

# 2013-2018

Source Water Protection  
Plan for the  
City of Dover  
PWS 1090193



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**\*REVIEW AND UPDATE ANNUALLY\***

<b>Date Reviewed</b>	<b>Reviewed By</b>	<b>Comments (Attach Additional Document as Needed)</b>
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## EXECUTIVE SUMMARY

Ground water and surface water, life-sustaining resources for the world's population, are increasingly under threat of contamination. Regardless of how "pristine" or remote a community's drinking water source may be, the only way to ensure good water quality and its adequate quantity for future generations is to implement measures now to protect this valuable resource.

The Safe Drinking Water Act Amendments of 1996 require each state to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality (DEQ) assessed the drinking water for the City of Dover and provided the findings in a report, Source Water Assessment Summary Report: City of Dover PWS ID1090193 (DEQ, 2013a). This assessment delineates the area from which Dover draws its water, identifies the potential contaminants within that area, and determines how susceptible it is to become contaminated. This susceptibility is based on 1) construction of the well, spring or surface water intake; 2) land use characteristics above the aquifer and potentially significant contaminant sources; and 3) hydrologic and geologic conditions surrounding the well, spring or surface water intake.

The City of Dover has utilized the information provided in the water system's Source Water Assessment to develop and implement a variety of non-regulatory protection measures and activities designed to help educate the public on the need to protect the land area within Dover's assessed drinking water source.

The City of Dover's drinking water system employs a single surface water intake on the Pend Oreille River near its exit from Lake Pend Oreille for its drinking water supply. The drinking water system serves approximately 230 people through 177 active water connections. This document identifies the water system's protection efforts and sets a schedule for implementing these measures over the next five (5) years. The City of Dover intends to keep its source water protection plan (SWPP) updated and certified by the State of Idaho. This protection plan includes the following:

- A description of Dover's drinking water system;
- The development of a community planning teams and its duties;
- Source water area delineation of surface water intake using analytical methodology;
- Inventory and priority ranking of point and nonpoint contaminant sources within the assessed source water area;
- An implementation schedule for Dover's source water protection measures and activities; and
- A contingency plan that will provide guidance and direction, should a drinking water emergency arise.

One aspect of such a project cannot be stressed enough, that of implementation and follow-through. Regardless of how thoughtful and far-reaching protection measures may be, implementation and follow-through are critical to achieving success. Community drinking water

systems throughout the state must be diligent in their protection efforts in order to meet the growing demands of population growth, encroachment due to community development, and the added threats of contamination. Because the City of Dover employs a surface water system to service its customers, the most important steps that the city will take to help protect the area upstream from the surface water intake on Pend Oreille River include the following:

1. Look into the feasibility of erecting security fencing around the pump control vault to reduce the threat of vandalism. Funding for fencing is a consideration and the project is currently under discussion with the Dover city council.
2. Work in cooperation with the Bonner Soil and Water Conservation District to develop a Lake\*A\*Syst (L\*A\*S) program designed to address protection needs of land bordering the river to reduce risks of surface water run off that can result in added turbidity and contamination from pesticides and fertilizer use. Ensure the L\*A\*S publication is distributed to residents with homes along the river within the city's utility service boundaries and at Dover's City Hall.
3. Participate in promoting public awareness and education of watersheds and their contributing role in ground water and surface water protection. Multiple state and federal agencies and other entities are involved in the decisions of land use and management within the Lake Pend Oreille watershed, which can directly affect Dover's source water. Coordinate with federal, state or local agency or commission whose land use decisions may result in an increased risk to the quality of surface waters on Lake Pend Oreille and the Pend Oreille River. Risks to consider may include but are not limited to the following:
  - Private, state and federal land timber harvesting and mineral extraction (IOCs, VOCs, sediments)
  - Urban development and pollutants associated with storm water runoff and transportation corridors (IOCs, SOCs, VOCs, sediments)
  - Recreational activities that might affect surface water quality including water sports (VOCs), recreational roads (VOCs, sediments), and fueling stations located near or adjacent to the Pend Oreille River (VOCs, SOCs)
  - Agricultural activities (IOCs, SOCs, VOCs, microbials and sediments)
  - Private waste systems (microbes)
  - Pet waste (microbials)
4. Develop and provide public awareness and education materials to the system's water users, any local neighborhood associations, neighboring developments, and local businesses. This may include but is not limited to information relating to the following:
  - Source water protection and how watersheds contribute to the welfare and livelihood of the City of Dover and neighboring communities
  - Proper use and disposal of household hazardous waste (HHW) and landscape and gardening fertilizers and pesticides

- Reducing/preventing pollution from pet waste using educational materials
- Best management practices for construction/development along river shorelines
- Prevention of accidental backflow or cross connection occurrences
- Water conservation.

This source water protection plan is a “living document”. It should be reviewed and updated on a regular basis (annually) to reflect what protection measures have been achieved and what will be accomplished in the future.

## **ACKNOWLEDGEMENTS**

We extend our gratitude to the drinking water system employees who are the “front line” professionals that play a vital role in all aspects of the drinking water utility. Their efforts and expertise in source water protection is tremendously valuable and critical to success.

Special thanks also to the DEQ and Idaho Rural Water Association for providing the necessary information, and for their assistance in the certification of this Plan. The Idaho Rural Water Association and DEQ are dedicated to assist all community public water systems throughout Idaho through public awareness and education, training, and technical assistance.

**“When the well’s dry, they know the worth of water.”**

**-- Thomas Fuller, 1732**

**"I have little need to remind you that water has become one of our major national concerns."**

**-- Ezra Taft Benson, U.S. Secretary of Agriculture, 1955**

**“A nation that fails to plan intelligently for the development and protection of its precious waters will be condemned to wither because of its shortsightedness. The hard lessons of history are clear, written on the deserted sands and ruins of once proud civilizations.”**

**-- Lyndon B. Johnson**

# 1 INTRODUCTION

Source water protection<sup>1</sup> is a voluntary program implemented at the local level. The City of Dover, located in Bonner County, Idaho, has developed this Source Water Protection Plan (SWPP) to identify and outline steps the City can take to help prevent contamination of the Pend Oreille River, the city's sole source of drinking water. Because the City of Dover uses surface water for its drinking water supply, protection of this resource is critical to the health and welfare of the community. Source water protection measures directed toward increasing the level of education and knowledge of both recreationist and the public visiting Lake Pend Oreille, the Pend Oreille River and the Idaho Panhandle National Forest, will help protect this resource from potential contamination.

Many materials such as pesticides, fertilizers, organic chemicals, and human and animal wastes can contaminate ground water and surface water. The degree of contamination depends on many factors including soil characteristics, the volume of contaminant and its properties, climate and ground water or surface water flow. Once ground water or surface water becomes contaminated, it is often difficult and expensive to remediate. A community public water system with a contaminated source water supply will probably be required to do additional monitoring and may need to install water treatment equipment, or find a new source of drinking water. The most cost-effective approach is to prevent contamination before it occurs, rather than attempting to remedy contamination problems after they have occurred.

## 1.1 Drinking Water System

The City of Dover in Bonner County, Idaho, is located approximately three miles west of the city of Sandpoint via State Highway 200. Dover is located along the north bank of the Pend Oreille River at the outlet of Lake Pend Oreille. Incorporated in 1989 to facilitate upgrades to its water and wastewater systems, the City of Dover installed its current water system in 1991. The water system's sole source of drinking water is a surface water intake on the Pend Oreille River. This community public water system (PWS) serves approximately 230 persons through 177 metered service connections (2015).

The raw water intake is located about 1900 linear feet from the shoreline. Raw water is transported to the control vault and then to the system's water treatment plant. Water treatment is achieved by slow sand filtration and hypochlorination (chlorine injection). Treated water is collected in two clearwells and then transported to two storage reservoirs. The older reservoir, with a storage capacity of 76,340 gallons, provides drinking water to customers using gravity flow. A newer 45,000-gallon storage reservoir serves the Cedar Ridge development. The development consists of 25 lots that range in size from 3.5- to 5-acres and is located at a higher elevation than the rest of the city, so booster pumps are required to pump water to the reservoir and from there, to residents.

Dover has two current water rights to divert 1.57 cubic feet per second (equivalent to about 705 gallons per minute) for municipal uses per calendar year. These water rights (96-8592; 96-9336)

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<sup>1</sup> The term "Source Water Protection" is the same as Wellhead Protection for ground water sources of drinking water and Drinking Water Protection for ground water and surface water sources. The term "Source Water Protection" will be used throughout this Plan and is synonymous with Drinking Water/Wellhead Protection.

are on file with the Idaho Department of Water Resources (IDWR) and available for review on-line at <http://www.idwr.idaho.gov> under the IDWR Water Right and Adjudication Search tab.

## 2 SOURCE WATER PROTECTION STEPS

The City of Dover and current members of the city’s governing council have prepared this source water protection plan in accordance with guidance from the Idaho Department of Environmental Quality (DEQ, 2000), and included the following steps:

- Step 1: Formed a community planning team
- Step 2: Delineated the source water area (land area to be protected)
- Step 3: Identified sources of contamination (point and nonpoint)
- Step 4: Managed the source water area through implementation of regulatory and/or non-regulatory measures (management plan for source water protection measures and activities)
- Step 5: Prepared for the future through the development of a contingency plan that will provide guidance and direction, should a drinking water emergency arise

This source water protection plan (SWPP) was developed in 2012-2014 with technical assistance from the Idaho Rural Water Association and the Idaho Department of Environmental Quality.

## 3 COMMUNITY PLANNING TEAM

The first step in the development of a protection plan consists of forming a planning team. The system’s planning team includes the following individuals listed in Table 1. Although not all of those listed in Table 1 are currently involved with finalizing and implementing this protection plan, they are mentioned because of their efforts in developing the plan.

Table 1. Planning Team

City of Dover	
<b>Diane Brockway</b>	<b>Current Planning Team Coordinator</b> , City Council member
Rhonda Whittaker	Dover City Clerk
William Cleveland	Administrator, City of Priest River
Molly McCahon	Bonner Soil and Water Conservation District Lake*A*Syst Program
Peggy Burge	Previous Planning Team Coordinator; City Council member
Hal Overland	Licensed Drinking Water Utility Operator of record
Randy Curless	City Mayor

Technical assistance was provided by:

- Melinda Harper      Source Water Protection Specialist, IRWA
- Yvonne Pettit      DEQ Regional Office, Coeur d’Alene
- Amy Williams      DEQ State Office, Boise

### 3.1 Duties of the Planning Team

During the initial phase of protection plan development Peggy Burge was selected to be the team coordinator, serving from 2012-2014 as Dover successfully completed several public outreach efforts that reached a broad audience. In 2014, Diane Brockway assumed the position as planning team coordinator. As such, she has the responsibilities for:

- Planning and coordinating future team meetings
- Coordinating and ensuring that the protection measures and activities identified in this document are implemented

Diane Brockway will be the lead contact for any outside references to this Plan. The water systems operator of record will be the designated contact in case of a water system emergency. The DEQ and the IRWA will continue to provide support and technical assistance to the planning team, as needed. The planning team will:

- Hold meetings every year to review the implementation progress of source water protection measures and review and update the city's contingency plan. Meeting dates may coincide with city council meetings and will be announced, posted, or otherwise advertised in accordance with the laws and regulations that govern public meeting requirements in Idaho.
- Update the contaminant source inventory annually, adding any new point or nonpoint sources of contamination identified in the delineated source water area (Appendix A)
- Evaluate and *prioritize* new and proposed contaminant sources within the delineated source water area for their risk to the water system
- Coordinate implementation of the source water protection measures identified in the Management Plan (Table 3)
- Use informational materials to implement public education and outreach activities in accordance with the management plan. Examples can be found on IRWA's website at <http://www.idahoruralwater.com/Pages/PublicEducation.aspx>.
- Coordinate with the Bonner Soil and Water Conservation District, Idaho Panhandle National Forest (Sandpoint Ranger District), United States Army Corps of Engineers (Corps) and/or the Bonner County Planning and Zoning to promote best management practices (BMPs) designed to protect the Pend Oreille River from which Dover obtains its drinking water

## 4 SOURCE WATER PROTECTION AREA DELINEATION

The second step in the development of a source water protection plan requires delineating the source water area from which the City of Dover's surface water intake draws on the Pend Oreille River. The delineation process, completed in the source water assessment, establishes the physical area around a well, spring, or surface water intake from which ground water or surface water is drawn.

The 1996 amendments to the Safe Drinking Water Act require the state to assess every public water supply. In response to these requirements, DEQ developed the *Idaho Source Water Assessment Plan* (DEQ, 1999) that describes the major components of, and procedures for, conducting source water assessments. The first step of the source water assessment is to delineate the source water assessment area, or the area that contributes water to the drinking

water source. The *Source Water Assessment Plan* describes different approaches used to delineate surface water sources.

For the City of Dover, the buffer zone approach was used. As the intake for Dover is on the Pend Oreille River near its exit on Lake Pend Oreille, both the Pend Oreille River and Lake Pend Oreille were included in the delineation. The delineation includes the area extends 25 miles upstream from the intake on the Pend Oreille River or to the 4-hour stream flow time of travel (TOT) boundary, whichever was greater. The 4-hour stream flow is calculated based on a 10-year flood event. The delineation extends upstream from the intake and includes Lake Pend Oreille, and continues up its tributaries for the remainder of the 25-mile boundary. The area includes a 500 foot buffer parallel from each side of the river or stream bank for a total width of 1000 feet plus the width of the river, and 500 feet from the shoreline around the circumference of the lake (DEQ, 1999). The delineation maps the physical area that is the focus of protection efforts for the City of Dover.

Appendix A provides the source water delineation for Dover's surface water intake. The water system's Source Water Assessment Final Report (DEQ, 2000b) provides a detailed description of the delineated source water area and is available at DEQ's website, <http://www.deq.idaho.gov/water-quality/source-water/assessments.aspx>.

## **5 IDENTIFYING SOURCES OF GROUND WATER AND SURFACE WATER CONTAMINATION**

Identifying potential sources of contamination requires performing an inventory of contaminant sources within the assessed source water area. As part of the process, a two-phased potential contaminant source inventory of the delineated area was conducted. The first phase involved identifying and documenting contaminant sources within the source water area (Figure 1) using computer databases and Geographic Information System (GIS) maps developed by DEQ. The second, or *enhanced* phase of the contaminant source inventory, involved requesting the licensed water operator to validate the contaminants identified in the first phase and to identify any additional contaminant sources in the source water area. The planning team used an updated PCI completed by DEQ on March 2013 (DEQ, 2014), which served as the primary inventory, then with the assistance of Hal Overland, completed the enhanced inventory by touring the area to search for and identify contaminants not identified previously. A complete list of contaminant sources are included in Appendix A.

The planning team has accomplished an additional step by *prioritizing and ranking* identified potential contaminant sources as to their known or perceived threat to the river that supplies the surface water intake and serves as a public drinking water source. This priority ranking is also included in Appendix A.

It is important to understand that a release may never occur from a listed source, particularly if the facility is using best management practices (BMPs) designed to reduce contamination risks. If a business, facility or property is identified as a potential contaminant source, this should not be interpreted to mean that they are in violation of any local, state, or federal environmental law or regulation. What it does mean is that the *potential* for contamination exists due to the nature of the business, industry, or operation.

## 5.1 Point Sources

Point sources of contamination occur at *distinct locations*. Point sources are facilities and/or activities that store, use, or produce potential contaminants regulated under the Safe Drinking Water Act. These sites are regulated and require permits or registration to sell, use or store those materials

Point sources of pollutants that could potentially affect the Pend Oreille River water quality include:

National Pollution Discharge Elimination Sites (NPDES); Resource Conservation and Recovery Act (RCRA) sites; underground fuel storage tanks (USTs); small businesses; mines; animal keeping practices; irrigated and dry land agriculture; on-site sewage disposal systems, storm water runoff; forest practices; land development; landfills; and gravel extraction (Bonner County, 2003). Multiple wastewater treatment plants existing upriver from Dover use Lake Pend Oreille as a discharge point.

Most of the potential contaminant sources within Dover's delineated source water area are located in or around the city of Sandpoint. The delineation and listing of potential contaminant sources is provided in Appendix A.

## 5.2 Nonpoint Sources

Nonpoint sources of contamination often occur over large areas and can result from normal every day activities such as agricultural activities or lawn chemical usage. There must be a *potential* for a release of those contaminants at a high enough level that could affect drinking water quality.

Land use within the immediate and surrounding area of Dover's surface water intake include urban residential housing and bayside commercial establishments. Several nonpoint sources of pollution upriver from Dover's surface water intake on the Pend Oreille River were identified, including rivers, streams, creeks and bays that either contribute to or are located on Lake Pend Oreille. Such sites can contribute high levels of sediments during runoff events, increasing turbidity levels within the lake. Bays on Lake Pend Oreille are sites where people moor boats and where fuel is transferred to vessels from fuel dispensing stations. Depending upon the location, fuel spills and other illegal discharges have the opportunity to reach Dover's surface water intake relatively quickly.

Of particular concern for Dover's water system is turbidity that occurs when the level of water in Lake Pend Oreille changes due to the release of water from the Albeni Falls dam located west of Dover. Dover uses its slow sand filter to remove turbidity in raw water prior to treatment and distribution. High turbidity levels may require the addition of more chemicals, longer filtration times and at the worst, boil orders when turbidity levels are too high to treat effectively.

Except within the confines of Dover's city limits, land use decisions within virtually all of the source water area are outside Dover's jurisdiction. Therefore, collaboration and partnerships with state and local agencies and industry groups are critical to success. Educating water system employees and the public about source water protection will further assist the system in its monitoring and protection efforts.

Due to the short time involved with the movement of surface water, activities geared to protecting the Pend Oreille River intake and the surrounding area should be aimed at long-term management strategies. To this end, it is vital that Dover and the water system remain committed to providing opportunities for public awareness and education, be it through:

- notices included in the monthly water bill
- public service announcements (PSAs) and opportunities to provide additional information on radio station local programming
- coordinating with Bonner Soil and Water Conservation District to implement a Lake\*A\*Syst program to help protect the Pend Oreille River intake and educate homeowners on riverfront properties
- community events where literature pertaining to source water protection is on hand
- participating in meetings with the Bonner County Planning and Zoning as it begins to develop a county-wide public awareness and education program on best management practices that county residents can voluntarily undertake to protect ground water, surface water, and their land

Source water protection activities directed toward recreational enthusiasts should be coordinated with the Idaho Panhandle National Forest district office in Sandpoint and the U.S Army Corps of Engineers in Oldtown, Idaho. The Corps' website is <http://corpslakes.usace.army.mil/>. Other agencies that may be contacted for contributing information and perhaps provide assistance include the Idaho Soil and Water Conservation Commission (ISWC), Idaho Department of Lands (IDL), USDA-Farm Service Agency (FSA), the Natural Resources Conservation Service (NRCS), the DEQ, and the Idaho Rural Water Association (IRWA).

While development of a source water protection plan is a voluntary action in Idaho, state law requires that drinking water systems keep current with IDAPA 58.01.08 regulations and requirements. Therefore, Dover's water system must correct any deficiencies and maintain requirements as outlined in Sanitary Surveys. DEQ performed its most recent sanitary survey in 2012. Other for one deficiency still being worked on, all other deficiencies have been addressed and corrected. DEQ provides the opportunity for water systems to respond in writing within 45 days of their sanitary survey, stipulating how the deficiencies outlined in its sanitary survey are to be (or have been) corrected and the date (or estimated date) of completion. Upon correction of the outstanding deficiencies, notification would then be sent to the DEQ regional office, informing the agency of what was corrected, and when. There should be no application or storage of herbicides, pesticides, or other chemicals within 200 feet of the surface water intake.

Due to the numerous private land owners and state and federal agencies whose land use activities may affect the lake's water quality, activities geared to protecting the surround area should be aimed at long-term management strategies. To this end, it is vital that the City of Dover, its administration, and water system personnel remain committed to providing opportunities for public awareness and education, be it through:

- Notices included in the monthly water bill
- Literature available at Dover City Hall and city council meetings
- Community events where literature may be made available
- Literature provided at neighboring commercial businesses

## **6 MANAGEMENT PLAN FOR SOURCE WATER PROTECTION MEASURES AND ACTIVITIES**

The fourth step in the development of a protection plan requires developing a management plan and time or implementation schedule for source water protection measures and activities. The strategy for implementing a protection plan is an important component of any source water protection program. Without the continued efforts and support of the planning team and the community as a whole, the protection of the watershed and river that provides the only drinking water source for Dover and the water users it serves may not be accomplished as intended within this Plan.

In creating a sustainable source water protection program, the City of Dover's planning team identified measures and activities designed to help protect the water system's surface water intake by addressing the potential contaminant sources identified in the source water assessment. This management plan describes protection measures and activities over a five-year period.

### **6.1 Lake Assist Program**

The Bonner Soil and Water Conservation District (Bonner SCD) administers the Lake Assist Program. Originally termed Lake\*A\*Syst (L\*A\*S), this program was initially created to manage nonpoint source pollution entering Lake Pend Oreille. Lake Assist provides resources to Bonner County residents on land use regulations and voluntary pollution prevention techniques. The Lake Assist Program also has materials and resources that apply to rivers, streams and ground water.

A two-year outreach campaign was developed under a grant provided by the Idaho DEQ to Bonner Soil and Water Conservation District's Lake\*A\*Syst (LAS) program. This included a landowner's guidebook outlining best management practices (BMPs) for source water protection. Guidebooks were hand delivered to over 161 homeowners, business and renters residing near the water, providing an opportunity to speak directly to the public. The LAS guidebooks, along with brochures related to source water protection are provided with each new building permit, placed in rental units, and are available to the public at Dover City Hall, for visitor education. Local radio announcements were created and played during the highest tourist months for a two-years period. Signage stating "Drinking Water Protection Area" was posted along State Highway 2 and at the local marina. Six "Doggie Do" stations are located in the City's waterfront park, which is a heavily populated dog park/walking area.

### **6.2 Voluntary Best Management Practices for Protecting Source Water**

Best Management Practices (BMPs) are practices or combinations of practices that ultimately prevent or reduce the risk of contamination to ground water and surface water. Although often associated with agricultural activities, BMPs can apply to any activity that has the potential to impact ground water or surface water. Information on voluntary BMPs that ranchers, farmers and urban homeowners can take to help protect streams and creeks on their property should be made available to those that are interested. If necessary, BMPs can be required through regulations that may further define what a BMP is and how it is to be applied. Appendix B provides examples of voluntary tools and BMPs developed to protect source water.

Prior to finalizing a schedule directed toward helping protect Pend Oreille River and Dover’s surface water intake, the City of Dover completed several protection measures and activities in 2012 and 2013. These measures and activities are listed in Table 2.

Table 2. Completed protection measures and activities during 2012-2013.

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
<b>2012-2013</b>					
Submit funding proposal to DEQ for Lake Assist project	March, 2012	Randy Curless and City Administration	All sources	<ul style="list-style-type: none"> <li>•Submit funding application thru DEQ website</li> </ul>	No
Coordinate with the Bonner SCD to develop Dover Lake Assist Program	March, 2013	Peggy Burge and planning team members, Molly McCahon Jace Bylenga	All sources	<ul style="list-style-type: none"> <li>•Meet with Bonner SCD, IRWA personnel to identify Dover’s protection needs</li> </ul>	Yes
Coordinate with Bonner SCD, City of Priest River for airing of PSAs over local radio station. Use other tools available to inform residents.	April 2013	Jace Bylenga Peggy Burge William Cleveland	All sources	<ul style="list-style-type: none"> <li>•Develop webpage (Jace)</li> <li>•Obtain and erect protection signs (Peggy)</li> <li>•Local radio spots (Jace, Doug)</li> </ul>	Yes
Develop draft of pet waste brochure to make available for dog owners. Finalize pet waste brochure and have copies on hand at City Hall and include in “Newcomers Packet”.	June 2013	Peggy Burge Jace Bylenga Molly McCahon	Microbial, storm water runoff, sediment	<ul style="list-style-type: none"> <li>•Have brochure developed by IRWA</li> <li>•Decide upon best place(s) for literature display</li> <li>•Provide pdf file for Bonner SCD website</li> </ul>	Yes

In 2014, the City of Dover established a planning team to review the city’s source water assessment for its surface water intake, rank the list of point and nonpoint potential contaminant sources, and develop a management plan designed to help protect its source of water. In creating a sustainable source water protection program, the water system’s planning team identified measures and activities designed to help protect the Pend Oreille River by addressing the potential contaminant sources identified in the SWA. These measures are listed in Table 3 and describe protection measures and activities over a five-year period (2014-2018).

Table 3. Protection measures and activities for 2014-2018.

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
<b>Year 1 2014</b>					
Post source water protection information and links to materials for city residents on city web site when official site is established	By the 4 <sup>th</sup> calendar quarter of 2014	Diane Brockway and designated personnel	All Sources	<ul style="list-style-type: none"> <li>•Establish links to:                             <ul style="list-style-type: none"> <li>-Lake Assist literature</li> <li>-Source Water Protection Plan</li> <li>-2013 Annual Water Quality Report</li> </ul> </li> </ul>	Yes
Public Service Announcements on local radio station	June 2014	Diane Brockway	All Sources	<ul style="list-style-type: none"> <li>•Coordinate with Molly McCahon to air four (4) messages</li> </ul>	Yes
Display literature at Dover City Hall	July 2014	Diane Brockway and designee	All Sources	<ul style="list-style-type: none"> <li>•Inventory of all brochures</li> <li>•Literature displayed at entrance to City Hall building</li> </ul>	Yes
Include Lake*A*Syst booklet and source water brochure in “New Building Permit packet” (Appendix B)	July 2014, ongoing	Diane Brockway and City Clerk	All Sources	<ul style="list-style-type: none"> <li>•Include a copy of Lake*A*Syst booklet and all SWP brochures in “New Building Permit packet”</li> </ul>	Yes
Repair riparian buffer established between Dover City Hall and Dover City Beach to protect area downstream from Dover	July 25, 2014	Molly McCahon	All sources, sediment, microbes	<ul style="list-style-type: none"> <li>•Weed whack, hand weed and mulch area. Local residents participated in project.</li> </ul>	Yes
Develop and implement new water rate structure, based on “Pay to Use” methodology that will encourage water conservation	Sept 2014	Bill Strand, President, Dover City Council	Water Conservation	<ul style="list-style-type: none"> <li>•Develop and propose structure, bring to a public hearing</li> </ul>	Yes
Stabilize hillside around storage facility and provide security for storage facilities	Aug/Sept 2014	Bill Strand, President, Dover City Council	Enhanced security, asset protection	<ul style="list-style-type: none"> <li>•Obtain cost estimates, submit to and seek City Council approval</li> </ul>	Yes

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
		<b>Year 1 2014</b>			
Add security monitoring around water treatment facility	May 2014	Bill Strand, President, Dover City Council	Enhanced security, asset protection	<ul style="list-style-type: none"> <li>•Obtain cost estimates, submit to City Council for approval of a 24/7 security service</li> </ul>	Yes
“Doggie Do” Project (*Note: Dover does not issue dog licenses)	Summer 2014	Diane Brockway and City Clerk	Microbial	<ul style="list-style-type: none"> <li>•Identified six (6) “Doggie Do” stations in Dover Bay area</li> <li>•Worked with Dover Bay Resort to establish restocking display areas on resort property</li> <li>•City restocks Dog Park station</li> <li>•Dover Bay Resort put additional signage throughout the resort reminding dog owners of their responsibility</li> <li>•Additional doggie bags put by public restrooms, entrance to City Park</li> <li>•Provided Dover Bay Resort with “Doggie Do” brochures to place in rental bungalows</li> </ul>	Yes
City Water Ordinance 131 (Water Conservation)	Passed June 4, 2014	Bill Strand, President, City Council City Council	Water Conservation	<ul style="list-style-type: none"> <li>•Ordinance developed.</li> <li>•Held workshops, public city</li> </ul>	Yes

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
<b>Year 1 2014</b>					
				council meetings, performed revisions and legal review, held public hearings	
Aquatic Noxious Weed Eradication	April 24, 2014	Diane Brockway	Noxious weed eradication	<ul style="list-style-type: none"> <li>•Tom Wolff addressed City Council, held meeting with Dover Bay developer to “mark” Flowering Rush; pulling of weeds completed by developer team</li> </ul>	Yes
Aquatic Noxious Weed Update	June 2014	Diane Brockway	Increase level of awareness, understanding of homeowners	<ul style="list-style-type: none"> <li>•Arranged guest speaker for Dover Bay HOA on subject. Much interested was generated for fall Flowering Rush eradication.</li> </ul>	Yes
Aquatic Noxious Weed Removal	August 2014 Oct 2014	Diane Brockway Molly McCahon	Increase level of awareness, understanding of homeowners	<ul style="list-style-type: none"> <li>•Notified Dover Bay residents of scheduled eradication project for end of October 2014</li> </ul>	Yes
Establish Septic System Maintenance Program	July 2014, ongoing	Dover City Clerk	Microbial	<ul style="list-style-type: none"> <li>•Identified all septic systems in Dover, set up revolving schedule with 10 septic systems reviewed per month</li> </ul>	Yes
Participate in local community meetings on lake issues – Lakes Commission, Waterkeepers, etc., monitoring for increase risks to surface water quality	Ongoing	Diane Brockway	All sources	<ul style="list-style-type: none"> <li>•Attend meetings, communicate information to city council and community, as appropriate</li> </ul>	Yes

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
<b>Year 2 2015</b>					
Maintain city website, updates and links to information on SWPP	Ongoing	Diane Brockway and designee	All Sources	<ul style="list-style-type: none"> <li>•Ensure links to appropriate sites for SWPP information, post meeting dates, documents and reports</li> </ul>	Yes
Participate in local community meetings on lake issues – Lakes Commission, Waterkeepers, etc., monitoring for increase risks to surface water quality	Ongoing	Diane Brockway	All sources	<ul style="list-style-type: none"> <li>•Attend meetings, communicate information to city council and community, as appropriate</li> </ul>	Yes
Septic System Maintenance Program Established	Ongoing	Dover City Clerk	Microbial	<ul style="list-style-type: none"> <li>•Identified all septic systems in Dover, set up revolving schedule with 10 septic system reviewed per month</li> </ul>	Yes
Include Lake*A*Syst booklet and source water protection brochures in “New Building Packet”	Ongoing	Diane Brockway and Dover City Clerk	All sources	<ul style="list-style-type: none"> <li>•Inventory of all brochures</li> <li>•Literature displayed at Dover City Hall</li> </ul>	Yes
<b>Year 3 2016</b>					
Maintain city website, updates and links to information on SWPP	Ongoing	Diane Brockway and designee	All Sources	<ul style="list-style-type: none"> <li>•Ensure links to appropriate sites for SWPP information, post meeting dates, documents and reports</li> </ul>	Yes
Participate in local community meetings on lake issues – Lakes Commission, Waterkeepers, etc., monitoring for surface water quality	Ongoing	Diane Brockway	All sources	<ul style="list-style-type: none"> <li>•Attend meetings, communicate information to city council and Community, as appropriate</li> </ul>	Yes

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
<b>Year 3 2016</b>					
Septic System Maintenance Program Established	Ongoing	Dover City Clerk	Microbial	<ul style="list-style-type: none"> <li>Identified all septic systems in Dover, set up revolving schedule with 10 septic system reviewed per month</li> </ul>	Yes
Include Lake*A*Syst booklet and source water protection brochures in “New Building Packet”	Ongoing	Diane Brockway and Dover City Clerk	All sources	<ul style="list-style-type: none"> <li>Inventory of all brochures</li> <li>Literature displayed at Dover City Hall</li> </ul>	Yes
Display literature at Dover City Hall, “Dover Joe” restaurant, Post Office	Ongoing	Diane Brockway and designee	All sources	<ul style="list-style-type: none"> <li>Inventory of all brochures, literature displayed at City Hall</li> <li>Rotate to maintain public interest</li> </ul>	Yes
<b>Year 4 2017</b>					
Maintain city website, updates and links to information on SWPP	Ongoing	Diane Brockway and designee	All Sources	<ul style="list-style-type: none"> <li>Ensure links to appropriate sites for SWPP information, post meeting dates, documents and reports</li> </ul>	Yes
Participate in local community meetings on lake issues – Lakes Commission, Waterkeepers, etc., monitoring for increase risks to surface water quality	Ongoing	Diane Brockway	All sources	<ul style="list-style-type: none"> <li>Attend meetings, communicate information to city council and community, as appropriate</li> </ul>	Yes
Septic System Maintenance Program Established	Ongoing	Dover City Clerk	Microbial	<ul style="list-style-type: none"> <li>Identified all septic systems in Dover, set up revolving schedule with 10 septic systems</li> </ul>	Yes

Protection Measures and Activities	Date Completed	Responsible Party/Entity	Potential Contaminants Addressed	Specific Task(s)	Public Component (Yes/No)
		<b>Year 4 2017</b>			
				<ul style="list-style-type: none"> <li>•reviewed per month</li> </ul>	
Include Lake*A*Syst booklet and source water protection brochures in “New Building Packet”	Ongoing	Diane Brockway and Dover City Clerk	All sources	<ul style="list-style-type: none"> <li>•Inventory of all brochures</li> <li>•Literature displayed at Dover City Hall</li> </ul>	Yes
Display literature at Dover City Hall, “Dover Joe” restaurant, Post Office	Ongoing	Diane Brockway and designee	All sources	<ul style="list-style-type: none"> <li>•Inventory of all brochures, literature displayed at City Hall</li> <li>•Rotate to maintain public interest</li> </ul>	Yes
Begin process of recertifying SWPP		City Administration	All sources	<ul style="list-style-type: none"> <li>•Announce need for planning team at City Council meetings and begin revision process</li> </ul>	Yes
<b>Year 5 2017</b>					
Recertify SWPP and submit to DEQ for state certification		City Administration	All Sources	<ul style="list-style-type: none"> <li>•Announce need for planning team at City Council meetings and begin revision process</li> </ul>	Yes

## 7 CONTINGENCY PLAN

All public water systems should have a contingency plan to refer to in case their drinking water system experiences an emergency that prevents it from providing drinking water to its water users. A contingency plan is the blueprint outlining roles and responsibilities in the event that a water system experiences a disruption due to contamination, loss of power, natural disasters such as drought or flooding, or other circumstances where it cannot provide services. The development and implementation of a contingency plan increases the likelihood that correct and immediate action will be taken and that any damage or potential health risk, both in the long and short term, will be minimized.

The City of Dover's water department, in cooperation with IRWA, has developed a contingency plan in the event there is a water system emergency. The contingency plan meets all of the requirements for state certification of its source water protection plan. The contingency plan identifies the following:

- emergency action steps in case of a contamination event
- restrictions and priority use of drinking water if supply is limited
- short term replacement alternatives and suppliers
- inventory of available resources for emergency use
- public notification plan
- contact information for local incident assessment team and other emergency contacts

Dover's contingency plan will help it and its employees make well thought-out, educated decisions under the most adverse of conditions. Copies of the contingency plan are available to the water systems' governing body and operator.

### **7.1 Emergency Response**

The primary concern during any emergency is for immediate public health and safety. In the event of a release of hazardous materials, the designated personnel will contact appropriate state and federal agencies for a rapid and concise response. The Idaho Bureau of Hazardous Materials Action Plan and Emergency Spill Response Flow Chart is included as part of the Contingency Plan. Additional information on state and federal agencies with emergency planning roles including phone numbers are found in Section VII of the Contingency Plan. The Idaho Bureau of Homeland Security web page, <http://www.bhs.idaho.gov> provides information to assist with community preparedness and to help elevate the level of public awareness toward the dangers of hazardous materials.

## **8 PLANNING FOR NEW WATER SOURCES OR WATER SYSTEM IMPROVEMENTS**

During the development of this protection plan, discussions with Dover's governing body included a review of water quality/supply and evaluation of the future need for an additional water source. When originally constructed, the Pend Oreille River intake provided drinking water that met quality standards, as set by the EPA, and there appeared to be adequate water to meet Dover's future needs. However, because the US Army Corps of Engineers has the authority to regulate discharge, recent changes in the lake's elevation created the situation where Dover's intake appeared to suck in air during operation. After investigating, it was deemed appropriate to power down the pump to prevent it from cavitation. Dover is also looking into the feasibility of anchoring the intake in a deeper part of the lake bottom near its current location to eliminate its susceptibility to lake drawdown.

In the event the need for additional drinking water arises, the source water area will be estimated to determine the safest location for a new water source. The new drinking water source will then be delineated in a manner consistent with the delineation process for existing drinking water sources. Delineations may be updated or modified if significant new information becomes available. The delineation for any new or modified drinking water source site will be inventoried for any potential contaminant sources, and the risk evaluated. Dover can then take appropriate

actions to prevent the type of development that may pose a direct threat to its drinking water system near the proposed new drinking water source.

## **9 PUBLIC PARTICIPATION**

Public participation before and during the development of Dover's Source Water Protection Plan has included the following items.

- Participation at meetings with Bonner County Planning and Zoning regarding the development of a county watershed protection ordinance. The ordinance was not approved by Bonner County commissioners; however, a program of voluntary BMPs that county residents may use is being developed.
- Public meetings with Bonner Soil Conservation District and NRCS employees to develop Lake Assist program
- City council meetings for the public to acquire information and participate in source water protection plan development and implementation
- Public notification provided on upcoming opportunities for citizen participation via the city's website, <http://www.doveridaho.org/>

Additional public participation shall be pursued as part of the protection plan process. Interested parties may obtain information on Dover's drinking water source protection plan, protection measures and activities, its Source Water Assessment, and other drinking water issues by contacting the City of Dover at (208) 265-8339.

## **10 REFERENCES**

Bonner County. 2003. Bonner County Comprehensive Plan. Bonner County, Idaho.  
<http://www.co.bonner.id.us>.

DEQ (Idaho Department of Environmental Quality). 1999. Idaho Source Water Assessment Plan. Boise, Idaho.

DEQ (Idaho Department of Environmental Quality). 2014. SWA Online Search: ID1090193. Accessed August 29, 2014. <http://www2.deq.idaho.gov/water/swaOnline/SearchSwa.aspx>.

DEQ (Idaho Department of Environmental Quality). 2012. City of Dover Sanitary Survey. DEQ, 2012.

DEQ (Idaho Department of Environmental Quality). 2000a. Protecting Drinking Water Sources in Idaho. Boise, Idaho.

DEQ (Idaho Department of Environmental Quality). 2000b. Source Water Assessment Final Report for the City of Dover PWS 1090193. Boise, ID.

## 11 RESOURCES

Bonner Soil Conservation District. <http://www.bonnerswcd.org>

Bonner Soil Conservation District. Lake\*A\*Syst. <http://www.lakeassist.org>

Idaho Bureau of Homeland Security. <http://www.bhs.idaho.gov>

Idaho Department of Lands. <http://www.idl.idaho.gov>

## 12 GLOSSARY

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<b>A</b>	
<b>Aquifer</b>	A geologic formation, group of formations, or part of a formation that is saturated and sufficiently permeable to transmit economic quantities of water to wells and springs.
<b>Aquitard</b>	A low-permeability geologic unit that can store groundwater and also transmit it slowly from one aquifer to another.
<b>AST (aboveground storage tank)</b>	Aboveground storage tanks.
<b>B</b>	
<b>BMPs (best management practices)</b>	Conservation practices or systems of practices and management measures that (1) reduce water quality degradation caused by nutrients, animal waste, toxics, and sediment, as well as control soil loss; and (2) minimize adverse impacts on surface water, groundwater flow, and circulation patterns and on the biological, chemical, and physical characteristics of wetlands.
<b>C</b>	
<b>Capacity</b>	The flow rate that a pump is capable of producing. Also, a water utility's ability to have resources available to meet the water service needs of its customers. In this context, capacity is the combination of plant- and service-related activities necessary to meet the quantity, quality, peak loads, and other service needs of the various customers or classes of customers served by the utility.
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act.
<b>Community system</b>	A public water system serving at least 15 service connections used by year-round residents or regularly serving at least 25 year-round residents.
<b>Contaminant</b>	Any physical, chemical, biological, or radiological substance or matter in water.
<b>Contaminant source inventory</b>	A record of the activities on a watershed or aquifer recharge area that have a potential to contaminate water.
<b>Contingency Plan</b>	A document that details the intended actions of a water utility under specified adverse conditions.
<b>D</b>	
<b>Dairy</b>	Sites included in the primary contaminant source inventory represent those facilities regulated by the Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

<b>Deep injection well</b>	A well discharging under pressure to a deep subsurface stratum. Such a well is often used to dispose of liquid waste streams to a suitable confined poor-water-quality aquifer that is generally considered unusable for other purposes. Also, injection wells regulated under the Idaho Department of Water Resources, generally for the disposal of storm water runoff or agricultural field drainage.
<b>E</b>	
<b>Enhanced inventory</b>	Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.
<b>G</b>	
<b>Group I sites</b>	These are sites that show elevated levels of contaminants and are not within the priority one areas.
<b>I</b>	
<b>IDAPA</b>	Idaho Administrative Procedures Act.
<b>Inorganic priority area</b>	Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.
<b>IOC (inorganic compound)</b>	An inorganic substance regulated by the U.S. Environmental Protection Agency (EPA) in terms of compliance monitoring for drinking water. Contained on the agency's list are compounds as diverse as asbestos, nitrate (NO <sub>3</sub> -), cyanide, and nickel. This abbreviation came into common use in EPA's Phase V drinking water regulations. An inorganic compound is sometimes called an inorganic chemical.
<b>L</b>	
<b>Leachate</b>	The liquid that is derived from the leaching of buried refuse in septic systems, sanitary landfills, and dumps by percolating water derived from rain or snowmelt. Leachate contains large numbers of inorganic contaminants, and the total dissolved solids can be very high.
<b>LUST (leaking underground storage tank)</b>	Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

<b>M</b>	
<b>MCL (maximum contaminant level)</b>	A value defined under the Safe Drinking Water Act, Section 1401 (3) as the maximum permissible level (concentration) of a contaminant in water delivered to any user of a public water system. Maximum contaminant levels are the legally enforced standards in the United States.
<b>Microbes</b>	A microscopic organism, either plant or animal, invisible to the naked eye. Examples are algae, bacteria, fungi, protozoa, and viruses.
<b>N</b>	
<b>Nitrate priority area</b>	Area where greater than 25% of wells/springs show nitrate values above 5 milligrams per liter.
<b>Nonpoint source</b>	Waste material that enters a water body from overland flow rather than out of a pipe or channel; an unconfined discharge of waste.
<b>NPDES</b>	National Pollutant Discharge Elimination System.
<b>O</b>	
<b>Organic priority areas</b>	These are any areas where greater than 25% of wells/springs show levels greater than 1% of the primary standard or other health standards.
<b>P</b>	
<b>P2</b>	An acronym for pollution prevention.
<b>Perched aquifer</b>	A small lens of unconfined groundwater separated from an underlying main body of groundwater by an impermeable unsaturated zone.
<b>Point source</b>	A discharge that comes out of the end of a pipe, as opposed to runoff or a discharge from a field or similar source, which is called a nonpoint source.
<b>R</b>	
<b>RCRA</b>	Resource Conservation and Recovery Act. RCRA gives the U.S. Environmental Protection Agency the authority to control hazardous waste from “cradle-to-grave.”
<b>S</b>	
<b>SARA Title III</b>	Superfund Amendments and Reauthorization Act, Title III: Emergency Planning and Community Right-to-know.
<b>Sanitary survey</b>	An on-site review of a water utility’s water source, facilities, equipment, and operations and maintenance records for the purpose of evaluating the system’s adequacy in producing and distributing safe drinking water.

<b>SOC (synthetic organic compound)</b>	An organic compound that is commercially made. Some synthetic organic compounds are contaminants in drinking water and are regulated by the U.S. Environmental Protection Agency. Regulated synthetic organic compounds include volatile organic compounds, pesticides, herbicides, polychlorinated biphenyls, selected treatment chemicals (e.g., acrylamide), and polynuclear aromatic hydrocarbons.
<b>T</b>	
<b>TOT (time-of-travel)</b>	The determination, usually made through modeling, of the time in years for groundwater recharge to travel from a certain field point to the wellhead.
<b>U</b>	
<b>UST</b>	Underground storage tank
<b>V</b>	
<b>Vadose zone</b>	The unsaturated portion of the soil column between the land surface and the water table. A better term is unsaturated zone.
<b>VOC (volatile organic compound)</b>	A class of organic compounds that includes gases and volatile liquids. Many volatile organic compounds are used as solvents. A number of these compounds are regulated by the U.S. Environmental Protection Agency.
<b>W</b>	
<b>WLAP (wastewater land application permit)</b>	Areas where the land application of municipal or industrial wastewater is permitted by DEQ are referred to as WLAP sites.
<b>Wellheads</b>	Drinking water well locations regulated under the Safe Drinking Water Act. Wellheads are not treated as potential contaminant sources.
<b>Z</b>	
<b>Zone IA</b>	Sanitary setback zone designed to prevent microbial contamination within a 100-foot radius of the wellhead. This setback zone is established in the Idaho Rules for Drinking Water Supplies (IDAPA 58.01.08.900.01) and requires that sewer lines, livestock, canals, and streams be 50 feet from the source water/wellhead and that home septic tanks, seepage pits, disposal fields, and privies be 100 feet away.
<b>Zone IB</b>	The zone within the 3-year time-of-travel for groundwater to reach the wellhead.
<b>Zone II</b>	The zone within the 6-year time-of-travel for groundwater to reach the wellhead.
<b>Zone III</b>	The zone within the 10-year time-of-travel for groundwater to reach the wellhead.

# **APPENDIX A**

## *Assessed Source Water Area*

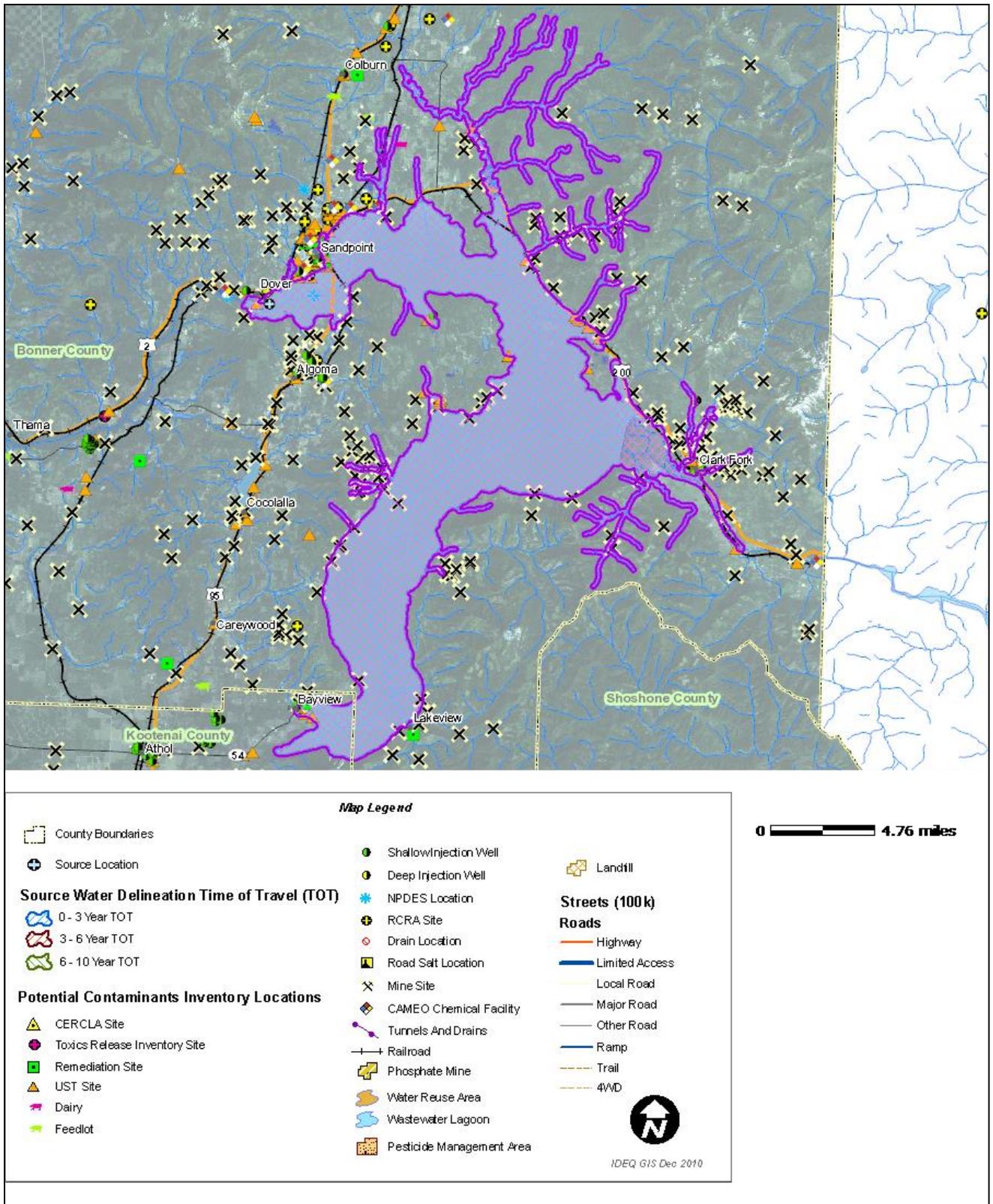


Figure 1. Assessed source water area for Pend Oreille River intake.

## **APPENDIX B**

### *Potential Contaminant Inventory*

Contaminant Source Inventory.

*TOT (Years)	<sup>1</sup> Description of Potential Contaminant Source	<sup>2</sup> Potential Contaminants (if known)	Name	Data Source	<sup>3</sup> Priority Ranking (L,M,H)
0-3	Mine Site	Site specific	Bayview Limestone Pit	GIS	M
0-3	Mine Site	Site specific	Squaw Bay Limestone	GIS	M
0-3	Mine Site	Site specific	Squaw Bay Limestone	GIS	M
0-3	Mine Site	Site specific	Pend Oreille District	GIS	M
0-3	Mine Site	Site specific	MB Prospect	GIS	M
0-3	Mine Site	Site specific	MB	GIS	M
0-3	Mine Site	Site specific	American Eagle Prospect	GIS	M
0-3	Mine Site	Site specific	American Eagle	GIS	M
0-3	Mine Site	Site specific	O'Shaughnessy Prospect	GIS	M
0-3	Mine Site	Site specific	Talache District	GIS	M
0-3	Mine Site	Site specific	Green Monarch Prospect	GIS	M
0-3	Mine Site	Site specific	Green Monarch	GIS	M
0-3	Mine Site	Site specific	Snowbird Mine	GIS	M
0-3	Mine Site	Site specific	Snowbird Mine	GIS	M
0-3	Mine Site	Site specific	Better Times Prospect	GIS	M
0-3	Mine Site	Site specific	Better Times Prospect	GIS	M
0-3	Mine Site	Site specific	Wisconsin Prospect	GIS	M
0-3	Mine Site	Site specific	Mariposa	GIS	M
0-3	Mine Site	Site specific	Anderson Prospect	GIS	M
0-3	Mine Site	Site specific	Anderson Prospect	GIS	M
0-3	Mine Site	Site specific	Moss Prospect	GIS	M
0-3	Mine Site	Site specific	Moss Prospect	GIS	M
0-3	Mine Site	Site specific	Hope Mine	GIS	M
0-3	Mine Site	Site specific	Hope Mine	GIS	M
0-3	Mine Site	Site specific	Naomi	GIS	M
0-3	Mine Site	Site specific	Gold Coin Mine	GIS	M
0-3	Mine Site	Site specific	Gold Coin	GIS	M
0-3	Mine Site	Site specific	Sulphide Mine	GIS	M
0-3	Mine Site	Site specific	Sulphide Mine	GIS	M
0-3	Mine Site	Site specific	Lost Penny Prospect	GIS	M
0-3	Mine Site	Site specific	Lost Penny	GIS	M
0-3	Mine Site	Site specific	Bonner Mine	GIS	M
0-3	Mine Site	Site specific	King Solomon Property	GIS	M
0-3	Mine Site	Site specific	King Solomon	GIS	M
0-3	Mine Site	Site specific	Patten Prospect	GIS	M
0-3	Mine Site	Site specific	Hope and Faith Shaft	GIS	M
0-3	Mine Site	Site specific	Kootenai Prospect	GIS	M
0-3	Mine Site	Site specific	Kootenai	GIS	M
0-3	Mine Site	Site specific	Boyer Mines	GIS	M
0-3	Mine Site	Site Specific	Sweeney-Walker Group	GIS	M
0-3	Mine Site	Site specific	Gravel Pit	GIS	M
0-3	RCRA Site	Site specific	Thorne Research Inc.	Enhanced Inventory W -116.61861 N 48.25238	M
0-3	NPDES Location	Site specific	Cabinet Gorge Hatchery	GIS	M

*TOT (Years)	<sup>1</sup> Description of Potential Contaminant Source	<sup>2</sup> Potential Contaminants (if known)	Name	Data Source	<sup>3</sup> Priority Ranking (L,M,H)
0-3	NPDES Location	Site specific	City of Sandpoint	GIS	M
0-3	NPDES Location	Site specific	Wastewater Treatment Plant	GIS	M
0-3	NPDES Location	Site specific	Northwest Gas 'n Go	GIS	M
0-3	NPDES Location	Site specific	Idaho DEQ	GIS	M
0-3	RCRA Site	Site specific	Naval Surface Warfare Center Carderock Division D	GIS	M
0-3	RCRA Site	Site specific	Holiday Shores Marina	GIS	M
0-3	RCRA Site	Site specific	Muzzy Oil Company Inc., Sandpoint	GIS	M
0-3	Railroad	IOC, VOC, SOC	Burlington Northern Railroad	GIS	M
0-3	Railroad	IOC, VOC, SOC	Spokane International Railroad	GIS	M
0-3	Railroad	IOC, VOC, SOC		GIS	M
0-3	Railroad	IOC, VOC, SOC	FRA Added/ New Construction	GIS	M
0-3	Remediation Site	Site specific	Bayview Marina	GIS	M
0-3	Remediation Site	Site specific	Naval Surface Warfare Center	GIS	M
0-3	Remediation Site	Site specific	Boileau's Resort	GIS	M
0-3	Remediation Site	Site specific	Bayview Mercantile	GIS	M
0-3	Remediation Site	Site specific	Fuel Delivery Overspill	GIS	M
0-3	Remediation Site	Site specific	Island View RV Resort	GIS	M
0-3	Remediation Site	Site specific	Pend Oreille Shores Partnership	GIS	M
0-3	Remediation Site	Site specific	Holiday Shores Marina	GIS	M
0-3	Remediation Site	Site specific	Ellisport Marine	GIS	M
0-3	Remediation Site	Site specific	Bottle Bay Marina	GIS	M
0-3	Remediation Site	Site specific	Dover Mill	GIS	M
0-3	Remediation Site	Site specific	Kemps Conoco	GIS	M
0-3	Remediation Site	Site specific	Bonner County	GIS	M
0-3	Remediation Site	Site specific	Sandpoint Marina	GIS	M
0-3	Remediation Site	Site specific	1 <sup>st</sup> Avenue Bistro	GIS	M
0-3	Remediation Site	Site specific	GTE Sandpoint Central Office	GIS	M
0-3	Remediation Site	Site specific	Dalby's Exxon	GIS	M
0-3	Remediation Site	Site specific	Northwest Gas 'n Go	GIS	M
0-3	Road Salt Location	IOC, VOC, SOC	Clark Fork	GIS	M
0-3	Shallow Injection Well	IOC, VOC, SOC, M	Marilyn Hudson (Seasonal Residence)	GIS	M
0-3	Surface Water	Site specific	Echo Bay	GIS	M
0-3	Surface Water	Site specific	Idlewilde Bay	GIS	M
0-3	Surface Water	Site specific	Lake Pend Oreille	GIS	M
0-3	Surface Water	Site specific	Scenic Bay	GIS	M
0-3	Surface Water	Site specific	Clark Fork	GIS	M
0-3	Surface Water	Site specific	Lake Pend Oreille	GIS	M
0-3	Surface Water	Site specific	Murphy Bay	GIS	M
0-3	Surface Water	Site specific	Pend Oreille River	GIS	M
0-3	Surface Water	Site specific	Sagle Slough	GIS	M
0-3	Surface Water	Site specific	Bottle Bay	GIS	M
0-3	Surface Water	Site specific	Camp Bay	GIS	M
0-3	Surface Water	Site specific	Chuck Slough	GIS	M

*TOT (Years)	<sup>1</sup> Description of Potential Contaminant Source	<sup>2</sup> Potential Contaminants (if known)	Name	Data Source	<sup>3</sup> Priority Ranking (L,M,H)
0-3	Surface Water	Site specific	Clark Fork	GIS	M
0-3	Surface Water	Site specific	Denton Slough	GIS	M
0-3	Surface Water	Site specific	Elliot Bay	GIS	M
0-3	Surface Water	Site specific	Ellisport Bay	GIS	M
0-3	Surface Water	Site specific	Garfield Bay	GIS	M
0-3	Surface Water	Site specific	Green Bay	GIS	M
0-3	Surface Water	Site specific	Kilroy Bay	GIS	M
0-3	Surface Water	Site specific	Kootenai Bay	GIS	M
0-3	Surface Water	Site specific	Lake Pend Oreille	GIS	M
0-3	Surface Water	Site specific	Martin Bay	GIS	M
0-3	Surface Water	Site specific	Middle Fork	GIS	M
0-3	Surface Water	Site specific	Mirror Lake	GIS	M
0-3	Surface Water	Site specific	Murphy Slough	GIS	M
0-3	Surface Water	Site specific	North Fork	GIS	M
0-3	Surface Water	Site specific	Oden Bay	GIS	M
0-3	Surface Water	Site specific	Owens Bay	GIS	M
0-3	Surface Water	Site specific	Pend Oreille River	GIS	M
0-3	Surface Water	Site specific	Pine Cove	GIS	M
0-3	Surface Water	Site specific	Sagle Slough	GIS	M
0-3	Surface Water	Site specific	South Fork	GIS	M
0-3	Surface Water	Site specific	Sunrise Bay	GIS	M
0-3	Surface Water	Site specific	Whiskey Rock Bay	GIS	M
0-3	Surface Water	Site specific		GIS	M
0-3	Surface Water	Site specific	Middle Fork Clark Fork	GIS	M
0-3	Surface Water	Site specific	Clark Fork	GIS	M
0-3	Surface Water	Site specific	Lightening Creek	GIS	M
0-3	Surface Water	Site specific	Cascade Creek	GIS	M
0-3	Surface Water	Site specific	Johnson Creek	GIS	M
0-3	Surface Water	Site specific	Mosquito Creek	GIS	M
0-3	Surface Water	Site specific	Spring Creek	GIS	M
0-3	Surface Water	Site specific	Pole Creek	GIS	M
0-3	Surface Water	Site specific	Derr Creek	GIS	M
0-3	Surface Water	Site specific	West Johnson Creek	GIS	M
0-3	Surface Water	Site specific	Fry Creek	GIS	M
0-3	Surface Water	Site specific	Cedar Creek	GIS	M
0-3	Surface Water	Site specific	Granite Creek	GIS	M
0-3	Surface Water	Site specific	Trestle Creek	GIS	M
0-3	Surface Water	Site specific	Pack River	GIS	M
0-3	Surface Water	Site specific	Rapid Lightening Creek	GIS	M
0-3	Surface Water	Site specific	Grouse Creek	GIS	M
0-3	Surface Water	Site specific	Sand Creek	GIS	M
0-3	Surface Water	Site specific	Gold Creek	GIS	M
0-3	Surface Water	Site specific	Trout Creek	GIS	M
0-3	Surface Water	Site specific	North Gold Creek	GIS	M
0-3	Surface Water	Site specific	Riser Creek	GIS	M

*TOT (Years)	<sup>1</sup> Description of Potential Contaminant Source	<sup>2</sup> Potential Contaminants (if known)	Name	Data Source	<sup>3</sup> Priority Ranking (L,M,H)
0-3	Surface Water	Site specific	Strong Creek	GIS	M
0-3	Surface Water	Site specific	Tumbledown Creek	GIS	M
0-3	Surface Water	Site specific	Bodenstein Creek	GIS	M
0-3	Surface Water	Site specific	Trapper Creek	GIS	M
0-3	Surface Water	Site specific	Shertz Creek	GIS	M
0-3	Surface Water	Site specific	State Creek	GIS	M
0-3	Surface Water	Site specific	Glazier Creek	GIS	M
0-3	Surface Water	Site specific	Boyer Slough	GIS	M
0-3	Surface Water	Site specific	Talache Creek	GIS	M
0-3	Surface Water	Site specific	Maiden Creek	GIS	M
0-3	Surface Water	Site specific	Sawpit Creek	GIS	M
0-3	Surface Water	Site specific	North Twin Creek	GIS	M
0-3	Surface Water	Site specific	South Twin Creek	GIS	M
0-3	Surface Water	Site specific	Falls Creek	GIS	M
0-3	Surface Water	Site specific	Flume creek	GIS	M
0-3	UST Site	VOC, SOC	Vista Bay Resort	GIS	M
0-3	UST Site	VOC, SOC	Hudson Bay Resort	GIS	M
0-3	UST Site	VOC, SOC	Bayview marina	GIS	M
0-3	UST Site	VOC, SOC	Naval Surface Warfare Center	GIS	M
0-3	UST Site	VOC, SOC	Boileau's Resort	GIS	M
0-3	UST Site	VOC, SOC	Bayview Mercantile	GIS	M
0-3	UST Site	VOC, SOC	Scenic Bay Marina	GIS	M
0-3	UST Site	VOC, SOC	ITD	GIS	M
0-3	UST Site	VOC, SOC	Harbor Marina	GIS	M
0-3	UST Site	VOC, SOC	Garfield Bay Coop Boat Moorage	GIS	M
0-3	UST Site	VOC, SOC	Captains Table	GIS	M
0-3	UST Site	VOC, SOC	Anchor Gas and Boat Storage	GIS	M
0-3	UST Site	VOC, SOC	Island View Resort	GIS	M
0-3	UST Site	VOC, SOC	Bird Space Technology Ranch	GIS	M
0-3	UST Site	VOC, SOC	Bird Space Technology Lodge	GIS	M
0-3	UST Site	VOC, SOC	Pend Oreille Shores Partnership	GIS	M
0-3	UST Site	VOC, SOC	Hope Marine Services	GIS	M
0-3	UST Site	VOC, SOC	Holiday Shores Marina Inc.	GIS	M
0-3	UST Site	VOC, SOC	Ellisport Bay Marine	GIS	M
0-3	UST Site	VOC, SOC	Pend Oreille Landing Resort	GIS	M
0-3	UST Site	VOC, SOC	Bottle Bay Resort	GIS	M
0-3	UST Site	VOC, SOC	Hope Central Office	GIS	M
0-3	UST Site	VOC, SOC	Hi Hopes Market	GIS	M
0-3	UST Site	VOC, SOC	Dover Mill	GIS	M
0-3	UST Site	VOC, SOC	City of Sandpoint	GIS	M
0-3	UST Site	VOC, SOC	Exxon Express	GIS	M
0-3	UST Site	VOC, SOC	Waterfront Express Inc.	GIS	M
0-3	UST Site	VOC, SOC	Kemp's Conoco	GIS	M
0-3	UST Site	VOC, SOC	Bonner County	GIS	M
0-3	UST Site	VOC, SOC	Emergency Generator	GIS	M

*TOT (Years)	<sup>1</sup> Description of Potential Contaminant Source	<sup>2</sup> Potential Contaminants (if known)	Name	Data Source	<sup>3</sup> Priority Ranking (L,M,H)
0-3	UST Site	VOC, SOC	Sandpoint Marina	GIS	M
0-3	UST Site	VOC, SOC	Bill's Honda Sales	GIS	M
0-3	UST Site	VOC, SOC	Idaho Country Resorts	GIS	M
0-3	UST Site	VOC, SOC	Sandpoint Central Office	GIS	M
0-3	UST Site	VOC, SOC	Dalby's Exxon	GIS	M
0-3	UST Site	VOC, SOC	Sandpoint Gas & Co.	GIS	M
0-3	UST Site	VOC, SOC	Pack River General Store	GIS	M
0-3	Water Reuse Area	IOC, M	Kootenai-Ponderay Sewer District	GIS	M
0-3	Water Reuse Area	IOC, M	Kootenai-Ponderay Sewer District	GIS	M

<sup>1</sup>NPDES (National Pollutant Discharge Elimination System); RCRA (Resource Conservation and Recovery Act); UST (underground storage tank);

<sup>2</sup>IOC (inorganic compound); SOC (synthetic organic compound); VOC (volatile organic compound); M (microbials).

<sup>3</sup>Priority Ranking (Ranking assigned to contaminant sources based upon known or perceived threats to surface water. L (Low risk); M (Medium risk); H (High risk)).

## **APPENDIX C**

*Voluntary Best Management Practices to  
Protect Source Water*

*Literature for Public Awareness and Education*

Voluntary Best Management Practices to Protect Source Water

POTENTIAL SOURCE	RECOMMENDED ACTIVITIES
<b>Abandoned Wells</b>	<p><b>Structural:</b> Abandoned wells are required to be properly decommissioned by a licensed well driller.</p> <p><b>Non-structural:</b> Conduct frequent inventories to locate any abandoned wells that have been overlooked. Enact and enforce ordinances requiring well plugging.</p> <p><b>Education/Outreach:</b> Develop education materials explaining the potential impact of abandoned wells and encouraging citizens to have them plugged.</p> <p><b>Rules:</b> IDAPA 37.03.09 Well Construction Standards Rules  <a href="http://adminrules.idaho.gov/rules/current/37/0309.pdf">http://adminrules.idaho.gov/rules/current/37/0309.pdf</a></p>
<b>Above Ground Storage Tanks</b>	<p><b>Structural:</b> Surface storage tanks should be constructed of non-corrodible materials, and be placed on impermeable surfaces or raised above the ground. Containment structures should be constructed around the facilities to contain spills.</p> <p><b>Non-structural:</b> Require that surface storage tank operators immediately notify water system official in the event of leaks. Include operators in spill response and contingency planning.</p> <p><b>Education/Outreach:</b> Disseminate information on the proper construction and maintenance of surface storage tanks to appropriate parties.</p> <p><b>Monitoring:</b> Possible leaks may also be monitored by periodic inventory of contents.</p>
<b>Accidental Spills</b>	<p><b>Non-structural:</b> Accidental spills should be properly and promptly contained to prevent migration of chemicals into waterways and nearby wells. Hazardous material carriers should be rerouted around source water protection areas, if possible. Include accidental spills in spill response and contingency planning. Designate <b>ONE</b> local authority to oversee and coordinate emergency response activities.</p>
<b>Agricultural Waste Pesticide Dumping</b>	<p><b>Structural:</b> Remediate.</p> <p><b>Non-structural:</b> Educate citizens on the dangers of dumping chemicals and agricultural waste.</p> <p><b>Education/Outreach:</b> Establish a Public Education Program to inform agricultural producers of their responsibilities in the usage and disposal of agricultural pesticides through the Idaho Department of Agriculture’s Chemigation and Pesticide Disposal Programs.  <a href="http://www.agri.idaho.gov/Categories/Pesticides/pdp/indexdisposalmain.php">http://www.agri.idaho.gov/Categories/Pesticides/pdp/indexdisposalmain.php</a></p>
<b>Airports</b>	<p><b>Non-structural:</b> Where applicable, insure that a Non Point Discharge Elimination System Permit is on file with the DEQ, and that the Surface Water Pollution Protection Plan is up to date and in place. It is recommended that area public water suppliers acquire copies of these plans to insure coordination of them, and to include them in emergency response and contingency planning.</p>
<b>Animal Feedlots</b>	<p><b>Structural:</b> Feedlots should follow all applicable laws and codes.</p> <p><b>Non-structural:</b> Invite operators to manure management programs and ensure manure is being disposed of properly. It may be necessary to prohibit or limit additional animal feedlots inside source water protection areas.</p> <p><b>Monitoring:</b> Nutrient monitoring may be helpful in targeting troubled areas and determining if there is nutrient loading.</p>
<b>Artificial Recharge</b>	<p><b>Non-structural:</b> Ensure that water meets state drinking water standards when injected into recharge wells. Plug all other dry wells used for artificial recharge.</p>

POTENTIAL SOURCE	RECOMMENDED ACTIVITIES
<b>Auto Repair Shops</b>	<p><b>Non-structural:</b> The municipality should insure that the city monitors auto repair shops for compliance with applicable laws. City inspectors should pay particular attention to possible dumping of automotive fluids, paints, and solvents. They should also insure that these chemicals are not being discharged into wells, septic systems, municipal sewage, or storm sewage systems.</p>
<b>Auto Salvage Yards</b>	<p><b>Non-structural:</b> Automotive fluids should be properly collected, contained, and disposed of in accordance with applicable laws. Ensure that automotive fluids are not being disposed of down abandoned wells. Require that all abandoned wells be plugged.</p> <p><b>Education/Outreach:</b> Establish a Public Education Program to inform auto salvage yard operators of their responsibilities in disposing of automotive fluids.</p>
<b>Car Washes</b>	<p><b>Structural:</b> Wastewater from car washes should be discharged into appropriate sewage facilities or retention ponds. Backflow prevention devices should be installed and should be in good operating condition.</p> <p><b>Non-structural:</b> Ensure that wastewater from car washes is not being disposed of down abandoned wells. Close down and retrofit any car wash that is not in compliance.</p>
<b>Cemeteries</b>	<p><b>Non-structural:</b> Existing cemeteries should be developed in a direction away from public water supply wells. New public water supply wells should not be located in close proximity to existing graveyards.</p> <p><b>Monitoring:</b> Monitor nearby water wells periodically for any contamination.</p>
<b>Chemical Storage and Handling</b>	<p><b>Structural:</b> Containers should be placed on impermeable surfaces with containment structures.</p> <p><b>Non-structural:</b> Chemicals should be stored and transported in accordance with applicable laws. Require facilities to be secured from unauthorized access. Prohibit chemical storage near water wells or in 100-year flood plains. Include chemical storage facilities in spill response and contingency planning.</p>
<b>Dry Cleaners</b>	<p><b>Non-structural:</b> Owners and/or operators of dry cleaners should follow manufacturers' instructions for the proper operation and maintenance of machines and control devices. Owners and operators should insure that any onsite chemicals are stored, handled, and disposed of according to state and federal law. The city should verify that these laws are being followed. The local entity should insure all inventoried owner and operators of dry cleaning facilities maintain a copy of the manufacturers' specifications or standard operating and maintenance manuals onsite.</p>
<b>Fertilizer and Pesticide Application</b>	<p><b>Structural:</b> Contour cropping, filter strips, furrow baffles, and other conservation methods are effective tools to minimize fertilizer and pesticide contamination.</p> <p><b>Non-structural:</b> Fertilizers and pesticides should be applied according to label instructions to minimize leaching and runoff. Applicators should carefully calibrate application equipment.</p> <p><b>Education/Outreach:</b> Establish a Public Education Program to inform farmers, ranchers and agricultural product applicators of the importance of fertilizing according to soil tests, proper nutrient placement, and timing of fertilizer applications to maximize nutrient use efficiency and minimize the environmental impact on source water. Encourage applicators to seek out better management practices they may implement, and/or programs available to agricultural producers.</p> <p><b>Monitoring:</b> These contaminants could be monitored to determine the location of high priority areas and determine the effectiveness of the structural best management practices.</p> <p><b>Education/Outreach:</b>  <a href="http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/crops/npm/">http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/landuse/crops/npm/</a>  <a href="http://www.agri.idaho.gov/Categories/Pesticides/chemigation/indexChemigationmain.php">http://www.agri.idaho.gov/Categories/Pesticides/chemigation/indexChemigationmain.php</a>  <a href="http://www.fsa.usda.gov/FSA/stateoffap?mystate=id&amp;area=home&amp;subject=landing&amp;topic=landing">http://www.fsa.usda.gov/FSA/stateoffap?mystate=id&amp;area=home&amp;subject=landing&amp;topic=landing</a></p>

POTENTIAL SOURCE	RECOMMENDED ACTIVITIES
<b>Illegal Dumping</b>	<b>Non-structural:</b> Law enforcement or code enforcement officials should be authorized to patrol source water protection areas for illegal dumping and prosecute violators. Render inaccessible frequent dumping sites and post no dumping signs. Establish a hotline for citizens to report violations.
<b>Industrial Facilities</b>	<b>Non-structural:</b> Industrial facilities should be operated under strict site safety and health plans. These should be on file with the local fire marshal. Insure that site safety plans and health plans are on file, and that the PWS official is to be contacted in the event of an emergency.
<b>Mining Activities</b>	<b>Non-structural:</b> Mining and other mineral extraction activities should be monitored for violations. Violations should be reported. Include mining operations in spill response and contingency planning.
<b>Municipal Sewage Pipelines</b>	<b>Structural:</b> Faulty lines should be repaired or replaced as soon as possible. New methods exist which allow pipelines to be repaired without excavation or unreasonable expense. <b>Monitoring:</b> Municipal sewage pipelines should be tested regularly to ensure that they do not allow for infiltration/exfiltration, especially those in close proximity to drinking water supplies.
<b>Municipal Storm Water Drainage</b>	<b>Structural:</b> Municipal sewers and drainage canals should be properly maintained to eliminate clogging and overflow during storm water events. Municipal Storm Water Drainage System should be properly sited, constructed, and operated to insure a safe means of waste disposal. <b>Non-structural:</b> Ensure existing systems with dry wells, and/or utility disposal wells meet Underground Injection Control rules and regulations. Identify and participate in designated local Municipal Solid Waste Planning Area meetings. The local community should coordinate with the local Council of Government to participate in, and/or development of, the area Municipal Solid Waste Plan, and to establish Solid Waste Assistance Partnerships provided through the state.
<b>Oil and Gas Activities</b>	<b>Non-structural:</b> PWS representatives should check to see the oil & gas company has a spill response plan in place and is aware they are in a drinking water protection area. Include these activities in spill response and contingency planning. <b>Monitoring:</b> Oil and gas activities should be closely monitored for leaks or spills. Violations should be reported to the DEQ. <b>Rules:</b> IDAPA
<b>Particulate Airborne Sources</b>	<b>Non-structural:</b> Airborne sources must be in compliance with applicable laws. Require that air permitted industries immediately notify water system official of any potentially threatening discharge.
<b>Radium and Radon Gas</b>	Radium/radon gas removing technology should be installed if determined to be necessary for treatment. Effective technologies, ranging from simple aeration to more expensive methods, exist to safely remove radium/radon gas from water.
<b>Septic Systems</b>	<b>Structural:</b> Septic systems should be constructed, maintained and operated in accordance with applicable laws. Inactive systems should be properly closed and failing systems should be renovated or removed and placed on a sewage treatment plant. <b>Non-structural:</b> Contact septic system operators and advise them of their responsibilities in maintaining their systems. Provide them with a telephone number in case of emergencies. Require establishments to connect and close their systems should municipal sewage service become available. <b>Education/Outreach:</b> Provide and disseminate information on the proper maintenance of septic systems. <b>Rules:</b> IDAPA 58.01.03 et. seq. Individual/Subsurface Sewage Disposal Rules. <a href="http://www.deq.idaho.gov/water-quality/wastewater/septic-systems.aspx">http://www.deq.idaho.gov/water-quality/wastewater/septic-systems.aspx</a> <a href="http://panhandlehealthdistrict.org/environmental-health/septic">http://panhandlehealthdistrict.org/environmental-health/septic</a>

POTENTIAL SOURCE	RECOMMENDED ACTIVITIES
Service Station Disposal Wells	<p><b>Structural:</b> Remediate. Service station disposal wells are illegal, and must be properly closed. All disposal activities should cease immediately. <b>These wells are one of the most serious threats to groundwater quality!</b></p> <p><b>Non-structural:</b> The DEQ should be notified. Re-inspect service station disposal wells to ensure that all disposal activities have ceased. Should any continued disposal activity be identified, order the operator to cease such activity and contact the DEQ for guidance and assistance in taking corrective actions.</p> <p><b>Education/Outreach:</b> Disseminate information about this environmentally damaging practice.</p> <p><b>Monitoring:</b> Nearby water wells may be sampled to determine the scope of any contamination. Prosecute violators.</p>
Shallow Injection Wells	<p><b>Non-structural:</b> Shallow injection wells require authorization from the IDWR. Ensure a letter of authorization has been issued by the IDWR for each shallow injection well, and that all injection activities are being properly implemented. Unauthorized injection activities should cease immediately. Prosecute violators and contact the DEQ for assistance.</p> <p><b>Education/Outreach:</b> Disseminate information about this environmentally damaging practice to involved parties.</p> <p><b>Rules:</b> IDAPA 37.03.03 Rules for the Construction and Uses of Injection Wells. IDAPA 42.39.01 Waste Disposal and Injection Wells. <a href="http://legislature.idaho.gov/idstat/Title42/T42CH39.htm">http://legislature.idaho.gov/idstat/Title42/T42CH39.htm</a></p>
Superfund Sites	<p><b>Non-structural:</b> Superfund sites should be remediate as soon as possible. Because the prompt disposition of Superfund sites is rare due to legal and financial complications, new wells should not be developed such that any existing Superfund site would be inside a source water protection area. Include Superfund site in spill response and contingency planning.</p>
Surface Waters	<p>Public water supply and domestic wells should be properly cased and sealed to guard against inundation. Infiltration of surface waters or runoff should be monitored. Ensure that public water supply well casing extends to 2 feet above the 100-year flood level. Restrict or prohibit development of new wells and storage of hazardous materials in 100-year floodplains.</p>
Underground Pipelines	<p><b>Structural:</b> Pipeline breaks should be repaired immediately by the pipeline company.</p> <p><b>Non-structural:</b> PWS representatives should check to see the pipeline company has a spill response plan in place and is aware they are in a drinking water protection area. Include underground pipelines in spill response and contingency planning and know the chemicals in the line.</p> <p><b>Monitoring:</b> Underground pipelines should be closely monitored for leaks.</p>
Underground Storage Tanks	<p><b>Structural:</b> Leaking tanks should be removed and the sites should be remediated immediately.</p> <p><b>Education/Outreach:</b> Underground storage tanks must be registered with the IDWR's Underground Storage Tank (UST) Program. Require that underground storage tank operators immediately notify water system official in the event of leaks. Include PWS operators in spill response and contingency planning.</p>
Waste Oil Dumping	<p><b>Structural:</b> Provide a waste oil collection facility.</p> <p><b>Non-structural:</b> Establish a public education program to encourage citizens to recycle used oil at service stations or other collection centers.</p>

POTENTIAL SOURCE	RECOMMENDED ACTIVITIES
Water Wells	<p><b>Structural:</b> Water wells should be constructed in compliance with state’s minimum requirements and reconstructed if necessary.</p> <p><b>Non-structural:</b> Inspect domestic wells to ensure that they are properly constructed. Develop protection areas around wellheads and erect signs designating the protection area.</p> <p><b>Education/Outreach:</b> Establish a Public Education Program to inform landowners of the hazards of abandoned wells and their responsibilities in plugging them.</p> <p><b>Rule:</b> IDAPA 37.03.09 Well Construction Standards.</p> <p><a href="http://www.idwr.idaho.gov/WaterManagement/WellInformation/">http://www.idwr.idaho.gov/WaterManagement/WellInformation/</a></p> <p><a href="http://healthandwelfare.idaho.gov/Health/EnvironmentalHealth/WellWater/tabid/1128/Default.aspx">http://healthandwelfare.idaho.gov/Health/EnvironmentalHealth/WellWater/tabid/1128/Default.aspx</a></p> <p><a href="http://www.privatewellclass.org/">http://www.privatewellclass.org/</a></p>

WARWS (Wyoming Association of Rural Water Systems)  
Management Practices Designed to Protect Source Water. Dan Chamberlain. 2013.

## Pet Waste May Affect Your Health

Pet wastes contain bacteria and pathogens that can spread diseases between pets, as well as to humans. The most at-risk groups are children playing outside and adults working in their gardens and/or flower beds. Some of the infections and diseases that can be spread through pet waste are:

- **E. coli:** a bacterial infection causing diarrhea, cramping, nausea and vomiting, urinary tract infections and fatigue
- **Salmonella:** a bacterial disease causing nausea, vomiting, abdominal pain, diarrhea, fever and chills
- **Hepatitis:** a bacterial disease that causes fatigue, nausea and vomiting, abdominal pain or discomfort, especially in the area of one's liver, low-grade fever, dark urine and jaundice
- **Giardiasis:** a protozoan infection causing diarrhea, cramping, fatigue and weight loss
- **Cryptosporidiosis:** a protozoan infection causing diarrhea, cramping and a low fever
- **Toxoplasmosis:** a protozoan infection causing a low-grade fever, cough, headache, fatigue and swollen glands

Scoop the poop, bag it,  
and place it in the trash!

Thank you for being a responsible pet owner!



For more information on how you can form on how you can protect water quality, please contact

City of Dover

Phone (208) 265-8339

Email: [cityclerk@doveridaho.org](mailto:cityclerk@doveridaho.org)

or

Email: [lakeasyst@gmail.com](mailto:lakeasyst@gmail.com)

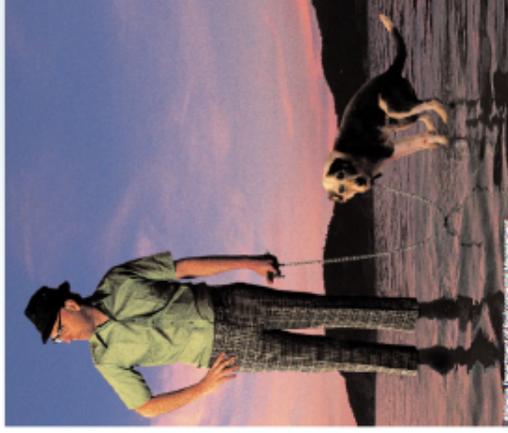
[www.plrcd.org/lakeasyst/](http://www.plrcd.org/lakeasyst/)



Funding and support for this brochure were provided by Bonner Soil & Water Conservation District  
Idaho Department of Environmental Quality

City of Dover  
Idaho Rural Water Association  
2015

## If you have a dog, its your Doodie



*When your dog goes on the lawn,  
remember it doesn't just go on the lawn.*

A Pet Waste Reduction Effort  
Sponsored by the  
Idaho Rural Water Association

## If you think picking up dog poop is unpleasant, try drinking it.

So here is how it works. You take the dog out for a walk and it poops on the grass or the street. That poop contains bacteria and viruses, and is now a health risk to people and other pets. When it rains or storms, the poop is carried with surface water into storm drains or ditches, and eventually enters our streams, rivers and lakes where people may drink or come into contact with it.

We use the Pend Oreille River as a source of drinking water, and for recreation. Please be a responsible pet owner, and pick up after your pet.



## Fecal coliform bacteria machine



How can you not love them? Dogs bring great joy into our family's lives. But impacts to surface water associated with dog poop can be serious. They include:

- Increased loading of nitrogen and phosphorus that can lead to increased weed and algal growth in the river, lowered oxygen levels and increased fish kills
- Increased organic matter which, when it decays, can reduce oxygen levels for fish and other aquatic animals
- Increased loading of bacteria and pathogens that can get people and other pets sick

***One pound of dog poop can contain  
10,000,000,000 fecal coliform  
bacteria!***

**Yep, that is 10 billion**

## So what should you do about It?

Its easy!

- When available, use a pet waste disposal station provided by local communities and parks
- Always bring baggies for your pet, and carry an extra one for a pet in need
- Waste can be disposed of by securing the waste in a bag and throwing it in the trash or a pet waste disposal station.
- Biodegradable bags are available for purchase online.
- Waste can be disposed of by flushing it down the toilet (if you are served by a sanitary sewer utility) where it will be treated. Just don't flush the bag!
- Pet waste is not a fertilizer and should never be used in your flower beds, vegetable garden or compost pile



## About the Plan

The City of Dover, Bonner Soil and Water Conservation District, Idaho Department of Environmental Quality and the Idaho Rural Water Association have coordinated efforts to help protect your drinking water source. A single surface water intake on the Pend Oreille River supplies Dover with drinking water. Dover's source water protection plan is designed to help prevent contamination of the river, thus protecting you and your family from serious illness and jeopardy.

Drinking water source protection will help manage the land area around the surface water intake to prevent contamination, thus offering an important opportunity to both ensure a high-quality drinking water supply and to save money for the city, and you. Through voluntary best management practices by Dover, lakeside residents and local businesses, protection of our most important asset can be achieved and our wonderful quality of life ensured.

## You Can Help—

### it's easy!

*Get actively involved in your community's drinking water protection.*

- Don't dump old lawn chemicals, gas, or oil on the grounds or down any storm drain
- Don't over-fertilize your lawn or garden, and be careful how you apply chemicals
- Pick up after your dog and dispose of your dog's poo properly
- Teach your children where your family's drinking water comes from

## Contact

City of Dover  
(208) 256-8339

*For more information on your community's plan, kids' activities, and community resources, contact:*

Idaho Rural Water Association  
(208) 343-7001

[www.idahoruralwater.com](http://www.idahoruralwater.com)

or

Idaho Department of  
Environmental Quality  
(208) 7691422

[www.deq.idaho.gov](http://www.deq.idaho.gov)

Safe, clean drinking water;  
it's everyone's responsibility.

# Your Community

# Your Source Water Protection Plan

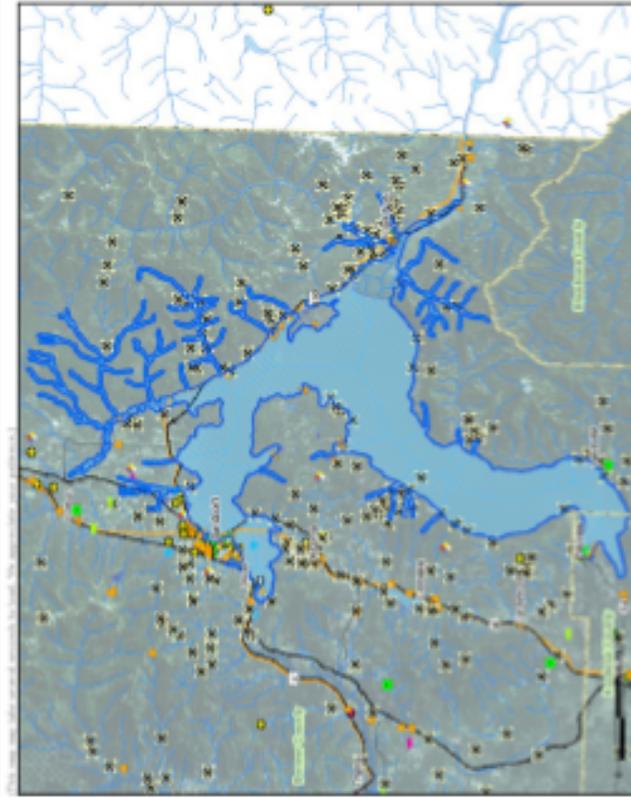


# What is Source Water?

Source water is untreated water from surface and ground sources. Surface water is replenished from rain or snow that intercepts the water directly, or from ground water that contributes to it ("contributing stream"). Geology and gravity help ground water in eventually replenishing Lake Pend Oreille.

Sudden strong rain events can contribute so much water in such a short period that it will travel as storm water directly across land surfaces and into the lake, carrying sediments and organic matter, fertilizers, motor oils and other chemicals with it. Surface water contamination directly impacts Fruitland's water system due to increased costs to treat the water prior to distributing it to you for your needs. It also impacts the wildlife that reside on the river and rely on it for food, breeding sites, and the fish we catch.

Public Utilities Spokane Metro - 2016/18 - 1/11/18  
Source: Spokane Metro (2018)



## 24 hour Time-of-Travel

The illustration on the left shows the critical area of Dover's surface water intake and the area of the watershed that has a direct relationship with the water quality at our intake.

Because of the rapid speed of surface water transport, the time-of-travel (TOT) from the critical areas to the intake is generally 24 hours or less.

## Sediment

The Pend Oreille River provides abundant opportunities for our families to play. But because of the relatively short time it takes for sediments to be carried in surface water, it is important to respect property bordering the river and not break down or damage river and stream banks. It is also important to maintain your boat or other pleasure craft.

# What is Source Water Protection?

Source Water Protection is simply protecting the sources of water from contamination or over-use. We can protect our sources of water by managing the influence on them from natural and human activities to ensure water quality and water quantity is maintained.

Communities with clean and adequate water sources attract settlement, development and business. With assistance from the Bonner Soil & Water Conservation District, Dover is working to provide information to city residents whose property borders the Pend Oreille River. Lake\*A\*Syst is a program of voluntary best management practices (BMPs) that can be implemented to help protect the Pend Oreille River for ourselves, and for other communities downstream.

# What will Protection Do?

- Ensure that enough safe, clean drinking water is available for ourselves and neighboring communities downstream
- Protect the health of our families and visitors to our community
- Protect current and future sources of Municipal drinking water
- Limit or reduce costs that might otherwise incur as a result of a contamination event. Because the costs are generally borne by the utility, this could result in higher costs for you.

## How does it work?

- Wastewater leaving your house travels into your septic tank. Wastewater includes water draining from your sinks, toilets, bath tubs, dishwasher, and laundry machine.
- In the septic tank, heavy solids sink to the bottom and form a sludge layer. Light solids float to the top and form a scum layer.
- While waste is stored in the tank, bacteria digest and eliminate some of the solid material. Solids that aren't digested build up and must be pumped out.
- When wastewater enters the tank from the house, an equal amount of liquid waste is pushed out of the tank into the drainfield. Water exiting the tank is called *effluent*.
- Effluent flows into the drainfield and enters the surrounding soil. The soil acts as a natural filter as the effluent leaches downwards. Most effluent will eventually reach groundwater sources.

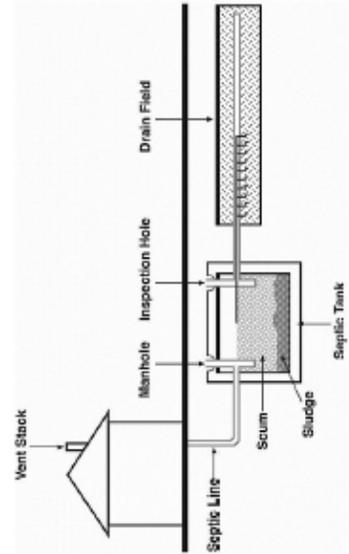


Image taken from IDEQ's "A Homeowner's Guide To Septic Systems, 2001."

## Get More Info



Idaho Rural  
Water Association  
[www.idahoruralwater.com](http://www.idahoruralwater.com)  
(208) 343-7001



Idaho Department of  
Environmental Quality

State office  
[www.deq.idaho.gov](http://www.deq.idaho.gov)  
(208) 373-0502

Idaho Public Health Departments  
Contact your regional office!  
Or visit:  
[www.healthandwelfare.idaho.gov](http://www.healthandwelfare.idaho.gov)

## Understanding your septic system

**How does it  
work?**

**What do I  
need to do?**

**Why is proper  
care  
important?**

*Keep your family and  
your neighbors safe!  
It's up to you!*

### **Why is proper care important?**

- Proper septic care is essential for protecting the health and safety of your family and community.
- Misuse of your septic system can cause waste material to flow backwards into your home or cause surface overflow over the drainfield. These events can pose a significant health hazard and are costly to repair.
- Damaged drainfields or improper use of your septic system can contribute bacteria and nitrates to drinking water sources. It is up to the homeowner to make sure they are properly caring for their septic system.

## **What is YOUR responsibility as a septic tank owner?**

- Flushing inappropriate items down your toilet or washing them down the sink can damage your septic system or clog your pipes. This could result in a **sewage overflow onto the surface of your property or a backup into your home!**
- **Do not flush** the following items down the toilet: diapers, feminine hygiene products, Q-tips, baby wipes (**even if they say “flushable”!**), towels or rags, socks or underwear, paint, condoms, old toiletries or bathing products, pharmaceuticals, or animal waste.
- Avoid dumping fats, oils, and grease down your kitchen sink. These are materials that can clog your pipes and cause a backup. Instead, pour them into a jar or can and dispose of them in the trash.
- Avoid washing multiple loads of laundry in one day or using an excess amount of water at one time. This can overflow your tank and cause inappropriate leaching in your drain field.

### **Proper care Procedures**

- Your tank should be pumped out and inspected by a licensed septic tank pumper every 3 to 5 years, or more often if you have a large household.
- Do not drive heavy machinery over your tank or drain field.
- Do not engage in heavy watering or drainage over your drainfield. This will flush septic waste down towards groundwater sources more quickly and not allow them to be filtered by the soil.

# **APPENDIX D**

## *Overview of Potential Contaminant Sources*

## OVERVIEW OF POTENTIAL CONTAMINANT SOURCES

This table provides an overview of potential contaminant sources and the contaminants that may be associated with each source. These sources represent many of the businesses, industries, operations, land uses, and environmental conditions that handle, generate, store, apply, dispose of, or provide a pathway for the contaminants of concern. The sources are separated into four categories:

- 1) Commercial/Industrial
- 2) Agricultural/Rural
- 3) Residential/ Municipal and,
- 4) Miscellaneous

These sources can apply to either groundwater or surface water, and many can apply to both ground and surface water. Where a potential contaminant source generally applies to only groundwater or surface water, it is noted within the table.

Overview of Potential Contaminant Sources (Ground and Surface Water)

Source	Potential Contaminants <sup>1,2,3</sup>	
<b>Commercial/Industrial</b>		
Automobile	Body Shops/ Repair Shops	Waste oils, gasoline and diesel fuels; solvents, acids, paints, automotive wastes <sup>4</sup> ; miscellaneous cutting oils.
	Car Washes	Soaps, detergents, waxes, miscellaneous chemicals, hydrocarbons.
	Gas Stations	Petroleum fuels, oil, solvents, miscellaneous wastes.
Boat Services/Repair/Refinishing	Gasoline and diesel fuels, oil, septage from boat waste disposal area, wood preservative and treatment chemicals, paints, waxes, varnishes, automotive wastes <sup>4</sup> .	
Cement/Concrete Plants	Diesel fuel, solvents, oils, miscellaneous wastes.	
Chemical/Petroleum Processing/Storage	Hazardous chemicals, solvents, hydrocarbons, heavy metals.	
Dry Cleaners	Solvents (tetrachloroethylene, petroleum solvents), spotting chemicals (trichloroethane, methyl chloroform, ammonia, peroxides, hydrochloric acid, rust removers, amyl acetate).	
Electrical/Electronic Manufacturing	Cyanides, metal sludge, caustic (chromic acid), solvents, oils, alkalis, acids, paints and paint sludges, PCBs.	
Fleet/Trucking/Bus Terminals	Waste oil, solvents, gasoline and diesel fuel from vehicles and storage tanks, fuel oil, other automotive wastes <sup>4</sup> .	
Food Processing	Nitrates, salts, phosphorous, miscellaneous food wastes, chlorine, ammonia, ethylene glycol.	

Source	Potential Contaminants <sup>1,2,3</sup>
Furniture Repair/Manufacturing	Paints, solvents, degreasing and solvent recovery sludges, lacquers, sealants.
Hardware/Lumber/Parts Stores	Hazardous chemical products in inventories, heating oil and fork lift fuel from storage tanks, wood-staining and treating products such as creosote, paints, thinners, lacquers, varnishes.
Home Manufacturing	Solvents, paints, glues and other adhesives, waste insulation, lacquers, tars, sealants, epoxy wastes, miscellaneous chemical wastes.
Junk/Scrap/Salvage Yards	Automotive wastes <sup>4</sup> , PCB contaminated wastes, any wastes from businesses <sup>5</sup> and households <sup>6</sup> , oils, lead.
Machine Shops	Solvents, metals, miscellaneous organics, sludges, oily metal shavings, lubricant and cutting oils, degreasers (tetrachloroethylene), metal marking fluids, mold-release agents.
Metal Plating/Finishing/Fabricating	Sodium and hydrogen cyanide, metallic salts, hydrochloric acid, sulfuric acid, chromic acid, boric acid, paint wastes, heavy metals, plating wastes, oils, solvents.
Mines/Gravel Pits	Mine spills or tailings that often contain metals, acids, highly corrosive mineralized waters, metal sulfides, metals, acids, minerals sulfides, other hazardous and nonhazardous chemicals, petroleum products and fuels.
Photo Processing/Printing	Biosludges, silver sludges, cyanides, miscellaneous sludges, solvents, inks, dyes, oils, photographic chemicals.
Plastics/Synthetics Producers	Solvents, oils, miscellaneous organic and inorganics (phenols, resins), paint wastes, cyanides, acids, alkalis, wastewater treatment sludges, cellulose esters, surfactant, glycols, phenols, peroxides, etc.
Research/University/Hospital Laboratories	X-ray developers and fixers <sup>7</sup> , infectious wastes, radiological wastes, biological wastes, disinfectants, asbestos, beryllium, solvents, infectious materials, drugs, disinfectants, miscellaneous chemicals.
Wood Preserving/Treating	Wood preservatives: creosote, pentachlorophenol, arsenic, heavy metals.
Wood/Pulp/Paper Processing and Mills	Metals, acids, sulfides, other hazardous and nonhazardous chemicals, organic sludges, sodium hydroxide, chlorine, hypochlorite, chlorine dioxide, hydrogen peroxide, methanol, paint sludges, solvents, creosote, coating and gluing wastes.

Source	Potential Contaminants <sup>1,2,3</sup>
<b>Agricultural/Rural</b>	
Livestock Auction Lots/Boarding Stables	Nitrates, phosphorous, bacteria, and viruses, total dissolved solids.
Confined Animal Feeding Operations Slaughter House and Butcher Facilities	Nitrates, phosphorous, chloride, chemical sprays and dips for controlling insect, bacteria and viruses, total dissolved solids.
Farm Machinery Repair	Automotive wastes <sup>4</sup> , solvents, fuel.
Crops - Irrigated and Non-irrigated	Pesticides <sup>8</sup> , nitrate & phosphorous (from fertilizers), salts, sediment (from runoff)
Wastewater/Sludge/Manure Land Application or Disposal Locations	Nitrates, metals, salts, bacteria and viruses.
Lagoons/Liquid Wastes	Nitrates, livestock sewage wastes, salts, bacteria.
Pesticide/Fertilizer/Petroleum Storage & Transfer Areas	Pesticides <sup>8</sup> , nitrate, phosphorous, petroleum residues.
<b>Residential/Municipal</b>	
Airports (Maintenance/Fueling Areas)	Jet fuels, deicers, diesel fuel, chlorinated solvents, automotive wastes <sup>4</sup> , heating oil, building wastes <sup>5</sup> .
Camp Grounds/RV Parks, Marinas	Septage, gasoline, diesel fuel from boats, pesticides <sup>8</sup> , household hazardous wastes from recreational vehicles (RVs) <sup>6</sup> .
Drinking Water Treatment plants	Treatment chemicals
Golf Courses	Pesticides <sup>8</sup> , nitrate, phosphorous, arsenic.
Landfills/Dumps	Organic and inorganic chemical contaminants; waste from households <sup>6</sup> and businesses <sup>5</sup> , nitrates, oils, metals, solvents.
Motor Pools	Automotive wastes <sup>4</sup> : solvents, waste oils, fuel storage.
Railroad Yards/Maintenance/Fueling Areas	Diesel fuel; herbicides for rights-of-way <sup>8</sup> , creosote from preserving wood ties, solvents, paints, waste oils.
School Maintenance Facilities	Machinery/vehicle serving wastes, gasoline. <sup>4</sup>
Septic Systems (large community systems or 10 single systems on 40 acres)	Bacteria, viruses, nitrates, salts, dissolved solids, improperly disposed of household or business wastes <sup>5,6,9</sup> .
Utility Stations/Maintenance Areas	PCBs from transformers and capacitors, oils, solvents, sludges, acid solution, metal plating solutions (chromium, nickel, cadmium).
Waste Transfer/Recycling Stations	Residential and commercial solid waste residues.

Source	Potential Contaminants <sup>1,2,3</sup>
Wastewater Effluent to Surface Waters (primarily surface water concern)	Municipal wastewater, sludge <sup>10</sup> , treatment chemicals <sup>11</sup> , nitrates, heavy metals, bacteria, nonhazardous wastes
<b>Miscellaneous</b>	
Above Ground Storage Tanks	Diesel, gasoline, other chemicals.
Construction/Demolition Areas (Plumbing, Heating, and Air Conditioning, Painting, Carpentry, Flooring, Roofing and Sheet Metal etc.)	Solvents, asbestos, paints, glues and other adhesives, wastes insulation, lacquers, tars, sealants, epoxy waste, miscellaneous chemical wastes, explosives, sediment.
Historic Gas Stations	Diesel fuel, gasoline, kerosene.
Historic Waste Dumps/Landfills	Leachate, organic and inorganic chemicals, waste from households <sup>6</sup> , and businesses <sup>5</sup> , nitrates, oils, heavy metals, solvents.
Injection Wells/Dry Wells/Sumps (primarily ground water concern)	Storm water runoff, used oils, antifreeze, gasoline, solvents, other petroleum products, pesticides <sup>8</sup> , and other chemical substances.
Storm Water Drainage to Surface Waters (primarily surface water concern)	Storm water runoff, oils, antifreeze, metals, sediment, and pesticides, and a wide variety of other substances.
Military Installations	Wide variety of hazardous and nonhazardous wastes depending on the nature of the facility, diesel fuels, jet fuels, solvents, paints, waste oils, heavy metals, radioactive wastes, explosives.
Surface Water Stream/Lakes/Rivers/Recharge Sites	Ground Water: bacteria and viruses, cryptosporidium Surface Water: nitrates, pesticides, sediment from Ag. return drains.
Transportation Corridors	Herbicides in highway right-of-way <sup>8</sup> , road salt (sodium and calcium chloride), road salt anti-corrosives (phosphate and sodium ferrocyanide), automotive wastes <sup>4</sup> , nitrate or phosphorous from fertilizer use.
Forest Roads /Logging (primarily surface water concern)	Sediment, fuel spills.
Landslides/Burn Areas (primarily surface water concern)	Sediment.
Underground Storage Tanks	Diesel, gasoline, heating oil, other chemical and petroleum products.
Unsealed or Abandoned Wells, and Test Holes (primarily ground water concern)	Storm water runoff, solvents, nitrates, septic tanks, hydrocarbons, and a wide variety of other substances.

1 In general, surface or ground water contamination stems from the misuse and improper disposal of liquid and solid wastes; the illegal dumping or abandonment of household, commercial, or industrial chemicals; the accidental spilling of chemicals from trucks, railways, aircraft, handling facilities, and storage tanks; or the improper siting, design, construction, operation, or maintenance of agricultural, residential, municipal, commercial, and industrial drinking water wells and liquid and solid waste disposal facilities. Contaminants also can stem from atmospheric pollutants, such as airborne sulfur and nitrogen compounds, which are created by smoke, flue dust, aerosols, and automobile emissions, fall as acid rain, and percolate through the soil. When the sources list in these tables are used and managed properly, water contamination is not likely to occur.

2 Contaminants can reach ground water from activities occurring on the land surface, such as industrial waste storage; from sources below the land surface but above the water table, such as septic systems; from structures beneath the water table, such as wells; or from contaminated recharge water.

3 This table lists the most common potential contaminants, but not all-potential contaminants. For example, it is not possible to list all potential contaminants contained in storm water runoff or from military installations.

4 Automobile wastes can include gasoline; antifreeze; automatic transmission fluid; battery acid; engine and radiator flushes; engine and metal degreasers; hydraulic (brake) fluid; and motor oils.

5 Common wastes from public and commercial buildings include automotive wastes; and residues from cleaning products that may contain chemicals such as xylenols, glycol esters, isopropanol, 1, 1, 1, -trichloroethane, sulfonates, chlorinated phenols, and cresol.

6 Households wastes include common household products that can contain a wide variety of toxic or hazardous components.

7 X-ray developers and fixers may contain reclaimable silver, glutaldehyde, hydroquinone, potassium bromide, sodium sulfite, sodium carbonate, thiosulfates, and potassium alum.

8 Pesticides include herbicides, insecticides, rodenticides, and fungicide. EPA has registered approximately 50,000 different pesticide products for use in the United States. Many are highly toxic and quite mobile in the subsurface.

9 Septic tank/cesspool cleaners include synthetic organic chemicals such as 1, 1, 1,-trichloroethane, tetrachloroethylene, carbon tetrachlorine, and methylene chloride.

10 Municipal wastewater treatment sludge can contain organic matter, nitrates; inorganic salts; heavy metals; coliform and noncoliform bacteria; and viruses.

11 Municipal wastewater treatment chemicals include calcium oxide; alum; activated alum; polymers; ion exchange resins; sodium hydroxide; chlorine; ozone; and corrosion inhibitors.

**Source:** "Protecting Drinking Water Sources in Idaho (DEQ, 2000)

## **APPENDIX E**

### *Contingency Plan for Drinking Water Emergencies*

**CONTINGENCY PLAN**  
**For the**  
**City of Dover, Idaho**  
**Public Water System #1090193**

**Bob Hansen, Water Systems Management, Licensed Operator**

*(See Section VII for additional contacts)*

**Contact Information**

**Bill Strand**  
**Dover City Council President**  
**699 Lakeshore Ave**  
**Dover ID, 83825**

**25-January-2015**

*Review and Update Annually*

<b>Date Reviewed</b>	<b>Reviewer</b>	<b>Changes or Comments (attach additional documents as needed)</b>

## I. INTRODUCTION

The purpose of developing a Contingency Plan is to establish, provide, and keep updated certain emergency response procedures that may become necessary in the event of a partial or total loss of public water supply service because of natural disasters, chemical contamination, mechanical failure, or civil disorders. This Contingency Plan is the procedural guide for responding to such emergencies.

Regardless of protection strategies and efforts to prevent contamination or exposure of the municipal water system to harmful materials, it is recognized that contamination may still occur, either from accidental chemical releases, intentional acts of vandalism, or as unforeseen results of the otherwise legal use of hazardous materials. To that end, the **City of Dover, Idaho (hereafter called the City)** has established this Contingency Plan as a strategy guide for emergency actions should such an incident occur. The Plan is developed on the premise that a **chemical spill and/or an electrical/mechanical failure** pose the greatest threat in preventing the water system from providing drinking water to its customers. However, the provisions of this Contingency Plan may be employed in any event that poses a threat to this rural water system. If deemed of sufficient severity, the **City** may declare a state of emergency or disaster under the provisions of Idaho Code Chapter 10, title 46, Idaho Emergency Preparedness Act in order to request resources and support assistance from **Bonner County**, the state of Idaho, and/or federal agency sources.

## II. HAZARD ANALYSIS/RISK ASSESSMENT

The water system and planning team has conducted an initial hazard analysis and risk assessment. Derived through discussion, historical occurrence and review of available statistical reports, the planning team has assigned a priority class to each identified hazard/threat, and a probability rating. Outcome of the process indicates that a **chemical spill and/or an electrical/mechanical failure** is the most likely and most significant threat to the existing community water supply. The following table illustrates contamination sources considered.

Threats/Hazards Considered.

Priority Rating <sup>1</sup>	Threat/Hazard	Highly Probable	Probable	Possible	Possible but Unlikely
L	Natural contamination (natural sources)				X
L	Agricultural chemical leaching				X
L	Electrical/mechanical failure		X		
L	Chemical spill – Residential			X	
M	Chemical spill – Transportation related		X		
M	Intentional contamination – Vandalism or terrorism				X

<sup>1</sup>=Priority rating based upon known or perceived threats to the aquifer and water system; Low (L), Medium (M), High (H).

### III. PUBLIC WATER SUPPLY CHARACTERISTICS

#### Water System Information

Storage	<b>400,824</b> gallons, enough for <b>20</b> days with water conservation measures in place.
Supply source(s)	<b>Pend Oreille River</b>
Treatment method	<b>Slow Sand Filter</b>
People served	<b>500</b>
Distribution method	<b>Piped, gravity feed</b>
Source capacity (gpm)	<b>Max 100 gpm summer / 60 gpm winter</b>
Source depth (feet below ground surface)	<b>NA</b>
Total depth (feet bgs)	<b>NA</b>
Production (gpm)	<b>Max 200 gpm</b>

### IV. CONTINGENCY PLAN – CONCEPT OF OPERATION

Upon notification of an emergency or other event that may impact or threaten to impact the **City**, the water operators will be notified immediately. The water operators will serve as the lead coordinators for mitigation efforts. Governing officials or water board members will participate in unified command structure to assist in managing and mitigating the emergency incident.

### V. CHEMICAL RELEASE ACTION STEPS

The following emergency action guide will be implemented in the event of a chemical release or spill that may threaten any portion of the water supply system:

#### 1. EMERGENCY ACTION STEPS:

Figure 1 of this Contingency Plan establish one-page emergency action guides that may be implemented immediately upon discovery of a chemical spill or other event that threatens the **City** drinking water sources. The “flow chart” style emergency action guides consider the best protective step to maintain system integrity is to isolate first, then investigate further. It **MUST** be understood, however, that no one should enter into a hazardous environment unless properly trained and equipped to do so. Actions should be taken using the Idaho Hazardous Materials Response Plan and the Idaho Transportation Department (ITD) Guidebook to determine exclusion zones and protective actions.

- If not already established by emergency response agencies, an Incident Command System (ICS) will be established. If an ICS is already established, the water operator, system engineer and/or governing board/officials will coordinate and serve as liaisons with the Incident Commander to access threats and implement water system protection measures.
- If not already done by the Incident Commander, the Idaho State Communications Center (State Com) will be notified of the type and properties of the release. Contact phone number is 1-800-632-8000).
- The water operator will initiate system source isolation (e.g. shutting down wells; isolating spring sources, etc.) as determined appropriate for the event.
- Working with the water operators and **Mayor of the City of Dover (hereafter called the Mayor) and the Dover City Council (hereafter called the Council)**, public notifications, water usage restrictions, and priority use protocol will be implemented as necessary.
- The Idaho Department of Environmental Quality (DEQ), District Health Department, and other state and/or federal agency(s) that may be involved will be consulted and coordinated with to ensure the mediation and safety of delivered drinking water.

- If the event impacts the water system such as to be unusable, the need to supply supplemental drinking water (bottled water, etc.) will be assessed and determined by the water operators and **the Mayor and Council** leadership.
- In keeping with the County Emergency Operations Plan, the County Office of Emergency Management and the Bureau of Disaster Services Area Field Officer (BDSAFO) will be notified. In the event that needed resources are not available within the County, the County Emergency Manager and BDSAFO will work through the State Emergency Operations Center to facilitate resource requests.

## 2. PRIORITIES FOR USE OF DRINKING WATER DURING WATER SUPPLY EMERGENCIES

During periods of water system emergencies, priorities for use of drinking water may be established depending upon the severity and anticipated duration of the emergency. Those services and uses determined less critical to public health and safety will be suspended for a period to be determined by the **City**. This Contingency Plan is developed to prepare for the management in the event of a water system emergency, and shall not be deemed to contravene the authority of the **Mayor and Council** leadership. It is recognized that the **Mayor and Council** leadership may exercise its authority and impose other more or less restrictive controls, based upon the particular event. **Water storage values provided in Table 2 do not include water needed for fire suppression.** The following priority for use will be established:

Water Restrictions and Priority Use

	Use Advisory	Priority Use	Prohibited Use
Level 1: Minor contaminants – follow Health District recommendations	Boil Order	Drinking Water Yard and other uses	Boil Order for domestic uses  No restrictions
Level 2: Reduced supply due to source closure or limitation (including drought)	Watering Restriction Notice	Drinking Water Limited yard and other uses	Yard or garden use by scheduled watering hours <b><u>ONLY</u></b>
Level 3: Reduced supply due to source closure or limitation (including drought)	Water Restriction Notice	Drinking Water	<b><u>NO OUTSIDE WATER USE</u></b>
Level 4: Serious hazard affecting water source	<b><u>Bottled water ONLY</u></b> Notification of all media outlets		<b><u>NO DOMESTIC USE</u></b>
Level 5: Serious environmental and health hazard affecting water source	<b><u>Bottled water ONLY</u></b> No physical contact Notification of all media outlets	<b><u>NO USE ALLOWED</u></b>	<b><u>ANY USE OR CONTACT PROHIBITED</u></b>

## 3. SHORT-TERM REPLACEMENT ALTERNATIVES

The **City** has **400,824** gallons water storage capacity. In the event it becomes necessary to isolate or shut down any drinking water sources, drinking water may have to be provided through a state-certified water hauler, or by bottled water. Water conservation practices should be put into effect. The water

system would coordinate with the Health Department to identify certified water haulers and shippers who would be contacted to provide water by truck. Potential water providers are listed in Section V, subsection 4.

Depending upon the anticipated duration of the water emergency, the **City** may request support from the Idaho National Guard Potable Water Transportation Purification Unit at Boise. Such requests must be made through the Idaho Bureau of Disaster Services (BDS) and can be fulfilled by contacting the **Bonner** County Office of Emergency Management at **(208) 265-8867**, via email, **<http://bonner.hiplink.com/bonner/index.html>** or the Idaho BDSAFO by contacting State Communications at 1-800-632-8000.

The **City** may have to identify and contract with commercial water purification companies to provide short or long-term water services until the water emergency can be remedied.

**4. INVENTORY OF AVAILABLE RESOURCES FOR EMERGENCY USE**

Locally available resources:

- Bottled water – Available at
  - Super One (208) 255-2417**
  - Safeway (208) 263-9638**
  - Yokes (208) 263-4613**
- Bottled water and filtration services – Available at
  - Quality Water Northwest / Kinetico (208) 772-0455**

State assets available through the Idaho Bureau of Disaster Services
 

- Idaho National Guard transportable potable water tanks
- Idaho National Guard transportable water purification system

The following state resources are available to assist and may be contacted via State Comm. at 1-800-632-8000.

- Bureau of Hazardous Materials – 208-422-5726
- Bureau of Environmental Health and Safety – 208-334-2584
- Idaho Department of Environmental Quality – **208- 769-1422**
- Panhandle Health Department – **208-265-6384**

**VI. LOCAL INCIDENT ASSESSMENT TEAM**

Upon notification of a water emergency and as soon as possible, a local Incident Assessment Team will be assembled to assess impact to the water system, long-range outlook, and alternatives for rectifying the water emergency. The Team will include but may not be limited to those positions identified.

<b>Local Incident Assessment Team</b>	
<b>Dover Mayor</b>	
<b>Dover City Council</b>	
<b>Idaho DEQ</b>	
<b>Bureau of Environmental Health and Safety</b>	
<b>Panhandle Health District</b>	
<b>Water Systems Management</b>	

## VII. PUBLIC NOTIFICATION PLAN

**PUBLIC NOTIFICATIONS:** Upon notification of an incident impacting the water system and upon recommendation from the water operator, regulatory agencies or other relevant sources, **the Mayor and Council** leadership for **the City** will order the appropriate level of public notification to be made.

The provisions of this Contingency Plan will guide the level of notification used, however the particular threat or seriousness of impact shall be the deciding factor as to the level and method of public notification.

**MEDIA OUTLETS:** Depending upon the nature of the threat and the severity and seriousness of potential public health implications, governing/water board leadership will decide upon a dissemination method for public notification. The **Panhandle Health District** should not be overlooked as a resource for notification and special expertise in dealing with media information issues. The following are notification methods and media outlets that may be employed at the discretion of **the Mayor and Council** leadership:

Mailers and posted public announcements

- Utility bill mailers
- Special announcement mailers or flyers
- Public announcements posted at identified sites within the community

Local and area newspapers

- **Bonner County Bee**

Idaho Emergency Alert System (For immediate public health and safety)

- Central Activation Center (CAC)
- Idaho State Communications Center 1-800-632-8000
- National Weather Service NOAA Weather Radio (NWR)
  - Automatically included via EAS Activation
- All LOCAL Broadcast Media
  - Automatically included via EAS Activation

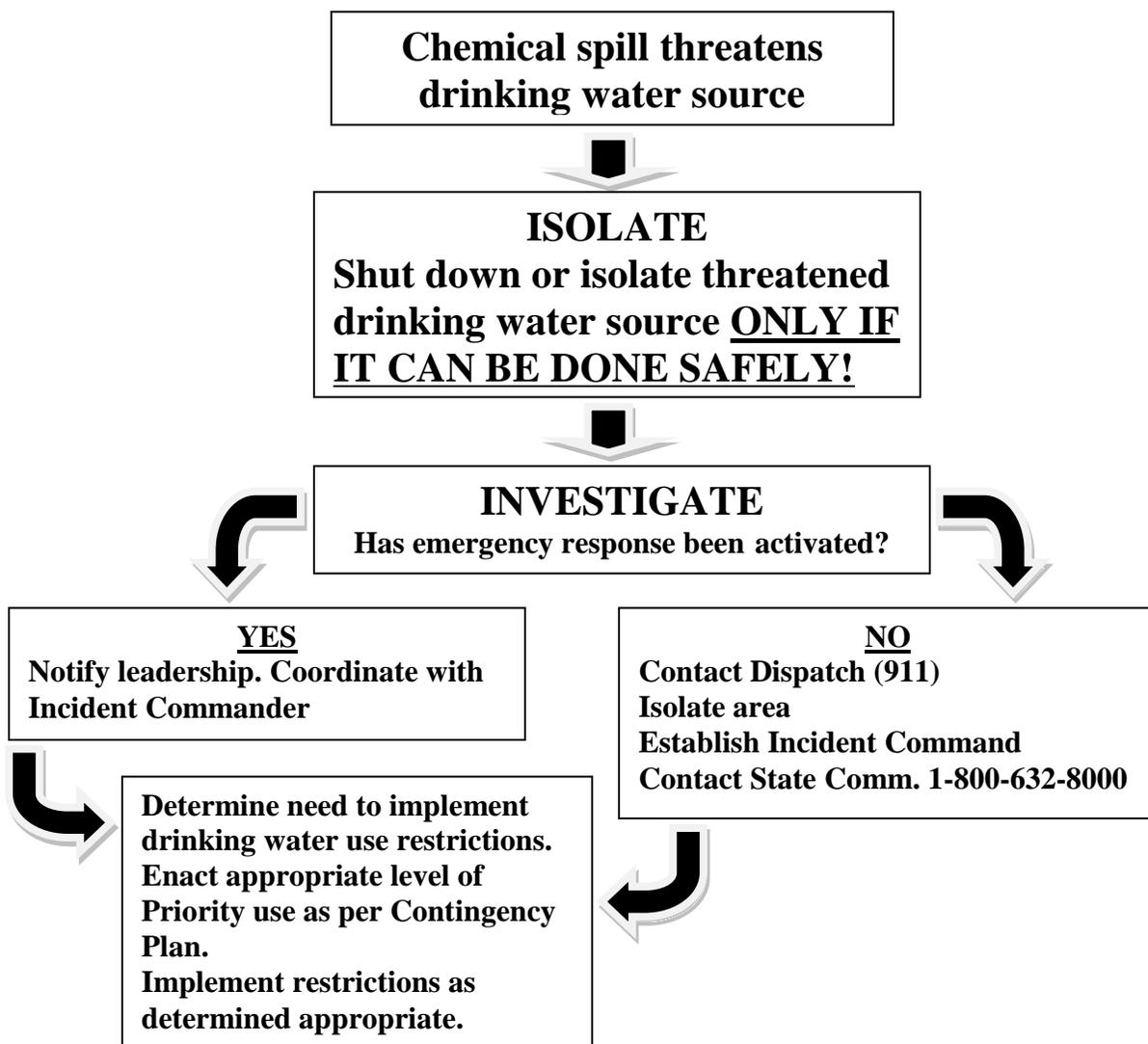
<b>Organization</b>	<b>Contact Person</b>	<b>Copy of Plan (Y/N)</b>	<b>Business Phone</b>	<b>Home Phone</b>	<b>24 hour Emergency Phone</b>
<b>Water System Management</b>	Bob Hansen	Y	<b>1-208-265-4270</b>		
County Sheriff	Dispatch				911
<b>Westside Fire Dept</b>	Dispatch		<b>1-208-265-9745</b>		911
<b>Avista</b>	Dispatch		<b>1-800-227-9187</b>	N/A	
<b>Panhandle District Health</b>			<b>1-208-265-6384</b>	N/A	911
Idaho Bureau of Disaster Services	Dispatch		1-800-632-8000	N/A	1-800-632-8000
Bureau of Homeland Security (Boise)	Emergency			N/A	1-800-632-8000
<b>Independent Highway District</b>			<b>1-208-263-8131</b>	N/A	911
Idaho Transportation Department	Dispatch			N/A	911
<b>Bonner General Hospital</b>	Emergency		<b>1-208-263-1441</b>	N/A	911
County Paramedics	Dispatch			N/A	911
<b>Frontier Telephone</b>	Dispatch		<b>1-877-757-2759</b>	N/A	
DEQ Regional Office		Y		N/A	911
Idaho Rural Water Association		Y	208-343-7001		208-343-7001
Laclede Water District				N/A	911

**EMERGENCY ACTION GUIDE**  
**Drinking Water Source Protection Plan**

If a hazardous chemical incident occurs in the Drinking Water Source Protection Area and is likely to pose a threat to drinking water sources (wells, springs, surface water intake, storage facility), implement the emergency action steps below immediately.

**IMPORTANT:** Remain uphill and upwind of any chemical release area. Coordinate with the Incident Commander of emergency response agencies and provide assistance relative to protecting the drinking water sources. Activate the Idaho Contingency Plan by contacting State Comm. at:  
**1-800-632-8000**

**EMERGENCY ACTION STEPS**



# **APPENDIX F**

## *Source Water Protection Plan Certification Checklist*

**Drinking Water Source Protection Plan Certification Checklist**

Public Water System Name: **City of Dover PWS1090193**

Local Contact: **City Administration**

Date Returned to Water System: **February 25, 2015**

Source Water Protection Plan    **Approved**     **Disapproved**

Idaho Source Water Protection Plan guidance - *Protecting Drinking Water Sources in Idaho, August 2000* Pg. 28 of the document states "If a plan is found to satisfy all eight elements, then the community will be recognized by IDEQ as having a "State Certified Plan". Additionally, supporting information describing each of the required elements is referenced as well.

**Required Elements of Certified Source Water Protection Plan** **Element Addressed**

<b>Element 1</b>	Description of Planning Team Participant Roles and Duties (Reference <i>Step 1: Formation of a Community Planning Team</i> )	<b>Yes</b>	<b>No</b>
<b>Element 2</b>	Delineation of the Source Water Protection Area (Reference <i>Step 2: Delineation of the Land Area to be Protected</i> )	<b>Yes</b>	<b>No</b>
<b>Element 3</b>	An Inventory of Potential Sources of Contamination (Reference <i>Step 3: Identification of Potential Contaminant Sources</i> )	<b>Yes</b>	<b>No</b>
<b>Element 4</b>	Management Tools and Protection Measures that will be Pursued to Manage Potential Sources of Contamination (Reference <i>Step 4: Development and Implementation of a Management Plan for Source Water Protection Area</i> )	<b>Yes</b>	<b>No</b>
<b>Element 5</b>	A Contingency Plan (Reference <i>Step 5a: Development of a Contingency Plan</i> )	<b>Yes</b>	<b>No</b>
<b>Element 6</b>	A Protection Strategy for New Wells or Intakes (Reference <i>5b: Planning for Future Drinking Water Sources</i> )	<b>Yes</b>	<b>No</b>
<b>Element 7</b>	A Public Participation and Education component	<b>Yes</b>	<b>No</b>
<b>Element 8</b>	An Implementation Strategy (what will be done, when will it be done, and by whom)	<b>Yes</b>	<b>No</b>

If a plan is found to satisfy all eight elements, then the community will be recognized by IDEQ as having a "State Certified Plan". This certification will cover a five year period, after which recertification can be pursued by the community. Recertification will include an evaluation of the community's success in implementing source water protection as a measure of the community's strategy. (Element 8)

Reviewers	Agency/Affiliation	Comments