

Boardman River Watershed

VILLAGE OF KALKASKA

WATER QUALITY ACTION PLAN

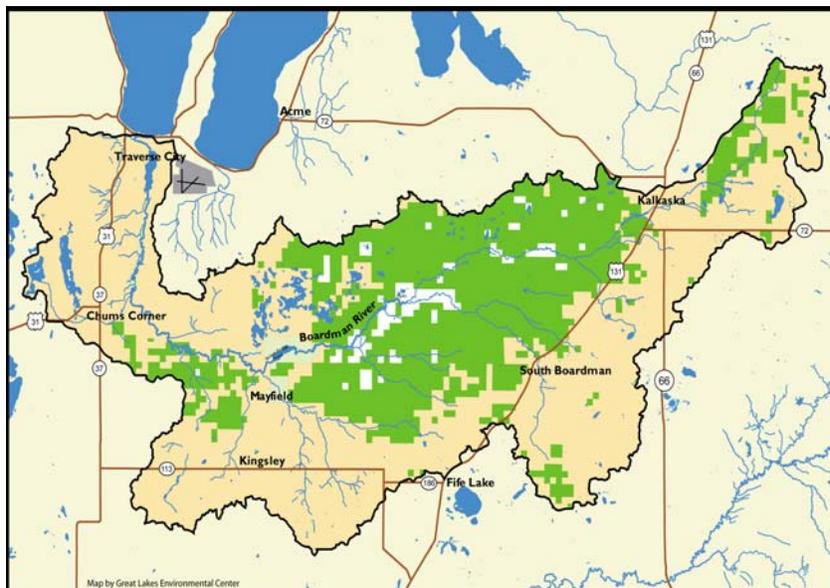
Fall 2009

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

Boardman River Watershed



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 ability to protect their water resources.

Water Resources in the Village of Kalkaska

The north branch of the Boardman River flows through the heart of the village. This branch begins less than 10 miles northeast of the village in the Mahan Swamp. As it makes its way to the village, the flow is slowed by a small dam that forms a mill-pond. The pond is shallow and warms up during the hot summer months. Downstream of US-131, the Boardman River is classified under the state's Natural Rivers Program as "Wild & Scenic."

Process

During the summer of 2009, the Village of Kalkaska officials met with representatives from WSI and GTCD to discuss the Village'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 the Village of Kalkaska.

Suggested Actions for Consideration by the Village of Kalkaska

The village's planned unit development and site plan review ordinances provide important stormwater management and water quality protections for the village. Because of the intensity of uses, management of stormwater within the village is a more significant issue for the village than other local governments in the Boardman River watershed.

The discussion below includes a more detail regarding the three topic areas, as well as suggested actions. 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.

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.

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, it became clear that road design is significantly influenced by the county road commissions and local fire departments. In the interview, we were told that the village road width minimum is 22 feet.

Addressing parking space numbers and space size are two ways to reduce paved areas in parking lots. These savings may seem insignificant on a particular site, but across the village the reductions in paved area could be substantial. Reducing parking spaces from 10 feet by 20 feet to 9 feet by 18 feet results in a 20 percent reduction in asphalt. The planned unit development provisions allow for a substantial reduction in the number of parking spaces. Parking requirements are at the discretion of the planning commission.

ACTION: Consider setting the road width as a maximum.

ACTION: Consider setting impervious surface maximums that include parking lots and roads within a development.

ACTION: Ensure that the planning commission has information about parking lot designs that protect water quality.

ACTION: Consider adding stormwater management as a purpose for parking lot landscaping in the site plan review process.

Lot Design and Development

The zoning ordinance includes a planned unit development provision that encourages clustering of buildings, preservation of 25 percent of the development in open space, and preservation of natural features. The zoning ordinance includes landscaping and screening requirements, which can be an important tool to retain and treat stormwater on site. The site plan review ordinance encourages the preservation of natural vegetation and natural drainage. The village is served by public sewer and water, and it has a wellhead protection team.

ACTION: Consider adding retention of native vegetation in open spaces as a standard in planned unit development review.

ACTION: Consider ways to encourage site designs that minimize road lengths.

ACTION: Consider reducing sidewalk widths to 4 feet maximum.

ACTION: Consider reducing driveway widths to 9 feet maximum.

ACTION: Consider ways to encourage shared driveways and the use of pervious surfaces for driveways.

Conservation of Natural Areas

Because of the concentration of uses in the village, the opportunities for the conservation of natural areas are limited. An important focus should be the riparian areas adjacent to the Boardman River.

ACTION: Consider a buffer of native vegetation around all water resources.

ACTION: Consider tree and natural vegetation protection in the site plan review process.

ACTION: Consider buffer protection in the site plan review process.

Next Steps

Specific work on these recommendations is at the discretion of the village 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 village'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.

Contact Information

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