

# WATERSHED PROTECTION PROGRAM



FACT SHEET SWP-103

revised June 2009

Montana is required under provisions of the 1996 federal Safe Drinking Water Act to carry out a Source Water Assessment Program. The U.S. Environmental Protection Agency formally approved the Montana program in November 1999. The program was developed to the greatest extent possible using public participation and input from public water systems (PWSs) and other stakeholders interested in source water protection issues.

## Avoiding Filtration: Groundwater Under the Direct Influence of Surface Water

A source water or wellhead protection plan (SWPP) can be used as a watershed protection program for drinking water sources that are ground water under the direct influence of surface water [National Primary Drinking Water Regulations - Subchapter 2 Subpart A 141.71 (b) (2)]. For systems that are determined to be groundwater under the direct influence of surface water (GUDISW), an approved wellhead protection program developed under section 1428 of the Safe Drinking Water Act may be used to meet the requirements of a watershed program. These systems may, under certain circumstances, be approved to limit treatment application to disinfection of their public water supply, thus avoiding filtration.

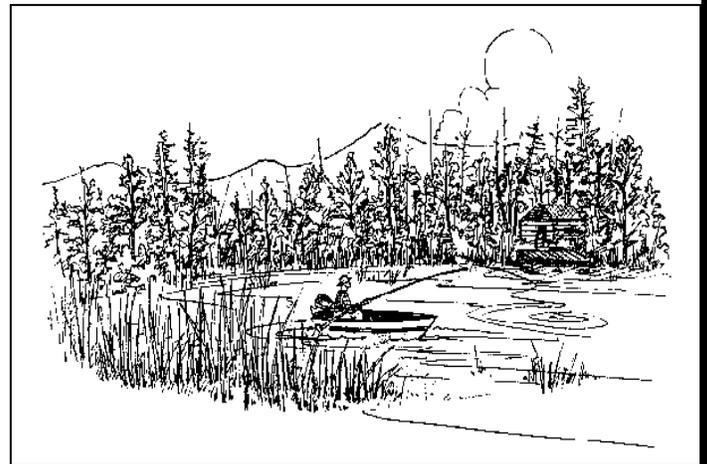
The information compiled in this factsheet is intended to guide source water protection plan development to support the avoidance of filtration. Other requirements to avoid filtration not described here (such as water quality monitoring, disinfection, and annual inspections) must also be addressed.

A certified SWPP does not automatically translate into an approved watershed protection program that can be used to avoid filtration. The risk to public health is too great when using an unfiltered GUDISW source to leave anything to chance. A more comprehensive or expanded assessment of the watershed is needed when a SWPP is to be used for a very specific purpose such as avoiding filtration. For example, the source water protection area will need to be increased to extend to the boundary of the watershed. Also, land ownership, land use, and control information will need to be enhanced to provide more detail.

In general, a SWPP that is intended to be used as a watershed protection program must minimize the potential for contamination of the source water by Giardia and viruses. The adequacy of a SWPP to minimize contamination is determined by:

- the comprehensiveness of the watershed review,
- the ability to monitor and control detrimental activities in the watershed, including recreation such as swimming, camping, boating, sewage and septic system discharges, or other activities that may impact microbiological water quality or interfere with disinfection treatment, and
- the extent to which land use is controlled within the watershed.

In order for a source water protection plan to be considered comprehensive, it should identify all landowners in the watershed upgradient from the source water intake structure and all land uses within the spill response region by



individual land parcel.

The ability to monitor and control detrimental activities in the watershed can be addressed by developing a local source water protection ordinance using the authorities granted to the city, town, or county government. The ordinance should assign monitoring responsibilities and should control detrimental activities. For example, to control detrimental activities, septic systems must meet design and operational standards, livestock must be prohibited from surface water access, and livestock facilities (corrals, feeding areas, etc) must be separated by a vegetated buffer from surface waters.

The extent of control necessary is site specific. For example, Missoula restricted fishing, swimming, livestock, and pets from the watershed area in order to keep feces from being introduced directly to the Rattlesnake Creek drinking water source; other activities in the watershed were not restricted.

Public education concerning activity restrictions should be a component of the plan. For example, public education can occur on a daily basis by posting signs to indicate that you are entering a source water protection area. Informational materials can be distributed through annual direct mailings to landowners within the watershed.

The Montana Public Water Supply Section at DEQ is the regulatory authority responsible for establishing the criteria and approving all plans to avoid filtration. Questions regarding the use of a watershed protection program to avoid filtration should be directed to the public water supply supervision program at (406) 444-4400. Questions regarding a Source Water Protection Plan can be directed to (406) 444-6697.

## **Criteria for a watershed control program or source water protection plan intended to be used as a watershed control program**

1.0 Program or plan must characterize the watershed hydrology and land ownership.

1.1 Provide a text description of the watershed above the PWS intake:

- a. Physical extent- geographic setting
- b. Generalized geology
- c. Climate discussion including spatial variation within the watershed
- d. Ground water (GW) flow system(s)
- e. Surface water (SW) system including temporal variation
- f. GW/SW interaction including spatial and temporal variation
- g. SW time of travel estimates, by stream reach as appropriate
- h. Generalized land use by owner type

1.2 Provide maps of the watershed above the PWS intake:

- a. Generalized map showing watershed boundary, streams, tributaries, and PWS intake
- b. Generalized map showing ownership features including private and public lands, and roads

2.0 Program or plan must identify watershed characteristics and activities which may have an adverse effect on source water quality.

2.1 Provide a text description of the watershed above the PWS intake:

- a. Specific information concerning agricultural land use including livestock in the watershed
- b. Specific information concerning agricultural land use including livestock in the watershed
- c. Specific information within the PWS source spill response region on all NPDES discharges (wastewater, stormwater) and septic systems. The spill response region is the “area of influence” outside of which there is not significant likelihood of Giardia or viral contamination.

2.2 Provide maps of the watershed above the PWS intake:

- a. Map showing, within the PWS source spill response region (1/2 mile buffer on either side of the stream and perennial tributaries extending 10 miles upgradient or to the extent of the watershed and is the “area of influence” outside of which there is not significant likelihood of Giardia or viral contamination.):
  - o individual land parcels and residential structures (or septic systems)
  - o public wastewater treatment discharge locations including large capacity septic systems
  - o stormwater discharge locations
  - o CAFOs, AFOs, or stockwater wells permitted for >35 gpm
  - o Cropped agricultural land

3.0 Program or plan must monitor the occurrence of activities which may have an adverse effect on source water quality.

3.1 Describe how the PWS will track potentially detrimental activities including:

- a. Review and comment on all new or renewal NPDES discharge permits issued within the spill response region
- b. Review and comment on all new or replacement septic system permits issued within the spill response region
- c. Review and comment on septic system operation and maintenance within the spill response region

- d. Review and comment on all new large capacity or public wastewater treatment within the spill response region
- e. Review and comment on 404 related projects in the watershed
- f. Review and comment on streambed modification projects in the watershed
- g. Review and comment on timber management related SMZ activities in the watershed

4.0 Program or plan must demonstrate through ownership and/or written agreements with landowners within the watershed that the PWS can control\*\* all human activities which may have an adverse impact on the microbiological quality of the source water.

4.1 Describe how the PWS interacts (e.g. MOU/MOA) with:

- a. The county health department to oversee septic systems (installation and O&M) in the spill response region
- b. DEQ to oversee NPDES permit applications or renewals, wastewater systems, CAFOs, and AFOs in the spill response region
- c. DEQ to oversee 401 certification of 404 activities
- d. The local conservation district to oversee Streambed Preservation Act permit activities
- e. The DNRC to oversee SMZ activities

\*\*Control measures may include 1) elimination, reduction, or treatment of wastewater or stormwater discharges, 2) treatment of Giardia and virus contamination at the sites of waste generation or storage, 3) prevention of Giardia or virus migration for sources, or 4) other measures that will reduce Giardia and virus contamination of source water.