

*SOURCE WATER
PROTECTION PLAN*

***City of Whitefish
Public Water Supply***

PWSID # MT0000357

December 2018

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Executive Summary

Source Water Protection (SWP) planning process focuses on the water supply sources for a public water system. The City of Whitefish is a community that is located in Flathead County in northwestern Montana within the Flathead National Forest and Whitefish Mountain Range with close proximity to Glacier National Park and the Bob Marshall Wilderness. The City of Whitefish obtains their public water supply from two surface water sources. This report looks at the potential impacts that could occur to these sources. It identifies management activities that the city can implement to protect their source water and includes a contingency response plan to address communication and coordination efforts to deal with potential risk events.

This project was completed as a group effort among a planning committee that included staff with the City of Whitefish Public Water System and Fire Department, Flathead County Departments including Office of Emergency Services and Public Health Department along with staff from Montana Rural Water Systems, Inc. The planning committee reviewed the 2002 Source Water Delineation and Assessment Report (SWDAR) completed by Jeffrey Herrick, Hydrologist with the Source Water Protection Program at Montana Department of Environmental Quality (DEQ). This report was used as a technical basis for this planning process to review, update and develop management plans to protect the water supply sources.

The SWP planning team members included:

City of Whitefish

Craig Workman, Public Works Director
Neil DeZort, Utility Operations Supervisor
Joe Page, Fire Department Chief

Flathead County

Rick Sacca, Emergency Manager, Office of Emergency Services (OES)
Hillary Hanson, Health Officer, City-County Health Department
Jennifer Rankosky, City-County Health Department

Montana Rural Water Systems

Kristi Kline, Source Water Protection Specialist

The goal of SWP planning is to identify what protective barriers are already in place, strive to establish new or support existing collaborations with various entities and then work together to incorporate management strategies to reach a common goal of protecting the community's source water. The City of Whitefish is committed to developing a Source Water Protection (SWP) management plan for the current PWS supply sources to assist in maintaining a safe and reliable supply source now and for the future of Whitefish.

Several planning meetings were held to update and refine information on the current inventory and potential susceptibilities for the City of Whitefish's public water supply (PWS). On-site tours of the Haskill Basin and Whitefish Lake water sources, led by the Public Works staff gave planning members an opportunity to understand the public water system's strengths and challenges. Planning meetings that followed included discussions and evaluating the principal threats to the source waters, designating a Public Water System (PWS) emergency contact, and developing potential responses in the event that a water shortage event arises. Management protection for this SWP Plan will focus on the two current PWS supply sources.

Public Water Supply Sources

The City of Whitefish Public Water System (PWS) includes two separate surface water sources. One source has an intake in the middle of Whitefish Lake near Monks Bay. An important part of the City's source of drinking water, Whitefish Lake also provides valuable public recreation to the area. The second PWS source is collected from two creek sources in the Haskill Basin, located north of the City of Whitefish. The Haskill Basin watershed comprises approximately ninety percent (90%) of the source drinking water for the City of Whitefish. Both sources are used to supply the current demand for the City of Whitefish.

Future Supply

As the public water system currently meets the summer and winter demands for the current population, an increase in growth is expected for the future. The US Census Bureau reports that Flathead County and surrounding cities (including Whitefish) have been experiencing a rapid growth since 2015. Since the 2010 US Census tally, Whitefish's population has grown about 10% with the growth mainly attributed to new and seasonal residents. Whitefish is a busy tourist destination with its' proximity to Glacier National Park and popular summer and winter activities which adds to the seasonal usage of water demands.

Maintaining both the Whitefish Lake and Haskill Basin sources are a top planning priority for the City of Whitefish. Loss of either the Whitefish Lake or Haskill Basin supplies would result in a critical threshold. Working towards solutions to reduce the critical need will be an important strategy.

The Whitefish Growth Policy adopted in 2007 noted that citizens value the scale, character, and small town feel of the community and will preserve those values as the community grows. The 2007 Growth Policy also states that the City of Whitefish remains committed to provide safe and reliable water and wastewater services to support their community amid the rapid future growth. Currently, the City Council and Public Works staff are in discussion of researching alternative water supplies for the future. The increasing growth patterns in the area will require the need for additional sources for the City of Whitefish.

Implementing a Source Water Protection (SWP) management plan for the current PWS supply sources will assist in maintaining a safe and reliable supply source now and for the future.

Risks -Surface Sources

All Montana surface water supplies have been classified by the MT DEQ SWP Program as *highly sensitive to contamination*. As both of the Whitefish PSW sources are surface waters, multiple protective barriers are very important management tools to have in place. The 2002 Source Water Delineation and Assessment Report (SWDAR) (Herrick, MT DEQ,) identified that both the Swift Creek and Whitefish River are contained within the SWP Spill Response and Watershed Regions for the Whitefish PWS source waters. The SWDAR further defines that these rivers are recharged through snowmelt, direct precipitation, surface runoff, and lateral inflow from alluvial and bedrock aquifers. Potential risks to the source waters could be connected through these hydrologic processes.

The SWP planning committee re-evaluated the potential contaminants identified in the 2002 SWDAR and identified barriers in place that have reduced the susceptibility of those contaminants or confirmed the contaminants no longer pose a threat or may not exist. Potential contaminants of concern include those associated with the BNSF Railway traffic that runs very close to Whitefish Lake, and U.S. Highway 93 and rural roadways with the possibility that runoff could reach Whitefish Lake. On-site septic system density remains low, but will be monitored by City of Whitefish as future growth occurs in the area.

New issues concerning potential *wildfire and drought events* in the Haskill Basin and *Aquatic Invasive Species (AIS)* in Whitefish Lake have been added and will be addressed in this 2018 SWP Plan. Fire events could prevent access to the intakes or quality issues in the source supply. Drought issues could lead to a reduced supply in the creek sources. Whitefish Lake is a popular recreation area used by Montanans and many out of state visitors. Potential AIS transport through recreational boats or trailers are possibilities that could dramatically impact Whitefish Lake.

Updates to the 2002 SWDAR:

The SWDAR lists Whitefish's population at 5,878 residents. The 2010 US Census Bureau reported a population of 6,357 residents and the current population in 2018 has increased to 6,671 residents that are served through 4,129 service connections. The Big Mountain Ski Resort, now known as Whitefish Mountain Resort, connected to the City of Whitefish Wastewater Treatment and Collection system in 2002. The Resort's large capacity septic system, noted in the 2002 SWDAR, was taken out of service at the same time and has been removed as a potential contaminant in the 2018 SWP Plan. A Leaking Underground Storage Tank (LUST) at the Resort's Maintenance Shop was also noted as a potential contaminant source in the 2002 SWDAR. This event was a petroleum release which underwent a cleanup operation and was resolved and closed by MT DEQ on June 5, 2009. Information on this event is attached.

Implementation

Source water protection is an ongoing effort, extending for the life of the water sources. Management protection ideas for the Whitefish SWP Plan will focus on the two PWS supply sources. As source water protection is an ongoing effort, extending for the life of the water sources, an active participation and communication effort by the **City of Whitefish, Flathead County and collaborative partners** are important roles to be continued in the future.

The **City of Whitefish Public Works staff and Council members** will collaborate to *update the SWP inventory and review of the SWP Plan every year*. Emergency contact information will be updated yearly along with any changes in land uses or new potential contaminant sources as needed. A complete evaluation will be completed by the **Whitefish SWP Planning committee** every five (5) years to include updated inventories and re-evaluate management planning strategies, effectiveness and goals and objectives of protecting the PWS source supplies.

The 2018 SWP Plan includes implementation tables that summarizes the management and contingency response action items developed by the Whitefish SWP Planning committee, identifies the responsible parties tasked with working on these management ideas and proposes a timeline for each action item to reach completion.

MANAGEMENT PLANNING

The goal of source water management strategies is to protect the Whitefish PWS source waters by managing identified significant potential contaminant sources in the *Spill Response Region* and ensuring land use activities pose minimal threats to the source water within the *Watershed Region*. The 2002 SWDAR identifies these regions to include the Swift Creek and Whitefish Lake drainages, which are upstream of the Whitefish PWS.

Spill Response Region –

Whitefish Lake - encloses the shoreline of Whitefish Lake and extends 1/2 mile surrounding the lake and on either side of Swift Creek.

Haskill basin watershed – area surrounding the water intakes on Haskill 2nd and 3rd Creeks

Watershed Region -

Encompasses the entire Swift Creek watershed upstream of Whitefish Lake and is bounded by Stryker Ridge to the southwest, the top of the Whitefish Range to the northeast and extending northwest to the ridgeline between Herrig and Link Mountains. The region extends a couple of miles southeast of the City of Whitefish.

The process of developing management strategies involved a collaborative process that began with identifying what protective barriers were already in place, and continued to establish new or support existing collaborations with various entities. Working together to incorporate these developed management strategies as a common goal of protecting the community's source water will be a valuable investment for the future.

Both sources are an important part of the City's public water supply, as both are needed to meet the current demands. Management strategies for the two source waters are unique as each source has varying land uses in the protective source areas. Whitefish Lake provides valuable recreation to the area and has attracted hundreds of millions of dollars in public and private investment. Land within Haskill Basin is privately owned by F.H. Stoltze Land and Lumber Company, an active commercial business.

SOURCE WATER PROTECTION MANAGEMENT COLLABORATIVE PLANNING

(Spill Response and Watershed Regions)

Haskill Basin Sources

Because the majority of land in this SWP Area is forested, loss of forest covers due to wildfires, logging operations or land development could introduce contaminants to the area and impact the source waters. Multiple protective barriers to address this issue are very important for protection within the SWP Area.

Conservation Easement Collaboration

Land within Haskill Basin watershed is privately owned by F.H. Stoltze Land and Lumber Company, an active commercial business with a long forest management history. The City of Whitefish PWS has had an established working relationship with the Stoltze Land and Lumber Company for many years.

As a natural habitat, Haskill Basin has a number of defined *land conservation values*. The 2007 Whitefish City-County Growth Policy specifically recognized the importance of Haskill Creek and recommended that developments in the 2nd and 3rd Creek watersheds closely be evaluated and conditioned to protect the City's domestic water supply. In an effort to protect the City's source water in both of these creeks the City of Whitefish and the MT Department of Fish, Wildlife and Parks entered into a *Conservation Easement* agreement with F.H. Stoltze Land and Lumber on February 1, 2016. A copy of this document is attached.

The Easement supports many purposes including the protection of the quality of the City of Whitefish's municipal water supply, the preservation of important wildlife and fish habitat, secures recreational opportunities and preserves timber harvesting along with economic benefits to residents of the City of Whitefish, Flathead County, and people of Montana and the United States. The Easement's purpose to protect the quality of the City's source water, is defined by ensuring that the water being diverted continues to remain as pure and clean as possible, free from sedimentation and pollution that the commercial, industrial or residential development of the land would entail.

Further description and definition of various activities within the Conservation Easement management guidelines are outlined as a *Multi Resource Management Plan* that must be followed. Stoltze Land and Lumber Company, as landowner, retains the overall management of the land that must comply with the Multi Resource Management Plan. Specific management operations important to the Whitefish SWP Plan are:

- Forest Management - Continue to conduct commercial timber and resource management activities in a sustainable manner – no timber harvest is allowed in the Streamside Management Zone (SMZ)
- Public Access - Allow reasonable public access for outdoor recreational uses, implement temporary restrictions to protect and restore environmentally sensitive areas in emergency situations and for public safety reasons
- Proper Use of Chemical/Biological Agents – To address control of noxious weeds and pests
- Road maintenance – communicate with City of Whitefish on any type of operations

Management planning will include:

- Conservation Easement Annual Meeting
 - o Attended by City of Whitefish PWS staff, FWP staff and F.H. Stoltze Company Land Manager
 - Yearly/twice yearly
 - o Collaboration, communication and review of yearly operations from F.H. Stoltze and City of Whitefish
 - Timber Operations
 - WTP Operations – Water quality report trends and updates
 - Update contact information
 - Issues of concern
 - New Impacts to the source intakes
 - Notification protocol review and update

Drought Events

Drought is defined as a prolonged period of abnormally low rainfall, leading to a shortage of water. Drought may affect the Whitefish area by impacting wildfire events, agriculture production, tourism, wildlife and in turn the PWS source waters. Drought events can vary significantly with the seasons, weather patterns and types of precipitation to the area. In 2018, Flathead County experienced an average spring season of moisture with conditions changing to slightly dry by late fall. As recharge of the PWS source waters is through various methods such as snowmelt, direct precipitation, surface runoff, and lateral inflow from alluvial and bedrock aquifers, the duration of a drought event, along with heat and wind will all play an important factor of any effect within the watershed and potentially the source creeks.

Management planning will include:

- PWS staff monitor outflow production of Haskill Creek intakes
 - o Document for changes in flow volumes (flooding and/or drought)
- Monitor MT Department of Natural Resource and Conservation Drought Management information
 - o <http://dnrc.mt.gov/divisions/water/drought-management>
- Develop Conservation Plan to address water shortage

Wildfire Events

With the majority of the land in the watershed consisting of forestland, wildfires either manmade or naturally occurring are a concern for the PWS sources. Fire events could prevent PWS staff access to the intakes or quality issues in the source supply. A number of resources are available within Flathead County and the City of Whitefish to respond to these incidents. More information on those resources are included in the Contingency Planning section and the developed plan that will be used by the City of Whitefish. Several important collaborations were identified as management strategies.

Management planning will include:

- **Wildland Fire Protection Strategies**
 - o Collaboration with F.H. Stoltze Land and Lumber Company on fuel reduction management planning
 - o Collaboration and coordination of *SWP Contingency Response Plan* for City of Whitefish, Flathead County EOP and other entities
 - City of Whitefish Fire Department
 - Flathead County OES Manager
 - F.H. Stoltze Company Land Manager
 - MT Department of Natural Resources and Conservation
 - US Forest Service
 - o Fire Restrictions
 - Voluntary implementation by F.H. Stoltze Land and Lumber Company
 - Notification alerts through City of Whitefish website
 - Mandatory restrictions issued by
 - Flathead County Commissioners
 - US Forest Service
 - MT Department of Natural Resources

Whitefish Lake Source

The PWS intake is located in the middle of Whitefish Lake, 2,100 feet from shore in Monks Bay. This remote location provides some protection from the general public. Additional management strategies are detailed that address public recreational use of the lake, housing developments around the lake, and major commercial transportation routes Burlington Northern/Santa Fe (BNSF) Railway and US Highway 93 that operate near the lake.

One specific management tool used for this source is the partnership of the City of Whitefish with the Whitefish Lake Institute, a science and education non-profit. This partnership was started in 2006 to assist with research studies and scientific reports on a number of issues concerning Whitefish Lake. Institute staff provide an annual presentation to the City of Whitefish on the water quality monitoring studies conducted on Flathead Lake. These studies provide an important insight into trends and quality conditions of the Lake. The Institute also provides numerous public outreach publications and reports that support the protection of the Lake.

A number of management strategies and collaborations will be important to reduce the risks of contaminations to protect this source supply.

Current and Future Development

Recognizing the need to protect development impacts around Whitefish Lake, several regulations were developed over the years. In the 1980s, the City of Whitefish began implementing a lakeshore construction permit program. The *Whitefish Lake and Lakeshore Protection Regulations* identified a *Lakeshore Protection Zone* that governs any construction work conducted within this zone. In addition, the Whitefish Lake and Lakeshore Protection Committee was established as a special planning board to review and comment on proposed activities with the jurisdiction of the Whitefish Lake and Lakeshore Protection Regulations. This board provides recommendations for proposed projects in this Zone to the Whitefish City Council.

For developments established around Whitefish Lake and are near the City of Whitefish Public Water System Infrastructure, a “neighborhood watch” program is implemented. A condominium complex near the Monks Bay area, Mountain Harbor Resort, which offers short-term rentals to the public, maintains a secured and restricted access within the property.

As the septic system density has remained low over the years, new developments are continuing to be built with the possibility of septic systems being installed. On-site septic systems are permitted and inspected by the Flathead County Department of Health staff. Collaborating with the Health Department staff on new permit submittals within the Source Water Protection (SWP) Areas will provide an opportunity to research possible alternatives such as connections to City wastewater services. Maintaining communication with upstream community wastewater systems staff (Ptarmigan Village) is another management tool for future protection.

Management planning includes:

- Continued implementation of the *Whitefish Lake and Lakeshore Protection Regulations (Ord. 09-08, 7-20-2009)*
- Communication of *Whitefish SWP Plan* to Whitefish Lake and Lakeshore Protection Committee in any review of proposed projects on Whitefish Lake
- Continue support and collaboration with Whitefish Lake Institute on monitoring water quality projects in Whitefish Lake
- Collaboration with private landowners to implement “neighborhood watch” programs
- Collaboration with Harbor Point Resort management to ensure restricted entry near City of Whitefish PWS infrastructures
- Communication and collaboration with Flathead Department of Health staff on future and current septic systems within the SWP area
 - o Research future limitations on permits allowed
 - o Research connections to a central wastewater treatment system
- Continue communication with area subdivisions and upstream communities with package wastewater treatment operations
 - o Resource for O & M technical assistance
 - o Notification of operational problems

Transportation Routes

Burlington Northern/Santa Fe (BNSF) Railway and US Highway 93 run within the Whitefish Source Water Protection area. Both are major commercial transportation routes carrying a variety of products through the area and out of state. The Flathead County Emergency Operations Plan (EOP) defines the coordination efforts and resources for incidents that may occur along these transportation corridors. A number of resources are available within Flathead County and the City of Whitefish. More information on those resources are included in the Contingency Planning section. Continued communication and collaboration with a number of entities will be important management strategies.

Management planning includes:

- Communication and collaboration with Flathead OES staff on Flathead County’s Emergency Operations Plan (EOP) and future training events
- Collaboration with BNSF Railway
 - o Spill Containment Equipment Resources
 - Dike and Dam equipment
 - Fire-fighting foam

Aquatic Invasive Species

Non-native Aquatic invasive species (AIS) presence in a water body can cause severe damage to local ecosystems and any infrastructure under water in particular of concern is the Whitefish PWS intake in Whitefish Lake. Boat trailers and hulls of recreational boats have been linked to carry an invasive species into a waterway. Montana Fish, Wildlife and Parks is leading an effort of prevention, containment and control for all Montana waters.

To address a prevention strategy for Whitefish Lake, the Whitefish City Council collaborated with the Whitefish Lake Institute and initiated an AIS Management Plan in 2013. The Aquatic Invasive Species Prevention ((Ord.17-22, 8-7-2017) ordinance was passed by the Whitefish City Council and is contained within the *Whitefish Lake and Lakeshore Protection Regulations*. The purpose of this ordinance is defined to protect all native and desired aquatic species, aquatic habitat, water quality, commerce, and recreation in the waters of Whitefish Lake by preventing the introduction and spread of aquatic invasive species. In 2017, the City of Whitefish partnered with the Whitefish Lake Institute and Whitefish Lake State Park to conduct boat inspections at Whitefish City Beach and Whitefish Lake State Park boat launches, set up a Prevention and Decontamination Station, provide education and outreach, and three online self-certification programs for watercraft users. Continued support for this inspection program will be an important part to ensure protection of the Lake.

Management planning includes:

- Communication of the SWP Plan and AIS Prevention (Ord. 17-22, 8-7-2017) ordinance as a protective measure to address AIS prevention for Whitefish PWS source water
 - o City Council – budget for AIS management program
 - o Outreach to Local, County, state residents and visitors to Whitefish Lake
- Continue collaboration with The Whitefish Lake Institute and other entities on AIS management program and outreach
 - o Outreach to Local, County, state residents and visitors to Whitefish Lake

Public Outreach – General SWP Management

A powerful tool to carry the message of source water protection is public outreach. There are several modes of outreach currently in use by the City of Whitefish including quarterly newsletters, local newspaper articles, website and social media posts and public meetings.

Management planning:

- Topic ideas
 - o Conservation Easement updates
 - o Understanding Your Water Bill
 - o Setting sprinkler schedules
 - o Conserving Water Tips for Consumers
 - o Drought Management
 - o Wildfire Prevention
 - o Lakeshore Protection Regulations
 - o Aquatic Invasive Species - Fact Sheet, Preventive Measures

Modes of Outreach

- Website links -
 - o www.cityofwhitefish.org
 - o www.flatheadhealth.org
 - o www.whitefishlake.org/
- Social media
 - o City of Whitefish Public Works Facebook page
 - o Flathead OES Facebook Page
 - o Flathead County Sheriff's Facebook page

Print media

- *Stumptown Scoop* - quarterly
- *Daily Interlake* newspaper
- Whitefish Lake Institute publications and reports
 - o Newsletter - quarterly
 - o *Montana Lake Book*
 - o *Voices of Our Lake*
 - o *Status of the Whitefish Lake Watershed*
 - o *Flathead Watershed Sourcebook*

Public meetings

Whitefish SWP Management Action Item Table

ACTION ITEMS	RESPONSIBLE PARTY	TIMELINE	STATUS
HASKILL BASIN INTAKES			
Continue communication and collaboration of Conservation Easement	Whitefish City Council and PWS staff, FWP staff, F.H. Stoltze Company Land Manager	Yearly	Completed for 2018
Monitor Haskill Creek outflows and Lake levels	City of Whitefish PWS staff Whitefish Lake Institute	Year round	Spring 2019
Develop Conservation Plan Monitor State Drought information	City of Whitefish Council and PWS staff, MRWS staff	Spring 2019 Throughout year (website)	
Coordinate with Flathead County EOP Plan Wildfire events	Whitefish City Council, PWS staff and Flathead County OES Staff and F.H. Stoltze Co. Land Manager	Yearly	
WHITEFISH LAKE INTAKE			
Coordinate with Flathead County -EOP *Transportation Routes around Whitefish Lake	Whitefish City Council, PWS staff and Flathead County Staff	On-going	On-going
Collaborate with Whitefish Lake Institute -Monitoring projects -Outreach materials	Whitefish City Council and PWS staff	On-going	On-going
Continue to enforce Ordinance 09-08, 7-20-2009)	Whitefish City Council and PWS staff	Daily	On-going
Collaborate "neighborhood watch" around Whitefish Lake	City of Whitefish City Council, PWS staff, Lake landowners	On-going	On-going
Collaborate with Harbor Point Resort -secured and restricted access to buildings	City of Whitefish City Council, PWS staff and Harbor Point Resort Management	On-going	On-going
Collaboration on existing and new septic system permit information and inspections	Flathead County Health Department and City of Whitefish PWS staff and Council	Throughout year	On-going
Collaborate and implement AIS Management Plan for Whitefish Lake	Whitefish City Council and PWS staff and Whitefish Lake Institute	Spring-Fall	Completed

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ACTION ITEMS	RESPONSIBLE PARTY	TIMELINE	STATUS
General SWP Management			
Continue to research future source water supply	Whitefish City Council and PWS staff	On-going	On-going
Review and update existing City of Whitefish SWP Plan	City of Whitefish Council and PWS staff and SWP planning committee	Yearly/October	
Continue to budget for public utility projects to support SWP Plan	City of Whitefish Council and PWS staff	Yearly	On-going
Public outreach for water conservation and SWP protection tips	City of Whitefish Council, PWS staff and Flathead County Health Department, MRWS staff	Yearly	On-going

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CONTINGENCY PLAN

The City of Whitefish's SWP planning team evaluated the principal threats to the source waters, designated a Public Water System (PWS) emergency contact, and developed potential responses in the event that a water shortage event arises. Another important aspect of this plan is an estimate of the equipment and materials that would be needed in the event of an emergency, a description of how a short-term replacement water supply would be handled.

SWP Contingency Response Planning Committee

City of Whitefish

Craig Workman, Public Works Director
Neil DeZort, Utility Operations Supervisor
Joe Page, Fire Department Chief

Flathead County

Rick Sacca, Emergency Manager, Office of Emergency Services (OES)
Hillary Hanson, Health Officer, City-County Health Department
Jennifer Rankosky, City-County Health Department

Montana Rural Water Systems

Kristi Kline, Source Water Protection Specialist

This Source Water Protection contingency response planning chapter includes coordinating communication efforts with the City of Whitefish and Public Works staff, customers and Flathead County staff. This collaboration and the following items listed are also important for the implementation of this contingency response plan:

ACTION ITEMS

City of Whitefish and PWS staff will coordinate with **Flathead County Office of Emergency Services (OES) and Public Health Department staff** on contingency planning exercises, Local Emergency Planning Committee (LEPC) activities and any funding opportunities for emergency equipment resources important to the City of Whitefish Contingency Response Plan

City of Whitefish Council will continue to budget for PWS utility repairs, upgrades and contingency funding yearly

City of Whitefish Council, Public Works Staff and SWP planning team members will review the SWP Contingency Plan yearly

City of Whitefish Council and PWS staff will develop Standard Operating Guidelines (SOGs) for PWS intake shutdown procedures for Haskill Basin and Whitefish Lake and evaluate emergency thresholds for Contingency planning and water conservation programs that could be implemented during water restriction events

Whitefish SWP Contingency Response Plan Action Item Table

ACTION ITEMS	RESPONSIBLE PARTY	TIMELINE	STATUS
Coordinate with Flathead County OES and Public Health staff -EOP planning -LEPC meetings	City of Whitefish Council and PWS staff	Monthly meetings Funding Cycles Deadlines	On-going
Budget for PWS repairs and contingency funding	City of Whitefish Council	Yearly	On-going
Develop SOGs for PWS intake shutdown procedures;	City of Whitefish Council, PWS staff and MRWS staff	Spring 2019	
Review and update Contingency Plan and action items	City of Whitefish Council, PWS staff, SWP planning members	Yearly/October	
Develop Threshold limits and triggers for PWS water conservation and drought events	City of Whitefish Council and PWS staff	Spring 2019	
Develop Conservation /Water Shortage Plan and Public Outreach Message for SWP	City of Whitefish Council, PWS staff and MRWS staff	Spring 2019	

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Whitefish Public Water System

SWP Plan Emergency contacts and phone numbers

CONTACT NAME	TITLE	PHONE	RESPONSIBILITY
Craig Workman Emergency Contact On-Call PWS Operators	Public Works Director	Office (406) 863-2455 Cell phone (406) 253-5633 On-Call phone (406) 253-4573	Management of the City of Whitefish Utilities
Neil DeZort Backup Emergency Contact On-Call Street Department staff	Utility Operations Supervisor	Office (406) 863-2451 Cell phone (406) 253-4849 On-Call Phone (406) 253-2186	Supervise operations and maintenance of City of Whitefish Water and Wastewater facility systems
Whitefish Fire Department Joe Page On-Duty Captain	Non-Emergencies Chief	(406) 863-2483 Cell phone (406) 253-3473 Cell phone (406) 250-3158	HazMat and wildfire response; mutual-aid with BNSF; Assist with frozen conditions on Whitefish Lake
Flathead County Office Of Emergency Services (OES) Rick Sacca Chuck Curry/Sheriff Flathead County Health Department On-Call	Emergency Manager Director Health Officer After hours and weekends	911-(24-Hr Dispatch) Internal use only (406) 260-4152 Office (406) 751-8101 After hours (406) 756-2900	Emergency preparedness, planning and response coordination for Flathead County and Coordination with DES Regulation of Public Health standards in County
Montana DES-24/7	Duty Officer	(406) 324-4777	All reportable HazMat spills
DEQ Public Water Supply (M-F) DEQ Duty Officer	On-call staff	(406) 444-4400 (406) 431-0014	Responds to any event that will pollute surface or ground waters.

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Contingency Planning Assistance Guide - 2018

Agency	Prevention/Mitigation	Preparedness	Response	Recovery
Flathead County OES Director (Sheriff) Or Emergency Manager	Assist with researching funding sources for contingency resources	Assist with EOP development	Assist with coordination of public notification and local, state or federal mutual aid	Assist with public information dissemination
Flathead City-County Health staff		Assist with EOP development	Assist with coordination of public health protection efforts	Assist with coordination of public health protection efforts
Whitefish Fire Department		Assist with EOP development	Assist with access to Whitefish Lake intakes (boat)	Assist with work on Whitefish Lake intake
Whitefish Police Department		Assist with EOP development	Mutual Aid, security patrols, traffic control, evacuations, security of points of distribution	Mutual Aid, security patrols, traffic control, evacuations, security of points of distribution
Flathead County Sheriff			Assist with traffic control	Security patrols
Flathead County Roads & Bridges			Equipment and staff resources	Equipment and staff resources
Flathead County Fire Warden	Mitigating wildfire threat	EOP concerning wildfire mitigation	Coordination with wildfire managers	Coordination with wildfire managers
City of Kalispell City of Columbia Falls City of Eureka			Equipment and staff resources	Equipment and staff resources
ME Labs/Kalispell			Laboratory water testing service	Laboratory water testing service
Montana Rural Water Systems, Inc.	Assist with developing SWP plan including EOP planning	Assist with Identifying: Action Items Trigger/Threshold limits	On-site assistance	On-site assistance
BNSF Whitefish			HazMat spill response	HazMat spill response
Kennedy Jenks/Whitefish (contract with BNSF)		Assist with EOP Development	Laboratory testing; HazMat Spill Response	Laboratory testing; HazMat Spill Cleanup

Emergency Contact – Public Water System (PWS)

The ***PWS Emergency Contact*** is the **City of Whitefish Public Works Director** and the ***Backup PWS Emergency Contact(s)*** are the **City of Whitefish Utility Operations Supervisor** and/or **City of Whitefish Public Water Supply Operators**. *Refer to Emergency Contacts table for all contact phone numbers.*

The emergency contact is familiar with the county and state DES procedures and is responsible for contacting the appropriate officials should a spill or other threat to the source water occur.

City of Whitefish City Hall – (406) 863-2400
418 East 2nd Street

Coordination Procedures

The **City of Whitefish’s PWS** Contingency Response Plan for water shortage situations has been made available to Flathead County OES Director and/or Manager. Additionally, reportable emergencies will be handled as per the mandated reporting requirements as follows:

- X Contact Flathead County OES Director (Sheriff) or Manager - **911** to report emergencies
- Include address specific information about incident/emergency

Identification of possible disruption threats to Public Water System

The principal threats to the PWS sources have been identified and are listed below:

Haskill Basin

- Wildfire
 - o Reduced and/or closed access to intakes; debris clogging intakes, future erosion issues, use of fire-retardant materials
- Vandalism
 - o Intake structures, valves, screen, intentional contamination
- Extreme weather
 - o Storm/flooding issues – high flash flows, debris clogging, destruction of intakes; high turbidity levels;
 - o Cold – ice build-up/clogging intakes
 - o Heat – Reduced water supply (drought conditions)
- Main Line Failures
 - o Loss of transmission line from intake to WTP would render source off line

Whitefish Lake

- Wildfire
 - o Reduced and/or closed access to intake; water quality issues
- Vandalism
 - o Intake and pump station tampering, intentional contamination
- Extreme weather
 - o Power outage
 - No backup generator for electrical equipment and pumps
 - o Heat– algae growth – high TOC and odor/taste issues
- Chemical Spill/Hazardous Material Release
 - o Train derailment
- Main Line Failures
 - o Loss of transmission line from intake to WTP would render source off line

Whitefish Lake Intake Electrical Control Operations-Mountain Harbor Club House

- Vandalism
 - o Unauthorized Entry/Intrusion; tampering

Raw Water Storage Reservoir

- Vandalism
 - o Intentional contamination
- Earthquake
 - o Damage to earthen dam, leaks
- Extreme weather
 - o Heat – algae growth causing high TOC and odor/taste issue

Public Water Supply Distribution Lines

- Earthquake
 - o Fractures/separation pipes may lead to leaks or critical failures
- Extreme weather
 - o Cold-frozen lines; ground shift may lead to line breaks

Equipment and material resources

Resources that may be needed to respond to the identified threats are listed below.

City of Whitefish Public Works

- Various equipment and spare parts
- Crushed rock/gravel
- Utility vehicles
- Polaris Ranger/with trac wheels
- Maps and GIS support
- Emergency Backup Generator (at WTP)
- Portable generator (at City Shop)
- Access keys for Haskill Basin intakes; access codes for Whitefish Lake intake

Whitefish Fire Department

- Fire boat
 - o Whitefish Lake access - stored at Lodge in summer/Fire Hall-winter
- Hovercraft
 - o Winter and summer use – housed at City Beach
- Inflatable boat
 - On a trailer at Station 21
- UTV - 6X
- Cold weather Rescue suits
- Staff resources to assist
 - o 4 Firefighter/Paramedics on duty 24/7/365 (cross trained in Rescue (ice, water, confined space; HazMat; Wildland Fire; EMS (ALS level)
- Emergency vehicles
 - o Engines, tenders, ambulances, rescue, command vehicles

Flathead County

- Mutual Aid – Coordinated through Flathead County OES Director (Sheriff) and Manager
 - o Law/Fire, EMS Mutual Aid
 - o Resource List information
 - o Local Emergency Planning Committee (LEPC) – part of OES
- Northwest MT Incident Management Team -Type 3
 - o Coordinated through OES
- Public Health Department
 - o Health Officer and staff
 - Emergency Preparedness Lead; Sanitarian; Nurses
- County GIS Department
 - o Mapping support
- County Sherriff and staff
 - o Snow machines and all-terrain vehicles
 - o Security patrols and evacuations
 - o Search and rescue drones for video or IR flights
 - o Use of Two Bear Air for video or IR flights, and insertion/extraction of response personnel
 - o Use of Dive Team for response on Whitefish Lake
 - o Use of Ice Rescue Team for response on Whitefish Lake (winter)
 - o Civil Air Patrol
 - Aerial photography/videography

Firefighting Resources (wildland)

Kalispell interagency Dispatch (KIC) – (406) 758-5260 (Coordinated through OES)

- Mutual Aid from DNRC, USFS, NPS
- Resources available through ROSS (Resource Ordering & Status System)
 - o Potable Water Transport Vehicle Contractors
 - o Temporary Shower Facility Contractors
 - o Mobile Food Preparation/Field Kitchen Contractors
 - o Portable Bathroom Contractors
 - o Grey Water Removal (Support) Contractors

Other Equipment and staff resources

- o F.H. Stoltze Land and Lumber Company – contact Land Manager
 - 2018-Paul McKenzie (406) 892-7012 or (406) 253-0754 (cell #)
- o BNSF-Whitefish Division – Whitefish Fire Chief Coordination
 - Spill Response resources
- o Area Public Water Systems
 - City of Kalispell
 - contact Public Works-(406) 758-7745
 - City of Columbia Falls
 - contact Public Works-(406) 892-4430
 - Bigfork County Water and Sewer District
 - contact District Manager-(406) 837-4566
 - City of Eureka
 - Contact Public Works – (406) 297-0529
- o Laboratory Testing
 - Montana Environmental Laboratory – Kalispell – (406) 755-2131
 - MT State Lab Services Bureau-Helena-1-800-821-7284
 - Kennedy-Jenks – Whitefish – HazMat Response and clean-up (contract with BNSF)
- o Montana Rural Water Systems, Inc. – (406) 454-1151
 - staff available for on-site assistance

Intake Shutdown Procedures

Depending on the emergency, each of the City of Whitefish's intake(s) can be isolated and shut down individually from the water supply system.

Under ideal conditions the system can operate without the supply by using water in the water storage tank for approximately:

Summer - 0.5 days

Winter – 2 days

Intake shut down will be directed and completed by City of Whitefish's Public Water System staff

- Each Intake can be manually isolated
- Whitefish Lake intake controlled by remote system

Communication Procedures

Emergency communication within the City of Whitefish's Public Works Department:

- City of Whitefish's **Public Water System staff** will evaluate and communicate information to the **Public Works Director**. Further communication will proceed with the City Manager and City Council members about the situation.

Upon evaluation of situation:

- o A public statement would be developed and disseminated by the City Manager (or designated Public Information Officer). **Flathead County OES, City-County Health Department and City of Whitefish Fire and/or Police Department staff** will be contacted depending on the incident.
 - Examples of Draft messaging templates are attached
- o Determination of need to declare emergency and/or disaster status
- o *City of Whitefish has the lead if a city-only declaration. Flathead OES will coordinate with County, State or Federal declarations*
 - Initiate Documentation and Reporting of incident

Procedures to communicate with water users

Door Hangers/Door to Door notification – completed by City of Whitefish staff and/or designated volunteers

Public Notice Postings: completed by City of Whitefish staff and/or designated volunteers

- City Hall
- Whitefish Public Library
- The Wave Fitness Center
- Whitefish Schools
- US Post Office
- North Valley Hospital

Phone calls to water users – by City of Whitefish staff

- Medical Center
 - o Glacier Medical Associates (406) 862-2515
 - o North Valley Hospital – (406) 863-3500
 - o Assisted Living Centers
- Whitefish School District– (406) 862-8600 (office)
 - o District Administrator – (406) 862-8640
 - High School/Middle School/Grade School
- Large Water Users
 - o The Wave Aquatic and Fitness Center-(406) 862-2444
 - o BNSF-Whitefish Division
- Area food establishments
 - o Coordinate communication effort with Flathead City-County Health Department staff

Flathead OES Citizen Emergency Info Line - (406) 758-2111

- Recorded message for public to call during emergencies

Visitor/Tourist Information

- MT Department of Transportation Reader Boards – Coordinate through Flathead OES
- Whitefish Mountain Resort Face Book page
- Glacier National Park Face Book page

Local Radio, TV stations and news media – Various medias will be used for additional message broadcast - Flathead County OES and Public Health may provide coordination assistance

- Local radio stations and newspapers
- <http://www.cityofwhitefish.org/>
- City of Whitefish Public Works Facebook page
- <http://www.flatheadhealth.org>
- Flathead OES Facebook Page
- Flathead County Sheriff's Facebook page

Source of emergency water

City of Whitefish PWS

- Storage Tank supply - depending on tank levels at time of emergency
 - o 2 days – winter
 - o 0.5 days - summer
- Initiate water user conservation and/or restrictions
 - o Temporary irrigation ban
- Bulk Water Station – depending on WTP operation and storage tank levels

Coordination with Flathead County OES and Flathead City-County Health Department staff

- o Determination of bottled water acquisition and distribution – figured by population and accountability
 - Track costs
 - Drinking Water Emergency Sampling (DWES) Kit
 - o Located – Flathead Public Health Department
 - o City of Whitefish WTP
 - o Coordinate Courier Service for sample transport to lab

Distribution Center/Point of Distribution (POD)

- o Coordinate with Flathead County OES, City-County Public Health, Fire and Police
 - traffic controls, security and extra staff/designated volunteers
- o Possible sites- (depending on emergency)
 - Soccer/Baseball fields east of North Valley Hospital

Certified water hauler list – information through:

- o MT DEQ Operator Certification Office at **(406) 444-3434**
- o Kalispell Interagency Dispatch (KIC) (406)-758-5260
 - coordinate through Flathead OES

Outside sources of water:

- Neighboring communities with Public Water Systems
 - o City of Kalispell
 - contact Public Works – (406) 758-7745
 - o City of Columbia Falls
 - contact Public Works Director – (406) 892-4430
 - o Bigfork County Water and Sewer District
 - Contact District Manager – (406) 8374566
 - o City of Eureka
 - Contact Public Works – (406) 297-0529

Disinfection and resumption of water service

Storage tanks and distribution systems will be disinfected for any bacteriological contamination as per the City of Whitefish’s standard disinfection and tank cleaning procedures under the direction of the PWS certified staff. Normal water service resumption will occur after sample results indicate the supply is safe as approved by DEQ-PWS Section and the certified operator.

Outreach methods to communicate resumption of service

- Coordinated through **City of Whitefish City Manager (or designated PIO)**
 - o Door to Door notification
 - o City postings
 - o Phone calls
 - o Websites
 - o Social Media
 - o TV, Radio, newspaper
 - o Other methods as needed

Funds

The City of Whitefish has budgeted contingency funding for public utilities repairs each year. In addition, the City Council is aware of all state and federal funding available through state and federal grants and loans and would apply for available funds for any emergencies. The City Council may further evaluate the need for an Emergency Declaration with assistance from the Flathead County Disaster and Emergency Services staff.

Long-term or Alternate Water Sources

The City of Whitefish’s public water system is currently meeting the summer and winter demands for usage. As one of several communities within Flathead County experiencing a rapid growth over the past years (44.9%), this growth includes full time and seasonal residents. The City has been effectively dealing with increases in usage associated with the increasing numbers of visitors to the area. The 2007 Growth Policy states that the City of Whitefish remains committed to provide safe and reliable water and wastewater services to support their community amid the rapid future growth.

Currently, the City Council and Public Works staff are in discussion of researching alternative water supplies for the future. Loss of either the Whitefish Lake or Haskill Basin supplies would result in a critical threshold. Working towards solutions to reduce the critical need will be an important strategy.

SOURCE WATER ASSESSMENT – (2018 Update)

A 2002 Source Water Delineation and Assessment Report (SWDAR) was completed for the City of Whitefish by Jeffrey Herrick, Montana (MT) Department of Environmental Quality Source Water Protection Program. The City of Whitefish Public Works staff at that time provided comment and review. The 2002 SWDAR is included in this SWP plan.

The SWDAR is predominantly a technical document that provides the technical basis for this Source Water Protection Plan. During the planning process to develop the 2018 SWP plan, the current PWS staff along with Flathead County staff and Kristi Kline, Montana Rural Water SWP Specialist, reviewed current information, inventories and improvements that had been added to the PWS since the 2002 SWDAR was written. Those updates are highlighted in **bold** in this 2018 SWP plan. The 2002 SWDAR updated information includes:

- General information on the City of Whitefish, economy, population served, public water and wastewater services;
 - **current population in 2018 has increased to 6,671 residents that are served through 4,129 service connections.**
- Delineation and mapping of the source water protection area including updated maps and evaluation of hydrology and hydrogeology;
- Inventory of potential contaminant sources that could impact the water sources
 - **The Big Mountain Ski Resort, now known as Whitefish Mountain Resort, connected to the City of Whitefish Wastewater Treatment and Collection system in 2002. The Resort's large capacity septic system, noted in the 2002 SWDAR, was taken out of service at the same time and has been removed as a potential contaminant in the 2018 SWP Plan.**
- A susceptibility assessment to identify potential contaminant sources that are considered particularly significant with respect to the City of Whitefish water supplies.
 - **A Leaking Underground Storage Tank (LUST) at the Resort's Maintenance Shop was noted as a potential contaminant source in the 2002 SWDAR. This event was a petroleum release which underwent a cleanup operation and was resolved and closed by MT DEQ on June 5, 2009 and is no longer a contaminant source. Information on this event is attached.**

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- Heath, Ralph C., 1984. *Ground-water Regions of the United States*, U.S. Geological Survey, Water Supply Paper 2242, Washington D.C., 78p.

APPENDIX A

Figure 3 – Geological Map

Figure 4 – Spill Response Region

Figure 5 – Haskill Basin Intakes

Figure 6 – Watershed Region

Figure 7 – Spill Response Region Inventory

Figure 8 – Spill Response Region Land Use

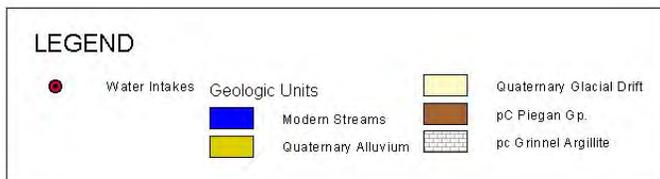
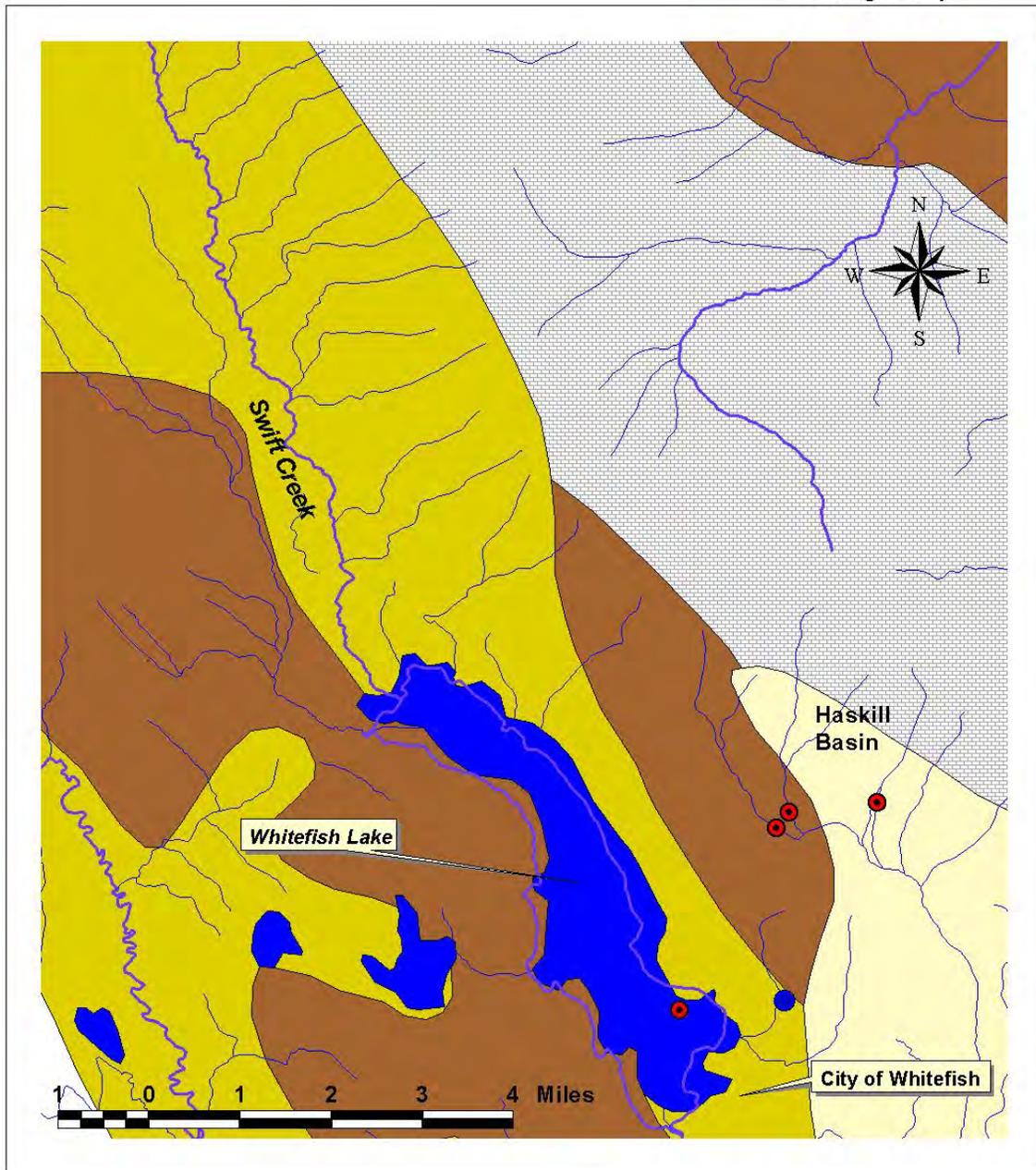
Figure 9 – Spill Response Region Septic Density

Figure 10-Watershed Region Inventory

Figure 11-Watershed Region Land Use

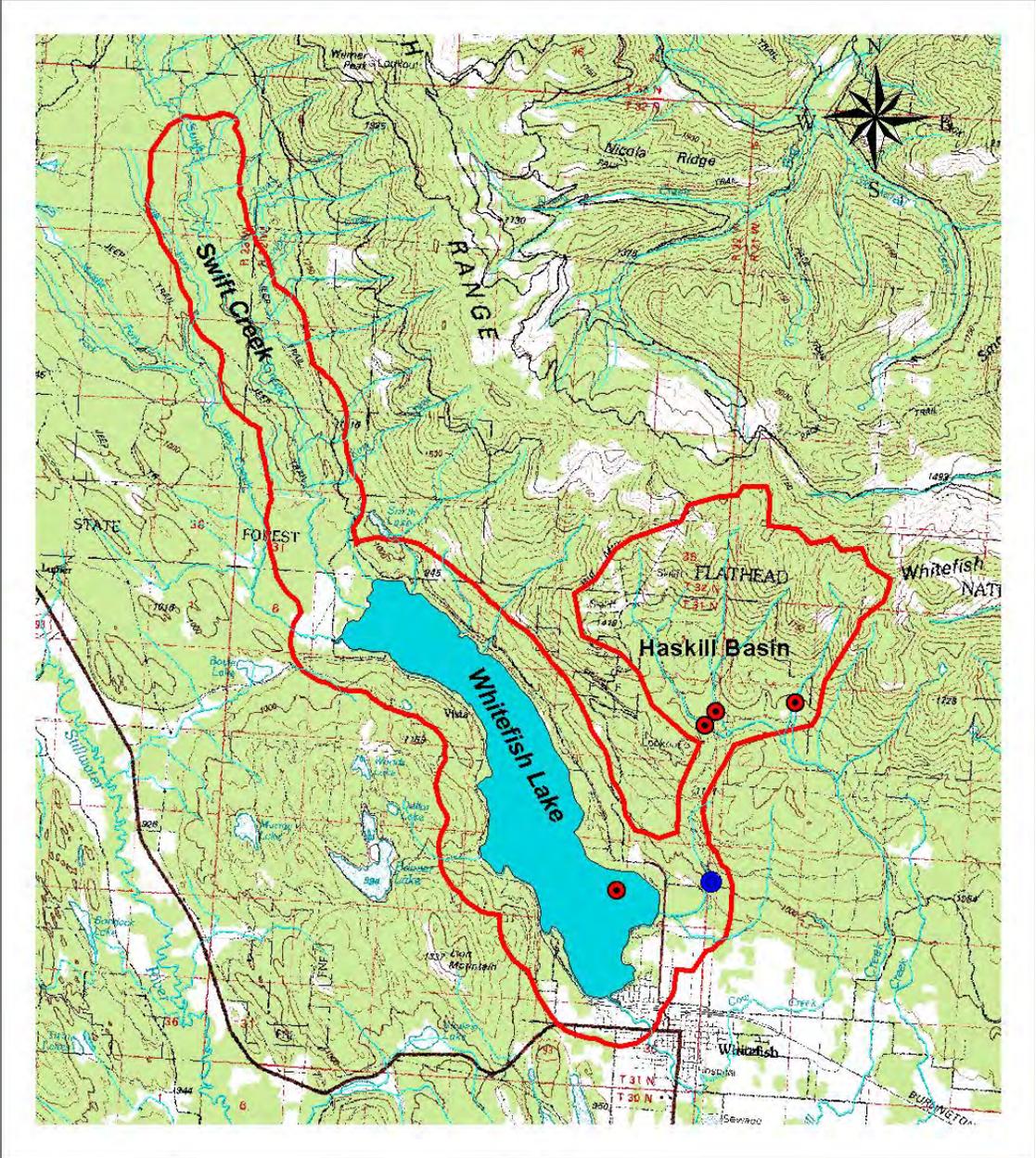
Figure 12-Watershed Septic Density

Figure 3
City of Whitefish PWS
Geologic Map



Map by Jeffrey Frank Herrick
 DEQ SWPP 2002
 Source is USGS Statewide
 Digital Coverage 1979

Figure 4
 City of Whitefish PWS
 Spill Response Region



2 0 2 4 Miles

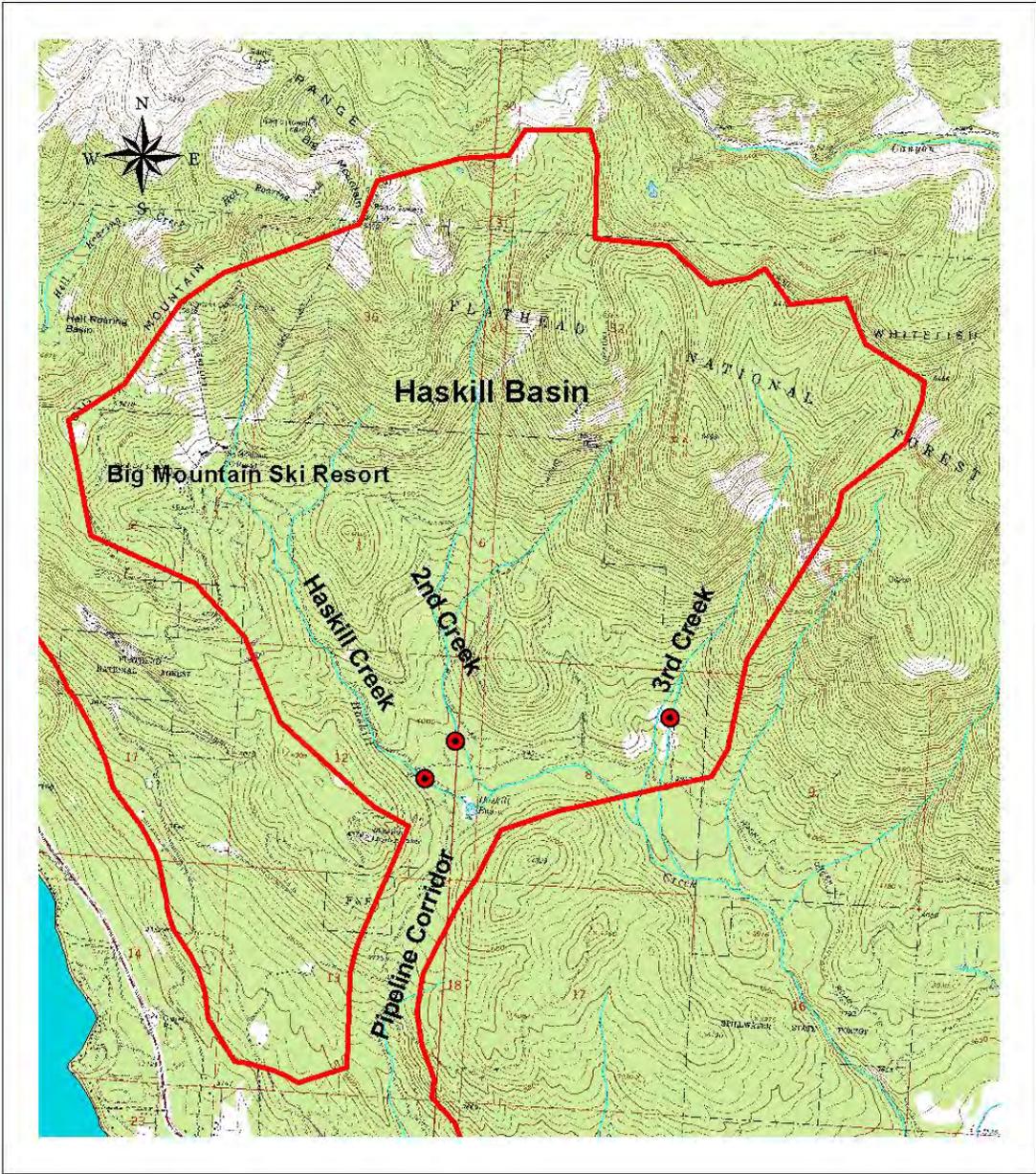
LEGEND

- Reservoir
- Water Intakes
- Spill Response Region



Map by Jeffrey Frank Herrick
 DEQ SWPP 2002

Figure 5
City of Whitefish PWS
Haskill Basin Intakes



0.5 0 0.5 1 1.5 Miles

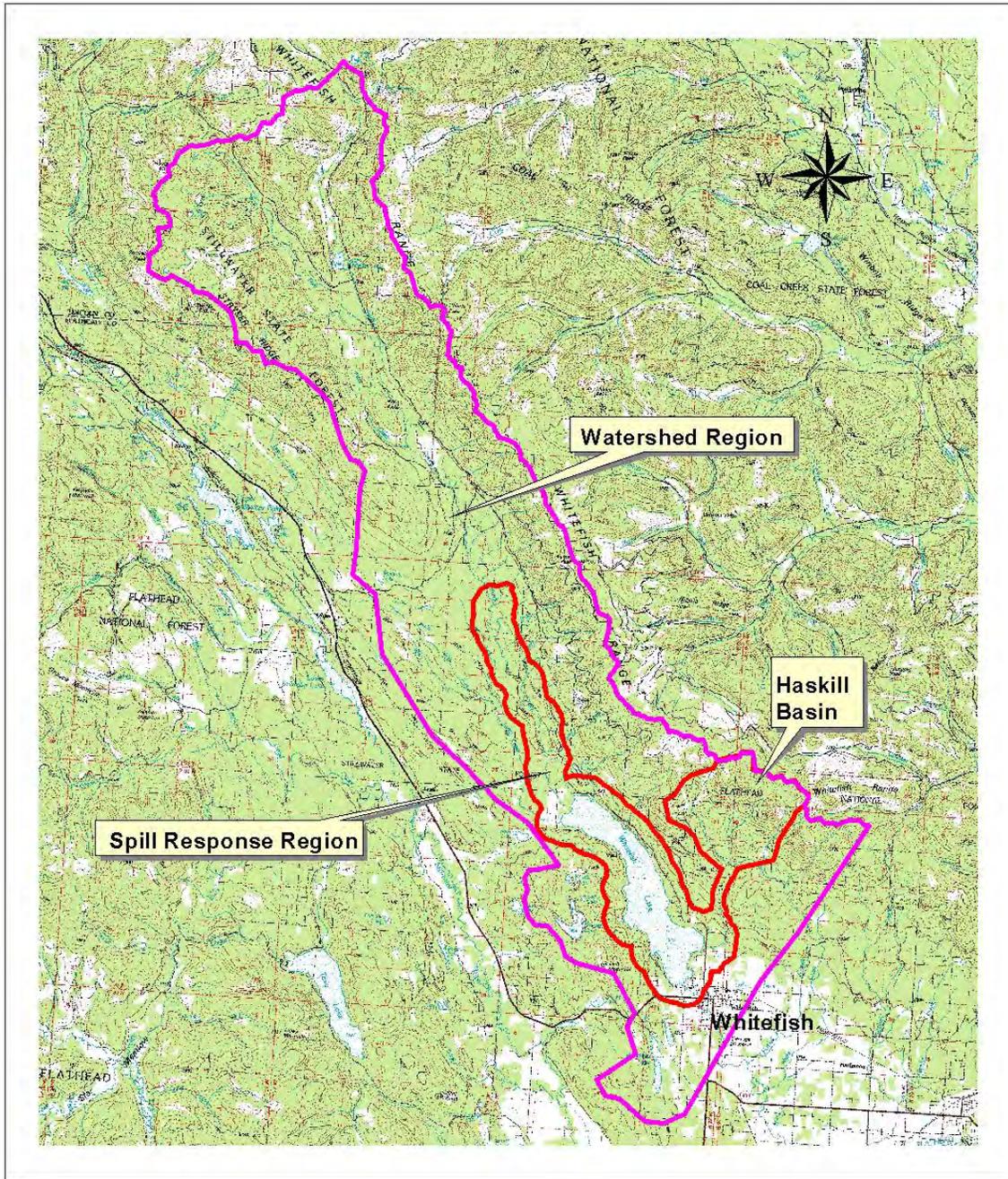
LEGEND

- Water Intakes
- Spill Response Region



Map by Jeffrey Frank Herrick
 DEQ SWPP 2002

Figure 6 Town of Whitefish PWS Watershed Region

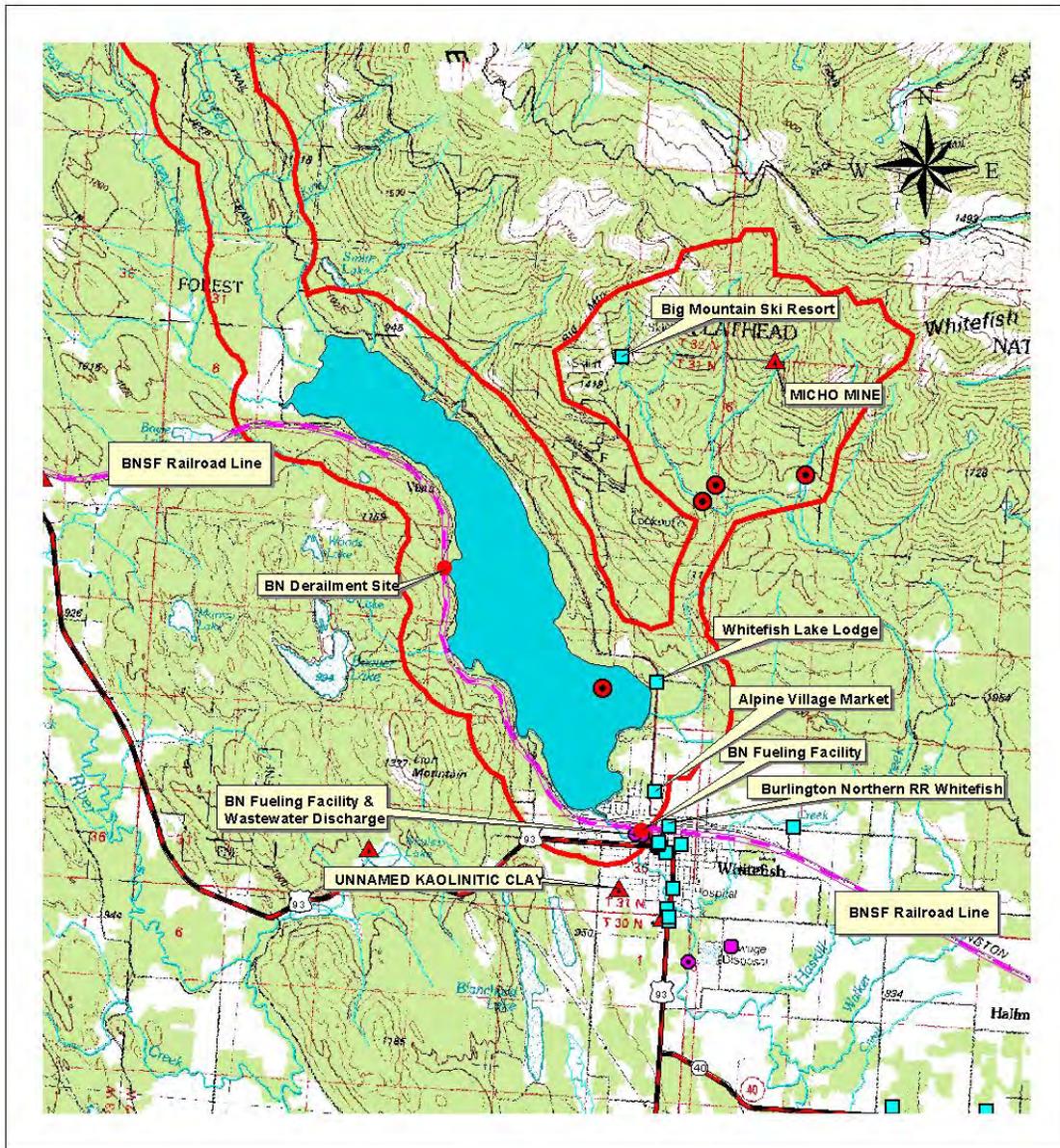


5 0 5 10 Miles



Map by Jeffrey Frank Herrick
DEQ SWPP 2002

Figure 7 City of Whitefish PWS Spill Reponse Region Inventory



2 0 2 4 Miles

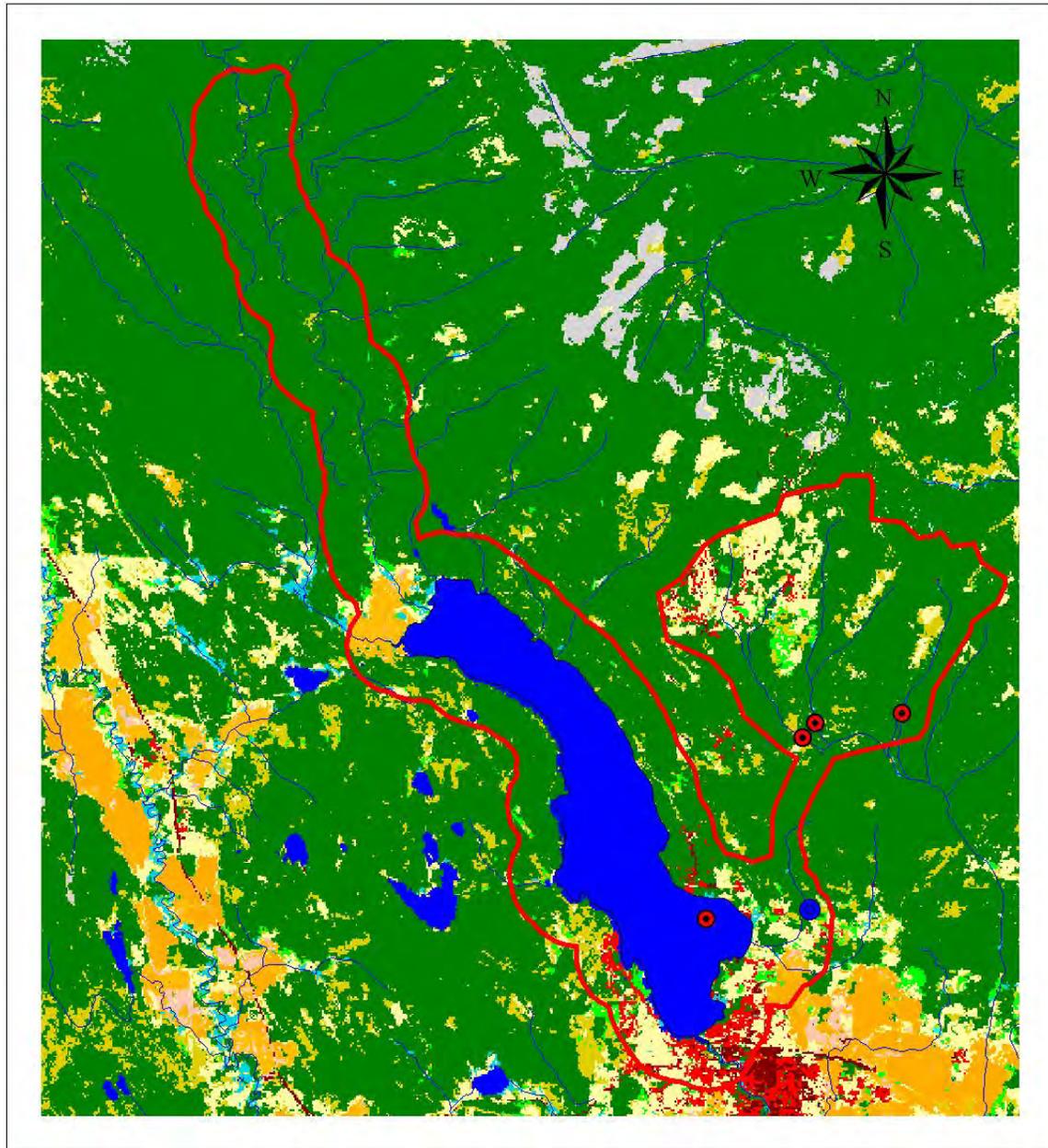
LEGEND			
●	MT State Superfund Sites	■	Sewage Treatment Plant Discharge
■	USTs/LUSTs	●	MPDES Storm Water Discharge
●	Storm Water Discharges	▲	Active & Inactive Mines
	Spill Response Region	●	Water Intakes



Map by Jeffrey Frank Herrick
 DEQ SWPP 2002
 Data from Readily
 Available Public Sources

Figure 8

City of Whitefish PWS
Spill Response Region



2 0 2 4 Miles

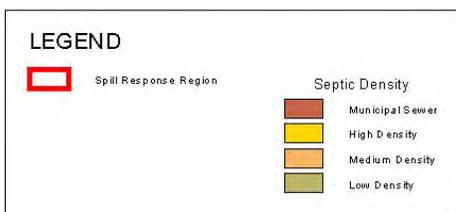
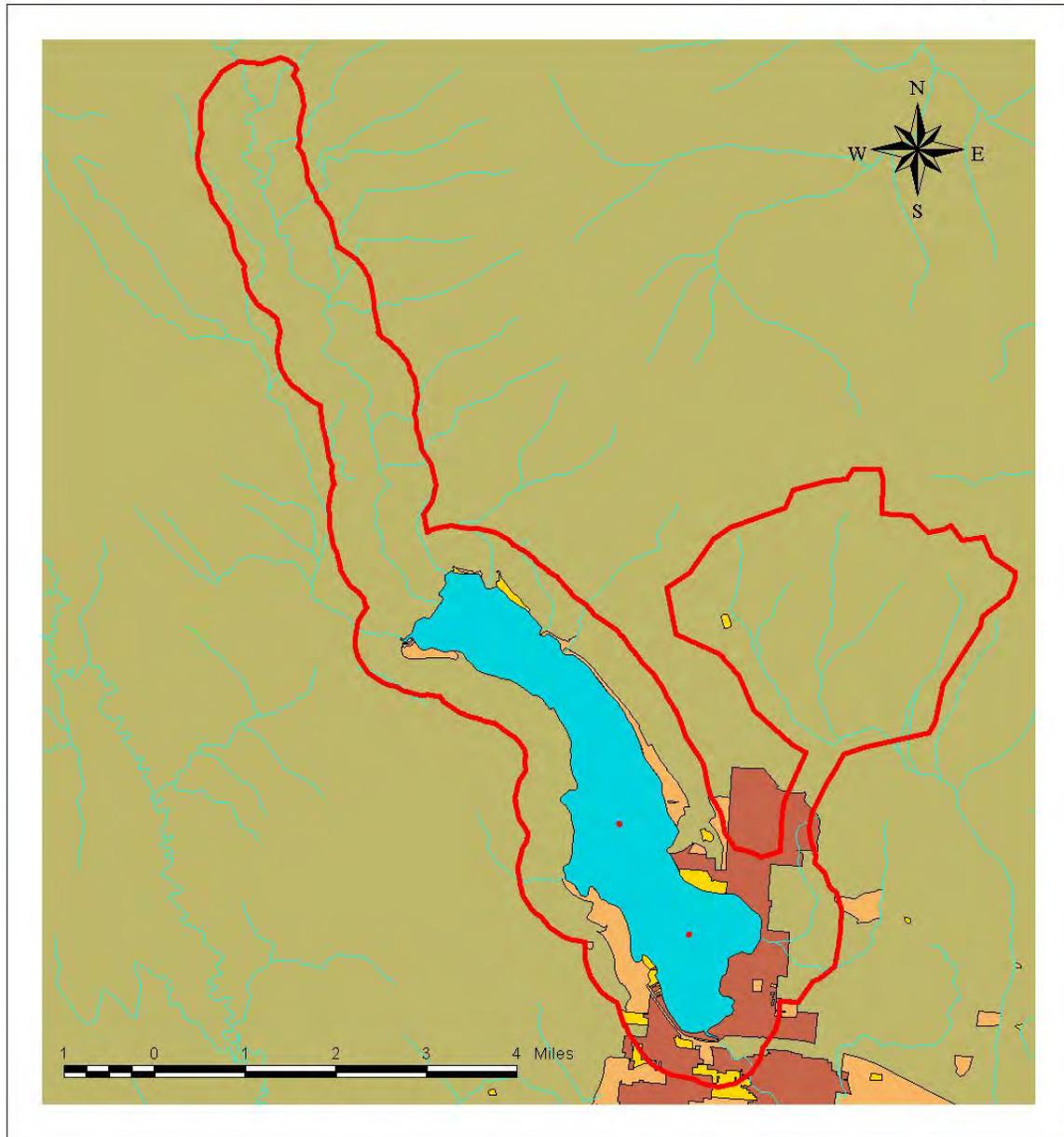
LEGEND			
	Spill Response Region		Grassland/Herbaceous
	Low Intensity Residential		Savannah
	High Intensity Residential		Evergreen Forest
	Commercial/Industrial/Transportation		Mixed Forest
	Urban/Recreational Grasses		Deciduous Forest
			Orchards/Vegetables/Others
			Row Crops
			Small Grains
			Pasture/Hay
			Fallow
			Woody Wetlands
			Emergent Herbaceous Wetlands
			Transition
			Perennial Ice/Snow
			Quarries/Strip Mines/Garbage Pits
			Bare Rock/Sand/Clay
			Open Water



Map by Jeffrey Frank Herri
DEQ SWPP 2002
Data from USGS
Landcover 2000

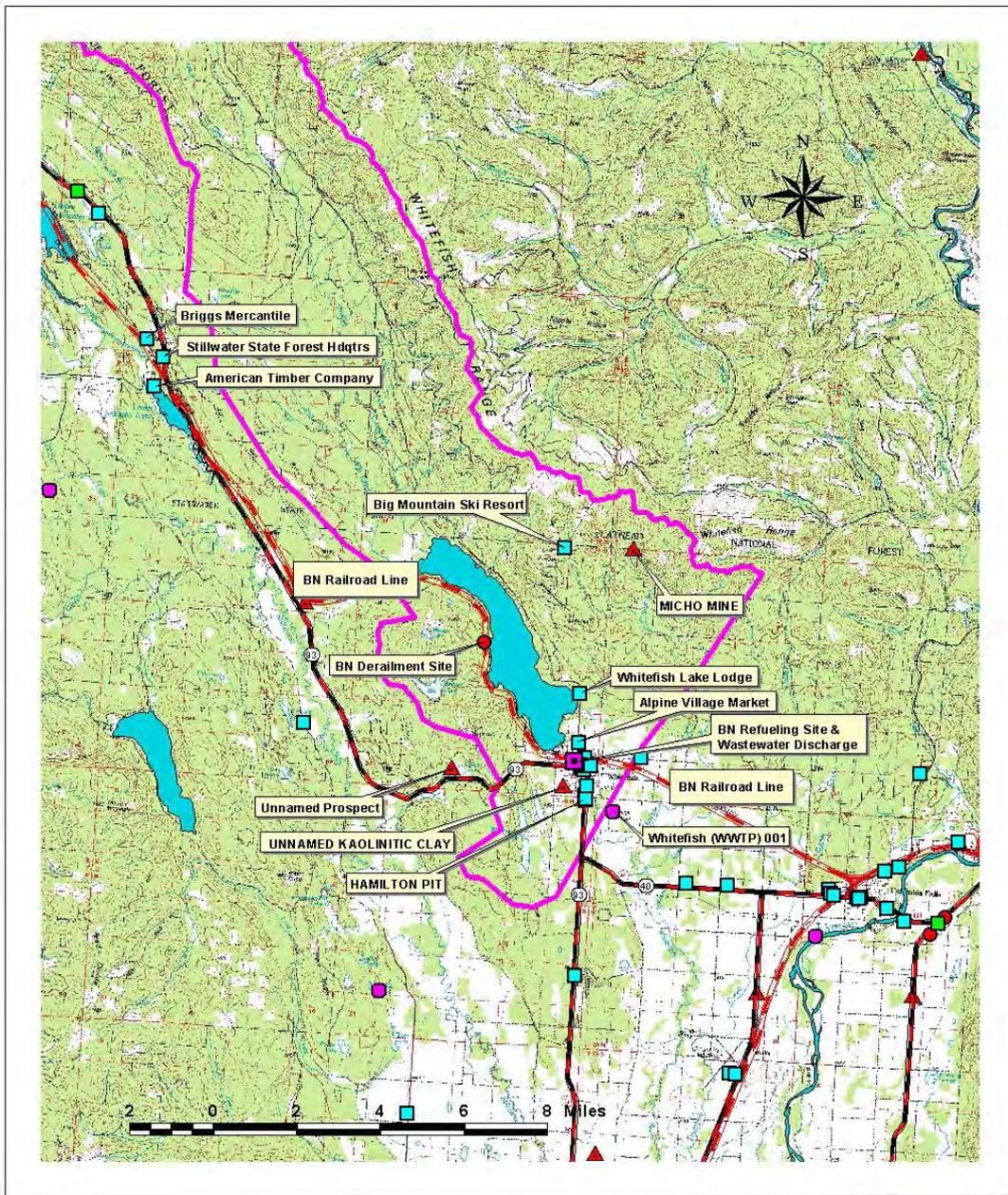
Figure 9

City of Whitefish
Spill Response Region
Septic Density



Map by Jeffrey Frank Herrick
DEQ SWPP
Source of data is 2000 Census

Figure 10
Watershed Region
Inventory



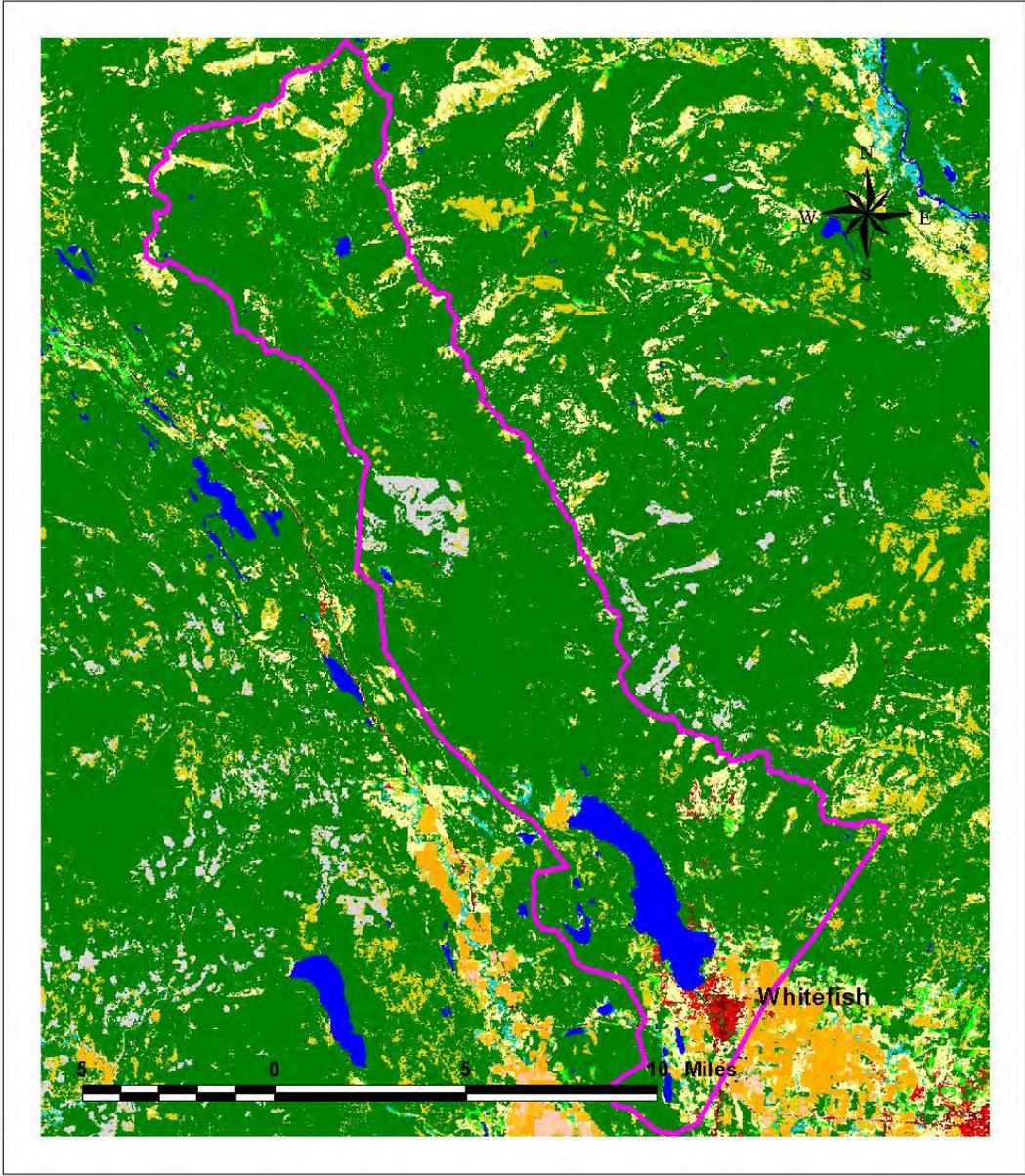
LEGEND

- ◊ BN Stormwater Discharge
- USTs/LUSTs
- ◻ Watershed Region
- Equipment Maintenance Shop
- Sewage Treatment Plant Discharge
- MT State Superfund Sites
- ▲ Active & Inactive Mines



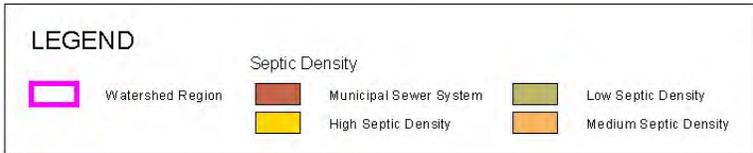
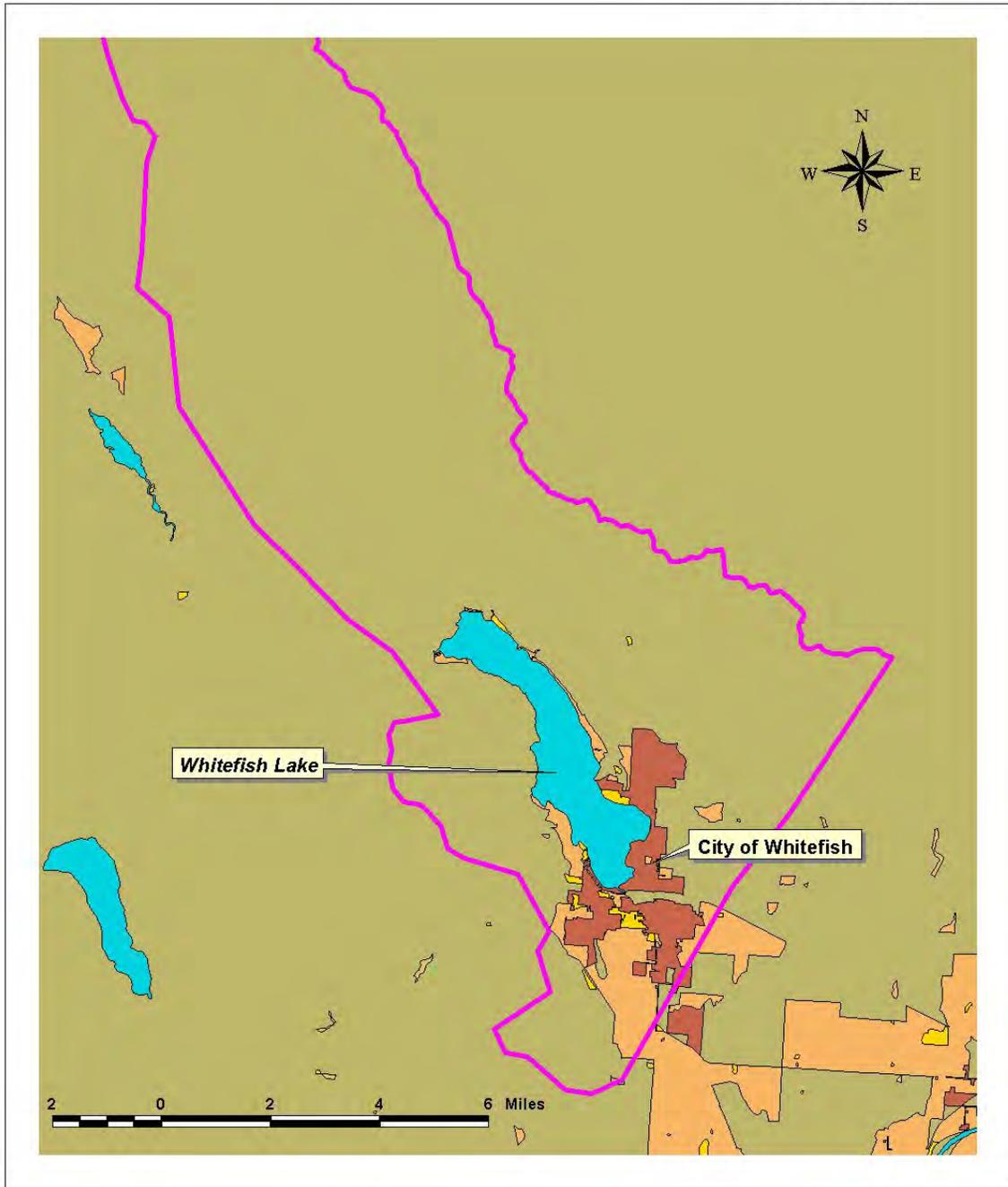
Map by Jeffrey
Frank Herrick
DEQ SWPP 2002
Data comes from available
public sources

**Figure 11
Watershed Region
Landuse**



Map by
Jeffrey Frank Herrick
DEQ SWPP 2002

Figure 12 City of Whitefish PWS Watershed Region Septic Density





 Map by Jeffrey Frank Herrick
 DEQ SWPP 2002

APPENDIX B – MISCELLANEOUS ATTACHMENTS