

The River and the Flower: How Native Landscaping and the Fox River Are Connected

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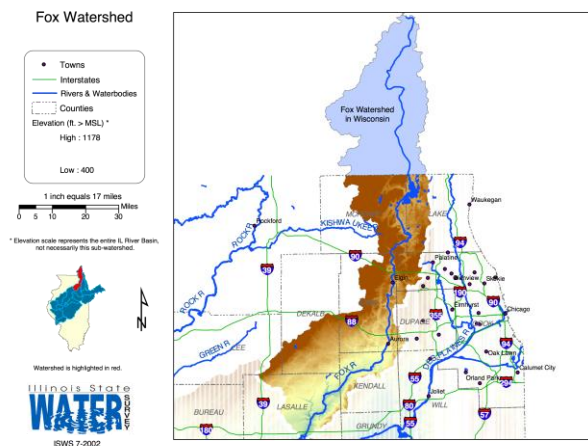
There's a lot in the literature and on the web these days about the benefits of landscaping using native plants. If you're new to this idea and that's why you're here, welcome to our website! If you're an experienced gardener but want to find some new information, we hope this website is helpful to you too, because we all need to work together and do what we can to protect our natural heritage and the quality of life we enjoy in the Fox River Valley region.

Background

We all live somewhere in a watershed. The U.S. EPA defines a watershed as an area of land where all the water that is under it or drains off of it goes to the same place (<http://water.epa.gov/type/watersheds/whatis.cfm>). Surface water within that land area (or runoff) is collected into progressively larger creeks and streams (or storm drains) as it flows downhill and eventually ends up in a larger receiving river system. For example, Ferson Creek in St. Charles drains runoff from the surrounding land into the Fox River, but large storm drains also release water into the Fox at a great rate during a rainstorm.

Watersheds come in all shapes and sizes. Their boundaries are defined by the high points of the local topography. Figure 1 shows you the boundary of the Fox River watershed, which encompasses more than 50 percent of Kane County (Illinois State Water Survey). It's important to realize that even though you may not live directly next to the Fox River, if you are in the Fox River watershed, the water that leaves your property over the surface or via a storm drain still ends up in the river rather than in the underground aquifers that are an important source of water for local homeowners as is the river itself.

Figure 1: Boundary of the Fox River Watershed



The Fox River drains 1720 square miles in Illinois, and its beauty in Kane County makes the Fox River Valley a desirable location. Much land all along the Fox is under increasing development pressure; in Kane County our population is expected to increase up to 70 percent by 2030. As development continues to increase, there will be less and less open area where rainwater may be infiltrated into the soil to replenish our local aquifers, less and less native habitat, and – if we don't do something differently, more and more stormwater runoff rushing into the Fox River. Most of this water is of poor quality: often hot, dirty, and filled with salt, oils and other road and surface contaminants.

As our native soils and their attendant plant communities have been lost to land development, so too has the remaining soil's ability to absorb and infiltrate water. The possible long-term repercussions of this rapid change are dire. In a 2009 press release, the Illinois State Water Survey said that groundwater pumping in Kane County may increase from 37 million gallons per day (mgd) in 2000 to as much as 71 mgd by 2050 to meet increased demand created by new development.

<http://www.isws.illinois.edu/hilites/press/090821kaneco.asp>.

Further, model simulations that were part of the study showed that:

- Groundwater withdrawals from deep wells in Kane County will potentially cause water supply interruptions and increasing water concentrations of radium, barium, arsenic, and salinity.
- In shallow wells, the largest area of significant decline in water levels will include parts of northeastern Kane County with another draw-down area likely developing around Batavia and Geneva's public wells.
- Water in local streams may also decline, potentially harming plants and fish populations. During periods of low precipitation, Mill Creek, for example, may dry up completely by 2050.

It rapidly becomes clear that, the more we can do on our individual properties to hold rain water and encourage it to soak into the ground thereby reducing runoff to the river and replenishing the aquifer, the better we ultimately protect our local water supplies and the overall quality of the Fox River.

Native Landscaping

So what's the connection here to native landscaping? Well, before this area was forever changed by European settlement, the landscapes of the region were composed of a fantastic mix of plant species that adapted slowly over time to local conditions. This evolutionary process inextricably linked them with the wildlife that co-evolved with them from insects to progressively larger species in the food chain. In this pre-development condition, rainwater was easily absorbed into the ground where it fell, replenishing ground water aquifers and supplying our wetland systems with a constant supply of cool, clear water from underground seeps. Bluff Springs Fen in Elgin remains an example of this natural hydrologic cycle.

IMPROVED WATER QUALITY. The ability of soil to hold and infiltrate water is largely due to its organic content. The rich organic top soils that accumulated over time in our Illinois prairies are a measure of the ability of our native plants, with their deep roots to be drought tolerant and capable of building a rich, healthy soil. The European grasses that comprise the lawns of our suburban landscapes are not similarly effective. Growing and maintaining a healthy lawn requires watering, and regular application of herbicides and pesticides. In addition, herbicides and pesticides are often applied inappropriately and can kill beneficial insects and other wildlife. By eliminating or limiting the amount lawn, and therefore, the amount of pesticide and fertilizer use, the amount of chemical runoff into our lakes and rivers will be significantly reduced, our water quality improved and the health of our water's aquatic life strengthened.

IMPROVED AIR QUALITY. The USEPA estimates that a gasoline-powered lawn mower emits **11** times the air pollution of a new car for each hour of operation. Converting areas of unnecessary lawn to a native landscape eliminates the need for intensive mowing and reduces the demand for non-renewable resources such as gasoline. This, in turn, improves water and air quality by reducing the emissions generated by lawn maintenance equipment such as mowers, blowers and weed trimmers (to say nothing of saving you time and money!). The pollutants generated by gasoline-powered equipment includes carbon monoxide (CO), carbon dioxide (CO₂), nitrous oxides (NO_x), sulfur dioxide (SO₂), VOCs (volatile organic compounds) and air toxics such as benzene. Some, such as benzene, are directly harmful to health. In addition, they are directly associated with the production of smog and acid rain. Carbon dioxide and nitrous oxide are also green house gases. For more information see <http://www.epa.gov/greenacres/toolkit/chap2.html>

IMPROVED HABITAT AND ECOLOGICAL FUNCTION. Doug Tallamy, author of *Bringing Nature Home: How You Can Sustain Wildlife with Native Plants*, shares some telling facts. In our race to develop and farm our way into prosperity, we have converted **95percent** of our native landscape in the lower 48 states to other land uses, confining our wildlife populations to the remaining 5 percent. According to Tallamy, state natural heritage staff estimates that as many as **thirty-three thousand** species of plants and animals in the United States are "imperiled." Tallamy believes this loss of biodiversity equally imperils us, for we are supported by the ecosystem services its functioning provides such as oxygen and clean water, carbon sequestration, pollination of crops, and buffering severe weather events. To reduce lawn by converting it to native landscape, Tallamy, calls "gardening for life."

Conclusion

We have done much, in ignorance, to disrupt and destroy the natural web of life we are dependent upon. As we study and observe, we see time and time again that we are all interconnected. One action by me, will impact you whether directly or indirectly, and if not done with careful thought, will decrease the quality of both of our lives.

By incorporating native plants into our home landscapes, and decreasing the amount of unnecessary lawn, we can create a vibrant, life-filled, beautiful, hardy, disease-resistant landscape that will reduce the amount of maintenance time and cost required to keep it looking beautiful. It will also reward you by providing habitat for the diverse population of birds, butterflies and other animals that are dependent upon the native wildflowers and grasses they are adapted to in order to survive and reproduce.

Move forward. Plant a tree, but select one of our beautiful native oaks. Plant a flowering and fruiting shrub, but, be it large or small, make it one of our wonderful native species. Add a grass or flower, but search out one of the many, many wonderful and colorful native wildflowers or grasses. Plant one to start. We hope you'll get the "bug" and make it 25, 50, 100..... And then sit back and enjoy the symphony of the senses it will provide through the seasons!

Next Step: If you have incorporated native landscaping into your property, get it certified by The Conservation Foundation as part of the Conservation @ Home program. Call (630) 553-0687, ext. 302 to get your yard certified or to learn more about how you can make your landscaping sustainable and beautiful. You can also visit www.theconservationfoundation.org.

Just The Facts, M'aam.....

Use of native plants and Native Landscaping will

- Increase biodiversity
- Counteract habitat loss and fragmentation
- Enhance riparian and upland habitats
- Create green corridors that are protective of wildlife
- Reduce/filter stormwater runoff
- Reduce stormwater infrastructure costs
- Reduce/eliminate the use of potable water for irrigation
- Protect/Improve water quality in our lakes and rivers
- Reduce/eliminate fertilizer and pesticide use
- Reduce maintenance time and cost
- Protect beneficial insects and other wildlife
- Improve air quality
- Reduce acid rain
- Reduce greenhouse gas emissions
- Build soil quality and sequester carbon

- Promote water infiltration to replenish underground aquifers
- Provide sources of food and shelter required for native fauna
- Protect/increase imperiled species populations
- Provide critical ecological function in the garden
- Reflect the natural heritage that is our identity, our unique “sense of place”
- Be beautiful, fascinating and full of life
- Build a stronger sense of stewardship and caring for the earth we call HOME

References:

Illinois Rivers Decision Support System, Fox River Watershed Investigation,
http://ilrdss.sws.uiuc.edu/fox/fox_descrip.asp

Illinois State Water Survey

<http://www.isws.illinois.edu/hilites/press/090821kaneco.asp>

US EPA Landscaping with Native Plants at US EPA Greenacres.

<http://www.epa.gov/greenacres/index.html>

Wild Ones Native Landscapes. *Gardening for Life*. Doug Tallamy www.for-wild.org/download/tallamy/gardeningforlife.html