3.2 WATER QUALITY RECOMMENDATIONS

A central purpose of watershed planning under Chapter 90.82 RCW is to provide for the protection of water quality while addressing water quantity and habitat issues. Watershed management plans should incorporate, facilitate and support programs and actions to address water quality issues.

3.2.1 Pollution from Failing Septic Systems Systems (and mis-managed or improperly-designed systems)

Issue: Failing septic systems probably contribute bacterial waste, excess nutrients, and other contaminants to fresh and marine waters.

Existing Conditions and Current Actions

Many freshwater streams (e.g., Bagley, Bell, Cassalery, Johnson, Matriotti, and Meadow-brook Creeks) do not meet Washington State water quality standards for bacteria. One of the principal known sources of this bacteria is failing septic systems. Septic systems can fail due to improper design and/or construction, inadequate maintenance, excessive use, and other causes. When septic systems fail, pollution from bacteria, nutrients, and other contaminants is incompletely treated and is released into ground and surface waters at rates exceeding what the landscape and hydrologic system can accommodate. These conditions, found both in unincorporated areas of the County and in certain areas within city jurisdictions, have prompted extensive local response.

Desired Conditions and Outcomes

- A complete local system for handling septic wastes.
- Restore and maintain the water quality of WRIA 18 surface waters in order to meet water quality standards and enable all intended uses.
- Emphasize water quality improvements to re-open shellfish harvesting areas or to retain areas currently in use.
- Conduct all necessary monitoring and sampling throughout WRIA18 in order to determine current water quality, to evaluate response to water quality improvement efforts, and to enable early detection of potential water quality violations.
- An integrated data management system that tracks all nitrate and water quality data and that incorporates the data into the land use and building permit systems.
- In areas of high or significantly increasing nitrate levels, no building permits are issued unless the development is connected to an existing water system.

Recommendations

A. Inspections

1. Complete and implement an On-site Septic System Operation and Maintenance Program for all WRIA 18 septic systems.
2. County should fully implement on-site septic system investigations or O&M inspections in identified problem areas as soon as possible. These include:

a. Areas near surface water

b. Areas subject to groundwater contamination (coarse, deep soils)

3. Septic system subpriorities include:

a. Age of system, especially those pre-dating current design standards

b. Maintenance-intensive designs

4. County should provide adequate resources and stable funding to conduct routine inspections of septic systems in areas identified in the Matriotti/Lower Dungeness River TMDL (among areas in the county also referred to as "septic systems of concern"—see County Problem Area Notebooks), other "septic systems of concern" areas such as Bell and Johnson creeks, and in other areas of water quality concerns related to fecal coliform (as they are identified).

B. Corrective Actions

1. Follow up County septic inspections with corrective actions, such as:

a. Assess and prioritize corrective actions identified.

b. Provide funding to support corrective actions for low-income households.

c. Maintain and apply enforcement activities as needed to ensure corrective actions are identified, completed, and maintained.

2. Seek stable, long-term funding to support inspection and corrective action programs.

C. Septic System Replacement

1. Provide septic infrastructure to unincorporated areas of concern in East WRIA 18. Priorities for service are Carlsborg, Agnew, the Golden Sands/Three Crabs area, and Dungeness Meadows.

2. Explore the feasibility of providing "small package" (membrane) systems and electrophoresis systems.

3. Obtain funding to assist with septic system repairs or replacements in priority areas.

4. County EHD should coordinate with state CTED and federal HUD programs (e.g., Olympic Community Action) for funding to repair failing septic systems through the housing rehabilitation program. (Note that septic system failure includes surfacing sewage as well as inadequate treatment in porous soils).

D. Information management: Use GPS to survey and map septic systems, individual wells, and community wells into a GIS database. Maintain land use maps showing the locations of permitted sewage disposal systems, private wells, and community wells and service areas. Organize Group A and B water system information by location and Public Water System (PWS) I.D. #, in addition to (or rather than) name of system. Manage this data in a way that enables correlation to water quality monitoring results.

E. Septage Waste Disposal: Locate an area in Clallam County that can be established as a disposal site for septic system waste from throughout WRIA 18 (and possibly sized to serve all of Clallam County).

F. Local Jurisdiction Coordination: Local jurisdictions should coordinate to accept septage for treatment and disposal (as allowed by state regulations).

3.2.2 Pollution from Animal-Keeping Practices

Issue: Animal-keeping practices, such as poor manure and pasture management, may contribute pollution from bacteria, nutrients, and other contaminants to surface and groundwater.

Existing Conditions and Current Actions

Not all animal waste is properly disposed of or composted, and surface and ground water quality is compromised by pollution from bacteria, nutrients, and other contaminants.

Desired Conditions and Outcomes

- Clean up surface waters to meet water quality standards and re-open former, or enable new, shellfish harvesting areas.
- Minimize potential contamination of groundwater.
- Animals excluded from access to WRIA 18 surface waters.

Recommendations

A. Technical Assistance, Education and Outreach Activities:

1. Seek stable funding for Clallam Conservation District and WSU Cooperative Extension technical assistance programs. Priority consideration should be given to Conservation District Special Assessments, as well as County general funds. Alternative sources of revenue include watershed protection district(s) and storm and/or surface water utility district(s).
2. Continue to develop farm plans and BMPs for protection of surface and ground water quality (Clallam Conservation District).
3. Provide technical assistance on animal waste management, for all animal-keeping operations, including small-scale noncommercial operations. This would include programs such as small-scale composting for horse and other animal owners (chickens, rabbits, miniature cows, sheep, pigs, etc.). Facilitate coordination between sources and buyers of compost.

B. Education:

1. Incorporate current ground and surface water quality data in educational efforts for the commercial and non-commercial agricultural community.
2. Provide educational materials to pet owners on correct waste disposal.
3. Continue to offer educational programs targeting specific user groups (e.g., horse owners, 4-H, FFA, dairy farmers, etc.).

4. Continue to offer information through newsletters, newspapers, and other published media.

C. Enforcement:

1. Continue the involvement of Ecology in enforcement under the existing MOA, particularly in cases where uncooperative landowners keep animals that have access to surface water.
2. Continue to comply with the Memorandum of Understanding between Clallam Conservation District and Clallam County pertaining to Agricultural Water Quality Management, and with the Compliance Memorandum of Agreement among Clallam Conservation District, the Washington State Conservation Commission, and the Washington State Department of Ecology relative to Agricultural Water Quality Management.

D. Remediation:

1. Facilitate implementation of farm plans and BMPs for protection of surface and ground water quality. Actions such as fencing riparian areas to prevent animal access, and revegetation to improve water filtration should be considered.
2. Pursue State and Federal funding sources for remediation and enhancement activities.

3.2.3 Pollution from Stormwater Runoff

Issue: Runoff associated with a wide range of land use activities contributes to reduced water quality throughout WRIA 18. Pesticides and herbicides are generally applied at rates higher than rates for commercial use per unit area. Sediments, toxics, and other harmful contaminants are carried downstream and into ground and surface water by stormwater runoff.

Existing Conditions and Current Actions

Changes in the landscape (especially increases in impervious and semi-pervious surfaces) lead to the transport of water-borne pollution to surface waters, while at the same time more polluted water percolates through pervious areas and contributes to groundwater contamination. Inadequate riparian buffers further increase the potential that pollutants will reach WRIA 18 ditches, streams, and rivers.

Desired Conditions and Outcomes

- Programs and policies to minimize transport of bacterial pollution away from the point of origin.
- Actions designed to support containment and treatment of bacterial sources at the point of origin.
- Riparian areas improved (and buffers expanded where they are inadequate) to reduce migration of pollutants.

Recommendations

A. Reduce Pollutant Loadings: Reduce pollutant loadings in all 303(d)-listed WRIA 18 streams, as well as in other streams identified as at risk of listing (available through Clallam County Natural Resources Database), as well as pollutant loadings delivered to other marine and fresh waters, through comprehensive use of BMPs, including:

1. Where appropriate, pipe any irrigation ditch vulnerable to stormwater or other surface pollution in order to eliminate runoff pathways through the irrigation network. Placing constructed wetlands (e.g., biofiltration swales) at tailwaters or at the ends of irrigation and/or roadside ditches where practical or necessary.
2. Using bioswales or other technology to filter runoff from fields containing drain tiles. Where drain tiles potentially exist, determine presence/absence and, if found, require removal prior to development.
3. Exclusion of livestock from riparian areas.
4. Stormwater BMPs. (see Section 3.5)

B. Aquatic Buffers:

1. Stream, marine and wetland buffers requirements (County CAO and city's Environmentally Sensitive Areas ordinances) should be regularly reviewed by the jurisdiction to insure their adequacy to protect water quality.
2. Continue riparian restoration and fencing to stabilize stream banks and reduce the movement of pollutants.
3. Use biological or innovative controls such as vegetated filter strips and myco-remediation (e.g., native mushrooms, cattails), where appropriate.

C. Education: Landowners and landscaping professionals should be educated about BMPs for irrigation management, turf management, integrated pest management, and general water quality protection. Current water quality data should be incorporated.

3.2.4 Other Sources of Pollution (Hazardous Waste, Commercial and Industrial Pollution)

Issue: Former industrial sites and existing landfills have the potential to impact surface and groundwater quality, as well as adjacent and surrounding land uses. Landfill and industrial site monitoring reports are not useful or comprehensible to laypersons.

Existing Conditions and Current Actions

The former Rayonier Mill site, at the base of Ennis Creek, is subject to the State Model Toxics Control Act (MTCA), as well as to other Superfund related clean-up requirements. The MTCA serves to mandate the condition to which industrial sites be returned. The

MTCA also outlines a set of protocols to which the Mill cleanup must adhere. Other industrial sites exist which may impact water quality.

Two active and two closed and capped solid waste facilities exist in West WRIA 18. The two active landfills are the City of Port Angeles site at the terminus of 18th Street in Port Angeles and the Lawson-Daishowa landfill, off Monroe Road. The closed sites are located at 13th and M Streets in Port Angeles and east of Port Angeles, off Mount Pleasant Road. These facilities are subject to State of Washington and Clallam County Environmental Health regulations and standards. Other facilities may have been closed prior to current regulations.

Desired Conditions and Outcomes

- Industrial sites and solid waste landfills are cleaned up and managed to avoid adverse effects on WRIA 18 water resources.
- Cleanup levels are achieved consistent with the planned future use of such sites and the risk they represent.

Recommendations

A. Cleanup Standards for Former Industrial Sites

1. The State of Washington should follow the Model Toxics Control Act process to evaluate and clean up former industrial sites.
2. To the extent feasible for sites not zoned for industrial use, clean former industrial sites to a condition that would allow non-industrial use.

B. Solid Waste Landfill Management: All landfill owners and operators will continue to adhere to State of Washington Solid Waste regulations, as well as to Clallam County Environmental Health standards. In the event that water quality standards are violated or other evidence leads Clallam County's Environmental Health Division to suspect that landfill leachate is polluting water, the County will recommend monitoring to investigate the pollution source and mitigation as necessary.

C. Hazardous Waste Collection

1. Continue County Environmental Health-sponsored annual Household Hazardous Waste collection events for non-commercial users.
2. Conduct collection event for small-quantity generators of hazardous waste or leftover chemicals (e.g., small commercial and agricultural users).
3. Seek funding to establish a permanent site and facility to receive hazardous waste from residential and small business sources.
4. Ensure that state-mandated emergency response plans for hazardous waste spills include policies for ground and surface water quality protection (e.g., absorption techniques).

D. Education Regarding USTs: Landowners should be educated on how to check for underground fuel tank leaks, and that unused tanks should be pumped dry

and removed. Liability info should be included. Offer financial incentives for removal for non-commercial tanks. Encourage lending institutions to check for these.

E. Point Sources:

1. Review permitted point sources and consider revisions to NPDES permits to meet water quality goals.

2. Appropriate jurisdictions should conduct a reconnaissance of all WRIA 18 sub-basins to identify and eliminate illegal discharge pipes, as state assistance is available. State assistance should be sought in this effort.

3.2.5 Groundwater

Issue: Groundwater is an important source of water both for stream baseflows and for human use, and may be increasingly important in meeting water demand growth, particularly in East WRIA 18. Groundwater is susceptible to bacterial and chemical contaminants to varying degrees throughout WRIA 18.

Existing Conditions and Current Actions

Virtually all known groundwater in WRIA 18 is in some degree of hydraulic continuity with surface water. A typical array of pollution sources, primarily of nonpoint origin, is contaminating groundwater resources either directly through percolation and infiltration or indirectly through interaction with associated surface waters. These conditions have resulted in numerous documented instances of groundwater pollution sufficient to make groundwater unfit for its intended purpose.

Groundwater quality is monitored and protected through a variety of means. Clallam County has ongoing responsibility to monitor well water quality. Group A public water systems are required to include a wellhead protection program in their comprehensive water system plans. Well decommissioning is the responsibility of well owners. USGS (1999) sampled 74 wells and found none with water quality problems. The PUD tests its wells on a 3-year cycle. Ecology has enforcement authority for State Standards for Construction and Maintenance of Wells, and Health regulates wellhead zones of control for protection of public water supplies. Ecology has not delegated wellhead authority to Clallam County. Department of Health is pursuing a cooperative program with local health jurisdictions and statewide assistance program. The County was recently authorized to act as third-party surveyor for small system sanitary surveys (the County handles only systems of less than 100 connections).

Ecology's EAP branch studied seasonal nitrate levels in the Carlsborg and Agnew areas. The County participated in the study using Centennial Clean Water funds. A Sequim-Dungeness Groundwater Protection Strategy was completed in 1994.

There have been significant efforts to monitor WRIA 18 groundwater resources, especially in East WRIA 18, where quarterly monitoring is conducted by the County and DOE. These monitoring efforts, as well as numerous studies (see Section 2.1.1), have provided a fairly complete picture of the physical and hydrologic character of the groundwater resources in that area. They have also illustrated the significant groundwater quality impacts that still need to be addressed.

East WRIA 18 has also had substantial progress toward active and protective management of these groundwater resources through the establishment of a formal Critical Aquifer Recharge Area. See Section 3.1.4.

Groundwater resources in West WRIA 18 are not well understood currently, although some research on quantity and stratigraphy is under way. There are no indications of significant groundwater pollution at this time, but that may in part be due to limited monitoring and study in this area.

Desired Conditions and Outcomes

- Protect the water quality of WRIA 18 groundwater resources and restore where necessary in order to meet water quality standards and enable all intended uses.
- Conduct all necessary monitoring and sampling throughout WRIA18 in order to determine current groundwater quality, to evaluate response to groundwater quality improvement efforts, and to enable early detection of potential groundwater quality problems.

Recommendations

A. Critical Aquifer Recharge Areas (CARAs)

1. Identify “areas of special concern” in the sewage code to be areas where the level of nitrates in groundwater is documented to exceed 3.0 mg/L. In these areas the maximum reduction of nitrate feasible for on-site septic systems should be required.
2. Educate professionals, such as well drillers, septic designers and real estate agents regarding setbacks and other essential aspects of locating, designing, drilling, and documenting wells.
3. Seek grant funding to locate and cost-share the decommissioning of unused wells.
4. Summarize and analyze existing raw groundwater-related data from water purveyors and Clallam County Environmental Health and Building Divisions.
5. All jurisdictions with aquifer recharge areas should provide appropriate protections and land use requirements (such as low-impact development techniques), particularly in the Sequim-Dungeness Valley.
6. Where jurisdictions share or abut a critical aquifer recharge area, the involved jurisdictions should coordinate land use planning and management to ensure protection (e.g., as Service Extension Review Process (SERP) agreements are updated).

7. In the interest of the overall health of the region, develop low interest loans or other mechanisms to maintain or assure potable water for those areas affected by public health problems related to the water supply or insufficient water.[1]
8. Use Permit Plan and GIS to map locations of septic system densities greater than one per acre and developed parcels with no associated septic permit.
9. Enforce the following everywhere, but particularly within CARAs (Cities and County):
    a. Review project proposals for potential groundwater contamination resulting from (but not limited to) wastewater (individual and community onsite systems), stormwater, seawater, fertilizers, pesticides, detergents, and other domestic and commercially-used chemicals.
    b. Require pre-treatment of stormwater prior to infiltration for appropriate contaminants given the land use.
    c. As new information becomes available, make appropriate adjustments to pertinent ordinances and comprehensive plans.

B. Wellhead Protection Program (State Dept. of Health)

1. County, State and local purveyors should coordinate recharge area delineation and aquifer protection measures (such as contaminant source identification), with the goal of facilitating wellhead protection programs and/or improving efficiency in meeting some requirements.
2. Provide training to water systems on procedures and funding for wellhead protection, and facilitate coordination between neighboring systems.
3. Coordinate or, at minimum, provide assistance on contaminant source inventories and through existing hazardous waste program. Maintain a map showing locations of small quantity generators of hazardous waste (SQGs).
4. Together with an advisory committee, determine which categories of SQGs represent the greatest risk to groundwater quality (first, due to the toxicity of the contaminants, and second, due to the likelihood of the contaminants entering groundwater).
5. Conduct a coordinated contaminant source inventory for water purveyors and the County to use for wellhead protection requirements.

C. Groundwater Education

1. Educate well owners (especially potential well owners) as to proper well construction, and their personal liability for the construction of their well.
2. Educate owners of unused wells as to their responsibilities for properly decommissioning the well. Use maps of public water system service areas and former irrigation wells to locate abandoned wells, and target educational efforts on decommissioning to these areas.

[1] DQ Recommendation C.11.8

3. Encourage establishment of (or advertise existing) financial assistance for residential and agricultural well decommissioning (abandonment).

4. Inform well owners as to the dangers and liability of leaving wells open, ungrouted and unsealed, electrically grounded, or unprotected from surface water contamination, and of using or storing hazardous materials near a well. Make or purchase a cut-away model of a properly-constructed well.

D. Open wells: Open wells present a window to the underlying aquifers, and therefore a risk to groundwater quality. All open wells should be properly capped.

E. Unused wells: Unused wells, even when capped, may also present a risk and should be properly decommissioned (see RCW 18.104.043). However, wells no longer in use also present a good opportunity for static water level monitoring, and these owners are encouraged to contact County or State staff for consideration.

F. Funding: Consider mechanisms such as Aquifer Protection Area designation for Sequim-Dungeness, a taxing district created by a simple majority of voters (RCW 36.36). To the extent authorized in RCW 36.36, revenues should be used for drinking water or wastewater treatment facilities, monitoring of on-site sewage disposal systems, protection planning, stormwater management and handling and other activities.

3.2.6 Shellfish

Issue: Marine waters fail to meet bacterial standards for shellfish harvesting and show increasing pollution levels. (Much of this pollution is non-point source pollution and not regulated under the Clean Water Act's NPDES program.)

Existing Conditions and Current Actions

Parts of Sequim and Dungeness Bays do not meet water quality standards for harvesting shellfish due to bacterial pollution. Productive shellfish growing areas are closed in both bays.

Desired Conditions and Outcomes

- Reopen areas closed to commercial and recreational shellfish harvesting and maintain water quality so it continues to meet standards.
- Other areas in WRIA 18 monitored and managed to support shellfish harvesting if their water quality can be demonstrated or improved to satisfy bacterial and other applicable standards.

Recommendations

A. Pollution Prevention and Remediation:

1. Support the activities of the Clean Water District (see Section 3.2.8).

2. Support funding of the Clallam Conservation District to address water quality issues.
3. Continue to identify and remove bacterial sources of pollution in the watershed and nearshore areas.
4. Prevent inappropriate development along the marine shoreline through public education and enforcement of Critical Areas Ordinance and Environmentally Sensitive Areas ordinances and the Shoreline Master Program.
5. Implement water cleanup plans/strategies to address TMDLs, shellfish closures, and related water quality problems.
6. Identify and seek funding for pollution remediation.
7. Provide cost-sharing incentives to landowners for addressing pollution problems.
8. Continue to support State and local monitoring programs for PSP.

B. Education/Outreach:

1. Continue to educate landowners and residents on pollution prevention using a variety of media and venues such as school programs, lectures, field trips, and signs.
2. Post closure signs on public shellfish beaches and offer signs to private landowners. (Note that NPDES requirements are specific to those discharges.)

3.2.7 Monitoring and Assessment

Issue: Pollution sources in the watershed and bays must be identified to the greatest extent possible in order to be remediated. Once identified, subsequent corrective measures need to be evaluated for their effectiveness. Long-term water resources management requires full, regular monitoring and assessment to maintain an understanding of the condition of those water resources.

Existing Conditions and Current Actions

Appropriate water quality monitoring is being conducted for many WRIA 18 watersheds, including those in the TMDL study area (Matriotti Creek and lower Dungeness River, Meadowbrook Creek, and the Golden Sands area) and elsewhere. Inadequate and inconsistent monitoring occurs in other WRIA 18 watersheds, such as Johnson Creek, Cassalery Creek, and Bagley Creek. Little to no water quality monitoring occurs in some creeks, such as Gierin, McDonald, Dry, and Indian creeks.

Water quality monitoring is conducted by the local jurisdictions, tribes, agencies, and various organizations and landowners, such as Clallam County, Lower Elwha Klallam and Jamestown S'Klallam tribes, Clallam Conservation District Departments of Health and Ecology.

Desired Conditions and Outcomes

- A comprehensive monitoring and assessment program that includes sufficient monitoring for bacterial and other water quality parameters in both fresh and marine surface waters and groundwater.
- An integrated water quality monitoring effort that incorporates all appropriate components (such as fisheries, habitat, flow and chemistry data) in a unified design.

Recommendations

A. Prioritization: DRMT and the proposed West WRIA 18 watershed council will work with Clallam County to prioritize monitoring, assessment, and corrective action.

B. Field monitoring (subject to available funding):

1. Implement a comprehensive surface water quality monitoring program that covers all WRIA 18 watersheds and is integrated with other monitoring activities. This monitoring should provide for early detection of pollution problems, identification of pollution sources; evaluation of the effectiveness of remediation efforts, and long-term baseline data to track trends in water quality.
2. Apply appropriate bacterial source tracking methods to distinguish among major contributions to fecal coliforms in Dungeness Bay. If these methods are useful to Dungeness Bay cleanup, consider application to other areas with bacterial pollution.
3. Continue, or expand where warranted, water quality sampling in the bays, harbors, freshwater streams, county road and irrigation ditches.
4. Research the interaction between marine sediments and the retention and/or regrowth of pathogens and fecal coliforms in Dungeness Bay.
5. Conduct appropriate water quality sampling as an integrated part of the multi-year voluntary well metering pilot study (described in 3.1.2 B.2) on a statistically valid sample of willing participants using new and existing wells in the Dungeness River and a West WRIA 18 watershed to be selected.
6. Support funding and expansion as needed to enable fullest possible use of the Streamkeepers volunteer monitoring program.
7. Monitoring: Continue groundwater monitoring, developing baseline information and focusing on areas with elevated nitrates, and implement pollution control measures:
    a. Establish an ambient monitoring network for regular monitoring of nitrates and bacteria. Include other constituents periodically, such as chloride and those found in stormwater runoff and landscape management.
    b. Make use of existing data sources whenever possible (for example, nitrate data submitted for County building permit requirements; various data submitted to State Dept. of Health and County Environmental Health by public water systems).

C. Data Management: Continue expansion of County's natural resources database possibly to regional coordination.

D. GIS Support:

1. Use GIS to track monitoring locations.
2. Use GIS to assess water quality trends, e.g., link land use changes (especially in impervious surfaces) to stormwater runoff and nonpoint source pollution.

E. TMDLs:

1. Complete the TMDL process for Matriotti Creek and the Lower Dungeness River and for Dungeness Bay and implement the Clean-Up Plan.
2. Continue development of a TMDL program for 303(d) listed waterbodies, e.g.:
   a. Bell Creek.
   b. Cassalery Creek.
   c. Bagley Creek.
   d. Johnson Creek.
   e. Other 303(d) listed water bodies, as prioritized.

F. Research:

1. Continue to investigate the causes of pharmaceuticals and other possible contaminants in the human waste stream, in surface and ground water.
2. Investigate a possible facility to process organic wastes into fertilizer, soil, or energy and/or a disposal site for "vactor" waste from stormwater catchbasins.

3.2.8 Clean Water District

Issue: The Sequim-Dungeness Clean Water District was formed to address a broad range of water quality issues in the area between Sequim Bay and Bagley Creek.

Existing Conditions and Current Actions

The DRMT recommended to Clallam County commissioners the formation of a Clean Water District with the same boundaries as the DRMT management area, including stable funding for the district to be managed. The Clean Water District was created by county ordinance (CCC 27.16) on May 22, 2001. A Clean Water Work Group (CWWG) has been established to focus on water quality problems in the Clean Water District. A cleanup plan was developed for the Dungeness River and adjacent watersheds draining into Dungeness Bay. In addition, TMDLs have been established for several portions of the Dungeness River and tributaries. A TMDL is planned for Dungeness Bay in January 2004. There are other water quality problems in Bell and Johnson Creeks, as well as shellfish closures in Sequim Bay, that could be addressed within the Clean Water District.

Desired Conditions and Outcomes

- Strategies developed to improve all water quality-impaired streams and bays.

- A funding strategy developed to implement the Clean Water program.
- Protected water quality for all unimpaired water bodies.

Recommendations

A. Clean Water District Implementation:

1. Provide stable funding for assessment and implementation activities related to surface- and ground-water cleanup within the Sequim-Dungeness Clean Water District.
2. Implement actions of the Sequim-Dungeness Clean Water Strategy, the goals of which are to:
   a. Protect public health.
   b. Identify and correct sources of bacterial contamination associated with human activities that are impacting water quality.
   c. Restore and maintain water quality in the freshwater ditches, streams, and the river, as well as in marine waters within Dungeness Bay.
   d. Re-open areas closed to commercial shellfish harvest and prevent future closures.
   e. Protect habitat for fish, shellfish and other wildlife species.
   f. Implement remedial actions to address shellfish closures in Sequim Bay and apply the same goals listed above for Dungeness Bay.
   g. Continue Ecology involvement and action within the Clean Water District for enforcement related to animal-keeping practices.

B. Continue Groundwater Guardian program for the Sequim-Dungeness Clean Water District:

1. Focus education on non-point pollution originating from residential, agricultural, commercial areas; and water conservation.
2. Conduct contaminant source inventory for commercial and agricultural areas.

C. Research: Review regulations and programs of other counties (e.g., Kitsap County) as well as relevant case law for innovative ideas.

D. Other Strategic Development: Consider the development of clean water strategies in other areas of WRIA 18 (e.g., Bell and Johnson creeks).

E. Watershed Protection District: A watershed protection district should be further defined to provide funding for consistent staff support for water quality and quantity protection and management, and aquifer management, and to leverage funding for grants for special projects.[2]

[2] DQ recommendation C.13