

# WYOMING WATER ASSESSMENT AND PROTECTION PROGRAM (SWAP)



## SOURCE WATER ASSESSMENT PROGRAM EXECUTIVE SUMMARY

Source Water Assessment Prepared For:  
Dixon

Assessment Completed By:  
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## **SOURCE WATER ASSESSMENT SUMMARY FOR Dixon**

### **PWS Source Water Assessment Summary**

The Town of Dixon maintains a community water system that is located on Wyoming Highway 70, about 58 miles south of the Baggs exit on I-80. The system serves a population of about 75 through 75 service connections. Source water for the system is obtained from the Little Snake River through four infiltration galleries, three in the main channel and one in a flood channel. The infiltration galleries consist of segments of 50 foot and 10 foot long sections of eight inch diameter, slotted PVC screen. Collected water is pumped into a wet well, where chlorine (HTH) is added for disinfection. Filtration consists of an array of three, 3M Brand Series 500 Liquid Filter bags set in stainless steel filter vessels. Two mixed media filters (Yardney Ultra 116 Automater) provide pre-filtration of treated water to remove the high concentration of iron prevalent in the source water.

Results of the contaminant inventory and susceptibility analysis revealed there are several contaminant sources within Zones 1 and 2 that present a threat to the Town's drinking water supply. These included irrigated cropland land uses, oil and gas wells, and wastewater discharge points that are located within the source water area of the intake. The following report contains the source water delineation and susceptibility assessment for the Town of Dixon.

### **Delineation Methods**

The Town of Dixon water system is a community system that receives its entire supply from a surface water source. For that reason, Lidstone delineated the source water area for the Town using surface water methods.

### **Surface Water Sources**

Dixon obtains all of its municipal water from the Little Snake River intake which is located along the river due south of the Town. Dixon's current diversion structure consists of four infiltration galleries, three in the main channel and one in a flood channel. The infiltration galleries consist of segments of 50 foot and 10 foot long sections of eight inch diameter slotted PVC screen. Additional information on this source is included on the enclosed Surface Water Information Sheet.

As shown on the enclosed delineation maps, the source water area includes most of the Little Snake River drainage. Zone 2 extends 15 river miles upstream from the intake and includes a 1,000 foot buffer on both banks of the river and perennial tributaries. However, Zone 2 on the Little Snake River stops at the Stateline in accordance with DEQ's SWAP guidance document. Zone 3 includes the remaining Little Snake River watershed upstream from the intake with the exception of that part of the drainage which lies in Colorado.

## **Integrity Summary**

The Town of Dixon uses surface water from the Little Snake River. The intake was constructed after 1993, when stringent construction standards were required by the State of Wyoming. Records also indicated that the area around the intake is restricted, and that the intake is screened to protect against the infiltration of potential contaminants. In addition the intake is inspected regularly. As shown on the Integrity Summary Table, Dixon's intake received an integrity score of 1. This value directly reflects the post 1993 construction date of the facility.

## **Water Source Sensitivity Summary**

Dixon maintains one surface water source, the Little Snake River. As shown on the Source Sensitivity Summary Table, the Town's intake received a sensitivity score of 10.

The intake received the maximum sensitivity score for two reasons. The first reason is because it obtains water from a surface water source. The second reason is that laboratory analysis of water samples from the town within the last five years detected several contaminants that are listed on EPA's primary and secondary drinking water standards. These include fluoride, sodium, sulfate, and gross alpha among others. Despite detection, these contaminants were detected at concentrations below the EPA's maximum contaminant levels.

## **Water System Susceptibility Rating**

Susceptibility is defined as the potential for a public water supply to draw water contaminated at concentrations that would pose a threat or concern to human health. In general, The Town received high land use and point source susceptibility scores. The presence of a high percentage of irrigated cropland in Zones 1 and 2 resulted in a high susceptibility rating for the intake. The intake also received a high susceptibility rating with respect to point source contaminants because there are two oil and gas wells and a wastewater discharge facility located within Zone 2. The Town should also be aware of the Ferris Haggarty Mine (64041) in Zone 3. This abandoned mine land site currently discharges up to 500 gallons per minute of 4 mg/l copper laced water to Haggarty Creek which eventually flows into the Little Snake River. Because there were no transportation corridor contaminants inventoried in Zones 1 and 2, the overall susceptibility of the intake with respect to these sources is low. Susceptibility ratings for each type of potential contaminant source are summarized on the attached susceptibility tables.

A review of your PWS's routine water analysis results revealed that one or more chemicals that are considered contaminants in drinking water were detected at some time within the last five years. Chemical detections have a large impact on your PWS's sensitivity score because it may indicate that there is a pathway for contaminants to reach the water supply. However, it is likely that these chemicals are present only in small amounts and are not a danger to your health. Some of these chemicals may also occur naturally in water.

For more information about which chemicals were detected, please contact the PWS for a copy of the most recent Consumer Confidence Report or water analysis results. Chemical detections at levels that are a concern to human health are reported on the EPA's website:

[http://www.epa.gov/enviro/html/sdwis/sdwis\\_query.html](http://www.epa.gov/enviro/html/sdwis/sdwis_query.html). To see if your PWS has exceeded the federal primary or secondary drinking water standards, just click on the State of Wyoming and then type in the name of your PWS. Consumer Confidence Reports are prepared by the PWS on a yearly basis. The reports should include information about any chemicals found in the water, even those found at very low levels. Please contact Kim Parker at DEQ, 307-777-7781, or WARWS for assistance. You may also contact EPA to find out what contaminants were detected. You may have to fill out a Freedom of Information Act request to obtain the water test results for your PWS. Please call EPA's Safe Drinking Water Hotline at 1-800-426-4791.

**POINT SUSCEPTIBILITY SUMMARY TABLE  
FOR Dixon  
Point Source Susceptibility Summary**

It may appear from the results of this point source susceptibility summary table that your system has too many PSOCs influencing the final ratings. In some cases, a specific PSOC falls within a specific contaminant inventory zone shared by multiple wells or intakes. When this is the case, that PSOC will be scored for each intake. For example, an underground storage tank may appear within a contaminant inventory zone shared by four different wells. This would cause that single storage tank to be entered into the table four times, or once for each well or intake.

Point Source Type	Low	Medium	High
Wastewater Discharge	N/A	N/A	1
Oil & Gas Well	N/A	N/A	2

- \* Illustrates the number of PSOCs in a particular rating class for all water sources
- \* N/A - Not Applicable