Boardman River Townships Project

WHITEWATER TOWNSHIP

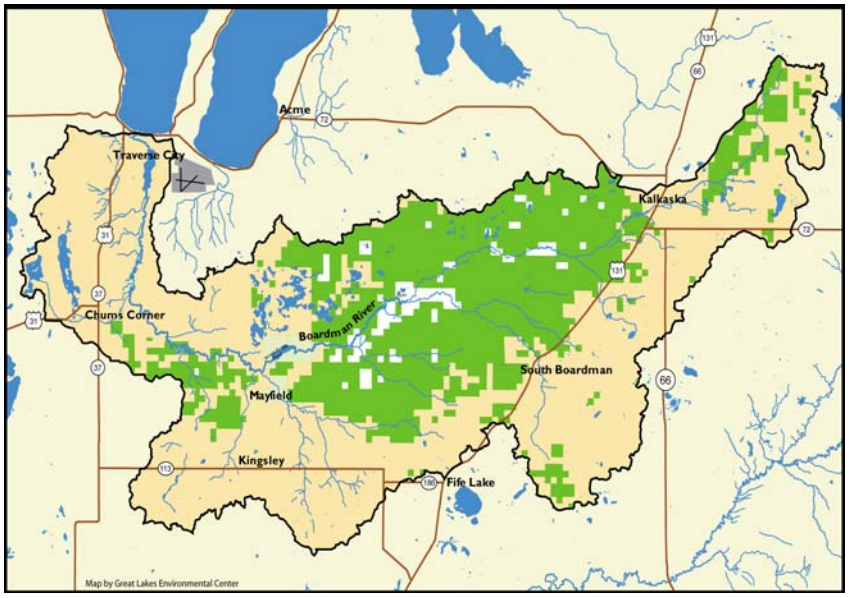
WATER QUALITY ACTION PLAN

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 Boardman River 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 townships 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 Whitewater Township

Whitewater Township is home to a wide range of high quality lakes, rivers, and streams, including numerous small creeks like Tobeco, Williamsburg, Bottle, and Bissel creeks and their watersheds. These tributaries flow into East Bay or Elk Lake. The Petobego Natural Area in the Tobeco Creek watershed and the associated wetlands complex include emergent marsh, northern shrub thicket, and rich conifer swamp. Nearly 10 miles of the Elk Lake shoreline are under Whitewater Township's jurisdiction. Island Lake, off Supply Road in Section 31 and 32 is also a beautiful inland lake under township control that has a heavily developed shoreline.

The South Part of the township lies in the Boardman River Watershed where the North Branch of the Boardman River flows along Guernsey Lake Road in the heart of the Pere Marquette State Forest. This branch of the Boardman River is part of the Natural Rivers Program, and is classified under the Natural Rivers Plan as "Wild & Scenic."

Process

During the summer of 2009, Whitewater Township officials met with representatives from WSI and GTCD to discuss the township'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 Whitewater Township.

Suggested Actions for Consideration in Whitewater Township

Whitewater Township's zoning ordinance and policies include some important protections for water resources. The township has adopted a Road Plan and Private Road Ordinance that minimize paved areas, resulting in significant savings in stormwater management. Most of the parking provisions do an excellent job of reducing paved surface and managing stormwater. The zoning ordinance contains provisions in many sections requiring stormwater management on site, including the site plan review provisions. The ordinance includes some provisions that protect open spaces and it provides for some buffering of water resources.

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. 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 township 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. The Grand Traverse County regulations for private roads allows for roads of 22 feet in width if agreeable to the local fire department. Whitewater Township's Road Plan and ordinance

language create a comprehensive approach to road management that is protective of water quality. The plan includes a goal of minimizing paved areas. The Private Road Ordinance sets maximum widths of 18 feet or less for roads serving 25 lots or fewer. It also includes turf shoulders, instead of paved shoulders, and it limits the size of cul-de-sacs and hammerheads. Private road proposals must include a drainage plan.

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 is a 20 percent reduction in asphalt. While some of the township's standards for parking space ratios are low, others could be reduced (i.e. office buildings). The landscaping provisions for parking lots and stormwater management provisions are excellent.

ACTION: Consider reducing some of the parking ratios and setting them as a maximum number of spaces.

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

ACTION: Consider reducing the parking space length requirements.

Lot Design and Development

Whitewater Township's zoning ordinance includes an open space ordinance and addresses open space preservation in the planned unit development ordinance. In the interview, staff indicated that open space development was not a use by right. The township has adopted the stormwater ordinance administered by the Grand Traverse County Drain Commissioner. In addition, the zoning ordinance includes several provisions requiring on-site stormwater management, especially in the site plan review process. The township's ordinance addresses groundwater protection for non-residential sites. The majority of the township is served by septic systems to manage wastewater. The ordinance requires a septic system setback of 100 feet from the ordinary high water mark and includes capacity requirements. The ordinance allows for shared driveways and does not prohibit the use of alternative surfaces for driveways.

ACTION: Consider allowing open space development as a use by right.

ACTION: Educate residents about proper septic system management and encourage residents to maintain septic systems on a regular basis.

ACTION: Consider adopting a septic maintenance ordinance or supporting a county septic maintenance ordinance.

ACTION: Consider ways to encourage shorter driveways.

Conservation of Natural Areas

Whitewater Township ordinance includes a 100-foot setback that includes a 50-foot managed buffer of native vegetation along the Boardman River and its tributaries. There is 50-foot setback on lakes and streams. The ordinance does include an article on environmentally sensitive areas that requires additional review and permitting for projects including these areas.

ACTION: Consider a buffer of native vegetation around lakes, streams and wetlands.

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 township 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 township'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 townships strengthen or develop ordinance language that will benefit water quality.

Contact Information

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