

# Source Water Assessment Report

City of Sweet Home, Oregon  
PWS #4100851

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February 22, 2001

Prepared for  
City of Sweet Home

Prepared by



State of Oregon  
Department of  
Environmental  
Quality

Water Quality Division  
Drinking Water Protection Program



Department of Human Services  
Oregon Health Division  
Drinking Water Program



# Oregon

John A. Kitzhaber, M.D., Governor

## Department of Environmental Quality

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February 22, 2001

Mr. Michael Adams  
Public Works Director  
City of Sweet Home  
1730 North 9<sup>th</sup> Avenue  
Sweet Home, Oregon 97386

RE: Source Water Assessment Report  
City of Sweet Home  
PWS # 4100851

Dear Mr. Adams:

Enclosed is the Source Water Assessment Report for the Sweet Home. The assessment was prepared under the requirements and guidance of the Federal Safe Drinking Water Act and the US Environmental Protection Agency, as well as a detailed Source Water Assessment Plan developed by a statewide citizen's advisory committee here in Oregon over the past two years. The Department of Environmental Quality (DEQ) and the Oregon Health Division (OHD) are conducting the assessments for all public water systems in Oregon. The purpose is to provide information so that the public water system staff/operator, consumers, and community citizens can begin developing strategies to protect your source of drinking water.

For watersheds with more than one intake, Oregon completes the assessments by segment and each source water assessment represents the area from the public water system's intake to the next intake upstream. The City of Lebanon and the City of Albany obtain their source water from the South Santiam watershed downstream of the Sweet Home intake. A map of the watershed areas for each water provider's segment is provided in the attached Figure. The delineated drinking water protection area for Sweet Home is also included in the drinking water protection area for downstream providers, therefore they will be provided with copies of your report as well. We encourage you to work with them as you move forward with developing a protection plan.

As you know, the 1996 Amendments to the Safe Drinking Water Act requires *Consumer Confidence Reports* (CCR) by community water systems. CCRs include information about the quality of the drinking water, the source of the drinking water, and a summary of the source water assessment. Public water systems are responsible for notifying their customers of the assessment results. The information from this assessment can be presented by distributing the "Summary Brochure" attached to the report. There is a blank space to insert instructions for how customers can obtain or review a copy of your source water assessment report. Distribution of any copies of the report must be done at the local level. At a minimum, we would suggest that a copy be placed at the local library, city hall, and/or public water supply office and your customers can review the report at their convenience. By mid-2003, all results of these assessments will also be made available electronically to the public on DEQ's and OHD's websites.

There are no regulatory requirements for you to develop a protection plan using the assessment results, but we hope your community will take the initiative to do so voluntarily. One of the goals of developing a Drinking Water Protection Plan is to address the facilities and land use activities that pose high or moderate risks for contaminating your public water supply. At a minimum, we recommend that the community seek ways to communicate and extend outreach to these facilities/activities with education

and technical assistance to minimize the risk of contamination. As you begin thinking about developing a protection plan, it is also important to remember that not all of the assessment's inventoried activities will need to be addressed in a voluntary protection plan. If you move forward with developing a protection plan, the next step is to enhance the assessment inventory and, at that time, the "potential contaminant sources" which pose little to no threat to your public water supply can be eliminated from your list.

We look forward to working with you to move forward with developing a protection plan. Our drinking water protection staff are pressed for time in completing the 1156 assessments like yours across the state, so we can only commit limited resources in assisting you with your protection plan *at the present time*. We are developing some useful written guidance and materials that will assist your protection efforts and you will receive these when complete.

We have enclosed one copy of the large GIS map of the watershed and the assessment results. A smaller version of this exact map is found in the report. If you have a need for additional copies of the large map, we must charge a small fee for each to cover the costs that were not budgeted by the program. Let me know if you need additional copies.

In addition, we are enclosing the US Forest Service Willamette National Forest GIS Maps that we obtained to assist with the inventory in Sweet Home's protection area. These maps were produced by the Forest Service and may be of use to you as you move forward with protection activities. The maps cover the South Santiam, Middle Santiam and Quartzville Creek Watersheds and detail locations of administrative sites, high road density areas, actively unstable and potentially highly unstable soils, and regeneration harvest areas. Please contact the US Forest Service with questions on these maps.

If you have any questions or need more information, please do not hesitate to call me at 503-229-5664 or toll free in Oregon at 1-800-452-4011.

Sincerely,




Julie K. Harvey, R.G.  
Drinking Water Protection Specialist  
Water Quality Division


Enclosures

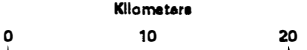
cc: Cheryl Hummon, City of Albany  
Nitin Joshi, City of Lebanon


# South Santiam River Watersheds



 Drinking Water Protection Area  
 Drinking Water Intake - Surface Water

  
State of Oregon  
Department of Environmental Quality

  
0 10 20

  
0 10

Miles  
Printed February, 2001  
Oregon Department of Environmental Quality GIS



# Table of Contents

Executive Summary.....	1
Introduction.....	3
Background.....	4
Delineation of the Protection Area	
Methodology.....	5
Results.....	5
Identification of Sensitive Areas	
Methodology.....	6
Results.....	8
Inventory of Potential Contaminant Sources	
Methodology.....	9
Results.....	11
Susceptibility Analysis	
Methodology.....	12
Results.....	13
Summary and Recommendations.....	14
Developing a Drinking Water Protection Plan.....	16
References.....	20

## Figures

Figure 1. City of Sweet Home’s Drinking Water Protection Area

Figure 2. Sensitive Areas within City of Sweet Home’s Drinking Water Protection Area

Figure 3 (a, b, and c). Source Water Assessment Results –  
City of Sweet Home’s Drinking Water Protection Area with  
Sensitive Areas and Potential Contamination Sources

## Tables

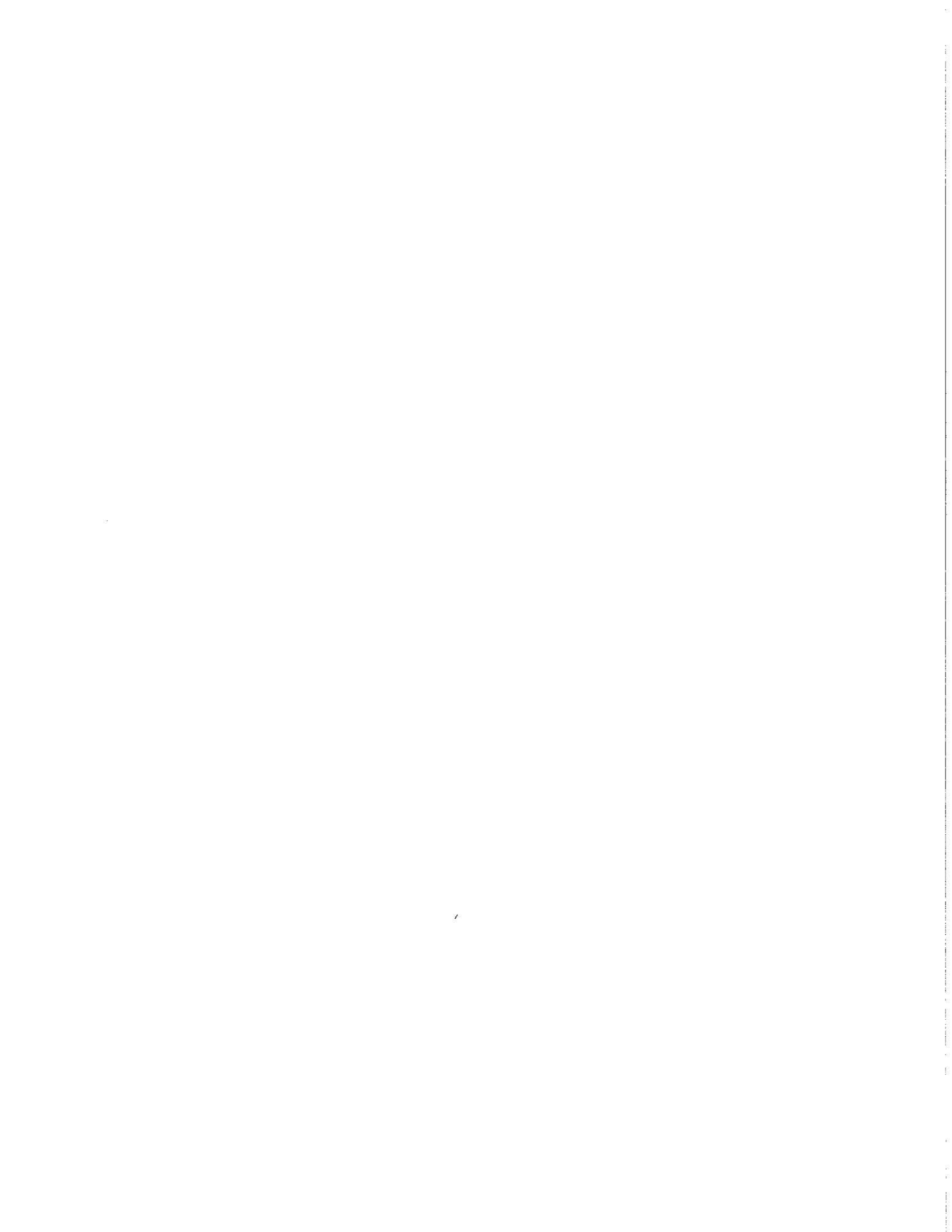
Table 1. Summary of Potential Contaminant Sources by Land Use

Table 2. Inventory Results- List of Potential Contaminant Sources

Table 3. Results of Regulatory Database Search

## Attachment

Attachment A. Source Water Assessment Summary Brochure



# Executive Summary

The drinking water for City of Sweet Home is supplied by an intake on the South Santiam River. This public water system serves approximately 7,235 citizens. The geographic area providing water to Sweet Home's intake (the drinking water protection area) extends upstream approximately 31.6 miles in an easterly direction and encompasses a total area of 563 square miles. The drinking water protection area includes the Hamilton Creek/South Santiam River, Quartzville Creek, Middle Santiam River, South Santiam River, South Santiam/Foster Reservoir, and Wiley Creek Watersheds of the South Santiam Sub-Basin of the Willamette Basin. The rivers/creeks that contribute to the intake include Quartzville Creek and the Middle Santiam River above Green Peter Reservoir, the South Santiam River, and Wiley Creek as well as the numerous tributaries that contribute to these major water systems. Sweet Home's intake is located at an approximate elevation of 500 feet as South Santiam River flows into the valley floor from the foothills. The elevation change from the upper edge of the watershed to the intake is approximately 4,850 feet.

There are several drinking water intakes within the South Santiam Sub-Basin located downstream of Sweet Home's intake including intakes for the City of Lebanon and City of Albany. Activities and impacts in the Sweet Home drinking water protection area have the potential to also impact downstream users.

An inventory of potential contamination sources was performed within Sweet Home's drinking water protection area. The primary intent of this inventory was to identify and locate significant potential sources of contaminants of concern. The inventory was conducted by reviewing applicable state and federal regulatory databases and land use maps, interviewing persons knowledgeable of the area, and conducting a windshield survey by driving through the drinking water protection area to field locate and verify as many of the potential contaminant source activities as possible. The primary contaminants of concern for surface water intakes are sediments/turbidity, microbiological, and nutrients. It is important to remember that the sites and areas identified are only potential sources of contamination to the drinking water, and water quality impacts are not likely to occur when contaminants are used and managed properly.

The upper portion of the delineated drinking water protection area is primarily dominated by managed forest lands while the lower portions are primarily dominated by residential, commercial and agricultural land uses in the vicinity of Sweet Home and Foster. The inventory of potential sources of contamination was primarily limited to the lower portion of the watershed downstream of Foster Dam with limited review of US Forest Service maps conducted for areas above Foster Dam and along Wiley Creek. A total of 52 potential contamination sources were identified during this assessment within the sensitive areas of Sweet Home's drinking water protection area. The commercial/industrial potential contaminant sources identified in the watershed include automotive and equipment service/repair stations with associated underground fuel storage tanks, a car wash, dry cleaners, several hardware/parts stores, several wood processing facilities, medical or vet offices, and parking lots. Municipal sources may include the drinking water treatment plant, the sewage treatment plant, parks/sports fields, schools, the school district maintenance facility, the airport, several underground storage tanks and the cemetery. Other potential risks include the high-density residential areas, rural residential areas with associated septic systems, and high density housing areas, managed forest lands, recreation areas (campgrounds, etc.), the dams and associated powerhouse operations, and the transportation corridors. The potential contaminant sources within the drinking water



protection area all pose a relatively higher to moderate risk to the drinking water supply with the exception of mini-storage facilities, apartment complexes, upgraded underground storage tanks, medical/vet offices, lower density rural residential areas, and the cemetery, which present a lower risk. This provides a quick look at the existing potential sources of contamination that could, if improperly managed or released, impact the water quality in the watershed.

The susceptibility analysis combines the results of the locations of the potential contaminant sources with the locations of the sensitive areas. Overlaying the locations of the moderate- to high-risk sources within the sensitive areas provides an indication of the areas that are highly susceptible to contamination. In the Sweet Home watershed, the results of the susceptibility “analysis” include the distribution of 40 identified high- to moderate-risk sources within the areas of highly permeable soils, high erosional soils, high runoff potential soils, and within the 1000’ setback from the streams. The susceptibility analysis provides the community and the public water system with information on where the greatest risk occurs and where to focus resources for protection.

# Introduction

In 1996, Congress amended the Safe Drinking Water Act, implemented some new requirements, and provided resources for state agencies to assist communities in protecting the sources of their public water supplies. The US Environmental Protection Agency (EPA) developed guidelines for implementing the new requirements to conduct “source water assessments” (EPA, 1997). In Oregon, the Oregon Health Division (OHD) and the Department of Environmental Quality (DEQ) are conducting the source water assessments. An assessment such as this one will be done for every public water system in Oregon regulated by the Safe Drinking Water Act. DEQ and OHD will each have specific tasks in accomplishing the assessments for a total of 2656 public water systems in Oregon. Of those 2656 public water systems, about 90% of these are groundwater systems drawing water from wells or springs, and 10% are surface water systems with intakes on streams, rivers, or lakes/reservoirs.

The assessments in Oregon include delineating the source area supplying the public water system, identifying areas “sensitive” to contamination, and conducting an inventory of potential contamination sources in the area. Using the results of the inventory and sensitive areas, the susceptibility of the public water system is determined. OHD will provide the delineation for all groundwater systems and the identification of the sensitive areas within their source area. DEQ will delineate and identify the sensitive areas within the watersheds for the surface water systems. DEQ will conduct all inventories of the potential contaminant sources inside the drinking water protection areas and this is then used to estimate the public water system’s susceptibility to contamination.

Sources of information reviewed during this assessment included U.S. Geological Survey (U.S.G.S.) documents/websites, DEQ reports, EPA/DEQ databases, and other readily accessible reports. The reference list provides a few of the good sources of information used in the report. Time constraints do not allow research into all existing technical resources available for each system. As the assessment is performed, assistance from municipal water staff, state/federal land management officials, and community members will increase OHD and DEQ’s abilities to characterize local hydrogeologic/hydrologic conditions, site-specific information, and ultimately increase the quality of the assessment. Where possible, DEQ staff has consulted local Natural Resource Conservation Service, county planning agencies, irrigation districts, and other natural resource officials.

Many watersheds in Oregon provide water used for public or “domestic” drinking water supplies, irrigation, industry, hydro power, fish hatcheries, and of course, natural in-stream fish rearing. Watersheds vary considerably in terms of overall health and susceptibility to contamination. Most surface water sources for drinking water are filtered and undergo treatment (disinfection) prior to delivery to the consumer. The ability to adequately (and cost-effectively) treat drinking water from a surface water source is directly related to the quality of the water at the intake. Surface water intakes for public water supplies are generally very susceptible to increases in coarse sediments. Treatment facilities for public water supplies are very susceptible to increases in fine sediments, nutrients and other organic and inorganic contaminants. Treatment facilities are also negatively impacted by changes in temperature.

Changes in surface water quality parameters can be caused by a variety of factors in any watershed. Detailed consideration of all the variables was beyond the scope of this assessment. The procedures for conducting these assessments were developed by a statewide advisory

committee (Source Water Assessment Plan, 1999). The value of preparing detailed procedures is in the ability to be consistent from one system to the next. There are also severe time constraints for the amount of time allowed to complete each public water system assessment. It is our intent to provide as much information about the watershed as our program resources allow.

Using the results of this assessment, the public water system and the local community can then move forward with voluntarily developing and implementing a *drinking water protection plan*. The requirements for water quality monitoring of public water systems in Oregon provide some degree of assurance of safe drinking water; however, all systems are vulnerable to potential contamination. One of the best ways to ensure safe drinking water and minimize future treatment costs is to develop a local plan designed to protect against potential contamination. Not only will this measure add a margin of safety, it will raise awareness in the local community of the risks of drinking water contamination, and provide information to them about how they can help protect the system. It is our hope that each community will use the assessment results as a basis for developing a drinking water protection plan.

## Background

Sweet Home is located in Linn County, Oregon about 30 miles southeast of Albany on State Highway 20. The drinking water for the Sweet Home is supplied by an intake on South Santiam River in the South Santiam Sub-Basin of the Willamette Basin, Hydrologic Unit Code (HUC) # 17090006. This public water system serves approximately 7,235 citizens. The coordinates are [REDACTED]. DEQ obtained the coordinates using a Geographic Positioning System (GPS) in February 1999.

The study area for evaluating the extent of the Sweet Home Drinking Water Protection Area (DWPA) includes US Geological Survey topographic maps for the McKenzie River and North Santiam River quadrangles at the 1:100,000 scale. The surface water intake plots on the U.S. Geological Survey 1:24,000 Sweet Home quadrangle and 1:100,000 scale McKenzie River quadrangle topographic map.

The South Santiam Sub-Basin drains a mid-eastern section of the Willamette Basin. It is a catchment basin for approximately 1,050 square miles of Linn County (USGS). For more than half of its length, the South Santiam River flows through forested areas over rugged terrain. The lower reaches flow through agricultural areas and then densely developed areas. The major tributaries for the South Santiam River include Quartzville Creek, the Middle Santiam River, Wiley Creek, McDowell Creek, Hamilton Creek, Beaver Creek, Crabtree Creek, and Thomas Creek as well as the numerous tributaries that contribute to these major water systems. These systems flow in a northwesterly direction from the west slope of the Cascade Range through the adjacent foothills to the valley floor of the Willamette Valley.

The geology in the lower portion of the drinking water protection area between the intake and Foster Reservoir is described by Rogers, et.al, (1996). The basement rocks in the South Santiam Sub-Basin consist of a thick sequence of marine sandstone, siltstone and tuff. These basement rocks are overlain by complexly bedded volcanic and volcanoclastic deposits occurring as layers of basalt, ash-flow, tuff, tuff breccia, mudflow deposits, and conglomerates. In the area that encompasses most of the City of Sweet Home and the areas between Sweet Home and Foster,

terrace gravels consisting of stratified gravel, sand, silt and clay overlie the volcanic rocks. Alluvial deposits of unconsolidated gravel sand and silt are also present in limited areas of Sweet Home north of the South Santiam River and along Wiley Creek. Information on the geology in the upper portion of the watershed was not readily available.

The climate in the South Santiam Sub-Basin area is characterized by moderate annual temperature and precipitation variations. Information on climate in the Sweet Home drinking water protection area is based on the National Oceanic and Atmospheric Administration's (NOAA) Foster Dam and Cascadia State Park climate stations (Western Regional Climate Center) which are located at elevations of 550 and 860 feet above mean sea level, respectively. The average annual temperature is 51 to 52 degrees at the stations. The summers are dry and moderately warm with temperature highs of approximately 70 to 80 degrees. Winters are cool and wet, with temperatures usually staying above freezing. The Foster Dam climate station generally gets less than 2-inches of total snowfall per year and the Cascadia State Park climate station gets approximately 10 inches. However, neither station has more than 1-inch of measurable snow accumulation during the winter months of December through February. Average annual precipitation is about 55 inches at Foster Dam and 63 inches at Cascadia State Park, with approximately 65% to 75% of that occurring between November and April.

## **Delineation of the Protection Area**

### **Methodology**

The delineation of the source area or the "drinking water protection area" is a fundamental aspect of the assessment of a public water system. For surface water systems such as Sweet Home's, the drinking water protection area delineation process begins by identifying the *watershed*. The watershed area is also called the *catchment basin* of a receiving water body. The outer boundary of this watershed is the drainage divide formed by the surrounding ridges and hills. The surface water delineation includes the entire watershed area upstream of the public water system intake structure. This watershed area provides "source" water to the surface water intake.

A map of the drinking water protection area provides the community with the knowledge of the geographic area providing the water to the intake. This is the area where contamination poses the greatest threat to the drinking water supply. Information about the drinking water protection area allows the community to develop management strategies that will have the most impact on protecting the source of the drinking water.

### **Results**

DEQ has collected and reviewed data for the purpose of delineating the drinking water protection area for Sweet Home's intake on South Santiam River. The scope of work for this report included collecting information from the water system operator, researching written reports, and establishing a Geographic Information Systems (GIS) basemap of the delineated watershed. *Sweet Home's drinking water protection area is shown in Figure 1.* Sweet Home's drinking water protection area extends upstream 31.6 miles in an easterly direction and encompasses a total area of 563 square miles. The drinking water protection area includes the Hamilton Creek/South Santiam River, Quartzville Creek, Middle Santiam River, South Santiam River, South Santiam/Foster Reservoir, and Wiley Creek Watersheds of the South Santiam Sub-

Basin of the Willamette Basin. The rivers/creeks that contribute to the intake include Quartzville Creek and the Middle Santiam River above Green Peter Reservoir, the South Santiam River, and Wiley Creek as well as the numerous tributaries that contribute to these major water systems. The Sweet Home's intake is located at an approximate elevation of 500 feet as South Santiam River flows into the valley floor from the foothills. The upper edge of the watershed is located at an elevation of approximately 5,350 feet; therefore, the elevation change from the upper edge of the watershed to the intake is approximately 4,850 feet.

## Identification of Sensitive Areas

### Methodology

After delineating the entire watershed, DEQ identified the "sensitive areas" within the watershed. *The objective in determining the sensitive areas for surface water sources is to produce reliable information to the community and public water system that is useful in developing and prioritizing protection strategies.* The list of the sensitive areas to be identified within drinking water watersheds was defined by the DEQ advisory committee as the procedures were developed (SWAP, 1999). The sensitive areas within a drinking water watershed includes both setbacks (land adjacent to stream) and other natural factors that increase the risk of contamination of the surface water. The result is an identification of a subset of the entire watershed. *The sensitive areas are those where potential contamination sources or land use activities, if present, have a greater potential to impact the water supply.*

In establishing sensitive areas in a watershed, there are several limiting factors to take into account. In using a Geographic Information System (GIS) to delineate the sensitive areas within the watershed, DEQ locates existing GIS layers and other natural resource agency data sets. Not all areas of the state have been mapped for the natural resource parameters of interest or at the level of detail ideal for this type of analysis. The availability of data at appropriate scales is also a potential limitation. The sensitive area mapping may be limited simply by the lack of readily available data, and conducting additional research is not possible within the time frame allowed to do this assessment. DEQ staff has sought to obtain the best available information for each water system as the source water assessment was performed.

There are four individual characteristics that determine the sensitivity of areas within the drinking water watersheds in the Source Water Assessment Plan (1999) procedures for Oregon water systems. A brief description of the sensitive area characteristics and the sources of the GIS data are included below.

#### **Sensitive Area Setbacks**

The first sensitive area is a setback using a consistent 1000' (about 300 meters) distance from the water body. The 1000' sensitive area setbacks are intended to identify those areas where there are higher risks of contamination by spills or other releases, simply due to their proximity to the water body. The sensitive area setbacks are identified as a minimum of 1000' from centerline of the intake stream and all perennial tributaries within the delineated drinking water watershed. The distance of 1000' was based on EPA national guidance for the distance to conduct the potential contamination source inventories adjacent to streams.

### **High Soil Erosion Potential**

The soil erosion potential for non-US Forest Service land is determined by combining the effects of slope and the soil erodibility factor ("K-factor"). Slopes within a watershed are evaluated using the 1:24,000 SSURGO (Soil Survey Geographic Database) data sets from the *Natural Resources Conservation Service*. The slope for a map unit is a weighted average of the average slope. The soil erodibility factor is also available in the SSURGO database and quantifies the susceptibility of soil particles to detachment and movement by water including the effects of rainfall, runoff, and infiltration. The K-factor used is a weighted average of only the value for the surface layer of the map unit. In the watershed, only soils with "high" erodibility ratings were mapped as sensitive areas. Soils that classify as "high" include soil with slopes greater than 30% and K-factors greater than 0.25. This rating system is based on the *Revised Universal Soil Loss Equation* from the USDA Agricultural Research Service as defined in the Washington's Standard Methodology for Conducting Watershed Analysis (Washington Forest Practices Board, 1993).

Soil Resource Inventory (SRI) information from the US Forest Service was used for Willamette National Forest lands. The SRI data does not provide a soil-erodibility factor that is comparable to SSURGO data. Therefore, the "sediment" attribute with a "high" ranking (which is used as a surrogate for the combination of slope and K Factor) is used to indicate high soil erodibility from the SRI GIS layer. The sediment attribute is the silt and clay sediment yield potential which is defined as the potential for water sedimentation and pollution from silt and clay particle to be carried in suspension following timber harvest, road construction, or other activities. Factors considered in the ratings are soil texture, soil structure, drainage patterns, landform and climate.

### **High Permeability Soils**

Soils identified in the *U.S. Geological Survey* geologic map of Oregon GIS layer (1:500,000 scale) as Recent Alluvial Deposits (Qal) are mapped as sensitive areas due to the high potential for groundwater recharge adjacent to the stream. Alluvial deposits are typically very high permeability soils. These areas may be very vulnerable to rapid infiltration of contaminants to groundwater and subsequent discharge to a stream or lake/reservoir.

### **High Runoff Potential**

The potential for high runoff rates for non-US Forest Service land was evaluated using the 1:24,000 SSURGO (Soil Survey Geographic Database) data sets from the *Natural Resources Conservation Service*. Class D soils, which are defined as soils with very slow infiltration rates were mapped as sensitive areas within the boundaries of the drinking water protection area. Map units are assigned to hydrologic groups based on their majority component. A Class D soil is typified as clayey, has a high water table, or an impervious layer occurs at a shallow depth. Soils with these characteristics would have the potential for rapid runoff and subsequent transport of sediments and possible contaminants to the surface water body supplying the public water system.

For Willamette National Forest lands, the Soil Resource Inventory data does not provide a soil-erodibility factor that is comparable to SSURGO data. Therefore, the "wateryield" attribute with Class III rating from the SRI GIS layer was used to indicate high runoff potential. The "water yield" class is defined as an indication of rate and

amount of water yield expected from each soil. Class III soils have "low water detention storage capacity and high rate of runoff".

### **Additional Sensitive Areas**

There may be other natural characteristics within a watershed that can be mapped as sensitive. Modifying the list of sensitive areas in this assessment can be done by the public water system or the community by identifying resources and procedures that are appropriate for the individual system. For example, the local community may choose to add "transient snow zones", high rainfall areas, and landslide/debris-flow hazards, or other geological or hydrological factors to the sensitive areas within their watershed. Due to time constraints, these additional areas will not be mapped by DEQ as part of this source water assessment, but can be added by the local community before developing a protection plan.

Transient snow zones are typically defined as areas above 1500 feet in the Oregon Coast Range, or above 2000 feet in the Cascades. In some watersheds, these areas may be subject to rapid snowmelt or rain-on-snow events which increase the likelihood of transport of sediments to the surface water bodies in the watershed. Areas of high rainfall or irrigation rates may increase the likelihood of transport of sediments and possible contaminants to the surface water body. These areas can be identified using average annual precipitation data from Oregon Climate Service (years 1961 through 1990) and irrigation/water rights data from Oregon Water Resources Department's water rights database. Mapping the high risk landslide and debris-flow areas can also be useful for evaluating sediment risks from natural hazards within a drinking water watershed. The Department of Forestry has recently completed GIS-based landslide and debris flow maps for western Oregon (Website address: <http://www.odf.state.or.us/gis/debris.html>).

The final watershed map for each public water system intake includes a composite of all sensitive areas identified by DEQ within the watershed. This composite or overlay will enable the communities and responsible agencies to focus future protection efforts in these sensitive areas.

## **Results**

*The sensitive areas within Sweet Home's drinking water protection area are shown on Figure 2.* These include the setbacks from the main stem and all perennial tributaries, a small area of high soil permeability, and large areas of high soil erosion potential and high runoff potential. Areas of high soil erosion potential were prevalent in the upper portion of the Wiley Creek drainage, in the lower portion of the Canyon Creek drainage, in the upper portion of Quartzville Creek, in the lower portion of the Middle Santiam River drainage, and in the areas surrounding creeks discharging to the south side of Green Peter Lake. Areas of high runoff potential were identified throughout the eastern portion of the drinking water protection area. Good data coverage was available for the Sweet Home watershed for each of the sensitive areas.

# Inventory of Potential Contaminant Sources

## Methodology

The primary intent of an inventory is to identify and locate significant potential sources of any of the contaminants of concern within the drinking water protection area. Significant potential sources of contamination can be defined as any facility or activity that stores, uses, or produces the contaminants of concern and has a sufficient likelihood of releasing such contaminants to the environment at levels that could contribute significantly to the concentration of these contaminants in the source waters of the public water supply. An inventory is a very valuable tool for the local community in that it:

- provides information on the locations of potential contaminant sources, especially those that present the greatest risks to the water supply,
- provides an effective means of educating the local public about potential problems,
- provides valuable awareness to those that own or operate facilities and land use activities in the drinking water protection area, and
- provides a reliable basis for developing a local protection plan to reduce the risks to the water supply.

Inventories are focused primarily on the potential sources of contaminants regulated under the federal Safe Drinking Water Act. This includes contaminants with a maximum contaminant level (MCL), contaminants regulated under the Surface Water Treatment Rule, and the microorganism *Cryptosporidium*. The inventory was designed to identify several categories of potential sources of contaminants including micro-organisms (i.e., viruses, *Giardia lamblia*, *Cryptosporidium*, and fecal bacteria); inorganic compounds (i.e., nitrates and metals); organic compounds (i.e., solvents, petroleum compounds and pesticides) and turbidity/sediments. Contaminants can reach a water body (groundwater, rivers, lakes, etc.) from activities occurring on the land surface or below it. Contaminant releases to water bodies can also occur on an area-wide basis or from a single point source.

*When identifying potential risks to a public water supply, it is necessary to make “worst-case” assumptions. This is important because it is the POTENTIAL risk that we are attempting to determine through this procedure and it is simply not possible within our time constraints to conduct individual reviews or inspections at any of the facilities or land uses. The worst-case assumption that is made when considering potential risks to water bodies is that the facility or activity is not employing good management practices or pollution prevention. Under today’s regulatory standards and environmental awareness, the majority of the identified activities and land uses employ “best management practices” (BMPs) in handling contaminants or preventing water quality degradation from their operations. It is important to note that while this assessment will list all POTENTIAL risks, many of these do not present actual risks to the water system. Environmental contamination is not likely to occur when contaminants are handled and used properly, or when BMPs are employed. The day-to-day operating practices and environmental (contamination) awareness varies considerably from one facility or land use activity to another. In-depth analysis or research was not completed to assess each specific source’s compliance status with local, state and/or federal programs or laws. Further, the inventory process did not include an attempt to identify unique contamination risks at individual sites such as facilities (permitted or not) that do not safely store potentially hazardous materials. After the assessment is completed, the next step is to conduct an “enhanced”*



*inventory that will look at the site-specific practices. The potential sources listed in the assessment that employ BMPs (required through regulations OR voluntarily) can be removed from the list during the next step in the process of developing a voluntary drinking water protection plan.*

Assumptions are also made about what potential contamination sources are included in the various types of land uses. For example, it is assumed that rural residences associated with farming operations have specific potential contamination sources such as fuel storage, chemical storage and mixing areas, and machinery repair shops. Again, any errors in these assumptions can be easily corrected as the community moves beyond the assessment to develop a protection plan.

Past, current, and possible future potential sources of contaminants were identified through a variety of methods and resources. In completing this inventory, DEQ used readily available information including review of DEQ, EPA, and other agencies' databases of currently listed sites, interviews with the public water system operator, and field observation as discussed below. The process for completing the inventory for Sweet Home's drinking water protection area included several steps, which are summarized as follows:

1. Collected relevant information as of November 2000 from applicable state and federal regulatory databases including the following lists:
  - DEQ Environmental Cleanup Site Information System (ECSI) which includes the U.S. EPA National Priorities List (NPL) and the U.S. EPA Comprehensive Environmental Response, Compensation and Liability Information System (CERCLA) list;
  - DEQ leaking underground storage tank (LUST) list;
  - DEQ registered underground storage tank (UST) list;
  - DEQ Active Solid Waste Disposal Permits list;
  - DEQ Dry Cleaners list;
  - DEQ Site Information System (SIS) which includes Water Pollution Control Facility (WPCF) and National Pollutant Discharge Elimination System (NPDES) permitted facilities;
  - State Fire Marshall Hazardous Material Handlers (HAZMAT) site list (information on materials in a gas-form was not used since gaseous compounds rarely pose a threat to surface water or groundwater); and
  - DEQ Hazardous Waste Management Information System (HWIMSY) list which includes U.S. EPA Resource Conservation Recovery Act (RCRA) generators or notifiers and U.S. EPA RCRA Treatment, Storage, and Disposal Facility (TSDF) Permits.

Because of the way various state and federal databases are set up, the specific location of listed sites is not always given or accurate within the database. DEQ verified the presence and approximate location of potential contaminant sources and land uses within the drinking water protection area by consulting with local community members and/or by driving through the area (windshield survey) as discussed below in subsequent inventory steps.

2. Interviewed public water system officials, or someone they designated as knowledgeable of the area to identify potential sources that are not listed elsewhere in databases or on maps and to assist in locating potential sources listed in the state and federal databases. A representative of Sweet home's water system accompanied DEQ during part of the survey.

US Forest Service staff provided consultation, maps, and PCS location assistance for the upper regions of the drinking water protection area.

3. Conducted a windshield survey by driving through the drinking water protection area to field locate and verify as many as possible of the potential contaminant source activities. We looked for potential contaminant sources within four general categories of land use: residential/municipal, commercial/industrial, agricultural/forest, and other land uses (see Table 1). *Because of the large size of the drinking water protection area and DEQ's limited resources, the windshield survey was limited to the lower portion of the watershed. Potential contaminant sources identified on forest lands are primarily based on GIS based maps provided by the US Forest Service.*
4. Assigned high-, moderate-, or low-risk ratings to each potential contaminant source based on the Oregon Source Water Assessment Plan (1999). A summary of the types of potential contaminant sources and level of assigned risk is presented in Table 1 (Summary of Potential Contaminant Sources by Land Use). The "comments" section of Table 2 (Inventory Results- List of Potential Contaminant Sources) provides justification for any modifications to the risk rating that may have resulted from field observations that were different from what is typically expected for the specific facility. Relative risk ratings are considered an effective way for the water supply officials and community to prioritize management efforts for the drinking water protection area. When the local water supply officials and community "team" enhance the inventory for use in developing management options, further analysis may need to be conducted to more closely evaluate the actual level of risk.
5. Produced final summary of the inventoried sources and the GIS base map, which are presented in this report.

For surface water systems that encompass an area greater than 100 square miles, such as Sweet Home's, the database search (Step 1 above) was conducted for the entire watershed. Then additional inventory tools (interviews) and field verification of the higher-risk potential sources were conducted within the sensitive areas of the watershed. The additional windshield survey was also limited to the sensitive areas identified in the watershed. These sensitive zones of the drinking water protection area are comprised of lands within the 1,000-foot setbacks from the center of streams and others as described above in the "Identification of Sensitive Areas" section of this report.

## Results

*The inventory results are summarized in Tables 1 through 3 and are shown on Figure 3. The inventory of potential sources of contamination was primarily limited to the lower portion of the watershed downstream of Foster Dam with limited review of US Forest Service maps conducted for areas above Foster Dam and along Wiley Creek. . It is highly recommended that the public water system and/or community "enhance" the inventory by identifying potential contamination sources in these areas through further research, local input, and coordination with public agencies for publicly owned lands.*

The upper portion of the delineated drinking water protection area is primarily dominated by managed forest lands while the lower portions are primarily dominated by residential,

commercial and agricultural land uses in the vicinity of Sweet Home and Foster. A total of 52 potential contamination sources were identified during this assessment within the sensitive areas of Sweet Home's drinking water protection area. The commercial/industrial potential contaminant sources identified in the watershed include automotive and equipment service/repair stations with associated underground fuel storage tanks, a car wash, dry cleaners, several hardware/parts stores, several wood processing facilities, medical or vet offices, and parking lots. Municipal sources may include the drinking water treatment plant, the sewage treatment plant, parks/sports fields, schools, the school district maintenance facility, the airport, several underground storage tanks and the cemetery. Other potential risks include the high-density residential areas, rural residential areas with associated septic systems, and high density housing areas, managed forest lands, recreation areas (campgrounds, etc.), the dams and associated powerhouse operations, and the transportation corridors. The potential contaminant sources within the drinking water protection area all pose a relatively higher to moderate risk to the drinking water supply with the exception of mini-storage facilities, apartment complexes, upgraded underground storage tanks, medical/vet offices, lower density rural residential areas, and the cemetery, which present a lower risk.

The presence of potential contaminant sources within Sweet Home's drinking water protection area provides a quick look at the potential sources of contaminants that could, if improperly managed, impact the water quality in the watershed. Even very small quantities of certain contaminants can significantly impact water bodies. It is important to remember the sites and areas identified in this section are only **potential** sources of contamination to the drinking water.

## Susceptibility Analysis

### Methodology

Susceptibility can be defined as the potential for contamination in the drinking water protection area to reach the intake on the surface water body being used by a public water system for drinking water purposes. Whether or not a particular drinking water source becomes contaminated depends on three major factors: 1) the occurrence of a facility or land use that releases contamination, 2) the location of the release, and 3) the hydrologic and/or soil characteristics in the watershed that allow the transport of the contaminants to the surface water body.

In conducting a susceptibility analysis the first step is identifying that part of the watershed that is most sensitive to contamination. This was accomplished after the delineation phase of this assessment. The second step consists of identifying and locating the potential contaminant sources in the drinking water protection area. Based on the type of facility and the nature of the chemicals they use, these sources represent a lower-, moderate-, or higher-relative risk to the surface water body. This step was accomplished in the inventory phase of the assessment.

The third step in the susceptibility analysis is to overlay the results of the inventory with the map of the sensitive areas. The results of the inventory are analyzed in terms of current, past, and future land uses; their time-of-travel relationship or proximity to the intake site; and their associated risk rating. In general, land uses that are closest to the intake and those with the highest risk rating pose the greatest threat to a drinking water supply. The presence and locations of the potential contamination sources within the sensitive areas will determine where the water system has the highest susceptibility to contamination. The susceptibility analysis

cannot predict when or if contamination will actually occur, but it does recognize conditions that are highly favorable for contamination to occur. If a contaminant release to soils or water should occur in a sensitive area, it is very likely that contamination of the surface water body would occur if remedial actions are not undertaken.

When several high or moderate risk sources are located within the sensitive areas, the public water system may also be said to have a high overall susceptibility to contamination. If a public water system’s drinking water source is determined to be of high susceptibility, it is recommended that the system identify those condition(s) that lead to the high susceptibility and take steps to protect the resource (e.g., reducing soil erosion, or working directly with facility operators to implement sound management practices, etc.). Water systems with a low susceptibility should consider all identified factors that could lead to higher susceptibility in the future and take action to prepare a strategy to protect the resource in the future.

## Results

The results of the potential contamination source inventory are combined with the locations of the sensitive areas to determine the most susceptible areas within Sweet Home’s drinking water watershed. The total number of sources within the sensitive areas are summarized as follows:

	Within Sensitive Areas	Outside of Sensitive areas	Total Within Drinking Water Protection Area
<b>Total Number of High and Moderate Risk Potential Contamination Sources</b>	40	0	40
<b>Higher Risk Potential Contamination Sources Identified</b>	21	0	21
<b>Moderate Risk Potential Contamination Sources Identified</b>	19	0	19
<b>Lower Risk Potential Contamination Sources Identified</b>	12	0	12
<b>Total Potential Contamination Sources Identified</b>	52	0	52

Note: The inventory of potential sources of contamination was primarily limited to sensitive areas within the lower portion of the watershed downstream of Foster Dam. Limited review of US Forest Service maps was conducted for areas above Foster Dam and along Wiley Creek. It is highly recommended that the public water system and/or community “enhance” the inventory by identifying potential contamination sources in these areas through further research, local input, and coordination with public agencies for publicly owned lands.

Overlaying the locations of the moderate- to high-risk sources with the sensitive areas provides an indication of the areas that are highly susceptible to contamination. The susceptibility analysis results are shown on Figure 3 (Source Water Assessment Results). *Where the moderate- to higher-risk sources fall within the sensitive areas are those areas most vulnerable to contamination.* In the Sweet Home watershed, it includes the distribution of the 52 identified sources within the areas of highly permeable soils, high erosional soils, high runoff potential

soils, and within the 1000' setback from the streams. In general, potential contaminant sources within the sensitive areas in the lower watershed pose greater risk than those in the higher areas of the watershed. The susceptibility analysis provides the water system with information on where the greatest risk occurs and where to focus resources for protection.

When all of the assessments are completed in Oregon, DEQ will provide a second type of susceptibility analysis for the surface water systems, an "inter-system susceptibility" on a statewide basis. DEQ will develop a summary report describing how the Sweet Home watershed compares with other drinking water watersheds in the state. To normalize the results of the assessments, the total number of potential contamination sources will not be used. The density of the moderate- to higher-risk sources within the drinking water protection area and within the sensitive areas will be calculated. This comparison will be based upon the number and distribution of the potential contamination sources in the watersheds that serve as drinking water resources. The purpose is not to rank individual systems, but to provide general groupings of overall risk relative to other Oregon public water systems. This will enable state agencies to develop priorities for staffing and funding more detailed assessments and protection measures.

## Summary and Recommendations

This assessment provides a basis for focusing limited resources within the community to protect the drinking water source. The delineation provides the community with information regarding the location of the land area that directly supplies the surface water intake, i.e., the drinking water protection area. The sensitive areas are those where potential contamination sources or land use activities, if present, have the greater potential to impact the water supply. When the sensitive area information is combined with the potential contaminant source inventory, the highly vulnerable areas are identified (referred to as a susceptibility analysis). These should become high priority areas to be addressed first with educational information, technical assistance, and focused outreach to landowners to encourage voluntary cooperation in protecting the water quality in this watershed.

This assessment provides a basis for informed decision-making regarding community planning. The delineation, inventory and susceptibility analysis provides the community with a significant amount of information regarding where their drinking water comes from and an identification of some of the potential risks to the quality of that source. For example, knowing the location and status of the source area allows the community's planning authority to potentially make informed decisions regarding proposed land uses that are compatible with both the drinking water resource and the vision of community growth embraced by the community. Educating the community citizens about the susceptibility and risks to your system enables more public involvement in any future decisions about the public water system.

The results of this Source Water Assessment and the recommendations based on the results are summarized below.

◆ City of Sweet Home's public water system draws water from South Santiam River. The source of this water is within the South Santiam Sub-Basin. Sweet Home's drinking water protection area extends approximately 31.6 miles in an easterly direction and encompasses a total area of 563 square miles. . The drinking water protection area includes the Hamilton

Creek/South Santiam River, Quartzville Creek, Middle Santiam River, South Santiam River, South Santiam/Foster Reservoir, and Wiley Creek Watersheds of the South Santiam Sub-Basin of the Willamette Basin. The rivers/creeks that contribute to the intake include Quartzville Creek and the Middle Santiam River above Green Peter Reservoir, the South Santiam River, and Wiley Creek as well as the numerous tributaries that contribute to these major water systems.

◆ Within the Sweet Home drinking water protection area, there are large areas identified as sensitive to contamination. Areas that are adjacent to the streams/river, areas that have high soil erosion potential, high runoff potential, and high permeability should all receive special considerations for protection. These are some of the areas where the risk is greatest for existing **and future** potential sources of contamination impacting the water quality in the watershed. It is recommended that other natural conditions be considered and possibly added to the assessment results before proceeding with voluntary development of a drinking water protection plan.

There are also some highly permeable soils adjacent to Wiley Creek that should be considered higher risk for groundwater contamination. These areas are very sensitive to any spills or release to soils because the contaminants could rapidly infiltrate into groundwater and discharge to Wiley Creek. The community should take steps to evaluate current and future land use in areas of highly permeable soils. The facilities or land uses that have been identified either on or in close proximity to these soils should be informed of the sensitive nature of the area and encouraged to adopt best management practices designed to minimize the risk of a contaminant release.

◆ The susceptibility of the public drinking water system source depends on both the natural conditions in the watershed as well as the land uses and facilities operating in the watershed. The purpose of the susceptibility exercise is to identify those factors that may pose more of a risk than others within the community's drinking water protection area. It provides information with respect to facilities or land uses in the sensitive areas within the drinking water protection area that should be given greater priority in developing protection strategies. A review of the inventory and the sensitive areas indicates that the Sweet Home public water system has at least 40 high and moderate-risk sources within the sensitive areas in the watershed. It is highly recommended that the community "enhance" or refine the delineation of the sensitive areas and the identification of the potential contamination sources through further research and local input.

◆ Due to the streamlined procedures for conducting the source water assessments, the results could potentially create a misperception that the "human activities" within the watersheds are higher risks than natural conditions or disturbances such as landslides and storm events. For example, it would be erroneous for communities to conclude that their source water was not at risk from natural conditions that produce sediments if there were no potential contamination sources identified within their watershed. It is recommended that the community take steps to ensure the natural conditions (both those identified in this assessment and any other additional areas identified by the community) within the watershed are considered when developing strategies for protection.

◆ Public water systems may be threatened by contamination already in the surface water. Many public water systems conduct routine tests for contamination in the raw water prior to treatment.

It is highly recommended that such data be used to determine existing risks in the watershed. Collecting and analyzing this raw water data by DEQ or OHD has not been done and is beyond the scope of this assessment.

◆ This assessment provides a basis for dealing with future water quality work in the watershed. The delineation, inventory, and susceptibility analysis has been designed to serve as a strong foundation for further in-depth watershed assessments or water quality improvement efforts, such as Oregon's Total Maximum Daily Load (TMDL) plans.

◆ The primary intent of this source water assessment is to provide the background information for the community to use in developing a local Drinking Water Protection Plan. The Sweet Home and/or the public water system should assemble a team to assist in the development and implementation of a Drinking Water Protection Plan. Clean safe drinking water is fundamental to the viability of any community. Protecting the drinking water source is a wise and relatively inexpensive investment in the community's future. The next section will discuss this voluntary process.

## **Developing a Drinking Water Protection Plan**

This Source Water Assessment (SWA) Report for your public water system is a compilation of the results of the delineation of the source area, identification of the sensitive areas, and an inventory of significant risks. The final product, the susceptibility analysis, provides the basis for prioritizing the areas in and around your community that need to be protected. As we discussed in the introduction, our hope is that the community will use the assessment as a basis for developing a "Drinking Water Protection Plan".

The process for developing a complete Drinking Water Protection Plan can be summarized as follows:

### **ASSESSMENT PHASE (Source Water Assessment Report performed by DEQ and OHD)**

1. Delineate the area that serves as the source of the public water supply ("drinking water protection area" for groundwater wells or surface water intakes)
2. Inventory the potential risks or sources of contamination
3. Determine the areas most susceptible to contamination

### **PROTECTION PHASE (performed by community)**

4. Assemble a local Drinking Water Protection Team
5. Enhance the Source Water Assessment
6. Develop a plan to protect the supply (reduce the risks of contamination)
7. Develop a contingency plan to address the potential loss of the system
8. Certify (optional) and implement the Drinking Water Protection Plan

As you know, the assessment phase work was funded by the federal Safe Drinking Water Act. The assessment is simply the first three steps of developing a protection plan for your public water supply. Developing a protection plan is voluntary.

Prior to moving into the protection phase, DEQ recommends the inventory presented in this document be reviewed in detail to clarify the presence, location, operational practices, actual risks, etc. of the identified facilities and land use activities. The SWA inventory should be

regarded as a preliminary review of potential sources of contamination within the drinking water protection area. Resources within the community should be used to do an “enhanced inventory” to complete this preliminary list of potential sources of contamination.

It is also important to remember that not all of the inventoried activities will need to be addressed if you choose to develop a Drinking Water Protection Plan. When developing a protection plan, sources which pose little to no threat to your public water supply can be screened out. For example, if any of the land use activities are conducted in a manner that already significantly reduces the risk of a contamination release, the facility would not need to re-evaluate their practices based on drinking water protection “management”. One of the goals of developing a Drinking Water Protection Plan based on the inventory results is to address those land use activities that do pose high or moderate risks to your public water supply. The community should target these facilities with greater levels of education and technical assistance to minimize the risk of contamination.

Limited technical assistance is available through both DEQ and OHD for communities that choose to move beyond the assessments and voluntarily develop a Drinking Water Protection Plan. Using the results of the assessment (and enhanced inventory), the local community can form a “Drinking Water Protection Team” of community members and develop a plan to reduce the risks of contamination from those sources.

Forming a local team to help with the development of a protection plan is very important. Oregon’s drinking water protection approach relies upon the concept of “community-based protection”, as are many other water quality programs. Community-based protection simply refers to the concept of allowing local control and decision-making to implement the water quality protection effort. Community-based protection is successful only with significant local citizen and stakeholder involvement.

The primary advantage of community-based protection is that it links community needs to environmental needs. Any successful protection program will need to be flexible enough to allow the community to adopt the “tools” or elements that are most appropriate for them. Allowing this local control in making the changes necessary for improving water quality will accomplish two key elements of restoration and protection. Community-based protection can draw on the knowledge and successful adaptive practices of the local area. Landowners generally know best how to achieve water resource restoration and protection as long as a thorough explanation of the problem is provided, the objectives are defined, and some free technical assistance is provided. Secondly, knowing they have more local control, citizens will also be more likely to participate in the program and more willing to assist with the educational and outreach effort which will make the plan successful. We recommend that the protection plan be developed so as to *minimize any burdens on individual property owners, but maximize the equity in responsibility for reducing the risks of future contamination.*

Drinking water protection involves developing protection strategies for groundwater or surface water sources of public water supplies. There are many similarities between this program and other water quality protection programs, and it is essential that water quality efforts are coordinated and linked in each geographic area as much as possible. DEQ is committed to linking the drinking water protection efforts to other habitat and water quality improvement efforts for fish in Oregon, as well as the ongoing work to address Clean Water Act 303(d) water-quality-limited streams. One of the primary means of providing technical assistance is to



give your community the information and coordination necessary to create these links. Other agencies will also be involved in providing technical assistance as protection plans are developed. For example, on farmlands, the Oregon Department of Agriculture will provide assistance as provided for under Senate Bill 1010. In developing recommendations for protecting the drinking water source area, your community can maximize the use of existing programs in Oregon that offer free technical assistance. Examples of such programs include:

- pollution prevention technical assistance from the Department of Environmental Quality,
- sanitary survey assistance from the Oregon Health Division,
- household hazardous waste assistance from the Department of Environmental Quality,
- land use planning from the Department of Land Conservation and Development,
- agricultural water quality management plans Oregon Department of Agriculture,
- water conservation education from the Water Resources Department, or
- rural water quality outreach from the Oregon State University Extension Service.

Protecting the drinking water supply in a community can also be a very effective way to encourage all citizens to participate in an issue which directly affects everyone in that community. This often leads to more public involvement in other significant local decisions concerning future livability issues (i.e., land use planning). In communities already developing and implementing Drinking Water Protection Plans, the process has served to bring many diverse interests together on a common goal and strengthened the local rural and urban relationships through communication and increased understanding. We must continue to do a better job in our outreach efforts to point out that we are all part of the existing water quality problems. The risks and sources of water quality problems are not only from industries, farmers, and managed forests, but every individual living, commuting and working in that area.

We encourage communities interested in developing Drinking Water Protection Plans to contact the DEQ or OHD resources listed below:

***For technical assistance with the monitoring and operation of your public water system:***

Oregon Health Division  
Main Office - Portland Oregon  
800 NE Oregon St., Room 611  
PO Box 14450, Portland, OR 97293  
(503) 731-4317  
Fax (503) 731-4077

or:

Dennis Nelson, Groundwater Coordinator, (541) 726-2587  
donelson@oregonvos.net  
Oregon Health Division  
Springfield Field Office  
442 A Street, Springfield, OR 97477  
Fax (541) 726-2596

*For technical assistance with developing plans to protect your public water system:*

Department of Environmental Quality  
Water Quality Division  
811 SW 6<sup>th</sup> Avenue  
Portland, OR 97204-1390  
(503) 229-5630 Fax (503) 229-5408  
TollFree 1-800-452-4011

**Surface Water** - Sheree Stewart, (503) 229-5413  
stewart.sheree@deq.state.or.us

**Groundwater** - Julie Harvey, (503) 229-5664  
harvey.julie@deq.state.or.us

## References\*

- Environmental Protection Agency, 1997. State Source Water Assessment and Protection Programs Guidance, US EPA Office of Water, EPA816-R-97-009, August 1997.  
<http://www.epa.gov/ogwdw/swp.html>
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- Rogers, A.M., T.J. Walsh, W.J. Kockelman, and G.R. Priest, 1996, Assessing Earthquake Hazards and Reducing Risk in the Pacific Northwest. U.S. Geological Survey Professional Paper 1560.
- Source Water Assessment Plan: Implementation of the Safe Drinking Water Act 1996 Amendments. Sheree Stewart, Oregon Department of Environmental Quality, and Dennis Nelson, Oregon Health Division, February 1999.  
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- US Geological Survey, Oregon Hydrologic Units.  
[http://oregon.usgs.gov/data\\_dir/orehuclist.html](http://oregon.usgs.gov/data_dir/orehuclist.html)
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- US Forest Service (USFS), 2000. Willamette National Forest GIS Maps for the South Santiam, Middle Santiam and Quartzville Creek Watersheds. Layers: Administrative Sites; Road Density Category; Actively Unstable and Potentially Highly Unstable Soils; and Regeneration Harvest. Map Request No. A234, Last Revised April 17, 2000.
- Washington Forest Practices Board. 1993. Standard Methodology for Conducting Watershed Analysis, Version 2.0, October 1993
- Western Regional Climate Center, Oregon Climate Summaries.  
<http://www.wrcc.dri.edu/summary/climsmor.html>

\*Please note that there may be other sources of information for South Santiam River and the Willamette Sub -Basin. Conducting an exhaustive search of all data and technical reports was beyond the scope of this Source Water Assessment Report.

# Figures

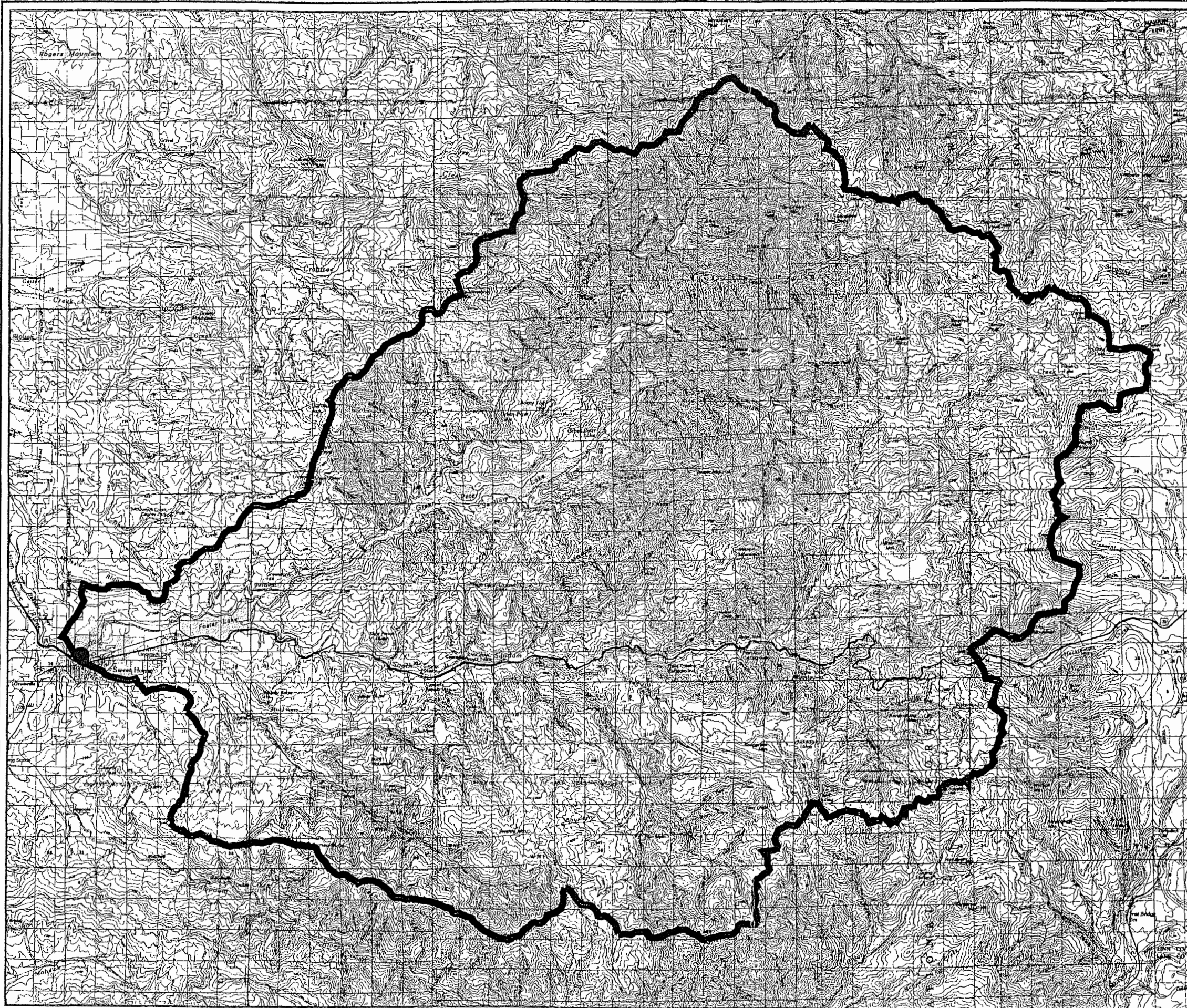
## Source Water Assessment Report City of Sweet Home PWS # 4100851

**Figure 1. City of Sweet Home's Drinking Water Protection Area**

**Figure 2. Sensitive Areas within City of Sweet Home's Drinking Water Protection Area**

**Figure 3. Source Water Assessment Results  
City of Sweet Home's Drinking Water Protection Area with  
Sensitive Areas and Potential Contamination Sources**

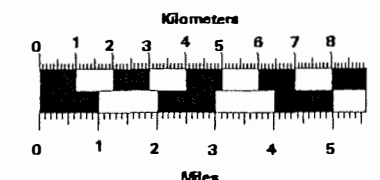
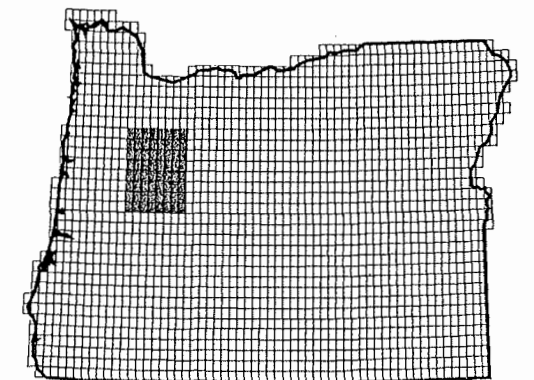




**Figure 1:**  
**City of Sweet Home's**  
**Drinking Water**  
**Protection Area**  
**PWS 4100851**

- Drinking Water Intake - Surface Water
- ⚡ Drinking Water Protection Area

Note on Base Map: 1:100,000 scale U.S. Geological Survey Digital Raster Graphics (DRGs) for McKenzie River (1983) and North Santiam River (1983) are displayed. DRGs are scanned images of topographic sheets. Where the DRGs join, seams and/or gaps may be visible. Between DRGs, variations in information displayed also may be seen.





**Figure 2:  
Sensitive Areas within City of Sweet Home's  
Drinking Water Protection Area**

PWS 4100851

- Drinking Water Intake - Surface Water
- ⚡ Drinking Water Protection Area

Sources of Information:  
(Linn County)

**High Soil Erodibility:** Defined by slopes greater than 30 percent and K factor greater than .25. Soils derived from 1:24,000, USDA, NRCS, SSURGO certified data. Slope is in the SSURGO database Component Table. Slope displayed is a weighted average of the average slope for the map unit. K factor is contained in the SSURGO Layer Table. K factor displayed is a weighted average (of only the surface layer) for the map unit. **High Runoff Potential:** Hydrologic Group D (very slow infiltration rates) from the SSURGO Component Table. SSURGO data have been certified.

(Willamette National Forest)

**High Soil Erodibility:** Defined by high sedimentation yield potential of the dominant soil. **High Runoff Potential:** Water yield class III in the dominant soil. These data are extracted from the Soil Resource Inventory.

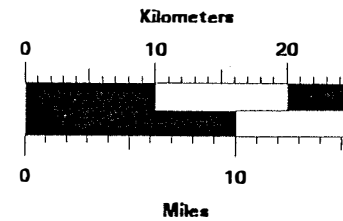
(Entire Watershed)

**High Permeability Soils:** Alluvial deposits (Qal) from the U.S. Geological Survey Geologic Map of Oregon GIS layer. **Sensitive Area Setbacks Adjacent to Streams and Reservoirs:** 1000 foot buffer from the centerline of perennial streams and the shoreline of any reservoir.

**Note on Sensitive Areas:** In determining the most sensitive areas within this Drinking Water Protection Area, DEQ used existing GIS layers and other natural resource agency data sets. Not all areas of the state have been mapped for the natural resource parameters of interest or at the level of detail ideal for this type of analysis. DEQ has sought to obtain the best available information for this composite.

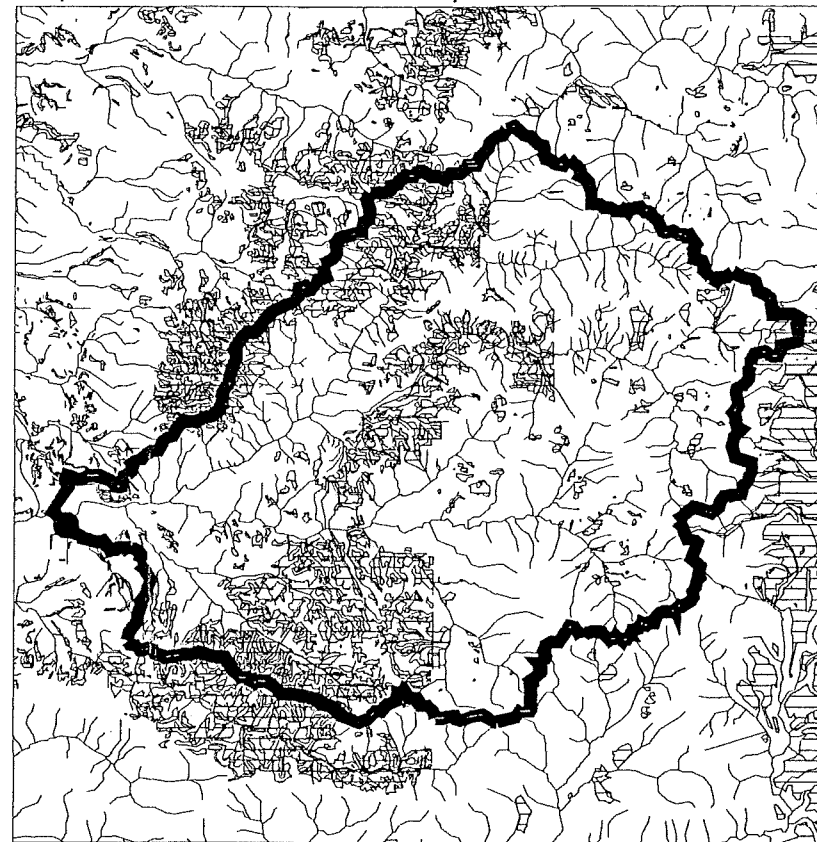


Printed February, 2001  
Oregon Department of Environmental Quality GIS

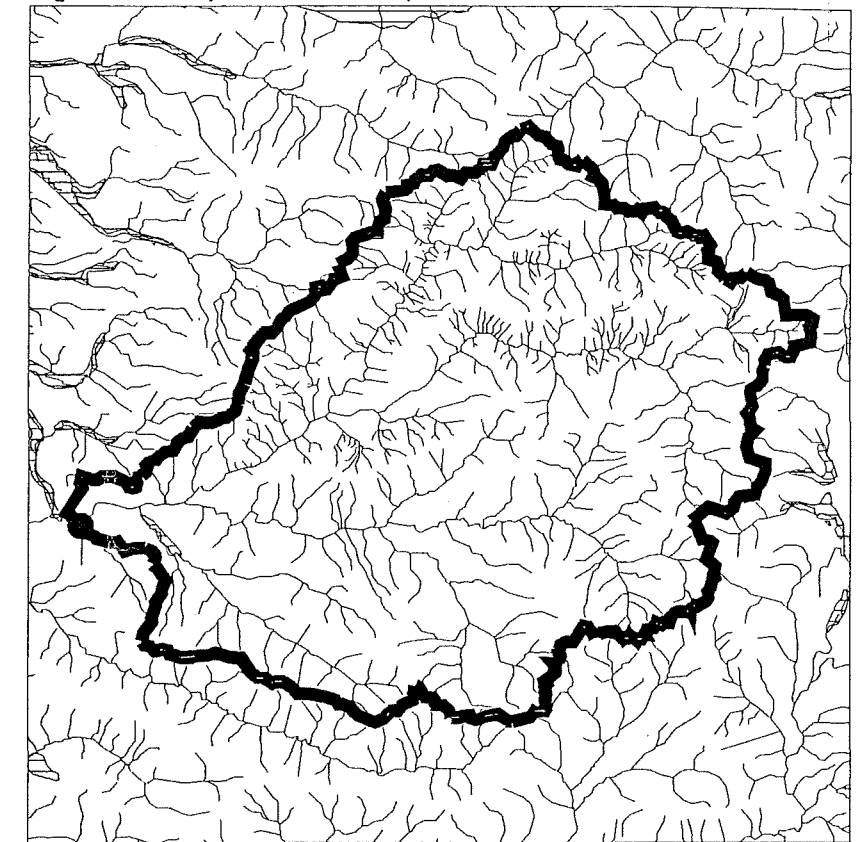


**Sensitive Areas in Watershed**

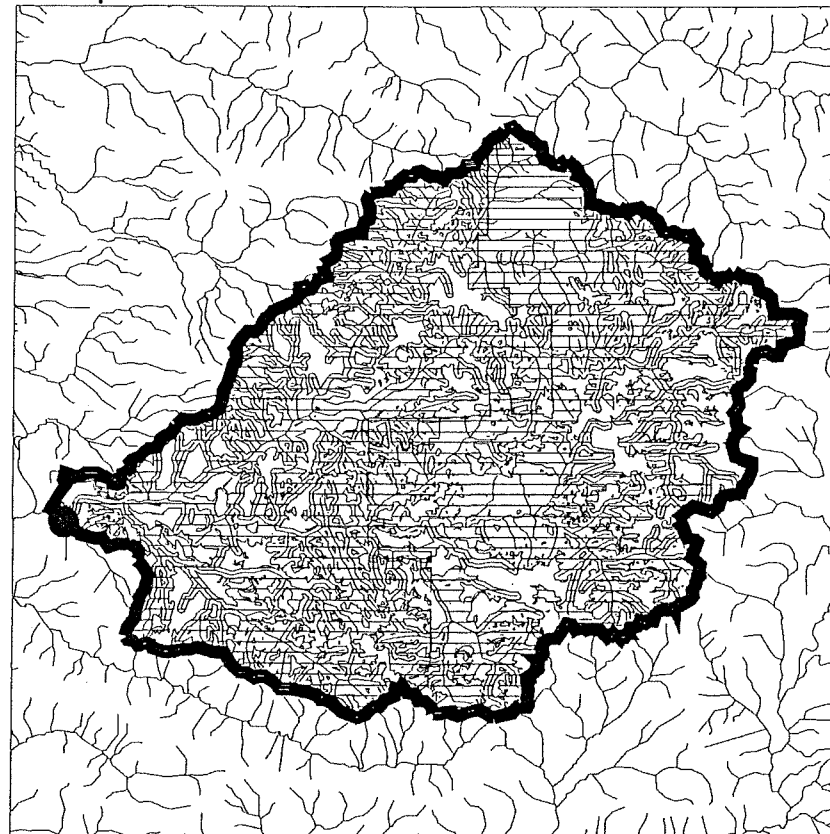
High Soil Erosion Potential  
(Slope  $\geq$  30 Percent and Soil Erodibility Factor  $\geq$  .25)



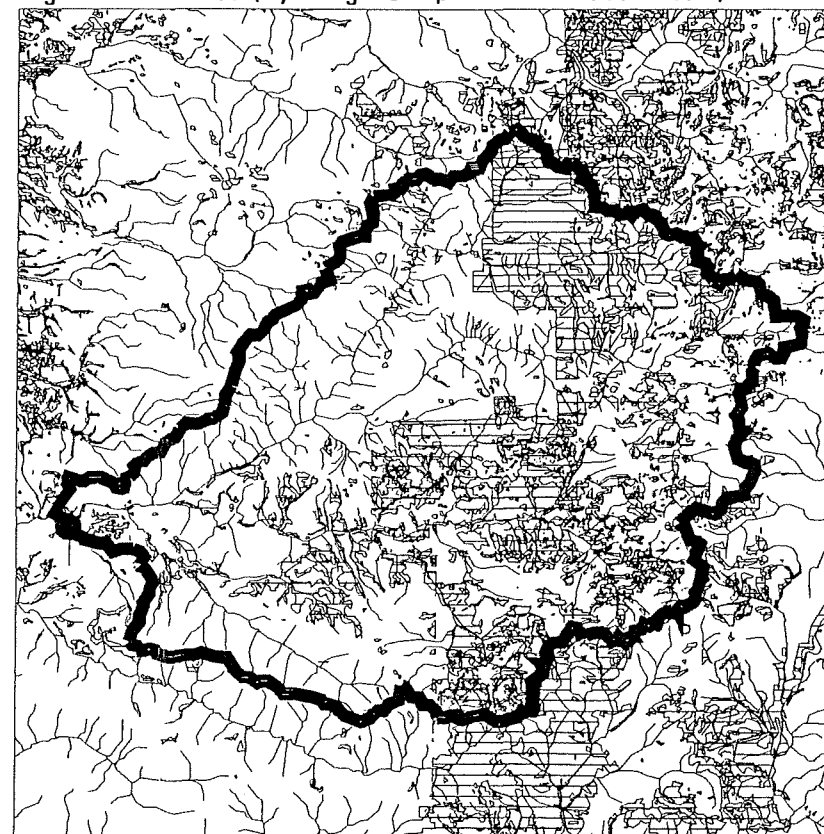
High Permeability Soils (Alluvial Deposits)



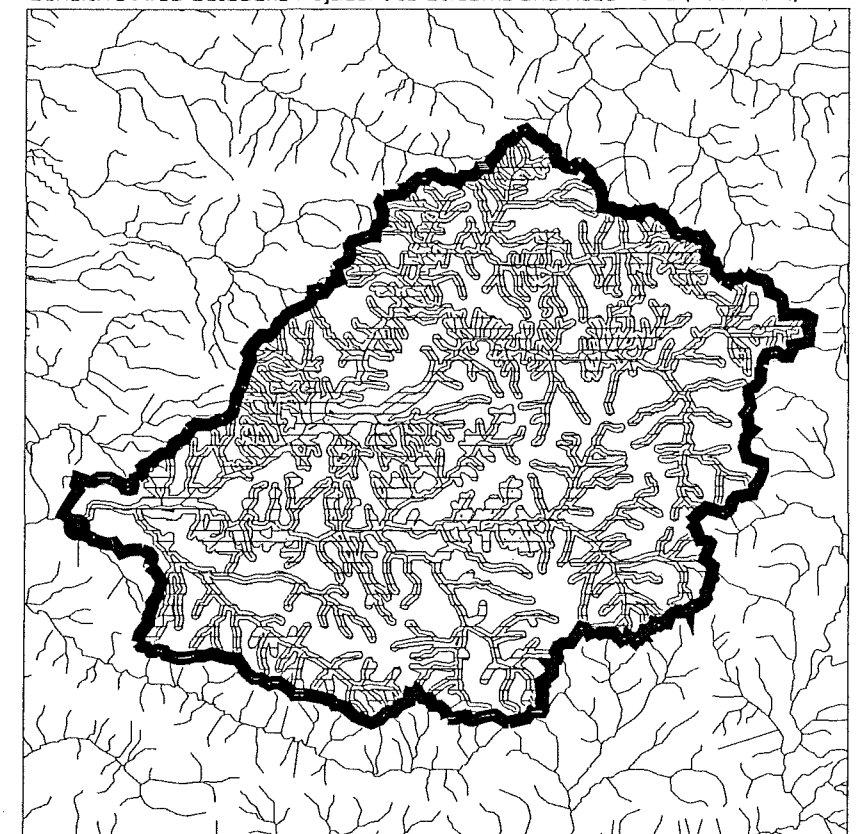
**Composite of Sensitive Areas**



High Runoff Potential (Hydrologic Group D - slow infiltration rates)



Sensitive Area Setbacks Adjacent to Streams and Reservoirs (1000 feet)



# Figure 3a: Source Water Assessment Results

City of Sweet Home's Drinking Water  
Protection Area with Sensitive Areas  
and Potential Contamination Sources

PWS 4100851

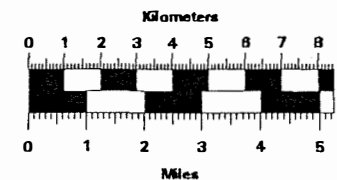
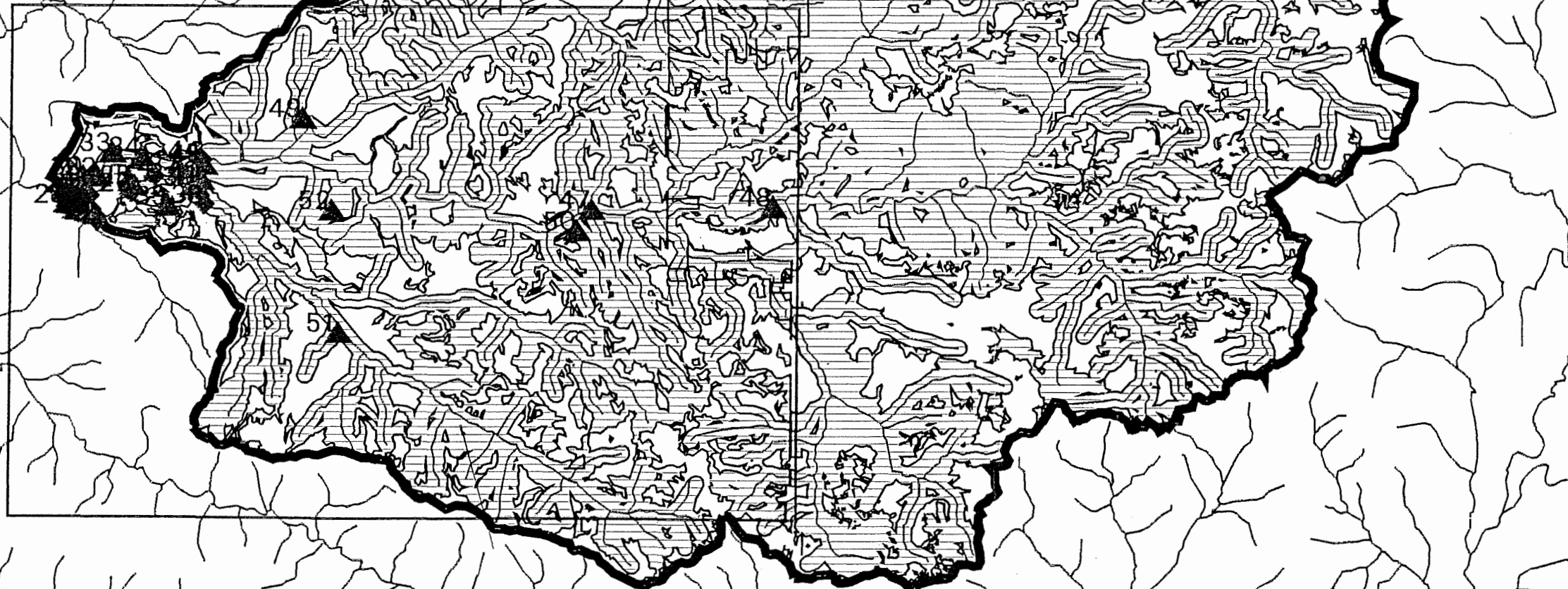
- Drinking Water Intake - Surface Water
- ▾ Drinking Water Protection Area
- ≡ Sensitive Areas
- ▲ Area Feature (see Note 2)
- ◆ Point Feature (see Note 2)

### Notes on Potential Contaminant Sources

Note 1: Sites and areas noted in this Figure are potential sources of contamination to the drinking water identified by Oregon drinking water protection staff. Environmental contamination is not likely to occur when contaminants are handled and used properly or when best management practices are employed.

Note 2: Feature identification numbers correspond to the potential contaminant source numbers in Table 2. The area features represent the approximate area where the land use or activity occurs and is marked at the point closest to the intake. The point features represent the approximate point where the land use or activity occurs.

See Figure 3b





**Figure 3b:  
Source Water Assessment  
Results (Inset)**

City of Sweet Home's Drinking Water  
Protection Area with Sensitive Areas  
and Potential Contamination Sources

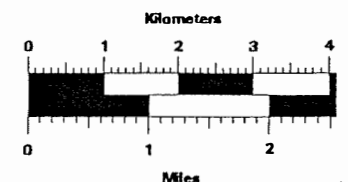
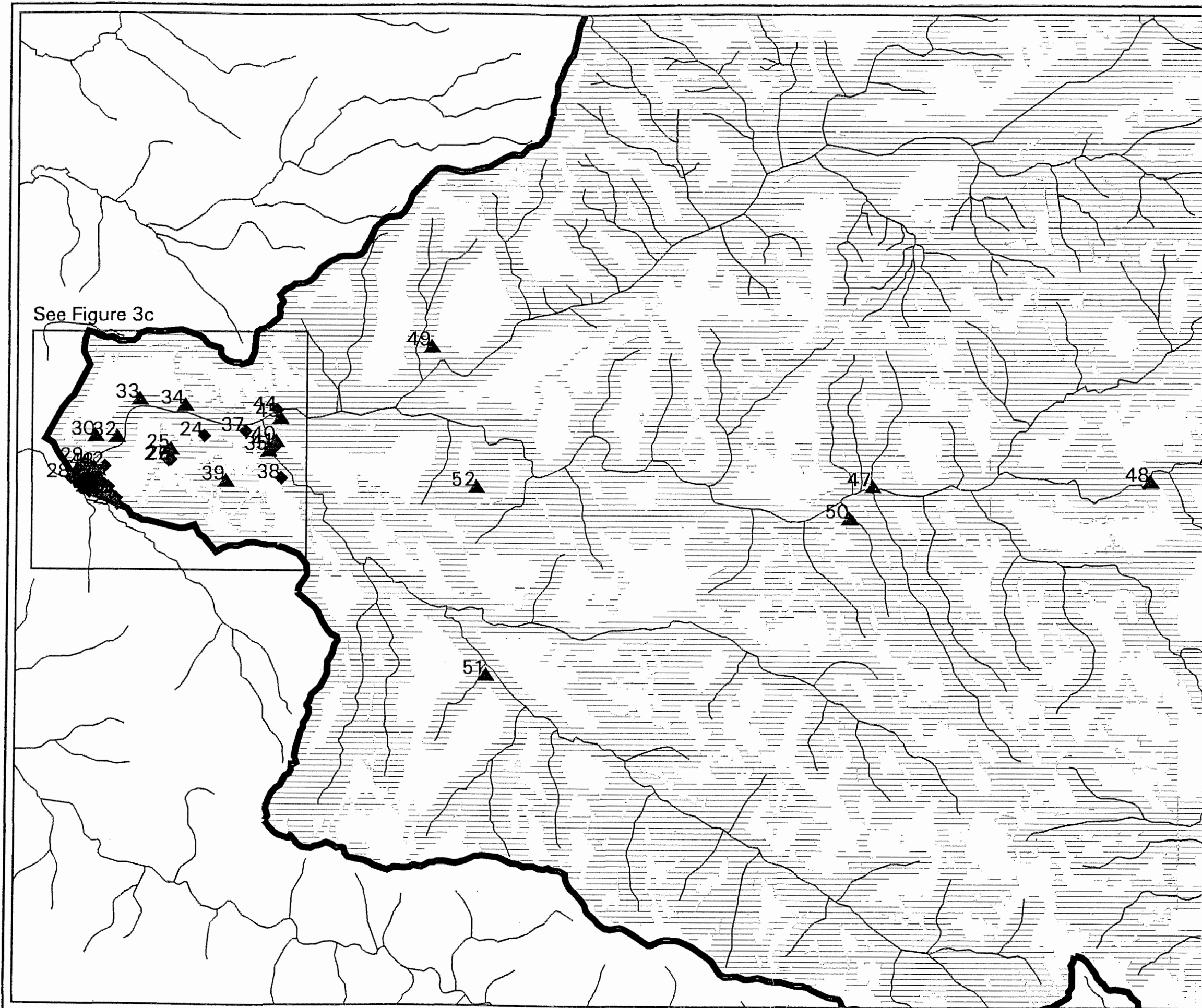
PWS 4100851

- Drinking Water Intake - Surface Water
- ▾ Drinking Water Protection Area
- ▨ Sensitive Areas
- ▲ Area Feature (see Note 2)
- ◆ Point Feature (see Note 2)

**Notes on Potential Contaminant Sources**

Note 1: Sites and areas noted in this Figure are potential sources of contamination to the drinking water identified by Oregon drinking water protection staff. Environmental contamination is not likely to occur when contaminants are handled and used properly or when best management practices are employed.

Note 2: Feature identification numbers correspond to the potential contaminant source numbers in Table 2. The area features represent the approximate area where the land use or activity occurs and is marked at the point closest to the intake. The point features represent the approximate point where the land use or activity occurs.





### Figure 3c: Source Water Assessment Results (Inset)

City of Sweet Home's Drinking Water  
Protection Area with Sensitive Areas  
and Potential Contamination Sources

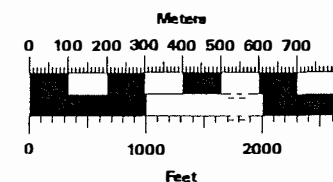
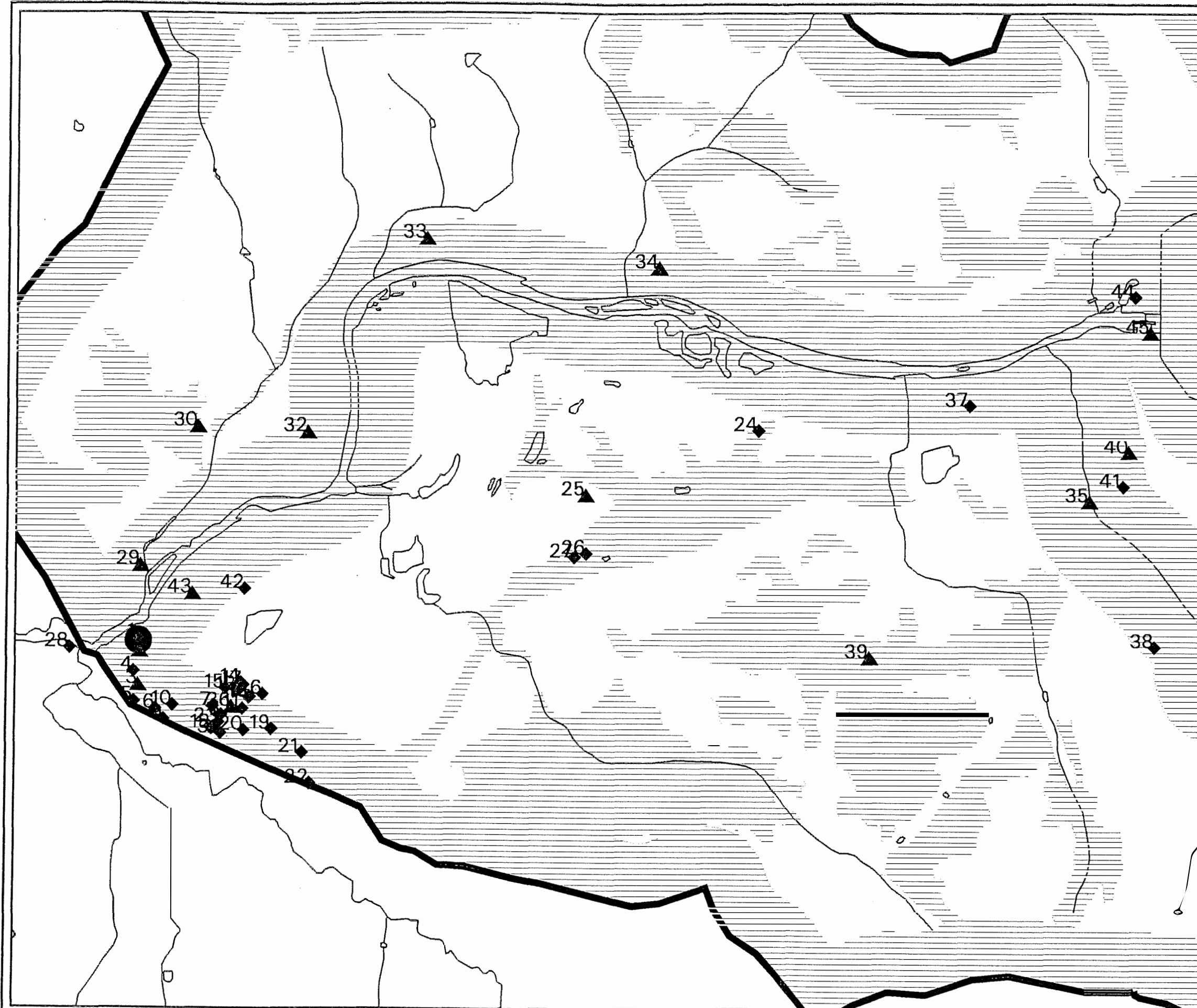
PWS 4100851

- Drinking Water Intake - Surface Water
- ▮ Drinking Water Protection Area
- ▨ Sensitive Areas
- ▲ Area Feature (see Note 2)
- ◆ Point Feature (see Note 2)

#### Notes on Potential Contaminant Sources

Note 1: Sites and areas noted in this Figure are potential sources of contamination to the drinking water identified by Oregon drinking water protection staff. Environmental contamination is not likely to occur when contaminants are handled and used properly or when best management practices are employed.

Note 2: Feature identification numbers correspond to the potential contaminant source numbers in Table 2. The area features represent the approximate area where the land use or activity occurs and is marked at the point closest to the intake. The point features represent the approximate point where the land use or activity occurs.



# Tables

## Source Water Assessment Report City of Sweet Home PWS # 4100851 Inventory Results

**Table 1. Summary of Potential Contaminant Sources by Land Use**

**Table 2. Inventory Results – List of Potential Contaminant Sources**

**Table 3. Results of Regulatory Database Search**

### Notes for Tables

- Sites and areas identified in Tables 1 and 2 are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.
- Total number of sources listed in Table 1 in the DWPA may not add up to the total number of potential contaminant sources in Table 2 because more than one type of potential contaminant source may be present at any given facility.
- The data was collected by Elizabeth Esseks DEQ's Western Region Office, on April 12, 2000.

### Acronyms

AST - Aboveground Storage Tank  
DC - DEQ's Drycleaner database  
DEQ - Oregon Department of Environmental Quality  
DWPA - Drinking Water Protection Area  
ECSI - DEQ's Environmental Cleanup Site Information database  
HWIMSY - DEQ's Hazardous Waste Information Management System database  
LUST - DEQ's Leaking Underground Storage Tank database  
NPDES - National Pollution Discharge Elimination System  
PCS - Potential Contaminant Source  
PWS - Public Water System  
SFM - State Fire Marshall's database of hazardous materials  
SIS - DEQ's Source Information System database (includes WPCF and NPDES permits)  
SWMS - DEQ's Solid Waste Management System database  
UST - DEQ's Underground Storage Tank database or Underground Storage Tank  
WPCF - Water Pollution Control Facility  
WRD - Oregon Water Resources Division database for water rights information system



**TABLE 1. SUMMARY OF POTENTIAL CONTAMINANT SOURCES BY LAND USE**

**PWS # 4100851 SWEET HOME, CITY OF  
Residential/Municipal Land Uses**

<b>Potential Contamination Source</b>	<b>Notes</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Airport - Maintenance/Fueling Area		Moderate	1
Apartments and Condominiums		Lower	2
Campgrounds/RV Parks	(1)	Lower	0
Cemeteries - Pre-1945		Lower	1
Drinking Water Treatment Plants		Moderate	1
Fire Station		Lower	0
Fire Training Facilities		Moderate	0
Golf Courses		Moderate	0
Housing - High Density (> 1 House/0.5 acres)		Moderate	4
Landfill/Dumps	(1)	Higher	0
Lawn Care - Highly Maintained Areas		Moderate	0
Motor Pools		Moderate	0
Parks		Moderate	1
Railroad Yards/Maintenance/Fueling Areas		Higher	0
Schools		Moderate	2
Septic Systems - High Density (> 1 system/acre)	(1)	Moderate	2
Sewer Lines - Close Proximity to PWS	(1)	Higher	0
Utility Stations - Maintenance Transformer Storage		Higher	2
Waste Transfer/Recycling Stations	(1)	Moderate	0
Wastewater Treatment Plants/Collection Stations	(1)	Higher	1
Other			0

**NOTES:**

Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) - Potential source of microbial contamination

(2) - Drip irrigated crops, such as vineyards and some vegetables, are considered lower risk than spray irrigation

(3) - For groundwater public water systems, septic systems located within the 2-year time-of-travel (TOT) are considered moderate risks.

**TABLE 1. SUMMARY OF POTENTIAL CONTAMINANT SOURCES BY LAND USE**

**PWS # 4100851 SWEET HOME, CITY OF  
Commercial/Industrial Land Uses**

<b>Potential Contamination Source</b>	<b>Notes</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Automobiles - Body Shops		Higher	0
Automobiles - Car Washes		Moderate	1
Automobiles - Gas Stations		Moderate	1
Automobiles - Repair Shops		Moderate	2
Boat Services/Repair/Refinishing		Higher	0
Cement/Concrete Plants		Moderate	0
Chemical/Petroleum Processing/Storage		Higher	0
Dry Cleaners		Moderate	1
Electrical/Electronic Manufacturing		Higher	0
Fleet/Trucking/Bus Terminals		Moderate	1
Food Processing		Moderate	0
Furniture/Lumber/Parts Stores		Moderate	2
Home Manufacturing		Higher	0
Junk/Scrap/Salvage Yards		Higher	0
Machine Shops		Higher	0
Medical/Vet Offices	(1)	Lower	2
Metal Plating/Finishing/Fabrication		Higher	1
Mines/Gravel Pits		Higher	0
Office Buildings/Complexes		Lower	0
Parking Lots/Malls (> 50 Spaces)		Higher	3
Photo Processing/Printing		Higher	0
Plastics/Synthetics Producer		Higher	0
Research Laboratories		Higher	0
RV/Mini Storage		Lower	2
Wood Preserving/Treating		Higher	0
Wood/Pulp/Paper Processing and Mills		Higher	3
Other			0

**NOTES:**

Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

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(3) - For groundwater public water systems, septic systems located within the 2-year time-of-travel (TOT) are considered moderate risks.

**TABLE 1. SUMMARY OF POTENTIAL CONTAMINANT SOURCES BY LAND USE**

**PWS # 4100851 SWEET HOME, CITY OF  
Agricultural/Forest Land Uses**

<b>Potential Contamination Source</b>	<b>Notes</b>	<b>Relative Risk Level</b>	<b>Total in DWPA</b>
Auction Lots	(1)	Higher	0
Boarding Stables	(1)	Moderate	0
Confined Animal Feeding Operations (CAFOs)	(1)	Higher	0
Crops - Irrigated (inc. orchards, vineyards, nurseries, greenhouses)	(2)	Moderate	0
Crops - Nonirrigated (inc. Christmas trees, grains, grass seed, pasture)		Lower	0
Farm Machinery Repair		Higher	0
Grazing Animals (> 5 large animals or equivalent/acre)	(1)	Moderate	0
Lagoons/Liquid Wastes	(1)	Higher	0
Land Application Sites	(1)	Moderate	0
Managed Forest Land - Broadcast Fertilized Areas		Lower	0
Managed Forest Land - Clearcut Harvest (< 35 yrs.)		Moderate	0
Managed Forest Land - Partial Harvest (< 10 yrs.)		Moderate	0
Managed Forest Land - Road Density (> 2 mi./sq. mi.)		Higher	2
Pesticide/Fertilizer/Petroleum Storage, Handling, Mixing, & Cleaning Ar		Higher	1
Recent Burn Areas (< 10 yrs.)		Lower	0
Managed Forest Lands - Status Unknown		Higher	1
Other: Agriculture/Hatchery		Moderate	1

**NOTES:**

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(3) - For groundwater public water systems, septic systems located within the 2-year time-of-travel (TOT) are considered moderate risks.

**TABLE 1. SUMMARY OF POTENTIAL CONTAMINANT SOURCES BY LAND USE**

**PWS # 4100851 SWEET HOME, CITY OF  
Miscellaneous Land Uses**

Potential Contamination Source	Notes	Relative Risk Level	Total in DWPA
Above Ground Storage Tanks - Excluding Water		Moderate	0
Channel Alterations - Heavy		Lower	0
Combined Sewer Outfalls	(1)	Lower	0
Stormwater Outfalls	(1)	Lower	0
Composting Facilities	(1)	Moderate	0
Historic Gas Stations		Higher	1
Historic Waste Dumps/Landfills	(1)	Higher	0
Homesteads - Rural - Machine Shops/Equipment Maintenance		Higher	1
Homesteads - Rural - Septic Systems (< 1/acre)	(1)(3)	Lower	5
Injection/Dry Wells, Sumps - Class V UICs	(1)	Higher	0
Kennels (> 20 Pens)	(1)	Lower	0
Military Installations		Higher	0
Random Dump Sites		Higher	1
River Recreation - Heavy Use (inc. campgrounds)	(1)	Moderate	3
Sludge Disposal Areas	(1)	Moderate	0
Stormwater Retention Basins	(1)	Moderate	0
Transmission Lines - Right-of-Ways		Lower	0
Transportation - Freeways/State Highways/Other Heavy Use Roads		Higher	1
Transportation - Railroads		Higher	1
Transportation - Right-Of-Ways - Herbicide Use Areas		Moderate	0
Transportation - River Traffic - Heavy		Lower	0
Transportation - Stream Crossing - Perennial		Higher	2
UST - Confirmed Leaking Tanks - DEQ List		Moderate	4
UST - Decommissioned/Inactive		Lower	0
UST - Nonregulated Tanks (< 1,100 gals or Large Heating Oil Tanks)		Higher	0
UST - Not Upgraded and/or Registered Tanks		Higher	0
UST - Upgraded/Registered - Active		Lower	1
UST - Status Unknown		Moderate	2
Upstream Reservoirs/Dams		Moderate	1
Wells/Abandoned Wells		Higher	0
Large Capacity Septic Systems (serves > 20 people) - Class V UICs	(1)	Higher	0
Construction/Demolition Areas		Moderate	0
Other			0

**NOTES:**

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(2) - Drip irrigated crops, such as vineyards and some vegetables, are considered lower risk than spray irrigation

(3) - For groundwater public water systems, septic systems located within the 2-year time-of-travel (TOT) are considered moderate risks.

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

**PWS# 4100851 SWEET HOME, CITY OF**

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
1	Drinking Water Treatment Plants	Sweet Home Drinking Water Treatment Plant	Adjacent to intake, 1730 N. 9th Ave.	Sweet Home	Database (2) Field-Observation Interview	Within sensitive area.	Moderate	Treatment chemicals and equipment maintenance materials may impact groundwater or surface water source.	
	UST - Status Unknown						Moderate	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.	
2	Housing - High Density (> 1 House/0.5 acres)	High-Density Housing Area	Near Poplar and 9th Ave. - Near drinking water treatment plant	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Improper use, storage, and disposal of household chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to drinking water supply.	
3	Transportation - Railroads	Railroad Corridor	South of intake between Poplar and Nandina	Sweet Home	Field-Observation	Within sensitive area.	Higher	Rail transport elevates the risk for leaks/spills of fuel & other haz. materials. Installation/maintenance of tracks may increase erosion & slope failure causing turbidity. Over-application/improper handling of pesticides may impact the water supply.	
4	Transportation - Stream Crossing - Perennial	9th Avenue Crossing over Ames Creek	Just north of railroad line	Sweet Home	Field-Observation	Within sensitive area.	Higher	Road building, maintenance & use may increase erosion & slope failure causing turbidity. Vehicle use increases the risk of leaks or spills of fuel & other chemicals. Over-application/improper handling of pesticides in right-of-way may also impact water.	
5	RV/Mini Storage	Mini-Storage Facility	West side of 9th Ave, West of Nandina	Sweet Home	Field-Observation	Within sensitive area.	Lower	Spills, leaks, or improper handling of automotive fluids and other materials during transportation, storage and disposal may impact the drinking water supply.	
6	RV/Mini Storage	Mini-Storage Facility	South side of Nandina between 9th and 12th Ave.	Sweet Home	Field-Observation	Within sensitive area.	Lower	Spills, leaks, or improper handling of automotive fluids and other materials during transportation, storage and disposal may impact the drinking water supply.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).



**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

**PWS# 4100851 SWEET HOME, CITY OF**

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
7	Furniture/Lumber/Parts Stores	Santiam Supply - Carquest Auto and Truck Parts	Lot at NW corner of 12th Ave and Main Street (1118 Main Street)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Spills, leaks, or improper handling of hazardous chemical products and other materials in inventory during transportation, use, storage and disposal may impact the drinking water supply.	
	Parking Lots/Malls (> 50 Spaces)						Higher	Spills and leaks of automotive fluids in parking lots may impact the drinking water supply.	
8	Historic Gas Stations	McKenzie Barber Shop - Possible historic gasoline station	SE Corner of Main and 12th Avenue (1209 Main)	Sweet Home	Field-Observation	Within sensitive area.	Higher	Historic spills, leaks, or improper handling of solvents and petroleum products may impact the drinking water supply. Abandoned underground storage tanks may be present.	
9	Automobiles - Car Washes	Sweet Home Car Wash	On north side of Main, north of 10th Ave	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Improper management of vehicle wash water may result in soaps, oils, greases, and metals impacting the drinking water supply.	
10	Apartments and Condominiums	Apartment Complex	South side of nandina between 9th and 12th Ave.	Sweet Home	Field-Observation	Within sensitive area.	Lower	Improper use, storage, and disposal of household and facility maintenance chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to water supply.	
11	Furniture/Lumber/Parts Stores	Coast-to-Coast Hardware	Southwest corner of Main and 13th Ave.	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Spills, leaks, or improper handling of hazardous chemical products and other materials in inventory during transportation, use, storage and disposal may impact the drinking water supply.	
12	UST - Confirmed Leaking Tanks - DEQ List	76 Gasoline Station (a.k.a. USA MiniMart)	Northeast corner of Main and 13th Ave. (1306 Main)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	
	UST - Upgraded/Registered - Active						Lower	Spills or improper handling during tank filling or product distribution may impact the drinking water supply.	
	Automobiles - Repair Shops						Moderate	Spills, leaks, or improper handling of automotive fluids, solvents, and repair materials during transportation, use, storage and disposal may impact the drinking water supply.	
	Automobiles - Gas Stations						Moderate	Spills, leaks, or improper handling of fuels and other materials during transportation, transfer, and storage may impact the drinking water supply.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

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**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

**PWS# 4100851 SWEET HOME, CITY OF**

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
13	Metal Plating/Finishing/Fabrication	General Heating and Sheet Metal	Southwest corner of N 13th Ave. and Nandina	Sweet Home	Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of solvents, metals, and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	Unknown operations - needs verification.
14	Dry Cleaners	Plaza Laundry and Dry Cleaner	NW Corner of 15th and Nandina (1440 Nandina)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Spills, leaks, or improper handling of dry cleaning solvents and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	
15	Medical/Vet Offices	Sweet Home Veterinary Clinic	Just west of Plaza Laundry (1430 Nandina)	Sweet Home	Field-Observation	Within sensitive area.	Lower	Spills, leaks, or improper handling of x-ray, biological, chemical, and radioactive wastes and other materials during transportation, use, storage and disposal may impact the drinking water supply.	
16	Parking Lots/Malls (> 50 Spaces)	Safeway Parking Lot	Northeast corner of 15th and Main	Sweet Home	Field-Observation	Within sensitive area.	Higher	Spills and leaks of automotive fluids in parking lots may impact the drinking water supply.	
17	Medical/Vet Offices	Dentist Office (Dr. Watts)	at junction of 15th and Nandina (next to Safeway)	Sweet Home	Field-Observation	Within sensitive area.	Lower	Spills, leaks, or improper handling of x-ray, biological, chemical, and radioactive wastes and other materials during transportation, use, storage and disposal may impact the drinking water supply.	
18	Pesticide/Fertilizer/Petroleum Storage, Handling, Mixing, & Cleaning Areas	Santiam Feed and Garden	Northwest corner of 13th Ave and Long Street (1244 Long Street)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Leaks, spills and improper handling of pesticides, fertilizers and petroleum products may impact drinking water source.	
19	Parking Lots/Malls (> 50 Spaces) Schools	Sweet Home High School	South side of n Long St., East of 15th Ave.	Sweet Home	Field-Observation	Within sensitive area.	Higher Moderate	Spills and leaks of automotive fluids in parking lots may impact the drinking water supply. Over-application or improper handling of cleaning products, pesticides or fertilizers used on the school grounds may impact drinking water. Vehicle maintenance wastes may contribute contaminants.	
20	Apartments and Condominiums	Cascade View Apartments	West of the High School	Sweet Home	Field-Observation	Within sensitive area.	Lower	Improper use, storage, and disposal of household and facility maintenance chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to water supply.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

PWS# 4100851 SWEET HOME, CITY OF									
Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
21	Parks	Park/High School Sports Fields	West and East of S. 18th Street, South of Kalmia	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Over-application or improper handling of pesticides/fertilizers may impact drinking water. Excessive irrigation may cause transport of contaminants through runoff. Heavy use along edge of waterbody may contribute to erosion, causing turbidity.	
22	Automobiles - Repair Shops	School District Bus Maintenance Facility	East side of S. 18th St., North of Grape and south of Kalmia	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Spills, leaks, or improper handling of automotive fluids, solvents, and repair materials during transportation, use, storage and disposal may impact the drinking water supply.	PWS should verify presence of repair shop.
	Fleet/Trucking/Bus Terminals						Moderate	Spills, leaks, or improper handling of fuels, grease, solvents, and other materials from vehicle service, fueling, and parking areas may impact the drinking water supply.	PWS should verify presence of repair shop.
	UST - Confirmed Leaking Tanks - DEQ List						Moderate	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	PWS should verify presence of repair shop.
23	Schools	Linn Benton Community College	East of 13th, North side of Long St.	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Over-application or improper handling of cleaning products, pesticides or fertilizers used on the school grounds may impact drinking water. Vehicle maintenance wastes may contribute contaminants.	
24	Wood/Pulp/Paper Processing and Mills	Willamette Industries Midway Veneer Division	East end of Green River Rd. (off Clark Mill Rd.)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of wood preservatives and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	
25	Homesteads - Rural - Septic Systems (< 1/acre)	Rural Residential/Farm Area	Clark Mill Road and Green Mill Road	Sweet Home	Field-Observation	Within sensitive area.	Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination.	
26	Homesteads - Rural - Machine Shops/Equipment Maintenance	Vehicle Maintenance/Storage	1332 Clark Mill Road /Northeast of the railroad crossing	Sweet Home	Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of solvents, fuels, and other materials or chemicals during transportation, use, storage and disposal may impact the drinking water supply.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

PWS# 4100851 SWEET HOME, CITY OF

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
27	Random Dump Sites	Random Dumpsite	Southwest of Clark Mill Road near railroad crossing	Sweet Home	Field-Observation	Within sensitive area.	Higher	Illegal trash and debris containing chemicals and hazardous materials may cause contamination to groundwater or surface water supply.	
28	Wastewater Treatment Plants/Collection Stations	Sweet Home Wastewater Treatment Plant	East of Pleasant Valley, South of River	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Improper management of wastewater, treatment chemicals, or equipment maintenance materials may impact drinking water supply.	
29	Housing - High Density (> 1 House/0.5 acres)	High-Density Residential Area	1000-10058 North River	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Improper use, storage, and disposal of household chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to drinking water supply.	
	Septic Systems - High Density (> 1 system/acre)						Moderate	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Cumulative effects of multiple systems in an area may impact drinking water supply.	
30	Homesteads - Rural - Septic Systems (< 1/acre)	Rural Residential Area	Northside	Sweet Home	Field-Observation	Within sensitive area.	Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination.	
31	UST - Confirmed Leaking Tanks - DEQ List	Sweet Home Post Office Leaking UST	SE Corner of 13th Ave and Long St.	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	
32	Homesteads - Rural - Septic Systems (< 1/acre)	Rural Residential Area	North of River along North 18th Lane	Sweet Home	Field-Observation	Within sensitive area.	Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination.	
33	Homesteads - Rural - Septic Systems (< 1/acre)	Rural Residential Area	Beauty view Lane	Sweet Home	Field-Observation	Within sensitive area.	Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

PWS# 4100851 SWEET HOME, CITY OF									
Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
34	Homesteads - Rural - Septic Systems (< 1/acre)	Rural Residential Area	Bennett Lane	Sweet Home	Field-Observation	Within sensitive area.	Lower	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Use of drain cleaners and dumping household hazardous wastes can result in groundwater contamination.	
35	Transportation - Stream Crossing - Perennial	Highway 20 Crossing Wiley Creek	West of 53rd and Highway 20	Sweet Home	Field-Observation	Within sensitive area.	Higher	Road building, maintenance & use may increase erosion & slope failure causing turbidity. Vehicle use increases the risk of leaks or spills of fuel & other chemicals. Over-application/improper handling of pesticides in right-of-way may also impact water.	
36	Transportation - Freeways/State Highways/Other Heavy Use Roads	Highway 20/Main Street	Runs east/west through Sweet Home and Foster	Sweet Home	Field-Observation	Within sensitive area.	Higher	Vehicle use increases the risk for leaks or spills of fuel & other haz. materials. Road building, maintenance & use can increase erosion/slope failure causing turbidity. Over-application or improper handling of pesticides/fertilizers may impact water.	
37	Wood/Pulp/Paper Processing and Mills	Clear Lumber Company	North end of 47th (4803 47th Ave.)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of wood preservatives and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	
38	Cemeteries - Pre-1945	Gilliland Cemetery	South of Highway 20/ South of Foster	Sweet Home	Field-Observation	Within sensitive area.	Lower	Embalming fluids (for example, arsenic) and decomposition by-products may impact drinking water supply.	
39	UST - Status Unknown	Langmack Airport	West of cemetery between Airport Road and Long Rd.	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Spills, leaks, or improper handling of stored materials may impact the drinking water supply.	
	Airport - Maintenance/Fueling Area						Moderate	Spills, leaks, or improper handling of fuels, de-icers, and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
PWS# 4100851 SWEET HOME, CITY OF									
40	Housing - High Density (> 1 House/0.5 acres)	Residential Development in Foster	Foster	Foster	Field-Observation	Within sensitive area.	Moderate	Improper use, storage, and disposal of household chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to drinking water supply.	
	Septic Systems - High Density (> 1 system/acre)						Moderate	If not properly sited, designed, installed, and maintained, septic systems can impact drinking water. Cumulative effects of multiple systems in an area may impact drinking water supply.	
41	Utility Stations - Maintenance Transformer Storage	US Army Corps of Engineers Facility	Highway 20 and 53rd Street (north side)	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of chemicals and other materials including PCBs during transportation, use, storage and disposal may impact the drinking water supply.	
42	Wood/Pulp/Paper Processing and Mills	Rainier Wood	Where the junction of 15th and Tamarack would be	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Higher	Spills, leaks, or improper handling of wood preservatives and other chemicals during transportation, use, storage and disposal may impact the drinking water supply.	
43	Housing - High Density (> 1 House/0.5 acres)	High-Density Housing on Tamarack	West of Rainier Wood	Sweet Home	Field-Observation	Within sensitive area.	Moderate	Improper use, storage, and disposal of household chemicals may impact the drinking water supply. Stormwater run-off or infiltration may carry contaminants to drinking water supply.	
44	Other Agriculture/Hatchery	South Santiam Hatchery	Downstream of Foster Dam, Northside of River	Foster	Database (2) Field-Observation	Within sensitive area.	Moderate	The impacts of this potential contaminant source will be addressed during the enhanced inventory.	
45	Upstream Reservoirs/Dams	Foster Dam including the powerhouse	Powerhouse is downstream of the dam on the south side of the river	Foster	Database (2) Field-Observation	Within sensitive area.	Moderate	During major storm events, reservoirs may contribute to prolonged turbidity for downstream intakes for drinking water. Construction, fluctuating water levels, and heavy waterside use can increase erosion and turbidity in reservoir/drinking water source.	PWS should verify regulatory database listings are for Foster Dam - several indicate facility name of "Green Peter/Foster Dam"
	Utility Stations - Maintenance Transformer Storage						Higher	Spills, leaks, or improper handling of chemicals and other materials including PCBs during transportation, use, storage and disposal may impact the drinking water supply.	PWS should verify regulatory database listings are for Foster Dam - several indicate facility name of "Green Peter/Foster Dam"

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

PWS# 4100851 SWEET HOME, CITY OF									
Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
46	UST - Confirmed Leaking Tanks - DEQ List	Franko Station #31 - a.k.a. Blue Chip Properties	1600 N. Main	Sweet Home	Database (2) Field-Observation	Within sensitive area.	Moderate	Existing contamination from spills, leaks, or improper handling of stored materials may impact the drinking water supply.	PCS location based on regulatory database search - needs verification.
47	River Recreation - Heavy Use (inc. campgrounds)	Cascadia State Park	Upstream of Foster Reservoir along South Santiam River	Sweet Home		Within sensitive area.	Moderate	Inadequate disposal of human wastes may contribute bacteria and nutrients to the drinking water supply. Heavy use may contribute to streambank erosion causing turbidity. Fuel spills and emissions may also contribute to contamination.	PWS should verify risks associated with this potential source.
48	River Recreation - Heavy Use (inc. campgrounds)	National Forest Service Campgrounds	Along South Santiam River	Sweet Home		Within sensitive area.	Moderate	Inadequate disposal of human wastes may contribute bacteria and nutrients to the drinking water supply. Heavy use may contribute to streambank erosion causing turbidity. Fuel spills and emissions may also contribute to contamination.	Includes Longbow, Trout Creek, Yukwah, Fernview, and House Rock campgrounds. Presence based on information provided by US Forest Service. PWS/community should verify location and level of risk during enhanced inventory.
49	River Recreation - Heavy Use (inc. campgrounds)	County Parks/Campgrounds	At Foster Reservoir and Green Peter Lake	Sweet Home		Within sensitive area.	Moderate	Inadequate disposal of human wastes may contribute bacteria and nutrients to the drinking water supply. Heavy use may contribute to streambank erosion causing turbidity. Fuel spills and emissions may also contribute to contamination.	Includes activities at Sunnyside County Park and Witcomb County Park. PWS should verify risks associated with these potential sources.
50	Managed Forest Land - Road Density (> 2 mi./sq. mi.)	High-density road areas	Adjacent to South Santiam and upstream of Foster Reservoir and Green Peter Lake	Sweet Home		Within sensitive area.	Higher	Road building, maintenance, and usage may contribute to erosion and slope failure causing turbidity in drinking water supply. Vehicle usage increases the risks of leaks or spills of petroleum products and other hazardous materials.	Presence based on information provided by US Forest Service. PWS/community should verify location and level of risk during enhanced inventory.

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).

**TABLE 2. INVENTORY RESULTS - LIST OF POTENTIAL CONTAMINANT SOURCES**

**PWS# 4100851 SWEET HOME, CITY OF**

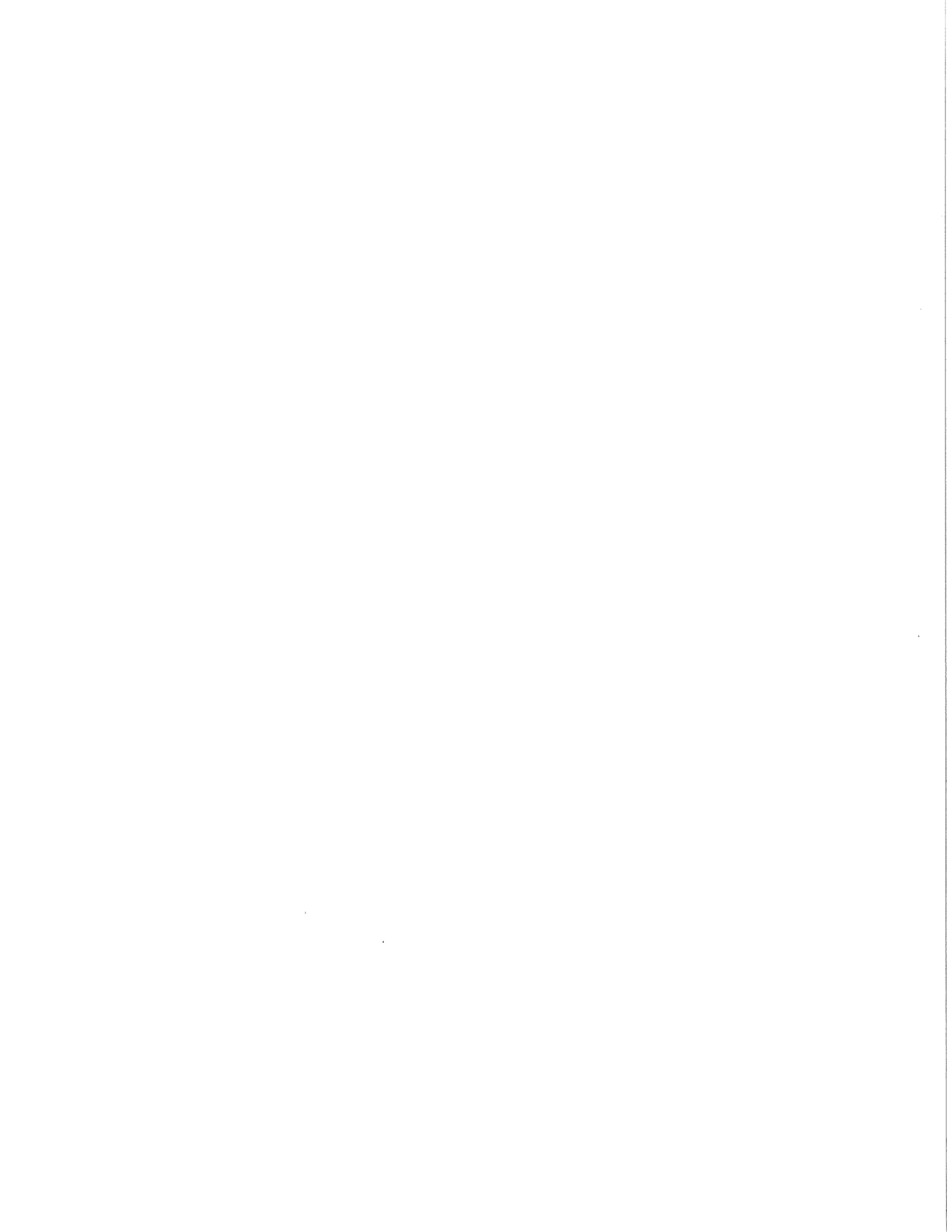
Reference No. (See Figure)	Potential Contaminant Source Type	Name	Approximate Location	City	Method for Listing	Proximity to Sensitive Areas	Relative Risk Level (2)	Potential Impacts	Comments
51	Managed Forest Land - Road Density (> 2 mi./sq. mi.)	High-density road areas	Adjacent to Wiley Creek and tributaries	Sweet Home		Within sensitive area.	Higher	Road building, maintenance, and usage may contribute to erosion and slope failure causing turbidity in drinking water supply. Vehicle usage increases the risks of leaks or spills of petroleum products and other hazardous materials.	Presence based on information provided by US Forest Service. PWS/community should verify location and level of risk during enhanced inventory.
52	Managed Forest Lands - Status Unknown	Multiple areas of forest harvest on private, state, and federal lands	through out DWPA	Sweet Home		Within sensitive area.	Higher	Cutting and yarding of trees may contribute to increased erosion, resulting in turbidity and chemical changes in drinking water supply. Over-application or improper handling of pesticides or fertilizers may impact drinking water source.	PWS/community should verify presence, location and level of risk during enhanced inventory.

Note: Sites and areas identified in this Table are only potential sources of contamination to the drinking water. Environmental contamination is not likely to occur when contaminants are used and managed properly.

(1) Where multiple potential contaminant sources exist at a site, the highest level of risk is used.

(2) See Table 3 for database listings (if necessary).





**TABLE 3. RESULTS OF REGULATORY DATABASE SEARCH**

**PWS# 4100851 SWEET HOME, CITY OF**

<b>Reference No. (1)</b>	<b>Name</b>	<b>Database Listings (2)</b>
1	Sweet Home Drinking Water Treatment Plant	<p>SFM - SODA ASH stored in BAG</p> <p>SFM - SODIUM SILICOFLUORIDE stored in BAG</p> <p>SFM - SUMALCHLOR 50 stored in TOTE BIN</p> <p>SFM - TACK stored in TANK WAGON</p> <p>UST list-PWS needs to verify tank permit status</p> <p>SFM - MOTOR OIL stored in STEEL DRUM</p>
7	Santiam Supply - Carquest Auto and Truck Parts	<p>SFM - DEGREASER stored in PLASTIC BOTTLES OR JUGS</p> <p>SFM - MOTOR OIL stored in PLASTIC BOTTLES OR JUGS</p> <p>SFM - AUTO REFINISHING PRODUCTS stored in CAN</p> <p>SFM - ANTIFREEZE stored in PLASTIC BOTTLES OR JUGS</p> <p>SFM - THINNER stored in STEEL DRUM</p>
12	76 Gasoline Station (a.k.a. USA MiniMart)	<p>LUST cleanup initiated on 11/16/98. PWS should verify cleanup progress.</p> <p>SFM - GASOLINE stored in UNDERGROUND TANK</p> <p>UST list with a status of 3 UST(s) upgraded and 0 not upgraded to DEQ 1998 technical standards.</p>
14	Plaza Laundry and Dry Cleaner	Drycleaners list: facility that is currently using solvents.
18	Santiam Feed and Garden	SFM - DOLOMITE LIME stored in BAG
22	School District Bus Maintenance Facility	UST list-PWS needs to verify tank permit status

Notes: (1) See Table 2 and Figure. (2) For State Fire Marshals (SFM) list, information on materials in a gaseous-form is not presented since gaseous compounds rarely pose a threat to groundwater or surface water.

### TABLE 3. RESULTS OF REGULATORY DATABASE SEARCH

PWS# 4100851 SWEET HOME, CITY OF

Reference No. (1)	Name	Database Listings (2)
22	School District Bus Maintenance Facility	LUST list with unknown status
24	Willamette Industries Midway Veneer Division	SIS list with a GEN12Z NPDES for stormwater from industrial activities.
28	Sweet Home Wastewater Treatment Plant	<p>SIS list with a GEN12CA NPDES permit for stormwater from government agencies responsible for construction that disturbs more 5 or more acres.</p> <p>SFM - CHLORINE stored in CYLINDER</p> <p>SIS list with a individual NPDES permit.</p> <p>SFM - WASTE BIO SOLIDS stored in OTHER</p> <p>SFM - SULFURIC ACID stored in GLASS BOTTLES OR JUGS</p> <p>SFM - QUICK LIME stored in SILO</p> <p>SFM - POLYMER-ACRYLAMIDE stored in STEEL DRUM</p> <p>SFM - LUBRICATING OIL stored in STEEL DRUM</p> <p>SFM - DIESEL FUEL stored in ABOVEGROUND TANK</p> <p>UST list-PWS needs to verify tank permit status</p>
31	Sweet Home Post Office Leaking UST	LUST list with unknown status
37	Clear Lumber Company	<p>ECSI site with suspected contamination.</p> <p>UST list-PWS needs to verify tank permit status</p>
39	Langmack Airport	UST list-PWS needs to verify tank permit status
41	US Army Corps of Engineers Facility	<p>SFM - THINNER stored in CAN</p> <p>SFM - DIESEL #2 stored in TANK INSIDE BUILDING</p> <p>SFM - LUBE OIL stored in TANK INSIDE BUILDING</p>

Notes: (1) See Table 2 and Figure. (2) For State Fire Marshals (SFM) list, information on materials in a gaseous-form is not presented since gaseous compounds rarely pose a threat to groundwater or surface water.

### TABLE 3. RESULTS OF REGULATORY DATABASE SEARCH

PWS# 4100851 SWEET HOME, CITY OF

Reference No. (1)	Name	Database Listings (2)
41	US Army Corps of Engineers Facility	<p>SFM - TRANSFORMER OIL stored in OTHER</p> <p>SFM - TURBINE OIL stored in TANK INSIDE BUILDING</p> <p>SFM - PAINT stored in CAN</p> <p>SFM - SOLVENTS stored in STEEL DRUM</p>
42	Rainier Wood	<p>SFM - MACHINE OIL stored in STEEL DRUM</p> <p>SFM - XB-90K5-GLUE stored in TOTE BIN</p> <p>SFM - WONDERBOND HARDENER M172-2 stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - WONDERBOND HARDENER M-188L stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - WD-1524A GLUE stored in TOTE BIN</p> <p>SFM - MOTOR OIL stored in STEEL DRUM</p> <p>SFM - KEROSENE stored in STEEL DRUM</p> <p>SFM - HYDRAULIC OIL 32 stored in STEEL DRUM</p> <p>SFM - DIESEL FUEL stored in ABOVEGROUND TANK</p> <p>SFM - AUTOMATIC TRANSMISSION FLUID stored in STEEL DRUM</p> <p>SFM - THINNER stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - CHEMCO 2909 stored in STEEL DRUM</p> <p>SFM - ATTACK RUST STRIPPER stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - C-101Y stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - C-237 stored in PLASTIC OR NON-METALLIC DRUM</p> <p>SFM - CHEMCO #3854 stored in STEEL DRUM</p>

Notes: (1) See Table 2 and Figure. (2) For State Fire Marshals (SFM) list, information on materials in a gaseous-form is not presented since gaseous compounds rarely pose a threat to groundwater or surface water.

### TABLE 3. RESULTS OF REGULATORY DATABASE SEARCH

PWS# 4100851 SWEET HOME, CITY OF

Reference No. (1)	Name	Database Listings (2)
42	Rainier Wood	SFM - CHEMCO 2109 stored in FIBER DRUM SFM - CHEMCO 2262 stored in STEEL DRUM SFM - CHEMCO 2407 stored in FIBER DRUM SFM - ANTIFREEZE stored in PLASTIC OR NON-METALLIC DRUM
44	South Santiam Hatchery	SIS list with a GEN03 NPDES permit for fish hatcheries.
45	Foster Dam including the powerhouse	SFM - SOLVENTS stored in STEEL DRUM  UST list-PWS needs to verify tank permit status SFM - TURBINE OIL stored in TANK INSIDE BUILDING SFM - TRANSFORMER OIL stored in OTHER SFM - THINNER stored in CAN SFM - PAINT stored in CAN SFM - LUBE OIL stored in TANK INSIDE BUILDING SFM - DIESEL #2 stored in TANK INSIDE BUILDING HWIMSY list as a conditionally exempt generator. LUST list with unknown status
46	Franko Station #31 - a.k.a. Blue Chip Properties	UST list-PWS needs to verify tank permit status  LUST list with unknown status

Notes: (1) See Table 2 and Figure. (2) For State Fire Marshals (SFM) list, information on materials in a gaseous-form is not presented since gaseous compounds rarely pose a threat to groundwater or surface water.

# **Attachment**

Source Water Assessment Report  
City of Sweet Home  
PWS # 4100851

**Attachment A. Source Water Assessment Summary Brochure**



# **SOURCE WATER ASSESSMENT SUMMARY BROCHURE**

## **CITY OF SWEET HOME - PWS # 4100851**

### **WHAT IS A SOURCE WATER ASSESSMENT?**

The Source Water Assessment was recently completed by the Department of Environmental Quality (DEQ) and the Oregon Health Division (OHD) to identify the surface areas (and/or subsurface areas) that supply water to Sweet Home's public water system intake and to inventory the potential contaminant sources that may impact the water supply.

### **WHY WAS IT COMPLETED?**

The Source Water Assessment was completed to provide information so that Sweet Home's public water system staff/operator, consumers, and community citizens can begin developing strategies to protect the source of their drinking water, and to minimize future public expenditures for drinking water treatment. The assessment was prepared under the requirements and guidelines of the Federal Safe Drinking Water Act (SDWA).

### **WHAT AREAS ARE INCLUDED IN SWEET HOME'S PROTECTION AREA?**

The drinking water for Sweet Home is supplied by an intake on the South Santiam River. This public water system serves approximately 7,235 citizens. The geographic area providing water to Sweet Home's intake (the drinking water protection area) extends upstream approximately 31.6 miles in an easterly direction and encompasses a total area of 563 square miles. The drinking water protection area includes the Hamilton Creek/South Santiam River, Quartzville Creek, Middle Santiam River, South Santiam River, South Santiam/Foster Reservoir, and Wiley Creek Watersheds of the South Santiam Sub-Basin of the Willamette Basin. The boundaries of the Drinking Water Protection Area are illustrated on the figure attached to this summary. Drinking water intakes for the City of Lebanon and City of Albany are also located within the South Santiam Sub-Basin, downstream of Sweet Home's intake. Activities and impacts in the Sweet Home drinking water protection area have the potential to also impact downstream users.

### **WHAT ARE THE POTENTIAL SOURCES OF CONTAMINATION TO SWEET HOME'S PUBLIC DRINKING WATER SUPPLY?**

The primary intent of this inventory was to identify and locate significant potential contaminant sources (PCSs) to the drinking water supply. The upper portion of the

delineated drinking water protection area is primarily dominated by managed forest lands while the lower portions are primarily dominated by residential, commercial and agricultural land uses in the vicinity of Sweet Home and Foster. Because of the large size of the drinking water protection area and DEQ's limited resources, the inventory was limited to the lower portion of the watershed with limited review of US Forest Service maps conducted for areas above Foster Dam and along Wiley Creek. The high to moderate risk PCSs identified include automotive and equipment service/repair stations, dry cleaners, hardware/parts stores, wood processing facilities, parking lots, the municipal treatment plants, parks/sports fields, the airport, several underground storage tanks, high-density residential areas, managed forest lands, recreation areas, the dams and powerhouse operations, and the transportation corridors. This provides a quick look at the existing potential sources of contamination that could, if improperly managed or released, impact the water quality in the watershed.

### **WHAT ARE THE RISKS FOR OUR SYSTEM?**

A total of 52 potential contaminant sources were identified Sweet Home's drinking water protection area. All of these are located in the "sensitive areas" and 40 are high- to moderate-risk sources within "sensitive areas". The sensitive areas within the Sweet Home drinking water protection area include areas with high soil permeability, high soil erosion potential, high runoff potential and areas within 1000' from the river/streams. The sensitive areas are those where the PCSs, if present, have a greater potential to impact the water supply. The information in this assessment provides a basis for prioritizing areas in and around our community that are most vulnerable to potential impacts and can be used by the Sweet Home community to develop a voluntary Drinking Water Protection Plan.

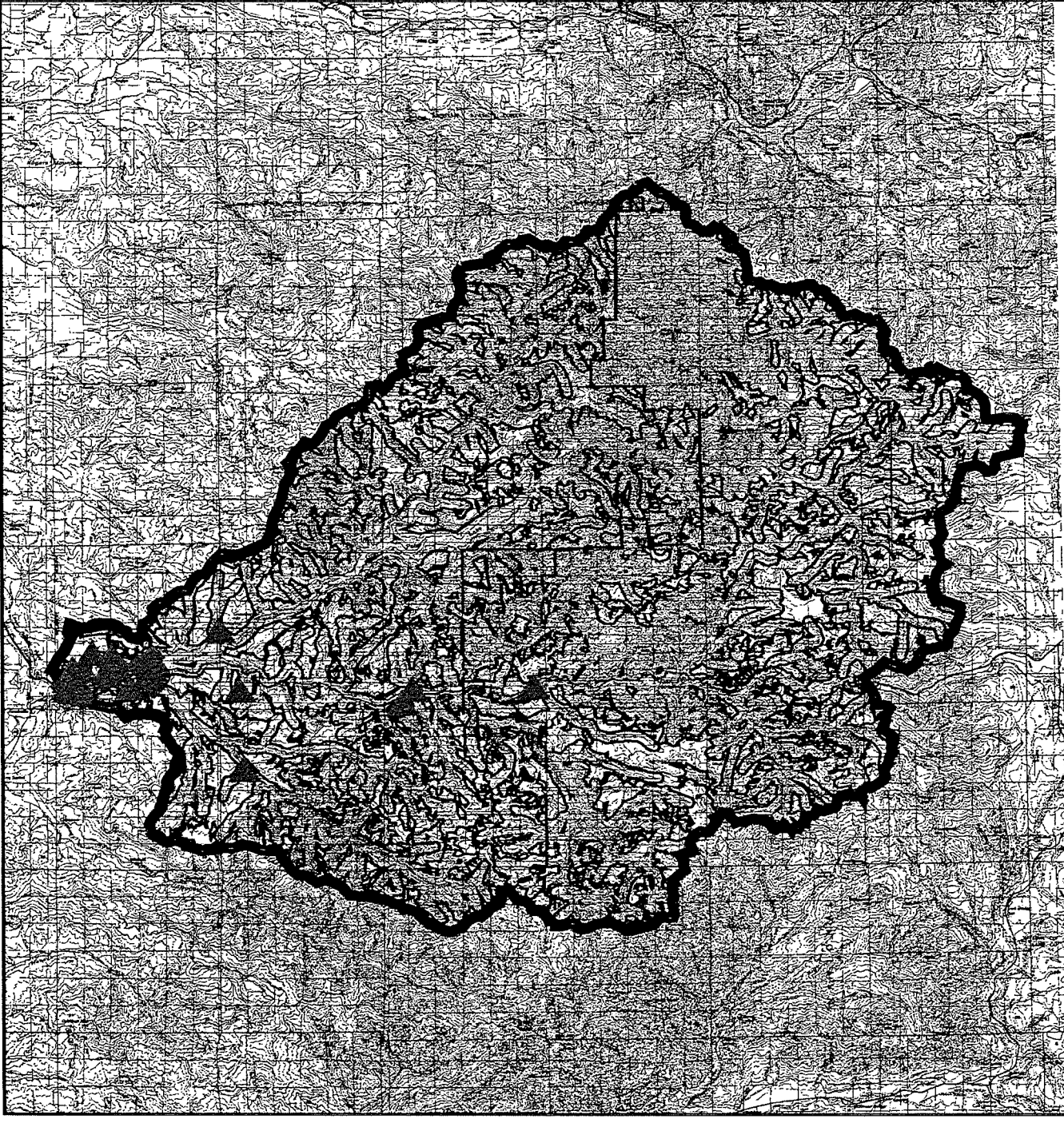
### **NEED MORE INFORMATION?**

Sweet Home's Source Water Assessment Report provides additional details on the methodology and results of this assessment. The full report is available for review at:

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


Contact the City Public Works staff if you would like additional information on Sweet Home's Source Water Assessment results.





**Source Water Assessment Results**


**City of Sweet Home's Drinking Water Protection Area with Sensitive Areas and Potential Contamination Sources  
PWS 4100851**

-  Drinking Water Protection Area
-  Drinking Water Intake - Surface Water
-  Sensitive Areas
-  Area Feature (see Note 2)
-  Point Feature (see Note 2)


**Notes on Potential Contaminant Sources**

**Note 1:** Sites and areas noted in this Figure are potential sources of contamination to the drinking water identified by Oregon drinking water protection staff. Environmental contamination is not likely to occur when contaminants are used and managed properly.

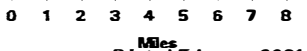
**Note 2:** Feature identification markers correspond to the potential contaminant source numbers in the SWA Report. The area features represent the approximate area where the land use or activity occurs and is marked at the point closest to the intake. The point features represent the approximate point where the land use or activity occurs.



State of Oregon  
Department of  
Environmental  
Quality



0 10  
Kilometers



0 1 2 3 4 5 6 7 8  
Miles

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