Northeastern IPM Center – IPM Partnership Grants – 2010 – Proposal
Project Description

a. **PD:** Ashley Kremser, Program Manager, NOFA OLC, CT NOFA
Project Title: "IPM Strategies for Home Landscaping: Outreach"
Project Type: Regional IPM Publication

b. Project Summary

The greatest risk of pesticide exposure to the general population occurs where people live, work, and play. Landscaping pesticides used by homeowners on ornamental plants, lawns, and yards, carry the risk of negative impact on human health, particularly children's health, and the environment. In the Northeast, where up to 70% of homeowners use pesticides outdoors, lawn care pesticides have been found in groundwater, surface water, and private wells. Both MA and CT have passed laws severely restricting pesticide use on school property.

The NOFA Organic Land Care Program trains and accredits professionals in organic landscaping methods that promote IPM strategies and we now have nearly 500 accredited professionals working in 19 states. The organic methods we teach focus on building healthy soil, proper plant selection, and cultivating habitats that prevent pests. They avoid hazardous materials, prohibit invasive plants, minimize energy waste by avoiding synthetic fertilizer and pesticides, increase biodiversity, protect water resources and use local materials whenever possible. Our professionals have established that over the long term organic management techniques offer the same cultural benefits, such as beauty, functionality, and cost effectiveness as methods based on synthetic chemicals, but at a much lower environmental and health cost.

This past year we initiated a new project to extend our organic landscaping educational services beyond professionals to homeowners and property managers. Our homeowners' outreach project currently involves community workshops, website improvements, marketing, and seasonal landscaping articles that provide information on IPM and ecological strategies for home landscaping.

We are now proposing to build on this homeowners' outreach work by developing three new outreach tools: a science-based "how-to" IPM and ecological landscaping guide for the homeowner; a full-color introductory brochure template customizable to locale; and an attractive educational display booth to use at the many outreach venues we table during the year. The overall goal of our homeowners' outreach project is to convert 100 acres per year from chemical management to ecologically minded, IPM.

c. Background and Justification

1. Describe, in simple terms, the problem or challenge

The greatest risk of pesticide exposure to the general population occurs where people live, work, and play. In suburban and urban landscaping, most pesticide use is solely for aesthetic reasons. The risk of runoff from broadcast pesticide applications into storm drains and waterways is high because there are often impermeable surfaces such as sidewalks and roadways adjacent to the pesticide applications. The negative impacts of these landscaping pesticides on human health, particularly children's health, and on environmental health have been well-documented in Wargo et al. (2003) and the Ontario College of Family Physicians (2004). Pesticides' acute toxicities are reasonably well known (Extoxnet, 2008), and evidence of low dose and chronic hazards

continues to be documented, for example in recent research on the detrimental effects of organophosphate pesticides on shore nesting herons (Parsons, 2005), herbicides on amphibians (Relyea 2005), and linking autism with pyrethrin use (Hertz-Picciotto, 2008). In response to the weight of evidence against pesticide exposures in children, both MA and CT have passed laws restricting pesticide use on school property. CT bans pesticide use on school grounds; MA prohibits outdoor pesticide use for purely aesthetic reasons, and prohibits a number of common landscaping pesticides because of their carcinogenic status (e.g trichlorfon, permethrin, pyrethrins, fenoxycarb, diuron). NY has a landscaping Neighbor Notification Law.

The United States Geological Survey found widespread pesticide contamination in both surface and ground waters nationwide in urban and suburban areas (Pesticide National Synthesis Project, 2006). The CT Dept. of Environmental Protection, in 1989, found that 66% of 59 test wells had pesticide contamination (USGS, 1991). Eleven of the thirteen residential sites tested were contaminated with Dacthal (DCPA), an herbicide used for pre-emergence control of crabgrass on turf. In 1999, 11% of private residential wells in residential Woodbridge, CT had pesticide contamination (EHHI, 2006). Pesticides found in the well water included chlordane (insecticide, banned in 1988), chlorpyrifos (insecticide, restricted in 2001), chlorothalonil (fungicide), dacthal (pre-emergent), diazinon (insecticide, restricted in 2004), lindane (insecticide, banned in 2006), and trifluralin (pre-emergent). This same study found that 72% of residents had used pesticides outdoors, and 42% used them regularly. Of note is that the contaminated wells did not always lie under lawns where pesticides were used. More recently, the NY Dept. of Environmental Conservation has detected imidacloprid in groundwater on Long Island (Fossen, 2006). Once in the groundwater, pesticide contamination can travel significant distances. The Long Island Sound Study considers pesticides in LI Sound as toxic substances of concern.

Pesticides and other synthetic chemicals can have adverse effects on mammalian hormonal systems at very low concentrations. This endocrine disrupting effect has been seen with a number of landscaping pesticides, including lindane, chlorpyrifos, pyrethroids and dimethoate (insecticides), benomyl (fungicide), and atrazine (herbicide, not as common in Northeastern landscaping as elsewhere in the U.S.). Extremely low-dose effects have been documented on amphibians, for example, where concentrations of the weed-killer atrazine of 0.1 part per billion (ppb) caused hermaphroditism in frogs. Note that the drinking water standard for atrazine is 3 ppb, a factor 30 times higher. According to the current EPA website, this is “because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.” The fact that the EPA considers it not possible to remove this contaminant to safer levels underscores the importance of keeping pesticides out of drinking water in the first place.

I. Hertz-Picciotto et al., 2008. Household Pesticide Use in Relation to Autism. 7th Annual International Meeting for Autism Research: Oral Presentation 113.4; Invited Educational Symposium 140.5

Connecticut General Assembly, 2007: http://www.cga.ct.gov/2007/SUM/2007SUM00168-R03HB-05234-SUM.htm

Environment and Human Health Initiative, 2006, A Survey Of Private Drinking Water Wells For Lawn And Tree Care Pesticides In A Connecticut Town, http://www.ehhi.org/reports/wells/wells_survey06.pdf

Extoxnet, 2008, http://pmep.cce.cornell.edu/profiles/extoxnet/index.html

Fossen 2006,. Environmental Fate of Imidacloprid. California Department of Pesticida Regulation. http://www.cdpr.ca.gov/docs/emon/pubs/fatememo/Imidclprdfate2.pdf
Long Island Sound Study, 2009, http://www.longislandsoundstudy.net/ccmp/toxic_substances.pdf
Massachusetts Department of Agriculture, 2009 http://massnrc.org/ipm/schools-daycare/ipm-tools-resources/school-property-chemicals.html#carc
New York Department of Environmental Conservation, 2000 http://www.dec.ny.gov/chemical/8529.html
Ontario College of Family Physicians. 2004. Pesticides Literature Review. http://www.ocfp.on.ca/local/files/Communications/Current%20Issues/Pesticides/Final%20Paper%2023APR2004.pdf
Parsons, K.C. et al. 2005. Sublethal Effects of Exposure to Cholinesterase-inhibiting Pesticides: Humans and Vertebrate Wildlife. Manomet Center for Conservation Sciences. http://www.turi.org/content/content/view/full/3420/
Relyea, R. 2005. The lethal impact of Roundup on aquatic and terrestrial amphibians. Ecological Applications 15(4): 1118-1124.
USGS Pesticide National Synthesis Project, 2006, http://water.usgs.gov/nawqa/pnsp/
USGS, 1991, Pesticides in Groundwater, soil, and unsaturated-zone sediments at selected sites in Connecticut; U.S. Geological Survey in cooperation with the Connecticut Department of Environmental Protection and the Connecticut Agricultural Experiment Station
Wargo, J., N. Alderman, and L. Wargo. 2003. Risks From Lawn Care Pesticides, Including Inadequate Packaging and Labeling. Environment and Human Health, Inc. http://www.ehhi.org/reports/lcpesticides/

2. Address the specific need(s) identified by stakeholders

The Community IPM Working Group identified IPM in residential settings as the top priority in 2007. Specifically related to this proposal are the following priorities: "1. Expand communications and outreach through IPM based educational materials targeting residents on issues that affect human health and water quality. 2. Develop a Pest Management Strategic Plan (PMSP) for turfgrass." –NEIPM, 2007 http://northeastipm.org/work_commpriority2007.cfm

A multi-state (CT, MA, NY, RI), multi-stakeholder, volunteer committee of professional landscapers, scientists and activists has been guiding the NOFA Organic Land Care Program in the northeast for ten years. Our organization trains professional organic landscapers and uses scientists and landscapers as teachers. Students in our courses include landscapers, landscape architects, groundskeepers, scientists, municipal and school employees, state regulators, environmentalists and homeowners and we have trained over 1200 people. We collaborate with dozens of regional non-profits who seek to provide homeowners with education on how to minimize lawn care's negative impact on human health and the environment. A few examples include the seven state chapters of the Northeast Organic Farming Association (NOFA), Greenscapes, Audubon Greenwich, MA DEP, CT DEP, NY DEC, the Toxics Use Reduction Institute, Grassroots Environmental Education, and the Ecological Landscaping Association. Two of the central needs of this constituency are 1) providing homeowners themselves with the ability to do effective and ecological landscaping using methods that have been proven successful, and 2) helping homeowners find trained and accredited organic land care professionals for hire.

3. Specify who stands to benefit from your project.

This project benefits human health by reducing pesticide exposure in landscapers and homeowners who adopt organic techniques based on IPM methods The IPM strategies for

homeowners will include no synthetic pesticides, and no organic pesticides that are expected to pose a risk to humans or the environment based on EPA's biopesticide factsheets. The myriad risks of exposure to toxic pesticides are most easily eliminated by not using them, and doubly so when considering the risks posed by untrained or poorly trained applicators. Health benefits accrue as well as to the people who use these landscapes, most notably in children who as a class are more susceptible to the effects of low dose chemical exposures, particularly nerve toxins and endocrine disruptors. The environment also benefits from this project, locally by the reduced load of potentially toxic materials and regionally in water bodies where these materials accumulate. This project also protects water resources from excess nitrogen and phosphorous fertilizers and excess watering, practices prohibited in NOFA OLC Standards.

The homeowner is typically faced with a choice between chemical lawn management practices or none at all. He or she wants a lawn that is "up to neighborhood standards" but doesn't know how to achieve this except through heavily marketed chemical programs and irrigation systems. NOFA OLC professionals have established that, over the long term, organic management techniques offer the same cultural benefits, such as beauty, functionality, and cost effectiveness as methods based on synthetic chemicals, but at a much lower environmental and health cost. If the homeowner knows how to organically maintain a property, or can find a professional to do the work organically, he or she need not resort to chemical and water intensive methods. The outreach tools proposed here will engage and support this homeowner in using the IPM strategies established in the NOFA Standards for Organic Land Care.

Environmental organizations such as watershed protection, land trusts, conservation commissions, human health, toxics use reduction and wildlife protection uniformly condemn the modern practice of chemically treated, synthetically fertilized and heavily watered landscapes. Many of the events we table are put on by such environmental groups (e.g Bioneers-by-the-Bay, Massachusetts Environmentally Preferable Purchasing Fair) and their missions will benefit from the booth itself, the how-to guide, and the brochure, which can be customized to their locale.

Accredited organic land care professionals will benefit with increased business and visibility from our booth and brochure. We do not expect the "how-to" guide to take business away from the professional. In the past, we have noted that attendees at homeowners' workshops typically do their own lawn and garden work and now want to learn how to do it organically.

http://www.epa.gov/oppbppd1/biopesticides/ingredients/index.htm

4. Review ongoing or completed work

Formed in 1999 by the MA and CT chapters of NOFA, the Organic Land Care program (OLC) is a multi-state educational project housed in the non-profit NOFA CT. Its mission is to extend the vision, principles and expertise of organic agriculture to the care of the landscapes where people live their daily lives. The NOFA OLC Standards define organic landscape management as an approach that:

- Does not use synthetic pesticides or fertilizers.
- Focuses on building healthy soils that reduce the need for watering and fertilizing.
- Increases biodiversity and avoids invasive species.
- Reduces the risk to children and pets from pesticides.
- Uses fertilization methods that are less likely to pollute water.

The NOFA OLC is a national leader in organic land care, having developed the first written standards, the *NOFA Standards for Organic Land Care*: *Practices for Design and Maintenance of Ecological Landscapes*, in 2001, based on organic agricultural standards. We introduced our 5-day comprehensive Accreditation Course in MA and CT in 2002. This course covers all aspects of organic land care from soil health, site analysis and plant care to composting, lawn alternatives and running a business. It has trained over 900 students and is now offered annually in MA, CT, RI, and NY. The same year we initiated the country's first accreditation program for organic landscapers. Those who pass the accreditation exam, given on the last day of the course, are eligible to become NOFA Accredited Organic Land Care Professionals (AOLCPs) and pledge to practice according to the *NOFA Standards*. Our Accreditation program provides continuing education courses, referrals, networking, newsletters, publicity, media interviews, and business listing on our website and in our annual homeowner publication, the *NOFA Guide to Organic Land Care*. We now have 490 active AOLCPs in 19 states (CT, DE, GA, FL, ME, MD, MA, NH, NJ, NY, NC, OH, OR, PA, RI, VT, VA, WI, and Washington, DC). We developed a one-day Organic Lawn and Turf Course targeted specifically to the needs of professionals managing lawns and athletic turf in residential, commercial, or public settings such as schools and parks, in 2005. We now offer this course annually in MA, CT and NJ, and have trained over 750 students in organic turf management. In 2007 we wrote and published the course companion text, *NOFA Organic Lawn and Turf Handbook*, with help from a Quinnipiac River Fund grant.

This year we have initiated a new project to extend our educational services beyond professionals to homeowners and property managers. Our homeowners' outreach project currently involves community workshops, website improvements and marketing, and seasonal landscaping articles. We are measuring the effectiveness of this project via surveys and website statistics that record zip codes during searches for organic landscaping services. This work is funded with grants from the Quinnipiac River Fund, the Watershed Fund, the Wellesley Natural Resources Commission, and the Long Island Sound Futures Fund.

NOFA Organic Land Care Committee, 2009. *NOFA Standards for Organic Land Care*, 4th edition. http://www.organiclandcare.net/files/NOFA%20Standards.pdf

5. Applicability of the proposed approach to other regions.

Oregon Tilth is about to launch their own accreditation program on the West Coast and has used our standards, accreditation course, and accreditation program as a model for their program. Students from Wisconsin, Maryland and Georgia have made inquiries about starting programs in their states. The brochure template could be used in other regions. Parts of the how-to guide could be used elsewhere but it would need to be adapted. The booth will be used regionally.

d. Objectives and Anticipated Impacts.

Objectives

1) Create a science-based, state-of-the art organic and IPM landscaping **how-to guide** for homeowners, a priority area for the 2007 Community IPM working group, using reviewers from several states and scientific disciplines. The roughly 30-page guide will describe the health and environmental benefits, materials, methods and expected outcomes of organic lawn care and landscaping in the Northeast. Distribute 17,000 copies of the guide annually. Our homeowner's outreach project, of which this guide is a part, has a goal of converting 100

acres per year from chemically intensive to ecologically minded, IPM landscaping (as measured by homeowner surveys).

2) Create a full-color **brochure template** promoting the general environmental and health benefits of organic landscaping, and short tips to get started. The template will be customizable to locale, with information on local environmental groups and local accredited organic landscapers. Distribute 8000 copies in four locales; customize to event locations.
3) Create an attractive, portable, modular, **educational display booth** for use at fairs, trade shows, conferences, workshops, and events throughout the Northeast. Suitable for both professional and lay audiences. Both the guide and brochure will be distributed at the booth and enhance the table's one-on-one interactions. Use this booth at 15 venues throughout the Northeast and be viewed by 15,000 people annually.

Impacts

1) Homeowner **how-to guide** to organic and IPM landscaping
   a. Human health and the environment will benefit from the increase in the number of residents who can successfully maintain their own land organically, without the use of synthetic or toxic pesticides, synthetic or excess fertilizers or excess watering. The homeowner themselves will not have to handle hazardous chemicals, and the local environment and those who use it will have lower risk of deleterious contamination. The how-to guide will enable them to convert their properties to IPM-based organic management.
   b. Economic benefits will accrue to homeowners who like to do their own work. They will be able to save money by doing their own organic landscaping and 1) thereby eliminating the need for purchase, application, storage and disposal of hazardous materials, 2) reducing the need for purchasing and applying fertilizers, and 3) reducing water use.
   c. Implementation of IPM in the Northeast will benefit from the collaboration of several scientists and professional landscapers across disciplines in creating this how-to guide. (We have some hope that this collaboration might seed a scientific committee on organic land care to help bridge the gap between practitioners and academics.) Our goal is 400 homeowners per year adopting IPM-based organic landscaping methods for their properties.
2) Full-color customizable **brochure template**
   a. Human health and the environment - same as a) above.
   b. Economic benefits – same as b) above. It will list accredited organic landscapers in that locale, so will benefit the landscapers with increased visibility and therefore business.
   c. Implementation of IPM. The full-color brochure will be an attractive entry point for those new to organic landscaping benefits. Citizens who would like their friends, family and neighbors to be introduced to organic landscaping can easily distribute it. It will also make it easy for people to turn to professional organic landscaping services for help.
3) **Educational display booth**
   a. Human health and the environment – same as a) above. The booth will attract attention and visually introduce people to the benefits and methods of organic and IPM landscaping without their needing to read any pamphlet or guide. It will also attract professionals, help lead to an increase in accredited organic landscapers.

b. Economic benefits – same as b) above. The booth will assist in drawing more people to organic landscaping. It will also help the NOFA OLC program by attracting more students and enabling the program to make direct sales of publications and merchandise.

c. Implementation of IPM. The booth is a distribution point for the guide and the brochure as well as NOFA OLC's existing literature and information. In addition, the booth itself is a visual advertisement; its message will reach people who don't even stop to pick up literature. The high quality booth establishes the content as valuable. We table at events that draw between 40 (a small workshop) to 14,000 (New England Grows).

e. Approach and Procedures

1) Homeowner **how-to guide** to IPM-based organic landscaping

We will 1) Review and adapt existing publications (examples below); 2) Research the state of science relevant to homeowners, for instance, "Can nematodes combined with neem effectively control white grubs?" 3) Investigate appropriate topics to include for this entry level guide to common residential concerns; 4) Coordinate topic ideas and information with the professional landscapers on our committee; 5) Review materials list to be consistent with NOFA OLC Standards (based on National Organic Program standards) and EPA biopesticides fact sheets; 6) Write an approximately 30 page guide; 7) Review* and edit text; 8) Design/layout text into attractive pamphlet. *Six scientists from five different states will review the guide.

NOFA *Guide to organic solutions to common lawn and yard problems:*
http://home.comcast.net/~little.sarah/wpaclawnguide.htm#_Basic_Lawn_Care
Lawn Care Without Pesticides:
http://ecommons.library.cornell.edu/bitstream/1813/3574/2/Lawn%20Care%20without%20Pesticides.pdf
Bio-Integral Resource Center publications: http://www.birc.org/onlinepubs.htm
Organic Insect and Disease Management: http://www.nysaes.cornell.edu/pp/resourceguide/index.php

A stand-alone copy of the guide will be printed, marketed and available for sale on our website, at tabling events, and at wholesale prices to our collaborating organizations and to other organizations who would like to distribute it. In addition, the guide will be incorporated into our annual newsprint *NOFA Guide to Organic Land Care* that lists our accredited organic land care professionals, current articles, and advertising. This circular is distributed annually to over 15,000 people in the Northeast through our distribution channels which include libraries, environmental groups (e.g. Greenscapes, Audubon), towns halls, cafes, restaurants, garden centers, organic food stores, direct mailing to NOFA members, farmers markets, NOFA winter and summer conferences, and at our booth during the approximately 15 professional and lay events that we table annually throughout the Northeast.

2) Full-color customizable **brochure template**

The brochure will be designed from science-based material and modeled on a brochure created by the Nantucket Land Council for their organic landscaping outreach work (see Other Documents). It will include a section that will be customizable to locale by including a sponsoring environmental or health organization if they desire, and a listing of accredited organic landscapers who service that locale. NOFA OLC will print and distribute 2000 copies in each of 4 locales in at least two different states in the first year. A total of 8000 will be distributed at tabling events and through environmental organizations. We plan to use the template in subsequent years for additional locales, but this is not included in this project.

3) Educational display booth

The educational display booth will be designed to introduce both lay people and professionals to organic land care at public venues and to teach about current plant cultural and pest concerns. It will be modular, attractive, with 20 changeable, color poster displays, cotton fabric, LED lighting, and a flat screen monitor for videos, interactive teaching, and slide shows. At events, the staff will collect voluntary e-mail addresses and conduct surveys.

Time line

2010/2011	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Guide	x	x	x	x	x	x	x	x	x	x	x	x
Brochure	x	x	x	x								
Booth	x	x	x	x	x	x	x	x	x			

f. Evaluation Plans

This project is part of our homeowner's outreach initiative that is currently gathering data as part of the grant requirements from the Long Island Sound Future's Fund. As such, we will be able to use some of the same tools to measure the effectiveness of this project by correlating the release of the three outreach tools (guide, brochure, booth) with changes in these statistics over time.

Our current measures are:

1) Google website analytics that gathers full website usage data.
2) Record of all the zip codes entered by people searching on our website for an accredited organic land care professional who services their area. A Google Earth plot of 450 zip codes acquired over a three-month period is attached in "Other Documents".
3) Survey designed for our homeowner's workshops to determine the amount of land under organic, transitional, or chemical management. The survey was designed with assistance from Robert Burg, EPA Long Island Sound Office, and Larissa Graham, New York Sea Grant Program. We anticipate being able to use a similar survey and website statistics to help track the efficacy of this NE IPM project. The survey will be available on-line, at our workshops and at our booth. Attached in "Other Documents."
4) Follow-up survey, based on the initial survey, which determines specifically if NOFA OLC influenced a behavior change towards IPM-based organic management, what tool was most effective, and how many acres are being converted from chemical-based to IPM . It will be sent to our homeowners e-mail list and available online. In development.
5) E-mail list of homeowners who opted to receive seasonal organic landscaping tips. Signup is available at workshops, online and at the booth. These people receive the follow-up survey.

We have the following additional measures of success: the number of 1) guides purchased, 2) attendance at events where we table, 3) people who join our e-mail list at events where we table.

g. Cooperation, Institutional Units, and Key Personnel Involved.

Ashley Kremser, OLC Program Manager, is the Project Director and will oversee all aspects of this project. **Sarah Little, Ph.D.,** Chair of the OLC Committee, is a private consultant and former Pesticide Awareness Coordinator for the town of Wellesley, MA. She will coordinate,

research, write, and edit the homeowner's "how-to" guide. **Kathy Litchfield,** Massachusetts Organic Land Care Coordinator, will design and develop the brochure template and create the first four locale-specific versions. **Dwight Brooks,** Dwight Brooks Horticulturalist, Inc., an OLC committee member, will oversee the booth design, pro-bono. A professional company will design and construct the booth.

Daniel Gilrein, Cornell**; Kim Stoner,** CT Agricultural Experiment Station**; Eric Sideman,** Maine Organic Farmers and Gardeners Association, **Brian Caldwell,** Cornell, **Mary Owen**, UMass, and **Timothy Abbey**, Penn State, will be reviewers of the guide.

Chris Chin, Town of Carlisle, MA; **Nancy Alderman**, Environmental and Human Health Initiative, CT; **Janet Bowser**, Wellesley Natural Resources Commission, MA; **Joy Onash**, Toxics Use Reduction Institute, UMass Lowell; **Cormac Collier**, Nantucket Land Council, MA; and **Sylvia Broude**, Toxics Action Center, MA, all commit to distributing the "how-to" guide.

NOFA OLC Homeowner Workshop Questionnaire

*Workshop Site*_____ *Date*_____
*Speaker*_____

Your comments are very much appreciated.

Please write your zip code here: _____

Approximately how much outdoor property is under your management:_____(specify acres or sq. ft)

Do you consider your current property management to be:

☐ - Conventional (regular watering; application of chemical pesticides and fertilizers)

☐ - Organic (low water; no synthetic fertilizers or pesticides, low input)

☐ - Transitional (moving from Conventional to Organic)

In the past 2 years, were *any* materials (e.g chemicals, compost, fertilizers) applied on your property? **Yes** **No**

If Yes, please answer to the best of your recollection:

Select all the terms which describe the item(s) you think were applied:

☐ Synthetic fertilizer	☐ Little multi-colored balls	☐ Fertilizer	☐ Lime
☐ Pesticide	☐ Insecticide	☐ Fungicide	☐ Herbicide
☐ Weed and Feed	☐ Grub control	☐ Pre-emergent	☐ Weed control
☐ Corn Gluten	☐ Compost or compost tea	☐ Tree/shrub spray	☐ Other_____

Write any product names, if known:_____

Did you hire a landscaper to apply any of the above? **Yes** **No**

Did you or a family member apply any of the above? **Yes** **No**

How many times per year is fertilizer applied to your lawn? ☐n/a ☐never ☐rarely ☐1 ☐2 ☐3+

Do you have an irrigation system installed? **Yes** **No**

About how often do you water your lawn? ☐n/a ☐never ☐rarely ☐once a week ☐every 2 or 3 days ☐daily

How often do you have your soil tested? ☐never ☐once ☐every few years ☐every year

Allocate a total of 100 points to reflect the relative importance to you of these property maintenance concerns:

Beauty_____ Ease_____ Ecology/Health_____ Neighbors_____ Cost_____

For example, Beauty-30 Ease-10 Ecology/Health-20 Neighbors-10 Cost-30 (adds up to 100 points)

What do you consider is reasonable to spend annually on maintaining your outdoor property?_____

Rate your confidence (on a scale of 1-5) in organic techniques as applied to your own property: _____
1- Low, I'm not convinced it can be done…5- High, I'm excited to be all-organic from now on.

How did you hear about this workshop? _____

Overall, (on a scale of 1-5, one being the lowest) how would you rate this workshop? _____

……..…… When finished with the other side, you may tear here and hand-in separately for anonymity.……

Would you like to join our e-mail list with seasonal tips and reminders about organic techniques? **Yes** **No**

If yes, please enter your e-mail address here:_____

>> OVER PLEASE >>

What resources would you like to find on our website to help you succeed with organic landscaping?

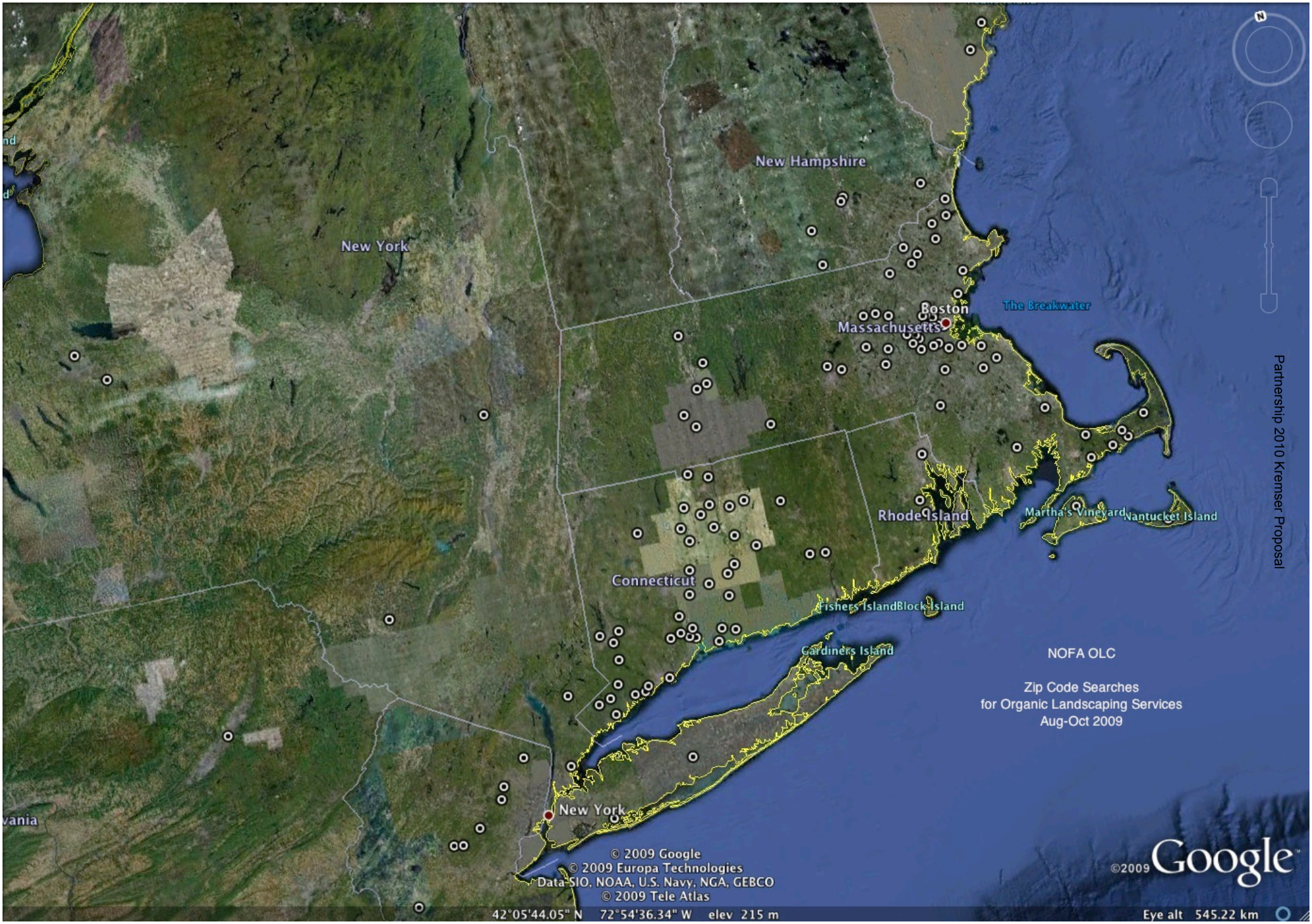
☐ Event calendar	☐ Peer-to-peer forum	☐ Ask-the-Expert	☐ Expert's blog
☐ Seasonal tips	☐ Organic product list	☐ Landscaper list	☐ Products for sale
☐ Consulting	☐ How-to articles	☐ Science articles	☐ Video gallery

Other suggestions?_____

Do you have any concerns about using organic techniques on your property?

Do you have any suggestions for improving this workshop?

>> Thank you! <<


New Hampshire
New York
Boston
Massachusetts
The Breakwater
Rhode Island
Martha's Vineyard
Nantucket Island
Connecticut
Fishers Island
Block Island
Gardiners Island
New York
NOFA OLC
Zip Code Searches
for Organic Landscaping Services
Aug-Oct 2009
Partnership 2010 Kremser Proposal
© 2009 Google
© 2009 Europa Technologies
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2009 Tele Atlas
©2009 Google
42°05'44.05" N 72°54'36.34" W elev 215 m
Eye alt 545.22 km

SITUATION: Residential Landscaping; Environmental Impacts

PRIORITIES: **Reduce risks to people and the environment from pesticide use through organic land care practices**

PROGRAM ACTION- LOGIC MODEL

Inputs	Outputs		Outcomes		
	Activities	Participation	Short	Medium	Long
Money	Print materials	Scientists	Develop collaboration between scientists, landscapers, activists	Homeowners adopt organic landscaping practices	
People hours	Tabling at display booth	Professional landscapers	Increase Homeowner awareness of alternatives to pesticides	Homeowners hire organic landscapers	Land is converted from chemical to organic management. Reduce pesticide load on local and regional water resources.
Inter-organizational cooperation	One-on-one discussions	Homeowners	Increase awareness of funders of NOFA OLC work	Homeowners and landscapers have lower pesticide exposure	Pesticide body burden is lowered in homeowners and landscapers, and in people who use landscapes.
In-kind resources	Partnerships with non-profits		Increase Homeowner awareness of their environment		
Organizational capacity			Increase non-profit access to infomational materials		
			Possible Measures: collect data on homeowner knowledge, attitudes, interest using surveys, and time series of website usage. Survey collabators on success of collaboration.	Possible Measures: Collect survey on homeowners using organic, landscapers business success, and conduct body burden measurements.	Possible Measures: survey #acres under organic, monitor surface and ground water quality, conduct body burden and in-home dust pesticide sampling.

Nantucket Land Council, Inc.
6 Ash Lane ~ PO Box 502
Nantucket, MA 02554

Our Gardens Our Water

Organic Gardening for Nantucket

The Nantucket Land Council, Inc.
6 Ash Lane ~ PO Box 502
Nantucket, MA 02554
508-228-2818
www.nantucketlandcouncil.org

Gardens & Water

Our Drinking Water

Nantucket's drinking water comes from a sole source aquifer. We don't have a backup. That is why it is so important to protect it. One easy, affordable step that you can take is to switch to organic land care practices that carefully evaluate the fertilizers and soil amendments used on the land.

Your Lawn, Our Water

When rain falls, or when you irrigate your garden, excess fertilizers and pesticides will leach down into our sandy soils, eventually flowing into the ocean, a harbor, a pond or a drinking water well. The direction of the water flow on your property determines which "watershed" area you live in.

The Nantucket Land Council has mapped all the watersheds on Nantucket. You can find out which body of water, for example Madaket Harbor or Hummock Pond, the water under your house is flowing toward. Call us for a watershed map & brochure, or see it online at www.nantucketlandcouncil.org.

Fertilizers and Water

Fertilizers, even more than pesticides, are one of the biggest threats to Nantucket's water quality and our historic shellfishing industry. Excess nutrients from fertilizers that flow from gardens into ponds and harbors cause enormous algae blooms which disrupt the ecosystem, killing eelgrass and aquatic plant life, reducing oxygen in the water, and eventually killing scallops, fish and other marine life. Fortunately, the science and culture behind organic gardening have progressed rapidly, and organic no longer means having a brown lawn that is full of weeds. With today's techniques, your lawn and garden can be both "green" and beautiful.

Going Organic

NOFA accredited organic landscapers

As part of the Nantucket Land Council's efforts to encourage organic gardening, we have given over $20,000 in scholarships to local landscapers to become accredited in organic practices. Scholarship recipients attended the Northeast Organic Farming Association (NOFA) 5-day accreditation course. To learn more about organic gardening, call our office, visit www.organiclandcare.net or contact one of the professionals listed in this guide.

About The Nantucket Land Council, Inc.

Founded in 1974, the NLC is a 501 (c)(3) environmental non-profit on Nantucket Island. Dedicated to the protection of our natural resources, the NLC is an environmental watchdog group on Nantucket.

The NLC holds and enforces conservation restrictions, commissions scientific research, monitors development proposals, distributes grants and scholarships, engages in legal proceedings, and educates the public on local environmental issues.

For more information on the NLC's activities, or to become a member, call 508-228-2818 or visit our site: www.nantucketlandcouncil.org.

Steps to get started

Start with a soil test

The foundation of organic gardening starts with healthy soil. The first step in determining the needs of your soil is to perform a soil test. Contact the UMASS extension program for more information at (413) 545-2311. The soil test will provide you with the necessary information on the principal soil parameters and explain any deficiencies that need to be corrected.

The soil is alive

Organic practices are based on feeding the soil and not the plant. Conventional chemical theory is to provide the nutrients right to the plant, bypassing the needs of the soil. After repeated application of salt laden chemicals, the soil becomes lifeless and sterile, unable to feed plants.

Garden photos by Taylor Cullen for Moontree Gardens and by Emily Dutra for Jesse Dutra Landscaping. Nantucket aerial photo by Dan Hall.

Compost is black gold

Compost builds organic matter content in the soil, which provides a healthy and supportive environment for the essential microorganisms that inhabit it. These organisms in turn provide the essential nutrients for plant growth and the entire soil food chain. Healthy soil means healthy plants and a beautiful garden.

Know your garden

If you don't tend to the garden yourself, speak directly with your landscaper to understand and learn the ins and outs of your garden, as well as the products currently being applied to your lawn and garden. A half hour conversation is all it takes to get started. If you are looking for a landscaper, we recommend one of the NOFA accredited landscapers listed here.

2008-2009 Accredited Organic Landscapers

Baranda Wilcox
Amy Pallenberg Garden Design
PO Box 3175
Nantucket, MA 02584
508-560-7117
info@amypallenberg.com
www.amypallenberg.com

Natalie Marcus
Atlantic Landscaping
2 Greglen Ave. PMB 103
Nantucket, MA 02554
508-325-6777
Lindsay@atlanticlandscapinginc.com
www.atlanticlandscapinginc.com

Christine Hermansdorfer
C. Hermansdorfer Gardening
PO Box 3098
Nantucket MA 02584
508-228-9851
bcmr@comcast.net

David Huehner & Chris Oberg
Chris Oberg Environmental Design
2 Greglen Ave. PMB 322
Nantucket, MA 02554
508.325.6300
info@christopheroberg.com
www.christopheroberg.com

Bradley MacDonald & Eric Verney
Ernst Land Design, Inc.
PO Box 2153
Nantucket, MA 02584
info@ernstlanddesign.com
www.ernstlanddesign.com

Jenne Atherton-Verney
Grey Lady Gardens
PO Box 3546
Nantucket, MA 02584
508-325-7364
greyladygardens@nantucket.net
www.greyladygardens.com

Eric Crawford
Hazel's Gardens Inc
33 York St.
Nantucket, MA 02554
508-280-2817
info@hazelsgarden.com
www.hazelsgarden.com

Kate Hemingway & Kathleen Minihan
Hemingwayscapes, Inc.
PO Box 1214
Nantucket, MA 02554
508-325-0286
info@hemingwayscapes.com
www.hemingwayscapes.com

Jesse Dutra & Vesselin Nakov
Jesse Dutra Landscaping
P.O. Box 2578
Nantucket, MA 02554
508 228-9310
info@jessedutralandscape.com
www.jessedutralandscape.com

Marcus Churns
Marcus Landscape Gardening
2 Windy Way, # 106
Nantucket, MA 02554
508-257-7068
emlg@comcast.net

Chapin Klein
Maskell Landscaping
PO Box 1455
Nantucket, MA 02554
508-257-9648

Sarah Van Lieu
Moon Tree Gardens
PO Box 1851
Nantucket, MA 02554
508.364.3277
svanlieu@hotmail.com
www.moontreegardens.com

Dylan Wallace and Claudia Butler
Nantucket Native, LLC
30 Somerset Ln.
Nantucket, MA 02554
508-332-2121
nantucketnative@gmail.com
www.nantucketnative.net

Sarah Sylvia
Powers Landscaping
7 Raceway Drive
Nantucket, MA 02554
508-228-7460

Mary McGowan and Cori Bielecki
Sconset Gardener
88 Somerset Road
Nantucket, MA 02554
508-228-3422
www.sconsetgardener.com

Kathyrn Haigh and Dane Decarlo
Seaside Gardens, Inc.
165 Hummock Pond Rd.
Nantucket, MA 02554
508.228.1732
info@seasidegardensnantucket.com
www.seasidegardensnantucket.com

Jim McIntosh
Short Cuts Lawn Service
17 Primrose Lane
Nantucket, MA 02554
508-228-6728
shortcutsack@comcast.net

Britt Martinez
Surfing Hydrangea
78 old South Rd
Nantucket, MA 02554
508-228-6828
www.surfinghydrangea.com

Jason Sullivan
Sullivan Landscaping
PO box 2154
Nantucket, Ma 02584
508-221-1067
mullallyland@hotmail.com

Cora Stover
5 Liberty St.
Nantucket, MA 02554
508-221-8120
cora_stover@hotmail.com

Fern = Exclusively organic land care professional.
Landscapers are listed alphabetically by business.