

# The Dollars and Sense of Smart Growth

*In communities across Michigan, land use decisions are making a permanent impact on rare ecosystems, fragile economies and struggling families. The "Dollars and Sense of Smart Growth" is a series exploring some of the real-world consequences—and the financial impacts—of the commonplace land use decisions being made in communities across the state.*

*Each issue offers two contrasting case studies facing land use decision makers in Michigan today. Taken together, these two examples show the common-sense kinds of cost saving measures that communities are realizing through Smart Growth planning and infrastructure decisions.*

## **Part 2: Wetlands lost, wetlands found**

### **Developing rare lakeplain prairie, Brownstown Township**

*Described by the Michigan Natural Features Inventory as a "globally rare habitat," the Sibley Prairie complex in the community of Brownstown Township, downriver of Detroit, could soon disappear. Despite its status as one of the largest and most unique wetland complexes in the world, the rare lakeplain prairie remnant is in the path of development in one of the most rapidly growing areas in the state. In 1995, the Sibley Prairie complex was surveyed at over 700 acres, with 200 acres considered lakeplain prairie and the rest consisting of oak opening uplands and other types of wetlands. The entire system provides untold value in flood control, water retention and filtration, groundwater recharge, and wildlife and migratory bird habitat. As of 2006, much of this complex has been zoned for commercial, light industrial and residential development.*

Filled with redeveloping urban communities, working class families and a few natural areas, communities southeast of Detroit are starting to create a unique sense of place in the area known as Downriver. Located south of the Detroit River, towns like Wyandotte, Taylor and Trenton have seen a resurgence of development that has worked to shed their industrial image in favor of places that people really want to call home. Part of this is accentuating the host of natural resources in the region sprung from the Detroit River and Lake Erie. One of these is the largest lake plain prairie remnant in Michigan. Called the Sibley Prairie, it is found in the downriver community of Brownstown Township.

Just south of Detroit, Brownstown is a rapidly growing working class suburb that has been struggling to accommodate growth while preserving the ecologically and economically rich Sibley Prairie. In 1995, Sibley, as surveyed, was over 700 acres, with 200 acres considered lake plain prairie; the rest were oak opening uplands and other types of wetlands.<sup>1</sup> As assessed in the Michigan Natural Features Inventory, the complex is a "globally rare habitat." Not only is it unique to Michigan, but it is one of the largest and highest quality lake plain remnants in the world, rivaled only by Ontario's Ojibwe Prairie.



Sibley is also the home of 177 rare plants, grasses, and wild-flowers, including threatened and endangered species.<sup>2</sup>

The Southeast Michigan Council of Governors (SEMCOG) estimates that between April 1, 2000 and July 1, 2004 the population of Brownstown grew from 22,989 to 27,717, an increase of approximately 22 percent. During this period, the number of households increased from 9,008 to 11,374, a still greater percentage increase. Throw in major new development work at the 370 acre Brownstown Business Center and a proposed new 77-acre downtown, the magnitude of the development in this low profile region of Detroit's downriver area becomes clear.<sup>3</sup> Next on the development block is Sibley itself.

Protecting Sibley would not only help preserve the environment but could also lead to an economic boon for the region through the diversification of their regional economic assets. Trails, greenways, nature preserves and other associated green infrastructure can re-align the values of a given municipality and that focus can help sustain an economic vision into the future. According to Southeast Michigan Land Conservancy President, Jack Smiley, "Sibley Prairie is in limbo. There are no new proposals to develop it, but there are also no major pushes to preserve it. With the current ownership and the current zoning status it is only a matter of time before the prairie becomes a parking lot."

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### **Treating Stormwater while Preserving Parks, Ingham County**

*Faced with the need to address costly combined sewer overflows and manage stormwater runoff in a largely urban context, Ingham County Drain Commissioner Pat Lindemann helped create the Tollgate Wetlands complex. A low-cost alternative to stormwater treatment and management, the 12-acre system, constructed in an underused park, receives stormwater runoff from 234 acres of residential and commercial properties and helps manage it through a series of publicly accessible ponds, waterfalls, wetlands, spillways and natural filters. Overall, the Tollgate Wetlands cost \$5 million, compared to the estimated \$14 to \$20 million price tag of using traditional methods to separate and discharge stormwater to rivers in the vicinity. The city (Lansing) also recently secured funds for the addition of rain gardens downtown that will inexpensively filter and cleanse stormwater runoff before it reaches the nearby Grand River.*

The Tri-County region of Mid-Michigan (Clinton, Eaton and Ingham) has several unique attributes. Among these are the State Capital, Michigan State University, and the Upper Grand River. As the region prepares for future growth, the protection of these attributes can be assisted through farmland preservation in the Tri-County rural areas, the preservation of natural resources, and downtown revitalization in Lansing and East Lansing.

While there are several programs aimed at revitalizing urban areas and preserving farmland, there are precious few ideas that have helped to address water quality in the Upper Grand, especially in terms of managing the non-point source pollution that drains out into the river during major storm events. However, one these ideas is a stunning example of how to increase the value of an urban park and manage stormwater through low-impact development.

The Tollgate Wetlands complex, built in 1998 in Lansing Township, Michigan, is a low-cost alternative to stormwater treatment and management. The 12 acre complex receives stormwater runoff from 234 acres of residential and commercial properties, and consists of a series of stepped ponds, waterfalls, wetlands, spillways, and a peat/sand filter. In response to an EPA mandate to separate its combined sewer system, the Ingham County Drain Commissioner and the Township struck upon Tollgate as a solution that would construct a naturally functioning water filtration system and comply with the mandate.

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Wetland project  
created 20 acres of  
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sewer system.**

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There were some important factors that needed to be considered before the project went forward. The neighborhood, referred to as Grosebeck, is isolated from all traditional points of outflow for a single watershed, which means it would cost the community a large sum of money to direct stormwater miles away to the nearest river through a traditional piping system. Another important factor was the non-point source pollution associated with stormwater runoff would still be carrying debris and contaminants to the river outfall.

In direct response to this need and the community site issues, Ingham County Drain Commissioner Pat Lindemann came up with the vision of the Tollgate complex. When he realized that the Groesbeck neighborhood residents needed a cost-effective way to control their storm water runoff, he looked to possible natural solutions and found Fairview Park. Maintained by the City of Lansing Parks Department and owned by the state, the park consisted of dense trees, shrubs, bushes and grasses and was not accessible to the residents as a playground or picnic area.

Lindemann had the idea to use the park as a retention basin to control the storm water for the neighborhood, but the land dispute between the township, city, state, and local residents took two years before it was resolved. Finally, Lindemann acquired the park to use as a storm water retention basin.

Along with the park area, Lindemann acquired the right to build a new drainage system on Grosebeck Golf Course, which neighbors the Tollgate complex. The system on the golf course consisted of three ponds that collect extra runoff from the complex and filter it onto the golf course for irrigation. Another cost saving innovation in the system is that “pond water nutrient levels will be tested before irrigation and taken into account in the overall fertilizer application budget. This practice will reduce nutrient loading into the ponds and will decrease golf course maintenance costs.”<sup>5</sup> Also, the system on the golf course reduces flooding issues and keeps the course open for play several more days per year.

The Tollgate Wetland project created 20 acres of urban wetlands including the ponds on Grosebeck Golf Course and a sense of community for the residents of the neighborhood, giving them newly accessible green space. It also saved them close to \$15 million dollars in cost for separating their sewer system. Finally, it created an outstanding example of low-impact development solutions for the maintenance of water quality in the Tri-County region.



<sup>1</sup> History of the Sibley Prairie, Detroit Audubon Society, Available online:

<http://detroitaudubon.expage.com/home/id56.html>

<sup>2</sup> Ibid, “History of Sibley Prairie”...

<sup>3</sup>“Where the Prairies Meet the Sub-Division”, English, Frank and Panton, Steve, *Critical Moment* May – June 2005, Available online: [http://criticalmoment.org/issue10/articles/english\\_panton.html](http://criticalmoment.org/issue10/articles/english_panton.html)

<sup>4</sup> *Tollgate Stormwater Wetlands Monitoring Project*, Michigan Department of Environmental Quality – Surface Water Division, Patrick Lindemann, Report # 1999 - 0013

<sup>5</sup> Ibid, *Tollgate Stormwater Wetlands Monitoring Project*...

