6. Contaminant Source Inventory

6.1. Introduction

The objective of the Contaminant Source Inventory (CSI) is to gather, inventory, and assess the potential contaminant sources that may pose a threat to the drinking water supply. The sources identified herein consist of past and present activities which control and/or use materials that are likely to harm groundwater quality. Potential contaminant sites were identified throughout the Rathdrum Prairie/Spokane Aquifer system including the proposed wellhead protection areas. Each site listed was risk ranked.

The CSI, a combination of the risk ranked potential contaminant threats and WHPA information, will be used to assist in the development of groundwater monitoring plans, notify owners/operators of known and potential sources of groundwater contamination of their location within a WHPA, and to develop long-term management strategies of these sources to reduce the threat to the drinking water supply.

6.1.1. Background

The SAJB's water supply well fields are located in areas that are heavily residential, industrial, and agricultural, and close to business and transportation corridors, which makes them vulnerable to contamination from a variety of sources. A spill or contamination release within the capture zone of an SAJB well could cause contaminants to enter the potable water supply. As development in the Spokane area continues, additional threats to the quality of the drinking water supply are introduced.

In many areas above the Spokane Aquifer, the only protection of groundwater from a spill is a relatively thin layer of permeable sand and gravel that creates an unsaturated zone above the aquifer's water table. Contaminants released at or near the surface can rapidly migrate downward through this unsaturated zone and eventually impact the groundwater and, potentially, the drinking water supply. Contamination transported through permeable sand and gravel, or by recharge, originates from many sources, including surface spills, use of agricultural chemicals, leaking underground storage tanks, landfills, septic system effluents, and dry wells. Transportation routes, such as railways, high pressure petroleum pipelines, and highways lie directly over the aquifer and thus present an additional hazard to groundwater quality.

Contamination has occurred in the aquifer. As a result of an undetermined and unknown source of carbon-tetrachloride in the section of the aquifer that underlies the Mead area of Spokane, an SAJB member was forced to close two potable water production wells, ration water for five years, search for a new source, drill a well, install a pump station, and put in a pipeline that would connect the new well with the rest of the system. This was accomplished over a five year period at the cost of $750,000.

6.1.2. Contaminant Transport

Certain liquid and solid (in suspension) contaminants behave differently than groundwater. For example, petroleum fuels released in sufficient quantities tend to float on the groundwater as a separate, distinct layer. Other liquids that are denser than water (for example, some industrial or dry-cleaning solvents, creosote oil, or polychlorinated biphenyls [PCBs]) will sink through the aquifer until they encounter a relatively low-permeability layer. The movement of these kinds of contaminants can occur independent of groundwater flow and may require special consideration if they are suspected to be present.

The following information is provided to briefly explain why chemical fate and transport are difficult to estimate. It is currently not required or recommended that this program evaluate chemical transport, or include the evaluation in the risk assessment process.

Contaminants in groundwater generally fall into two major groups: miscible and immiscible contaminants. Miscible, or soluble, contaminants include inorganic contaminants such as heavy metals, chloride, or nitrate as well as highly soluble organic compounds such as acetone and benzene. Immiscible, or hydrophobic, contaminants include a variety of organic contaminants, such as chlorinated solvents, PCBs, and polynuclear aromatic hydrocarbons. Despite their classification as immiscible contaminants, some of these compounds have solubilities in the range of more than 1,000 parts per million (ppm), which for a compound like trichloroethene (a chlorinated solvent) exceeds the EPA's drinking water maximum contaminant level (MCL) by several orders of magnitude. Consequently, a contaminant classified as immiscible may still dissolve in water to a degree that could render the water undrinkable.

Immiscible contaminants can be further divided into two major groups: those with a density less than water (approximately 1,000 grams per liter) and those with a density greater than water. When released in sufficient quantities, light immiscible contaminants such as petroleum fuels tend to float on the water table, where they spread on the surface and migrate laterally with the hydraulic gradient or along highly permeable pathways such as a gravel-filled utility trench. Conversely, dense contaminants such as some solvents and PCBs tend to sink through the aquifer and "pond" on the low-permeability aquifer base. These "pools" of dense contaminants can move in response to the slope of the aquifer base or in response to gradients within the dense contaminant pool caused by pumping from the pool. Groundwater movement over a dense contaminant pool has little effect on the movement of the pool. A major threat posed by immiscible contaminants in the subsurface is that as relatively immobile sources of dissolved contaminants, they can contaminate large quantities of groundwater unless they are physically or hydraulically contained.

Dissolved contaminants (both miscible and immiscible) generally migrate in the direction of groundwater flow. Depending on aquifer heterogeneities and temporal or spatial variability in groundwater flow directions, dissolved contaminant plumes spread laterally to varying degrees along the predominant flow path. Reactions such as adsorption, precipitation, biotransformation, hydrolysis, and volatilization can cause concentrations of dissolved contaminants to decrease with increased distance from the source area and can slow the rate of contaminant movement

relative to the ambient groundwater flow rate. Retardation factors for dissolved contaminant migration (the rate of groundwater movement divided by the rate of contaminant movement) range from less than five for mobile organic contaminants such as benzene to over 1,000 for relatively immobile contaminants such as PCBs or lead. Conservative (non-reactive) ions such as chloride and nitrate, by comparison, are generally considered to migrate at about the same rate as groundwater.

6.2. Sources of Information

The land uses above the Spokane Aquifer include light to heavy industrial, commercial, residential, and agricultural. In order to gather data about these diverse land uses, several sources of information were used. The database of information collected by Spokane County's Water Quality Management Program and the Spokane County Health Department (circa 1992) was used as baseline information. This information has been supplemented and updated using current regulatory agencies' surveys and databases. The information sources utilized to assembly this database are:

- Spokane County's Water Quality Management Program database
- US Environmental Protection Agency tracking systems
- Washington State Department of Ecology tracking systems and surveys
- Washington State Department of Agriculture pesticide licensing systems
- City of Spokane Solid Waste Management survey
- City of Spokane Fire Department inventory
- Historical maps and newspapers
- Local Water Purveyors survey

6.2.1. Spokane County's Water Quality Management Program

The Critical Materials Users (CMU) database was obtained in electronic format from the Spokane County Water Quality Management Program (WQMP). Spokane County acquired a Department of Revenue (DOR) database in 1992 and used it as the basis to develop the CMU. The original DOR database contained approximately 5,000 records of business owners in the Spokane area.

Later, the Spokane County Health District compiled a similar, but independent, database. The Health District's information was very similar to the CMU but its format was somewhat less useful for the purposes of this project. The CMU database included an owner's name, address and Standard Industrial Classification code (SIC) designator (provided by the owner for business license application). As the most comprehensive list of potential threats, it was therefore chosen as the basis for the CSI.

6.2.2. Environmental Protection Agency (EPA)

The Environmental Protection Agency (EPA) has several database inventory systems that track regulated businesses and activities. These electronic databases contain information about the activities regulated under a specific program or act. For example, the CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System)

database tracks Superfund program activities that are regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

The Facility Index System (FINDS) is the exception. It is a comprehensive master inventory system that lists all facilities and activities that are monitored or regulated by the EPA.

EPA electronic database files for Region 10 (Alaska, Idaho, Oregon, and Washington) were obtained in the Spring and Summer of 1997. The information was parsed, using zip codes, to reflect only pertinent local data. All original Spokane County EPA database information used in this survey is included in Appendix P.

6.2.2.1. Facility Index System (FINDS)

FINDS is a central inventory of facilities regulated or monitored by the different programs within the EPA. The system functions as a repository for facilities monitored by EPA, and as an integrator for facilities monitored by more than one EPA program office. Within the FINDS reporting system, multiple subset programs are listed. The following is a list of the FINDS system, Region 10 program codes and a short description of each program:

RCRIS The Resource Conservation and Recovery Information System tracks entities regulated under RCRA Subtitle C for their compliance when handling, storing, treating and disposing of hazardous waste.

PCS Permit Compliance System tracks facilities regulated under the National Pollution Discharge Elimination System (NPDES).

SSTS Section Seven Tracking System is compiled by the Office of Pesticides, and tracks pesticides handling storage and use.

NCDB National Compliance Database is compiled by the Office of Pesticides, and tracks pesticide regulation compliance.

CRCLIS The Comprehensive Environmental Response, Compensation and Liability Information System tracks site and non-site specific Superfund data on hazardous waste site assessments and remediations.

DOCKET The DOCKET is compiled by the Office of Enforcement and Compliance Assurance - Enforcement Docket System. This system tracks enforcement of legal cases by the EPA against specific sites.

FFIS Federal Facilities Information System tracks federal facilities' compliance to EPA's environmental regulations.

TRIS The Toxic Release Inventory System tracks information about releases and transfers of more than 300 toxic chemicals and compounds, plus treatment and source-reduction data. The medium of release could be air, water, underground injection, land disposal and off-site releases.

PADS PCB Activity Data System monitors sites that use or store PCB.

AFS AIRS Facility System tracks air pollution point sources. Facilities on the FINDS list with this classification only were deleted from the CSI.

6.2.2.2. Resource Conservation and Recovery Information System (RCRIS)

Under Resource Conservation and Recovery Act (RCRA) or RCRA program the EPA regulates generators and transporters of hazardous waste. The RCRLIS database lists these generators. Typically, these facilities generate more than 220 pounds or accumulate and store more than 2,200 pounds of hazardous waste at any time. Information regarding RCRLIS reporters is the basis for the State of Washington's Hazardous Waste and Toxic Reduction Program and the Emergency Planning and Community Right-to-Know Act (EPCRA) Program.

6.2.2.3. Corrective Action Database

The RCRA Corrective Action Database gives the status of all RCRA facilities engaged in the corrective action program as of November 1996. The database has been organized into 13 worksheets; the whole country sorted by region and alphabetically by company name; then sorted into individual worksheets corresponding to EPA regions, sorted by state, then by company name.

6.2.2.4. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

CERCLIS listings, maintained by the EPA, are used to track activities conducted under the Superfund program. Sites on this list have either reported a spill or have a significant potential for releasing hazardous substances into the environment. Currently, the inventory includes the following two categories of sites:

- Sites that may potentially be hazardous and require preliminary investigation
- Final and proposed National Priorities List (NPL) sites

The EPA investigates NPL sites to determine whether long-term threats to public health or the environment may be present. Sites on the CERCLIS list are given a preliminary assessment (PA) to determine whether the site warrants further Superfund investigation. Preliminary information gathering is usually completed within one year of the site being listed. Based on this information, the EPA takes the following actions:

- Perform no further action under the EPA's Superfund program.
- Perform a sampling site investigation by collecting data for further evaluation and possible nomination to the NPL.
- Perform an emergency or time-critical removal or short-term cleanup.

Any site judged to have "No Further Remedial Action Planned" (NFRAP) is removed from the CERCLIS listing.

6.2.2.5. National Priorities List (NPL)

Hazardous waste sites that have been determined to be contaminated and are also identified for possible long-term response are on the EPA's National Priorities List (NPL). These sites are either managed by the State under MTCA requirements, managed by EPA under CERCLA requirements, managed by both (co-lead), or under a Federal Facilities Tri-party Agreement.

6.2.2.6. Emergency Planning and Community Right to Know Act (EPCRA)

The Emergency Planning and Community Right to Know Act (EPCRA) utilizes a combination of lists to deliver information about chemicals quantities used, spills, and sites for Spokane. These *List of Lists* represent the 1996 version of the Title III (SARA III and Clean Air Amendments) consolidated list. This list includes chemicals regulated under CERCLA (see above), and hazardous wastes regulated under RCRA (see above). Tracking systems used by the EPCRA are:

6.2.2.6.1. Hazardous Site Listing

The EPCRA's Hazardous Site Listing is a combination of the RCRA and CERCLA sites.

6.2.2.6.2. Toxic Chemical Release Reporting

The Toxic Chemical Release Reporting system is utilized by EPCRA Section 313. Facilities are covered by Section 313 and must report on the hazardous chemicals used by the facility if:

- The facility is in the manufacturing Standard Industrial Classification (SIC) code of 20 through 39;
- There are 10 or more full-time employees (or the equivalent in hours worked) at the facility; and
- The facility manufactured (included imported) or processed a toxic chemical in excess of 25,000 pounds during the calendar year or used in some other way a toxic chemical in excess of 10,000 pounds during the calendar year.

EPA has developed a list of more than 580 chemicals and chemical categories subject to the reporting requirements of Section 313.

Section 313 of EPCRA requires that covered facilities submit an annual report for each listed toxic chemical that meets reporting criteria. The report is submitted on Form R to the EPA and the state emergency response commission on or before July 1.

6.2.2.6.3. Hazardous Chemical Inventory

The Hazardous Chemical Inventory is a tracking system utilized by EPCRA Section 312. Facilities are covered by Section 312 and must report on the hazardous chemicals present at a site if:

- The business is subject to the Federal Hazard Communication Standard established by the Occupational Safety and Health Administration (OSHA), and there is a hazardous chemical on-site in excess of a specific threshold level. Hazardous chemicals are not identified on any one list. They are defined under the Hazard Communication Standard as any chemical which is a physical or health hazard.
- The threshold level for reporting these stored chemicals is on-site at any one time during the calendar year.
- The threshold planning quantity (TPQ) or five hundred pounds, whichever is less, for extremely hazardous substances (EHS). These substances are listed in the regulation and on the EPCRA List of Lists.

Under Section 312, and Emergency and Hazardous Chemical Inventory Form (known as a Tier Two Form) must be submitted annually for each hazardous chemical that was present at the facility at any time during the previous calendar in excess of its threshold.

6.2.3. Washington State Department Of Ecology (ECOLOGY)

The Washington State Department of Ecology (ECOLOGY) publishes quarterly information on six environmental contamination types: groundwater, surface water, air, soil, sediments, and drinking water. The Confirmed and Suspected Contaminated Sites Report and the Hazardous Sites List identify sites within the State of Washington that pose a threat to groundwater. ECOLOGY makes an initial investigation within 90 days of becoming aware of a potentially contaminated site.

6.2.3.1. Confirmed and Suspected Contaminated Sites Report (CS&CSR)

This list is compiled by ECOLOGY and represents all Confirmed and Suspected Contaminated Sites (C&SCS). All sites on this list have been investigated and determined to require further action. Site owners and operators may or may not agree with ECOLOGY's determination.

6.2.3.2. Hazardous Sites List

ECOLOGY's hazardous site register is published quarterly. Sites on this list have undergone a preliminary study, which provides the basic information about a site. The site is then ranked using the Washington Ranking Method (WARM). WARM estimates the potential threat to human health and is used to prioritize funding for clean-up. This list is a subset of the C&SCS above.

6.2.3.3. Underground Storage Tanks (UST) and Leaking Underground Storage Tanks (LUST)

Both the UST and the LUST listing are compiled by ECOLOGY. The UST lists all known underground storage tanks. Tanks listed on the UST do not appear on the LUST list, and are not known to be a source of contamination. The LUST list represents all known leaking underground storage tanks. Typically these tanks store gasoline, oil, solvents and similar materials and do pose a threat to groundwater. Both the LUST and the UST lists were obtained electronically from ECOLOGY's Web Site in 1997.

6.2.3.4. Shopsweep Survey

During the summer of 1996, the Washington State Department of Ecology (ECOLOGY) did a person to business interview aimed at automotive type shops. The goal of these interviews was to convince the automobile repair/paint/oil change/etc. shops in Spokane to recycle waste materials and to voluntarily comply with local regulations. An ECOLOGY interviewer visited each shop multiple times, inspecting and advising shop owners on reporting, recycling and compliance. The results of this survey were obtained in both electronic and hard copy from ECOLOGY.

6.2.3.5. Snapshot Survey

During the fall of 1996, ECOLOGY set up the same type of interview as the SHOPSWEEP interview, but this project focused on photographers and printers in Spokane. Electronic files and hard copy files were obtained from ECOLOGY.

6.2.4. County of Spokane Solid Waste Management Drycleaner Survey

During the summer of 1995, interviewers from the Spokane Solid Waste Management Department visited each Dry cleaner in Spokane. The survey information notes solvents used, quantity, disposal methods, record keeping and regulatory compliance. This information was obtained in hard copy from Solid Waste Management and was converted to electronic form.

6.2.5. Washington State Department of Agriculture (WSDA)

The Pesticide Management Division of WSDA tests and licenses pesticides applicators, researchers and dealers, and regulates pesticide storage, use and sale.

6.2.5.1. Agencies

WSDA agency applicators are defined as a person, while acting as an employee of a governmental agency, applies restricted use pesticides by any means or any pesticide by power equipment on public or private property. Public (Agency) operators may act as public consultants.

6.2.5.2. Commercial Applicators

WSDA commercial applicators are defined as a person employed by a WSDA-licensed commercial applicator to apply pesticides to the land of another. This land can either be publicly or privately owned. Prior to license issuance, a Financial Responsibility Insurance Certificate (FRIC) must be filed with WSDA by the insuring company.

6.2.5.3. Private Applicators

WSDA private applicators are defined as a person who applies or supervises the application of a "Restricted Use" pesticide on land owned or rented by him or his employer for the purpose of producing an agricultural commodity.

6.2.6. City of Spokane Fire Department Hazardous Materials List

The City of Spokane Fire Department maintains information on hazardous materials, based on SARA Title III (Superfund Amendments and Reauthorization Act) records. The database provided by the City was dated June 1995. The City staff uses the name Cameo (Computer Aided Management of Emergency Operations) to identify the database. It was compiled by the local Fire Department with the help of CAMEO software developed by the EPA and National Oceanic and Atmospheric Administration (NOAA). This list describes the types and locations of chemicals and hazardous materials of concern to fire departments and other emergency responders. A portion of the database includes the quantity of stored material also. This reporting mechanism is essentially the SARA Title III Tier II report. The CAMEO listing was obtained electronically through the City of Spokane.

6.2.7. Local Water Purveyors Survey

In the fall of 1997, local water purveyors were presented with a listing of possible contaminant sources in their areas. The purveyors were asked to review their list, and to note business that had changed their names, were out of business, had moved, and to list any new businesses.

6.2.8. Historical Data

Historical data is useful in identifying sites that are not known or are not of concern to regulatory agencies. Many of these sites may still pose a contaminant threat. As an example, previous business sites or vacant property could contain buried drums of liquids that will eventually leak. Historical references; such as, the Sandborn Insurance Company's and Milesker maps, along with old newspaper articles, were discovered in the Spokane Library. These historical materials document activities of prior businesses in the Spokane area. Aerial photographs for the 1970's and 1980's were also reviewed to identify sites and activities not found in other sources of information.

6.2.8.1. Sandborn Insurance Maps

The Sandborn maps were created between the late 1800's to 1952 and clearly detail (by street and number) businesses such as gas stations, metal working companies, dry cleaners, stockyards, logging ponds, and residential areas. Copies of the 1952 maps were obtained from the Northwest Room of the Spokane Library. Information from these copies was transferred to an electronic database, and a hardcopy appears in Appendix P of this report. Sandborne maps prior to 1952 were reviewed.

6.2.8.2. Milesker Maps

Copies of the 1952 Milesker maps for Newman, Otis, the Valley and the Northside of Spokane were obtained from the Spokane Library. An electronic database was created from these copies. Milesker maps from 1917 to 1952 for the same areas were reviewed, but showed no significant facilities that were not noted on the 1952 maps.

6.2.8.3. Local Newspaper Articles

Local newspapers articles on industrial growth from the years 1894 to 1961 were reviewed in the Northwest Room of the Spokane Library. Relevant articles were copied and an electronic database was prepared.

6.2.8.4. Additional Historical Points

During the purveyors survey, some businesses were found to have moved or were no longer at the noted location. These businesses were moved to a historical listing by placing an "H" in front of the file code. This allows the information about the activities performed by this business to be used for future research, if needed. Sites moved from the active listing have an H in front of their original file code.

6.3. Potential Contaminant Sites Within Proposed Wellhead Protection Areas

A brief summary about each water district's area is on the following pages. Figure 6-1 and Table 6-2 list the potential contamination sites for each SAJB member's well fields. These figures show risk assessment codes, as defined in Section 5, Table 5-1, source information, facility/owner name, facility/owner address, city, state and zip code. Figure 6-21a (at the end of this section) graphically depicts all of the proposed wellhead protection areas and color coded current potential contaminant sources for SAJB member wells/well-fields.

Figure 6-21b graphically depicts those same proposed WHPAs with color coded historical potential contaminant sources for the same well fields.

6.3.1. Carnhope Irrigation District No. 7

This purveyor operates a single well-field. Its wellhead protection area crosses the major business development area around Sprague Avenue, then dips into heavily residential areas.

6.3.2. Consolidated Irrigation District No. 19

Consolidated Irrigation District No. 19 operates eleven well/well fields, the majority of which are located in the eastern section of the Spokane Aquifer, and its wellhead protection areas lie beneath farmland. Consolidated's wells that lie south of the Spokane River have wellhead protection areas that pass through residential areas, cross business area streets, and Interstate Highway I-90.

6.3.3. East Spokane Water District No. 1

Four of East Spokane Water District's wells have relatively short wellhead protection areas that occasionally experience increases in pollutants due to runoff. Wells number 8 and 9 have wellhead protection areas that cross a major business section on Sprague Avenue, then dips into a heavily residential area.

6.3.4. Hutchinson Irrigation District No. 16

Hutchinson Irrigation District operates a single well-field. Its wellhead protection area is long and slender and moves through old residential areas, crosses Sullivan Road into new business/industrial areas and then crosses the Spokane River. The area ends in the farm lands of Consolidated Irrigation's water district.

6.3.5. Irvin Water District No. 6

Irvin Water District's four well/well-fields are located west and north of the Pines Road Knoll. Well #1's wellhead protection area moves south around the knoll and ends just east of the river. The other three areas move north, cross the river, the Yellowstone pipeline and Trent Avenue.

6.3.6. Kaiser - Mead

Kaiser Mead operates two well/well-fields in the northern section of the aquifer. The wellhead protection areas move south across the Chevron pipeline, through the City of Spokane, making an eastward turn at the Spokane River. At that point the areas fan out beneath an industrial area, crossing under both Trent Avenue and Interstate Highway I-90, ending near Argonne Road.

6.3.7. Kaiser - Trentwood

Kaiser - Trentwood operates a single well-field in the eastern section of the aquifer. Its wellhead protection area crosses under Sullivan Road and through farm lands to the Idaho border.

6.3.8. Liberty Lake Sewer/Water District

Liberty Lake Sewer/Water District operates five well/well-fields in the southeastern section of the aquifer that lies just north of Liberty Lake. The wellhead protection areas for all of these well/well-fields lie under a newly developing area. None cross under major transportation corridors.

6.3.9. Town of Millwood

The Town of Millwood operates three wells, all of which are located between the Spokane River and Trent Avenue, just east of Argonne Road. The wellhead protection areas for all of these wells cross under Trent Avenue, the Yellowstone pipeline, move southward around Pines Road Knoll. With the exception of Butler's wellhead area, they cross and re-cross under Interstate Highway I-90, ending just east of the Spokane River.

6.3.10. Moab Irrigation District No. 20

Moab Irrigation District is located just below the Newman Lake Ditch area, close to the Idaho border in the north east section of the aquifer. At present there are no perceived threats to Moab's wellhead protection area, but the area does pass under Trent Avenue and railway tracks.

6.3.11. Model Irrigation District No. 18

Model Irrigation District operates five well/well-fields in the central section of the aquifer. The wells are located east of Dishman-Mica Road and the Chester Creek area. The wellhead protection areas for all of these wells curve northward under residential and newly developing residential areas.

6.3.12. Modern Electric Water Company

Modern Electric Water Company operates nine wells in the central section of the aquifer, south of Interstate Highway I-90 between Argonne and Pines Road. Most of the wellhead protection areas lie under heavily residential areas and business corridors. The areas for wells #6, 8, 5, and 1 appear to pass under Interstate Highway I-90, ending just past the Spokane River.

6.3.13. North Spokane Irrigation District No. 8

North Spokane Irrigation District operates two well/well-fields in the northern section of the aquifer. The wellhead protection areas move south across the Chevron pipeline, through the City of Spokane, making an eastward turn at the Spokane River. At that point the areas fan out beneath an industrial area, expand northward, crossing the river, and in the southward direction passes under both Trent Avenue and Interstate Highway I-90, ending near Pines Road.

6.3.14. Orchard Avenue Irrigation District No. 6

Orchard Avenue Irrigation District operates two wells in the north central section of the aquifer. They are located just north of Trent Avenue between Park and Vista. The wellhead protection areas for both wells curve southward around Pines Road Knoll, while passing under Trent Avenue, the Yellowstone Pipeline and Interstate Highway I-90.

6.3.15. Pasadena Park Irrigation District No. 17

Pasadena Park Irrigation District operates 5 well/well-fields in the area north of the Town of Millwood and north of the Spokane River. The wellhead protection areas for four of these wells curve south crossing under the Spokane River, and the Yellowstone pipeline, then turn northward, again crossing the river and ending near Sullivan Road. Well #2's area curves southward around Pines Road Knoll, crossing Trent Avenue, the Yellowstone pipeline and the Spokane River.

6.3.16. Spokane County Water District No. 3

Spokane County Water District No. 3 operates a total of twelve well/well-fields, five in the northern section of the aquifer, and seven in the central section of the aquifer .

The Pineriver Park well lies outside the aquifer's northern boundary just south of the Little Spokane River. Its wellhead protection area crosses the Little Spokane. The Cherry's and the Farwell-Freya's wellhead protection areas move southward along the north eastern boundary of the aquifer through lightly residential areas. Helena's wellhead protection area moves southward across the Chevron pipeline and into the City's limits. The Steer Inn and Lyons and Normandie wellhead protection areas join just inside the City's limits, and continue through heavy residential and business areas, crossing the river, then ending near Park Avenue beyond the eastern City Limits.

Four of the wells in the central section of the aquifer, the Knox, Freeway &Vista, Boone & Lilly, and the Koren, have wellhead areas that cross Interstate Highway I-90, moving through both residential and business areas. The 20th & Balfour, Brown's Park, and the Vercler's wellhead protection areas curve northward around Shelly Lake, continuing to just east of Hartford Road.

6.3.17. Trentwood Irrigation District No. 3

Trentwood irrigation District operates four wells in the area above Trent Avenue between McDonald and Sullivan Roads. The wellhead protection areas for these wells follow Trent Avenue ending just beyond Harvard Road.

6.3.18. Vera Water & Power

Vera Water & Power operates seven well/well-fields in the south central part of the aquifer between Evergreen and Sullivan Roads. The wellhead protection areas for these wells move from a highly residential area into newly developing residential and business areas. They cross under Interstate Highway I-90, and the Spokane River.

6.3.19. Whitworth Water District No. 2

Whitworth Water District operates eleven well/well-fields in the north section of the aquifer. Six of the wellhead protection areas move southward across the Chevron pipeline, and into the City's limits. Well #4's area curves around Five Mile Prairie ending near Whitworth Drive in a residential area. The Rivilla wellhead area lies at a northern edge of the aquifer. Wells #8A1, 8A1, and 8B are just outside of the northern part of the aquifer above the Little Spokane River. This area is lightly residential.

6.4. Notification of Business/Facilities within SWPAs

The SAJB chose to work with the City of Spokane during the public notification and public involvement tasks of the wellhead protection process. Because proposed wellhead protection areas overlap between municipalities and water districts, many facilities would have received multiple notifications. Thus, working together, and sharing the CSI database, assured that only one notification would be sent to each address. A formal letter of notification was approved by both the SAJB and the City of Spokane. The first notification was mailed on March 23rd 1988. The complete notification process is covered in the management planning section of this report.

6.5. Recommendations

In order to reflect changes in land use and newly permitted activities, DOH requires that information gathered from a CSI needs to be updated regularly. The SAJB will need to monitor and track changes, and devise efficient methods to keep the potential CSI inventory current. For this purpose, a system to obtain basic data from regulating agencies should be initiated.

6.6. Future Well Siting Locations

Future well siting locations for SAJB members appear in the management planning section of this report.

Table 6-1: Current Potential Contaminant Sources

Table 6-2: Historical Potential Contaminant Sources