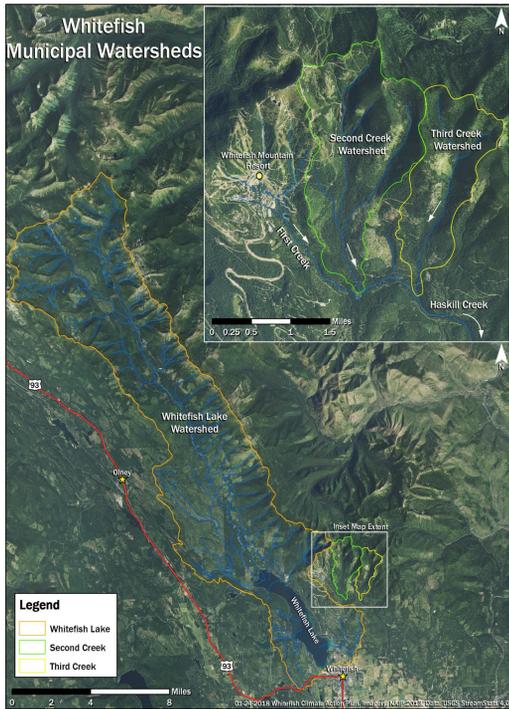


Watershed Management and the Whitefish Climate Action Plan



Water Supply

100%
of the water supply for the City of Whitefish comes from surface water.

90%
comes from Haskill Basin (Second & Third Creek)

10%
comes from Whitefish Lake (25% in the summer)

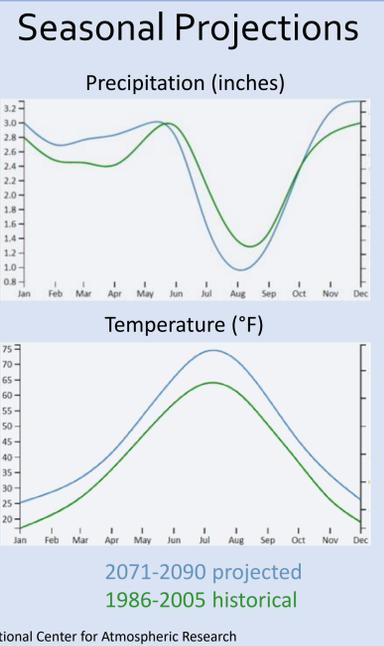
Environmental Threats

3,662,823
Acres burned in wildland fires in Montana from 2008-2017

97,396
Acres burned in 2018

Summer 2017 was the **2nd driest** and **5th warmest** since 1895

\$137 billion
is spent per year in the US to control damage caused by invasive species

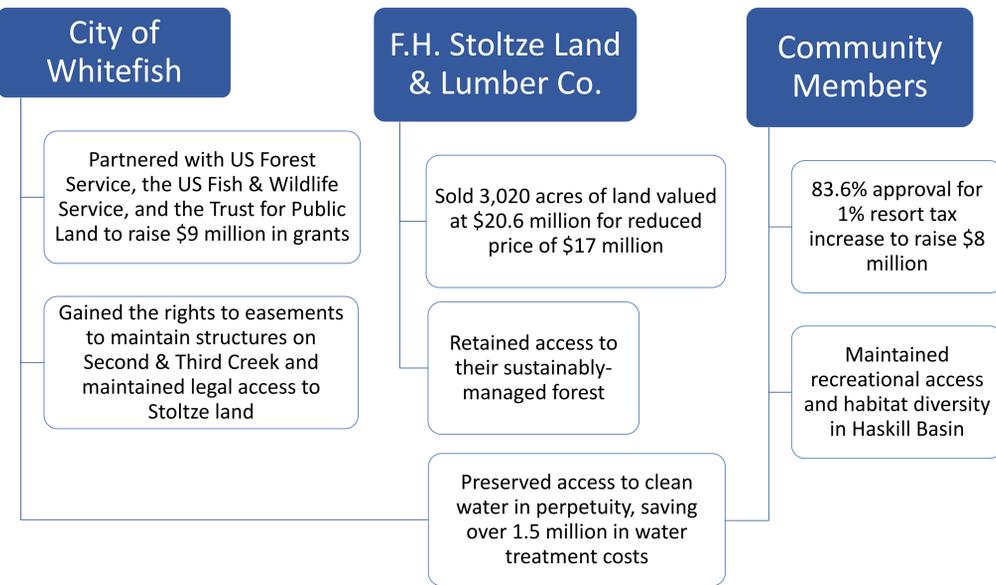


Climate Action Plan Initiatives



Haskill Basin Easement

After the forced abandonment of First Creek in 1975 due to *E. coli* contamination and sedimentation caused by development, it became clear that something needed to be done to protect Whitefish's surface water supply.



Water Conservation

Due to its reliance on surface water, Whitefish is considered **highly sensitive to contamination**. The City provides water to more than **6,500 residents**.

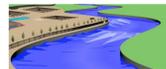
How can the City maintain a healthy watershed while reducing demand for drinking water from Haskill Basin and Whitefish Lake during the hot summer months?

Smart Metering



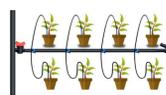
- Reduces operating costs
- Provides hourly consumption info
- Supports conservation efforts

Gray Water for Landscaping



- Reduces demand for treated drinking water

Irrigation Optimization



- Drip irrigation uses 30-50% less water than sprinklers
- Automatic timers can prevent over-watering

Xeriscaping



- Native plants often require less water than transplants
- Xeriscaping greatly reduces or eliminates the need for irrigation

Average Monthly Water Bill (per 10,000 gallons used)

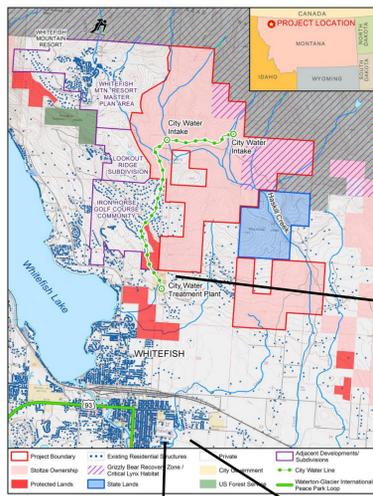
WHITEFISH: \$59.81
KALISPELL: \$32.60
BOZEMAN: \$48.88
BUTTE: \$49.24
GREAT FALLS: \$19.85

Implementing water conservation methods can save thousands of gallons of water per year and push back a water treatment plant expansion that would cost **\$10 million** + an extra **\$500,000** annually to operate.

Climate-Resilient Forest and Watershed Management

Wildfires increase susceptibility of watersheds to flooding, erosion, and contamination by ash and debris. This damages aquatic ecosystems, and puts drinking water supplies at risk.

- Maintain healthy forests through conservation partnerships
- Limit the impact of residential and commercial development on local waterbodies
- Coordinate fire adaptation strategies with landowners, firefighters, and land managers
- Identify and mitigate risks from wildfire, flooding, landslides, and other hazards



Second & Third Creeks supply **1 to 3 million gallons** of water per day.

Manage inflow/outflow from reservoir at treatment plant to reduce spillage into Viking Creek

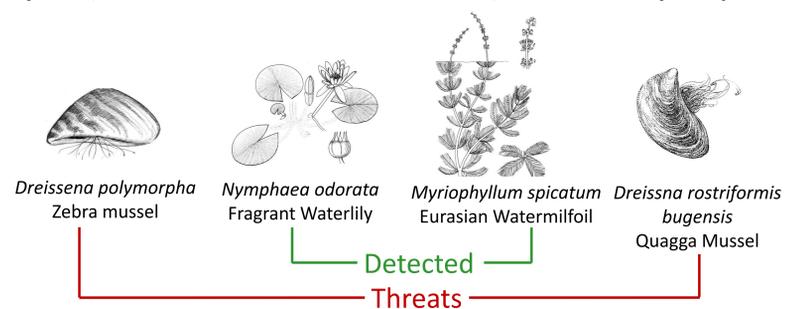
- Expand water storage on south side of Whitefish
Cost: ~\$8.4 million
- Conduct feasibility study for a groundwater well

Aquatic Invasive Species Rapid Response

Summer drought leads to evaporative losses in Whitefish Lake at the same time that consumptive demand peaks, leading to lower water elevations.

- More exposed shoreline
- Decline of native species
- Increased nutrient suspension
- Higher lake temperature
- Decreased aquatic habitat

Success Story: In 2013, 23.5 pounds of Eurasian watermilfoil had been removed from Beaver Lake. By 2017, thanks to the Whitefish Lake Institute, there were only two plants left.



- Support Water Quality Monitoring
- Improve Mandatory Watercraft Inspections
- Develop AIS Rapid Response Plan