Boardman River Watershed

KALKASKA COUNTY

WATER QUALITY ACTION PLAN

Fall 2009

Partners:
The Watershed Center Grand Traverse Bay
Northwestern Michigan College - Great Lakes Water Studies Institute
Grand Traverse Conservation District

Funded by: Michigan Department of Environmental Quality

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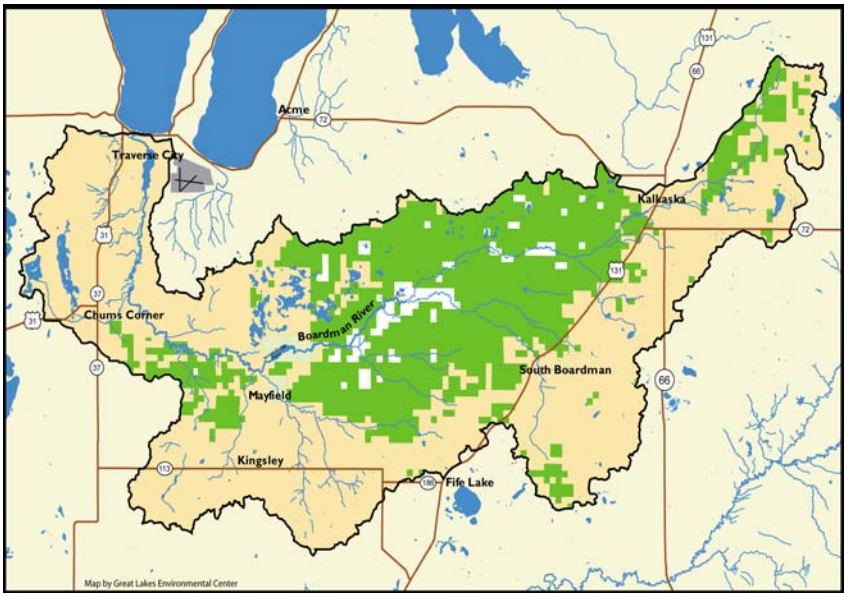

Purpose

The Boardman River watershed spans 295 square miles and drains approximately 182,800 acres of land through 175 miles of river and stream tributaries. It is the largest tributary to the West Arm of Grand Traverse Bay and provides about 30 percent of the surface flow to Grand Traverse Bay. In addition, the Boardman River is considered one of the top ten trout streams in Michigan and is one of the particularly outstanding natural features of the Grand Traverse Bay region. It is a Natural River, a designation from the Michigan Department of Natural Resources that comes with associate management measures. Protecting this resource is important to the quality of life of the residents and the economic viability of the region.

The soils throughout this region are dominated by Kalkaska Sand that drains well and filters water very effectively. It is largely responsible for the remarkable water quality of lakes and rivers located in areas of the state where these soils are abundant such as northern lower Michigan. However, it is also highly erodible and low in nutrients; once disturbed, it easily erodes into our surface water. In addition, excessive levels of nutrients and other pollutants are easily passed through to the near-surface groundwater that feeds our lakes and streams. In some cases, this excessive pollution passes into our groundwater aquifers, contaminating our drinking water.

Sediment – including sand – is the number one surface water pollutant in the Grand Traverse Bay watershed, as set out in the Grand Traverse Bay Watershed Protection Plan. Sediment and sand smothers the habitat that aquatic organisms need to survive and reproduce. Sediment and sand enter our surface waters through stormwater that washes from roads, parking lots, and driveways carrying with it nutrients and many other forms of pollution such as salt, oil, anti-freeze.

As a result, one of the best ways for local governments in the watershed to address water quality protection is to consider how they are managing stormwater in their communities. In this context, protecting water quality is directly related to reducing impervious surfaces and protecting natural areas and natural vegetation.

Through a grant from the Michigan Department of Environmental Quality, the partners to the project – the Watershed Center Grand Traverse Bay, Northwest Michigan College Water Studies Institute (WSI), and Grand Traverse Conservation District (GTCD) – developed a process to assist county, township and villages with a review of how they are doing with stormwater management and therefore their abiltiy to protect their water resources.

Water Resources in Kalkaska County

Kalkaska County is home to over 80 lakes, 7000 acres of wetlands and 270 river miles, including 225 miles of blue-ribbon trout streams. The county includes a large portion of the Manistee River, Rapid River, and Boardman River watersheds. While the focus of this project is the Boardman River Valley, these recommendations apply equally to all the water resources in the county.

The upper third of the Boardman River watershed lies in Kalkaska County, including the headwaters of the north and south branches of the river. The north branch flows through the Village of Kalkaska and the south branch flows through the town of South Boardman. Both communities have dams and mill ponds that warm the river waters during the hot summer months.

The headwaters are trickling small streams that quickly pick up volume as they head westerly toward the “Forks of the Boardman” where the two branches join together to form the main stem of the river as it continues its journey to the west arm of Grand Traverse Bay. Headwaters streams are fragile and are the most susceptible to lingering pollution problems because of their high water table, sensitive soils, and moderately low flow. In

other words, the headwaters do not receive the flushing flows that the main stem of the river receives and, therefore, they do not recover as quickly.

The north and south branches downstream of US-131 are protected under the state's Natural Rivers Program. This part of the river system is classified under the Natural Rivers Plan as "Wild & Scenic". Kalkaska County is responsible for administering the rules under Natural Rivers Plan on the Boardman River within the county, including the tributaries of Crofton Creek, Failing Creek, and Taylor Creek.

Process

During the summer of 2009, Kalkaska County officials met with representatives from WSI and GTCD to discuss the County's zoning ordinances and policies as they relate to the protection of water quality. The discussion was guided by a modified version of the Code and Ordinance Worksheet (Worksheet), a tool developed by the Center for Watershed Protection for use throughout the country to help communities assess impacts on water quality.

The Worksheet focuses on three topics: **roads and parking lots**, **lot design and development**, and **conservation of natural areas**. The roads and parking lot section addressed management of roads and parking lots. The lot development and design section included discussion of open space ordinances, cluster ordinances, site plan review, front yard setbacks, driveways, on-site stormwater management, and septic system maintenance. The conservation of natural areas section focused on retention of native vegetation around water resources, tree conservation, and land clearing. The Worksheet was provided in advance of the meeting, and the participants at the meeting discussed the responses to the question.

The partners to the project discussed the results of the discussion in relation to design principles and targets for each of the three areas and developed general recommendations for specific areas of focus for Kalkaska County.

Suggested Actions for Consideration in Kalkaska County

Kalkaska County has a range of water quality protections in its zoning ordinance. They include natural vegetative buffers along water bodies, stormwater management requirements, opportunities for protection of natural features in planned unit developments, and strong limitations on lot coverage. The county also has a septic system point-of-sale inspection ordinance. A large part of the county is owned by the State of Michigan. The state's current management of these lands is generally compatible with protection of water quality.

The discussion below includes a more detail regarding the three topic areas, as well as suggested actions. In general, the more a local government can do to reduce impervious surfaces and increase the retention or restoration of native vegetation along riparian buffers and in open spaces, the better for water quality. Because the zoning ordinance for Kalkaska County applies to a larger area within the Boardman River watershed than any

other ordinance, protections in the county's ordinance, coupled with enforcement, can result in significant improvements in water quality.

The suggested actions relate directly to the General Water Quality Protection Principles and Targets that accompany the plan. The principles and targets were developed from the Better Site Design resources of the Center for Watershed Protection. The List of Additional Resources that also accompanies this plan provides information to support implementation of the suggested actions. Finally, we are including a copy of "A Natural Solution" about low-impact design methods to manage stormwater.

Roads and Parking Lots

The large majority of paved areas within a community are roads or parking lots. In the course of conducting the interviews with townships, it became clear that road design is significantly influenced by the county road commissions and local fire departments. We did not review the Kalkaska County Road Commission standards for public and/or private roads for this project.

Addressing parking space numbers and space size are two ways to reduce paved areas. These savings may seem insignificant on a particular site, but across the township the reductions in paved area could be substantial. The reduction of parking spaces from10 feet by 20 feet to 9 feet by 18 feet results in a 20 percent savings in impervious surface. The county's ordinance includes specific standards for parking space ratios and addresses shared parking.

ACTION: Consider how the county would address private roads and consider limiting the width of private roads to no greater than 18 feet.

ACTION: Consider reducing parking ratios and setting them as a maximum number of spaces as opposed to a minimum.

ACTION: Consider allowing reductions in parking requirements for shared parking.

ACTION: Consider reducing the parking stall size requirements.

ACTION: Consider adding stormwater management as a goal of parking lot landscaping.

ACTION: Consider allowing spillover areas to be pervious surface or planted in grass.

Lot Design and Development

Kalkaska County's zoning ordinance includes an open space cluster ordinance and a planned unit development ordinance. While the open space cluster ordinance appears designed to help protect active agricultural lands, the planned unit development ordinance requires up to 50 percent of the parcel to be in open space, with 80 percent of that area contiguous. The planned unit development ordinance encourages the protection of natural

features. The site plan review process includes stormwater management and groundwater protection. The landscaping provisions encourage the use of native plants. The county outside of the village of Kalkaska is served by septic systems to manage wastewater. The county has adopted a septic system point-of-sale inspection ordinance, an important step toward ensuring that these systems are properly treating wastewater.

ACTION: Consider adopting protection of natural vegetation as a goal for planned unit developments and as a standard for site plan reviews.

ACTION: Consider adopting stormwater best management practices and other water quality protections in the standards for site plan review.

Conservation of Natural Areas

Kalkaska County has a general buffer ordinance that protects 25 feet of natural vegetation near surface waters, as well as a Boardman River waters native vegetated buffer of 50 feet. All landowners are encouraged to maintain a 50-foot buffer because of its benefits to water quality. The current management of the state owned lands in the county is generally compatible with protection of water quality.

ACTION: Consider extending the protection offered by the Natural River designation from US-131 upstream to the headwaters.

ACTION: Consider protection of buffers around water resources in the site plan review process.

ACTION: Consider tree and native vegetation conservation standards in the site plan review process.

Next Steps

Specific work on these recommendations is at the discretion of the County and what the local officials and local residents view as priorities for the community. The additional resources accompanying the action plan are designed to support the County's consideration of implementation. These include:

- General Water Quality Protection Principles and Targets -Attachment-A

- Internet resources, including example local ordinances, best management practices, the Boardman River Natural River Plan, Center for Watershed Protection resources, and Filling the Gaps (a Michigan Department of Environmental Quality document with sample ordinances) – Attachment-B

- A Natural Solution. An introduction to low impact development for commercial and residential applications in the Grand Traverse Region, prepared by the Watershed Center Grand Traverse Bay through an MDEQ grant. – Attachment-C

The partners to this project will assist, to the extent possible, with work on these recommendations. In addition, the partners will be working on public road design for water quality protection. This work will require further discussions with the road commissions and fire departments. The partners will also be pursuing workshop opportunities to help interested local units of government strengthen or develop ordinance language that will benefit water quality.

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