



Ecological Gardens

• *Designing sustainable plant communities* •

Spring 2007 Newsletter

“We live in stories. What we are is stories. We do things because of what is called character, and our character is formed by the stories we learn to live in. Late in the night we listen to our own breathing in the dark and rework our stories. We do it again the next morning, and all day long, before the looking glass of ourselves, reinventing reasons for our lives. Other than such storytelling there is no reason to things”. --William Kittredge, Doing Good Work Together

Warm greetings to new and old Ecological Gardens community members. Ecological Gardens has been very busy over the winter months and we have decided it is time to reconnect and share our thoughts and ideas. In this newsletter please look forward to:

- An introduction to new partners
- New landscape products for 2007
- Addressing Climate Change
- Our favorite Climate Change mitigation plant
- Hopes for this season
- Upcoming Events

Ecological Garden Partners:

Milena Klimek- Works with Ecological Gardens in Design, Marketing, Plant Database Research and Project Management. She has a Bachelors in Environmental Studies and Interpretive Studies in Sustainable Development from St. Olaf College and is a certified Permaculture Designer. For fun Milena likes to read, travel, cook, and be active outdoors as well as volunteer as a committee member and convener of the Permaculture Collaborative. Milena also works part time at Minnesota Environmental Partnership as the Communications Intern, focusing on environmental news and legislation across the state.

Lindsay Rebhan- Works with Ecological Gardens in Design and Installation. She has a Bachelors in Environmental Studies and Justice and Peace Studies from the University of St. Thomas and is a certified Permaculture Designer. For recreation Lindsay enjoys cooking, camping, traveling and also volunteering as a committee member of the Permaculture Collaborative. In addition, she works with local food systems and rural revitalization for Renewing the Countryside.

Organic Bob- Partners with Ecological Gardens to provide premier organic lawn care services.

Ecological Tea- Partners with Ecological Gardens to provide aerobic compost teas that re-inoculate the soil with healthy microbiology.

This spring we are telling some new stories at Ecological Gardens. Spring is a time to tell stories of growth, new beginnings, and engagement with nature in our northern temperate climate. It is always amazing how nature springs back to life year after year. This year, as always, we are anxious for spring's return but we also have a growing uneasiness. Winters are definitely not what they used to be. Climate change in central Minnesota seems to mean cold temperatures and no insulating layer of snow making it more difficult for plants to survive, with a threat of drought in the coming summer months. This raises important questions for Ecological Gardens as well as our global community as a whole. Climate change is the story that Ecological Gardens will be telling this year, in hopes that we can help transform this frightening story into one of hope.

This past winter we decided to become more proactive on climate change. We wanted to engage our changing world as a mitigator rather than an emitter of carbon. We gathered our ideas and decided we could capture or prevent carbon from being released into our atmosphere by using what we love: plants. We came up with two solutions: one to capture and store carbon already in our atmosphere and one to reduce potential emissions. We have designed new products – our [Carbon Capture Gardens](#) and revamped old products – our [Edible Gardens](#).

Reducing Emissions by Developing Local Food Systems

Minnesota has a healthy and diverse local foods system. The production backbone of this system is urban backyards, community gardens, CSA farms, and sustainable agriculture farms. The purchasing backbone of this system is farmer's markets, coops, direct marketing by small producers, and local foods restaurants.

Growing and purchasing local foods is an important step in combating global climate change since the average food item travels over 1200 miles to reach your plate.

Growing food in your own backyard can be healthy and rewarding. Nowhere is the food fresher and nowhere else do

you know exactly what went into its production.

There are many resources to use in getting started. Our "[Edible Gardens](#)" are one easy way to get a successful garden "up and running" in a short amount of time. If you are interested in learning more about nutrient-dense foods and "growing your own", one way is to become engaged with your local permaculture community. There will be more information on bringing edibles to your backyard in the months to come.

[Edible Gardens](#) you can choose from:

- Fruit Tree Guilds
- Keyhole Companion Garden
- Herb & Edible Flower Spiral
- Urban Berry Guild

Let us know if you would like more information on implementing an [Edible Garden](#) in your yard.

How Plant Guilds Work

Plants are the primary producers of value in an ecosystem. They take energy from the sun and nutrients from the soil and convert them into valuable ecological services – building soil, purifying water, fixing nitrogen, and cleaning the air. They also produce products that we can

use – food, medicine, fuel, fiber, and cut flowers to name a few. Plants have evolved as members of native plant communities where other community members provide their wants and needs. Plant guilds are communities of plants designed by humans to meet the needs of each plant in the community as well as provide more abundant and healthier products for ourselves. We do this by locating plants in the right place to meet the community’s needs and by adding compost tea to the soil. Compost tea restores the soil microbes that may have been lost due to compaction, tillage, and other disturbances. The microbes, particularly fungi, link the plants to far off nutrients and make them available in a form the plants can digest and assimilate. One of the ways you create nutrient-dense foods is by creating nutrient-dense plants. In this way we help restore a backyard ecosystem and our own health.

Acting to Mitigate Climate Change

Minnesota is a special place. We have a wealth of native plant communities – the northern coniferous forest, the deciduous woodlands, and the tall grass prairie are all native to the place we call home. Water, in its many forms, has been abundant here. Major rivers, lakes, streams, wetlands, and bogs are found throughout the state. Many different animals have found a home in this rich land. We need to conserve where we can by making our lives more energy-efficient but we also need to become engaged in restoring and rebuilding the wealth we have extracted to create our modern way of life. We can do this in our own backyard. We can learn to do it alone or we can act as part of a larger community. If you are interested in learning how to rebuild and restore some of this natural wealth, you can become engaged with your local permaculture community. Also, feel free to keep updated with one of Minnesota’s

adventurers Will Steger as he treks north to witness and document climate changes:

www.globalwarming01.com



Carbon Capture Gardens you can choose from:

- The Wet Pollination Garden
- The Dry Pollination Garden
- The Sunny Rain Garden
- The Shady Rain Garden
- The Mini-Forest Garden
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Let us know if you would like more information on implementing a [Carbon Capture Garden](#) in your yard;

How the Capture Gardens Work

Plants take carbon dioxide - CO₂ - from the atmosphere and store it in biomass (trunks and stems), roots, and in soil. carbon dioxide can stay in the soil for centuries and millenium. When we burn fossil fuels (gasoline, heating fuels, etc), cut forests, or till soils for agriculture we are taking carbon that has been stored in the soil for long periods of time and releasing it immediately into the atmosphere. This has been going on for centuries. It speeded up with the industrial revolution in the 1800s and has accelerated exponentially since WWII as we began to use fossil fuels in new ways to produce synthetic fertilizers, plastics, and many of the other conveniences of modern life. Our job now is to begin a process of ecological restoration – to put carbon back into the soil. The gardens we have designed do just that. The plants have

been carefully selected and positioned to optimize carbon capture and storage using different plants with different root systems. Compost tea is added to the

garden to restore soil microbiology and nutrients. This increases the soil's ability to store significant amounts of carbon for long periods of time.



Our Favorite Plants for Climate Change Mitigation

Marsh and Butterfly Milkweed

Asclepias incarnata and *Asclepias tuberosa*

Ecological Functions-Milkweed is an air cleaner and has a very deep taproot that can access nutrients, stabilize the soil, and harbor carbon.

Wildlife Habitat and Food-Milkweed attracts parasitic wasps, bees and butterflies. The Ruby-Throated Hummingbird also seeks nectar from the flowers, and the caterpillars of *Danaus plexippus* (Monarch Butterfly) consume the foliage.

Human Uses-The Milkweed flower makes a beautiful cut flower.

Culinary Uses-The flower buds can be cooked and taste like peas, young shoots can be cooked as an asparagus substitute, the tips of older shoots are cooked like spinach, in hot weather the flowers produce so much nectar that it crystallises out into small lumps which can be eaten like sweets, they are delicious.

Medicinal Uses-Butterfly Milkweed is a good remedy for pleuritic complications.

Our Hopes for this Season

Our hopes for this coming season are to continue telling the story of climate change and continue educating about the necessity to focus on biodiversity both above and below ground. This holistic thinking allows us to come up with feasible, personal solutions to climate change. It allows us to broaden our worldview, remembering ecosystems that live within the plants roots and shoots. These thoughts continue to help us focus on multifunctional plants that bring food for all and beauty into our landscape. We are wholly dedicated to carry these products to fruition.

We understand that while it may be ideal to take an entire yard into consideration for design, sometimes, we may only have the resources for one or two pieces. That is why we have designed our **Edible Gardens** and **Carbon Capture Gardens** as products available individually. These pre-designed products allow for a more inexpensive option to site-specific design. We want to make sure that people with property and funding of all different sorts can still participate, proactively changing the course of our world's warming trends. We wish you too would become interested in perpetuating hope in the form of a garden.

Upcoming Events (not to miss):

- **March 31st.** Permaculture Seed Starting Workshop. For more info see: <http://permaculturecollaborative.us/Calendar/Calendar>
- **April 20-21st Introduction to Permaculture class and Film Festival.** Northfield, Minnesota, for more info: <http://www.centerforsustainableliving.org/wordpress/>
- **April 21st MacGroveland Community Fair.** Saturday event 10-2.
- **May 5th and 6th, Living Green Expo.** Over 200 Green exhibitors, 100 workshops, food, dance, and song at the Minnesota State Fair Grounds in St. Paul on Saturday, May 5th and Sunday May 6th, from 10am-6pm. Ecological Gardens is organizing the Yard and Garden exhibitors and workshops for the Expo and will also be presenting a workshop. For more information visit the website, www.livinggreen.org.
- **May 11th-13th, Friends School Plant Sale.** The largest plant sale in the Midwest is a fundraiser for Friends School in St. Paul. It will be held at the Minnesota State Fair Grounds.

We could use your help in designing more plant communities.

- Are you interested in fighting climate change in the shape of a garden?
- Are there problems in your landscape that you would like to have a plant community designed for?

Send any suggestions or ideas to: paula@ecologicalgardens.com

Enjoy the spring!!

For information on upcoming events:

http://www.ecologicalgardens.com/upcoming_events.cfm

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