest, but November is the goal. It was decided to move meetings to the Hood Canal School beginning September 17. Meetings will be held every three weeks. In order to have less frequent meetings and still stay on schedule, more work will be done outside of workgroup meetings to develop areas of the draft plan. Chris will send the amended plan out before meetings, and we can discuss any comments or changes at the workgroup meetings. Minutes will stay the same as they have been.

Shannon opened a discussion on agricultural practices and what we want in the Plan. Chris pointed out that the TMDL study shows the most work needed to be done on Weaver and Ten Acre Creeks, and on Purdy Creek and the main stem Skokomish between 101 and 106. If the bacteria in those areas are reduced to the levels recommended in the TMDL study, the cleanup will be successful. Our main focus for agricultural sources is livestock access to creeks. Shannon handed out a map of the area showing where riparian fences have already been installed or are planned. There was discussion about the areas that still need work.

There was also discussion about manure spreading, and that sometimes manure is spread at times of year when no plant uptake is possible.
Shannon – There are methods to determine how much manure can be spread, but it's only appropriate at certain times of year.
There was discussion about the legality of spreading manure in a flood plain, before floods, and about manure storage practices.

Chris – Can the farmers find others who need manure so it doesn't have to be spread or stored?
Shannon – That's a good question. What will people do with manure if they cannot spread?

Chris – When you do farm plans, do you do things like work with the landowner on where manure could be stored?
Shannon – Certainly.

Chris – Are people storing manure in frequently flooded areas?
Shannon – They should put manure storage on high part of land. Technically, you cannot store manure in flood plain. How to deal with extra manure should be in the Plan.

Mo – Could Simpson use manure for fertilizing? We will check on it.

Mo – What do you do if a fence doesn't withstand flood?
Shannon – We will find fences that withstand floods. The conservation district's current grant allows for cost-share on alternative fencing. That grant is good until about June of 2003.

Chris – How many head of cattle in the valley?
Leslie – More now than in winter.
Shannon – There are about 500.

Chris – What's going on between 101 and 106?
Shannon – There's one big landowner with quite a few cows. He's talking to the conservation district and tribe about fencing.
Shannon – If the conservation district works with landowners, grants will help them out.

Shannon talked about the Conservation Reserve Enhancement Program (CREP). Through CREP the Natural Resources Conservation Service "rents" riparian areas that have incomplete buffers. It pays 100 percent of fencing and 100 percent of plants to develop an adequate riparian buffer (120 feet minimum, 180 feet maximum setback). It's usually on a 10-15 year option. Some land in the valley is already enrolled and more is waiting to be funded. Money is running out for this program, probably by the end of December 2003.

Mo – Doesn't the Shoreline Management Plan have jurisdiction over this land?
Phil – Existing agriculture is exempt.

Discussion of other possible applicable regulations followed. Chris agreed to set up a meeting to discuss this with Dan Sokol. Shannon, Jeff, Mo, and Phil said they wanted to be part of the meeting.

Shannon – There would still be enforcement by DOE.

Chris asked if we should talk about enforcement.

Chris – When I took this project over, Ecology had started an enforcement action in the valley. Lisa, our enforcement person, and I talked it over and decided to put enforcement on hold and see what voluntary solutions people could come up with. Talking with and working with people may get better results than enforcement. If that doesn't work or isn't enough, Ecology will go ahead with enforcement. What that usually means is that if we find problems, we issue a "notice of violation" to get people to work with the conservation district to develop and implement a farm plan. If that doesn't work we can take legal action.

There was discussion that Ecology's enforcement action ought to resume when the Cleanup Plan is complete (i.e., early next year) so that people can be referred to the conservation district while cost-share money is still available.

Shannon asked if a landowner is already working with the conservation district, what is the follow-up? Chris didn't know. There was some discussion about the availability of technical assistance from the conservation district. Currently their work in the Skokomish is grant funded. When that fund is spent (possibly as soon as June), they may not be able to respond to enforcement referrals from Ecology.

The remaining time was opened to discussion with the visitors.

John – Ed and I both live on the canal. He suggested we send outreach letters out to saltwater people and let them know about the problem and cleanup on the Skokomish.

Chris sent the outreach letter to 527 residents in the valley. John thought it should go a little broader, meaning the saltwater people (Hoodsport to Union). Also, shrimp and shellfish people would be interested. Skokomish Nation should be interested. Chris asked if an article in Mason County Journal would help. John thought it would.

Mo – Has anyone contacted Hamma Hamma people? Chris said "No".

John – The Coordinating Council should know to get their people involved.

The next meeting is September 17, 2002 at Hood Canal School. We will talk about the recreational areas in the valley where human waste is a problem. The workgroup discussed who needs to be represented at that meeting and identified Simpson, the sheriff, and Fish and Wildlife. EDC was also suggested.

September 17, 2002
HOOD CANAL SCHOOL

Members present: Wayne Clifford, Mo Dehe, Leslie Dolan, Jeff Heinis, Chris Hempleman, Shannon Kirby, Steve Kutz, Phil Wiatrak

Others in attendance were: Ted Drogmund, Sheriff's Office; Paul Wing, Simpson

The meeting was facilitated by Shannon Kirby. She asked if everyone got to look at the minutes and if there were any corrections. Shannon clarified that NRCS (Natural Resource Conservation Service) rents the CREP (Conservation Reserve Enhancement Program) buffer instead of the Conservation District. Chris said she made some editorial changes to the minutes to go on the internet so they would make more sense to folks not on the workgroup.

The issue to be discussed at this meeting was a couple of areas along the river where human feces are a problem due to heavy recreational use and no public facilities.

Chris – Background: During the TMDL study, lots of waste was noticed along the Purdy cutoff and Highway 106 during fishing season. And in the Dips, people camp without facilities for long periods of time. Four hundred pounds of dirty diapers were picked up during a cleanup by residents.

Shannon – In the Dips, part of the land is Simpson's. Would Simpson be interested in providing port-a-potty's at the Dips, or do they want people out of there?

Paul – The area Simpson owns is where water is closest to the road. It would be very hard to block this area off.

Wayne – Wouldn't it be county easement?

Paul – I don't know.

Steve – Easement might be just the pavement.

Shannon – How does Simpson usually deal with trespassers?

Paul – We try to control access ---- put up a gate, block a road off, do patrol at times. With water along the paved road, it is easy to access. We don't allow long term camping.

Steve – If we notice illegal use would we contact the sheriff's office?

Paul – Yes, or, if people are camping you can call him (Paul).

Shannon – Would Simpson okay "no trespassing" signs?

Paul – Yes

Mo – What about parking along the road?

Ted – That might be a tool to write tickets for traffic problems it creates.

Wayne – Human waste on the property is a health issue.

There was discussion about use of this area including not just the river banks, but people are also camping on the gravel bar. Sometimes they drive along the river bed. There is some concern with bonfires.

Shannon – Mo suggested huge boulders to obstruct access.

Ted – We could run into problems with the county if someone comes around the corner and runs into them.

Mo – Can we call the Sheriff's Office if we see people partying?

Ted – I would be the guy to respond, but lots of times by the time I get there, the party is over.

Wayne – If you know the area is a problem area, wouldn't you be more likely to patrol there?

Ted – Yes

Steve – What we need is to get their attention.

Ted – You write a couple tickets and news gets out.

Ted – Wording on the "no trespassing" signs must be specific to be enforceable. Talk with the prosecutor's office for what to say on the sign and any other restrictions, such as how far apart signs need to be. Staple signs to trees.

Steve – If it's a county right-of-way, they need to enforce that, too.

There was discussion about identifying and working with adjacent property owners.

Ted – If signs disappear and we keep putting them up, people will eventually learn they are not wanted there.

There was discussion about the signs. It was decided to use the cheapest signs we could find that were durable, since they will be destroyed and removed. Residents can replace them as this happens. Shannon suggested the prison as a source of inexpensive signs. Several possibilities were discussed for funding for signs. This will need to be explored.

Chris - One of the property owners in this area (not at the meeting) suggested that a mileage indicator be added to the signs on 101 for the Browns Creek campground. He felt that people don't realize it's such a long way up the valley. So they get to the Dips, see a camp area, and stop there.

The workgroup thought that another mileage indicator at the Dips would also help. Chris will contact the USFS about this.

The overall idea is to post the area with no trespassing signs and install the Browns Creek

mileage signs before recreation season begins next summer. Then residents will report illegal use to the Sheriff's Office. Ted will respond and patrol as much as he can. Simpson's enforcement person will also keep an eye on the area and get people to move on. The workgroup generally agreed that paying lots of attention for a season would help get the word around that the area isn't available for use anymore.

Mo – Will write a Letter to the Editor to get word out.

Shannon – What about the problem between highways 101 and 106?

Ted – There may be a traffic problem

Chris – Is public health an issue?

A discussion followed. Along 106, camping is not an issue, just lots of fishing and no facilities. The stretch between highways 101 and 106 is one of the primary areas needing bacteria reductions. This is private property, and the landowners have not expressed concern about people using their property to access fishing.

In the discussion that followed, Wayne suggested one approach was to develop a handout to make the fishermen aware of the problem and that we need their cooperation. We also discussed options for providing a facility.

Shannon – We need to talk to who has Kennedy Creek. John's Creek has a port-a-potty and Jeff said there is a port-a-potty at Sunnyside Road. Someone's paying for them somewhere.

Steve – How many people could the hatchery handle? Their septic system is probably too small to be opened to the public.

The group identified August through November as fishing season and the problem time, and decided on two actions for this area of the river:

1. DOH will take the lead in developing an educational handout that will discuss the problem and let fishermen know where the nearest public facility is. Residents and agency staff will leave the flyers on windshields during fishing season. We may also do some face-to-face contact. The flyer will also be made available where fishing licenses are sold and, if possible, at local businesses (Purdy Drive-In, Verd's, Wal-Mart, Hunter Store were suggested). We considered the possibility of getting a holder, like when they sell houses, to put information in.

2. Ecology will talk to Fish and Wildlife about the possibility of furnishing a port-a-potty at George Adams Hatchery.

Chris handed out a draft of the Cleanup Plan as it stands now. She proposed for next meeting that we work on developing the Plan. She asked workgroup members to get any comments on the plan to her. She will talk to Debbie about septic tanks and send out the sections on recreation and septic systems with the minutes.

Shannon said we will work on it in detail next time. We will need a detailed monitoring plan eventually, but not in the Plan.

The next meeting is October 8, 2002, from 6:30-8:30 at Hood Canal School.

Note: October 8 meeting was cancelled.

October 29, 2002
HOOD CANAL SCHOOL

Members present: Wayne Clifford, Mo Dehe, Leslie Dolan, Jeff Heinis, Jim Hunter, Shannon Kirby, Steve Kutz, Debbie Riley, Phil Wiatrak

The meeting was facilitated by Shannon Kirby. We went over the draft plan making comments and changes as necessary.

The following points were brought up:

1. Is there going to be any kind of reporting or monitoring follow-up in the report? What the results are? Are there certain things to be accomplished and how do we check on it? Is that the next phase to this? If so, how is it set up?

2. Should there be a periodic newsletter and/or some kind of annual reporting so we'll know if the approach is working?

Shannon suggested that a public outreach meeting is the next step to presenting the Plan to the public. Steve thought maybe the first week of January would be best. Jim agreed as November and December would not be a good time.

The next meeting will be November 19, 2002, at the Hood Canal School and we will prepare for the outreach meeting.

November 19, 2002
Hood Canal School

Those in Attendance were: Denis Popochuck, Steve Kutz, Jeff Heinis, Mo Dehe, Debbie Riley, Shannon Kirby, Leslie Dolan, Cindy James, Chris Hempleman

The meeting was facilitated by Shannon Kirby. Chris had incorporated changes in the Plan that were brought up at the meeting on October 29, 2002 and sent copies to the group for them to look over before this meeting. There was more discussion on a couple sections of the Plan.

Steve – Referred to Page 6 of the Plan. Other than fencing, he thought there should be three or four examples of actions implemented.

Shannon –There is to be no building whatsoever, including manure storage, because of the moratorium.

Chris – Would there be any way to work with Rick at the county about the building moratorium?

Steve – That is question to ask Rick.

Leslie - Simpson is logging again above and mud is running down. Mo said as a flood board member, the county does have a say on what goes on there.

Mo - the Flood Board meeting was planned for last Monday, but there was not a quorum.

Chris –Should we bring up with the Commissioners the possibility of using Flood Board money to assist homeowners with septic repairs or replacements?

Steve – Yes, and maybe ask for meeting with Ron Henrickson.

Mo – Should be low interest loans, rather than grants.

There was discussion about the upcoming meeting with the county commissioners – who would do what.

Shannon suggested meeting a little early Monday before meeting with the Commissioners. Debbie said to come over to their place.

There was discussion about the public meeting and the public comment period. January 6 to February 14 was set for the comment period and January 28 from 6:30 - 8:00 p.m. was selected for the public meeting.

Suggestions made were to have an open house type meeting with information about cleanup activities, and a short presentation on the Plan and the process. There was discussion about what information to provide, what graphics, who would have information tables covering what. What we want is an informal conversational atmosphere.

Rather than a formal hearing the opportunity will be provided for written comments. Folks should be encouraged to comment on the actual Plan, as other comments can't be addressed. Copies of the Plan can be taken to Purdy Canyon Drive Inn, Hoodsport Library, the Tribal Center, and it will be on the internet also. We'll do another mailing to the watershed and a notice in the paper to let folks know about it.

A dry run of the presentation was planned for January 15, 2003 at 5:30 p.m. at the Conservation District office.

Appendix D: Fish Food Fecal Sampling

Fish Food Fecal Sampling

The issue of fecal coliform from fish rearing operations has come up during TMDL meetings with local groups. Fecal coliform bacteria are generated by warm gut animals and have not been associated with fish rearing (cold gut). Fecal coliform can be present in fish hatchery effluents but come from either already being in the intake water (influent) from the stream or from potential predators such as birds, mink or otter. The fish food has not been previously an issue due to its dry nature but Ecology decided that it should be looked at to resolve any questions about potential fecal coli form content. McAllister Salmon Hatchery (Washington State Department of Fish and Wildlife/WDFW) was chosen due its close proximity to the Department of Ecology.

On March 5, 2001, three (3) samples of dry fish food were obtained from the McAllister hatchery. EWOS (very fine), Moore-Clark (medium), and Biodry (large) were the foods on hand at the hatchery. These are three (available at this hatchery) of the five (5) kinds used in their program. Two water samples were also taken for total and fecal coliform. One was taken from the influent water (McAllister Creek) and one from the final effluent (discharge) water as it was discharged back to McAllister Creek. Any fecal coliform within the hatchery would be there from being within the water withdrawn from McAllister Cr.

The dry fish food was brought back to Ecology and two of the three samples were selected for leaching. The two selected (by blind random) were EWOS and Moore-Clark.

PROCEDURE:

At 1330 hours, two (2) measured scoops (approx. 3 oz.) were put into clean 2-liter sterile jugs. Approximately 750 ml. of de-ionized water were added and the jars shaken to dissolve the food. The jars were shaken every 15 minutes for a total of one (1) hour. The jars were allowed some minimal settling and samples were then poured off for analysis. A control sample from the de-ionized water was also taken. All samples were iced and transported to the Ecology Manchester Lab on the morning of March 6, 2001.

RESULTS:

The laboratory request was for both total coliform and fecal coliform. Total coliform is the total of all coliform bacteria and could include bacteria from rotting fruit or vegetation. The fecal coliform would be a lesser component of the total. Fecal coliform counts never exceed total coliform counts.

The water samples taken at the McAllister hatchery show 31 total coliform in the influent and 49 in the effluent. These numbers are low and are very close to each other and are probably representative of the variable nature of sampling for total coliform. I would suspect that these low numbers are strictly background in McAlister Creek. The fecal coliform show counts of 14 fecal coliform in the influent sample and 10 in the effluent sample. Both of the numbers are very low also.

The de-ionized water control sample and a count of 1 fecal coliform and that is below the detection limit of the test. The fish food called EWOS was listed as 3 fecal coliform as well as Moore-Clark with 3. The laboratory data qualifier of "U" listed these as "not detected at or above results".

CONCLUSION:

The bench test of the fish food for the presence of fecal coliform indicated that no fecal coliform were present in either the food or the de-ionized water used. The sampling at the hatchery indicated the presence of fecal coliform in the creek water at low levels but poor water quality nature of the creek would account for these values.

Conducted by:

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