



Key Peninsula-Gig Harbor-Islands Watershed



State of the Watershed Report 2001

Prelude

The purpose of this State of the Watershed Report is to provide a mechanism for tracking changes in the Key Peninsula-Gig Harbor-Islands Watershed. In 1999, the Key Peninsula-Gig Harbor-Islands (KGI) Watershed Committee published the Key Peninsula-Gig Harbor-Islands Watershed Action Plan and Characterization Report. The purpose of this annual report is to build on the Characterization Report by providing updated information and to describe significant activities occurring within the watershed.

KGI Watershed Interim Council

Upon completion of the KGI Watershed Action Plan, the KGI Watershed Committee became the KGI Watershed Interim Council. The Council will be considered “Interim” until it is appointed by Pierce County, Kitsap County, and the City of Gig Harbor. The Interim Council meets monthly.

DATA UPDATES

The following sections describe new or updated information about the watershed which has been collected since 1999.

Shellfish

Rocky Bay: Rocky Bay is in the process of being upgraded from “Prohibited” to “Conditionally Approved” and is expected to be upgraded by November 2001. This improvement may be attributed to work by the Tacoma-Pierce County Health Department and Pierce County Water Programs. Pierce County Water Programs and the Rocky Bay Advisory Team completed the Rocky Bay Subwatershed Plan in

2000 in an effort to sustain water quality improvements and to provide guidance for potential fish habitat improvements.

Burley Lagoon: The Lagoon was divided into two areas, the “Inner” and “Outer” Lagoon. The Outer Lagoon was upgraded to “Conditionally Approved” in 2001 after substantial effort on the part of the Kitsap Conservation District, the Tacoma-Pierce County Health Department, the Bremerton-Kitsap County Health Department, and Pierce County Water Programs. However, an interagency team is still working to identify the sources of bacterial contamination to the lagoon to prevent the rising fecal coliform bacteria counts and one or two key stations in the Outer Lagoon.

Filucy Bay: Filucy Bay was downgraded to “Prohibited”, effective August 16, 2001 because of high fecal coliform bacteria levels in water quality samples taken from the bay. Pierce County is currently in the process of responding to the State Law requiring creation of a Shellfish Protection District in response to the downgrade. An interagency team headed by the Washington State Department of Health is developing a response program.

Oro Bay: Water quality sampling from Oro Bay indicated that fecal coliform bacteria levels were increasing to a point that a downgrade was being considered. In response, the shellfish grower has agreed to a “Closed” status on the bay. This is not a downgrade but does give the grower and local agencies two years to identify and resolve pollution sources.

Salmon

The Washington Conservation Commission completed a limiting factors analysis for salmon habitat for the watershed. Using a technical advisory team, the Commission has collected information on all local streams and recommended actions for each one. Recommendations include correcting fish passage barriers, identifying and correcting sources of sediment, conserving existing habitat, preventing poaching, additional research, increasing conifer abundance in the riparian zone, adding large woody debris, and many other actions. The analysis and recommendations are stream specific.

The report identifies the known presence of salmon in local streams. Chinook are present in Rocky, Minter, Burley, Crescent, and McCormick Creeks. Steelhead are present in Rocky, Minter, Burley, Crescent, McCormick, Purdy, and Donkey Creeks. Coho may be found in Rocky, East Fork Rocky, Minter, Little Minter, Huge, Burley, Purdy, Lackey, McCormick, Crescent, Donkey, Artondale, Wollochet, Sullivan, Schoolhouse (Filucy Bay), Dutcher, Vaughn, Herron, Schoolhouse (Anderson Island), Mark Dickson, Rosedale, and Nelyaly Creeks. Chum salmon are present Rocky, East Fork Rocky, Minter, Lackey, Vaughn, Purdy, Burley, Crescent, Donkey, McCormick, Artondale, Wollochet, Mark Dickson, Sullivan Gulch, Rosedale, Nelyaly, Schoolhouse (Anderson Island), and Dutcher Creeks. Cutthroat are ubiquitous throughout the watershed and are believed to be present in most streams.

Pierce County replaced a culvert that was blocking fish passage on Wright-Bliss Road with a bridge in 2000. This action should provide an additional seven miles of accessible spawning habitat. They also repaired a collapsed culvert on Crescent Creek near Crescent Lake which resolved a fish passage barrier at that point. Pierce

Conservation District implemented projects to resolve fish passage blockages on Minter Creek, Hoff Road, and Winter Creek and completed a culvert inventory which assessed fish passage for all culverts on KGI Watershed streams. South Puget Sound Salmon Enhancement Group is currently pursuing funding from the Salmon Recovery Funding Board to resolve a passage barrier on Minter Creek at the Minter Creek Hatchery.

The KGI Watershed Council developed an Early Action Work Plan for salmon recovery projects within the watershed. Lackey, Rocky, and Dutcher Creeks were identified as priorities for habitat *preservation*. Crescent, East Fork Rocky, and Donkey Creeks are priority areas for habitat *restoration*. Fish passage barriers on Rocky Creek at 144th Street, Burley Creek at Burley-Olalla Road, and Little Minter Creek at 118th and Highway 302 were identified as priorities.

Macroinvertebrate Sampling

Pierce County, with the help of many other agencies and volunteers, began using a standardized methodology for macroinvertebrate sampling in 2000. The methodology is known as the Benthic - Index of Biological Integrity or B-IBI. The methodology was developed by the University of Washington and Professor James Karr. The samples are only collected once per year in the fall. The sample results measure the diversity of insect species living in the gravels of a stream.

In 2000, samples were taken from Artondale, Crescent, Donkey, Little Minter, Minter, Sullivan Gulch, Mark Dickson, McCormick, Nelyaly, Ray Nash, Rocky, and Rosedale Creeks. Scores ranged between 16 which is a Poor rating (taken from Sullivan Gulch) and 30 which is a Fair rating (taken from McCormick and Crescent Creeks). By comparison, the highest rated streams in Pierce County in 2000 were South Prairie and LeDouy Creeks which both rated 32 which is also Fair. The score of 18 for Rocky Creek was unexpectedly low. This may indicate a water quality problem or an anomaly. Additional samples were taken from Rocky Creek in 2001 but results are not yet available.

Water Quality

Water quality sampling in the KGI Watershed has been done by Stream Team volunteers and by URS Corporation technicians on behalf of Pierce County Water Programs. The water quality samples taken by URS were limited to streams in the Gig Harbor Subwatershed. Samples were taken from Goodenough, McCormick, Nelyaly, Rosedale, Mark Dickson, Artondale, Wollochet, Sullivan, Donkey, and Crescent Creeks. Samples were taken on June 1, 2000 and July 31, 2001. Fecal Coliform bacteria levels consistently violated the state water quality standard of 100 cfu/100ml. The highest numbers were taken from Rosedale, Artondale, and Crescent Creeks with levels ranging between 440 and 810 cfu/100ml. Nitrate levels in Goodenough Creek were slightly elevated in both samples with levels ranging between 1.7 and 1.86 mg/L. These numbers are more than double the nitrate level for any of the other streams in the basin. There are no state standards for nitrate levels in streams. Nitrates are tested as an indication of the presence of nutrients or fertilizers in the system.

Water quality sampling results taken by Stream Team volunteers in 2000 and 2001 do not indicate any trends or changes in water quality in local area streams. The East Fork of Rocky Creek did experience low pH readings (6.5 and 6.0) in February and September of 2001. The September reading may be attributed to stagnant flow conditions in an area with acidic vegetation and soils.

Samples taken by the Bremerton-Kitsap County Health Department from Burley Creek near the mouth indicate a slight downward trend in fecal coliform levels with samples over the last year falling between 135 and 97 cfu/100ml.

Habitat

Stream Walks performed by Stream Team volunteers in 2000 and 2001 provided the following information: East Fork Rocky at 132nd Ave KPN was Fair, Rocky Creek at 144th was Good (8/11/00) and Excellent (8/30/01), Rocky Creek at 186th Ave. was Good, Minter Creek at 118th Ave NW was Good, McCormick at Sehmel Drive & Woodhill was Poor, and McCormick at 66th Ave NW was Poor. The monitor on Artondale Creek reported the presence of a backhoe in the creek in September of 2000.

A survey performed by Pierce County comparing the number of road crossings of streams within the watershed against the number of stream miles found 3.8 road crossings per stream mile within the Burley-Minter Basin, 1.66 road crossings per stream mile in the Gig Harbor Basin, 1.86 crossings per mile in the Key Peninsula Basin. Each stream crossing or culvert provides an opportunity for a fish passage barrier and encases stream habitat in pipe. The study identified 722 road crossings of streams within the Pierce County portion of the watershed.

Land Use and Population

The 1998 population estimate for the watershed was 52,352. The Gig Harbor Subwatershed had a population of 33,353. Key Peninsula Subwatershed was home to 9,462 people. All of the Islands had a population of 5,777. Burley-Minter's population was estimated at 2,884 and Rock Bay's population was about 876. (These numbers do not include the populations for group facilities such as prisons.) Watershed population numbers will be updated as 2000 census data becomes available but may serve as a baseline against which to compare future estimates.

Land use in the watershed has remained fairly consistent with a few notable changes. The development of Gig Harbor North as a significant commercial center will increase the amount of impervious surface and runoff in the Donkey Creek drainage basin. Also, the extension of the East-West Road may encourage additional residential development along that corridor. The most significant shoreline development is occurring at Point Richmond where a large, residential subdivision is being constructed.

Pierce County Planning and Land Services drafted a community plan for the Gig Harbor Peninsula which is awaiting approval by the Pierce County Council. The plan offers protections for stream corridors which may prevent damage to water quality and habitat from future development if the adopted plan is similar to the draft.

Finally, private efforts to protect habitat and open space are benefiting the watershed. The Great Peninsula Land Trust has secured property in Rosedale and along Wollochet Bay. They are also trying to raise the funds needed to purchase a very large parcel in the Rosedale area known as the Homestead property. On the Key Peninsula, the Friends of the Rocky Creek Conservation Area are working to restore habitat and prevent illegal dumping on the East Fork of Rocky Creek.

CURRENT PROGRAMS

The following are explanations of current planning or agency activities related to water quality and habitat improvement.

Pierce County

Pierce County Water Programs has completed a characterization of the Gig Harbor Subwatershed. The information will be used to develop a basin plan for the area which will include site specific recommendations to prevent flooding, protect and restore fish habitat, and improve water quality. A draft characterization report and findings will be completed by the end of 2001. A finished plan is expected to be finalized by June 2002. Individuals interested in this process should contact Barbara Ann Smolko at (253) 798-6156.

Water Programs has participated in the closure response for Rocky Bay, Burley Lagoon, and Filucy Bay. They have surveyed and sampled storm drainage systems for fecal coliform bacteria. On Rocky Bay, Water Programs constructed a new storm drainage system to prevent the flooding of residential septic systems. Water Programs paid to print a public outreach newsletter for Burley Lagoon in July 2001.

Water Programs inspectors have been working with private landowners, gas station owners, and small farm owners in the watershed to resolve flooding and water quality problems. A storm drainage project was completed at Quail Run development to resolve flooding concerns. In 2002, Water Programs is planning to design a project to resolve flooding and water quality problems at Sylvia Lake and to purchase habitat in the area of Crescent Creek.

Pierce County has received money from the Salmon Recovery Funding Board to complete a Nearshore Salmon Habitat Survey. A consultant has been hired to complete this study.

The Pierce County Council hosted a study session on forest practices following concerns raised about a clear cut in the Vaughn area.

Tacoma-Pierce County Health Department

The Tacoma-Pierce County Health Department (TPCHD) is in the middle of a two-year grant from the Centennial Clean Water Fund to perform septic system surveys on Filucy Bay, Vaughn Bay, and Dutcher Cove. The grant also includes a public

education and outreach component on which TPCHD is partnering with the KGI Council. TPCHD staff have provided workshops on septic system maintenance. Two were held at Peninsula Light and one was held at Sylvia Lake. A septic tank model has been developed and about 80 videos about septic maintenance have been given away. TPCHD hosted a booth at the Key Peninsula Community Fair and has offered displays at both the Gig Harbor and Key Center libraries. TPCHD is looking for additional funding to support a stronger septic system education program and to enroll more properties in their On-site System Operation and Maintenance Program.

TPCHD has been actively survey septic systems throughout the watershed. Burley Lagoon and Filucy Bay activities have been partly in response to downgrades. However, Filucy Bay, Vaughn Bay, and Dutchers Cove surveys are being funded by a Centennial Clean Water Fund grant. A summary of all survey activities follow:

- ❖ Minter Bay: 59 systems surveyed, 4 failures corrected
- ❖ Burley Lagoon: 105 systems surveyed, 9 failures found, 8 corrected, 1 in process
- ❖ Filucy Bay: 47 systems surveyed, 1 repair, 6 awaiting re-test
- ❖ Vaughn Bay: 51 homes surveyed, 1 awaiting re-test
- ❖ Dutchers Cove: 12 systems surveyed.

Pierce Conservation District

The Pierce Conservation District has done a survey of livestock presence in the Filucy Bay drainage area in response to the closure and identified approximately 34 farm owners. Also, they have done farm plans and assisted in implementation of those plans for 7 farms within the watershed in the last two years. In that same time period, they held three workshops on small farm management within the watershed. The district has two technicians who are able to develop farm plans and offer farm educational programs for all of Pierce County. This has limited the ability of the district to support additional farm planning services.

In addition to farm planning, the Pierce Conservation District has played a significant role in salmon habitat and passage projects with the area. The district has received grant funding and served as the contractor to resolve fish passage barriers on Hoff Road and Minter Creek. The district has also completed a comprehensive inventory of culverts in the KGI Watershed in an effort to identify fish passage barriers.

Stream Team is another program supported by the district and Pierce County. Stream Team supports volunteer water quality monitoring on 11 stream sites within the KGI Watershed. The program also supports volunteer training for water quality monitoring, macroinvertebrate monitoring, and EPA's Stream Walk habitat assessment methodology. This is in addition to general water quality and habitat education and outreach and local fairs and events. The district is working to establish a special assessment throughout Pierce County to provide stable funding support for their programs.

Pierce County Environmental Services

Pierce County Environmental Services (PCES) provides environmental education services and solid waste planning for Pierce County. The environmental education program is diverse but focuses on solid waste, recycling, water quality, and stormwater education. PCES organized the Shellfish Festivals at Camp Seymour in 1999 and 2000. They hosted booths at the Key Peninsula Community Fair and Maritime Fest and are working to place watershed identification signs. They produced "A Guide to Naturally Spawning Salmon in Pierce County" as a public information brochure. They have provided classroom presentations at Voyager, Discovery, and Purdy Elementaries. They have also worked with Kopachuck Middle School, Gig Harbor High School, and the Childers' Home Society on the Key Peninsula. PCES hopes to expand the number of educational programs targeting adults.

Pierce County Solid Waste Management Plan was approved by the Washington State Department of Ecology on August 22, 2001. The most significant changes were in the area of reducing illegal dumping and expanding curbside and drop off recycling systems. The solid waste program has initiated an intensive education program on illegal dumping. PCES is also looking at some model cleanup programs.

Kitsap County

On October 22, 2001, Kitsap County passed an ordinance addressing the abatement of public nuisances which gives the county greater enforcement authority over junk cars and illegal dumping. The county's current hulk removal program has been fairly successful but was voluntary.

Kitsap County hired a salmon educator in the past year. She works out of the Department of Community Development but is partly funded by Kitsap County Storm and Surface Water Management. SSWM also funds a part-time water quality educator. Both educators work with schools and community fairs and coordinate environmental education with other local jurisdictions and agencies.

Bremerton-Kitsap County Health Department

Most of the Bremerton-Kitsap County Health Department's (BKCHD) work within the watershed has been on Burley Lagoon. Out of 446 properties targeted for septic system inspections, BKCHD has completed 386. Twenty-nine systems were identified as failing and 28 have been repaired. The remaining failure is in the process of being repaired. Eight repairs have been completed in 2001. Three of these received grant funding. In addition, BKCHD issued violation notices to eight properties for animal waste-related water quality violations. All 8 of these properties have responded.

Kitsap Conservation District

Twenty-three priority farms have been identified within the Burley Lagoon drainage. The District is actively working with five property owners at this time. Implemented BMPs include fencing, paddock renovation, and manure storage area construction.

City of Gig Harbor

The City of Gig Harbor is developing plans for enhancing the shoreline environment in the downtown area. The city has acquired or is pursuing acquisition of shoreline properties and is expected to include habitat improvement, access, and interpretive opportunities in their development of those parcels. The city is also interested in improving habitat along the Donkey Creek corridor and is pursuing grants to replace the culvert under Harborview Drive. The city is also considering establishing an environmental learning center in the downtown area.

Water Supply Planning/2514

Kitsap County has recently instigated a water supply planning process for all of WRIA 15. They have selected a consultant and are developing a scope of work to begin the watershed assessment process. Liz Lathrop is representing the KGI Watershed Council on the Planning Committee for that process.

Salmon Recovery Funding/2496

Kitsap County is the Lead Entity for local projects submitted to the state's Salmon Recovery Funding Board (2496). In 1999, Pierce Conservation District received funding to complete a culvert inventory of the KGI Watershed. In 2000, Pierce County was awarded funds to complete a Nearshore Salmon Habitat Survey. The process is currently underway for 2001. Kitsap County has received applications for 11 projects. Only one project from the KGI Watershed was submitted but it was ranked number 2 overall by the Citizens' Committee. The project proposes culvert replacements at five road crossings on Minter Creek and South Puget Sound Salmon Enhancement Group is the proponent. Roy Huberd is the KGI Watershed Council's representative on the Citizens' Committee. Kitsap County will present their project list to the Salmon Recovery Funding Board on November 30, 2001. Funding decisions will be made by April 2002. About \$54 million is available state-wide for salmon recovery projects this round.

Peninsula Light

Peninsula Light currently has active water and energy conservation programs which include member/public education and incentives like free replacement light bulbs and rebates on energy efficient appliance. The Peninsula Light has hosted workshops on shorelines, soils, native plants, septic system maintenance, small farm management, and solar energy options. Peninsula Light regularly includes water quality and water conservation items in their newsletter. In addition, they have sponsored Stream Team and a variety of other community events.

Peninsula Light is the satellite manager for 30 water systems and owns and manages another 52 systems. Peninsula Light has initiated a service program for individual well owners and small systems. There are 226 systems currently enrolled in the program with another 255 who have inquired about participating.

Great Peninsula Land Conservancy

The Great Peninsula Land Conservancy has a number of land preservation projects in the KGI Watershed. The Conservancy owns several parcels and easements along Wollochet Bay. They are also actively involved in acquiring a large parcel known as the Homestead property near Rosedale.

Peninsula Neighborhood Association

Peninsula Neighborhood Association (PNA) received a grant from the Russell Foundation to sponsor public workshops on Low Impact Development throughout Pierce County. Curtis Hinman, from Washington State University Cooperative Extension is the presenter for these workshops. The focus of the workshops is to educate the public on methods which can be used to reduce the stormwater, water quality, and habitat impacts of development. His work is partially funded by Pierce County's Endangered Species Act program.

South Puget Sound Salmon Enhancement Group

The South Puget Sound Salmon Enhancement Group resolved a fish passage blockage on Winter Creek in 1999 and is currently submitting for funding to repair 5 fish passage barriers on Minter Creek.

KGI COUNCIL ACCOMPLISHMENTS

- ❖ Achieved concurrence with the KGI Watershed Action Plan from Pierce County and the City of Gig Harbor.
- ❖ Provided a forum for water issues throughout the watershed.
- ❖ Participated in the Water Festival at Camp Seymour which targeted both school age children and the general public in 2000.
- ❖ Worked with Pierce County Environmental Services to create a design for watershed identification signs.
- ❖ Established By-laws and developed a work plan for 2001.
- ❖ Co-hosted four workshops at Peninsula Light on Shoreline Geology, Small Farm Management, and On-site Septic System maintenance.

- ❖ Planned work party and installed bench in memory of Teacher Kathy Erickson at Rocky Creek Conservation Area.
- ❖ Partnered with Friends of Rocky Creek Conservation Area for Make a Difference Day (October 27, 2001) to coordinate volunteers in planting trees and making other improvements.
- ❖ Partnered with the Tacoma-Pierce County Health Department in expanding public awareness about on-site septic systems and septic surveys through presentations to the Longbranch Improvement Club, Sylvia Lake, and at special public meeting at Key Center.
- ❖ Developed an Early Action Work Plan for salmon projects in the watershed.
- ❖ Had representatives serving on the Citizens' Committee for Salmon Recovery Funding and on the Planning Committee for 2514 water supply planning in Kitsap County.
- ❖ Submitted a letter of support to the Pierce Conservation District for a district assessment.
- ❖ Partnered with TPCHD on a Public Involvement and Education grant application.
- ❖ Initiated Salmon Watch volunteer and education program. Hosted training.

ACKNOWLEDGEMENTS

The Key Peninsula-Gig Harbor-Islands Watershed Council would like to thank the following organizations for all of their support. We couldn't do it without you!

- ❖ Pierce County Water Programs – for providing staff support, without which we would be nothing.
- ❖ Pierce County Environmental Education – for sharing equipment and assisting with our booth at the Key Peninsula Community Fair. Also, for providing shovels for our fall planting.
- ❖ Peninsula Light – for allowing us to use their meeting facilities, hosting workshops, advertising our activities, and help with our graphics.
- ❖ Tacoma-Pierce County Health Department – for working with us to get the word out about septic system maintenance with their workshops and displays. Also, for loaning us equipment for our booth at the Key Peninsula Fair.
- ❖ Pierce Conservation District – For providing Rene Skaggs to present her Small Farm Management Workshop
- ❖ Key Peninsula News & the Peninsula Gateway newspapers – for letting people know what we are up to.

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