

Managing our Surfacewater & Watersheds

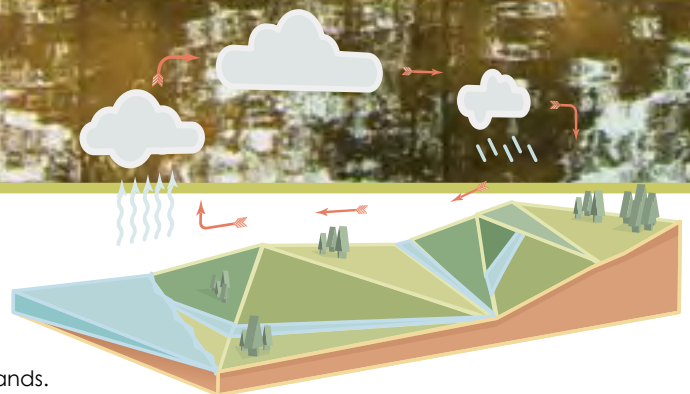


Water is the centerpiece of Crow Wing County

Our health, safety, prosperity and general welfare are all influenced in a large degree by our water resources. All told, these lakes and rivers make up 14% of the total area within the County and are the primary reason that the County is a vacation and retirement destination.

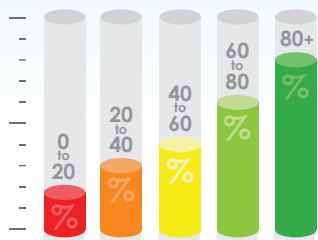
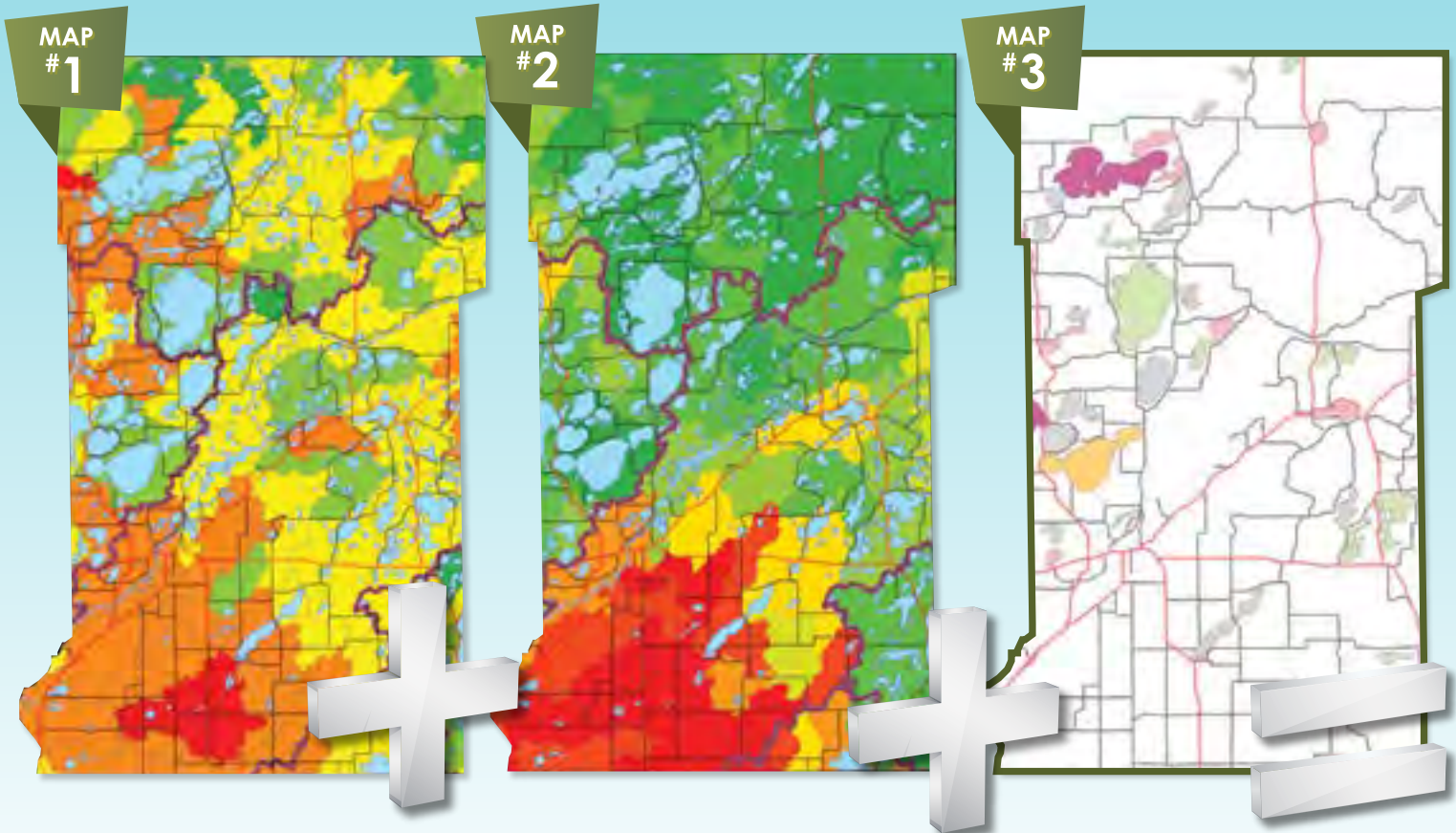
We have a plan... a plan to preserve, a proactive approach to enhance our watersheds.

We all understand there is an interdependency in nature. Elements are connected in ways that if tampered with will affect other elements. Our lakes are linked not only with streams and rivers, but with the weather, our homes, our yards, our forests and our farmlands. All together we view this as a watershed. So protecting the quality of our lakes reaches well beyond the shoreline. Over years of research we have developed a plan that takes all the elements surrounding a watershed into account. We call it our protection approach, and we would like you to join in our efforts.



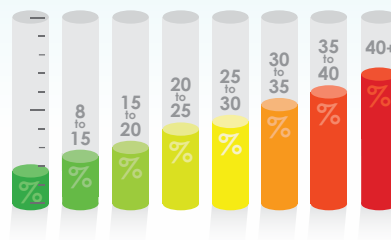
Our protection approach: Determining risk...

Protected Land Use + Disturbed Land Cover + Water Quality Trends = Risk Classification



% Of Protected Land

The distinction between public and private lands is important. From a planning perspective, watersheds with a high percentage of public land are not as at-risk for future water quality impacts and may not require the same level of focus as watersheds with a smaller percentage of public land. Public land is considered to be already in a protected state as are water bodies such as lakes, streams, and wetlands.



% Disturbed Land Cover

Map 2 shows the percentage of land that has been converted from a natural forested condition to other land uses, such as crop and pasture land and developed areas. Minimizing or managing these changes in a watershed is a good way to maintain high water quality.



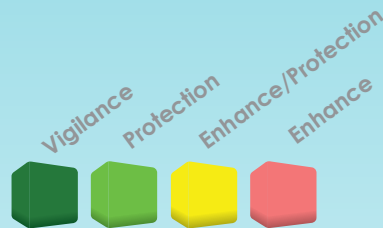
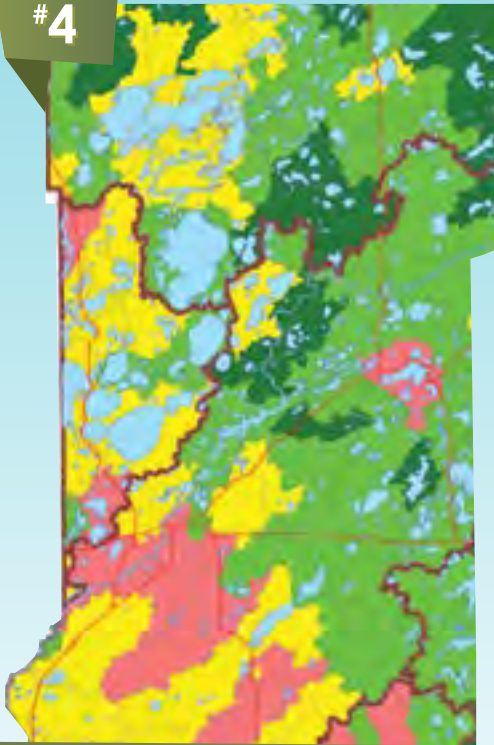
Water Quality Trends

In addition to protected areas and land use disturbance, watershed health is also influenced by the water quality of the lakes / streams that they contain. Watersheds with lakes with a declining trend in water quality based on data collected over many years were classified lower simply because of this declining trend.

Our protection approach: Determining risk...

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MAP
#4



Risk Classification

The data from the three previous three maps leads to our designation of risk classifications.

Crow Wing County is part of 5 major watersheds and has portions of 125 minor watersheds. For this plan, a watershed-based model was used that classified each minor watershed by the amount of protected land as well as by various risk factors and water plan priorities.

“This is an excellent venture in watershed-based planning”

– Minnesota DNR

Vigilance:

Less than 50% protected lands, less than 8% land use disturbance, no risk factors such as agriculture, development, artificial drainage, or extractive uses

Protection:

40-65% protected lands, 8-30% land use disturbance, minimal risk factors, and water quality that is stable or improving, multiple high-quality resources could be protected

Enhance / Protection:

Less than 40% protected lands, moderate amount of risk factors, water quality that is stable, declining, or impaired, manageable risk factors, one or more water resources that could be protected

Enhance:

Less than 40% protected lands, greater than 30% land use disturbance, multiple to significant risk factors, limited resources to protect

Protecting our waters... Starting with lakeshore homeowners.

For the sake of the Lake!

Included on this page are best practice examples for conserving the quality of our lakes and watersheds.

Impervious surfaces

Impervious surfaces are anything that prevents H₂O from entering the soil. Examples would be driveways, building roofs or patio surfaces.

Permeable solutions for impervious surface

Permeable paver stones with a sub layer of compacted aggregate makes for a great solution for driveways or patio surfaces. Porous asphalt also provides an absorbent low impact driveway option

Abandoned wells

Crow Wing County participates on local wellhead protection planning teams and also helps to identify unused and abandoned wells in sensitive groundwater areas. We encourage and offer incentives for landowners to properly seal unused wells.

Septic system maintenance

Crow Wing County encourages landowners with septic systems to have their systems assessed for maintenance every three years. We promote proper septic and waste disposal practices. We also provide landowners with helpful information on financial assistance programs for septic system upgrades when available.

Berm to catch run-off

A berm or a slightly raised ridge can be used to limit and store rain runoff from steep slopes and/or direct water to a rain garden.

Rain garden

Rain gardens are ideal solutions to treat runoff from impervious surfaces. They can be placed near roof lines or at the base of a slope or even at the outlet of a downspout. Primarily built to catch runoff and prevent erosion, these gardens also add beauty to a yard.

Natural buffer to prevent run-off

A natural buffer can be the placement of shrubs, trees and other native plants along a lakeshore or simply an area that is not mowed or maintained. These buffers can reinforce the natural shoreline buffers as an additional filter for runoff and lawn pollutants before it reaches your lakeshore. The roots from larger shrubs and trees can absorb nutrients and serve to slow erosion. The leaves will also shade your shoreline keeping water temperatures cooler for amphibians, fish, and aquatic insects.

Rain Barrel solution for impervious surfaces.

Rain barrels collect and store rainwater from rooftops to use later for watering plants and gardens. Normally rainwater simply pours off your roof, through the gutters and downspouts to become stormwater runoff. This runoff travels onto paved surfaces and eventually into our waterways. Rain barrels help reduce the flow of storm runoff. Stormwater runoff picks up contaminants from hard surfaces and landscapes. If storm runoff is not treated it flows directly into streams, lakes and other bodies of water nearby and degrades water quality. Fertilizers, if part of runoff, increase algae growth in lakes. Rain barrels capture water that would have swept over a paved surface or lawn, thereby minimizing runoff pollutants.

Benefits of a natural shoreline

Natural shorelines are essential to the ecosystems that sustain wildlife and fish. A natural shoreline also reduces runoff, erosion, and sedimentation. These plants provide shelter for songbirds, waterfowl and other animals. Natural shorelines will also minimize erosion from wave action and help to maintain lake water quality.

Wetlands and transitional buffers

Wetlands

Approximately 25% of Crow Wing County is comprised of wetlands. In Minnesota, an estimated 11 million acres of wetlands have been drained or filled over the last hundred years. Crow Wing County is fortunate to have greater than 80% of our original wetlands still intact. This includes sedge meadows to emergent marshes to forested swamps and bogs.

Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water.

Wetlands are protected by the Wetland Conservation Act. Areas meeting this definition that are located below the ordinary high water level of a lake or average bank height of a stream are regulated as a Public Water by the DNR.

Note: You must consult your local government unit or the DNR before you perform any activities in a wetland or near shore aquatic area. A wetland delineation by an approved delineator is typically required to determine the boundaries of a wetland.

43% of threatened or endangered plants and animals in the U.S. live in or depend on wetlands.

Boardwalk crossings

Where wetlands exist adjacent to lakeshore, boardwalks are an approved option for accessing the lake. The Minnesota Wetland Conservation Act considers an elevated boardwalk a reasonable and prudent alternative to using fill to access the lake. An 8 foot wide elevated boardwalk can be allowed with a Shoreland Alteration Permit.

The boardwalk may be placed on temporary or permanent supports, may have railings attached and must meet property line setbacks.



Stormwater Management

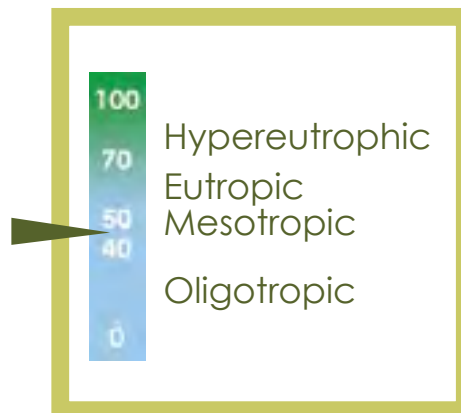
The purposes of stormwater management are:

- To protect surface waters and private property from damage resulting from stormwater runoff and erosion
- Ensure the annual stormwater runoff rates and volumes from post-development site conditions mimic the annual runoff rates and volumes from predevelopment site conditions
- Ensure site development minimizes the generation of stormwater and maximizes stormwater treatment and infiltration onsite
- Protect water quality from nutrients, pathogens, toxins, debris, and thermal stress

Note: For residential property, the Crow Wing County Land Use Ordinance allows up to 25% of the total lot area, excluding road right-of-way area, to be comprised of hard or "impervious" surfaces. If the percentage of impervious surface is greater than 15%, a stormwater management plan and stormwater permit are required.

Water Quality

Since 2008, Crow Wing County has contracted with environmental laboratories to compile this data in order to evaluate the data quality, identify data gaps, assess the data, and look for water quality trends. These reports have indicated that while many lakes have a declining trend in water quality, the majority are stable or improving. We prefer to see the trends remain stable or improving. See example lake study to the right.



4 things you can do...

While there are many things you can do to help maintain our watersheds, the most important 4 steps are as follows:

1

Manage runoff from impervious surfaces

Impervious surfaces are anything that prevents water from soaking into the soil. Since most of the unwanted sediment, nutrients, and contaminants is found in the first 1" of runoff from impervious surfaces, simply landscaping your property to direct this first flush of stormwater to rain gardens, berms, or natural depressions will make a huge difference for the water quality of our surface waters.

2

Preserve vegetated shorelines and slopes

Not only do vegetated slopes and shoreline buffers prevent erosion from runoff and wave action, they also add value for fish and wildlife. Buffers can be as simple as a no-mow/maintenance buffer or planted with native grasses, wildflowers, shrubs, and trees from a local vendor or the Crow Wing Soil & Water Conservation District.

3

Maintain your septic system

Routine maintenance for a septic system can not only protect our groundwater, but it can also extend the life of the system. Crow Wing County recommends having your septic tank pumped every three years and inspected periodically to ensure that it is functioning as designed.

4

Prevent the spread of aquatic invasive species (AIS)

Making sure your boat, motor, and trailer is clean of all aquatic plants and zebra mussels before you enter and exit public waters will help prevent the spread of AIS. Boats and tanks, including livewells, should be drained and plugs left out during transport. Live bait cannot be released back into any waterbody.

PROTECT OUR LAKES!

YOU CAN HELP

Call 218-824-1010 to speak with one of our specialists.
We're ready to help you.

www.crowwing.us

Crow Wing County is committed to protecting, preserving & improving water resources in Crow Wing County by being proactive, efficient, customer focused, organized, and innovative while being good stewards of the County's resources.



Scan for more info

