

CHAPTER NINE

Key Peninsula-Islands Basin

9.1 BASIN CHARACTERISTICS

The Key Peninsula-Islands (KI) Basin is located in Pierce County, Washington and is composed of four Basins identified by Pierce County Water Programs. The Basins included in the KI Basin are the Key Peninsula Basin, the Islands Basin, the Burley-Minter Basin, and the Fox Island Basin. The Key Peninsula extends southward into Puget Sound and is bounded on the west by Case Inlet and on the east by Carr Inlet. The Basin lies largely within unincorporated Pierce County, except for the area at the northern edge of the Basin that lies within unincorporated Kitsap County. The following islands that surround the Key Peninsula are also included in the KI Basin: Fox, Raft, Cutts, Ketron, Anderson, and Herron.

The Basin covers an area of approximately 114 square miles. There are no incorporated cities in the Basin, although there are several small rural communities including Key Center, Vaughn, Home, Lakebay, Longbranch, Burley, and Wauna.

McNeil Island and a small area of Mason County fall within the Basin boundary, but are not included in the Basin plan. McNeil Island was not included in this study because of the federal correctional facility on the island and no public access. Basin areas within Mason County are not part of this study; due to size, they are not expected to impact downstream areas, and Pierce County has no authority to either investigate existing conditions or to construct any improvements.

Several drainages located along the Pierce/Kitsap County line form the northern boundary of the KI Basin, which extends approximately seven miles north into Kitsap County. There are approximately 57 streams in the Basin, but many are small, unnamed streams. The major streams in the area include Rocky, East Fork Rocky (Fork Muck), Minter, Huge, Little Minter, Burley, Purdy, Lackey, Schoolhouse, Vaughn, and Dutcher.

9.1.1 Key Peninsula Basin

Dutcher Creek

Dutcher Creek, located in Dutcher subbasin, is approximately 2.5 miles long including tributary 15.0027 and an unnumbered tributary. It enters Dutcher Cove on the east side of Case Inlet. The stream supports coho to the headwaters on the main stem and to an impassable culvert on tributary 15.0027; chum use is unknown. The culvert at the Lackey Road crossing of Dutcher Creek is failing and has been identified as a fish passage barrier. Coho passage is precluded upstream of a dam at the end of Reach DU01. Upstream of the dam, in Reaches DU03 and DU05, riparian condition has been degraded where the creek flows through agricultural areas.

Herron/Knackstedt Creek

Knackstedt Creek (15.0029), located in the Herron subbasin, is sometimes referred to as Herron Creek. The main stem of Knackstedt Creek is approximately 1.5 miles long. Its gradient is shallow. The headwaters of the stream originate in a functioning beaver dam complex near 32nd Street and Jackson Lake Road. Knackstedt Creek flows into Case Inlet east of the north end of Herron Island adjacent to the ferry dock to Herron Island. The limiting factor analysis notes that development of five-acre residential housing lots has increased in recent years in the upper reaches of the stream. The stream supports chum and coho to a culvert located at 202nd Avenue. Cutthroat distribution is presumed to at least the extent of the other salmonids.

Herron Lake Creek

Herron Lake Creek (15.0030) in Kingmans' subbasin has been significantly altered from its natural condition. The original flow of Herron Lake Creek was just less than 1.0 mile in length, originating from Herron Lake and discharging into Case Inlet across from the southern end of Herron Island. A series of 11 impounded manmade ponds have replaced the natural channel along Herron Lake Creek. The current landowner of parcels surrounding Herron Lake Creek runs a remote site incubator, hatching eggs provided by the Minter Creek Hatchery.

Kingmans Creek

Kingmans Creek (15.0031), located in Kingmans subbasin, is just under 1.0 mile in length. Its gradient is shallow. The stream flows southwest before discharging into a lake at a summer camp located at the mouth of the stream. Presumably, the stream eventually flows into Case Inlet southeast of the southern end of Herron Island; however, this could not be confirmed during the field survey. Approximately 500 acres at the headwaters of the stream were clear cut in 1991 and 1992 and converted to housing and vacant land. Conditions in the upper reaches of the stream were not surveyed due to barriers to access and lack of stream flow, but the Washington Conservation Commission indicates that the resulting effects of the clear cuts have subsequently degraded the riparian and aquatic habitat throughout the stream. Due to the associated erosion issues, increased amounts of fine sediments have eroded into the stream and landslide incidents have increased.

Lackey Creek

Lackey Creek (15.0046), located in Lackey subbasin, is about 2.5 miles long flowing south between the Key Peninsula Highway and Cramer Road. The stream crosses Cramer Road before emptying into the north end of Glen Cove. Lackey Creek's gradient is shallow. The stream supports coho to Highway 302. Cutthroat distribution is presumed to be similar to the other salmonids.

East Fork Rocky (Fork Muck Creek)

East Fork Rocky (15.0016), a tributary of Rocky Creek in Fork Muck subbasin, is sometimes referred to as Fork Muck Creek. East Fork Rocky Creek has the longest drainage channel in the KI Basin, over 7.5 miles in length, although much of the channel does not exhibit perennial flow. East Fork Rocky Creek enters main stem Rocky Creek approximately .25 miles above where State Route 302 crosses Rocky Creek. The headwaters of East Fork Rocky Creek are located near Lake Flora Road in Kitsap County. The drainage flows south for most of its length before turning westward near its confluence with Rocky Creek. Historically there have been significant logging operations of riparian vegetation along East Fork Rocky Creek as well as a large harvest in the headwaters. In 1998, 240-acres along East Fork Rocky Creek were transferred to the Peninsula Park Board. The area, now known as the Rocky Creek Conservation Area, will be protected from future development.

Rocky Creek

Rocky Creek (15.0015), located in the Rocky subbasin, is approximately 5.0 miles long with two major tributaries and several minor tributaries adding 10-12 miles of channel length. The headwaters of Rocky Creek are located in Kitsap County just south of Wye Lake. The stream flows into Rocky Bay and eventually into Case Inlet. The rural Basin is characterized by low-density residential housing. In order to protect the Basin from further growth, a 1995 Pierce County Council mandate limits development to one dwelling per 20 acres.

Rocky West Tributary

Stream 15.0021, located in the Rocky subbasin, is an unnamed western tributary of Rocky Creek that is sometimes called Rocky West Creek. The main stem of Rocky West Creek is about 2.0 miles long. Its gradient is shallow. The headwaters of the stream originate just west of Fern Lake. Rocky West Creek flows in a southerly direction for 1.5 miles before turning east and entering Rocky Creek near 144th Street. The stream supports coho and cutthroat.

Schoolhouse Creek–KP

Schoolhouse Creek (15.0039), located in the Schoolhouse (KP) subbasin, on Key Peninsula, is approximately 1.0 miles long and enters the northernmost end of Filucy Bay. The stream has a variable gradient. Starting out at a low gradient of less than 1%, the stream steepens to 8% gradient, requiring weirs for fish passage. In the third reach, the stream returns to a gradient of 1% before accessibility limited further field work.

Taylor Bay Creek

Taylor Bay Creek (15.0034), located in the Taylor Bay subbasin, also known locally as Twin Creek, is about 0.5 miles long. The stream supports coho and cutthroat distribution is presumed, to at least the extent of coho.

Vaughn Creek

Vaughn Creek (15.0023A), located in the Vaughn subbasin, is an independent tributary to Vaughn Bay, located on the western end of Key Peninsula. The stream flows generally southwest and is approximately 1.0 miles in length with several smaller connecting tributaries and wetlands. Surveys performed measured the stream at approximately .75 miles to the upstream-most point of surface water flow where its headwaters originate in a forested wetland complex. Variance in stream length is likely due to seasonal fluctuations in the water table. Vaughn Creek is a low gradient stream, varying from 1-2% throughout its length. The stream extended to a large forested wetland where the stream channel and flow were no longer distinct.

Whiteman Creek

Whiteman Creek (15.0032), located in the Whiteman subbasin is less than 1.0 miles long, entering Whiteman Cove on Case Inlet, south of Joemma Beach State Park. Its gradient is shallow. A salmonid fish passage barrier at the mouth precludes the use of Whiteman Creek by anadromous fish. The estuarine function of the stream has been eliminated by the conversion of the mouth to a freshwater lake. The lakeshore is lightly developed. Camp Coleman, an outdoor YMCA environmental camp, is located on 96 acres adjacent to the mouth of Whiteman Creek.

9.1.2 Islands Basin

Schoolhouse Creek–AI

Schoolhouse Creek (15.0089), located on Anderson Island, is less than 1.0 miles long. The stream enters Oro Bay on the southeast side of the island. Its gradient is shallow. Schoolhouse Creek is the only stream on Anderson Island known to support anadromous salmonids.

9.1.3 Burley-Minter Basin

Huge Creek

Huge Creek (15.0052), located in Huge subbasin, is 4.7 miles in length based on Pierce County GIS information. Other documents have reported the length of the stream to be from 3.7 to 5.2 miles long, most likely due to the seasonal flow of the creek. Several tributaries of unknown length are located along Huge Creek. The shallow gradient stream is a tributary of Minter Creek flowing southeast into Minter Creek just north of 140th Street Court. Huge Creek supports coho and cutthroat to the headwaters, and steelhead to Pine Road. Surveys were performed to the Pierce County/Kitsap County line. Conditions in the upper reaches of the stream were not evaluated.

Minter Creek

Minter Creek (15.0051), located in the Minter subbasin, is approximately 6.3 miles long with two major tributaries (Huge and Little Minter Creeks) and several minor tributaries. In total, the watershed drains approximately 8.5 square miles and rises from sea level to approximately 1,312 feet. The headwaters of Minter Creek are located in Kitsap County north of Pine Road. The stream flows into Minter Bay and eventually into Case Inlet. The Basin is largely rural and is characterized by low-density residential housing and agriculture. Approximately two-thirds of the watershed is forested. The stream supports runs of Chinook, coho, steelhead, cutthroat, and chum salmon.

Little Minter Creek

Little Minter Creek (15.0049), located in the Minter subbasin, is a tributary of Minter Creek and about 3.0 miles long. The headwaters are located in a wetlands complex near 82nd Avenue NW and the Kitsap-Pierce County line. Little Minter Creek flows southwesterly to Minter Creek. Its gradient is shallow. Little Minter is a small system with a channel width that is generally less than three feet. The stream supports coho, cutthroat, and steelhead to Pine Road.

Purdy Creek

Purdy Creek is an independent tributary that flows into the southeast corner of Burley Lagoon. The stream flows generally southwest and is approximately 3.5 miles long, with 1.4 miles within Pierce County. Its gradient is shallow, varying from 2-3% throughout the surveyed area. The portion of Purdy Creek north of 160th St NW (the Pierce/Kitsap County line) was initially surveyed beyond the County line to approximately 200' downstream of Bandix Road, for a total of 2.8 miles of stream assessed. Barrier and culvert assessments continued to 500 feet upstream of Bandix Road.

9.1.4 Fox Island Basin

Fox Island is approximately 5 miles long with about 12-miles of shoreline. The south end and southwest side of Fox Island are characterized by high bluffs between 200 and 300 feet high. The northeast side has

more gentle slopes. Fox Island has six unnamed streams. These streams are minor drainages that have been routed to culverts. As a result, they are unable to support salmon.

9.2 LAND USE IN THE KEY PENINSULA-ISLANDS BASIN

Land use affects surface water hydrology by altering the landscape from its natural condition and changing water drainage, storage, and evaporation characteristics. The effect of various land uses on surface water hydrology is taken into consideration by estimating effective impervious surface within the Basin. In order to conduct a detailed analysis of the current and projected future effective impervious surface within each subbasin, the Basin was divided into more specific land use categories. To assess the hydrologic characteristics of a Basin and to determine the potential for water quality/quantity problems requires an accurate understanding of a Basin's existing and proposed land uses. This section will look at both the existing and future land use of this Basin.

9.2.1 Existing Land Use

Estimates of the percentage of land in the Key Peninsula/Islands Basin devoted to various land use types under current conditions are shown in *Table 9-1*. Parcels identified as having urban land uses, such as residential, commercial, industrial, civic uses (including institutional and transportation uses) currently occupy 42% of the Basin. The predominant land uses in the Basin are residential and vacant land, with residential parcels currently estimated at 36% and vacant parcels estimated at 29% of the Basin area.

Existing Land Use	Area (acres)	Percent of Basin
Open Space	24,509	36.00%
Low-Density Residential	19,280	28.00%
Resource Lands	12,238	18.00%
Mobile Home	7,520	11.00%
Agricultural	2,250	3.00%
Unknown Land Use	1,914	3.00%
Commercial	232	.00%
Surface Water	176	.26%
Quasi-Public	137	.20%
Roads	110	.16%
Secondary Schools	89	.12%
Elementary Schools	86	.13%
Religious Center	38	.06%
Industrial	23	.03%
College	15	.01%
High density Residential	10	.01%
Multi-Family Residential	9	.01%
Group Home	2	.01%
Total	68,638	100%

9.2.2 Future Land Use

The *Pierce County Comprehensive Plan* was developed and adopted in 1994 in response to the requirements of the Washington State “Growth Management Act”(GMA). The Plan, codified as *Title 19A, Pierce County Code*, indicates a general intention to allow development to the Basin boundary with residential densities ranging from one unit per 10 acres to six units per acre. In the future (at full build-out of the Basin) parcels with urban uses are expected to occupy 70% of the Basin. It is expected that land use will become increasingly residential in the future, with residential parcels comprising 64% of the Basin area at full build-out.

The portion of the Basin within Pierce County is almost entirely zoned Rural 10 (one dwelling per 10 acres). The portion of the Basin within Kitsap County is predominantly zoned Rural Residential and Interim Rural Forest. Based on an analysis of zoning of parcels and the Pierce and Kitsap County Tax Assessor Use Codes for parcels, it is apparent that there are a variety of land uses existing within each zoning category in the Basin. For instance, land zoned “Agriculture” contains parcels identified as fire stations, residential vacant land, utilities/refuse, street right of way, mobile home, and single-family dwelling. This discrepancy between zoning and land use in the Basin reduces the value of using zoning as a tool for projecting future land use scenarios.

The “Growth Management Act” provides goals and guidelines for development of growth management plans addressing urban growth. This Act mandates consistency between county comprehensive plans and plans of all municipalities in the county. The *Pierce County Comprehensive Plan* provides county-wide policies in cooperation with all cities and towns in the County. These 11 policies are: affordable housing; agricultural lands; economic development; education; historic, archaeological and cultural preservation; natural resources; open space and protection of environmentally sensitive lands; determining site locations for public capital facilities of a county-wide or state-wide nature; transportation facilities and strategies; urban growth areas; and amendments and transition.

The “Growth Management Act” includes the following goals for development:

- **Urban Growth**—Encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner.
- **Reduce Sprawl**—Reduce the inappropriate conversion of undeveloped land into sprawling, low-density development

Pierce County has an additional goal of containing urban sprawl by designating an urban/rural boundary, and focusing infrastructure development in proposed employment centers and near cities and towns where a full range of urban services is available.

9.3 FLOOD CHARACTERISTICS

The KI Basin is drained by a number of small and moderate-sized streams. The catchments of the streams vary in size from a few acres to approximately 19 square miles. Rocky, Burley, and Minter Creeks and their tributaries drain the largest catchments. The larger streams are perennial. Most of the land close to the edges of the peninsula and the islands drains to small, unnamed, ephemeral streams which discharge directly to Puget Sound.

Six stream Basins were determined to have the greatest potential for future development and flooding due to the size of the Basins, the number of pre-existing lots, and the likelihood of growth pressure from future transportation improvements. These Basins included:

- Purdy Creek
- Minter Creek
- Little Minter Creek
- Huge Creek
- Rocky Creek
- Schoolhouse Creek (AI)

Watercourse flow characteristics of these streams are presented in *Table 9-2*.

Watercourse	Stream Length (miles)	Measured Discharge (cfs)	Modeled Peak Flows			Location of Modeled Flows
			2-year	25-year	100-Year	
Purdy Creek	3.5	N/A	65	180	257	@ 144th
Minter Creek	6.3	14 to 268	365	1085	1498	@ Creviston
Little Minter Creek	3.0	N/A	39	109	169	@ 118th St.
Huge Creek	4.7	N/A	181.5	515.4	667.3	@144th
Rocky Creek	5.0	2.64 to 41.3	500	1271	1709	@ SR 302
Schoolhouse Creek	1.0	N/A	47.7	110.8	138	@ Eckenstam Johnson Rd

9.3.1 Known Flood Hazards

Figure 9-1 shows floodplains and wetlands in the Key Peninsula/Islands Basin. The floodplain boundaries are based upon the most current mapping for Pierce County prepared by the Federal Emergency Management Agency (FEMA). The data is derived from the FEMA *Flood Insurance Rate Maps* (FIRMs).

The “A Zone” represents a 100-year flood hazard area, an area estimated to have a 1% chance of flooding in any given year, or a one-in-100 year chance.

The “X500 Zone” (formerly referred to as “B Zone”) represents the 500-year flood hazard area, an area estimated to have a 0.2% chance of flooding in any given year, or an area with a high risk of flooding that has a small drainage Basin (less than one square mile).

9.3.2 Causes of Flooding

Most stormwater runoff in the KI Basin is routed to streams that flow to Puget Sound, with a few lakes interrupting flows in a couple of subbasins. Natural drainage patterns remain largely unaltered, although many culverts have been built to carry stream flow under roads and driveways. As a largely rural Basin, there are few curbs, gutters, and underground storm drainage systems. Stormwater runoff in rural communities is typically routed to roadside ditches and then into natural streams. Some streams flow through well defined ravines where stream-side properties are generally located a considerable distance

above the water level. Others flow through flatter terrain where the flood plain is broader. Wetlands often exist within the floodplain and have served as a deterrent to development.

There is no history of major, serious, damaging, flooding in the KI Basin but localized flooding incidents were identified through stream surveys, comments at public meetings and querying the County's database for complaints and requests for service. Local residents were invited to two public meetings in 2003, and one public meeting in 2004, to provide input on the project and to identify any known flooding problems. A questionnaire was sent to approximately 500 streamside property owners requesting information. 23 questionnaires were returned, but those that mentioned flooding merely confirmed known problems. Flooding problems were largely identified through the County database.

Pierce County records any incidents of flooding reported by its own staff or citizens. The records date back to January of 1999. The files contained a total of 52 complaints; 27 private property issues, 14 involved Pierce County technical assistance, programmatic solutions, or maintenance, and 9 were unrelated to surface water problems. Private property complaints included maintenance issues and neighborhood disputes.

The flooding problems that have occurred in the KI Basin are localized and relatively minor. Few have involved floodwater on public roads. In general, the existing drainage system appears to have sufficient capacity to carry stormwater away from structures at the current level of urban development. Most of the reported problems are probably the result of debris accumulating in culverts and ditches and could be solved by improved maintenance. A few problems may be the result of design deficiencies in engineered drainage systems in some residential sub-divisions.

Of particular note, are the flooding complaints received by Pierce County following an unusually high rainfall event in 1995-1996 water years. The City of Olympia recorded rainfall of 7.40 inches during a storm that lasted from February 3 through February 9, 1996. Average rainfall for the entire month of February is typically 5.8 inches. Pierce County rainfall criteria describe 4.8 to 6 inches of rainfall in 24 hours as a 100-year storm. A total of 16 complaints were made during and following the February 1996 storm. Five complaints stated there was water over the road; two addressed unspecified flooding and two were maintenance complaints (plugged tile drains). A few other storm-related problems, including road subsidence, a street drain and driveway washing away, and a slide from Pebble Beach were reported to Pierce County. Of the 16 complaints, five came from Fox Island, four came from Vaughn, and three came from Rocky Bay.

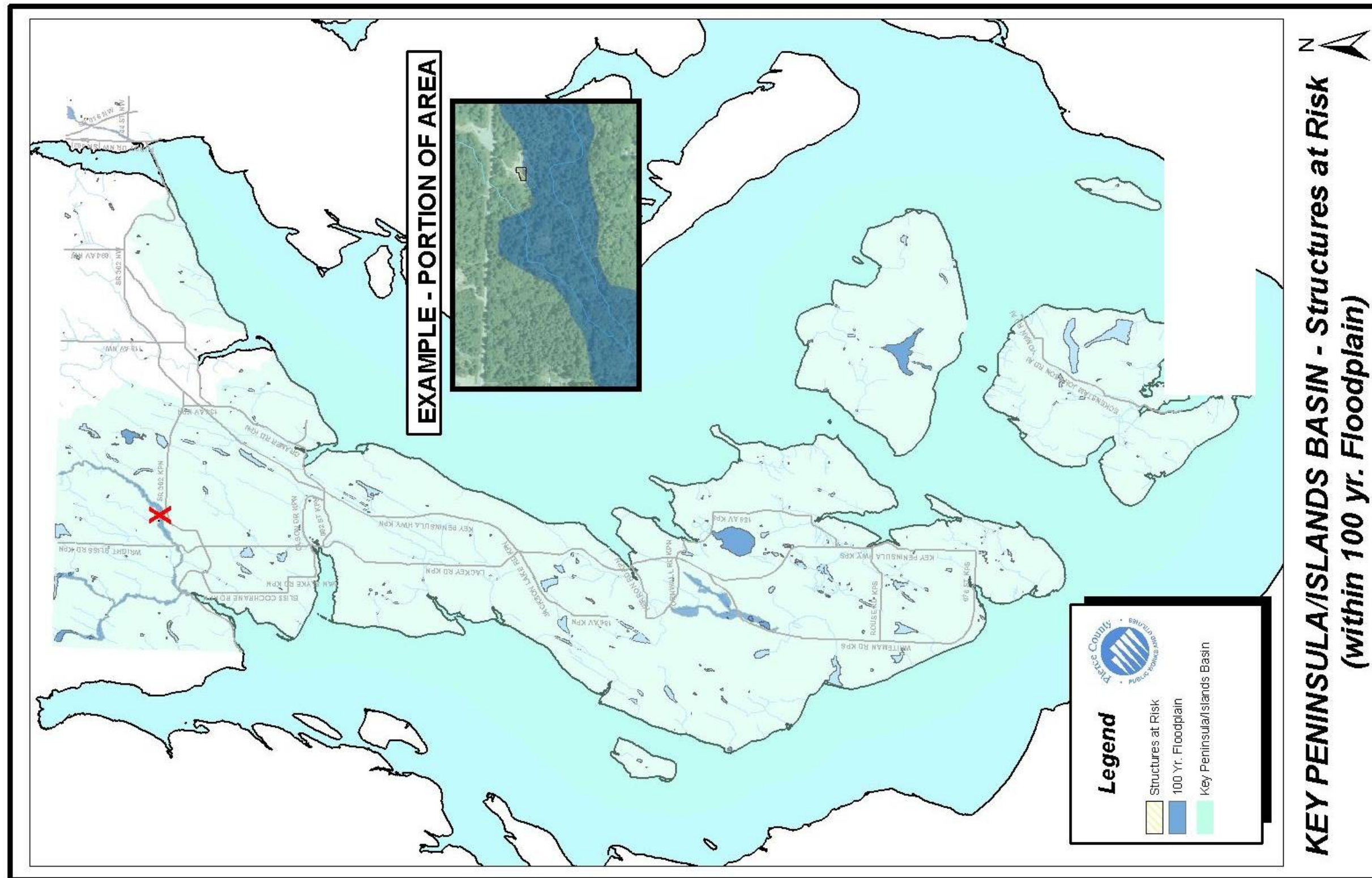


Figure 9-1
Floodplain extent and location
Key Peninsula/Islands Basin

9.4 FLOOD HAZARD IMPACTS

Flooding within the KI Basin can have numerous impacts on the on the way of life within this Basin, and Pierce County in general. Under this section, we will assess the vulnerability of the Basins, improved property, critical facilities, and assess the impact a flooding on the Basin’s population and economy.

9.4.1 Public Safety and Health

As stated earlier, there is no history of major, serious, damaging, flooding in the KI Basin, and there have been no reported losses of life or casualties associated with flooding in this Basin. The rural nature of this Basin has resulted in little or no impact on public safety and health within this Basin. Future growth within this Basin and significant changes in land use could alter this impact.

The population of the KI Basin grew at a rapid rate of 45% from 1990 (when the population of the Basin was near 14,400) to 2000. The rate of growth is expected to be considerably lower in the Basin during the next 25 years. The Puget Sound Regional Council estimates that the “Forecast Area Zone” (FAZ) that encompasses the Key Peninsula and Islands area (FAZ 2940) will experience a growth rate of approximately 12.6% from 2000 to 2010, 3.8% from 2010 to 2020, and 6.1% from 2020 to 2030. Applying these growth rates to the 2000 population of the Basin results in projections that the population of the Basin will increase to approximately 23,500 in 2010, 24,400 in 2020, and 25,900 in 2030. It is important to note that some areas within the KI Basin, such as Fox Island, Purdy, Burley, and Rocky subbasins, are included partially in other FAZs in the Puget Sound Regional Council projections (FAZ 2215, 2216, 9004, and 9016). Although the projections for these FAZs vary somewhat from the estimates for the Key Peninsula and Islands FAZ, for the purposes of this report it is assumed that the overall growth in the Basin will follow the projections for the Key Peninsula and Islands area.

Factors that could influence future population growth include transportation-related changes in the area such as the current construction of a second bridge across the Tacoma Narrows and potential future changes such as additional ferry service to the islands or modifications to roads serving Key Peninsula. The new Tacoma Narrows Bridge, which opened in 2007, is anticipated to increase the capacity of State Route 16 to carry traffic between Tacoma and the Gig Harbor and Key Peninsula areas. The existing and new bridges in combination will provide four general-purpose lanes and two high-occupancy vehicle lanes. The new bridge is expected to reduce commuter congestion and thus reduce the current disincentive, despite the toll costs for using the bridge, to live in the KI Basin and commute to Tacoma.

There currently is no “real-time” flood threat recognition capability within this Basin. However, it should be noted that Pierce County has been able to successfully avoid significant damages within this Basin by its field monitoring protocol and physical presence within the Basin during events that could cause flooding based on its flood threat recognition capability in the larger watersheds within the County.

9.4.2 Critical Facilities

Using the parameters to define “Critical Facilities” discussed in [Chapter One](#) of this risk assessment, Pierce County Water Programs, coordinating with Pierce County Emergency Management, has identified that there are no critical facilities that could be impacted by flooding within the Key Peninsula-Islands Basin. The basis for this determination is: physical location within a mapped or known floodplain, known history of flooding, and the lack of flood protection to the facility.

Since the Pierce County Water Programs Division *Basin Planning Program* has such a strong capital facilities component, it has been assumed that critical infrastructure with vulnerability to flooding within

each basin will be adequately addressed through the basin planning problem assessment and action prioritization process. A detailed assessment of these facilities is not provided in this risk assessment for security purposes.

Pierce County Emergency Management has performed this assessment as part of the County-wide “Hazard Mitigation Plan” prepared pursuant to the “Disaster Mitigation Act.” The County will direct the “non-structural approach” by this plan. The focus of the Basin Planning Program as it pertains to critical facilities will be to attempt to provide flood protection to potentially vulnerable critical facilities through the structural approach identified as actions. Both programs consider it a high priority to provide protection to critical facilities, and are committed to working together to achieve this objective.

9.4.3 Structures impacted

Table 9-3 shows an estimate of the number of structures on parcels in the floodplain. These estimates were generated using Planimetric data available for this Basin.

To identify the potential dollar/loss exposure for the Basin, assessed values for improvements to each of the parcels shown to have structures within the 100-year floodplain were accumulated by subbasin. This value is representative of the exposure. To truly gauge vulnerability, the depth of flooding would need to be identified to apply FEMA’s depth/damage functions to this exposure. This detail of information was not available at the time of the preparation of this assessment. However, total exposure values can be a good gauge of potential flood impact for planning purposes and for identifying potential project benefits when prioritizing mitigation actions.

Structure Type			Total	Market Improvement Value
Commercial	Dwelling	Other		
16	205	10	231	\$42,096,041

9.4.4 Repetitive Loss Areas

Utilizing the FEMA definition of “Repetitive Loss” defined under the Community Rating System, there are no identified repetitive loss properties within this Basin. Therefore, there are no associated repetitive loss areas within this Basin.

9.4.5 Insurance Analysis

Flood insurance statistics can help identify vulnerability by regionally isolating areas where claim activity is high and a high rate of flood insurance is in force. Table 9-4 summarizes vital insurance statistics that can be used to help identify vulnerability within the Key peninsula/Islands Basin. The locations of these policies are identified in Figure 1-2.

Number of flood insurance policies in force within the Basin (as of May 1, 2007)	30
Number of Policies within a mapped floodplain (FIRM)	3
Number of Policies outside of a mapped floodplain	27
Number of Claims filed within the Basin	3
Number of claims filed for losses outside the 100-year floodplain	3
Estimated number of insurable, primary Structures in mapped floodplains	221
Estimated % of at risk structures with flood insurance coverage	1.35%
% of current flood insurance coverage outside of a mapped floodplain	90%

Based on a review of this data, the following observations can be made:

- Based on the approximate number of primary, insurable structures in the floodplain and the insurance coverage in force within the floodplain, insurance coverage as a form of mitigation appears to be well below the national average. According to a study being conducted for the NFIP by the Rand Corporation, nationwide about 49% of single-family homes in special flood hazard areas (SFHAs) are covered by flood insurance.
- With 90% of the current policies in force located outside of a mapped floodplain, there appears to be some flooding issues within this Basin not addressed via the existing mapping. These could be drainage related flood issues that the Basin Planning program seeks out, that typically are not captured through standardized floodplain mapping techniques.
- All of the historical claims filed within this Basin have been outside of a mapped floodplain. This once again, suggests that there are flooding issues within this Basin not addressed through flood hazard mapping.
- They very small policy base within this Basin makes it very difficult to establish trends or correlations to identify risk exposure within this Basin.
- The low policy counts within this Basin suggest that there has been wise land use within this Basin, and that new development has been directed away from known flood hazard areas. The continuance of this policy will help to keep the level of risk exposure in balance as this Basin continues to grow.

