

US EPA ARCHIVE DOCUMENT



Great Lakes Binational Toxics Strategy Integration Workgroup Meeting November 30, 2011

Presented by:

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IUPUI



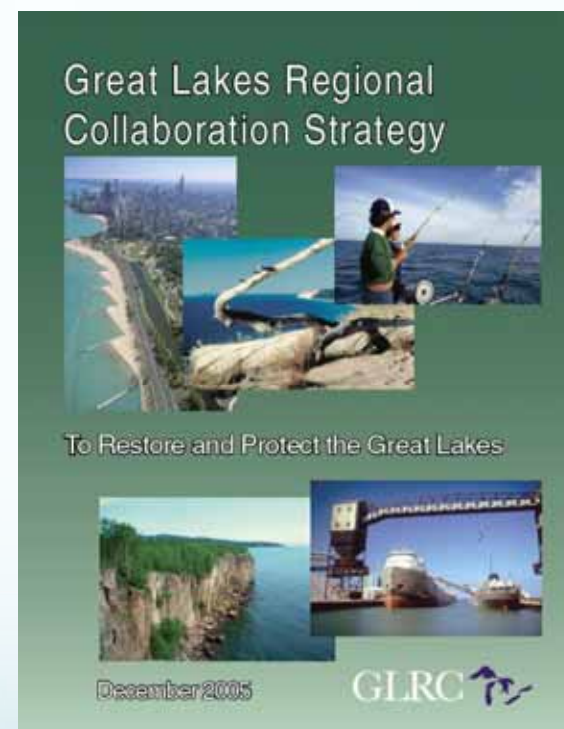
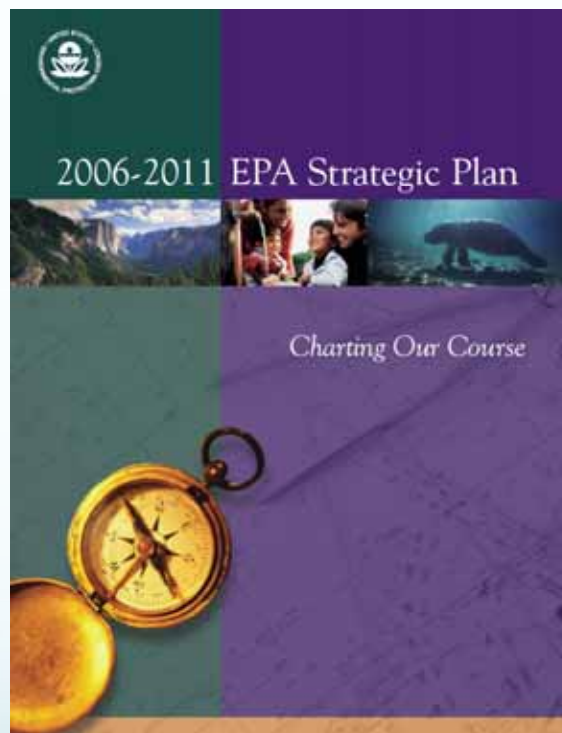
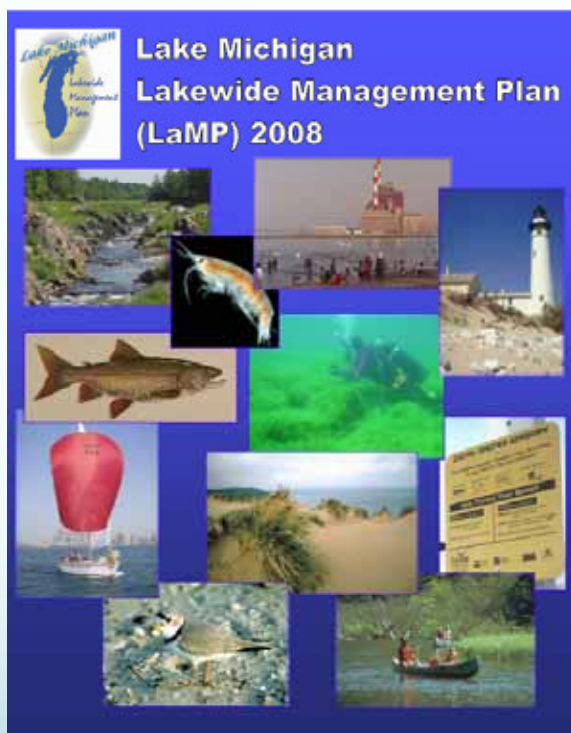
Goal

To reduce inputs of pesticides, nutrients, and other pollutants into the Great Lakes Basin, by promoting and implementing sustainable lawn and landscape practices at the community and household levels.

GLRI Area:

Reduced inputs of pesticides and other potential harmful substances into the Great Lakes Ecosystem (I.A.9)

Background – Project Relevance to the Great Lakes



Lawns in Urban Landscapes

- Individual lawns seem insignificant, but...
- Nationwide, turf grass is everywhere
 - 63,000 square miles
 - Enough to blanket Illinois
 - Largest irrigated crop by area in U.S.
- ≈ 25% of land cover in (sub)urban areas



The Costs of Lawn Maintenance



⊙ Water

- Avg. suburban lawn uses 10,000 gallons per year
- Nation: lawns consume 270 billion gallons per week

● Energy

- 580 millions gallons of gasoline used in lawnmowers
- 270,000 BTUs in 100 lb bag of 13-13-13 fertilizer

● Fertilizer

- Over 3 million tons per year

● Pesticides

- 67 million lbs of synthetic pesticides
- Homeowners use 3 times more pesticide per acre than farmers

Water & Energy



Pesticides

Spring is in the air

**Children ages 6-11
have higher levels of
lawn chemicals in
their blood than all
other age categories.**

*-Center for Disease Control and
Prevention, 2003 Jan.*

...but lawn care chemicals needn't be.

Jane McDonagh ©



Nutrients

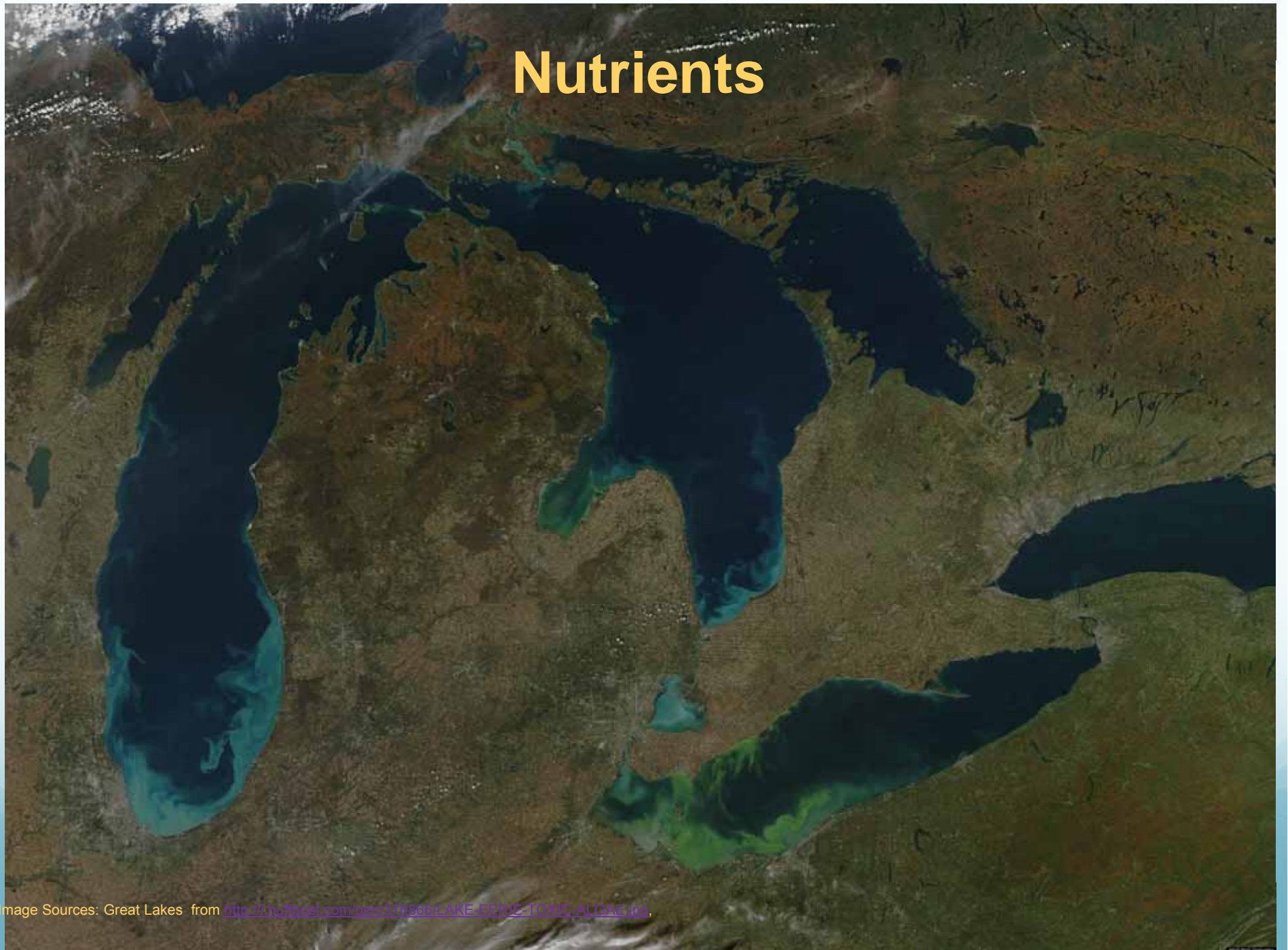


Image Sources: Great Lakes from http://i.huffpost.com/gen/376806/LAKE_EERIE_TOXIC_ALGAE.jpg,

Chemical Lawns not “Healthy” Lawns

Fossil-fuel products can:

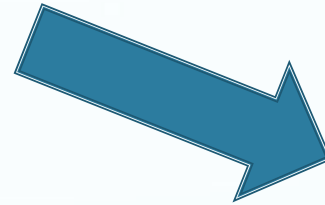
- Stunt/weaken turf grass
- Inhibit beneficial microbes
- Kill non-target organisms (garden plants, flowers, bees, butterflies, fish)
- Harm earthworms
 - Excellent aerators & prime source of natural fertilizer
- Compact ground surface
 - Difficult to grow anything under such conditions



What if we could go from unhealthy, chemical, stunted lawns that look like this...



...to naturally healthy lawns like this:



Wouldn't our lawns, lives and environment be better off? More importantly, how do we achieve this?

Healthy Landscapes



Strategic Approach

- Clearly defines the link between individual decisions/behavior and lake and watershed water quality;
- Uses existing, off the shelf, proven outreach and education strategies developed locally;
- Is community based, and relies on partnerships for sustainable effort beyond the project scope;
- Leverages outreach effort by focusing on key target audiences, including Master Gardener and Master Naturalists who will multiply the investment made by Sea Grant/EPA;
- Is outcome oriented – measurably reducing inputs, and changing behavior.

Timeline

- Year 1
 - Branding, materials & program development
 - Professional workshops
 - Master Gardener trainings
- Year 2
 - Continuing professional and train the trainer workshops
 - Retailer and large property owners outreach
 - Media messaging campaign & finalize materials
- Year 3
 - Continuing professional and train the trainer workshops
 - Retailer and large property owner implementation
 - Public and teacher trainings workshops



LAWN TO LAKE

Healthy Landscapes, Healthy Lakes

Clean water in Lake Michigan depends on you.

Lawn and garden chemicals applied in the Lake Michigan basin can wind up in the water, polluting the lakes with pesticides and excess fertilizer. But it's easy to adopt healthy landscape practices by following these simple steps:

- | | |
|---|---|
| <ul style="list-style-type: none">• BUILD YOUR SOIL
<i>Compost improves soil's health</i> | <ul style="list-style-type: none">• NATURAL LAWN CARE
<i>Mow high, leave clippings, core aerate</i> |
| <ul style="list-style-type: none">• SHRINK YOUR LAWN
<i>Reduce lawn area when lawn isn't necessary</i> | <ul style="list-style-type: none">• LET THE RAIN SOAK IN
<i>Capture rainwater with rain gardens, cisterns and rain barrels</i> |
| <ul style="list-style-type: none">• RIGHT PLANT, RIGHT PLACE
<i>Choose appropriate plants for your site</i> | <ul style="list-style-type: none">• WATER SENSIBLY
<i>Reduce watering requirements of the lawn and landscape</i> |
| <ul style="list-style-type: none">• LET NATURE DO THE WORK
<i>Use natural organic fertilizers</i> | <ul style="list-style-type: none">• SAVE TIME AND MONEY
<i>Reduce inputs to reduce costs</i> |
| <ul style="list-style-type: none">• TEST YOUR SOIL
<i>Soil test tells if adequate nutrients are available for plant growth</i> | <ul style="list-style-type: none">• MANAGE PESTS SENSIBLY
<i>Correct the underlying problem prior to applying pesticides</i> |

Lawn to Lake is a collaborative program to protect water resources in the Great Lakes region by promoting healthy landscape practices. With funding from the Great Lakes Restoration Initiative, partners are coordinating a pollution prevention campaign addressing the needs of those responsible for lawn and landscape care.

For more information, visit <http://www.lawntolake.org/GreatLakes/> or contact Margaret Schneemann at MSchneemann@cmap.illinois.gov or 312.676.7456.

Great Lakes
RESTORATION 

Strategic Approach

Target Audiences

- Professionals & municipalities
- Train the trainer
 - Master Gardener
 - Teachers
- Schools
- Homeowners
- Pilot Grounds Care Program
- Retailers

Project Location



Estimated Environmental Impacts

Estimated Environmental Impacts of <i>Healthy Landscapes Healthy Lakes</i> Program					
	Outreach Metric	Direct Audience Impact	Residents Reached	Lawn Acres Impacted ¹	Estimated Loadings Reduction ²
TOTAL ³				38,290	Weed and Feed Use Reduction: 4,290,300 lbs/yr Associated Pesticide Reduction: 32,177 lbs/yr Associated Phosphate Reduction: 242,074 lbs/yr

¹ Based on a comprehensive 1995 study estimating a national average lawn size of 0.20/acre. Estimated average lawn size varies from state to state, ranging from 0.06 acre in Washington, DC to 0.51 acre in Georgia. See Vinlove, F.K. & Torla, R.F. (1995). Comparative estimations of U.S. home lawn area. *Journal of Turfgrass Management*, 1(1), 83-97. Note that the average area of lawn per household in the Lake Champlain-St. Lawrence area is 0.347 acres, which is used for the pilot grounds care program estimates. This provides a conservative estimate as landscape garden acres are not included.

² Estimated annual loadings reduction sustained over time is based on the following: Typical urban/suburban use of weed and feed product; 5% reduction due to households who stop using weed and feed products completely and 50% reduction for households who continue to use weed and feed, but at a lower application rate. Calculations assume average pesticide content of 0.8% Pesticide content is approx. 0.8% (see below), so the actual /pesticide/ application rate (at the minimum 140 lbs/acre single application rate for the weed and feed) is 1.12 lbs of pesticide/acre/application. The actual pesticides are 2,4-dichlorophenoxyacetic acid (0.61%) (+)-(R)-2-(2 methyl-4-chlorophenoxy)propionic acid (0.15%) Dicamba: 3,6-dichloro-o-anisic acid (0.05%); the minimum recommended application rate is 140 – 170 lbs/acre at least twice a year, estimate of 300 lbs/acre/yr. Phosphate use reduction estimates based on P₂O₅ (Phosphate) in a typical weed and feed product at 5% P205, that comes out to 15 lbs. P205 (phosphate) per acre for two applications yearly. (sources Homziak, J. personal communication March 9, 2009; and Kostelnick, M. personal communication March 9, 2010).

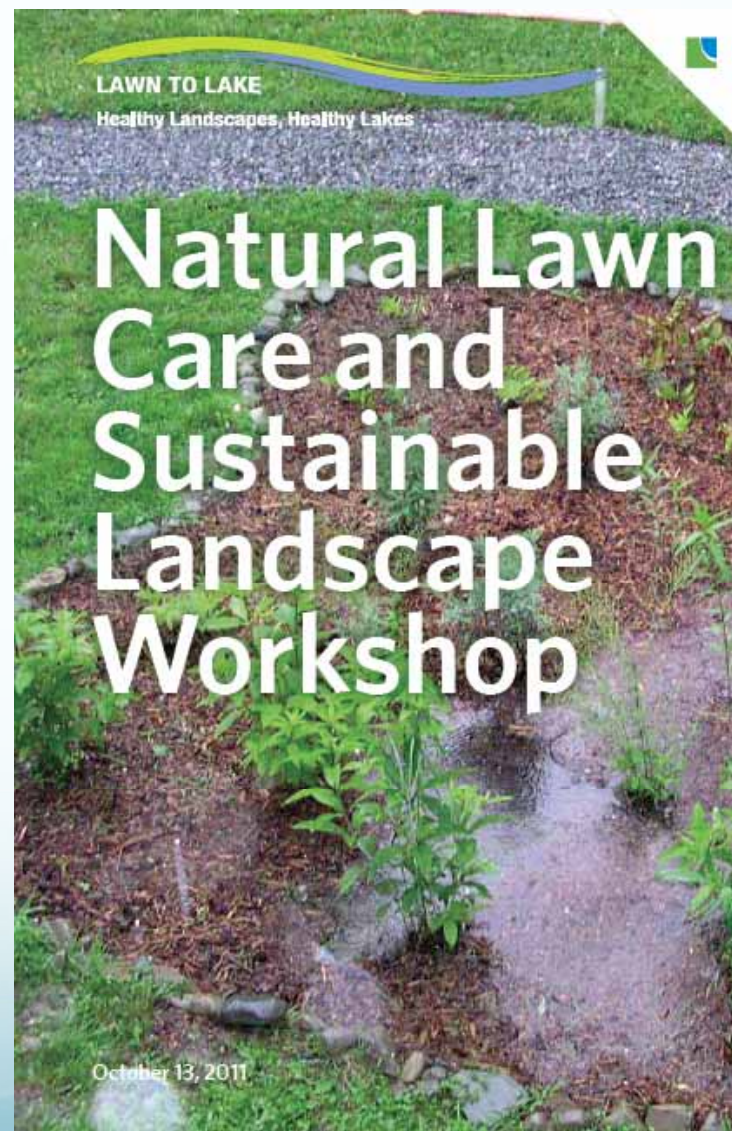
³ The best way to quantify impacts is to perform pre- and post- surveys of fertilizer and pesticide use by targeted audience, which will be performed as part of the *Healthy Landscapes Healthy Lakes* program evaluation component. It is additionally important to note that the frequency of application, application rates and pesticides used is highly variable by location, season, weather, etc. The provided estimate uses the best available information and the assumptions described, to provide a rough, and conservative, estimate of expected impacts.

Professionals & Municipalities



Workshop Agenda:

All Attendees		
7:30am-8am	Registration and Coffee	
8:00-8:15	Introduction & Welcome – The Advantages of Natural Lawn Care	Scott Grams -ILCA, Carol Becker – MELA, Susan Ask - Illinois-Indiana Sea Grant, Rachel Rosenberg - SPCP
8:15-9:00	Sustainability in the Landscape: Putting Natural Lawns into Perspective	Mike Nowak, "The Mike Nowak Show"
9:00-10:30	It's All in the Soil – The Basic Science/Process of Growing Healthy Landscapes	Chip Osborne, Osborne Organics, Richard Hentschel, U of I Extension, Q & A
10:30-10:45	Break	
10:45-12:15	Horticultural Practices for Natural Lawns DOWNLOAD PRESENTATION - Quandt	Chip Osborne, Osborne Organics, Richard Hentschel, U of I Extension, Q & A
12:15-1:00	Lunch (provided with registration)	
1:00-1:35	Transitioning to Natural Lawn Care – Common Challenges and Solutions DOWNLOAD PRESENTATION - Nye DOWNLOAD PRESENTATION - Osborne	Chip Osborne, Osborne Organics, Christine Nye, Shedd Aquarium



	Outreach Metric	Direct Audience Impact	Residents Reached	Lawn Acres Impacted ¹	Estimated Loadings Reduction ²
Landscape Professionals and Municipalities ³	5 workshops	330	87,450	17,490	Weed and Feed Use Reduction: 2,361,150 lbs/yr Associated Pesticide Reduction: 17,709 lbs/yr Associated Phosphate Reduction: 118,058 lbs/yr

Landscape Professionals and Municipalities Workshops⁴

○ Preparation and Promotion	Nov. 2010–Dec. 2010	-	Complete	100%	100%	(a) Prepare workshop binders, publicize meeting, arrange speakers and venue
○ 1 Workshop (IL)	Fall 2010	Spring 2011	Complete	100%	100%	(a) 1 workshop conducted 88 Direct Audience Impact 22,525 Residents Reached 4,505 Lawn Acres Impacted ³ Estimated Loadings Reduction ⁴ ▪ Weed and Feed Use Reduction: 608,175 lbs/yr ▪ Associated Pesticide Reduction: 4,561.31 lbs/yr ▪ Associated Phosphate Reduction: 30,408.75 lbs/yr

Follow-Up Lawn Care Survey

Thank you for attending the Natural Lawn Care workshop on March 23, 2011. We are now in the process of conducting a follow up survey in order to evaluate the effectiveness of the program. Please take a few minutes to answer the following questions. We appreciate your time!

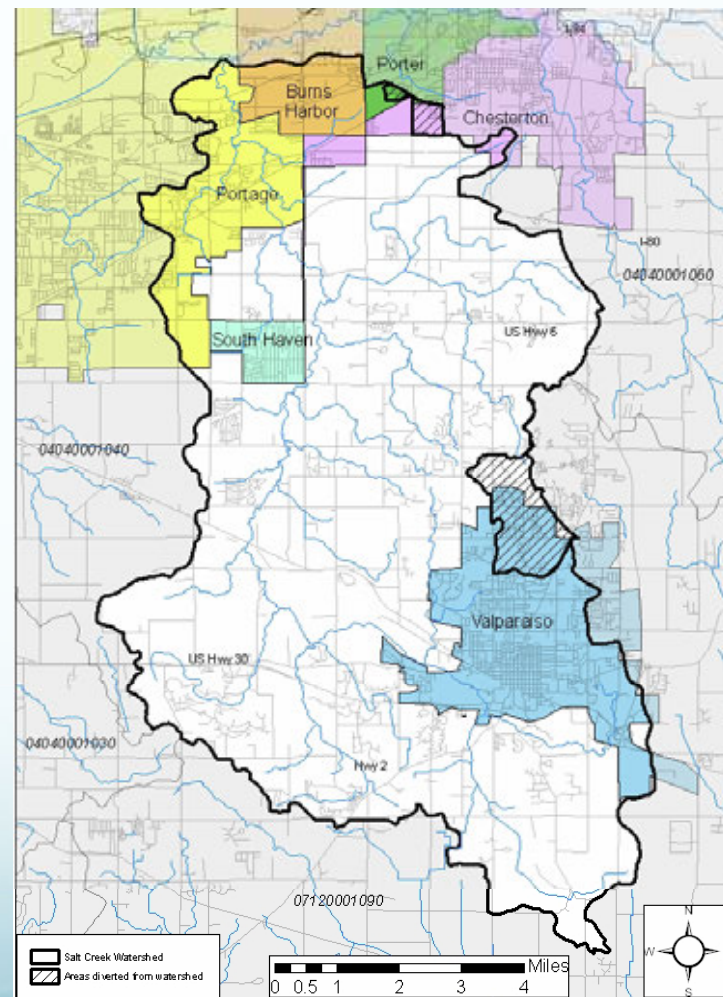
Train the trainer Master Gardener & Teachers



Pilot Grounds Care Program

What We Can Do For You

- We provide the information to convert the consumers, landscapers provide the service
- Small business management workshops to improve profits
- Organic/Low Input practices training
- IPM training
- Tailored promotional materials
- Applied research on the most appropriate successful practices



Retailers

DON'T "P" ON YOUR LAWN!



Phosphorus (P) is a nutrient found in many fertilizers that feeds algal blooms in waterways. Switch to "P-free" fertilizers and follow these tips for healthy lawns and lakes...




Algae Bloom

LAWN TO LAKE
LAWN CARE TIPS FOR GREEN LAWN

HEALTHY LAWN TIPS
for green lawns *not* green lakes!

TAKE A SOIL TEST... if you are seeding a new lawn, or want to learn more about your lawn's nutrient content, pH level and organic content.

FERTILIZE... only with phosphorus-free fertilizers. Most Indiana lawns have enough phosphorus (P) and only need nitrogen (N)! The best time to fertilize is spring and fall. Your soil test results will determine your fertilizer needs. Sweep up fertilizer from sidewalks and driveways, and don't fertilize before heavy rain.

WATER... if desired, in early morning, when there is less than one inch of rain per week. During droughts, grass will survive without watering by going dormant.

PLANT GRASS SEED... on existing lawns at least once a year with a mix of grass seed and compost. Use a grass mixture that does well in the setting (soil, light, activity). Leave legumes, such as common white clover, in the grass to add nitrogen, which will naturally fertilize your lawn.

MOW... to maintain a height of 3 to 4 inches and cut off no more than 1/3 of grassblade. Leave clippings on lawn to add nutrients and organic matter, but be sure to sweep the clippings off pavement.

WEEDS... will be discouraged by using these tips! Pull any weeds that grow by hand.

www.lawntolake.org

The Great Lakes "Lawn to Lake" Partners: Illinois-Indiana Sea Grant, University of Illinois Extension, Lake Champlain Sea Grant, Safer Pest Control Project. Adopted from the original "Lawn to Lake" Lake Champlain Basin Program.



LOOK FOR THE ZERO!
The three numbers on fertilizer bags show the N-P-K nutrient analysis. Nitrogen (N) is an important nutrient for a healthy lawn. The middle number is the phosphate/phosphorus (P) content. A "zero" in the middle means it is phosphorus-free. Lawns rarely need extra potassium (K), but adding some does not affect water quality.



Websites, Social Media

PODCAST

Green Side Up

June 9, 2011

How the Illinois Phosphorus Law Affects Us

Richard Hentschel discusses changes in fertilizers due to the Illinois Phosphorus Law and what it means for homeowners and commercial lawn care companies. He also discusses differences in formulations, organic, transitional and inorganic forms of plant food.

Your Host: Richard Hentschel

Green Side Up is a weekly radio gardening program produced by WDCB (College of DuPage) and University of Illinois Extension. It is hosted by Richard Hentschel, Extension Educator, Horticulture.

Subscribe: [RSS](#)

Podcast Archives

- Current episodes
- November 2011
- October 2011

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LAWN TO LAKE

Healthy Landscapes, Healthy Lakes

LAKE MICHIGAN WATERSHED

[the problem](#) | [for homeowners](#) | [for municipalities](#) | [for professional landscapers](#) | [for retailers](#) | [about us](#)

Good ideas have a way of spreading. The Lawn to Lake effort has expanded from Vermont/New York to include southern Lake Michigan, with new partners from the Illinois-Indiana Sea Grant, University of Illinois Extension, Safer Pest Control Project, Purdue University-Calumet and others, with funding from the Great Lakes Restoration Initiative.

GROW A HEALTHY LAKE!

Clean water in Lake Michigan depends, largely, on us. Even our landscaping practices make a difference. Lawn and garden chemicals applied in the Lake Michigan basin can wind up in the water, polluting the lakes with pesticides and excess fertilizer. It's easy to adopt healthy landscape practices. Explore this site for information to help you switch to lawn and garden methods that protect Lake Michigan. You'll see that healthy landscapes can be beautiful, easy and inexpensive.

- [Learn more about lawn chemicals in Lake Michigan >>](#)

Photos: Metro Watershed Partners

Return to Lake Champlain Lawn to Lake

News & Media

Podcast: How the Illinois Phosphorus Law Affects Us [7/27/11]

facebook

Lawn to Lake shared a link.




Green Side Up — University of Illinois Extension
web.extension.illinois.edu

Green Side Up is a weekly radio gardening program produced by WDCB (College of DuPage) and University of Illinois Extension. It is hosted by Richard Hentschel, Extension Specialist, Green Industry Programming.

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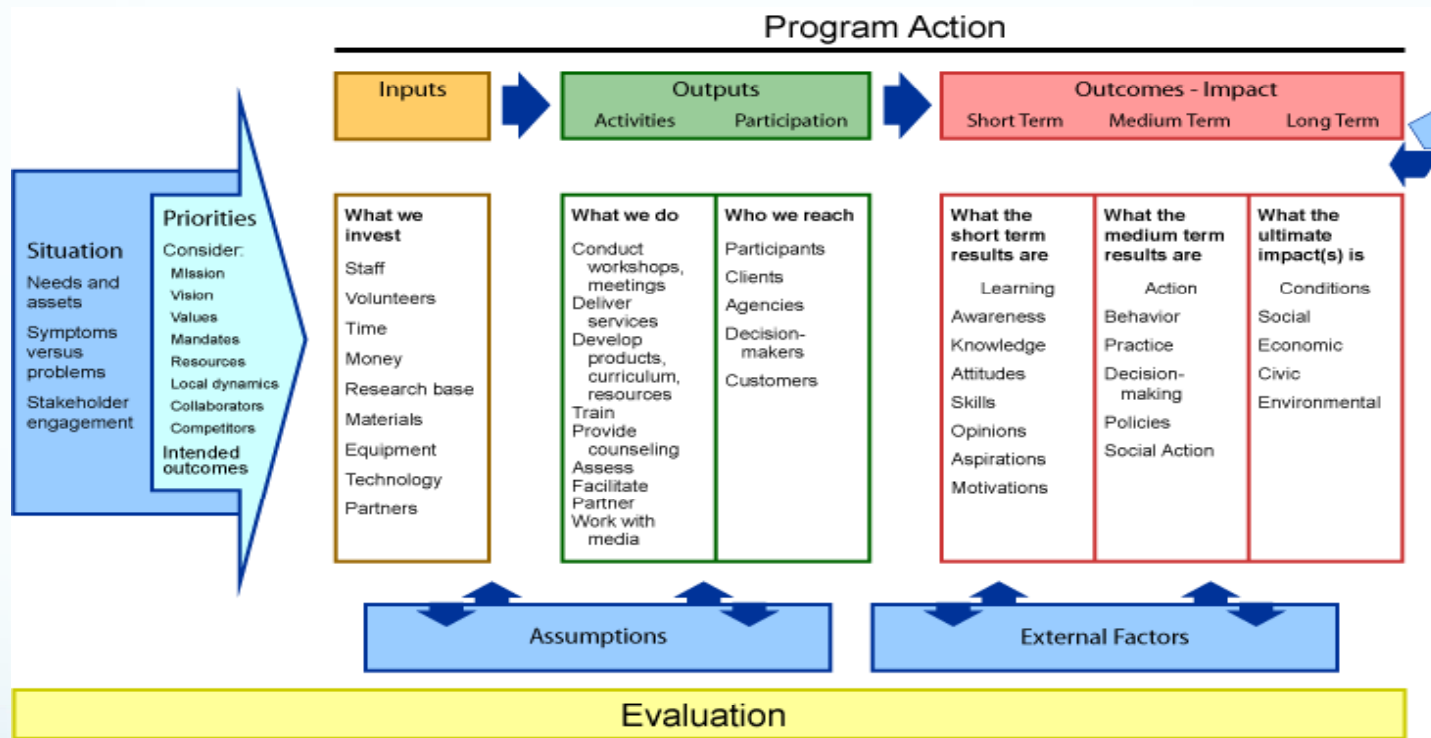


Lawn to Lake
@LawntoLake United States

Lawn to Lake is a project focused on reducing the use of pesticides that enter the Great Lakes waterways through lawn and garden care.

How the new Illinois phosphorus law effect us
web.extension.illinois.edu/podcast/s/green...

Measuring Progress Toward Outcomes, Outputs and Results



What do you want to know?

How will you know it?

EVALUATION: check and verify

LAWN TO LAKE

Healthy Landscapes, Healthy Lakes

www.lawntolake.org

Protect water quality in Lake Michigan by using healthy landscaping practices.

What we put on the land winds up in the lake.

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