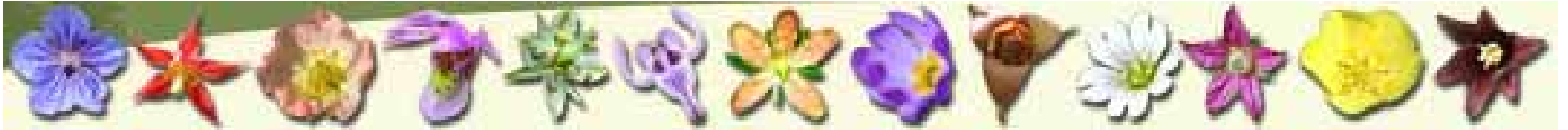


Natural Landscapes, Rain Gardens, & Edible Gardens

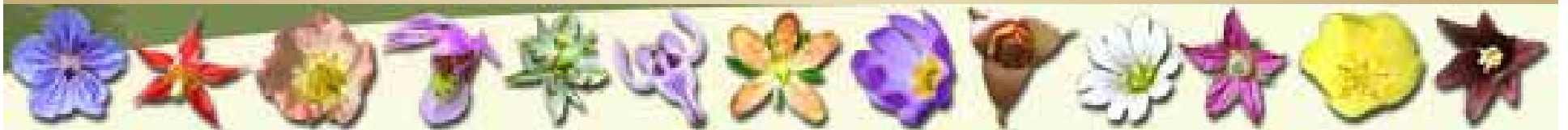
Their Vital Role in Urban Settings

Photo by M. Simpson



Overview

- Shortfalls of traditional lawn landscapes
- What is a native landscape and why it is important to have them in urban settings
- The benefits of having a native landscape, compared to a traditional grass lawn
- Other cities allowing Native landscapes
- Wisconsin already has a reputation for being an environmental leader... home of Aldo Leopold and Lorrie Otto
- A photo journey of native landscapes in Milwaukee



Implications of Traditional Landscaping

- Contribute to Air, Noise, & Water Pollution
- Increase Flood Damage and Erosion
- Harm to Biodiversity
- Consumption of Natural Resources
- Impacts to Public Health and Safety
- Cost and Labor Intensive
- Monotonous Landscapes with no ecological benefit



- ***Natural Landscaping*** - The practice of cultivating plants which are native to the bioregion without resort to artificial methods of planting and care such as chemical fertilizer, mowing, watering other than by through natural processes (rain), with the goal of harmonizing the landscape with the larger biotic community and ecosystem of the immediate and surrounding bioregion



What are Native Plants?

- Plants that have evolved naturally in North America and serve an ecological role
- Were growing naturally in that area before humans introduced plants from distant places
- Native plants are adapted to the local
 - Soils
 - Animals
 - Weather
 - Plants



Photos by M. Simpson

Native Landscapes

Economic Benefits

- Cuts price of lawn maintenance
- Increases natural beauty, which can boost tourism
- Provides recreational and educational opportunities in parks and green spaces : biking, hiking, birding, outdoor classrooms, field trips, community service
- Clean water enhances fishing opportunities, boating, and swimming



Landscaping Costs: Turf Lawn vs. Native Landscaping

Landscape Treatment	Low-End Estimate	High-End Estimate
Turf Grass	\$7,800	\$14,825
Native Landscaping	\$3,400	\$ 5,975

Figure A: First-Year Installation Costs Per Acre (*Natural Landscaping for Public Officials: A Sourcebook*. Chicago: Northeastern Illinois Planning Commission, 2004)

Landscape Treatment	Low-End Estimate	High-End Estimate
Turf Grass	\$5,550	\$6,471
Native Landscaping	\$1,600	\$ 1,788

Figure B: 10-Year Average Maintenance Costs Per Acre (*Natural Landscaping for Public Officials: A Sourcebook*. Chicago: Northeastern Illinois Planning Commission, 2004)

Establishment and maintenance costs for natural landscape is MUCH cheaper than traditional lawn

Native Landscapes

Biodiversity Restoration

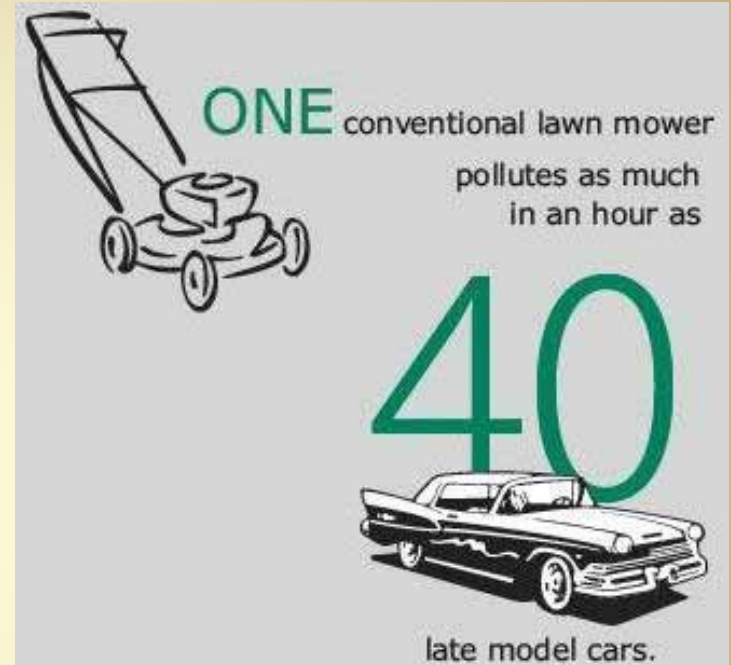
- Creates habitat and food for our birds, bees, butterflies, insects, and wildlife
- Saves legacy seeds and heirloom plants for future generations
- Supports healthy soils: microbes and nutrients



Native Landscapes

Improved Air Quality and Climate

- Lowers CO₂ emissions by reducing the use of lawnmowers
- Filters particulates from air
- Reduce ground level wind velocities
- Absorb solar radiation to cool the environment and create summer shade
- Can reduce wind drifting and act as a natural snow fence



Gasoline lawn and garden equipment, on average, produces 5% of ozone-forming VOCs in areas with smog problems

Native Landscapes

Improved Water Quality and Quantity

- Reduced water consumption
- Control ground water infiltration rate
- Improve surface water flows through retention
- Recharge aquifers
- Decrease algal blooms
- Assist in removing storm water pollutants
- Decrease soil erosion of stream banks, reducing sediment loads into lakes and streams
- Resilient to droughts
- Reduce downstream flooding effects
- Save energy and costs associated with water treatment

Native Landscapes

Pesticide & Herbicide Free

- Natural landscapes are inherently resistant to local pests
- Native plants attract native insects and birds that control unwanted pests
- No need for costly and dangerous chemicals



Health Hazards linked to Pesticides

- 7 million birds die annually as a result of pesticide use
- Harmful to bees and other pollinators
- Pesticides and herbicides have been linked to:
 - cancers, endocrine issues, birth defects, nervous system disorders, liver and kidney damage, lymphoma, leukemia, MS, Parkinson's, asthma, autism, reproductive system damage



Edible Gardens in Yards & Public Spaces

- Provide healthy, fresh, affordable food for families
- Assure food security by growing healthy, organic food in residential yards and public spaces
- Creates community connections and allows families economic independence
- Promotes outdoor exercise which curbs obesity and reduces stress



**Edible gardens are aesthetically pleasing,
provide food for humans, and habitat and
food for pollinators too!**



Native Landscape Myths Busted (in Court!)

- Pollen
 - 1976 in *Board of Supervisors of Fairfax County, Virginia v. Wills and Van Metre, Inc and New Berlin V. Hagar*
 - local weed ordinance has virtually no effect in reducing allergy causing pollens
- Vermin
 - Natural vegetation in yards does not provide the type and quantity of food required to sustain a population of rats and other creatures regarded as vermin
 - The man-made food supply of the sort often provided by structures, especially barns or garbage dumps, is what sustains rats and other vermin
- Fire
 - *New Berlin v. Donald C Hagar*
 - Judge Gramling agreed with experts from Forest Service, landscape architects, and ecologists, finding **no rational basis** for the claim that natural landscapes create a fire hazard
- Mosquitoes
 - Mosquitoes require standing water to breed. Since prairie and meadow areas tend to absorb water quickly, they are less likely than frequently watered lawns to contribute to the presence of mosquitoes.
 - If mosquitoes are the problem, it is standing water and not weeds that should be prohibited

Natural Landscaping is not a New Idea... it's in practice all over the US and Canada

- Where can you plant a natural landscape???

- Private yards
- Corporate and government offices
- Public spaces
- County, state, and federal Rights-of Ways
- Wastewater treatment plants
- School yards
- Museums, convention centers, visitors centers



- Who's allowing natural landscaping??? A few well-known examples:

- Chicago and Cook County, IL
- Madison, WI
- Fort Collins, CO
- Long Grove, IL
- Little Rock, AR
- Milwaukee, WI
- Washington D.C.
- El Paso, TX
- Santa Fe, NM
- Las Vegas, NV
 - Paying property owners \$1.75/ ft² to remove lawn and xeriscape
- Ottawa, Ontario: the capital of Canada
 - Illegal to sell lawn fertilizers, pesticides, and herbicides!!



Wisconsin has been home to some of the most influential naturalists in this country!

They fought for and endorsed native plants in their Wisconsin communities.

Aldo Leopold and Lorrie Otto

Visionaries and Forward Thinkers!!

Aldo Leopold: A Pioneer Natural Landscaper

- Aldo Leopold is a modern prophet, the "spiritual father of conservation" and an "authentic American Hero." His classic work, *The Sand County Almanac*, in which he articulated the Land Ethic
- The *Sand County Almanac* is a collection of essays in which he attempted to "weld" the concepts of ecology, esthetics, and ethics. An integrated understanding of these ideas was what Leopold termed the **Land Ethic**.
- Aldo Leopold's third governing concept of the Land Ethic is environmental ethics. The ethical obligation that the members of a natural system have is to "preserve the health of the system by encouraging the greatest possible diversity and structural complexity and minimizing the violence of man-made changes"
- **Leopold was responsible for the first urban American natural landscape.**
- The second element of Land Ethic is natural esthetics - **an appreciation of Nature as beautiful for what it does rather than how it looks.**
- Green Fire- Aldo Leopold Documentary

Lorrie Otto - The 'High Priestess' of Natural Landscaping Movement: Milwaukee, WI

- The modern suburban natural landscape movement's roots are traced to the efforts of one woman, naturalist-teacher Lorrie Otto. When the Ottos moved to their suburban Milwaukee home in the 1950s, the front yard was an acre and a half of lawn with a bed of tulips and 64 spruce trees. Mrs. Otto wanted her children to learn first hand about the wonders of Nature so she planted some blue and white aster yellow goldenrod fragrant bergamot, and some ferns.
- In the early 1960s, Bayside, Wisconsin, officials viewed her wild fern garden as "weeds" and cut it down. An enraged Lorrie Otto took up the fight and convinced village officials that a natural landscape was a public good and not a health hazard. She went on to become the director of the "Wild Ones - Natural Landscapers, Ltd.," a non-profit organization whose mission is to educate and share information with members and the community at the "plants level" and to promote bio-diversity and environmentally sound practices.
- Mrs. Otto received national awards for her environmental efforts. Her naturally landscaped yard is considered one of the best gardens in America. It contains 80 wildflower and grass species reflecting the diversity of a native Wisconsin prairie.
- In the village that once sent a mower to level Mrs. Otto's wildflowers, there are now sold-out bus tours of a dozen naturally landscaped homes including her now famous yard.

Wisconsin Cities are moving forward and becoming 'Green'

- **Madison, Wisconsin** was the first major city to recognize the legitimacy of natural landscapes by enacting an ordinance validating them. As a result of its groundbreaking legislative efforts and because it is home to the University of Wisconsin Arboretum, Madison is considered the cradle of the prairie restoration movement.
- **Greenville, WI** and **Oconomowoc, WI** banned the use of phosphorous in lawn fertilizers

Native Landscapes

- “Chemical lawn care is pretty much like smoking...It hurts the environment... It is harmful to you...It has been linked to cancer, lymphoma, Parkinson’s Disease, and pet death...” Troy Reissman, Nature’s Pathway WI
- “Rain Gardens: A household way to improve water quality in your community” UWEX and WDNR Publication
-

Walk the talk-Native Landscapes

- Schmitt Park Neighborhood Assoc.
Mission: “.. To preserve and improve the growth, quality, and natural beauty of our neighborhood with a sense of community, by promoting a prosperous, safe, healthy place to live.”
- Green Bay picked as a “Bird City, USA” for its work in habitat protection, forest mgmt, public education, and other areas related to bird populations

Why Go Native?

- Native plants provide food and habitat to animals and insects
- Native landscapes are cheap to establish and maintain, in contrast with traditional lawns.
- Since natural landscapes do not require pesticides, herbicides or fertilizers, the harmful effects of these chemicals are eliminated.
- In light of water shortages and problems with non-point source pollution, natural landscaping has profoundly positive ecologic effects.
- Xeriscaping, the practice of planting native low-water-consuming plants, is the law in many Western cities and one of the most compelling ecological bases for natural landscaping.

Natural Landscaping has a place in many places...



- Schools
- Corporate and Government Offices
- County Clubs and Golf Courses
- Private homes
- Rights-of-ways
- City Parks



The final recurrent criticism of natural landscapes is that such yards simply "don't look nice."

- To some, natural landscapes look unattended and "messy." Such shallow arguments demonstrate the underlying motivation that some feel to control the actions of those who dare to be different.
- The Grand Tetons are messy, redwood forests are messy-and Midwest prairies are messy-nature is synonymous with messy! -----Buslaff

People who are afraid of the “messy appearance” just need to understand all the benefits of native gardens.

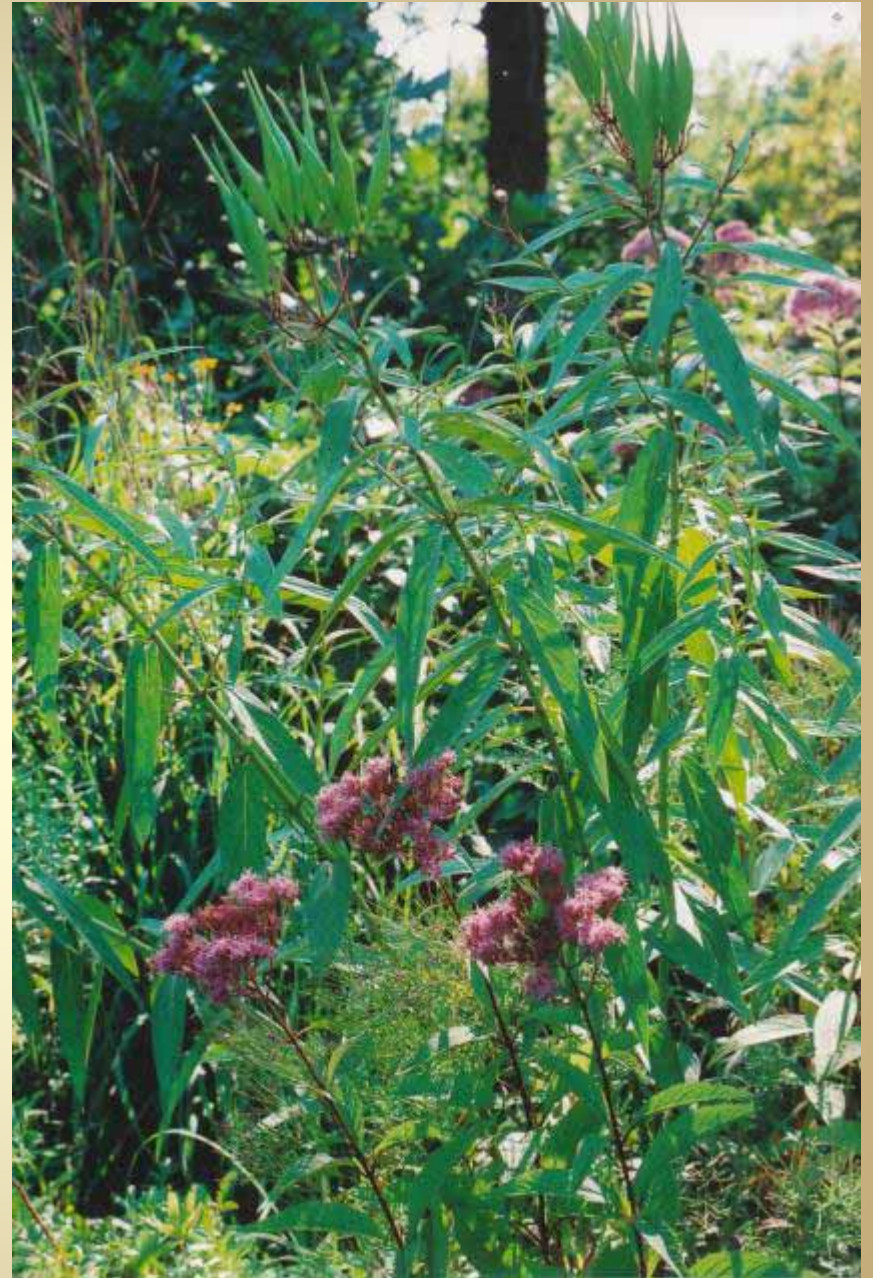
Mother Nature is inherently messy!

- The second element of Leopold’s Land Ethic is natural esthetics - an appreciation of Nature as beautiful for what it does rather than how it looks



Enjoy these photos from Lorrie
Otto's home and neighborhood in
Bayside, Wisconsin (Milwaukee suburb)







**These beautiful flowers are beneficial
to many insect and bird species**





More than **30**
insect species
overwinter in or on
stems of Wisconsin
prairie forbs
(AH Williams,
1999, UW Madison)

