Effective green infrastructure management requires the use of many different techniques in order to be effective. Several valuable management tools are available to communities, organizations and local government to aide in the development of a management plan. These include proactive elements such as research, monitoring, educational outreach programs, and voluntary land protection incentives for property owners in critical areas. Remedial measures such as implementation of Best Management Practices to restore nonpoint source pollution sites and incorporating conservation-friendly design standards into new developments are also important management tools. Land use planning and zoning at the local level is a vital component in natural resource protection. In addition to the direct benefits for aquatic resources, planning and zoning tools can be used to ensure the conservation of wildlife habitat, provide for sustainable development, to protect property values and to help maintain community character.

A sound planning and zoning program requires that a community not only support the idea, but dedicate the trained personnel and funding to make the program work; effective planning and zoning involves commitment and resources.

In the state of Michigan, planning and zoning are implemented at the township, municipal, or county level. The enabling legislation for land use planning can be found within five state acts:
- Public Act 285 of 1931 -- Municipal Planning Act
- Public Act 168 of 1959 -- Township Planning Act
- Public Act 282 of 1945 -- County Planning Act
- Public Act 281 of 1945 -- Regional Planning Act
- Public Act 226 of 2003 – Joint Municipal Planning Act

Following adoption of a master plan, the local unit of government creates a zoning ordinance. In accordance with these acts, the zoning ordinance must be based on the goals and policies set forth in the master plan.

The state has one legislative zoning act that enables local units of government to control land uses through regulation of activities on the land:
- Public Act 110 of 2006 -- Michigan Enabling Zoning Act

In addition to planning & zoning, there are state regulations that are intended to help conserve natural resources. Relevant state laws for water resource protection include:
- Act 451, Part 91, Soil Erosion Control and Sedimentation Act (for earth changes within 500 feet of the shoreline)
- Act 451, Part 303, Wetland Protection (covers the dredging, draining, or filling of regulated wetlands; however, non-contiguous wetlands in rural counties are generally not regulated wetlands)
- Act 451, Part 301, Inland Lakes & Streams Act (covers work conducted below the ordinary high water mark)
- Public Act 368 (1978), Aquatic Nuisance Control

This is only a brief summary, please see the respective law or contact MDEQ for more information.

For some of the issues related to natural resource management, agencies (beyond the local unit of government) have a regulatory role. In the case of soil erosion & sedimentation, the Michigan
Department of Environmental Quality (MDEQ) has jurisdiction; they typically have an agreement with counties to enforce the program at the local level (thus counties have a Soil Erosion Officer). With regard to regulation of wetlands, MDEQ also has jurisdiction, authorized through the federal Clean Water Act. Regulations for septic systems are handled through the District Health Department. In all three of the areas listed above, a local community may adopt their own programs for managing the resource (standards adopted cannot be weaker than what the state would otherwise use). Such a decision to adopt a local ordinance may lead to more work for the local unit of government and a greater expenditure of fiscal resources; it may also create an opportunity to better achieve the goals identified in the community’s comprehensive master plan.

In any event, a local unit of government should develop a master plan (based on public input) that allows planning for future needs while maintaining existing features that are important to the community. Table 3.1 lists current planning and zoning documents for Presque Isle County and its subdivisions. The plan becomes the basis for the zoning ordinance. Attention should be paid to whether the standards in the zoning ordinance actually achieve the goals set forth in the master plan; oftentimes they do not. Once local government units have "good" land use policies in place, there is still work that needs to be done -- the governing body must keep their policies up-to-date and make decisions regarding infrastructure and zoning in accordance with their plan.

Bearinger, Krakow, North Allis and Presque Isle Townships, and Rogers City and the City of Onaway all have a zoning ordinance in place, and have adopted a Master Plan as well. Krakow Township’s Comprehensive Master Plan is in the process of being updated, and a recreation plan will be included in the Comprehensive Plan. Presque Isle Township also has an approved recreation plan, as does the City of Onaway and Rogers City. Presque Isle County adopted a zoning ordinance in 1987 that is currently being updated. The County’s current Master Plan was adopted in 2004. Case, Metz, Moltke, Posen, Pulawski, and Rogers Townships are zoned under the Presque Isle County ordinance and are included in its Master Plan.

<table>
<thead>
<tr>
<th>Political Unit</th>
<th>Master Plan Year Adopted</th>
<th>Zoning Ordinance Year Adopted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presque Isle County</td>
<td>2004</td>
<td>1987 (amended 2007)</td>
</tr>
<tr>
<td>Allis Township</td>
<td>2000</td>
<td>1999 (amended 2002)</td>
</tr>
<tr>
<td>Bearinger Township</td>
<td>2007</td>
<td>County Zoning</td>
</tr>
<tr>
<td>Krakow Township</td>
<td>1996 (Update in progress)</td>
<td>1999 (amended 2005)</td>
</tr>
<tr>
<td>Presque Isle Township</td>
<td>2004</td>
<td>1981 (amended 2007)</td>
</tr>
<tr>
<td>City of Onaway</td>
<td>1997</td>
<td>1980</td>
</tr>
<tr>
<td>Rogers City</td>
<td>2006</td>
<td>Amended 2004</td>
</tr>
<tr>
<td>Village of Posen</td>
<td>(Has Master plan: find copy)</td>
<td>(Has zoning: find copy)</td>
</tr>
</tbody>
</table>

Often volunteers on local zoning boards are pressured to make a decision on a site-specific issue without considering the whole system. Zoning standards and decisions must be made with the comprehensive master plan in mind; it can be extremely difficult to step back from a particular issue and consider the big picture, but that is exactly what trained planning commission officials must do. In addition, zoning regulations need to be enforced and monitored. Without fair and impartial enforcement, the majority who comply with land use regulations are, in effect, penalized, because of the greater effort and expense they have incurred than those who disregard regulations. If
enforcement is not consistent and fair, regulations will become increasingly ineffective as the majority of landowners disregard the rules, or as the court system ceases to uphold the regulations due to discriminatory enforcement.

In 2006, local zoning ordinances were reviewed to evaluate what, if any, environmental provisions are in place that may have an impact on Presque Isle County’s water resources. This review is not intended to evaluate the history of planning and zoning within the County, nor is it intended to be the sole basis for determining the effectiveness of policies regarding water resource management. It should, however, provide insight into how effective local units of government are at protecting aquatic resources and help to identify some of the obvious weaknesses in current zoning ordinances. The ordinances were specifically reviewed for the following:

- **Vegetative Buffer Zones** (Greenbelts): With regard to minimizing the impact of residential development along the waterfront, ensuring that natural vegetation is retained along the shoreline is generally considered one of the most important actions that can be taken. Vegetative buffers help to filter nutrients, reduce erosion, and provide natural habitat. Although much research has been done through the years to verify the effectiveness of vegetative buffers, there are several practical difficulties with having a “greenbelt ordinance.” It can be difficult to enforce, many local officials and residents are unaware of what an effective greenbelt consists of, historic patterns of development have already degraded many areas (and these may be “grandfathered” in), zoning language is often poorly worded for proper enforcement, and citizens are often unaware that there is an ordinance in place. Even with the negatives, however, maintaining a greenbelt is essential to protecting water resources – even a 25-foot greenbelt can be effective. A mowed lawn to the water’s edge is not a greenbelt.

- **Setbacks of structures** along the waterfront are important for reducing the amount of impervious surface near the water, helping to ensure that a greenbelt can be maintained, and reducing the potential for serious resource problems. A structure that is setback only 30 or 40 feet is more likely to be direct runoff pollutants and sediments into water resources than a structure 75 or 100 feet away from the water’s edge. Unfortunately, many local units of government that do have an effective setback for homes will make many exceptions for large decks and boathouses. Such exemptions defeat the intent of the setback, as impervious surface cover will still be present near the water’s edge. Furthermore, of the local units of government that have a greenbelt requirement of 50 or 75 feet width, many allow the structure setback to be less than the greenbelt restriction. Such a scenario significantly reduces the effectiveness of the greenbelt requirement. In addition, during the construction period, a structure built less than 50 feet from the water will have construction site disturbances that abut the water’s. An unavoidable consequence of this practice is the destruction of the greenbelt during construction. Maintaining the natural greenbelt in the first place is much easier than restoring a greenbelt. Setback requirements should be regarded as a key element for water resource protection.

- **Minimum Lot Width for waterfront parcels** is important for the protection of water bodies because it ultimately determines the number of homes that will be built on the water. Developed shorelines with less than a 100-ft minimum lot width often experience water resource problems. Generally, smaller lot widths around a lake leads to more homes, resulting in greater wastewater treatment needs; increased user conflicts; fertilizer input to the lake; stormwater runoff; increased site erosion, and loss of native vegetation. A higher density of homes results in an increase in the amount of impervious cover in the critical near-shore areas of surface water.
Presque Isle County Green Infrastructure

- **Open space preservation** is used for communities to protect their rural character, as well as maintain prime recreational, farm or forest land. Unfortunately, most zoning ordinances, if implemented as written, will not accomplish those goals. Although Presque Isle County, Presque Isle Township and Krakow Township have open space guidelines, the provision typically states something to the effect: "At least 40% of the total gross project shall be left as open space." Some only require 25%, which is insufficient to accomplish their community goals.

An improvement to the open space section of local ordinances would be to require the developer to increase the amount of open space to 50 or 60% and also make sure that some of the set aside acreage is from the developable portion of the site. Steep slopes, surface water, wetlands, etc., should be excluded from this calculation; otherwise only the most undesirable areas will be set aside as open space. Ordinance language should be something such as, "A minimum of 60% of the parent parcel's gross acreage shall be set aside as permanently protected open space. This area shall include at least half of the parcel's buildable land area." There are incentive programs that local communities can adopt to encourage open space preservation, such as allowing higher development densities on the remaining land in a development or through setting up a Purchase of Development Rights (PDR) program.

- **Septic Systems** are under the jurisdiction of the District Health Department. Typically, only severe problems are addressed. Departments are understaffed, and there are poor records regarding septic systems. Some local units of government have begun to initiate their own programs for inspections, maintenance, or replacement requirements. Generally, such a program is being run as a “Point of Sale” program, whereby inspections of septic systems are required at the time of property transfer. System upgrades are then required for those systems that are not working properly.

- **Wetland Protection** is handled through the state Department of Environmental Quality. For rural northern Michigan, the law does not apply to isolated wetlands. Some communities have addressed this oversight by adopting their own wetland regulatory program, which is authorized through the state wetland act. SOME COMMUNITIES PROVIDE LIMITED PROTECTION UNDER THEIR PUD PROVISIONS IN ZONING. As can be noted in Table 3.2, no local ordinances include wetland standards **beyond those at the state level**.
Table 3.2
Summary of Environmental Provisions Under Zoning Ordinances in Presque Isle County

<table>
<thead>
<tr>
<th>Local Unit of Government</th>
<th>Buffer Zones/ Greenbelts</th>
<th>Waterfront Setbacks</th>
<th>Minimum lot width (Riparian)</th>
<th>Open Space</th>
<th>Septic Systems</th>
<th>Wetland Protection</th>
<th>Stormwater Management</th>
<th>Other Environmental Provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presque Isle County</td>
<td>No provision</td>
<td>30 ft.</td>
<td>75 ft.</td>
<td>PUD</td>
<td>Yes</td>
<td>No provision</td>
<td>No provision</td>
<td>Agricultural Resource</td>
</tr>
<tr>
<td>Allis Township</td>
<td>35 ft.</td>
<td>35 ft.</td>
<td>200 ft.</td>
<td>PUD</td>
<td>District Health #4</td>
<td>No provision</td>
<td>Stormwater retention</td>
<td>Environmental design stds. in PUD</td>
</tr>
<tr>
<td>Krakow Township</td>
<td>75 ft.</td>
<td>75 ft.</td>
<td>75 ft.</td>
<td>PUD</td>
<td>No provision</td>
<td>No provision</td>
<td>No provision</td>
<td>No</td>
</tr>
<tr>
<td>Presque Isle Township</td>
<td>30 ft.</td>
<td>50 ft.</td>
<td>100 ft.</td>
<td>PUD</td>
<td>No provision</td>
<td>No provision</td>
<td>No provision</td>
<td>Environmental Conservation District</td>
</tr>
<tr>
<td>City of Rogers City</td>
<td>No provision</td>
<td>25 ft.</td>
<td>None specified</td>
<td>PUD</td>
<td>Public</td>
<td>No provision</td>
<td>Extensive section</td>
<td>Agricultural and Recreation Conservation District</td>
</tr>
</tbody>
</table>

Composite Future Land Use and Zoning Maps

Future land use maps of the County and four of the townships were compiled and are presented in Figure 3.1. As can be seen, communities clearly recognize the importance of the natural resource base and support this in the master planning activities, both in their goals and future land use plans. However, this recognition of importance is not strongly carried through in the application of zoning. Zoning maps were compiled for the County, three townships and Rogers City. Figure 3.2 shows a composite zoning map. As can be seen extensive areas are zoned as Agriculture and Forest Recreation. The intention of these districts is to support working landscapes such farming, forestry and resource related wildlands outdoor recreation.. On the surface, this appears to present a positive force in the preservation of each community’s green infrastructure. However when analyzing the minimum lot size allowed in these prevalent zoning categories, typical minimum lot sizes for residential development is between 0.5 and 1.0 acre. Figure 3.3 is a zoning density map of the county, which shows most of the county can be developed at a minimum 1.0 to 0.5 acre density. The exceptions are Krakow and Presque Isle Townships, that have agriculture and environmental conservation districts with minimum lot sizes ranging from 5.0 to 15.0 acres.
Presque Isle County Green Infrastructure

FIGURE 3.3

PRESQUE ISLE COUNTY
ZONING DENSITY MAP

ZONING DENSITY
MINIMUM LOT SIZE
0.02 ACRES
0.05 ACRES
0.10 ACRES
0.15 ACRES
0.20 ACRES
0.25 ACRES
0.30 ACRES
0.50 ACRES
1.00 ACRES
10.00+ ACRES

Miles
0
3
6

RODGERS CITY
US 23
M 68
M 65
PRESCOTT ISLE