# Protecting Minnesota's water resources

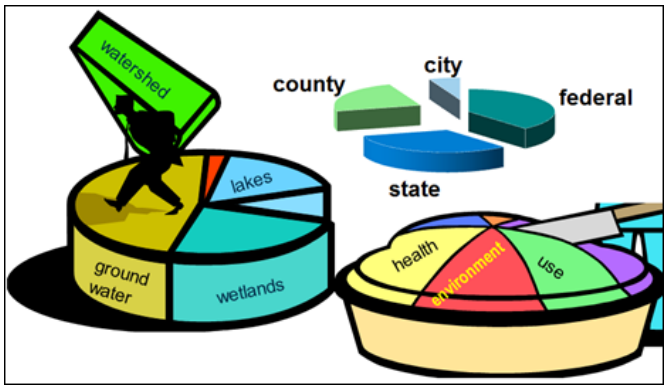
## March 2015 Snapshots

Minnesota is known as the land of 10,000 lakes, but lakes are just a part of Minnesota's vast water resources. In fact, Minnesota contains a variety of surface water and ground water resources, and the discussion of how to best protect and manage those resources goes back to the late 1800s. There are more than 20,000 protected surface water bodies in Minnesota, and stretched end to end, the shorelines of our natural rivers and streams would circle the Earth more than twice. These numbers don't even consider our 23,000 miles of drainage ditches or channelized watercourses.

The groundwater resource is even more diverse – the varied geology across the state yields many different types of "containers" for groundwater resources, from thick sedimentary basins to think superficial sand channels, sand plains, buried drift, and fractured igneous and metamorphic rock.

Minnesota is at the intersection of four continental watersheds and the headwaters of three of these, meaning Minnesota receives little water from outside its boundaries. It encompasses several distinct ecoregions, including northern coniferous forest, prairie grassland, hardwood forest, and corn belt. Minnesota straddles the boundary between the semi-humid and semi-arid climate regimes; depending on your perspective, it's the westernmost eastern state or the easternmost western state.

It's no surprise, then, that Minnesota is a key player in the protection of not only state but national water resources. Protecting and managing water resources in Minnesota requires a delicate balance of physical factors, like geography, climate, and quantity, and societal factors, such as government policy, land use, and public value of environmental protection.




*There are many possible approaches to divvying up the job of protecting and managing water resources – such as by resource type, unit of government, watershed, or professional discipline.*

The question of how best to divvy up the job of protecting water resources dates back to 1872 when the State Board of Health was first established, paving the way for future water supply protection efforts. State plumbing codes and water supply design standards followed in the 1930s. Until the early 1970s, the emphasis was on drinking water.

The 1970s were a time of major water resource legislation, including the Clean Water Act and the Safe Drinking Water Act. Congress passed the Safe Drinking Water Act (SDWA) in 1974, and amended it 1986 and 1996 to require protection of drinking water at its sources, including groundwater. The 1980s was the era of "Superfund" legislation, whose focus triggered the rapid evolution of groundwater science.

Today, the Clean Water, Land and Legacy Amendment's Clean Water Fund has created new opportunities for water resource protection, and efforts have shifted to watershed-based protection and management. This

approach makes great sense for surface water. However, aquifers and groundwater flow paths do not necessarily follow surface watersheds, making it tough to keep groundwater protection efforts in the mix.

We understand that we need to manage and protect our water resources, both on the surface and in the ground, so that they are not contaminated, not overused, so that safe drinking water can be delivered to the tap, and so that ecological functions are preserved. Collaboration is the key to doing this in a prioritized, targeted, and measurable way. Throughout its history, BWSR has cultivated collaborative relationships with its conservation partners. A current example is our collaboration with the Department of Natural Resources and Minnesota Department of Health on the establishment of the North and East Metro, Bonanza Valley, and Straight River Ground Water Management Areas, ensuring coordination with watershed-based planning efforts.

We know that we can't treat the state with one-size-fits-all solutions, and we don't have the resources to work on the whole state at once. The march toward watershed-based protection and management will continue, as we work together with partners toward creating cleaner, healthier water, on the surface *and* in the ground.