

Township of Scio • Established 1833 • Spring 2004 Edition

Speaking Up for Density, Why It's Good for Watersheds

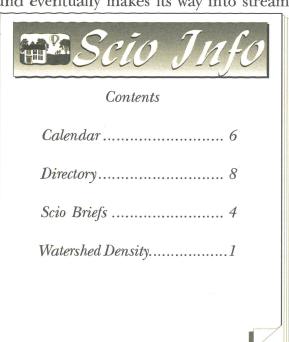
by Kris Olsson, Watershed Ecologist, Huron River Watershed Council

Environmental groups often speak out against increased residential and commercial development. More development brings with it a host of problems for our rivers, lakes, streams, wetlands, and natural areas. However, many planners and watershed ecologists are encouraging higher density development in many areas of the watershed. Why?

IMPACTS OF DEVELOPMENT ON THE WATERSHED. In an undeveloped watershed, most rainfall and snowmelt either infiltrates into the ground or is taken up by vegetation. Much of the water that infiltrates into the ground eventually makes its way into streams

or lakes through groundwater seeps or springs. Water taken up by vegetation cycles back into the atmosphere through evapotranspiration.

Because of these processes, runoff from natural areas is negligible, except after the largest storms. These ecologically intact systems provide services to the community, including: groundwater recharge; pollutant removal; temperature reduction; erosion control; air purification; flood and drought control; wildlife habitat; increased property values; and recreation. However, as development within a watershed increases, these important natural functions are compromised.





Development brings with it increases in impervious surfaces, such as rooftops, roads, driveways, parking lots and other surfaces that prevent rainfall and snowmelt from infiltrating into the ground. Rainwater directly runs off these surfaces into lakes and streams. In highly impervious watersheds, waterways receive a flood of runoff water just after rainfalls or large snowmelts, but are deprived of water during dry times.

These high flows and low flows are problematic for streams. High flows can damage aquatic habitats and scour stream banks, while low flows deprive aquatic life of water and oxygen. Runoff water is also much warmer than groundwater and carries with it soil and whatever substances it may pick up from the landscape along the way, such as fertilizer, pesticides, oils, and other pollutants. The system loses its capacity to provide the ecological services mentioned above.

IMPACTS OF IMPERVIOUSNESS. All of these impacts on water quality are directly related to the amount of imperviousness in a watershed. Dozens of scientific studies have documented this relationship, and they consistently have found that water quality begins to suffer when a watershed exceeds 8 - 10% imperviousness.

SCIO INFO

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E. Spaulding Clark, Editor

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IMPERVIOUSNESS AND DENSITY. The best way to keep imperviousness levels low watershed-wide is to group development into smaller, compact areas because the 8-10% imperviousness threshold is easily reached with relatively low densities — about 1 dwelling unit per 2.5 acre. Low-density development requires a longer and wider road, driveway, and parking network (along with the accompanying development of nearby commercial services and employment centers). This development results in an actual increase in impervious surfaces to accommodate the same number of households in low densities. In fact, research shows that subdivisions designed in a typical pattern, where one single family residence is located on its own lot, increase imperviousness by 10-50% compared to developments that group the same number of households onto smaller areas.

In addition, low-density development fragments the region's remaining natural areas, leaving small pockets of forest and wetlands to survive amidst large swaths of subdivisions and shopping malls. Small, fragmented natural areas are more susceptible to incursion by non-native invasive plants. Also many species of wildlife (such as many songbirds, like the scarlet tanager) require large, deep, undisturbed forests and wetlands for survival.

AN OUNCE OF PREVENTION. Prevention is key when it comes to land use planning and water quality. It is less expensive and better for the creek to plan ahead by identifying areas for compact development and protecting open space that maintains the natural water cycle. By contrast, having to treat water runoff from development that already has occurred is much more expensive. For instance, the City of Ann Arbor is engaged in restoring the Malletts Creek Watershed, an area with approximately 23% imperviousness that has experienced most of the problems outlined above for highly impervious watersheds. Restoration activities are slated to cost \$24.2 million over 6 years.

While stormwater treatment practices can mitigate impacts of development, they cannot restore

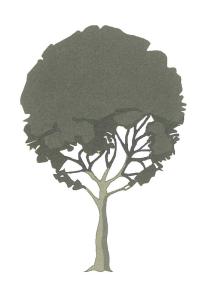
watershed quality to that of an undeveloped watershed. Studies have shown that pollutant levels in runoff from a developed site with stormwater treatment practices still will exceed levels running off of an undeveloped site.

BUILD IN AND UP, NOT OUT. Those interested in truly maintaining the ecological and hydrological integrity of the watershed may find themselves on the opposite side of development debates than they would be otherwise. For instance, high-density developments proposed in already urbanized areas (known as "infill") can help reduce imperviousness watershed-wide. These developments provide housing, employment, recreation, and/or shopping for larger numbers of people on much smaller amounts of land than almost any automobile-dependent suburban development could in the countryside. The proposed Lower Town development off Broadway and Wall Streets, and the Corner Street Apartments on the corner of State and Washington, both in Ann Arbor, fall into this "infill" category. In addition, people traveling to and from these developments will be able to walk, use public transportation, or will not have to drive as far, thus reducing the need for new pavement to provide transportation or parking. Infill development often occurs on land that is already impervious, so the development will not add imperviousness to the watershed. Instead, it will "reuse" existing imperviousness.

High density developments typically raise eyebrows (and hackles) among neighborhood groups and environmentalists. However, as described above, the only practical way to preserve open space and water quality watershed-wide will be to plan carefully to locate the majority of development in compact areas where infrastructure exists (or is planned for) to provide water, sewer, public transportation, and other services. Building up also helps reduce imperviousness. A four-story residence or parking structure consumes only a quarter the impervious surface as a one-floor residence or surface parking lot built to accommodate the same number of people or cars.

COMPACT DEVELOPMENT. Encouraging compact development particularly reduces the area dedicated to transportation, which comprises about 75% of imperviousness associated with new development. Research shows that each doubling of average neighborhood density is associated with a decrease in per-household vehicle use of 20-40% with a corresponding decline in emissions. European cities, where development is much denser than in most American cities, typically exhibit only one-fourth the per-person emissions of carbon dioxide and other pollutants from transportation typical of American cities due, in part, to compact developments. Residents in the U.S. spend about 20% of their annual income on transportation, whereas Europeans only spend

ATTRACTIVE HIGH DENSITY OPTIONS NEEDED. Of course, it is not as simple as building denser, European-style cities, expecting developers to stop building in green fields, stopping the selling of land to developers, and convincing home buyers to stop buying suburban homes. But adding a high-density mix of attractive housing, shopping, workplace, and transportation options is a necessary step in curbing the continued spread of low-density suburban development that is consuming our remaining natural areas and poisoning our streams and lakes.

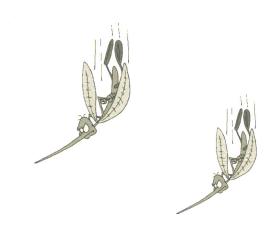


Scio Briefs and pieces and more...





Alarm ordinance. Don't get alarmed, but unfortunately, the ever-escalating number of false alarms has forced the Township to begin regulating their occurrence. Nearly 20% of all police runs are a result of false (burglar) alarms, and the fire department deals with similar numbers in regard to false (fire) alarms. The Sheriff has speculated that the false alarms could keep a deputy busy full time just responding. As noted in a past issue, there has been little incentive for property owners to repair the faulty alarms, absent an ordinance addressing the issue. Thus, the Township has enacted a false alarm ordinance that fines repeat offenders for responses to faulty alarms. Considering the significant cost of responding to false alarms in terms of personnel and equipment, the issue had to be addressed in some fashion. As it will work, everyone gets a one freebie a calendar year, but after that, it begins to get expensive. A second false alarm requiring a police or fire response, incurs a fine of \$50. A third increases the fine to \$100, and a fourth to \$200. In the past one problem observed with false fire alarms was the installation of the wrong kind of alarm. Thus a little smoke in the kitchen from the overcooked chicken set off the alarm, when there really wasn't a serious fire. Perhaps just the careless cook alarm. The fire department has worked with residents in an effort to advise them as to the appropriate alarms they should be using in their homes, and they stand ready to assist others on request. We would rather stop the problem than fine anyone. To be fair, there are of course exceptions, as for instance when there has been damage to utility lines, or when your alarm service provider is working on the system (assuming that they have notified the police and fire agencies in advance). I guess the sum total of this is that silence is golden, unless there is a real emergency.



West Nile Virus. With summer approaching, concerns are again raised with regard to an outbreak of West Nile Virus. This is a mosquitoborne virus that can cause encephalitis or meningitis in humans and animals. The virus, while a serious health problem, poses moderate risks when compared to other diseases. The vast majority of those infected show no symptoms at all. In areas where West Nile Virus has been detected, fewer than one percent of mosquitoes carry it. Fewer than one percent of those infected will develop severe illness. Among those who do contract severe illness, there is a 3-15 percent fatality rate, with the elderly experiencing the greatest risk of fatality. By comparison, the flu infects 10-20 percent of the US population (28-56 million people) and kills 20,000 annually. Prevention is the key. Counties in Michigan, as well as the Audubon Society and the Center for Disease Control, have recommended a focus on prevention and integrated pest management to control mosquitoes that might carry the disease. Recommendations for individuals, in order of priority, include: avoid contact with mosquitoes, especially at night, wear long sleeves, and apply insect repellent;

eliminate standing water in buckets, tires, pool covers, gutters, etc. around the property; change water in dog bowls or bird-baths every week; and put mosquito screens on rain barrels. For more information check out these web sites, which have links to West Nile Virus information: www.ewashtenaw.org and www.michigan.gov/westnilevirus. You can also call the Washtenaw County West Nile Virus Hotline at 734-544-6750, or contact either the Washtenaw County Department of Health or Department of Environmental Health.

Upcoming elections. A reminder that the Ann Arbor Board of Education has scheduled a School Election for June 12th. The polling places are not the same as they are for Township elections, so you will need to check with the schools in the event that you do not know where to vote. There is also a Primary Election on August 3rd, and the General (Presidential) Election is scheduled for November 2nd. At these latter elections, you will vote at your assigned Scio precinct. A map of precincts and locations will appear in the next Scio Info.



PDR issues. Related to election issues, the Township Board has given Township voters the opportunity to determine whether they wish to tax themselves to provide for the preservation of farmland and open space. With the success of recent ballot initiatives in the City of Ann Arbor and Ann Arbor Township, the Board felt that Township voters should have the chance to express their interest in this subject. As a consequence, the Board has placed on the ballot for the November general election (not August as earlier reported) a .5 mill tax increase for ten

years. The receipts from this millage would be dedicated to farmland and open space preservation, and after ten years, would automatically expire. This would be complimentary to, but not tied to, the Ann Arbor greenbelt initiative. That is, while receipts from the proposed millage could be used in conjunction with and to assist Ann Arbor's greenbelt program (in Scio), it would be entirely independent of Ann Arbor's program and any other state or local program. While the Township has already established a Purchase of Development Rights ordinance, a group of interested Scio citizens has been asked to recommend criteria and procedures which would govern the selection of properties if the millage passes. Their recommendation is expected to find its way into a new ordinance, to be adopted prior to the November election. It is also expected that by the next newsletter issue, we will be able to report the conclusion of the Township's efforts to preserve 50 acres property at the northwest corner of Wagner and Scio Church, where we have been negotiating with the owners to establish conservation easements, with a plan for the eventual purchase of the underlying property by the Township. More to follow on all of this in the next Scio Info.

Development activities. If you read the newspapers, you will undoubtedly know that Scio seems to have become extremely popular. A recent newspaper article indicating that Costco wanted to be in Scio generated more calls than I have had in a very long time. Many were negative, and I had to remind the callers that the article did not say Scio was courting Costco, only that Costco wanted to locate here. It is important to note that the Township is not in the business of recruiting development. Often businesses want to be located in Scio so bad that they choose (and announce) their intent, ignoring the fact that the site may not be properly zoned or planned for their prospective use. So if you read about these potential developments as if they were already a done deal, remember that nothing is certain until they meet our zoning ordinances, actually file plans and the Township approves those plans. Often that never happens.

Mark your calendar!

June Meetings

9 - 7:00 pm Board of Trustees
14 - noon DDA
14 - 7:30 pm Planning Commission
15 - 7:00 pm Board of Trustees
17 - 7:00 pm Zoning Board of Appeals
24 - 9:00 am DDA Roads
28 - 7:00 pm Planning Commission

July Meetings

12 - noon	DDA
12 - 7:30 pm	Planning Commission
14 - 7:00 pm	Board of Trustees
15 - 7:00 pm	Zoning Board of Appeals
20 - 7:00 pm	Board of Trustees
26 - 7:30 pm	Planning Commission
29 - 9:00 am	DDA Roads

August Meetings

9 - noon	DDA
9 - 7:30 pm	Planning Commission
11 - 7:00 pm	Board of Trustees
17 - 7:00 pm	Board of Trustees
19 - 7:00 pm	Zoning Board of Appeals
23 - 7:00 pm	Planning Commission



And very often, what you read in the newspapers is news to us as well. In terms of folks interested in Scio, it isn't only Costco that has expressed a desire to be here; it's every big box enterprise that you can think of.

Greenspace and trees. Following long and hard work by the Township's Planning Commission, a proposal for a tree and woodland resource ordinance will be before the Township Board this month. Closely associated with the Township's goal to preserve our landscape and green resources, the tree and woodland resource ordinance proposes to preserve township trees and woodland resources in the most reasonable and realistic fashion. The ordinance seeks to balance the need to remove some trees, while preventing the removal of every tree on site to make way for development. The ordinance will require a review of proposals for tree removal, and where 20% or more are removed, or where landmark (significant) trees are removed, will require replacement. The ordinance is flexible however, and recognizes the realities of site development may impact the ability to retain some tree elements. We all recognize that there is a heightened community interest in and concern for our environment, and we all want to maintain the quality of life that Scio has become known for. By the next issue I should be able to report to you on the results of the recent Scio Greenways visioning session and how it has assisted the development of the Scio Township Open Space and Greenway Plan. Input from Township residents who gathered at the recent visioning session was valuable, and will be used to develop the goals and policies which will guide the development of the Plan. Despite the extent of land development that has occurred thus far, Scio Township continues to offer a wealth of undeveloped natural and scenic areas. Therefore, the opportunity remains for the Township to proactively plan for open space preservation and the development of a greenway system. Attendance at the visioning session surpassed expectations, and it was great to see so many citizens interested in protecting and preserving Scio's natural amenities.

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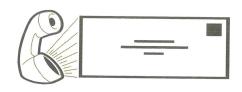
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