

## **Boardman River Townships Project**

# **BOARDMAN TOWNSHIP**

## **WATER QUALITY ACTION PLAN**

Fall 2009

### *Partners:*

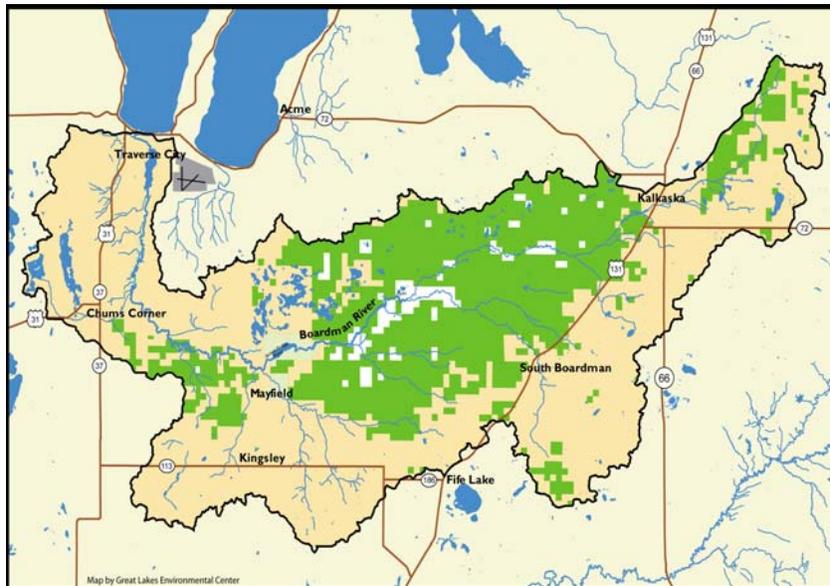
The Watershed Center Grand Traverse Bay

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 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 ability to protect their water resources.

## **Water Resources in Boardman Township**

The headwaters of the south branch of the Boardman River begin just south of the township in Albright Swamp. As these trickles combine, they form Albright Creek, which flows northerly for nearly three miles, where it becomes the South Branch. It continues to Wellman Pond, a mill-pond in South Boardman. Two tributaries to the Boardman River, Taylor Creek, which flows into the South Branch, and Crofton Creek, which flows into the North Branch, both originate in Boardman Township.

Headwaters streams like Albright Creek, Taylor Creek, and Crofton Creek begin as trickles, quickly picking up in volume as they head westerly toward the “Forks of the Boardman” where the two branches join 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, they don’t receive the “flushing” flows like the Boardman River receives on the main stem and do not recover as quickly.

## **Process**

During the summer of 2009, Boardman 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 Boardman Township.

### **Suggested Actions for Consideration in Boardman Township**

Boardman Township's zoning ordinance and policies include some protections for water resources. The ordinance provides for open space development. It also includes a 50-foot stream buffer below U.S. 131 and tree conservation provisions. The township adheres to the county's stormwater ordinance and time-of-sale septic system inspection ordinance.

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. Boardman Township relies on the Kalkaska County Road Commission standards in reviewing roads proposed in the township. The planners indicated that the paved road width standard is 24 feet and that the ordinance allows flexibility in road design to facilitate reductions in street length.

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. For example, reducing parking space dimensions from 10 feet by 20 feet to 9 feet by 18 feet results in a 20 percent reduction in asphalt.

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

**ACTION:** Consider reducing the parking stall size requirements.

### Lot Design and Development

Boardman Township's zoning ordinance includes an open space development option under its planned unit development (PUD) provisions. The planning staff indicated that the PUD ordinance includes a requirement to maintain some of the open space its natural condition. Because the township is in Kankaska County, the township benefits from the county's point-of-sale septic system ordinance.

**ACTION:** Consider setting impervious surface maximums that will be protective of water quality.

**ACTION:** Consider ways to encourage shorter and narrower driveways and the use of alternative surfaces for driveways.

**ACTION:** Consider requiring that all stormwater be retained and managed on site in the site plan review process.

### Conservation of Natural Areas

Boardman Township is home to the South Boardman Nature Preserve, a 110-acre conservation area in the headwaters of the Boardman River. The planning staff indicated that the ordinance includes a 50-foot riparian stream buffer, in accordance with the natural river plan requirements for the Boardman River below U.S. 131. Planning staff also stated that the ordinance includes tree conservation provisions.

**ACTION:** Consider a buffer of native vegetation around all water resources, especially the Boardman River tributaries above U.S. 131.

**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**

Watershed Center Grand Traverse Bay (231) 935-1514; [www.gtbay.org](http://www.gtbay.org)

Grand Traverse Conservation District (231) 941-0960 [www.natureiscalling.org](http://www.natureiscalling.org)

NMC's Great Lakes Water Studies Institute (231) 995-1722 [www.nmc.edu/water](http://www.nmc.edu/water)