

Boardman River Watershed

VILLAGE OF KINGSLEY

WATER QUALITY ACTION PLAN

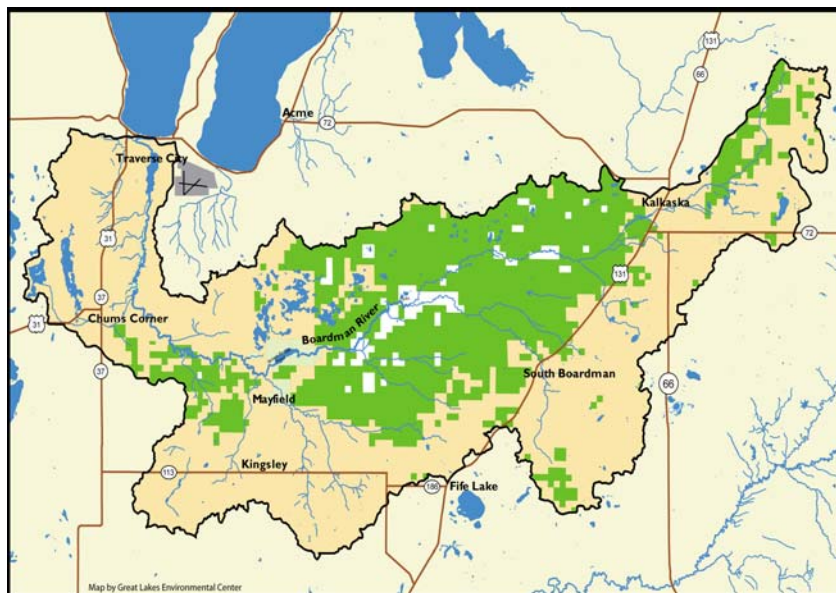
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Partners:

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 Village of Kingsley

The headwaters of Kingsley Creek are actually located east of the middle school where the Creek begins as a trickle, quickly picking up in volume as it heads north, under M-113 before it joins Swainston Creek just north of the Village of Kingsley. Headwaters streams are fragile and the most susceptible to lingering pollution problems because of their high water table, sensitive soils, and moderately low flow. In other words, they don't receive the "flushing" flows like the main stem of the Boardman River receives and do not recover as quickly.

Process

During the summer of 2009, the Village of Kingsley 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 Kingsley.

Suggested Actions for Consideration in the Village of Kingsley

Because the headwaters of Kingsley Creek are within the village limits, protecting the Creek and Swainston Creek from stormwater and other sources of pollution is critical. **The riparian buffer of natural vegetation incorporated in the zoning ordinance is an important means to that end. In addition, the ordinance contains several provisions that will help reduce the amount of impervious surface in the village. The planned unit development and site plan review ordinances address protection of natural vegetation, environmentally sensitive areas, limiting impervious surfaces, and managing stormwater.**

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 to help manage stormwater, 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 with local governments, it became clear that road design is significantly influenced by the county road commissions and local fire departments. The Grand Traverse County regulations for private roads allows for roads of 22 feet in width if agreeable to the local fire department.

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 township 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.

While some of the village's standards for parking space ratios are low, others could be reduced (i.e. office buildings). The parking ordinance appears to allow for flexibility in terms of surfaces for spillover areas and shared parking.

ACTION: Consider a road ordinance that would limit the right-of-way width to 45 feet and paved surface width of no greater than 22 feet.

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

ACTION: Consider setting out reductions in parking requirements for shared parking.

ACTION: Consider reducing the parking stall size requirements.

ACTION: Consider adding stormwater management as a purpose for parking lot landscaping and expanding the area required to be landscaped.

Lot Design and Development

The zoning ordinance includes a planned unit development provision that allows clustering of buildings and encourages preservation of natural features. The zoning ordinance includes landscaping and screening requirements, which can be an important tool for retaining and treating stormwater on site. The site plan review ordinance encourages the preservation of natural vegetation and natural drainage. As for sidewalks, the ordinance allows for 4-foot in width.

ACTION: Consider ways to encourage retention of native vegetation in open space and planned unit developments.

ACTION: Consider requiring stormwater management on site and utilization of stormwater best management practices in the site plan review requirements.

ACTION: Consider setting open space requirements in the PUD ordinance.

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

ACTION: Consider setting the sidewalk width of 4 feet as a maximum.

ACTION: Consider incorporating stormwater management in the landscaping provisions of the ordinance.

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 creeks. **The 25-foot riparian buffer provision is a good foundation.** In addition, the village has several parks that include some natural areas.

ACTION: Consider educating residents about the benefits of maintaining native vegetation within shoreline setback areas.

ACTION: Consider tree and other vegetation conservation 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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