

## 5.2.2. Watershed Control Program

### Watershed Description and Characteristics

The City's two watersheds consist of Davis Creek and the West Fork of the Hoquiam River. A description of the location, climate, topography, geology, soils, and history of the City's watersheds are provided in Section A of the 1994 Watershed Plan (see Appendix K). The City owns approximately 50 percent of the land area comprising these watersheds, and industrial logging companies own the majority of the rest. Highway 101 passes through the West Fork Hoquiam River Watershed, and the right-of-way consists of approximately 70 acres. Grays Harbor County owns 329 acres. The privately-owned areas and Highway 101 above the intake structure are considered critical areas that warrant careful monitoring and planning for watershed controls.

Access to the City-owned watershed is restricted. The City contracts with logging companies for harvest of the timber. Water quality monitoring takes place at the treatment plant intake structure where the Davis Creek and West Fork supplies are blended. In addition, the City has routinely taken samples at the headworks for the West Fork and Davis Creek Dams. The samples are measure for turbidity and fecal coliforms.

### Identification of Activities and Land Uses Detrimental to Water Quality

Activities and land uses that are known to exist within the watersheds include both point and nonpoint sources of contamination. Land uses within the watersheds that potentially impact the source water quality include:

- Residential – Residential land use comprises approximately 31 acres in the West Fork Watershed. No residential land use exists in the Davis Creek Watershed. Rural residential housing has a high potential for contamination around failed on-site sewage systems. According to the 1994 Watershed Plan, the residential areas are located in an area near the West Fork River. Soils in the area have restrictive drainage characteristics, and the water levels are seasonably high.
- Nonindustrial Forestland – Nonindustrial forestland comprises approximately 323 acres in the West Fork Watershed and three acres in the Davis Creek Watershed. The nonindustrial forestlands are relatively low risk for potential contamination to the source waters.
- County-Owned Forestland – Grays Harbor County owns approximately 329 acres of forestland in the West Fork Watershed. The City and County have verbal agreements for protection of the watershed on this land consistent with requirements of the Forest Practice Act administered by the Department of Natural Resources (DNR).
- Industrial Forestland – Industrial forestland consists of approximately 602 acres in the Davis Creek Watershed and 3,305 acres in the West Fork Watershed. Contamination potential exists in these areas due to truck traffic and logging activities.
- Highway 101 – Highway 101 crosses the West Fork Watershed and encompasses approximately 25 acres of impermeable surfaces, according to the 1994 Watershed Plan. The highway is probably the City's highest potential risk for watershed contamination due to its close proximity to the West Fork of the Hoquiam River. Although normal vehicle use on the highway creates nonpoint source pollution that could

contaminate the river, a major spill by an overturned vehicle is of primary concern. In the event of a large spill of fuel or hazardous materials along Highway 101, the City would employ two measures to control hazardous material from entering the water system. The first would be to employ oil booms in front of the intake. Oil booms are kept at the treatment plant for this purpose. The second measure would be to close the valve on the West Fork intake and use Davis Creek as the sole source of water supply.

- **City-Owned Forestland** – The City of Hoquiam owns and manages forestland within each watershed. The last purchase was approximately 150 acres on February 21, 2002, from Jean Bolton, Enterprise Property. The property is located on the West Fork of the Hoquiam River and is a critical section of land where the property is split in the middle by Highway 101 and is less than one mile above the West Fork Dam. The history of other watershed purchases and management activities is summarized in the 1994 Watershed Plan. The City sells timber from the watersheds but maintains strict control of all activities that take place.

Land use activities that have the potential of contaminating the raw water supply have been identified and ranked in priority as shown in Table 5-1. The areas of most concern are within the West Fork Watershed. Although residential uses and Highway 101 combine to be two percent of the total watershed area, both are potential sources of contamination to the City's raw water supply, having close proximity to the West Fork of the Hoquiam River. Contamination from Highway 101 would likely have the highest potential for damage to the raw water supply. Industrial forestland encompasses approximately 61 percent of the watershed, with primary contamination threats being the result of forest fires.

### **Inventory of Potential Contaminant Sources**

In January 2012, an inventory of potential contaminant sources was developed using Ecology's Facility/Site Identification Database (FSID). This database lists any operation that is a potential or active source of pollution. This includes gas stations, automotive stores, dry cleaners, gravel pits, waste management sites, and industrial facilities. Table 5-2 summarizes the review of the database, identifying all sites that were located within the 8,997 acre watershed area. The only sites identified in the database include the City's impoundment dams and intake facilities (which are not really potential contaminant sources, but are listed here nonetheless since they are noted in the FSID), and one other site which is likely an old underground storage tank associated with historical logging operations. The locations of these sites are noted on Figure 5-1.

### **Watershed Management and Control Measures**

The City is able to exert some control over watershed activities and land use practices within the two watersheds. The control measures are summarized for each land use as follows:

- **Residential** – The City purchased a small piece of property adjacent to the West Fork intake property where a trailer house was located. The property did not have adequate land for a septic tank system. Only three residential houses remain within the watershed that could pose an impact to source water quality. The City will continue to pursue purchases of the residential properties as they become available at a fair price.
- **Nonindustrial Forestland** – The City maintains contact with the DNR. As stated before, nonindustrial forestland is low risk and does not comprise a large portion of the watershed.

- **County-Owned Forestland** – The County owns land within the watershed that will someday be used for commercial timber harvesting. Water quality controls will be implemented consistent with standard forest practices. The City has been negotiating with the County to purchase this property after it is harvested.
- **Industrial Forestland** – The industrial forestland is maintained by private companies. The DNR representative typically informs the City and other adjacent owners of activities that are taking place on the industrial forestland. Logging roads cross ownerships to access other areas. Access across one property by another owner for logging results in fair compensation and road repairs by the user. The DNR representative performs the primary function of watershed control and is aware of the City's vested interest in water quality protection. The City does not have jurisdictional authority over the industrial forestland. The State of Washington regulates buffers and setbacks in these forestlands.
- **Highway 101** – Between mile post 94.4 to 100.3, WSDOT has designated a "No spray zone." Although the City does not have jurisdiction over actions that might occur along the state highway within the watersheds, the City would be contacted in the event of an accident involving a spill of hazardous materials. The Hoquiam Fire Department (HFD) does have a hazardous waste spill unit. This unit, however, is not capable of handling large volume spills, such as tank trucks, barrels, etc. This unit is capable of handling hazardous waste associated with automobile/pickup truck type accidents. The HFD would call the Washington State Patrol for a response team to handle large spills. The City would employ two measures to control hazardous material from entering the water system. The first would be to employ oil booms in front of the intake. Oil booms are kept at the treatment plant for this purpose. The second measure would be to close the valve on the West Fork intake and use Davis Creek as the sole source of water supply.
- **City-Owned Forestland** – The City maintains ownership and strict control over portions of each watershed, including 84 percent of the Davis Creek and 25 percent of the West Fork Watersheds. Sample contracts for timber sales, posted policies for access to watersheds, and letters of correspondence are included in Appendix K. In addition to these documents, the 1994 Watershed Plan summarizes the City's role in managing the watersheds.

### **Monitoring Program**

The City's watershed monitoring program consists of both physical inspection of the watershed for potential contamination and analysis of source water quality for chemical and physical properties.

The City's contract forester monitors the Davis Creek and West Fork Watersheds within City ownership on a regular basis. This monitoring consists of buffer protection, sanitary worker facilities, and logging operations for road maintenance. The City's water treatment plant staff check gates for illegal access.

The water treatment plant operators monitor the raw water as required by DOH. The raw water samples are collected at the intake structure to the treatment plant and at the headworks to Davis Creek and the West Fork. Physical, microbiological, chemical, and radiological data are sampled as required by DOH. This data is summarized in Chapter 6.

## **System Operations**

The key components for the City's water system are shown on Figure 1-3. A discussion of system operations for treatment flexibility and emergency conditions is described earlier in previous sections of this chapter. Early warning systems for defining a problem within the watershed include monitoring for turbidity on a daily basis at the headworks. The emergency response program describes the City's response mechanisms for dealing with watershed contamination and situations that may occur within the watersheds.

**Table 5-1. Inventory of Watershed Land Uses**

Land Use	Potential Contamination Types	Contamination Potential	System Consequences	Davis Creek (Percent of Watershed)	West Fork (Percent of Watershed)	Level of Priority
Highway 101	Hazardous Material Spills Runoff Sabotage	moderate	high	0%	1%	1
Industrial Forestland	Man-Made Spills Forest Fires	moderate	severe in the event of fire	16%	61%	2
Residential	Septic Failure Man-Made Spills	moderate	moderate	0%	1%	3
County –Owned Forestland	Man-Made Spills Forest Fires	low	moderate	0%	6%	4
Nonindustrial Forestland	Man-Made Spills Forest Fires	low	minor	1%	6%	5
City-Owned Forestland	Minor Man-Made Spills Forest Fires Natural Contamination	low	severe in the event of fire	84%	25%	6

**Table 5-2. Inventory of Potential Contaminant Sources**

Map ID	Ecology Facility ID <sup>(1)</sup>	Site Name	Type of Point Source	Ecology Program
1	18514366	Davis Creek Dam	Dam Site	Water Reservoir
2	53786379	West Fork Dam	Dam Site	Water Reservoir
3	55216382	Hoquiam Wa Line Seg 402 Print 480	LUST Facility	Toxics

(1) Source of Data: Washington State Department of Ecology Facility/Site Identification Database (January 2012).

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Figure 5-1. Potential Contaminant Sources