

Natural Resources Element

The protection of Traverse City's natural resources--our Bay Front, the Boardman River, Boardman Lake, the wetlands, the parklands, rolling hills and viewsheds--are vital to our health, safety, welfare, economy and quality of life as a community. The Bay and other water sources provide for our drinking water, residential and commercial uses, fisheries, wildlife habitat and many recreational uses.

This document will prove most effective when the City:

- Views our natural resources as valuable community assets
- Includes discussion of natural resource elements within the Asset Management Committee and Capital Improvement Plan review.
- Plans and communicates across departments
- Works in collaboration with neighboring communities within the region
- Partners with area natural resource management organizations and State and Federal agencies to seek funding, reduce duplicative efforts and leverage local knowledge and expertise.
- Conducts an extensive natural features inventory (NFI), including flora, fauna, soil types, air quality, and water quality, to establish baseline criteria. After the completion of a NFI, specific priorities, goals and standards can be developed.

Protect surface and ground water quality, wetlands and shoreline zones.

Objective 1: Reduce nutrients and sediments entering all waters bodies.

- Educate City residents about the impacts from the misuse of outdoor fertilizers on water quality.
- Conduct water quality testing, identify water quality problems, prioritize remediation, and implement water quality treatments for stormwater outfalls into Grand Traverse Bay, Boardman Lake, Boardman River and Kids Creek.
- Inventory erosion sites and develop specific sediment reduction goals for the human-caused erosion on Grand Traverse Bay, Boardman Lake, Boardman River, and Kids Creek.
- Continue to monitor for illicit drain connections.

Objective 2: Manage stormwater quality and quantity on site.

- Design and implement a stormwater management program to ensure that new development or redevelopment projects use industry-accepted standards for better environmental and health performance to improve the water quality of stormwater before it leaves the site and to reduce the need for hard infrastructure.

- Review impervious cover standards by each neighborhood type for lot coverage and parking lot size to reduce stormwater runoff and protect water quality.
- Review the “Site Plan and Site Development Standards” ordinance to ensure that sufficient information about stormwater management, protection of vegetated buffers, trees, other natural features, and natural drainage patterns are provided in the site plan review process.

Objective 3: Work with private landowners to protect and restore natural vegetation around all water bodies, including rivers, streams, lakes, and wetlands.

- Educate residents and property owners about the importance of riparian areas to water quality protection, erosion control, and wildlife habitat conservation.
- Encourage and incentivize the establishment of natural vegetation buffers on all sites adjacent to water bodies and wetlands to increase nutrient filtering, erosion control, wildlife habitat and property values.
- Identify and prioritize shorelines that need vegetated buffers.
- Codify the existing stormwater control ordinance guidelines protecting vegetated buffers starting above the ordinary high water mark of any wetland, lake or stream.
- Based on the NFI, set a standard for maintaining and possibly increasing wetlands.
- Require new buildings to be set back from the shoreline and the use of vegetative buffers where possible, rather than engineered walls and stone revetments.
- Based on the NFI, set a standard for limiting and/or mitigating hardened shoreline on Boardman Lake, Boardman River, Kids Creek and Grand Traverse Bay.

Objective 4: Manage the City’s public lands, right-of-ways, and facilities to protect water quality.

- Limit the use of outdoor fertilizers on City properties to only those properties where soil testing indicates a need for additional nutrients.
- Maintain excellent wastewater treatment control measures.
- Regularly review street cleaning and salt/sand application procedures for best management practices to protect water quality.
- Protect existing naturalized shorelines on surface water bodies and wetlands with a vegetative buffer or other low impact development practices above the ordinary highwater to limit erosion, trap nutrients, and provide fish and wildlife habitat and identify additional shoreline areas that could be naturalized.
- Incorporate green infrastructure approaches into street, sidewalk, path, and other city projects where possible to improve water quality before stormwater enters the stormwater system.
- Identify environmentally sensitive areas on City properties and protect them as natural preserves or for passive recreation.

Objective 5: Protect the City's water resources from other threats to water quality.

- Monitor identified sites where toxins, pathogens, and thermal impacts have been found above accepted water quality standards and work with all interested parties to implement remediation when standards are exceeded.
- Protect groundwater quality and surface waters from toxic contamination, pathogens, and thermal impacts including the potential impacts of underground injection wells.
- Implement measures to ensure that all public swimming areas meet or surpass health standards for *E.coli*.
- Develop and implement programs to stop Great Lakes aquatic invasive species from being introduced to the City's water bodies, including adoption of boat washing ordinances and installation of boat washing facilities at City boat launches.
- Educate institutions, businesses and residents on the proper way to dispose of pharmaceutical byproducts through public education and pharmaceutical drop off programs.
- Track the remediation of leaking underground storage tanks within the City limits.

Objective 6: Exemplify sustainable water use.

- Review the need for and scheduling of irrigation on City properties.
- Adopt practices and policies to conserve water resources to become a model of water conservation for the Grand Traverse region.

Protect Natural Landforms and Topography

Objective 1: Protect land forms and topography

- Review restrictions on development of sites with slopes of greater than twenty percent.
- Encourage clustering of residential units.
- Encourage the design of buildings that fit into sloping sites to minimize alteration of the topography and natural vegetation.
- Adopt an ordinance to require non-regulated floodplain capacity lost due to proposed development design to be replaced with storage capacity elsewhere.

Objective 2: Develop infrastructure standards that protect topography and preserve viewsheds.

- Avoid loss of scenic natural resources.
- Design roads, driveways, and sidewalks to minimize excessive cutting and filling.
- Minimize driveway surface area and encourage common driveways.
- Route utilities away from terrain that requires excessive cutting and filling.

Protect and Enhance Indigenous Biological Diversity

Objective 1: Protect and/or improve ecosystem services and biological diversity.

- Encourage the protection, restoration, creation, and management of native wetlands.
- Prioritize protection and restoration of natural drainage patterns in review of projects.
- Identify fish habitat areas and implement restoration and protection measures for those areas.
- Adopt a “no net loss” tree policy on City properties.
- Develop a strategic plan for invasive species education, prevention, and mitigation that includes eliminating the presence and use of High Priority Non-Invasive Species on City properties.
- Plant non-invasive canopy trees in City easements to filter rainfall, slow traffic, reduce light trespass and provide neighborhood landscaping.

Objective 2: Partner with other organizations to protect, maintain, and manage natural areas and open spaces on both public and private lands.

- Adopt a management plan for City parklands and natural areas that protects and improves the diversity, quality, and integrity of terrestrial and aquatic ecosystems.
- Assist regional efforts to connect, consolidate and increase public holdings and the protection of unfragmented habitat.
- Coordinate and support biodiversity protection measures with regional and neighboring communities.
- Update City Forestry Plan once a Natural Features Inventory is completed.

Protect local and regional human and ecosystem health by meeting or exceeding the National Ambient Air Quality Standards in the Grand Traverse Bay Region.

Objective 1: Recognize our responsibility for Climate Change and take rectifying action.

- Continue to work on a formal local action plan for reducing greenhouse gas emissions with specific goals and timelines consistent with the US Mayors’ Climate Protection agreement adopted by the City Commission in 2007 and seek funds for implementation.

Objective 2: Establish criteria for local air pollutants.

- Implement a baseline air quality study of the region including the 6 criteria air pollutants as determined by the EPA
- Create an action plan to address the results of the baseline air study.

- Work with area energy providers to create an energy plan that balances our demand for electricity with a supply of energy sources that have the lowest possible net-use of fossil-based carbon fuels.

Protect Human Habitat

Objective 1: Preserve the night sky by limiting outdoor lighting that is misdirected, excessive or unnecessary while permitting reasonable uses of outdoor lighting for safety, security and enjoyment.

- Set maximum illumination levels and lighting hours for each neighborhood type and recreational areas based on best scientific practices.
- Review and establish height and shield lighting standards by neighborhood types.
- Require site lighting plans for new construction.
- Set lighting curfews for commercial businesses during closed hours.
- Set standards to limit hours and minimize the use of electric signage.
- Encourage use of motion detector lights to encourage conservation and provide safety and security when necessary.
- Educate the public on appropriate and safe levels of lighting.
- Work to shield high intensity municipal lights to eliminate light trespass.
- Allow for provisions for holiday lighting and special events.

Objective 2: Reduce the impact of excessive noise on our living environment

- Set noise levels based on best scientific practices by neighborhood types.
- Educate citizens on current noise ordinance.

Objective 3: Reduce the amount of visual pollution within Traverse City

- Work in conjunction with utility providers to place utilities underground with a focus on areas of high density when feasible.
- Work to reduce and limit signage in major corridors.

Approved by the City Commission on September 6, 2011