

The Land-Water Connection

The collective actions of conservation professionals around the state are helping to protect Michigan's greatest natural assets – our land and our water. Land conservation is a critical piece to protecting America's fragmented wild areas, the biodiversity they support, and the ecosystem services they provide (i.e., the benefits to society supplied by natural processes such as water filtration, soil regeneration, and waste absorption). Strategic land protection that ensures good water quality is essential. A benefit of good water quality is having an abundant, safe source of drinking water. Good water quality is achieved when everyone follows sound conservation practices. Water quality is compromised when sediment from open or disturbed landscapes, pollutants washed off pavement or asphalt, or lawn and agriculture fertilizers and pesticides are carried into local waterways by rain or erosion. Municipal dischargers such as sewage treatment plants, which contribute nutrients, pathogens, organic enrichment and toxicants, are also contributors to poor water quality.

Water quality is often discussed on a watershed scale. A watershed is defined as an area that drains into a common waterway, like a river, lake, stream, or wetland (Figure 1). When water washes down hill, it carries with it loose sediment and any pollutants in its path. The surface over which the water flows and the rate the water is flowing has a lot to do with what eventually gets washed into rivers, lakes, and streams. Stable soil, sand, or other pervious surfaces allow water to be absorbed and used by vegetation or filter down into the water table. Impervious surfaces, like asphalt or pavement, cause water to move faster, accumulate, and flow into sewer drains or other low-lying areas in the region. Water in sewer drains often flows directly into common waterways, which means anything on asphalt, sidewalks, or parking lots can end up in the water you fish in, swim in, and that gets taken into water treatment plants to prepare the water you drink.



Fig. 1. Cross section of a watershed.

An Issue of Local and National Importance

Population increase, sprawling development across the country, and threats of a warming climate all point to the need for increased access to water around the country and around the world. The Great Lakes surrounding Michigan are the largest source of fresh water on the planet. Michigan's 38,000-mile network of rivers and streams, many of them Blue-Ribbon Trout Streams, is sought out by anglers from around the world. The wetland complexes that connect water bodies and dot the landscape serve as the "kidneys" of the land-water system, absorbing and retaining sediment, waste, and pollutants. Together, this network of land and water supports abundant recreational opportunities for Michigan's citizens and visitors.

Michigan's water resources are intimately tied to our valuable forests, grasslands, wetlands and globally valuable stretches of fresh water shoreline. This interwoven network of ecosystems must be protected not only for the role they play in providing Michigan with good water quality, but also for the cultural, aesthetic, industry and recreation economic value they possess. We cannot take Michigan's abundant water resources for granted.

The state's rich soil diversity and the timber and agricultural production it supports, is poised for even greater success in the future with ensured protection of our abundant water supply and land base. Together, these could help to provide food and fiber resources to the rest of the country.

The Role of Land Conservancies in Protecting Water Quality

When properties are permanently protected through conservation easements and land donations, not only has a landowner helped to conserve their land in perpetuity, he or she has also helped to protect the health and function of the greater ecosystems and watersheds their land is a part of.

At the local scale, critical lands and the ecosystem services and waters they protect are preserved. At a larger watershed scale, the outcome is likely a decrease in impervious surfaces, non-point source pollution, and sediment erosion into Michigan's waterways. The collective actions of landowners and conservancies at the statewide scale are helping to protect one of Michigan's greatest assets, our land and water resources.